



Annual Report



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Jin Huh, Senior Director of Pharmacy

I have the distinct honour and pleasure to welcome everyone to the 1st Annual Report of UHN Pharmacy. This report is made possible with the combined efforts of the Leadership group, highlighting the tremendous work accomplished by the Pharmacy team in fiscal year 2023-2024. A special thanks to Michelle Benitez who spearheaded this process.

This report started as a monthly newsletter to create awareness of the endeavours of the pharmacy staff across the 6 inpatient sites (TGH, TWH, PM, TRI-UC, TRI-LC, TR-BC), 5 Outpatient Pharmacies, Investigational Pharmacy Services, Clinical Informatics, Research and Education. I am proud of the enthusiasm and resilience of the department as we navigated large projects such as post-EPIC Optimization, multiple renovation projects across 3 sites, successful transition to 24-7 service at the Toronto General Hospital site, starting in-house Total Parenteral Nutrition (TPN) production, and availability of minor ailments through Outpatient Pharmacies, to name a few.

I will let each Director introduce their portfolio with the assistance and insights of the respective managers and leaders.

While this report documents where we have been, it additionally points to the changing landscape of the profession and healthcare in Ontario and beyond. This will aid in developing the future strategic priorities that will enhance patient care, provide high reliability in service delivery and identify the resources required that will help enable them.

Thank you for your attention.

Jin-Hyeun Huh
RPh BScPhm MBA BCPS CHE



Olavo Fernandes, Director of Pharmacy - Inpatient Clinical & Operations

As we look back on the progress over the last year for UHN Pharmacy, we are excited to showcase unique team accomplishments, highlight milestones and celebrate many achievements. Our staff at all our 6 hospital sites have made exceptional contributions, partnering with interprofessional teams to provide care for patients while continuously striving toward the vision of enhancing a *healthier world*.

The triple helix intertwining patient care, discovery/research and learning is at the heart of our service delivery. Our dedicated and talented pharmacy staff provide care for patients across the health care spectrum from primary care to highly specialized areas in rehab, critical care, and ambulatory clinics.

The continuous implementation and enhancement of the EPIC health information system over the last couple of years has enabled, catalyzed and empowered our *patients to engage* more fully with *their medication related care* (a departmental strategic priority pillar). This was done via EPIC *after visit summary* medication summaries and patient input into medication reconciliation processes. In terms of population health, our focus has been to *support patient care across the continuum of care to effect meaningful population health outcomes* (another departmental strategic pillar). UHN inpatient pharmacists prioritize clinical pharmacy key performance indicator processes of care that when bundled together have shown to improve important patient outcomes such as reducing hospital admissions. This includes foundational pharmaceutical care work ups, admission and discharge medication reconciliation, patient medication education and participating in interprofessional care rounds. In addition, staff have continuously displayed amazing team work, talent and patience over the last year to resiliently persevere during challenging situations to go the extra mile for patients. One key example is the important role pharmacy played during the high number of *code grey system downtime recoveries* this past year. In terms of teaching, our staff are at the forefront of the convergence of care and education, and they play a pivotal role as one of Canada's largest teaching sites for nurturing the development of pharmacist and pharmacy technician students, and pharmacy residents. Furthermore, *enterprise-wide discovery* is supported by our investigational/clinical trials pharmacy team, and our pharmacy-led and initiated research.

Two areas of novel transformative change we would like to highlight for this past year has been the implementation of a 24-7 continuous pharmacy care model in April 2023 at Toronto General Hospital, and the repatriation of in-house TPN compounding for patients enterprise-wide. This transformation enabled the realization of pharmacy as a 24-7 essential service providing on-site care. In-house TPN production provides an enhanced self-sustaining and self-reliant care model less prone to external delivery delays and shortages.

Our pharmacy teams and staff always have an eye to the future, diligently preparing for priorities in the year to come including our Accreditation Canada visit, Canadian Pharmacy Residency Board PGY1 Accreditation visits, as well as the inaugural launch of the UHN Narcotic Safety & Diversion Prevention Committee and UHN Epic Medication Management Committee.

Sincerely,

Olavo Fernandes
RPh, BScPhm, ACPR, PharmD, FCSHP



Anna Lee, Director of Pharmacy - Corporate Business and Retail Operations

As we reflect on the past year, I am proud to highlight exciting and transformative changes impacting our Retail Outpatient Pharmacy program. One of the most notable developments in the past year was the expanded prescribing authority for Ontario pharmacists, allowing pharmacists to prescribe medications for minor ailments. This milestone represents a major step forward in healthcare, enhancing the role of pharmacists as integral members of the healthcare team. With this new responsibility, pharmacists are now able to provide more direct care, improving access to timely treatment for our patients and alleviating some of the pressures on the broader healthcare system. This change is not just a win for our patients—who can now receive care more efficiently—but also for population health, as it empowers pharmacists to take a more proactive role in managing common health issues before they escalate.

In addition to the advancements in our pharmacy practice, I am thrilled to highlight the launch of a new service offering at our Princess Margaret Wig and Accessories Boutique, a unique program operated by UHN Pharmacy. This past year, we introduced post-surgical compression garments and breast prostheses, offered in close collaboration with our Breast Clinic team. This service provides our patients with access to personalized care from highly trained certified fitters who understand the unique needs of individuals recovering from breast surgery. For patients, this means more than just convenience—it means receiving compassionate, tailored support during a critical time in their recovery journey. The addition of this service reflects our ongoing commitment to expanding the ways in which we support our patients, ensuring they receive the comprehensive care they deserve.

Our team has shown remarkable resilience and dedication to seamlessly integrate new responsibilities and skills into their daily practice. Alongside these patient-centered advancements, the Pharmacy Department has been diligently managing contracts across key areas such as drugs, automation, and other services. These efforts, in partnership with the UHN Procurement Office, have ensured not only a well-maintained drug inventory despite supply challenges, but have also led to significant savings for the hospital. With ongoing collaboration with vendors, savings generated for UHN highlight the critical financial and operational contributions of the Pharmacy Department. As we look ahead, I am confident that we will continue building on these successes to further enhance the care and value we deliver.

With sincere gratitude,

Anna Lee
BScPhm, RPh, ACPR, MHSc



University Health Network (UHN) is a health care and medical research organization in Toronto, Canada. The Pharmacy Department supports UHN's specialized areas of patient care in acute, ambulatory and rehabilitation.



UHN Pharmacy



1322 Number of Beds
Budgeted beds from UHN's 2022/2023 Annual report



437 Team Members • 161 Staff Pharmacists
• 152 Staff Pharmacy Technicians

6 Inpatient Teams supporting 4 Hospitals:

- Toronto General Hospital (TGH)
- Toronto Western Hospital (TWH)
- Princess Margaret Cancer Centre (PM)
- Toronto Rehabilitation Institute (TRI)
(University Centre, Lyndhurst, and Bickle sites)

5 Outpatient Teams:

- TGH Outpatient Pharmacy
- TGH Transplant Outpatient Pharmacy
- TGH (Immunodeficiency) Clinic Pharmacy
- TWH Shoppers Drug Mart
- PM Outpatient Pharmacy

3 Retail Shops

- TGH Gift and Health Shop
- PM Gift and Health Shop
- PM Wig & Accessories Boutique

Inpatient Clinical & Operations

8.6M Prescribed Doses Dispensed
25,413 Patients - Pharmacist Admission Medication Reconciliations
\$132M Gross Drug Costs
3,000 Backorders Managed

