

PGY-1 Pharmacy Residency: Acute & Ambulatory Care (Program #45024)

PGY-1 pharmacy residency programs at the William S. Middleton Veterans Hospital (also known as the “Madison VA”) have been in existence since 1983 and trained hundreds of residents. This first year residency program has been designed to develop practitioners with the high level of skill required to manage patient care as integral members of interdisciplinary teams. Graduates of this program have been successful in both clinical and academic positions.

The VA clinics provide primary care as well as a wide variety of medical subspecialty care for Veterans throughout Wisconsin and northern Illinois. During the ambulatory care blocks, residents co-manage patients as part of an interdisciplinary team in a practice that has evolved over the years, allowing pharmacists to practice at the top of their scope. In addition to completing patient appointments, residents write progress notes for patients they assess and (in collaboration with preceptors) have authority to write prescriptions, order laboratory and other diagnostic tests, consult other services when indicated, and develop therapeutic and monitoring plans for patient follow-up, all within a scope of practice. Care is provided via face-to-face, telephone, and video appointments. Within primary care itself, patients are seen in the Medication Management service for a variety of medical problems. As part of this service, residents provide interim care for patients between visits to primary care providers. Care in specialty clinics includes diabetes, rheumatology, pain management, and anticoagulation clinics. Residents also have the opportunity to develop formulary management skills.

The main hospital also provides acute care to patients on seven different inpatient wards. Residents spend their first block completing an inpatient orientation rotation. This will assist the resident in becoming acclimated to inpatient pharmacy services and serve as a foundation for future acute care rotations and weekend staffing responsibilities. Additional inpatient rotations include general medicine, ICU, cardiology, and rehab/transitional care wards.

The residency is affiliated with the University of Wisconsin (UW) School of Pharmacy, where residents serve as clinical instructors. In this capacity, residents teach in the Pharmacotherapy Lab. An optional, year-long teaching certificate program is offered by the UW School of Pharmacy with a majority of residents opting to complete it. Participants attend a series sessions, assess their own teaching experiences, and develop a teaching philosophy as a requirement for this certification. Additional teaching experiences include opportunities to deliver didactic lectures at the School of Pharmacy as well as to provide in-service education to pharmacy staff. Residents are required to participate in journal clubs and case conferences.

The Madison VA pharmacy residency programs use the inverted research model (see Inverted Research Model brochure for more information). This allows residents to gain project management experience in two longitudinal projects during one residency year. Residents work with preceptors and the research team on these projects and present at the Wisconsin Pharmacy Residency Conference in April of each year. A final manuscript is a requirement for completion of the residency.



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Our Commitment to Diversity, Equity, and Inclusion

At the William S. Middleton Memorial Veterans Hospital, we are committed to fostering and sustaining an environment which celebrates diversity, provides equitable opportunities for employment and promotion, and supports inclusiveness in pharmacy culture. We embrace our differences as individuals and unite as a pharmacy team toward a common goal: to deliver optimal, patient-centered care for our nation’s Veterans.



PGY-1 Pharmacy Practice Residency (#45024) Application Procedure

Applicants must be a graduate of an American Council of Pharmaceutical Education accredited School of Pharmacy with a PharmD degree. COVID and influenza vaccinations are required (or an exemption along with regular testing) for employment in the VA.

Some of the criteria considered in choosing residents include knowledge of professional practice, communication skills and ability to apply theory to practice, leadership ability, interest in the program, confidence, and professionalism.

To apply, a cover letter stating career goals and the Application for Health Professions Trainees form (Form 10-2850D) must be completed. In addition, three letters of reference and college transcripts are required. The application process should be completed through PhORCAS. A virtual interview is also required. See ASHP website for application deadline.

PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Required Acute Care Rotations

Inpatient Orientation - Throughout this rotation, residents become familiar with the process for inpatient pharmacy including order entry and verification, outpatient processing, kinetic and anticoagulation monitoring, formulary processes, medication reconciliation upon admission and discharge, discharge counseling, overview of technician functions including our admission history technicians, controlled substance protocols, and other responsibilities. Residents maintain close contact with their primary preceptor, as well as gain experience with inpatient staff within their respective services. The exposures that residents receive in this orientation are applied to their subsequent general inpatient rotations.

