PGY2 Internal Medicine Residency Program Appendix

PGY2 Internal Medicine Pharmacy Residency Purpose Statement

PGY2 pharmacy residency programs build on Doctor of Pharmacy (PharmD) education and PGY1 pharmacy residency programs to contribute to the development of clinical pharmacists in specialized areas of practice. PGY2 residencies provide residents with opportunities to function independently as practitioners by conceptualizing and integrating accumulated experience and knowledge and incorporating both into the provision of patient care or other advanced practice settings. Residents who successfully complete an accredited PGY2 pharmacy residency are prepared for advanced patient care, academic, or other specialized positions, along with board certification, if available.

Residency Description

The University of Kentucky Chandler Medical Center is a large academic medical center with >100 internal medicine patients across a variety of medicine teams (>10 teams) including traditional academic teaching teams, hospitalist/non-rounding teams, and BOOST (Better Outcomes for Optimizing Safe Transitions) teams/hospitalist rounding teams. The variety in internal medicine teams gives the resident training and experience in a multitude of team structures, allowing for a seamless transition to clinical practice at any hospital structure.

Each resident will be required to complete 6 months in general internal medicine and 1 month each in cardiology, pulmonary/MICU, and infectious diseases. Clinical expertise in subspecialty areas will be available through 3 months of elective rotations, longitudinal research, and longitudinal ambulatory care clinic experience. The internal medicine resident participates in 24-hour clinical pharmacy services through the in-house on-call program and clinical staffing. Precepting students on advanced pharmacy practice experiences and didactic settings is offered.

Residents will have exposure to a broad array of disease states, with significant exposure to liver disease(s), including acute liver failure, alcoholic hepatitis, cirrhosis management (of all etiologies: nonalcoholic steatohepatitis, cryptogenic, alcoholic, viral), and complications of cirrhosis. Graduates of our PGY2 internal medicine residency program will be equipped to take on a clinical pharmacist position in an academic medical center or community hospital and/or faculty position.

Program Goals

- To develop the personal and professional skills necessary to serve as a pharmacotherapy specialist and an integral member of an adult internal medicine health care team.
- To develop future leaders in clinical pharmacy practice and education.
- To prepare individuals to contribute to the body of pharmacotherapy and pharmacy practice knowledge.
- To develop clinical and teaching skills through involvement in didactics, small group facilitation, and advanced pharmacy practice experience precepting.
- To encourage and help prepare the resident to seek certification as a Board Certified Pharmacotherapy Specialist (BCPS) upon completion of the specialty residency.

Required Learning Experiences and Learning Experience Selection

PGY2 Internal Medicine Residency Required Learning Experiences
Internal Medicine → 7 months --5 months academic teams --2 months non-academic teams (hospitalist nonrounding month, hospitalist rounding month)
Cardiology → 1 month
Infectious Diseases → 1 month
Pulmonary/Critical Care → 1 month
Longitudinal ambulatory care clinic
Longitudinal clinical staffing
Longitudinal research project
Formal ACPE-accredited grand rounds presentation

The internal medicine resident works with the PGY2 internal medicine RPD to create his/her learning experience schedule. Individual preferences are taken into account. Beginning the 2019-2020 residency year, five of the 6 Internal Medicine experiences will be lumped into 3 blocks of 2 calendar months for continuity → July/August, November/December (combined as one experience with same preceptor), and May/June. The required non-medicine months and elective rotations will be scheduled based on other preceptor availability and scheduling of other residents.

The longitudinal ambulatory care clinic experience begins in August and lasts the duration of the residency year. The experience can either be a half-day every week or a full day every other week, depending on the resident's preference and availability of clinic staff.

The resident has 3 months of elective learning experiences, and the below list is an example of potential options but is not necessarily exhaustive. If the resident has a particular interest, an additional learning experience can be created to accommodate, pending availability of the service line, preceptor staff, and scheduling of other residents.

