IN REVIEW

HOSPITAL PHARMACY IN ONTARIO

Canadian Society of Hospital Pharmacists



Société canadienne des pharmaciens d'hôpitaux

SPRING ISSUE 2022

CSHP ONTARIO BRANCH ON SOCIAL MEDIA

Stay connected to CSHP OB - follow us on Social Media







CHSP OB @CHSP_OB @cshp_ob

TABLE OF CONTENTS

We hope you enjoy the articles highlighting Pharmacy Technicians and Primary Care Practice in this issue of Hospital Pharmacy in Ontario.

- 2 President's Address | an update on Strategic Plan and Advocacy efforts from CSHP OB President Rita Dhami
- 4 CSHP National Celebrates Pharmacy Appreciation Month
- 6 My Journey as a Pharmacy Technician | Melanie Dorey, Registered Pharmacy Technician, reflects on her career in pharmacy, specifically sterile compounding.
- 8 Career Corner: Pharmacy Informatics | Lindsey Mitchell, Registered Pharmacy Technician, provides some advice on how Pharmacy Technicians can make a difference in the rapidly growing field of Clinical Informatics.

Click on any title text to hyperlink directly to article

- 12 Primary Care Pharmacists' Experience during COVID-19 | Christopher Chiu, Primary Care Co-Chair, interviewed three primary care pharmacists to describe their experiences and challenges working through COVID-19.
- 16 Clinical Pearl | Nirmatrelvir/Ritonavir (Paxlovid): Evidence for Eligibility - Mariam Imran, PharmD Candidate, critically appraises the EPIC-HR study
- 21 OB Chapter Changes
- 22 Call For Nominations & Volunteer Opportunities
- 25 Recent Journal Clubs
- 26 Coming Soon | Risk Assessment Tool for the Diversion of Controlled Substances in Ontario Hospitals

PRESIDENT ADDRESS

We are moving forward on a unanticipated challenges and new streamlined approach for uncertainty due to the coronavirus sponsorship this year to ensure operational efficiency and allow pandemic. This month is Pharmacy Appreciation Month, I wanted to for supporting the Branch's activities throughout the year. express my gratitude to all of you for going above and beyond day

At CSHP-OB, we are steadily moving towards a new normal and providing more value from member services, education, and advocacy. Here are just a few highlights of what our amazing Council has been working on:

t has been 2 years of

disease 2019 (COVID-19)

Strategic Plan

after day.

Within the branch, CSHP- OB Council has begun operationalizing the strategic plan for 2020-2023, with our key goals of engaging membership and financial sustainability.

sponsors to select the opportunities

Mentorship Program

The Membership Committee is evaluating the feasibility of a mentorship program with our Branch membership. We have just begun the process with a survey out to those looking to be mentors and hoping that this will improve the connectedness amongst our members and support our newer members as they onboard into clinical, academic or leadership positions.

Member Education

Planning is underway for our main events this year. We are moving

forward with a virtual offering for Ontario Hospital Pharmacy Management Seminar but are hoping to be able to bring an in-person Educational Conference and Awards Ceremony in the Fall.

Journal clubs are up and running again. If you missed any of the events, recordings are available on the CSHP-OB website.





PRESIDENT ADDRESS... continued

Student Mixer

Our University of Toronto and University of Waterloo Student Liaisons organized a student mixer where practicing hospital pharmacists were able to mingle with students and share their career journey and answer questions related to hospital practice.

Advocacy

We joined a radio broadcast with OPA on the Zoomer radio podcast to discuss the role of the pharmacist in distribution of Paxlovid[®].

We were engaged in discussion with the Ontario Hospitals Association on the Cross Jurisdictional Pharmacy Services Policy developed by OCP.

HOSPITAL PHARMACY IN ONTAR

We have ongoing engagement with OCP and members on the changes coming forth with the Pharmacist Quality Assurance Program.

We are actively working on some advocacy related to the upcoming election to focus on the role of Pharmacist and Pharmacy Technicians.

Social Media

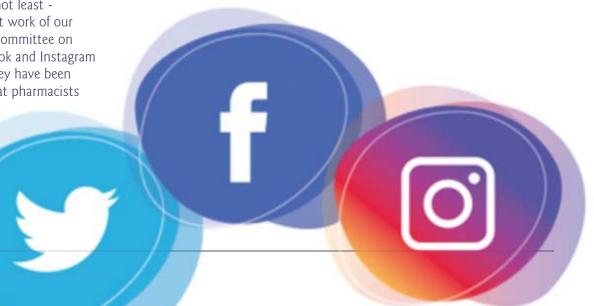
Last but certainly not least -Check out the great work of our Communications Committee on our Twitter, Facebook and Instagram feeds. In March, they have been featuring some great pharmacists and technicians during Pharmacy Appreciation Month.

Once again, thank you for all that you do - Your commitment has shined during the COVID-19 response from drug shortages to vaccines to the rollout of COVID-19 therapies. This March – take a moment and pause to celebrate

Pharmacy Appreciation Month!