585 Active Clinical Trials Supported
2,285 Drug Information Centre Requests Answered
215 Resident and Student Rotations

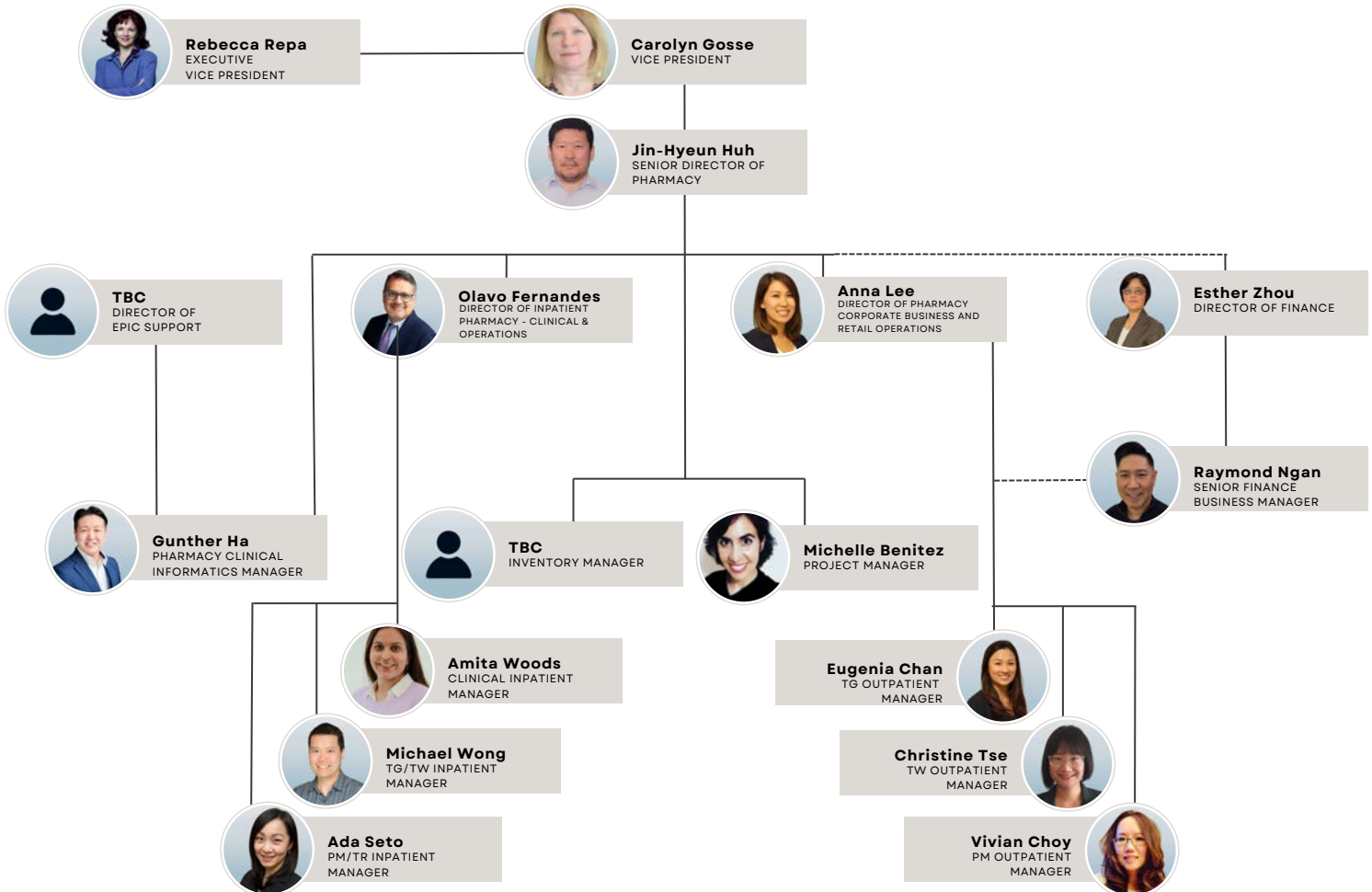
Outpatient Operations

412,000 Prescriptions Dispensed
45,000 Prescription Deliveries
2,500 Complex Drug Access Patient Cases Navigated



UHN PHARMACY ORGANIZATION CHART

FISCAL YEAR 2023-2024



UHN Pharmacy Teams

Administrative

- Executive Assistant
- Administrative Coordinators
- Administrative Assistants

Finance

- Senior Business Analyst
- Billing Clerks

Inventory

- Operations Leader
- Medication Reimbursement Specialist
- Pharmacy Technicians
- Clerks

Inpatient Operations

- Operations Leaders
- Daycare Coordinator
- Pharmacy Technician Supervisors
- Pharmacists
- Pharmacy Technicians

Inpatient Clinical

- Clinician Scientist
- Clinical Site Leaders
- Drug Information Coordinators
- Quality Coordinator
- Coordinator
- Pharmacists

Investigative Pharmacy Services

- Pharmacists
- Pharmacy Technicians
- Clerical Assistants

Pharmacy Education & Research

- Research and Education Coordinators
- Residents
- Students

Pharmacy Clinical Informatics

- Team Lead Application Specialist, Pharmacy
- Application Specialist, Pharmacy
- Application Specialist, Senior
- Application Specialist

Pharmacy Business and Retail Operations

- Drug Strategy Specialists
- Medication Reimbursement Specialists
- Pharmacy Operations Coordinators
- Pharmacists
- Technician Supervisors
- Pharmacy Technicians
- Front Store Manager
- Inventory Supervisor
- Merchandising Technicians



Our Vision

2011 - 2024

UHN Pharmacy will be reviewing its vision and strategic priorities to align with UHN’s 2024 refreshed strategic directions.



Strategic Priorities (2017-2024)



Patient Experience

Empower patients in their medication-related care and consistently integrate their values, goals and preferences into clinical medication-related decisions, policies and initiatives.



Operational Excellence

Strive for a work environment that promotes engagement, productivity, collaboration, effectiveness and safety.



Centres of Excellence

Influence best practice by being a valued, visible, and recognized partner in exemplary care.



Population Health

Support patient care across the care continuum to effect meaningful population health outcomes.



People and Culture

Exemplary workplace of choice for high functioning teams striving for optimal/full scopes of practice and positive culture and environment.



Innovation

Integrate care with technology and automation, enabling UHN staff and community partners to provide consistent seamless care.



Safety

Absence of preventable harm with robust quality assurance processes to monitor and reduce risk to staff and patients.



Inpatient Pharmacy Overview

UHN has 6 multi-site inpatient pharmacies that uniquely provide care across a very broad spectrum of specialized patient populations at each hospital site including emergency medicine, critical care, multi-organ transplant, acute care, rehab, as well as primary care and ambulatory care. We have a tradition of innovation and a focus on medication safety. One example of a novel care model launched over the past year was 24-7 continuous pharmacy care at our largest acute care site. Our talented pharmacy operations, clinical, informatics, inventory and outpatient-inpatient teams are interwoven and interdependent to provide exceptional and highly integrated patient care, teaching and research.

Pharmacy technicians and pharmacists are foundational cornerstones of the medication use system, optimizing safe and effective medication-related patient care delivery on many levels. Pharmacy technicians are at the heart of the drug distribution system and conduct and oversee essential functions for drug procurement, repackaging, sterile/non-sterile compounding, dispensing, clinical trial support and medication delivery. Pharmacy technicians and operations teams uniquely employ a wide variety of cutting-edge technology and software integrated into all aspects of care including medication carousels, IV compounding robotics, parenteral nutrition compounders, Epic dispense prep, automated dispensing cabinets, as well as software and systems that are integrated with Epic information systems and Ncoup clinical trials software.

Pharmacists partner with patients and interprofessional teams to optimize medication regimens and provide evidence informed processes of care aimed to improve patient outcomes including pharmaceutical care assessments, clinical order assessment and review, medication reconciliation, patient medication education and active participation on interprofessional rounds. We run a novel national clinical pharmacy key performance indicator patient registry that supports continual quality improvement, care optimization, benchmarking and learning. These processes of care and our newly implemented Epic health information system (including electronic after visit summaries and medication lists) support our strategic priority of empowering patients to be able to be highly involved in their medication care plans. In addition, our pharmacy (technician and pharmacist) learners play an essential role in providing care and interprofessional team support including specialized synergistic student-led care delivery models.