PGY2 Internal Medicine Residency Elective Learning Experiences
Academia → 1 month
Antimicrobial stewardship → 1 month
Kidney/liver transplant → 1 month
Medical oncology → 1 month
Neurology / stroke → 1 month
Nutrition support → 1 month
Obstetrics (OB) → 2 weeks
Palliative care → 1 month
Psychiatry → 1 month (can be modified to 2 weeks if requested)
Surgery oncology → 1 month

Contact days

No more than 3 vacation days per rotation experience can be granted off in additional to other resident obligations (i.e. post-call days, research days, professional leave days). Additional vacation days can be requested pending RPD and/or direct preceptor approval, pending the rotation experience involved and other days off service during

the same time frame. This ensures there is a fruitful rotation experience for the resident, while allowing for vacation leave as per the Leave Policy – Pharmacy Residents, PH09.03.005.

Policy #PH09.03.005

Clinical Staffing Shifts

Beginning the 2020-2021 residency year, the internal medicine staffs every 3rd weekend (Saturday and Sunday 0730-1600) (averaged throughout the residency year), covering multiple internal medicine teams in a more clinical-type setting (patient review, order verification, therapeutic drug monitoring, etc). This is in line with the other residency programs' weekend staffing shift requirements. The weekend clinical staffing shifts are compiled with night call and weekend call shifts from the in-house on-call program and are deducted from a total of 47 staffing shifts, as suggested as the maximum number of staffing shifts per year per ASHP. The staffing shift deficit, if there is one, is then addressed by having the internal medicine resident pick up medicine evening shifts and/or additional weekend shifts at his/her leisure, but these must be completed before the end of the residency year.

Research Project

Research days are allocated in each month to permit the resident to have intermittent focus on the research project and facilitate meeting deadlines set forth by the individuals involved in the research. Research days should be identified and planned with each learning experience preceptor prior to the start of each month. Typically, the preceptor or affiliated clinical team members provide clinical cross-coverage while the resident is off service on research days. The PGY2 internal medicine resident is allotted 1 research day per non-internal medicine months and 2 research days per internal medicine months.

The internal medicine resident is encouraged to present their PGY2 research at a professional meeting. A manuscript suitable for publication is due at the end of June to the RPD and individuals involved in the research project.

Policy #PH09.03.080

PGY2 Internal Medicine Resident Goals and Objectives (2017 edition)

Competency Area R1: Patient Care	
Goal R1.1 In collaboration with the health care team, provide safe and effective patient care to internal medicine patients following a consistent patient care process.	
	Objective R1.1.1 Interact effectively with health care teams to manage internal medicine patients' medication therapy.
	Objective R1.1.2 Interact effectively with internal medicine patients, family members, and caregivers.
	Objective R1.1.3 Collect information on which to base safe and effective medication therapy for internal medicine patients.
	Objective R1.1.4 Analyze and assess information on which to base safe and effective medication therapy for internal medicine patients.
	Objective R1.1.5 Evaluate biomedical literature in the management of internal medicine patients' medication therapy.
	Objective R1.1.6 Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans) for internal medicine patients.
	Objective R1.1.7 Ensure implementation of therapeutic regimens and monitoring plans (care plans) for internal medicine patients by taking appropriate follow-up actions.
	Objective R1.1.8 For internal medicine patients, document direct patient care activities appropriately in the medical record or where appropriate.
	Objective R1.1.9 Demonstrate responsibility to internal medicine patients.
Competency Area R2: Advancing Practice and Improving Patient Care	
Goal R2.1 Demonstrate ability to manage formulary and medication-use processes for internal medicine patients, as applicable to the organization.	
	Objective R2.1.1 Prepare or revise a drug class review, monograph, treatment guideline, or protocol related to care of internal medicine patients.
	Objective R2.1.2 Participate in medication event reporting and monitoring related to care for internal medicine patients.
	Objective R2.1.3 Identify opportunities for improvement of the medication-use system related to care for internal medicine patients.
	Objective R2.1.4 Manage aspects of the medication-use process related to formulary management for internal medicine patients.
	Objective R2.1.5 Contribute to the work of an organizational committee or work group concerned with the improvement of medication use policies or guidelines.
Goal R2.2 Demonstrate ability to conduct a quality improvement or research project.	
	Objective R2.2.1 Identify or refine a specific project topic to improve patient care of internal medicine patients, or a topic for advancing internal medicine pharmacy practice.
	Objective R2.2.2 Develop a plan or research protocol for a practice quality improvement or research project for the care of internal medicine patients, or a topic for advancing the pharmacy profession or internal medicine pharmacy practice.
	Objective R2.2.3 Collect and evaluate data for a practice quality improvement or research project for the care of internal medicine patients or for a topic for advancing the pharmacy profession or internal medicine pharmacy practice.