Rita Dhami

President 2021-22 obpresident@cshp.ca



Pharmacy Appreciation Month



CSHP NATIONAL CELEBRATES PHARMACY APPRECIATION MONTH 2022

CELEBRATING HOSPITAL PHARMACY HEROES

66 The everyday work of a hospital pharmacy team is high-stakes, with lifesaving implications for our patients," says Zack Dumont, President of the Canadian Society of Hospital Pharmacists (CSHP). "Unfortunately, many people have no idea what a hospital pharmacy professional does! Whether you know it or not, there's a highly trained team of directors, managers, pharmacists, technicians, and assistants in the hospital making sure you receive the best, safest medications for your needs."

As trusted medication experts, hospital pharmacy professionals make vital contributions to the healthcare system. Pharmacy technicians and assistants play

essential roles in the dispensary, compounding medications in-hospital and preparing IV admixtures. Pharmacy technicians also conduct Best Possible Medication Histories, ensuring that the interprofessional care team has accurate and up-to-date information about which medications patients have been taking at home. This goes a long way towards preventing



drug interactions and ensuring medication continuity for patients in hospital. Meanwhile, for a hospital pharmacist, it's all part of a day's work to develop pharmaceutical care plans to suit each patient's unique needs, reconcile medications on admission and discharge, prevent drug therapy problems, and educate patients to make sure they understand and adhere

to their medication regimens.
Quality interprofessional care
is incomplete without hospital
pharmacy professionals ensuring
safe, effective medication use.

A robust body of evidence

A robust body of evidence shows that hospital pharmacists' expertise yields major benefits, both for individual patients and for Canada's healthcare system. Team-based care involving clinical





4

Pharmacy Appreciation Month



CSHP NATIONAL CELEBRATES PHARMACY APPRECIATION MONTH 2022... continued

hospital pharmacists decreases readmissions and lengths of hospital stays, improves patients' medication adherence, and saves the healthcare system significant financial costs. Examples abound, but one recent study estimated that by preventing adverse drug events, the interventions of a Canadian hospital pharmacist saved their hospital up to \$1.37 million in a 6-month time frame, while preventing an additional 867 days in the hospital for surgical patients. ¹

This work is complicated by drug shortages – a problem that existed long before COVID-19, but one the pandemic has exacerbated. Hospital pharmacy teams typically spend hours each week sourcing alternative drugs for their patients when shortages cause problems. They also carefully

triage inventory to ensure an equitable supply of medications based on each patient's needs. At the federal level, pharmacists from organizations including CSHP participate in Health Canada's Tier Assignment Committee, developing national strategies to manage shortages and conserve drugs with minimal disruption to patient care. In grappling with issues as complex as drug shortages, the knowledge and ingenuity of medication experts is essential.

To the already weighty responsibilities hospital pharmacy teams carry, the pandemic has added major pressures. Each day of this long crisis, pharmacy teams have served on the frontlines, caring for patients, championing evidence-based care in the face of rampant misinformation, and preparing and administering

COVID-19 vaccines on a massive scale. They are exhausted. "Faced with widespread hospital protests and threats of harassment, hospital pharmacy teams have continued to show up each day to deliver outstanding patient care," says Jody Ciufo, CEO of CSHP. "The dedication of Canadian hospital pharmacy professionals is nothing short of extraordinary. These individuals are heroes."

References:

 Neville H et al. Clinical benefits and economic impact of post-surgical care provided by pharmacists in a Canadian hospital. *Int J Pharm Pract*. 2014 Jun;22(3):216-22.doi: 10.1111/ ijpp.12058.





5

MY JOURNEY AS A REGISTERED PHARMACY TECHNICIAN

since implementing the registered pharmacy technician (R.Ph.T), the role has evolved significantly. I want to take you through my journey over the last 16 years to where I am today.

I graduated from the Pharmacy Technician 2-year program at La Cite Collegiale in 2006. Hired by the Children's Hospital of Eastern Ontario (CHEO), I began my career in the inpatient pharmacy. I learned about the many roles and duties possible for a pharmacy technician. I was drawn immediately to sterile compounding practice. In 2007, I had the privilege to attend the Baxa Star Center Sterile Compounding Boot Camp in Denver, Colorado, where I met industry experts who ignited a passion that would shape the

rest of my career. I returned to CHEO even more motivated to improve compounding workflows and patient safety. I spent the next years learning everything I could about sterile and nonsterile non-hazardous and hazardous compounding. I also joined the La Cite Collegiale faculty, where I taught sterile compounding and helped reshape the curriculum by adding information about

NAPRA standards. In 2011, I attended the CriticalPoint Sterile Compounding Boot Camp, and furthered my networking in this field. I was so impressed by their extensive knowledge, and contagious passion. I hoped someday to have the opportunity to teach others with as much energy and expertise as these folks!