Pharmacy teams provide care for the clinical programs and specialized patient populations at each hospital site



Toronto General Hospital

Patient programs include:

- Cardiology, Cardiovascular and Vascular Surgery
- Critical Care
- Emergency Medicine
- General Medicine
- Mental Health
- Multi-Organ Transplant
- Nephrology
- Surgical Services



Princess Margaret Cancer Centre

Patient programs include:

- Immune Effector Cell Therapy
- Malignant Hematology:
 - Leukemia
 - Allogeneic Stem Cell Transplant
 - Autologous Stem Cell Transplant
- Medical and Radiation Oncology
- Palliative Care
- Short Stay and Clinical Trials



Toronto Western Hospital

Patient programs include:

- Cardiology
- Critical Care
- Emergency Medicine
- General Medicine
- Microvascular Surgery
- Neurosciences
- Ophthalmology
- Orthopaedics and Spinal
- Primary Care
- Rheumatology
- Surgical Services



Toronto Rehabilitation Institute

(University, Lyndhurst and Bickle Centres)

Patient programs include:

- Acute Brain Injury Rehab
- Complex Continuing Care
- Low Tolerance Long Duration Rehab
- Multisystem Rehab
- Musculoskeletal and Geriatric Rehab
- Specialized Dementia Unit/ Behavioural Medicine
- Spinal Cord Injury Rehab
- Stroke Rehab
- Transitional Care

Inpatient Program Activity



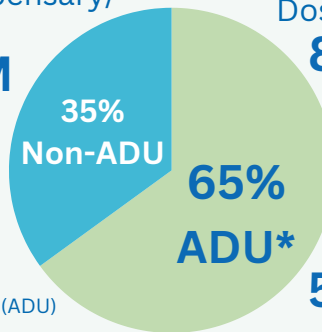
273 Team Members

Operations



Dispensed via Dispensary/
IV Ads/Robotic
(Non-ADU) **3M**

*Automated Dispensing Unit (ADU)



Doses Dispensed to Patients
8.6M

Compassionate Doses at PM
3991

Dispensed via Pyxis System (ADU)
5.6M



New in 2023 - In-House Total Parenteral Nutrition (TPN) compounding

8,010 Total TPN Orders **4,852** TPN Prepared In-House

Remainder 3,158 orders are Ready-To-Use outsourced TPN



Pharmacy Equipment & Automation Systems Across Sites

Pyxis	Carousel	BioSafety Cabinets	-20°C Freezers
CII Safe	RIVA Robots	Laminar Air Flow Hoods	Medication Fridges
ATP Packagers	TPN Compounding	Ultra-low 80°C Freezers	

Clinical



National Clinical Pharmacy Key Performance Indicators (cpKPI)

Advancing pharmacy practice to improve patient outcomes and patient safety

91.8% Pharmacist Admission Medication Reconciliation

- Pharmaceutical Care Plan
- Interprofessional Patient Care Rounds
- Patient Education during Hospital Stay
- Patient Education at Discharge
- Pharmacist Discharge Medication Reconciliation



294 Beacon validations - Standard of Care (*Data from Jan-Dec 2023)

PM Oncology Pharmacists, together with an interprofessional team, conduct extensive reviews of treatment plans for information accuracy, sequencing of events, and safe administration of complex agents with monitoring parameters, before plans are released into Epic production.



47 Drug Formulary Submissions Reviewed

24 IV Administration Nursing Requests

9 Policy & Guideline Updates

FY 2023/2024 Highlights



24-7 Continuous Pharmacy Care

24-7 on-site inpatient operations is an emerging standard of care across Canada that is in place at some leading national, provincial and Toronto Academic Health Science Network (TAHSN) hospitals. With patient safety being a centre-piece priority, 24-7 Continuous Pharmacy Care transformation began on April 3, 2023 at TGH. This new pharmacy care model has enabled the realization of pharmacy as an around the clock essential service, providing on-site care with pharmacist clinical order review (a Hospital Accreditation Canada Standard), and critical pharmacy first dose dispensing/intravenous compounding. We have moved from a remote on-call pharmacist to having two pharmacy technicians and two pharmacists on-site from 2100 to 0800 at TGH.



UHN Vision for 24-7 Continuous Pharmacy Care

1

Patient Safety

Patient and medication safety as the centre piece (caring safely)

2

Essential

Pharmacy is an essential 24-7 service

3

Self-Reliant Operational Excellence

Self-sustaining, efficient, cutting-edge pharmacy operations & drug distribution

4

Continuous Care

24-7 pharmacist clinical medication order review

5

Embrace Technology as an Enabler

Technology will empower and catalyze pharmacy practice advancement

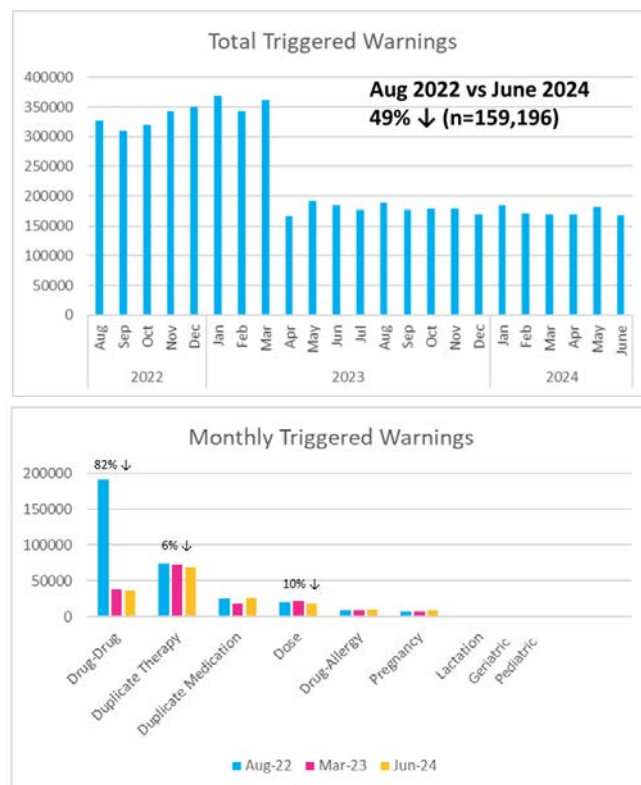
Medication Warnings

The Medication Warnings Working Group was formed in March 2023 with the goal of improving medication warning usefulness and reducing alert fatigue with Epic medication warnings. The working group consists of Application Specialists, Clinical Site Leaders, Drug Information Coordinators, Clinical and Informatics Managers. On a monthly basis, data analytics and user reports are used to help identify warnings. Each warning is evaluated based on literature review, best practice, risk/benefit and system configuration options, and recommendations are forwarded to Clinical Decision Support (CDS) committee for endorsement. From its inception to June 2024, there has been:

- 25** Analyzed Epic optimization and statistics reports
- 52 of 99** Addressed user requests
- 81** Evaluated warnings (Drug-Drug, Duplicate Therapy, Dose)
- 61** Submitted warnings for endorsement by CDS

Monthly medication warnings reduced by 54%*

* Reduced from 361,876 to 168,169 across UHN





Clinical Activities

TGH Transplant Pharmacists New Model of Care

After months of planning, the TGH transplant pharmacists launched a new initiative in April 2024 as part of the **Enhanced Recovery After Surgery (ERAS) pathway for living donor kidney transplant recipients**. Under this new model of care, patients are now seen before transplant in the ambulatory clinic for a pre-transplant medication review and pharmacist-led medication teaching.