Acute Care General Medicine - The purpose of this rotation is to prepare the resident with skills necessary to become a competent inpatient clinical pharmacist. This rotation will allow the resident to gain experience in managing pharmacotherapy for acutely ill patients, to develop independent judgment and accountability, and to improve the verbal and written communication skills necessary to be an effective clinical pharmacy practitioner. Training activities will involve rounding with a medical team and monitoring patient medication profiles daily to ensure the provision of evidence-based, patient-centered medication therapy management. This will include monitoring for appropriate dosing and indication, efficacy, adverse effects, and cost-effectiveness. The resident will answer drug information questions, perform pharmacokinetic monitoring, obtain medication histories, and provide medication education and counseling for their patients. The resident will learn to be a liaison between the pharmacy service and other health-care providers, serving as an active member of an interdisciplinary team. The resident will also be involved in precepting pharmacy students and providing education to staff such as leading journal article discussions or presenting educational inservices.

Critical Care - There are two intensive care units at the Madison VA. The patient population on these units is a mix of surgical (cardiac, general/thoracic, and neurosurgery) and medical (cardiac, pulmonary, infectious disease). Patients on these units are managed by medical, surgical or specialty teams. An oversight team, comprised of a critical care pharmacist, an intensivist or internist, a nutritionist, intensive care nurses and a respiratory therapist, provide review of care during rounds on Monday through Friday. The critical care pharmacist, in addition to participating in rounds and providing review of care, performs medication histories, tube feeding consultations, pharmacokinetic consultations, precepts pharmacy students, answers drug information questions, and completes medication discharges.

Long-Term Care/Community Living Center - The purpose of this rotation is to provide the resident with pharmacy experience in a long-term care environment. The Madison VA Community Living Center (CLC) is a 26 bed facility that cares for patients who are no longer acutely ill, but have continued needs for skilled nursing, rehabilitation or hospice care. This rotation will allow the resident to gain experience in managing pharmacotherapy for these patients, to develop independent judgment and accountability, and to improve the verbal and written communication skills necessary to be an effective clinical pharmacy practitioner. The resident will be assigned patients and be responsible for all their pharmacy care. This includes their initial intake note which requires the resident to document a comprehensive review of all of a patient's disease states and medications. Additionally, the resident will complete daily monitoring including anticoagulation and pharmacokinetic notes, discharge counseling, and attending interdisciplinary meetings and discussing any patient care needs with the entire team.

Antimicrobial Stewardship - This experience provides exposure to antibiotic use in the inpatient and outpatient settings. The Infectious Disease (ID) service is consulted by inpatient medical teams when more complex cases are encountered. Antibiotic stewardship provides input to the ID service. During the course of the day, the resident will assess allergies on newly admitted patients, evaluate patients on the ID service, participate in rounds, perform audit and feedback on inpatients, and respond to drug information requests from inpatient and outpatient providers.

Cardiology - The cardiology rotation at the Madison VA will help familiarize residents with the management of medication therapy in patients with cardiovascular disease. The rotation will expose residents to arrhythmias, heart failure, ACS, ACLS, heart and lung transplantation, anticoagulation, and cardiothoracic surgery concepts. The resident will be an involved member of the medical team through daily monitoring and inpatient rounding activities. Patients on the cardiology service are followed by the cardiology general care and intensive care units, and the resident will be responsible for the patients assigned by the preceptor. Other responsibilities include journal clubs, topic discussions, and patient education activities.

PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Required Ambulatory Care Rotations

Anticoagulation – This clinic is pharmacist managed and is responsible for managing all VA patients receiving warfarin and direct oral anticoagulants (DOACs) from our hospital; the clinic provides care for over 700 Veterans. Residents complete telephone and video appointments primarily to assure safe and effective use of antithrombotic therapy. They also initiate therapy and participate in transitions of care from inpatient to outpatient. Residents coordinate warfarin interruptions for procedures, using low molecular weight heparin if warranted, and are involved with patient education as needed.

Cardiopulmonary: In the cardiopulmonary rotation, residents will rotate through heart failure, lung transplant, pulmonary, and renal hypertension clinics. These specialty clinic experiences build upon disease states that are managed within primary care, but patient care is more complex and specialized.