	Objective R2.2.4 Implement quality improvement or research project to improve care of internal medicine patients or implement an idea/project intended to advance the pharmacy profession or internal medicine pharmacy practice.
	Objective R2.2.5 Assess the implemented project and determine whether changes are required.
	Objective R2.2.6 Effectively develop and present, orally and in writing, a final project or research report suitable for publication related to care for internal medicine patients or for a topic for advancing the pharmacy profession or internal medicine pharmacy practice at a local, regional, or national conference.
Competency Area R3: Leadership and Management	
Goal R3.1 Demonstrate leadership skills for successful self-development in the provision of care for internal medicine patients.	
	Objective R3.1.1 Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership in the provision of care for internal medicine patients.
	Objective R3.1.2 Apply a process of ongoing self-evaluation and personal performance improvement in the provision of care for internal medicine patients.
Goal R3.2 Demonstrate management skills in the provision of care for internal medicine patients.	
	Objective R3.2.1 Contribute to internal medicine departmental management.
	Objective R3.2.2 Manage one's own internal medicine practice effectively.
Competency Area R4: Teaching, Education, and Dissemination of Knowledge	
Goal R4.1 Provide effective medication and practice-related education to internal medicine patients, caregivers, health care professionals, students, and the public (individuals and groups).	
	Objective R4.1.1 Design effective educational activities related to internal medicine.
	Objective R4.1.2 Use effective presentation and teaching skills to deliver education related to internal medicine.
	Objective R4.1.3 Use effective written communication to disseminate knowledge related to internal medicine.
	Objective R4.1.4 Appropriately assess effectiveness of education related to internal medicine.
Goal R4.2 Effectively employ appropriate preceptor roles when engaged in teaching students, pharmacy technicians, or fellow health care professionals in internal medicine.	
	Objective R4.2.1 When engaged in teaching related to internal medicine, select a preceptor role that meets learners' educational needs.
	Objective R4.2.2 Effectively employ preceptor roles, as appropriate, when instructing, modeling, coaching, or facilitating skills related to internal medicine.

Requirements for successful completion of internal medicine pharmacy residency

PGY2 core goals

For successful residency completion, residents must meet the following requirements.

Completion Date	Requirement
	Graduate of ACPE-accredited college of pharmacy
	Licensure in the state of Kentucky
	Active certification from American Heart Association as ACLS provider
	Complete all staffing requirements
	Complete ACPE-accredited Grand Rounds presentation
	Complete all assigned on-call shifts with documentation of on-call report
	Complete Scholarship of Teaching and Learning Certificate Program, if note completed during PGY1 year
	Complete College of Pharmacy teaching requirements • Didactic lecture • Laboratory facilitation – 8 hours (or equivalent experience)
	Achieved for Residency for required competency areas, goals R1-4
	• Goal R1.1 In collaboration with the health care team, provide safe and effective patient care to internal medicine patients following a consistent patient care process.
	• Goal R2.1 Demonstrate ability to manage formulary and medication-use processes for internal medicine patients, as applicable to the organization.
	• Goal R2.2 Demonstrate ability to conduct a quality improvement or research project.
	• Goal R3.1 Demonstrate leadership skills for successful self-development in the provision of care for internal medicine patients.
	• Goal R3.2 Demonstrate management skills in the provision of care for internal medicine patients.
	• Goal R4.1 Provide effective medication and practice-related education to internal medicine patients, caregivers, health care professionals, students, and the public (individuals and groups).
	• Goal R4.2 Effectively employ appropriate preceptor roles when engaged in teaching students, pharmacy technicians, or fellow health care professionals in internal medicine.
	Participate in all steps for at least one project [research or quality improvement] to meet the PGY2 Internal Medicine goals and objectives (with manuscript suitable for publication)