By completing medication teaching pre-operatively, the aim is to facilitate a shorter length of post-operative hospital stay. Additionally, the team hopes that shifting the medication education to the pre-transplant stage will **improve patient experience by reducing the heavy burden of new information that patients are required to learn and navigate after a transplant**. An evaluation of this quality improvement initiative is currently underway, which includes a patient satisfaction survey.

Virtual Behaviour Medicine (VBM) Program

In early 2023, Toronto Rehab partnered with Baycrest to implement a **Virtual Behaviour Medicine (VBM) Program**. This program aims to provide rapid access to specialized care in managing behaviours of dementia. Patients in long-term care (LTC) or in acute care with a final destination of LTC, and a primary concern of severe neuropsychiatric symptoms of dementia (i.e. agitation) are referred to the virtual clinic.

Pharmacy was engaged as an integral member of the team. In this new clinic role, the **VBM pharmacist serves as a medication-expert helping to gather a thorough medication history of psychotropic medications, providing expertise of medication regimens, deprescribing, dosing, drug interactions and side effects, drug coverage, and responding to drug information requests**.

In the FY2023-2024, the 0.5 FTE pharmacist was involved in over 80 new consults and 200 follow-ups. The pharmacist has become an integral member of the team, and in 2024, their role has expanded to a 1.0 FTE to allow for more dedicated coverage and continuity between our inpatient specialized dementia unit and the expanding VBM program.

TGH outpatient cardiology clinic model of care

The use of Epic has brought opportunities for teams to develop new care models, including within the Peter Munk Cardiac Centre's (PMCC) TGH outpatient cardiology clinics (weekday afternoons). Following an assessment of evidence-based practices and operational feasibility, a **clinic model was created to prioritize new heart function clinic patients**, while also building out the ability for pharmacists and providers to consult the TGH PMCC clinic pharmacist in Epic. **Since rollout in July 2023 to end of FY2023-2024, over 300 patients were screened for pharmacist review and over 200 patients received pharmacist assessment and work-up. Over 250 drug therapy problems were identified for patients seen in advance of initial clinic visit**, of which over 50% of pharmacist recommendations were implemented during the period the patient was under the care of the heart function clinic team.

Use of technology to improve patient care

The TRI-Bickle site, with over 200 beds, focuses on the management of patients requiring low tolerance long duration rehab, complex continuing care, and transitional care services. **Many patients have long-term lengths of stays and require regular medication reviews by pharmacists**. These reviews focus on ensuring medication appropriateness, looking for opportunities for deprescribing, and aiming to optimize medication safety. Where historically these reviews were conducted on paper, **the implementation of Epic, our new health information system, has improved our ability to provide this service**. Some of the advantages and efficiencies gained with the new system are the ability to track when patients were last reviewed, the creation of documentation templates to standardize the process, and most importantly a mechanism to easily see past recommendations, pharmacy assessments, and plans in the electronic chart. **Since starting to track these assessments, pharmacists have completed more than 140 quarterly reviews** and we anticipate the numbers to continue to grow as we move into FY2024-2025.

FY 2023/2024 Highlights - Continued

UHN TPN Program

In line with the principle of continually moving toward self-reliant, self-sustaining, efficient, cutting-edge pharmacy operations and drug distribution processes, a pharmacy operations and clinical transformation occurred to bring outsourced TPN in-house. In June 2023, the UHN Pharmacy TPN compounding services was launched with operations housed at the TGH Inpatient Pharmacy to prepare customized TPNs for all patients across UHN. Pharmacy technicians, TPN pharmacists and leadership teams collaborated and innovated to make this vision come to life.

Providing in-house services provides greater autonomy to better serve the needs of patients and avoid logistical complexities with outsourcing to a TPN pharmacy care model that was less prone to external delivery delays and shortages.

Rollout completed two phases:

- Phase 1 - implementation of Baxter Exactamix compounding devices and workflow setup.
- Phase 2 - Epic build integration, avoiding the need for double order entry in systems.



System Upgrades

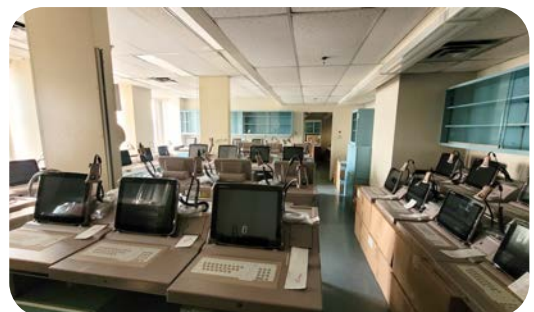
Critical system upgrades were completed to maintain pharmacy operations and pharmacy-managed equipment at the unit level with up-to-date equipment and technical requirements, while enhancing functionality. Upgrades included:

IV Prep - IV workflow management system used only at **PM site for oncology compounding operations interfaced with PM Inpatient Pharmacy's RIVA robot**. In October 2023, rollout of a new server and software upgrade were completed to the latest and most current technical specifications.

Pyxis ES System - Patient medication automated dispensing system on the patient care units.

UHN underwent an enterprise-wide hardware, server and software upgrade to its Pyxis ES system in a phased approach. Project was led by UHN Pharmacy and involved a high level of coordination and planning throughout the year with collaboration from many UHN teams, such as Digital and Nursing, to ensure a successful implementation with the least amount of downtime to operations and at the unit level. **A total of 132 Pyxis medstation tops, and 24 sets (medstations, towers, and auxiliaries) of Pyxis equipment were replaced across the enterprise.** The second phase of the project involved upgrading the Pyxis ES system server and undergoing a **software upgrade to 168 Pyxis medstations across UHN.**

The Pyxis ES System upgrade has introduced new features, creating efficiencies and greater functionality. **Pyxis Med Link was implemented for Nursing teams across UHN, allowing for remote medication queueing and wasting which can help reduce lineups at the Pyxis MedStations** when trying to obtain medications and document waste. In Pharmacy, through a new feature called Remote Assist, our pharmacy staff can remotely access Pyxis devices for troubleshooting support as issues arise at the units.





Outpatient Program and Pharmacy Business

Outpatient Pharmacy and Retail Operations Overview

UHN Retail Outpatient Pharmacies play a crucial role in enhancing patient care by providing accessible, high-quality pharmacy services tailored to meet the diverse needs of our patients, staff, and visitors. This team bridges the gap between inpatient care and the broader community, offering a seamless continuum of care through its close collaboration with our ambulatory clinics and multidisciplinary healthcare teams. By working together with physicians, nurses, and other healthcare providers, our retail pharmacies ensure that patients receive customized, patient-centered services, optimizing therapeutic outcomes and improving overall health and well-being.

In addition to traditional pharmacy services, our Retail Outpatient Pharmacy team also operates non-pharmacy retail businesses within the hospital. These include gift shops and a specialty supportive care boutique that cater to the specific needs of our patients and staff. Among the specialized services offered are expert fittings for compression garments at both TGH and PM Gift and Health Shops, as well as wigs, breast prosthetic devices and essential post-surgical supportive care products at the PM Boutique. These services are designed to support patients through every stage of their healthcare journey, ensuring they have access to the products and care they need to recover comfortably and confidently.

Through this integrated approach, our Retail Outpatient Pharmacy team not only contributes to the clinical care of patients, but also enriches their overall hospital experience by providing convenient access to essential health products and services in a supportive and compassionate environment.



