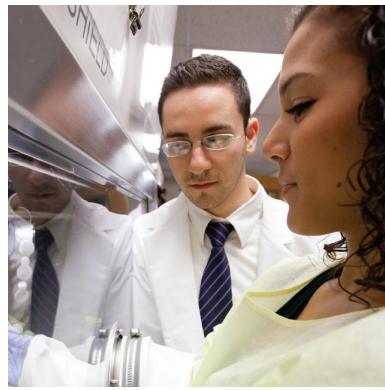




UNIVERSITY  
of MARYLAND



## POSTGRADUATE YEAR-ONE RESIDENCIES

### Community Pharmacy Practice Residency

This residency offers a progressive, educationally oriented community pharmacy practice setting in which to develop patient care, administrative, teaching, and research skills applicable to community pharmacy practice. Residents also will gain the skills needed to foster the development of innovative health programs in community pharmacy settings.

### Managed Care/Ambulatory Care Residency

In conjunction with a local, managed care organization, UM offers an innovative one-year specialty residency in managed care pharmacy. The resident gains specialty practice experience by working with health plan preceptors within the managed care organization and with program preceptors in ambulatory care settings. The resident will focus on population-based pharmacy care with involvement in disease state management, claims database evaluations, pharmaco-economic evaluations, formulary management, and policy development. He or she also will provide direct patient care, answer drug information questions, and have opportunities to teach entry-level PharmD students. The goal of the residency is to prepare the resident to practice in the managed care environment.

### Pharmacy Practice Residency

The pharmacy practice residency is based at UMMC, which is an academic-based, tertiary care center. The size and diversity of the institution allows for a variety of clinical opportunities that can be customized to the resident's goals, interests, and experiences. The program offers training in acute care, ambulatory care, drug use policy development, and practice leadership. Acute care opportunities include internal medicine, medical, surgical, and cardiothoracic intensive care, cardiology, hematology, medical oncology, infectious diseases, investigational drug service, pediatrics, pediatric intensive care, psychiatry, trauma, and solid organ transplant. Ambulatory care opportunities exist in antithrombosis management, HIV management, diabetes management, and medication management.

Pharmacists completing this residency program will be able to confidently provide proficient pharmaceutical care in diverse practice environments. Residents are accountable for promoting safe and effective medication use and for achieving optimal medication therapy outcomes as health care team members. Residents exercise skill in educating other health care professionals, students, and patients on issues related to medication therapy.

## POSTGRADUATE YEAR-ONE/YEAR-TWO RESIDENCIES

### Health-System Pharmacy Practice Administration Residency With an MBA Degree

The health-system pharmacy practice administration residency is a 24-month, experiential program in health-system pharmacy administration and leadership combined with an MBA degree. It is designed to provide the resident with a solid academic foundation and experience in the administration of exemplary pharmacy services across an integrated health system.

The primary objectives of the program are to develop pharmacy leaders who are trained and prepared to immediately assume management positions within large integrated health care delivery systems (e.g., managers or assistant directors of pharmacy operations, pharmacy patient care services, medication use policy, medication safety, and informatics) and establish a foundation to facilitate career growth and effective leadership contributions in all areas of the pharmaceutical/health care industry.

Residents may elect to pursue their MBA degree from either the combined University of Baltimore/Towson University program or the University of Maryland Robert H. Smith School of Business.

## Pharmacotherapy Residency

The pharmacotherapy residency is a 24-month program. The purpose of this program is to train clinical pharmacists to have a strong foundation of skills and knowledge that allows them to practice independently, caring for a wide variety of patients in an institutional environment. Upon completion of the program, residents will be well equipped to attain board certification as a pharmacotherapy specialist.

Core rotations will include internal medicine, critical care, cardiology, infectious disease, and ambulatory care experiences; multiple elective rotations also are offered. Residents are given the opportunity to develop their teaching and research skills through various required activities and through completion of a research project.