PGY2 Internal Medicine Residency Preceptors

Preceptor Name	Learning Experience(s) Precepted Required or Elective?
Adams, Aimee	Longitudinal ambulatory care clinic Required
Allen, Katherine	Internal Medicine Required
Blackburn, Erin	Internal Medicine Required
Burgess, Donna	Infectious Diseases Required
Cain, Jeffrey	Academia Elective
Donaldson, Chris	Pulmonary/Critical Care Required
Hunt, Taylor	Internal Medicine Required
Johnson, Hannah	Psychiatry Elective
Kunka Fritz, Megan	Internal Medicine Required
Leung, Noelle	OB/GYN Elective
Means, Laura	Surgery Elective
Mitchell, Megan	Palliative care Elective
Nestor, Melissa	Neurology/stroke Elective
Pijut, Kyle	Internal Medicine Required
Rendulic, TrisAnn	Kidney/Liver Transplant Elective
Schenk, Ashley	Cardiology Required
Thompson Bastin, Melissa	Pulmonary/Critical Care Required
Uttal-Veroff, Kelsey	Internal Medicine Required
Wallace, Katie	Infectious Diseases Required
Woodward, Barbara	Nutrition Support Elective

Required Learning Experiences and Learning Experience Selection

Required Internal Medicine Rotations (6 months)
Internal Medicine I – Introduction to Internal Medicine/Teaching team experience I
Internal Medicine II – Teaching team experience II
Internal Medicine III – Teaching team experience III
Internal Medicine IV – Hospitalist rounding experience
Internal Medicine V – Hospitalist non-rounding experience
Internal Medicine VI – Teaching team experience IV

Date completed	Planned Topic	Direct Patient Care	Topic Discussion
Internal Medicine I – Introduction to Internal Medicine			
	Diabetes mellitus, Type 1*		
	Diabetes mellitus, Type 2*		
	Syndrome of inappropriate antidiuretic hormone secretion*		
	Thyroid disorders*		
	Adrenal gland disorders (adrenal insufficiency, hypercortisolism)		
	Hyperglycemic crises (diabetic ketoacidosis [DKA], hyperosmolar hyperglycemic state [HHS])		
	Parathyroid disorders		
	Cirrhosis, end-stage liver disease, and complications (e.g., portal hypertension, ascites, spontaneous bacterial peritonitis, varices, hepatic encephalopathy, hepatorenal syndrome)*		
	Constipation*		
	Diarrhea (including traveler's diarrhea)*		
	Hepatitis (including viral)*		
	Inflammatory bowel disease (Crohn's disease, ulcerative colitis)*		
	Nausea/vomiting, simple (e.g., acute viral gastroenteritis, overindulgence, motion sickness)*		
	Nausea & vomiting, complex (e.g., postoperative, chemotherapy-induced)*		
	Pancreatitis (acute, chronic, and drug-induced)*		
	Upper gastrointestinal bleeding*		
	Gastroesophageal reflux disease		
	Motility disorders		
Internal Medicine II			
	Anemias (e.g., iron deficiency, vitamin B12 deficiency, folic acid deficiency, chronic disease/inflammation)*		
	Drug-induced hematologic disorders*		
	Reversal of anticoagulants*		
	Coagulation disorders (e.g., hemophilia, von Willebrand disease, antiphospholipid syndrome, clotting factor deficiencies)		
	Disseminated intravascular coagulation		
	Platelet disorders (e.g., idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura)		