UHN Hospital Sites & Retail Programs

Toronto General Hospital

- TGH Outpatient Pharmacy
- TGH Transplant Outpatient Pharmacy
- TGH (Immunodeficiency) Clinic Pharmacy
- TGH Gift and Health Shop

Toronto Western Hospital

- TWH Shoppers Drug Mart

Princess Margaret Cancer Centre

- PM Outpatient Pharmacy
- PM Gift and Health Shop
- PM Wig and Accessories Boutique



412,000 Prescriptions Dispensed to Patients



45,000 Medication Deliveries sent to Patients



2,500 Complex Drug Access Patient Cases Navigated



125 Team Members

- Pharmacy Leaders
- Pharmacists
- Technicians
- Reimbursement Specialists
- Inventory Staff
- Merchandisers



5 Dispensary Automation Units Utilized Across Sites

- 2 Paratamax Dispensing Robots
- 2 SynMed Blister Pack Robots
- 1 Beacon Inventory System



Scope of Practice Change for Pharmacists

Since the Ontario government expanded pharmacists' prescribing powers in 2023, pharmacists at UHN have been seeing the positive impact it's had on patients.

In January 2023, the Province of Ontario granted pharmacists the authority to prescribe medication for 13 minor ailments (MA) – which was expanded to 19 total ailments 6 months later.

In July 2023, pharmacists also gained the authority to administer a select list of substances to patients including by inhalation and injection for treatment purpose, rather than administering these substances solely for demonstration and educational purposes.

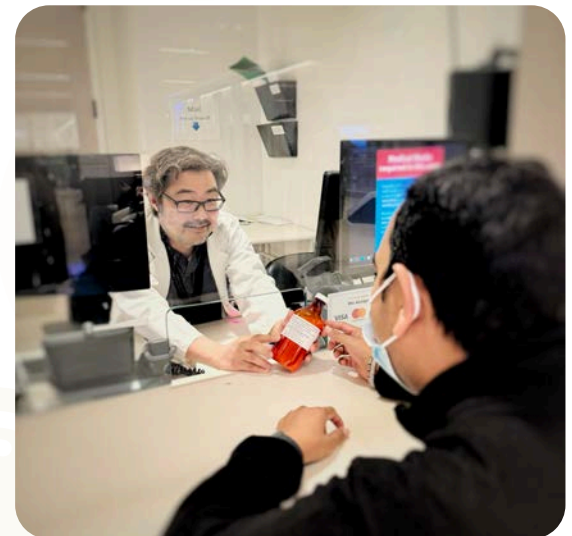
UHN Outpatient Pharmacists launched Minor Ailment services in the Spring of 2023. During the first year the demand has grown steadily having completed 120 consultations.

Before the new legislation came into effect, pharmacists would provide an assessment on patients presenting a minor ailment then communicating the appropriate recommendations to a doctor, and waiting for the doctor's approval before the patient could receive care.

Now, individuals experiencing an uncomplicated urinary tract infection, conjunctivitis, cold sore or other common short-term health conditions can access an Outpatient Community Pharmacists at UHN to initiate specific treatment and self-care recommendations before their concerns become more severe.

This expanded scope of pharmacy practice ensures patients receive timelier access to safe, quality health care and an improved patient experience.

As the Ministry of Health plans to continue to expand the MA Program and other community pharmacy based services, pharmacists at UHN are staying current with their clinical knowledge and looking for opportunities to implement innovative services that leverage pharmacy expertise.



Specialized Products Expansion

Princess Margaret Wig Salon & Accessories Boutique (PM Boutique) is a specialty retail store on the 3rd floor of the Princess Margaret Cancer Centre, which is managed by UHN Pharmacy. It offers a wide selection of medical garments and supportive care products for oncology patients in a friendly environment.

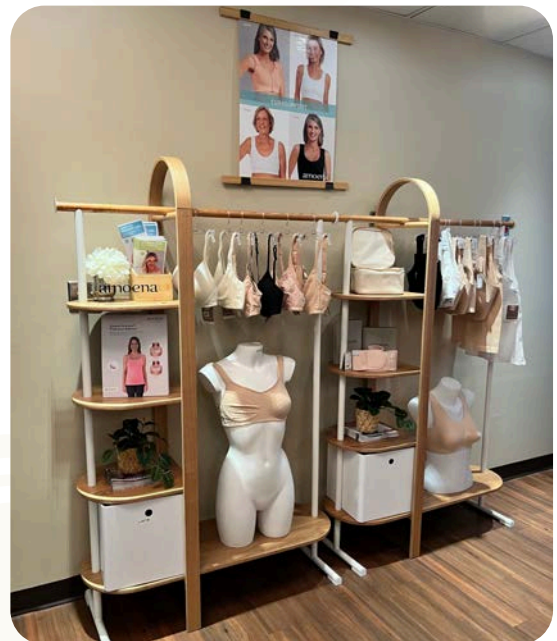
During the pandemic, patients and providers identified a lack of local access to post-surgical and compression garment fitting services. With the closure of Nordstrom in 2023 and other local fitters, patients often faced the burden of traveling outside GTA to access reputable certified fitters for specialty medical garments. Pharmacy worked closely with Breast Surgeons, Clinical Nurse Specialists and Rehab Therapists from clinics at PM to develop new medical fitting services catered to oncology patients.

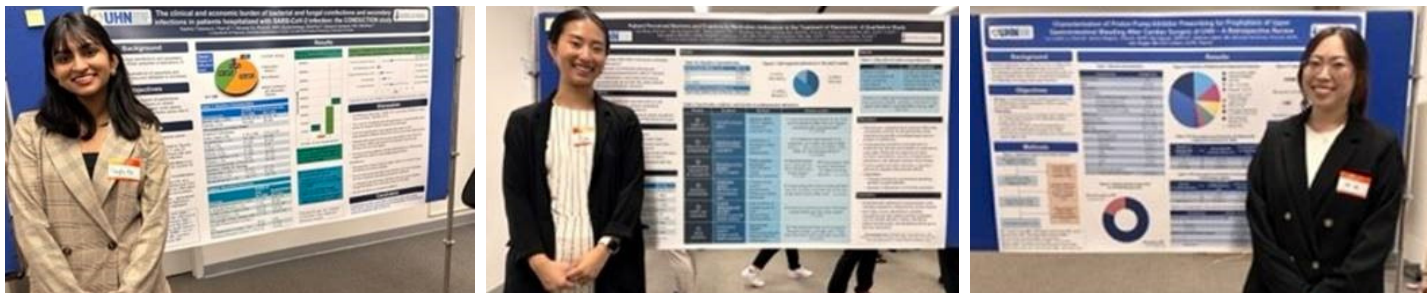
The PM Boutique now offers access to high quality specialty products to support patients in their treatment and recovery journey, including:

- Post-surgical bras and camisoles
- Breast forms, shapers and prostheses
- Breast care apparel
- Lymphedema compression garments

Patients undergoing cancer treatment experience significant changes to their physical appearance and wellbeing. Therefore, Certified Fitters and Wig Specialists at PM Boutique provide private consultations by appointment and support patients with various aspects of selecting and purchasing a medically necessary garment or assistive device. Although, post-surgical bras and medical breast prostheses can help breast cancer patients, some cannot afford this expense. Often the PM Boutique team assists patients with the financial hardship navigate funding sources, collaborating with social workers and distributing a compassionate supply of donated garments and prostheses.

In the first year, PM Boutique's expanded medical fitting services supported over 10 new patients a week and completed 500 private fitting consultations, in addition to 520 hair consultations provided by Wig Specialists.





UHN Pharmacy is a leading hospital experiential site for pharmacy students, pharmacy technicians and pharmacy residents and is the largest site for the University of Toronto. Our talented pharmacy staff serve to nurture the next generation of pharmacy learners including serving as experiential APPE preceptors, residency preceptors, pharmacy technician preceptors, pharmacy research preceptors, clinician scientists, lecturers, course coordinators, and graduate program research supervisors and mentors. In addition, many staff have university appointments and serve as principal investigators for pharmacy practice research.