## POSTGRADUATE YEAR-TWO RESIDENCIES

### Ambulatory Care Pharmacy Residency

The ambulatory care pharmacy residency provides in-depth education and training to accomplish four major goals: (1) provide individualized, direct care to ambulatory patients; (2) participate in the development and implementation of ambulatory care collaborative practices; (3) develop population-based research skills; and (4) develop teaching skills. The resident completes practice experiences in multiple ambulatory care and specialty clinics throughout the Baltimore metropolitan area. Required rotations typically include diabetes and metabolic syndrome, internal medicine, tobacco cessation, HIV, anticoagulation, geriatrics, pediatrics, and pharmacotherapy clinics. Elective rotations include asthma, lipid, psychiatry, and chronic kidney disease. Teaching skills are developed through participation in both didactic and experiential doctor of pharmacy education.

### Critical Care Pharmacy Residency

The critical care pharmacy residency is designed to train the pharmacist for service in a hospital or academic environment. Residents receive advanced training to provide comprehensive pharmaceutical care to critically ill patients in a variety of acute care settings. The program also focuses on developing clinical skills to incorporate health care economics and ethics into the daily decision-making process for critically ill patients.

Over 25 percent of UMMC licensed beds are intensive care unit (ICU) beds, which include the R Adams Cowley Shock Trauma Center and several adult and pediatric ICUs dedicated to the collaborative care of these patients.

Each resident has the opportunity to customize his or her experience. Required rotations include cardiac care, medical and surgical intensive care, infectious disease, and nutrition support. Elective rotations are available in neurotrauma and multitrauma, cardiac and transplant surgery, critical care informatics, neuro-intensive care, pediatric intensive care, investigational drug service, and toxicology.

### Geriatric Pharmacy Practice Residency

The geriatric pharmacotherapy residency is a one-year program offered through the School of Pharmacy's Peter Lamy Center on Drug Therapy and Aging. This residency combines clinical, administrative, teaching, and research experiences. Core experiences include an interprofessional, geriatric assessment clinic, long-term care pharmacy consulting and management rotation, and administrative rotation with the American Society of Consultant Pharmacists.

Upon completion of this year, the resident will be well prepared to pursue a leadership role and attain certification in the field of geriatric pharmacotherapy. With this recognition and the year's invaluable experiences, residents will be able to meet the needs of the elderly, one of the most rapidly growing populations.

### Oncology Pharmacy Residency

The oncology pharmacy residency combines patient care and clinical services, education and teaching, and research components to provide the resident with the expert skills and competencies necessary to obtain an administrative, academic or clinical role in the field of oncology pharmacy practice.

The resident will provide clinical services as a member of a multidisciplinary team for the medical oncology, leukemia/lymphoma, and blood and marrow transplantation services. These rotations will be spent at the University of Maryland Marlene and Stewart Greenebaum

Cancer Center, which is a National Cancer Institute (NCI)-designated cancer center and a nationally known and internationally recognized leader in treating cancer. Its integrated, multidisciplinary approach to care combines specialized expertise, leading-edge clinical research, and extensive support services for patients and their families.

The resident will participate in a longitudinal hematology/oncology outpatient clinic experience one half-day a week at the neighboring Baltimore Veterans Affairs Medical Center. This longitudinal learning experience will expose the resident to direct patient care for adult patients in the VA's oncology subspecialty outpatient clinics. The resident will spend three months each in GI oncology (colon/skin/head and neck), GU oncology (prostate/kidney/bladder), and thoracic oncology (lung/breast/esophageal/multiple myeloma) clinics, and two months in the hematology clinic. Additional core oncology learning experiences include pediatric oncology, infectious disease oncology, and pain and palliative care.

The goals of palliative care are highly consistent with the goals of pharmaceutical care—achieving outcomes that resolve pain and other symptoms in patients with advanced illnesses. Residents work in a variety of pain/palliative care practice settings learning how to optimally function in the team environment and to address the drug therapy needs of this fragile patient population.

Rotations include both home-based and institutional hospice and palliative care, inpatient and outpatient pain management, oncology, and numerous opportunities for elective study. Upon completion of this specialized residency, graduates are exceptionally well prepared to enter advanced practice in this emerging specialty throughout the health care continuum. Residents participate in teaching and precepting PharmD students, particularly in pain management and palliative care, and conduct an independent research project, as well as participate in additional research endeavors. Residents have multiple opportunities to present on the local and national level and publish projects and research.