My professional relationship with leaders in the industry led to working with two consulting firms (CriticalPoint and Kastango Consulting Group). The experience working alongside industry experts exposed me to scientific underpinnings and best practice development, which was better than merely learning and following USP or NAPRA compounding standards. Everyone on the team







Melanie Dorey







MY JOURNEY AS A REGISTERED PHARMACY TECHNICIAN ... continued

taught me, challenged me, and exposed me to many opportunities to assist facilities to improve their compounding practices. Each compounding facility was unique with different patient populations, compounds to prepare, staff knowledge, physical plants, and more. I enjoyed working through the challenges with customers and assisting them in developing and implementing efficient strategies that not only solved their problems but improved the quality of compounding practices at their organization.

Working as a consultant for seven years allowed me to grow as a pharmacy technician and refine my skills. I was able to use innovative platforms and programs. I was able to apply my subject matter expertise while I learned about adult learning

theory and incorporate both to create eLearning, standard operating procedures, webinars, and newsletters. I became part of the faculty of CriticalPoint's Best Practices for Sterile Nonhazardous Compounding, an iteration of the very course where I first started. I taught as a live training instructor and virtual lecturer for Best Practices for Handling Hazardous Drugs, and I was lead instructor for the QP503A program offered at CriticalPoint's Center for Training and Research, which focused on aseptic technique and included onsite competency testing for garbing, gloved fingertip sampling and media fill testing. Helping others learn and apply compounding best practices to better navigate through challenges they face at their facilities is my true calling.



These experiences have led to recent participation on committees with the Ontario College of Pharmacy and NAPRA as a Subject Matter Expert and continue to offer my expertise through article writing or to answer compounding questions. I have also reconnected with the coordinator of the pharmacy technician course at La Cite Collegiale to help update the curriculum for the sterile and nonsterile compounding classes.

This journey has prepared me to start my own company providing consulting services, competency assessments, and training. We are working on developing e-learning customized for our Canadian and US clients. We are also sourcing venues to host in-person training in both Canada and the US. I am so proud to call myself a Registered Pharmacy Technician. This role has provided me with so many opportunities, and I am dedicated to helping pharmacies follow compounding practices to ensure the best possible patient care.

Melanie Dorey, R.Ph.T CSHP Ontario Branch Menber Owner of Critical Compounding Resources





CAREER CORNER: PHARMACY TECHNICIAN, CLINICAL SYSTEMS AND INFORMATICS



areer Corner explores the diversity of practice areas of Pharmacist and Pharmacy Technician members across Ontario. Pharmacists and Pharmacy Technicians offer insight into their roles and advice to others interested in developing their careers. Send suggestions for a position you would like to see highlighted, or nominating a colleague for an interview, to cshp. ob.communications@gmail.com.

Interviewed by

Andrea Beaman, Hospital Pharmacy in Ontario (HPO) Editor DUE Pharmacist, Trillium Health Partners, Mississauga Name: Lindsey Mitchell

Training: Pharmacy Technician Diploma @ Sheridan College, Certifications in Epic® in Willow, Willow Inventory & EpicCare Ambulatory applications

CSHP member since: N/A



What is your current position and what are the highlights of your practice?

Current Position

I am a registered Pharmacy Technician and member of the Clinical Systems and Informatics (CSI) team at Trillium Health Partners. I work as a Clinical Applications Analyst on the Pharmacy and Pharmacy Inventory teams. My role is to support clinical practices by building out and optimizing clinical workflows using health informatics principles. I am one part of a bigger team that works together to ensure that patients are able to move safely and efficiently through our hospitals and clinics.



CAREER CORNER... continued

I was part of the implementation team that saw our organization harmonize multiple sites on different platforms and transition from using a paper-based order entry system & medication administration record (MAR) to a computerized prescriber order entry (CPOE) system and eMAR on the Epic platform.

Highlights of Practice

I support medication management workflows throughout the organization. This includes building medications records, customizing pharmacy dashboards, streamlining pharmacy technician and pharmacist workflows and supporting clinical workflows. I also work on building and troubleshooting inventory and dispensing workflows, monitoring interface messages, and testing,

developing and recommending solutions for pharmacy issues such as backorder management.

In addition to working closely with the pharmacy department, I work with nursing, physicians, and other allied health professionals to enhance our CPOE and eMAR applications. This work comes to our team through end-user submitted issues, questions and suggestions or directly from clinical program managers and directors. Our team reviews and prioritizes each request and creates a plan to design, test and implement solutions.

Another part of my role is to use data available in Epic to reduce and prevent medication errors, and to monitor the effectiveness of our build using available reporting

tools by providing supplemental data and key quality metrics to pharmacy team members as well as other clinical programs. This includes key quality indicators such as medication order verification

turn-around times, missing medication doses, drug utilization and cost data, barcode medication administration compliance reports, and medication warning override reports.





CAREER CORNER... continued

Is this where you saw yourself when you started your career? Any thoughts on your career journey, what led you to this role or interesting steps along the way?