	Sickle cell disease		
	Acid-base disorders*		
	Acute kidney injury (prerenal, intrinsic, and postrenal)*		
	Drug dosing considerations in renal dysfunction and renal replacement therapy*		
	Drug-induced renal disorders*		
	Electrolyte abnormalities (sodium, potassium, calcium, phosphorus, magnesium)*		
	Evaluation of renal function*		
	Chronic kidney disease and complications (anemia, bone & mineral disorders)		
	Dialysis and renal replacement therapies		
Internal Medicine III			
	Medication use in older adults (e.g., polypharmacy, potentially inappropriate medications [PIMs], Beers Criteria, dose de-esc)*		
	Rhabdomyolysis		
	Epilepsy*		
	Neurocognitive disorders (e.g., Alzheimer disease, vascular and frontotemporal dementia)*		
	Pain, neuropathic (e.g., diabetic, post-herpetic)*		
	Pain, nociceptive (acute and chronic)*		
	Parkinson disease*		
	Peripheral neuropathy*		
	Status epilepticus		
Internal Medicine IV			
	Asthma*		
	Chronic obstructive airway disease (other than asthma)*		
	Overweight and obesity*		
	Nutrition support		
Internal Medicine V			
	Oncologic emergencies (e.g., tumor lysis syndrome, hypercalcemia, coagulopathy)*		
	Supportive care (e.g., preventing/ treating complications associated with malignancy or treatment, myelosuppression, nausea/vomiting, pain, mucositis, secondary malignancies)*		
Internal Medicine VI			
	Alcohol use disorder*		
	Anxiety disorders (e.g., generalized anxiety, panic, social anxiety disorder)*		
	Depressive disorders (e.g., major depressive disorder)*		
	Delirium/acute agitation (non-ICU)*		
	Opioid use disorder*		
	Sleep disorders (e.g., insomnia. See other sleep-wake disorders in Neurologic Disorders section)*		
	Tobacco/nicotine use disorder (including smoking cessation)*		

	Bipolar disorders (e.g., mania, bipolar depression, maintenance therapy)		
	Schizophrenia		
	Substance abuse (e.g., hallucinogens, stimulants, depressants, performance-enhancing drugs)		
Cardiology			
	Acute coronary syndromes (STEMI, NSTEMI, unstable angina)*		
	Atrial arrhythmias*		
	Atherosclerotic cardiovascular disease, primary prevention*		
	Atherosclerotic cardiovascular disease, secondary prevention*		
	Cardiogenic/hypovolemic shock*		
	Heart failure, acute decompensated & chronic*		
	Hypertensive crises*		
	Stroke (ischemic, hemorrhagic, and transient ischemic attack)*		
	Venous embolism and thrombosis*		
	Advanced Cardiac Life Support (ACLS)		
	Basic Life Support (BLS)		
	Peripheral arterial (atherosclerotic) disease		
	Pulmonary arterial hypertension		
	Valvular heart disease		
	Ventricular arrhythmias		
Critical Care			
	Drug/alcohol overdose/withdrawal*		
	Pharmacokinetic and pharmacodynamic considerations		
	Stress ulcer prophylaxis		
Infectious Diseases			
	Antimicrobial stewardship and infection prevention*		
	Bloodstream and catheter-related infections*		
	Bone and joint infection (e.g. osteomyelitis, prosthetic joint infections)*		
	Central nervous system infections (e.g. meningitis, encephalitis, brain abscess)*		
	Fungal infections, invasive (e.g. hematogenous, candidiasis, aspergillosis)*		
	Gastrointestinal infections (e.g. infectious diarrhea, C. difficile, enterotoxigenic infections)*		
	Human immunodeficiency virus infection*		
	Infective endocarditis*		
	Infections in immunocompromised patients (e.g. febrile neutropenia, opportunistic infections in AIDS)*		
	Influenza virus infection*		
	Intra-abdominal infections (e.g. peritonitis, abscess, appendicitis, etc)*		
	Lower respiratory tract infections*		
	Sepsis and septic shock*		
	Skin and soft tissue infections*		

	Tuberculosis*		
	Urinary tract infections (complicated and uncomplicated)*		
	Bacterial resistance		
	Fungal infections, superficial (e.g., vulvovaginal and esophageal candidiasis, dermatophytoses)		
	Immunizations (including vaccines, toxoids, and other immunobiologics)		
	Microbiological testing (including rapid diagnostic tests)		
Longitudinal ambulatory care clinic experience			
	Gout/Hyperuricemia*		
	Osteoarthritis		
	Osteoporosis		
	Rheumatoid arthritis		
	Benign prostatic hyperplasia*		
	Urinary incontinence*		

Those items marked with an (*) must be met through direct patient care experiences per ASHP. Topic discussions may supplement knowledge gained through direct patient care experiences when appropriate. All other items may be met through didactic discussion, reading assignments, case presentations, and/or written assignments. During topic discussion or patient care interactions, the resident will be expected to demonstrate an understanding of signs and symptoms, epidemiology, risk factors and etiology, pathogenesis, pathophysiology, clinical course, and a comprehensive pharmacotherapy treatment plan.