As a teaching hospital, UHN's Department of Pharmacy is actively involved in leading research and learning opportunities. UHN uniquely currently has 6 Pharmacy Residents (3 PGY1 General Residents, 1 PGY1 Primary Care Resident, 1 PGY1 Oncology Pharmacy Residents, and 1 HIV PGY2 Pharmacy Resident). On an annual basis, our Year 1 (PGY1) Pharmacy Residency program brings together a team of mentors, rotation and project preceptors from the department to make the student experience an enriching one, while addressing advance practice or patient care processes that may benefit from review. Many of these students decide to stay at UHN Pharmacy to start their professional careers.

Pictured above - 2022/2023 Year 1 Pharmacy Residents presenting at the CSHP Residency Research Poster Night (August 2023).

Nashita Tabassum - "The clinical and economic burden of bacterial and fungal coinfections and secondary infections in patients hospitalized with SARS-CoV-2 infection"

Primary Preceptor: Miranda So / Other Pharmacy Members: Bassem Hamandi

Yuki Meng - "Patient perceived barriers and enablers to medication adherence in the treatment of depression"

Primary Preceptor: Christine Papoushek

Other Pharmacy Members: Patricia Marr, Debbie Kwan, Kori Leblanc, Chris Chiu

Lulu (Loretta) Lu - "Characterization of Proton Pump Inhibitor Prescribing for Prophylaxis of Upper Gastrointestinal Bleeding After Cardiac Surgery at UHN - A Retrospective Review"

Primary Preceptor: Jessica Ragazzo

Other Pharmacy Members: Kori Leblanc, Bao Nguyen, Miranda Hambrook

**For residency starting Sept 2022-Aug 2023, only 3 of the 6 spots completed the residency.*



Residency Program

- Affiliated with the Leslie Dan Faculty of Pharmacy at the University of Toronto.
- Accredited by the Canadian Pharmacy Residency Board (CPRB).
- Opportunity to gain patient care, teaching and research experiences in an academic health sciences centre.
- **TRI's expanding involvement in teaching** - In 2023, a rotation at TRI became a required component of the PGY-1 Primary Care Residency Program. This is a unique learning environment to residents acting as a bridge between acute and ambulatory care, while also providing an opportunity to understand medication use systems. This formal addition to the residency program speaks to the quality of previous residents' learning experiences and our preceptors' dedication to teaching. In addition to providing these rotations to our own UHN residents, TRI also hosted an external residency rotation for one of our partner TAHSN hospitals this past year.



In December 2023, the HIV Advanced Residency Pharmacy Program (Year 2) underwent their accreditation review with CPRB and was awarded Full Accreditation (6-year term) until December 31, 2029. This is a joint program between UHN and MUHC (McGill University Health Centre), a first of its kind to focus on HIV.

Our Program



215

Resident and Student Rotations

137 APPE, 36 Technicians, 40 Residents, 2 EPE Rotations

UHN offers the most number of clinical and non-clinical rotations to pharmacy students in Toronto.

997

Teaching weeks offered

98

Number of Preceptors (31% of UHN Pharmacy Staff)

Our Learners



Pharmacy student-led provider models in place to support patient care in close collaboration with pharmacists:

Hemodialysis

Surgical Pre-Admission

Emergency Medicine

- Students may be exposed to novel teaching and learning models (i.e near-peer, peer-to-peer, etc).
- **TGH's inpatient learner-led Best Possible Medication History (BPMH) care model** - With support from our APPE students as well as University of Waterloo term students, learners have independently conducted medication histories the morning following each weekend/stat holiday. This has ensured timely ability for pharmacists to complete admission medication reconciliation. The pilot helped at the time of transitioning to 24-7 operating hours, while increasing patient care volumes continued across several programs, including at General Internal Medicine.



2 International Observers • Offering 10 weeks of international observer training in 2023-2024

There are opportunities for individuals who have a passion for health care to learn and share knowledge through direct observation of pharmacists at UHN. International learners can apply to UHN's International Centre for Education (ICE) to arrange observerships for a predefined period depending on the availability of sponsors.



24 Faculty Appointments

- 12 Assistant Professor
- 2 Associate Professor
- 11 Adjunct Lecturer

UHN is affiliated to the University of Toronto as an academic hospital, and is part of TAHSN, which is a network of academic health organizations providing leading edge research, teaching and clinical care.



Pharmacy Research & Awards

UHN Pharmacy has a unique and innovative model with 9 Pharmacists appointed to the research institutes. Every year we have pharmacist-led research projects that continue to advance our understanding of medication management, improve patient outcomes, and contribute to the field of pharmacy through innovative solutions and evidence-based practices. Many of our research projects have been integrated in local practice.

Our Impact



9 Research Appointments

8 Active Pharmacist Clinician Investigators with the UHN Research Institutes

1 Active Pharmacist Clinician Scientist with the TGH Research Institute



40+ Active Pharmacist-led research projects:

36 Publications (peer reviewed)

11 Research specific publications

7 Abstracts Presented

Peer-reviewed conferences across the country



Invited Presentations

Workshops and presentations international, national, and local

FY 2023/2024 Highlights

STOPMed-HD - Launch of Patient Video

Marisa Battistella, UHN Pharmacy's Clinician Scientist, was the Principal Investigator spearheading a research program on the Strategic Optimization of Prescription Medication Use in Patients on HemoDialysis (STOPMed-HD). This is a multi-phase deprescribing research program aimed to create a safe, effective, and low-barrier deprescribing program that can be easily implemented in hemodialysis clinics in Canada and around the world to minimize the effects of polypharmacy. Currently 4 sites in Canada (Toronto, Halifax, Calgary and Victoria) are included in the study with final roll out and implementation to other centres in Canada to occur in 2026.

Supported by a network of nephrology clinicians, and health service and implementation experts, the program has made several developments since 2016, including deprescribing tools for clinicians and patients. A patient video was launched to highlight the experiences of patients on hemodialysis with medication management, including deprescribing. Video also touches upon patient-centred aspects of medication management, and serves as a tool to raise awareness among patients on hemodialysis about the importance of effective medication management and deprescribing. Currently other study sites are using the video to recruit patients to the study.

PT4CPC – Pharmacist Training for Collaborative Primary Care

Christine Papoushek, Pharmacy's Pharmacotherapy Specialist in Primary Care at the Toronto Western Family Health Team, was the Project Manager spearheading a national training program - Advanced Primary Care Pharmacists Training Program. This was led by the Association of Faculties of Pharmacy of Canada (AFPC) and was part of a large national initiative to accelerate transformative change in the way primary care practitioners work together, called Team Primary Care: Training for Transformation (www.teamprimarycare.ca). The Training Program was a combination of online and in-person training over a period of up to 20 weeks (Oct 2023 – Feb 2024). The program's comprehensive approach, covering primary care landscape, clinical skills, teaching, change management, and advocacy, empowered pharmacists to integrate in team-based care and contribute to positive change in primary care settings. This program has been shared with pharmacy faculties for consideration in undergraduate and post-graduate program planning.



Celebrating Excellence

Awards • Teaching • Pharmacy Practice • Research



Wightman-Berris Academy Teaching Awards - 2023

The annual awards ceremony celebrates the impact the recipients have had on learners and their valuable contributions to the Wightman-Berris Academy's teaching programs. **Trishu Vather** and **Jason Yung**, two of our UHN Pharmacists, were honoured with the Wightman-Berris Academy Individual Teaching Excellence Award in the Health Profession Programs category.



Canadian Society of Hospital Pharmacists (CSHP) Ontario Branch Awards - 2023

CSHP OB Bill Wilson Patient Safety Award - Alice Tseng

Project: Development and Dissemination of A Drug Interaction Resource to Optimize Utilization and Safe Prescribing of Nirmatrelvir/Ritonavir (Paxlovid) for Patients with COVID-19 in Ontario

Project Team members: **Kori Leblanc, Bassem Hamandi, Matthew Chow, Christine Papoushek** & others.