I was always interested in technology and health. Before I became a pharmacy technician I started my journey in health care as a Unit Clerk where I would often see pharmacy technicians coming to the unit to restock the Pyxis (Automatic Dispensing System) ADS, and it was always someone different. I spoke to a few of them and the idea of rotating through different positions, and learning multiple roles within a single department was interesting to me, so I decided to enroll in a pharmacy technician program.

I had my first real hands on experience in health & technology with pharmacy automation when I became an ADS Administrator. That role provided greater exposure to nursing and physician workflows and provided opportunities to engage with clinical leadership with respect to medication dispensing practices.

Working with the ADS also allowed me to become familiar with what happens behind the machine. I learned what interfaces were, how to read and understand HL7 messages, and how different devices "talk" to one another. I did full end-to-end testing as part of an ADS upgrade and had the opportunity to broaden my interactions outside of clinical staff by working with members

of our Information Systems team such as integration developers and engineers, and third party vendor representatives.

Another system I had the opportunity to implement was a smart autonomous medication

field repeat separator escape character sub-component separator MSH | ^~\ & | ADT1 | MCM | LABADT | MCM | 198808181126|SECURITY|ADT^A01| MSG00001-|P|2.6 EVN | A01 | 198808181123 PID|||PATID1234^5^M11^^AN||JO WILLIAM^A^III||19610615|M||21 677 DELAWARE AVENUE^^EVERETT^ 02149|GL|(919)379-1212|(919)2 434~(919)277-3114||S||PATID1 1,2^M10^^ACSN | 123456789 19-87 component separator



CAREER CORNER... continued

delivery robot system. These robots deliver medications throughout the Credit Valley Hospital using lasers, sonar and infrared sensors to navigate hallways (and the obstacles in them), and integrate with the hospital wireless network to request elevators and can even open the doors to a unit.

This role of Clinical Informatics Analyst was not something I had imagined and didn't know existed but little steps got me here, and it provides a great balance of using technology in the service of healthcare.

What resources would you recommend to someone interested in increasing their knowledge in this area?

• There are post-graduate health informatics diplomas and



Autonomous delivery robot

certificates offered at many post-secondary institutions.

- Canadian Health Information Management Association
- Canadian College of Health Information Management



Pyxis

What advice or tips do you have for others interested in a new role?

Show an interest in how things work and learn about the systems you currently use. Often there are features and functions available within your system that are not being utilized because no one knows it's there. Ask questions. Is there a feature that is not being used? Why is it not being used? Does this feature help adherence to your organization's policies & procedures? What is the work

effort to implement it and integrate it into your current processes?

There is a lot of technology in use in Pharmacy. There are automated packagers, automated dispensing cabinets, delivery robots, IV dispensing systems, pharmacy inventory systems etc... Becoming a super user for these pieces of equipment and volunteering to be a part of the implementation team is a great way to get exposure to the technology involved in making these systems work and to be a part of a clinical team that assesses how this technology impacts not only pharmacy workflow, but other clinical workflows at a system level

Don't be afraid to step outside of your defined role as a pharmacy technician and try something new.



Q&A: PRIMARY CARE PHARMACISTS' EXPERIENCE DURING COVID-19

WRITTEN BY CHRISTOPHER CHIU

Author:



Christopher Chiu, PharmD, ACPR, RPh Clinical Pharmacist, Toronto Western Family Health Team and CSHP-OB Primary Care Co-Chair

Panel:



Christine Truong, BScPhm, ACPR, CRE, CDE, RPh Clinical Pharmacist Lead, North York Family Health Team



Heather Hadden, BScPhm, ACPR, RPh Pharmacist, Carepoint Health and TEACH Certified Smoking Cessation Counselor



Christopher Chiu

Khrystine Waked, RPh, PharmD, ACPR Pharmacist at New Vision Family Health Team and Centre for Family Medicine's Regional Memory Clinic



Q&A: ... continued

rimary care pharmacists in Ontario work collaboratively with family physicians and interprofessional team members to provide pharmaceutical care to outpatients. During the COVID-19 pandemic, they were placed in a unique role and have shown resilience and adaptability with their approach to patient care. I interviewed three primary care pharmacists in order to better understand their experiences during this unprecedented time.

How has COVID-19 impacted your day-to-day responsibilities?

Christine: The Clinical Pharmacists at the North York FHT pivoted to virtual/ remote care at the start of the pandemic. We continued to provide care via individual patient telephone or video appointments, and also provided group education classes virtually. We have leveraged technology to its full capacity including everything from videoconferencing to utilizing our EMR to capture stats, resulting in a lasting change in workflow even post-pandemic. We have also been heavily involved in COVID-19 vaccination clinics which was a new addition to our existing roles.