- **Heart Failure** — The Heart Failure (HF) Clinical Pharmacist Practitioner (CPP) serves as a provider within the Madison VA multidisciplinary Cardiology service. Cardiology providers refer patients to the HF CPP for optimization of guideline-directed medical therapy. Residents will provide care primarily through telephone encounters with in clinic encounters as appropriate. Residents will evaluate home vital data, pertinent labs, review of symptoms, and medication tolerability to develop a plan for medication optimization. Residents will also provide education on home monitoring and lifestyle factors for optimal HF self-management.
- **Lung Transplant** — Residents will gain experience in managing pharmacotherapy for lung transplant patients, to develop independent judgment and accountability, and to improve the verbal and written communication skills necessary to be an effective clinical pharmacy practitioner. Care delivery is by face-to-face and telephone encounters.
- **Pulmonary** — The Pulmonary CPP serves as a provider on the Madison VA Pulmonary service, which is a multidisciplinary team comprised of physicians, nurse case managers, and clinical pharmacists. Residents will conduct phone and video appointments (VA Video Connect) with Veterans for the management of pulmonary conditions such as COPD, asthma, interstitial lung disease (ILD), and pulmonary sarcoidosis. Residents will also interact closely with clerical staff, nurse case managers, and consult other specialties or primary care teams when indicated.
- **Renal Hypertension** — Patients with renal disease and difficult to control hypertension are referred to this clinic. Because this clinic is housed with the Renal service, residents work closely with a pharmacist preceptor as well as Renal attendings and fellows. The resident will assess a patient's blood pressure during telephone appointments primarily. Residents will evaluate pertinent labs and make medication adjustments as needed. Residents will also provide education on blood pressure monitoring and lifestyle factors that can contribute to hypertension.



Diabetes – Patients with complicated and difficult to control diabetes are referred to this clinic. The clinic uses a multidisciplinary approach to the management of Type 1 and Type 2 Diabetes. Residents see patients in both a Pharmacist-managed clinic and in a clinic staffed by both Pharmacist and Endocrinologist attendings. The resident is responsible for all aspects of diabetes-related care. The program is structured to provide the resident the opportunity to monitor the safety and efficacy of drug therapy in ambulatory care settings, including medical record review, patient interview and targeted physical assessment, interpretation of laboratory data, consultation with staff, and patient education to achieve optimal patient outcomes. In addition to face-to-face clinic appointments, telephone follow up is completed using patient home glucose monitoring.

Formulary Management – Residents are responsible for a variety of duties during this rotation, including education and guidance of prescribing through electronic consults and ordering tools; review of non-formulary drug requests for appropriateness, safety, and cost effectiveness; monitoring medical center medication utilization to identify areas for improvement; management of national cost saving initiatives; working on formulary conversions; completing a medication use evaluation; and management of the adverse drug reaction program. Requirements for completion of this rotation include completion of one drug monograph, one medication use evaluation, documentation of adverse drug reactions, clinical reviews pertaining to non-formulary or restricted medication requests, completion of new patient orientation notes, assisting with management of manufacturer back orders, PBM/FDA Patient Safety Alerts, and pharmacists clinical interventions. Residents may also be required to attend Madison P&T, regional P&T, and regional PBM meetings during this rotation.

PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Required Ambulatory Care Rotations

Mental Health/Pain – In the mental health/pain rotation, residents will rotate through mental health and pain clinics. These specialty clinic experiences expand not only on resident knowledge of mental health and pain conditions, but tie together how chronic diseases and medications managed in primary care relate to mental health and pain conditions and the comprehensive care that is required.

- **Mental Health** — This rotation provides residents with a broad interdisciplinary experience. Residents gain experience in medication management in a pharmacist-run clinic, including participation in our centralized intake system. Objectives include experiential learning of different DSM-IV axial diagnosis, clinical interview skills, psychopharmacology initiation, monitoring and evaluation, as well as completion of a mental health-related project.
- **Pain** — The Pain Management team is an interdisciplinary team comprised of a neurologist, rehabilitation medicine specialist, nurse practitioner, clinical psychologist, and clinical pharmacist. Patients are referred to the clinic for chronic pain management with an emphasis on improvement of quality of life. Residents are responsible for reviewing patients' pain medication histories prior to their first visit with the clinic and assisting with selection



Outpatient Pharmacy – The Madison VA Outpatient pharmacy primarily dispenses medications to patients seen in clinic, the emergency room, and hospital discharges. Residents will gain experience at the counseling window where pharmacist medication consultation is completed as well as prescription processing. Other areas residents may be exposed to include finishing electronic prescriptions, verification station, controlled substance vault, and pharmacy telephone station.

