

Unity Health Toronto St. Michael's Hospital Pharmacy Residency Program Program Description 2023-2024

Our Institution

St. Michael's Hospital serves a densely populated and diverse catchment area, and is a major tertiary and quaternary referral centre for patients from across the province. Specializing in cardiorespiratory diseases, medicine and emergency medicine, kidney and metabolism, oncology, mental health, women and children, and surgery and critical care therapeutics, the hospital has approximately 460 inpatient beds, extensive outpatient clinics, and is downtown Toronto's designated trauma centre for adults. St. Michael's Hospital is an academic health centre fully affiliated with the University of Toronto. It is recognized for excellence in teaching, and is a research leader in many areas including inner city health, cardiac gene therapy and trauma/critical care. In August 2017, St. Michael's Hospital officially united with Providence Healthcare and St. Joseph's Health Centre to form a single health network, Unity Health Toronto.

Our Residency Program

Our pharmacy residency program was established in 1964 and is an accredited program through the Canadian Pharmacy Residency Board (CPRB). The program is of one-year duration and is structured to prepare the candidates for future hospital practice. The residents undertake a series of mandatory and elective rotations in order to develop patient care, medication management, teaching, project management, and leadership skills. The teaching environment provides multiple opportunities for interaction with undergraduate and post-graduate students in pharmacy and other disciplines. Common to all clinical rotations, the residents have the opportunity to develop skills in group interactions with physicians, nurses and other members of the care team. The residents will have the opportunity to develop formal presentation skills by conducting case presentations during clinical rotations. The residents will also learn basic research skills by conducting a project.

Rotations / Curriculum

Foundations I (8-12 weeks)

- Gain basic knowledge and skills for hospital pharmacy practice.
- Gain exposure to various aspects of drug distribution, including unit dose and clinical / wardstock systems of drug distribution, narcotic and controlled substances, and compounding of various sterile preparations.
- Learn the principles of evidence based medicine and its application through critical appraisal of articles.
- Carry out a mini-EBM project and provide a presentation to appropriate audience.
- Develop verbal and written communication skills in responding to DI requests and preparing submissions to Pharmacy & Therapeutics Committee.
- Learn and acquire skills in providing drug information to hospital staff through utilization of systematic literature searching techniques and evaluation of drug literature.
- Gain experience in the application of evidence based medicine in both patient care directed questions and literature evaluations for formulary drug reviews.
- Receive training on the pharmacy computer system to enter and validate orders and become familiar with the drug distribution work-flow in the inpatient pharmacy.
- Develop an understanding of the integrated nature of the hospital systems, including focused exercises / activities within the process from prescriber ordering, pharmacist validation, nurse verification and medication administration.
- Learn about the application of medication safety principles to hospital practice.

Foundations II – Direct Patient Care (8-12 weeks total, may not be continuous)

- Apply concepts learned in Foundations I through provision of direct patient care in defined clinical area. The longer duration allows for enhanced independence and consolidation of knowledge and skills. Total duration may be split over 2 “blocks” of time, with the latter allowing the resident to function with greater autonomy, providing service to a defined clinical area in a more “consolidated” format.
- Clinical area(s) is/are specifically chosen based on their learning experience, suitability for resident / pharmacist integration and appropriate complexity of drug and diseases typically encountered.
- Provide pharmaceutical care to a subset of patients in the unit.
- Participate in patient care rounds as a member of the patient care team.
- Gain experience with other essential roles of the pharmacist, such as answering drug information questions, medication reconciliation, presenting at inservices to nurses and/or physicians and presenting interesting cases to pharmacy staff.
- In part of the rotation, assume responsibility for co-precepting a junior student (scheduling dependent).

Research Project (maximum 10 weeks)

- Select a topic for research based on resident interest and also of benefit to the department/institution.
- Areas of research may include clinical practice, drug use evaluation or quality improvement.
- Development of the proposal & research is directly supervised by the preceptor(s) overseeing the project.

- Learn about protocol design, implementation, data collection and analysis, research ethics submission and publication.
- Completed project is a requirement for successful completion of the program.
- Submission for publication and awards is highly encouraged.