Heather: If you asked me a month ago, I would have said when COVID hit, it impacted our team-based care, since all the interprofessionals were working in the same hub at Carepoint Health. Working from home, you don't have the same face-to face connection, so it felt a bit siloed with our interprofessionals until we fully made our way back. However, in the past three weeks, Peel was designated as the only primary care site to roll out Paxlovid (14 of 15 sites in Ontario are hospital based outpatient). It was "all hands on deck" and I was pulled into a COVID, Cold and Flu Care Clinic alongside physicians and nurses. Pharmacists are helping the team decide whether patients meet criteria for Paxlovid, and helping with dosing, drug interactions, patient counseling, and follow up. We liaise with both ID pharmacists/ physicians at Trillium Health Partners, as well as Ontario Health and an outpatient pharmacy for Paxlovid dispensing. We developed referral forms, sheets for pharmacist workflow/ follow-up/adverse event management, and patient handouts.

Khrystine: COVID-19 actually increased my day-to-day responsibilities. We, as an FHT, became heavily involved in providing vaccines to our region. This meant managing the vaccine portion of the clinic (including vaccine supply and PPE orders, managing the draw-up team, and consulting with the lead physician to run each clinic day). Additionally, the pandemic heavily affected providing healthcare to our most vulnerable patients. We really had to think outside the box to ensure continued care was provided to all our patients, even those who were COVID positive or isolating at home due to increased risk. As an aside, the pharmacists at New Vision are heavily involved in many of the FHT's programs, including (but not limited to) warfarin management, diabetes care, hypertension program, lung health, and complex care program for medically complex older adults.

[Q&A: ... continued]

What have been the most significant challenges that you and your team have faced during this time? Christine: Prioritizing has been an issue, especially as the demands rise in our role as primary care pharmacists. Although we strive to have regular touch bases with the pharmacy team as well as the interdisciplinary team, team dynamics have suffered through not being able to easily access one another. Burn out is another challenge.

Heather: Workload is the main challenge. With the Paxlovid rollout, I still have my full patient roster at Carepoint Health. Another challenge is working collaboratively but also identifying that some decisions may have to be made sooner rather than later in order to move things ahead. I am a very hands-on and collaborative person but there were some things that had to be decided before getting involvement from everyone. We physically don't work with each other, and switched to a new EMR at the medical clinic, so it can be difficult communicating with all the right players. When working from home, the lines are blurred in terms of balancing responsibilities. Documentation is critical and I find it takes a lot more time when working virtually.

Khrystine: In the early stages of the pandemic, not all staff were working onsite. We work very closely as a team, so being in different locations had its own challenges. We were used to joint visits with other allied health or physicians, and this was not possible during that time. As the pandemic continued on and responsibilities increased, time management and timeliness of care became a big challenge. There was a lot of added pressure to ensure the FHT responsibilities continued to run smoothly, despite the addition of vaccine clinics and the push to vaccinate people quickly.



Q&A: ... continued

What is one key lesson you learned during the pandemic?

Christine: Professionally, I learned that healthcare providers (especially pharmacists) are resilient and always willing to do what is necessary to maintain and improve patient care. Personally, I have really internalized that life is short and my new attitude has been "do more of what makes you happy."

Heather: I think the role of primary care pharmacists is bigger than we ever thought it was. Keeping lines of communication open is huge amongst colleagues. It is important to find the balance so that you don't burn out or feel exhausted.





CLINICIAL PEARLS

NIRMATRELVIR/RITONAVIR (PAXLOVID): EVIDENCE FOR ELIGIBILITY



WRITTEN BY MARIAM IMRAN, PHARMD CANDIDATE 2023
REVIEWED BY MIRA MAXIMOS, PHARMD, MSC, ACPR, BSCPHM, BHSC

ealth Canada approved its first oral anti-viral treatment for COVID-19 on January 17, 2022¹. Although this is an important step that allows for initiation of therapy in an ambulatory setting without the need for parenteral access, individuals must meet certain criteria to receive nirmatrelvir/ ritonavir. Based on the results from the Oral Nirmatrelvir for High-Risk, Non-Hospitalized Adults with COVID-19 (EPIC-HR) study, nirmatrelvir/ritonavir was considered for outpatient treatment of COVID-19 positive individuals who have a high risk of progression to moderate or severe COVID-19².

METHODS

The EPIC-HR study's purpose was to determine whether nirmatrelvir/ritonavir was safe and effective for the treatment of adults who are sick with COVID-19, who are not hospitalized but are at an increased risk of developing severe illness.

The risk factors for progression to severe disease and risk of death were extrapolated from a meta-analysis by Thakur and collegaues. The initial

policy decisions were made based on press-release content from Pfizer, the study sponsor, prior to publication of the EPIC-HR study on February 16th 2022 in the NEIM.