Primary Care – Residents manage care of chronic disease states for Veterans by ordering and interpreting labs and prescribing and adjusting medications. They are responsible for the education and follow-up of their patients; residents staff care plans with attending physicians or clinical pharmacists. Patients seen in this clinic are referred by their primary provider for co-management of chronic conditions including but not limited to hypertension, hyperlipidemia, diabetes, hypothyroidism, BPH, gout, and COPD. Patients may also be identified through population health management projects that primary care CPPs complete.

Tobacco Treatment – This is a clinic run by the pharmacy residents and a clinical pharmacist. Residents provide tobacco cessation counseling and evidence-based medication therapy through group sessions and individual phone counseling. Participation in group sessions may be through face-to-face meeting and video conference. This is a free service for Veterans.



PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Elective Ambulatory Care Rotations

Primary Care – This elective rotation has all the main components of Medication Management in Madison, but is completed at one of the rural community-based outpatient clinics (CBOC). This rotation will help you develop the skill set needed to excel in within a rural primary care setting. You may select which CBOC you are most interested in. Car pooling with preceptors is available.

Gastrointestinal – The resident works with the clinical pharmacist practitioner in this clinic to co-manage patients with the gastroenterology team. This clinic is intended for the treatment and monitoring of Veterans with chronic viral hepatitis C, chronic viral hepatitis B, and advanced liver disease. Pharmacists operate under an independent scope of practice to start and adjust antiviral therapy. Pharmacists also provide education and monitoring for those enrolled in clinic.

Infectious Disease – The Infectious Disease clinic serves as the primary care clinic for all HIV+ patients at the Madison VA. It is also a consult clinic for patients with severe or chronic infectious diseases. All patients on home IV antibiotics are followed by the ID clinic. Experiences during the rotation may include HIV, home infusion, diabetic or ischemic ulcers, wound care, and treatment of conditions including osteomyelitis, endocarditis, and more.

Mental Health – This rotation provides residents with additional experiences in mental health. Residents travel to a VA clinic in Rockford, Illinois, to see patients in the mental health clinic at that site. Residents benefit from the guidance of the Madison VA mental health pharmacy preceptor as well as the other mental health providers (including a nurse practitioner) based at the Rockford clinic.

Nutrition – In this rotation, the resident works with a registered dietician, who sees patients for the dietary management of a variety of disease states, such as diabetes and heart failure, weight loss as an extension of the MOVE! program, prevention of additional weight loss, and pre- and post-bariatric surgery management. It is popular for residents interested in managing diabetes and learning more about a diabetes-friendly diet and how to carb count.

Precision Medicine/Precision Oncology – The precision medicine CPP provides interpretations for germline pharmacogenomic implications on medication therapy. Additionally, the oncology precision medicine CPP recommends targeted treatment options for cancer patients based on tumor genomics. During this rotation in clinic, the resident will work alongside the precision medicine CPP and assist in the interpretation of germline and tumor genomics. The resident will become familiar with available resources, including the Clinical Pharmacogenomic Implementation Consortium (CPIC) guidelines, available tumor genomic databases such as OncoKB and cBioPortal, and will participate in discussions on the successes and barriers for pharmacogenomic implementation into practices.

Research Pharmacy/Investigational Drug Services (IDS) – The objective of the research pharmacy/IDS rotation is to expose residents to the role of the Research Pharmacist (also known as Investigational Drug Services, or IDS, pharmacist) in the VA Research infrastructure. Additionally, residents will be exposed to feasibility, regulatory, and ethical issues surrounding clinical research. Throughout this rotation, residents will gain experience with clinical trial conduct, regulatory requirements related to research, management of investigational agents, and collaboration with other healthcare professionals adjacent to the research process.

Specialty Medication Management – The purpose of this rotation is to provide the resident with experience in managing high cost and unique injectable therapies, caring for patients with complex disease states receiving care from specialty clinics including but limited to Allergy, Dermatology, GI, and Rheumatology Clinic. Resident will complete assessment of pharmacotherapy for appropriateness, conduct laboratory monitoring, perform functional assessments, and provide medication counseling for both new and refill specialty medications. Care delivery is primarily by VA Video Connect and telephone encounters, with potential for face-to-face appointments as well.