Direct Patient Care (~12 weeks)

- One 3-4 week rotation in a surgical specialty (typically, in one of: cardiovascular / vascular surgery, general surgery / gastroenterology, neurosurgery, orthopaedics), PLUS up to 2-3 additional rotations (duration of 3 – 5 weeks each) in chosen clinical subspecialties.
- Learn the basics of providing pharmaceutical care to patients on a variety of clinical services as they arise during the course of the rotation.
- Learn about the pathophysiology and pharmacotherapy of relevant disease states.
- Participate in patient care rounds as a member of a patient care team and learn the role of the pharmacist.
- Assume responsibility for a sub-set of patients, progressing in quantity and complexity over the course of the program.

Potential clinical areas for direct patient care rotations include:

- General Internal Medicine
 - Conducted in the General Internal Medicine unit.
 - Gain experience in the management of a broad range of diseases involving all organ systems in patients with complex medical issues.
- Cardiology:
 - Conducted in the coronary care unit and/or general cardiology unit.
 - Gain experience in the management of common cardiac diseases, such as acute coronary syndromes, congestive heart failure and dysrhythmias, and the role of secondary prevention.
- Critical Care
 - Conducted in the medical-surgical intensive care unit (MSICU), trauma-neuro intensive care unit (TNICU), or coronary intensive care unit (CICU).
 - Gain experience in managing patients with complex drug-related problems pertaining to various disease states, such as pneumonia, sepsis, acute renal/liver failure, ICU psychosis, subarachnoid hemorrhage, etc.
- Family Health Team
 - Gain experience in adherence assessment and management, patient education and counseling, self-management of chronic disease, documentation.
- Haematology/Oncology
 - Conducted in ambulatory day care/ inpatient units.
 - Learn the basics of cancer chemotherapy and management of toxicities.
 - Gain experience in managing patients with breast cancer, lung cancer, leukemias, Hodgkin's and non-Hodgkin's lymphoma, etc.
 - Provide assessment, counseling and support to patients in the medical day unit on management of drug-related side effects.
- Infectious Diseases/Antimicrobial Stewardship
 - Function as a member of the ID consult team which attends to patients in any unit requiring consult for infectious disease complications.
 - Function as a member of the ASP team which provides leadership on optimizing antibiotic use to reduce antimicrobial resistance.

- Learn the basics of antimicrobial pharmacotherapy, antimicrobial susceptibility/resistance patterns, and pharmacokinetic and pharmacodynamic principles.
- Gain experience in managing common and complicated infections, such as pneumonia (community and nosocomial), osteomyelitis, bacterial endocarditis, meningitis, etc.
- Nephrology/Hemodialysis
 - Could be conducted in the inpatient unit or outpatient dialysis units.
 - Common disease states include: anemia management, bone and mineral metabolism, hypertension in renal disease, drug dosing in renal disease (specifically antibiotic TDM), anticoagulation in patients with renal disease.
- Respiriology/Cystic Fibrosis
 - Conducted in the in-patient respirology unit.
 - Major emphasis is on learning about cystic fibrosis, pharmacotherapy and side effect management.
 - Gain experience in patient education and counseling and adherence management.
- HIV Positive Care Clinic
 - Conducted in the out-patient ambulatory care clinic which services over 1200 patients (also offers some exposure to inpatient management of HIV-positive patients).
 - Learn about the management of chronic HIV infections in treatment naïve and experienced patients, and the prevention and treatment of opportunistic infections (eg. *Pneumocystis jiroveci* Pneumonia, toxoplasmic encephalitis, mycobacterium avium complex disease).
 - Gain experience in adherence assessment and management, patient education and counseling, and documentation.

Administration/Leadership (2-4 weeks)

- Learn about the hospital organizational structure, the principles of department management, inventory control, purchasing, pharmacy budget analysis and preparation, quality improvement and risk management.
- Attend selected hospital committees meetings and gain experience as an interviewer for pharmacy positions when they arise.
- Conduct an administrative mini-project to develop and apply project management skills.
- Learn about the principles and values of leadership.

Teaching Experience (Longitudinal)

- Learn about the principles of education/ teaching and giving constructive criticism.
- Develop and lead a teaching experience (e.g. co-precepting a junior student) including setting learning objectives, creating content, etc.)