EPIC-HR is a double blinded controlled study that randomized eligible participants in a 1:1



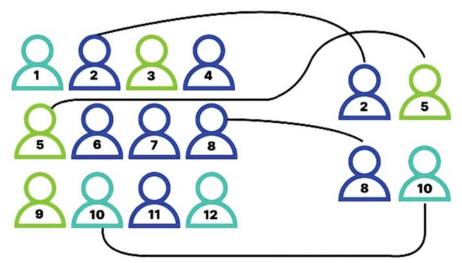
ratio to either receive 300 mg of nirmatrelvir plus 100 mg of ritonavir or a placebo orally every 12 hours for 5 days. The primary outcome focused on the proportion of participants with COVID-19 related hospitalization or death from any cause through day 28². This primary objective was reported in a modified intention-to-treat analysis that included individuals whose treatment began within 3 days after the onset of COVID-19 signs and symptoms². The decision to consider nirmatrelvir/ritonavir came from the interim results of the clinical trials. During the study, 1,120 participants were given nirmatrelvir/ritonavir, and 1.126 patients were given placebo.

PATIENT SELECTION

Eligible participants were 18 years of age or older, approximately 50% were female in both study arms and the mean and median time to symptom onset was approximately 3 days. Approximately 50% of participants had a negative serology at baseline with viral load being similar between the two groups (baseline demographics can be seen in Table 1 of the EPIC-HR study). The participants needed to exhibit at least 1 characteristic or underlying medical condition associated with an increased risk of developing severe illness from COVID-19. Participants also had to have the onset of COVID-19 symptoms within 5 days prior to the day of randomization². Medical conditions such as diabetes.

chronic lung disease, chronic kidney disease, immunosuppressive disease, cardiovascular disease, and neurodevelopmental disorders are classified as risk factors that increase the risk of developing severe illness from COVID-19.

Participants were selected from diverse geographical regions such as Bulgaria, South Africa, Mexico, Russia, Turkey and Ukraine with majority of participants being from the United States².



EPIC-HR excluded vaccinated individuals or those with a previous confirmed COVID-19 **infection**, individuals who had a known medical history of active liver disease, those who were receiving dialysis or had moderate to severe renal impairment, those who were using or expecting to use any medications that are cleared by CYP3A4 or were strong inducers of CYP3A4, females who were breastfeeding or pregnant as well as individuals who had a known diagnosis of human immunodeficiency virus (HIV) infection or those who were taking medications for HIV treatment³.

17

NIRMATRELVIR/RITONAVIR (PAXLOVID): EVIDENCE FOR ELIGIBILITY... continued

INTERIM RESULTS

The interim results (from the modified intention to treat analysis, which included participants randomly assigned to a study arm who took at least I dose of study drug, had at least I post-baseline visit through day 28, who did not receive or planned to receive a monoclonal antibody and were treated within at least 3 days following symptom onset) showed a relative risk reduction of 89.1% in risk of COVID-19-related hospitalization or death from any cause compared to placebo in patients treated within three days of symptom onset after 28 days of follow-up. Nirmatrelvir/ritonavir efficacy between participants who started treatment within 3 days compared to those who

started treated within 5 days of symptom onset showed a relative risk reduction of 88.9% and 87.8% respectively. This indicated that the efficacy of nirmatrelvir/ritonavir is higher if treatment is started as soon as COVID-19 related symptoms are observed in eligible individuals. Moreover, zero deaths were reported in the nirmatrelvir/ritonavir group compared with 13 deaths in the placebo group.

In terms of safety, the frequency of adverse events that occurred during the study were 22.6% within the nirmatrelvir/ritonavir group vs. 23.9% within the placebo group. Specifically, dysgeusia and diarrhea had a higher incidence in

the nirmatrelvir/ritonavir group vs the placebo group². Any adverse events that were considered to be related to the drug or placebo were also reported with 7.8% for nirmatrelivir/ritonavir versus 3.8% for placebo.

18

NIRMATRELVIR/RITONAVIR (PAXLOVID): EVIDENCE FOR ELIGIBILITY... continued

CONCLUSIONS

The EPIC-HR study recruited participants from different countries with clinically relevant high risk factors such as cardiovascular disease, obesity and older age. In the study, the most common prespecified characteristics at baseline that were considered high risk were a BMI of 25 or above (80.5%), current smoking (39.0%), and hypertension (32.9%)². The Canadian population consists of 63.1% of individuals who have a BMI of 25 or above⁵. 12.9% of individuals who are smokers⁶ and 1 in 4 individuals who have hypertension during a study in 2015⁷. One major limitation of the EPIC-HR study and its generalizability to the Canadian population was that it excluded individuals who had received a COVID-19 vaccine or had previously

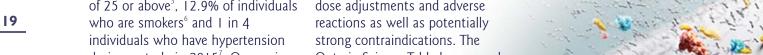
HOSPITAL PHARMACY IN ONTARIO

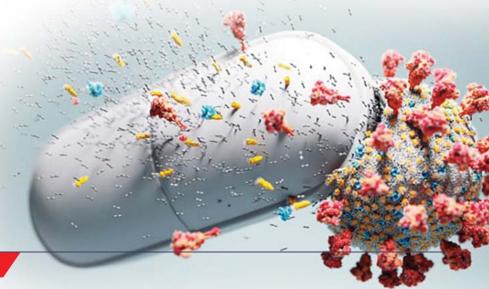
contracted the COVID-19 infection. Comparing the study participants to the current Canadian population, 80.4% of the total population is vaccinated with two doses with the highest vaccination rate in 70 years or older4.