CSHP OB Literary Award Therapeutic Review or Case Report Award - Naomi Steenhof

Project: Acute Pain Management for a Patient with Chronic Pain Stabilized on buprenorphine-naloxone



University of Toronto's 2023 DFCM (Department of Family and Community Medicine) Award of Excellence - Staff Excellence in Quality & Innovation

Patricia (Trish) Marr - Pharmacotherapy Specialist at TWH Family Health Team



Canadian Society of Transplantation (CST) Education and Teaching Excellence Award - 2023

Jennifer Harrison (TGH Pharmacy Clinical Site Leader) was recognized for her exemplary commitment to the CST mission through excellence in teaching and educational program development, as part of the care of Canadian organ transplant patients. This is one of 5 "major career awards" the society gives out annually, and the first non-physician recipient of this award.



CSHP Distinguished Service Award - 2024

CSHP elected **Olavo Fernandes** (Director of Pharmacy - Inpatient Clinical & Operations) as the recipient of the 2024 Distinguished Service Award. This award recognizes outstanding achievement and significant ongoing contributions to hospital pharmacy practice and to CSHP (nationally and at branch level).

Investigational Pharmacy Services










The Investigational Pharmacy Services (IPS) area at UHN Pharmacy facilitates clinical drug trials involving humans, and ensures conduct of trial is in compliance with local and international policies and procedures. We have three unique teams (PM, TGH and TWH IPS) who provide clinical trials support to all of our sites. TWH provides support to TRI. This past year we have been engaged with all of the site specific research units to enhance and optimize the support we provide to all researchers at UHN.

All clinical drug trials are conducted adhering to regulatory requirements and protocols:

- International - ICH Harmonized Tripartite Guideline for Good Clinical Practice
- Federal (Canada) – Food and Drug Regulations, Tri-Council Policy Statement for Ethical Conduct for Research involving Humans (TCPS)
- Local – policies and procedures established by UHN's Pharmacy and Therapeutics Committee (P&T) and Medical Advisory Committee

The team manages every step of the clinical trials activity from pre-trial initiation work, investigational product (IP) receiving, patient randomization and IP allocation, dispensing, ongoing inventory management, quality assurance, compliance, finance and audit readiness activities.

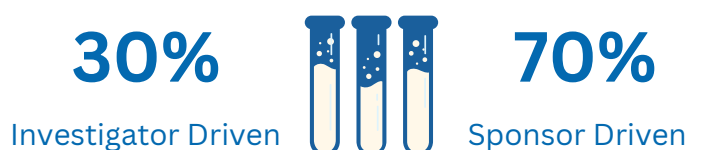
 27 Team Members	 Activity by Hospital Site	 New Trial Activations	 Trial Renewals	 IV Dispensing	 Oral Dispensing
	Princess Margaret Cancer Centre	52	346	7864	5814
	Toronto General Hospital	47	78	875	1877
	Toronto Western Hospital	17	45	466	375
 40 Investigational Drugs Reviewed by P&T	UHN TOTAL	116	469	9205	8066

**IV and oral dispensing events can take anywhere from minutes to a few hours depending on complexity of IP being dispensed.*

*** There are variables outside of IPS management (regulatory, REB, training and investigator site-specific approvals) that must be in place for a successful new trial activation.*

Dispensing investigational products can include complex dose preparations involving special IV tubings/bags and requiring stability of prepared doses. The focus is on dispensing IP accurately, with consistent quality, and timely turnaround while adhering to all regulatory compliance standards and audit requirements.

Investigational product orders are managed electronically through new systems recently implemented: Epic and nCoup databases (IP inventory management and dispensing system). A variety of study-specific Sponsor supported electronic IXRS database systems are also used for clinical trial drug management activity.



An **Investigator-Initiated Trial (IIT)** or “Investigator Driven” clinical trial requires a greater level of support by the IPS team. The Investigator conceives the research, develops the protocol, and serves as sponsor investigator. IPS is involved in all phases of the trial, including the Investigator’s responsibility to ensure regulatory labeling requirements are met for IP used in these trials.

IPS manages all sponsor monitor visits and the reconciliation/return/authorized destruction of clinical trial IP. For the lifetime of each trial, IPS will handle all trial amendments (protocol, Investigator Brochure, SOP and Pharmacy Manual changes) and related staff training for all ongoing trials.

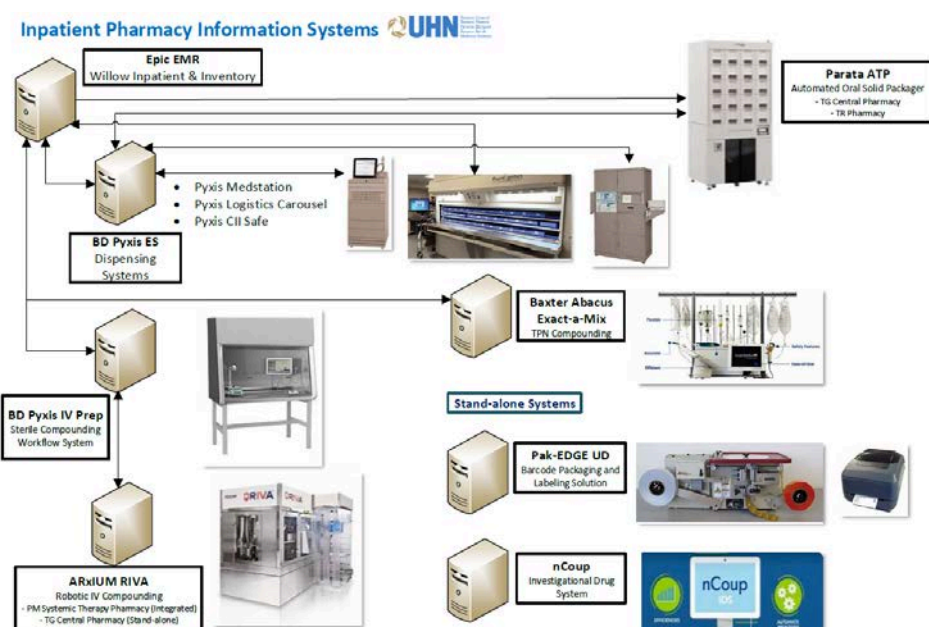
The IPS team is proficient in leading an exemplary level of pharmacy services supporting all researchers at UHN. We remain committed and dedicated to meeting the diverse needs of our study teams. We will continue to leverage new technology and ensure operational efficiencies to best meet the needs of our researchers and patients.