Resident Assessment Process Overview

1. Initial self-assessment
   Each incoming internal medicine resident will perform an initial self-assessment prior to beginning the residency, documenting the resident's exposure to and abilities in core areas of pharmacy practice. Short and long term career goals, practice interests within internal medicine, professional and personal strengths, areas of improvement, and residency goals are also assessed. The form will be reviewed by the residency program director and sent to the advisor for review.
2. Assignment of resident advisor
   Based upon initial resident assessment, the RPD will assign the resident advisor. Practice interests and career goals will be considered in making the selections. The advisor and resident will be notified of this assignment during the month of July.
3. Development of individual resident plan
   During the month of July, the RPD and the resident will meet to create the resident's initial residency training plan. This plan formalizes the resident's goals for the year and identifies other projects or relevant training activities. The selection of specific elective rotations might be impacted by the resident's specific interest within internal medicine and ultimate career goals.
4. Preceptor assessment of resident performance
   Preceptors will evaluate resident performance for each rotation using the month assessment (summative) form specific to their rotation. All assessment/evaluations are due within the first seven days of the subsequent month.
5. Resident assessment
   The resident will conduct a monthly (summative) self-assessment of their performance as well as an evaluation of the learning experience and the preceptor. The resident should then meet with his/her preceptor to discuss the evaluations and performance. All assessment/evaluations are due within the first seven days of the subsequent month.
6. Customized residency training plan
   The resident will meet with the advisor at the beginning of the year as well as at the conclusion of each quarter to review his/her performance. The resident will first complete the self-assessment portion of the residency training plan which they will then submit to the advisor. The advisor will then review the resident's self-assessment and document pertinent comments in the training plan followed by the RPD.

   Other areas in which the resident will be assessed include:
   - Ambulatory care clinic – assessed quarterly
   - On call/clinical staffing – assessed quarterly
   - Practice management – assessed quarterly
   - Research – assessed quarterly
   - Teaching – assessed quarterly
7. Resident portfolio
   Resident will maintain a record of his/her activities and experiences (can be maintained electronically). The portfolio should contain the following sections:
   - Curriculum vitae

- Global assessments – initial self-assessment, quarterly customized training plans, exit assessment
- Rotations – projects, preceptor and self-assessments
- On call – quarterly assessments, individual on call feedback
- Teaching – handouts, slides, preceptor / student assessments
- Research – IRB documentation, proposals and protocols, quarterly assessments, completed manuscript, poster abstract (if applicable)
- Other projects – manuscripts, presentations, etc

Assessment Deadlines

Assessment	Due Date*
Individual resident plan	Jul 31
Resident's quarterly residency plan	Oct 15
Advisor's / RPD's quarterly residency plan	Oct 15
Resident's quarterly residency plan	Jan 15
Advisor's / RPD's quarterly residency plan	Jan 15
Resident's quarterly residency plan	Apr 15
Advisor's / RPD's quarterly residency plan	Apr 15
Resident's exit assessment	Jun 30
Advisor's / RPD's exit assessment	Jun 30

*subject to change

The following is a general guide for how to rate goals and objectives:

Evaluation rating	Explanation
NI = needs improvement	• Resident requires significant amount of preceptor oversight OR • Resident needs to devote more practice, learning, time to developing OR • Lack of professionalism
SP = satisfactory progress	• Resident requires little preceptor general oversight OR • Residents can perform most basic aspects of the goal, but may need more oversight with complicated situations
ACH = achieved	• Resident requires minimal to no preceptor oversight even in more complicated situations OR • Resident has mastered the majority of aspects for this goal (at least for a specific patient population), but evaluation over a more extended period of time may be necessary • This is typically judged by the rotation preceptor
ACHR = achieved for residency	• Resident exhibits mastery of the goal OR • Resident performs independently and consistently • For R1 (patient care) and R4 (teaching, education, and dissemination of knowledge), in order to be marked as ACHR, the resident must have achieved (ACH) each objective at least twice during the course of the year