### Pediatric Pharmacy Residency

UM provides a one-year, postdoctoral, residency-training program in pediatric pharmacy practice. This intensive residency combines patient care and clinical services, education and teaching, and research components to provide the resident with the expert skills and competencies necessary to obtain an academic or clinical role in the area of pediatric pharmacy practice. The resident's primary practice site will be the University of Maryland Hospital for Children. Its integrated, multidisciplinary approach to care combines specialized expertise, leading-edge clinical research, and extensive support services for patients and their families. Pharmacists completing this residency will be able to provide comprehensive pharmacotherapy for pediatric patients.

### Psychiatric Pharmacy Residency

UM offers a one-year residency in psychiatric pharmacy practice, which combines clinical, teaching, research, and administrative components to provide the resident with the necessary skills to pursue leadership roles in the field and to use critical thinking in applied problem-solving. Upon successful completion of this program, the resident will have expert skills and competencies in psychiatric pharmacy practice. The pharmacy residency in psychiatry is designed to transition residency graduates from generalist practice to specialized practice focused on the care of patients with psychiatric and neuropsychiatric disorders. The purpose of this residency program is to produce graduates that are well equipped to initiate and establish a successful clinical pharmacy service in diverse health care settings and provide exemplary patient-centered medication therapy for individuals with psychiatric and neurologic disorders.

### Solid Organ Residency

Pharmacy practice in solid organ transplantation exemplifies the pharmacists' role in multidisciplinary care and shared responsibility for the optimization of drug therapy outcomes in transplant patients. This residency provides the tools needed to become a competent and confident practitioner in multiple transplant patient care settings, as residents develop the knowledge and skills necessary to meet current and future challenges in specialized pharmacy practice.

The program focuses on abdominal organs (kidney, pancreas, and liver) with additional exposure to heart and lung transplant. UMMC's Division of Transplantation performs an average of 250 kidney (20 percent living donor), 30 pancreas, and 60 liver transplants per year with six dedicated clinical specialists. Required rotations include surgical and medical transplant services, transplant infectious disease, and post-transplant ambulatory care clinic(s). Additional elective opportunities include bone marrow transplant, infectious disease/HIV, hepatology, and the Living Legacy Foundation with additional opportunities available upon request. Each resident participates in the development and modification of his or her individualized residency action plan. The plan is developed with the program director in accordance with each resident's goals and previous experience. The resident will play an active role in the education of patients, health care providers, and pharmacy students.

## FELLOWSHIPS

### Clinical Toxicology Fellowship

This two-year fellowship at the School of Pharmacy's Maryland Poison Center (MPC) provides in-depth experiences that develop the knowledge and skills required to function in a professional, administrative, and research capacity in a certified poison center, clinical toxicology service, and/or academic environment. The fellowship also prepares pharmacists for career opportunities in emergency medicine. The first year focuses on service, teaching, and management while research is a major component in both years. Fellows independently perform one or more research projects each year that are presented at regional and national meetings and published in peer-reviewed journals. In addition, the verbal and written communication skills of fellows are enhanced through interactions with users of the poison center, case conference presentations, in-person consultations with health practitioners, and contributions to the MPC's *ToxTidbits* and professional journals. The fellow also can elect to participate in two rotations a year at other sites including emergency medicine, critical care, and pediatrics.

### Instructional Design and Evaluation

The fellowship in Instructional Design and Evaluation is a structured, but highly individualized, full-time, two-year program intended to prepare individuals for careers in academic pharmacy. Participants are expected to engage in the scholarship of teaching and learning through a series of projects at the School of Pharmacy, to provide didactic instruction to PharmD students, and to provide clinical service to the profession (typically in community or ambulatory practice sites). To support development of knowledge and skills, the fellow also will simultaneously earn a graduate degree or graduate certificate in Instructional Systems Design from the University of Maryland, Baltimore County. Percent effort toward each of these components will be individualized based on the fellow's past experiences and interests.

The School of Pharmacy will serve as "the laboratory" in which the fellow will have opportunities to formally assess instructional needs and gaps as well as design (or redesign), develop, implement, and evaluate units of instruction in collaboration with the faculty. Developing grantsmanship skills and gaining experience within national pharmacy education organizations (e.g. AACP, ACPE) are required components of the fellowship program. The fellow is required to design, implement, and evaluate at least one major hypothesis-driven instructional project that is written and defended in a manner equivalent to a master's thesis. To be eligible for this fellowship, candidates must possess a PharmD degree from an ACPE-accredited program and must have completed PGY1 residency training.