Pharmacy Informatics

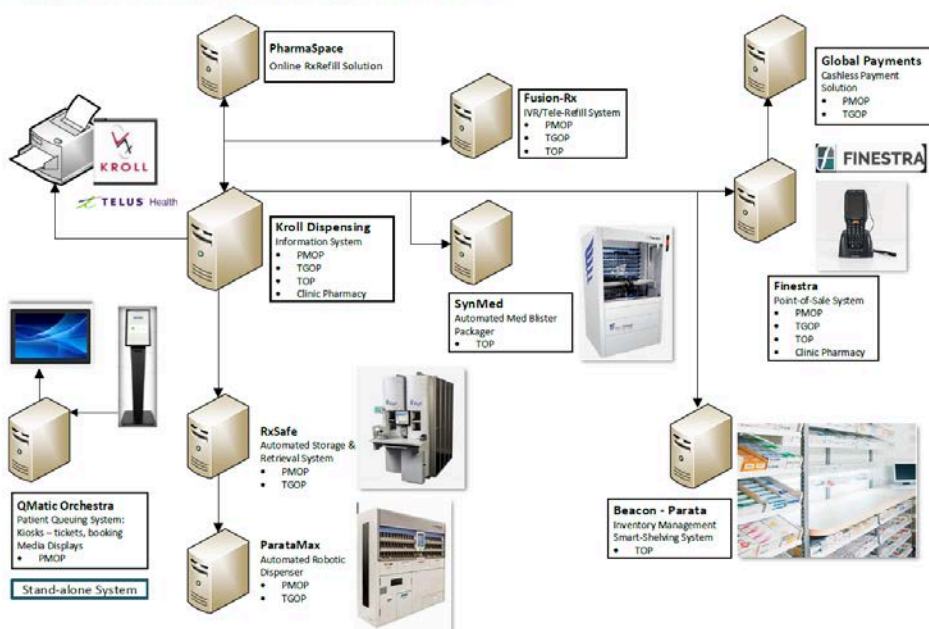


The Pharmacy Informatics team has experienced a year of substantial progress and innovation, focusing on optimizing our systems, enhancing patient safety, and improving workflow efficiencies. Our team has diligently worked to resolve incidents, introduce new functionalities, and ensure seamless integration across various platforms. Throughout the year, we have prioritized incident management and resolution, enabling us to maintain high operational standards and minimize disruptions to our services. Our efforts in drug records and formulary management have expanded our capabilities to support diverse patient needs and innovative treatments. We have also completed numerous enhancements and projects, continuously refining our systems and processes. Key highlights of the year include successful system integrations, major upgrades, and the optimization of medication warnings, all aimed at improving the end-user experience and enhancing patient safety.

Our commitment to excellence is evident in our proactive approach to upgrading and migrating critical systems, as well as deploying new tools and resources for our clinical users. These achievements underscore our dedication to advancing pharmacy informatics, ensuring robust, user-friendly systems that support the complex needs of our healthcare environment. Looking ahead, we remain committed to driving further innovations and improvements, enhancing both patient care and operational efficiency. Our focus will continue to be on leveraging technology to support our healthcare professionals and improve outcomes for the patients we serve.




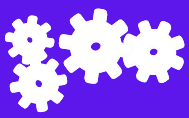
Outpatient Pharmacy Information Systems



Pharmacy Informatics Activity



Team Members
12

 Epic EMR Medication Module (Willow)	 Non-Epic Systems
<p>1534 Total incidents resolved</p> <p>181 Total enhancements/projects completed</p> <p>86 Total number of development requests submitted by Willow to Epic</p>	<p>171 Total incidents resolved</p> <p>18 Number of new/updated end-user reference documents</p> <p>5 Total projects completed</p>
New System Builds	
<p>719 Investigational drug records</p> <p>59 New/Modified Order Sets Formulary drugs</p> <p>49 Non-formulary drugs</p> <p>29 Formulary drugs</p> <p>38 Number of new reports</p>	<p>71 Pyxis ES formulary drugs</p> <p>56 PakEDGE drug product</p> <p>14 New/Modified IV Prep</p> <p>9 New/Modified RIVA Med</p>

FY 2023/2024 Project Highlights



- TPN integration with Epic:
 - Removed the need for pharmacist manual order re-entry into Abacus
 - Decreased time to compound
 - Decreased risk of transcription errors
- System updates and customization to support TG transition to 24/7 support
- Successful roll out of two Epic version upgrades to implement new features addressing ongoing system gaps
- Medication warning group optimized drug-drug interaction firing to decrease interruptions to end users by 79%



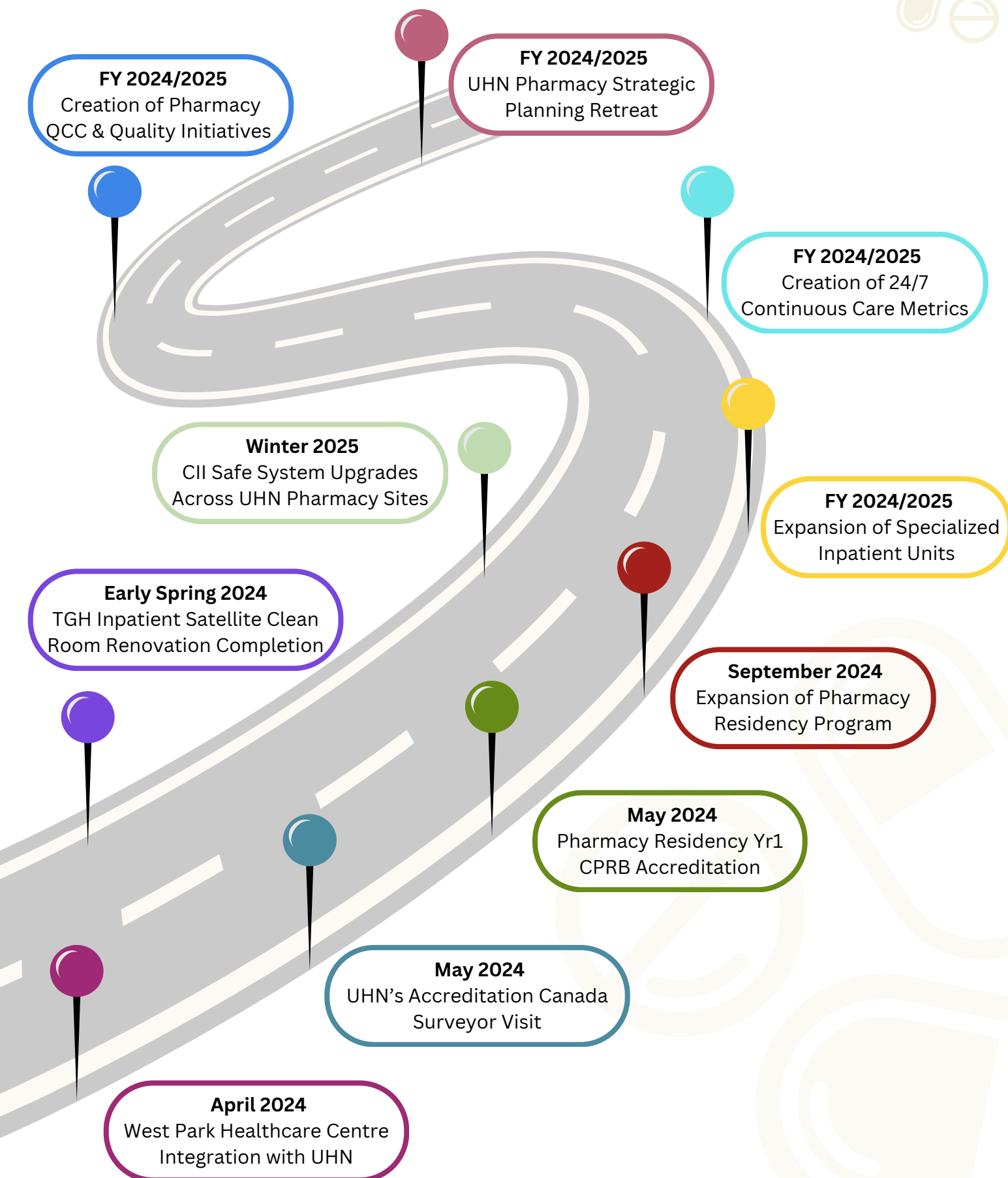
- Critical BD system upgrades:
 - Pyxis IV Prep v2.50
 - Pyxis ES Server migration
 - Pyxis ES Medstations hardware and software upgrades across UHN
- Deployment of new technology features linked to BD Pyxis ES products:
 - HealthSight Viewer for Pharmacy Operations Users
 - MedLink access to Nursing and other Clinician Users across UHN

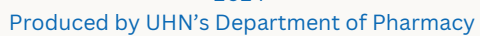


A Year in Review in Photos



Roadmap FY 2024 2025





For more information, please contact:

Jin-Hyeun Huh, Senior Director of Pharmacy

Email: Jin-Hyeun.Huh@uhn.ca