Healthcare professionals should be aware that ritonavir is a potent inhibitor of the CYP3A enzyme³; which can result in several drugdrug interactions that require close monitoring for potential dose adjustments and adverse reactions as well as potentially strong contraindications. The Ontario Science Table has several resources that explain potential drug interactions with nirmatrelvir/ ritonavir as well as dose adjustments for severe renal and severe hepatic impairment. Nirmatrelvir/Ritonavir

(Paxlovid): What Prescribers and Pharmacists Need to Know is an excellent resource encompassing a table of drug-drug interactions with nirmatrelvir/ritonavir. Evidence-Based Recommendations on the Use of Nirmatrelvir/Ritonavir (Paxlovid) for Adults in Ontario explains

dosage adjustments in special populations such as in renal and hepatic impairment and provides a comprehensive list of drug interactions, recommendations for the drug interactions and comments related to pharmacokinetics and pharmacodynamics.

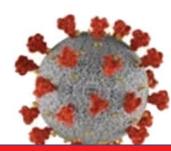




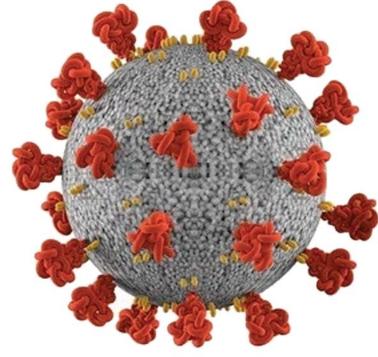
References:

- I. Canada, P. H. A. of. (2022, January 21). Government of Canada. Considerations for the use of nirmatrelvir/ritonavir (Paxlovid) to treat COVID-19 in the context of limited supply - Canada.ca., from https:// www.canada.ca/en/public-health/services/ diseases/2019-novel-coronavirus-infection/ guidance-documents/considerationsnirmatrelvir-ritonavir-paxlovid.html
- 2. Hammond, J., Leister-Tebbe, H., Gardner, A., Abreu, P., Bao, W., Wisemandle, W., Baniecki, M. L., Hendrick, V. M., Damle, B., Simón-Campos, A., Pypstra, R., & Rusnak, J. M. (2022, February 16). Oral Nirmatrelvir for high-risk, nonhospitalized adults with COVID-19. New England Journal of Medicine. Retrieved February 28, 2022, from https://www.nejm.org/doi/full/10.1056/ NEJMoa2118542#article citing articles
- 3. PAXLOVID (nirmatrelvir; ritonavir) Product Monograph. (2022). Retrieved February 22, 2022, from https://covid-vaccine.canada.ca/ info/pdf/paxlovid-pm-en.pdf
- 4. Demographics: COVID-19 vaccination coverage in Canada. Government of Canada. (2022, February 25). Retrieved February 28, 2022, from https://health-infobase.canada. ca/covid-19/vaccination-coverage/

- 5. Government of Canada, Statistics Canada. (2019, June 25). Overweight and obese adults, 2018. Statistics Canada. Retrieved February 28, 2022, from https://www150. statcan.gc.ca/n1/pub/82-625-x/2019001/ article/00005-eng.htm
- 6. Government of Canada. Statistics Canada. (2021, September 8). Smokers, by age group. Statistics Canada. Retrieved February 28, 2022, from https://www150.statcan. gc.ca/t1/tbl1/en/tv.action?pid=1310009610
- 7. DeGuire, J., Clarke, J., Rouleau, K., Roy, J., & Bushnik, T. (2019, February 20). Blood pressure and hypertension. Statistics Canada. Retrieved February 28, 2022, from https://www150.statcan.gc.ca/n1/pub/82-003-x/2019002/article/00002-eng.htm







[CSHP OB CHAPTER CHANGES]

The Chapter structure is integral to CSHP Ontario Branch connection with members and delivery of local educational and networking opportunities. In 2021, several chapters were merged to ensure sustainability and continue to provide value for members.

- Lake Ontario East, Ottawa Valley and Quinte-St.Lawrence chapters merged to East Chapter
- Lake Ontario West and Georgian Bay Simcoe chapters merged to Central Chapter

You can reach your Chapter Chairs at the following email addresses

North Chapter	cshp.north@gmail.com
East Chapter	cshp.ob.east@gmail.com
Central Chapter	cshp.ob.central@gmail.com
Metro Toronto	cshptoronto@gmail.com
Southwestern	cshp.southwestern@gmail.com
Golden Horseshoe	cshpob.goldenhorseshoe@gmail.com

Refer to the updated Chapter Map @ https://cshp-scph.ca/ontario-chapters



NATIONAL DELEGATE:

THE ONTARIO
BRANCH (OB),
CSHP NOMINATING
COMMITTEE IS
SEEKING NOMINATIONS
FOR THE ELECTED
POSITION OF NATIONAL
DELEGATE.