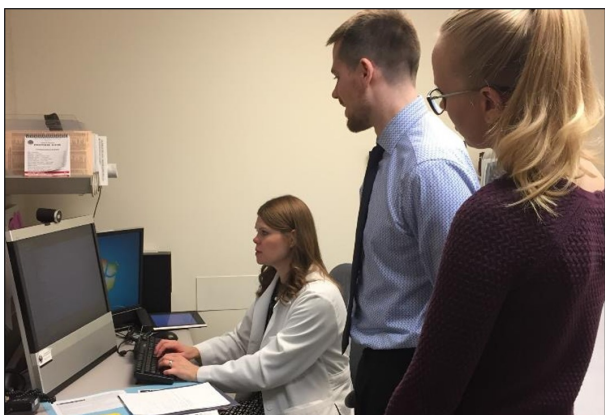
Women's Health – Residents will gain experience in managing chronic disease states with a focus on providing care to female patients through clinic, telephone and video encounters. They will order and interpret lab results, prescribe and adjust medications, and are responsible for the education and follow up of their patients. In addition to direct patient care activities this experience will provide opportunities for participation in team meetings, women's health focused topic discussions, and answering clinical questions received from care teams.

PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Academic Opportunities

Teaching Responsibilities

One of the goals of the residency program is to provide residents with the opportunity to develop and improve their communication and teaching skills. As part of their residency appointment, Madison VA residents have an appointment as Clinical Instructors at the UW School of Pharmacy. With this appointment, residents spend time teaching in at least 4 labs in the Pharmacotherapy Laboratory at the University of Wisconsin-Madison (UW) School of Pharmacy. This course focuses on clinical application of various therapeutic topics and skills. The appointment also grants residents access to UW resources including the medical library. In addition, residents are involved in a number of ongoing teaching and in-service activities including the following:

- Residents provide in-services to hospital administrative personnel, nurses, pharmacy personnel, students, and providers as assigned by rotation preceptors.
- Residents may help precept pharmacy students completing introductory or advanced pharmacy practice experiences at the VA hospital.
- Residents have an extensive role in precepting students through the hospital's student internship program that is designed for pharmacy students who have completed their second year of pharmacy school.



Teaching Certificate Program with the University of Wisconsin

The teaching certificate is a separate, voluntary program that complements the experiences obtained in the Pharmacotherapy Laboratory. Residents are taught strategies to teach the adult learner, facilitate discussions and design a lecture. As part of this program, residents take turns presenting the course topics and facilitating discussions. In addition, guidance is provided on the development of a teaching portfolio and a completed teaching portfolio must be submitted to receive a certificate. A certificate, signed by the Dean of the School of Pharmacy, will be presented to the resident after successful completion of this program.

Topics discussed in the Teaching Certificate Program include:

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| ◆ Creating a lesson plan | ◆ Creating abstracts & posters | ◆ Facilitating classroom learning | ◆ Providing effective feedback |
| ◆ Objectives & outcomes | ◆ Methods to assess student learning | ◆ Matching your teaching style to the learning environment | ◆ Designing and implementing an effective rotation |



PGY-1 Pharmacy Residency: (Acute & Ambulatory Care) - Other Activities

Residency Research Project

The Madison VA pharmacy residency programs use the inverted research model, or IRM (see Inverted Research Model brochure found on the residency website for more information). In the IRM, incoming residents complete a project that has already progressed through background research, protocol development, and IRB approval (if applicable).

During the first half of the year, residents are involved in data collection, data analysis, presentation, and manuscript submission as they finish this project. During the second half of the year, residents start a project to be finished the next residency year, performing the background research, developing the protocol, and obtaining IRB approval (if applicable). This model allows residents to gain project management experience in two longitudinal projects during one residency year. Residents work with preceptors and the research team on these projects and present at the Wisconsin Pharmacy Residency Conference in April of each year, which is held in conjunction with the Pharmacy Society of Wisconsin's Educational Conference.



Resident Education Series

The Resident Education Series is a virtual weekly meeting including residents, Residency Program Directors, and pharmacist preceptors. Each resident is required to attend weekly and required to present a minimum of one formal presentation during the year of each of the following: in-service, journal club, and case conference on a topic of the resident's choosing. The purpose of the formal presentations is to improve the resident's ability to prepare for a formal presentation with handouts, to provide an oral presentation to peers, to provide an opportunity for education for the other residents and staff, and to increase the resident's familiarity with various types of literature associated with pharmacotherapy. These activities are coordinated by the Education and Research Coordinators.