This is a 3-year term position which would begin in April 2022 at the Ontario Branch Mid-Term Council Meeting.

General criteria for Board members include:

- a variety of work experience within the profession of pharmacy, both in terms of positions held and practice environments;
- familiarity with and dedication to the Society's vision, mission, and values;
- previous experience as a member of the Board, a Branch council, or as chair of a national or Branch committee:
- sufficient availability to prepare for and attend meetings of OB Council, as well as the Board, committees, task forces, and working groups.

The term officially begins at the National Fall Board Meeting in October 2022, is then ratified at the Branch level at the OB Council Meeting in November 2022 and would end at the National AGM in 2025.

For more specific details regarding the National Delegate position the Terms of Reference are available here or contact Anne Stacey CSHP OB Executive Assistant at astacey@cshp.ca.

22



We need you!

If you are looking for an opportunity to become involved, build skills, work with other dedicated professionals, or give back to the profession, CSHP Ontario Branch is recruiting for the following roles. Please forward Questions and Expressions of Interest to Anne Stacey, CSHP OB Executive Assistant, astacey@cshp.ca.

Role	Description	Term
OHPMS Committee Co-Chair	The OHPMS Committee shall: Plan Annual OHPMS event Develop a program which is educational as it pertains to institutional pharmacy management, fosters networking, and enhances other educational opportunities for pharmacy leaders. Maintain an ongoing sponsors tracking list and meet or exceed sponsorship targets Maintain event budget Maximize attendance through promotion Organize logistics and catering The full terms of reference are available here .	3 years
Sponsorship Committee Co-Chair	Sponsorship Committee Chairs are overseen by the Presidential officer who oversees the Internal Portfolio. It is the responsibility of the Sponsorship Committee to maintain target levels of sponsorship and terms of sponsorship for Branch activities, specifically: Educational events (at both branch and chapter levels) Awards Membership communications (including HPO publications) Ontario Hospital Pharmacy Management Seminar (OHPMS) In-Person Council Meetings The full terms of reference are available here.	3 years
Chapter Chairs	Chapters are overseen by the Presidential officer who oversees the Internal Portfolio. There are currently many Chapters that either do not have Chairs, or only have one. The role of Chapter Chairs is to facilitate educational events as per the needs of members within that Chapter, as well as to disseminate CSHP news and information, as required. The following Chapters need local leadership: • Golden Horseshoe Co-Chair (2 positions) (November 2021 - 2023) • Southwest Co-Chair (as of November 2022) The full terms of reference are available here.	2 years

JOURNAL

CLUB

In case you missed February's discussion, members can view recordings of past Journal Club events at CSHP Webinars.

Journal Club - Feb 2022

Remdesivir in the Outpatient Setting for COVID-19 | Where Does This PINETREE Fit in the Forest of Therapeutics?



Presenter: Mira Maximos, PharmD, MSc, ACPR, PhD Student **Date & Time**: Tues February 15, 2022, 12:00 to 1:00 pm ET









Canada's Hospital Pharmacy #CSHPTogether2022

TOGETHER CONFERENCE HIGHLIGHTS

There's no doubt that the year since we last gathered at the Together Conference has been a taxing one for Canadian hospital pharmacy teams. Amid a climate of misinformation, hostility towards vaccine mandates. and intimidation of healthcare workers, the Together Conference offered a vital opportunity to connect, commiserate, and uplift each other as a community: All week long we leaned into the support of our Canada-wide network of hospital pharmacy professionals, to celebrate science and the impressive accomplishments of Canadian hospital pharmacy teams.

The Together Conference spotlighted hospital pharmacy excellence, recognizing national award winners and offering a platform to disseminate ground-breaking research in educational sessions and poster presentations. With a day devoted to equity, diversity, and inclusion, attendees dug deep into honest conversations about race and its impacts on pharmacy practice and policy. Other conference topics included the science behind building trust with patients, combating misinformation, and enhancing patient care. Hundreds of attendees also turned out for fun social events like virtual trivia night, too.

A heartfelt thank you to our speakers, sponsors, exhibitors, the Banff Seminar Planning Committee, Harrison Seminar organizers, CSHP national staff, and, most importantly, our attendees for making this an unforgettable event. We can't wait to see you again next year!

By the Numbers

- 927 Attendees
- 47 Educational sessions delivered
- 45 Posters presented
- 28 Exhibitors
- 20,220 Exhibitor booth visits
- 22 Sponsors
- 4.981 Game codes redeemed
- 103 Prizes awarded
- 24+ CEUs available





WATCH FOR THE RELEASE OF THE RISK ASSESSMENT TOOL FOR THE DIVERSION OF CONTROLLED SUBSTANCES IN ONTARIO HOSPITALS

Tool for the Diversion of Controlled Substances in Ontario Hospitals, estimated for April 2022. This free online tool is designed for Ontario hospitals to systematically assess the safeguards against controlled substance diversion in their medication use processes and highlight areas for improvement.

The tool was championed by CSHP Ontario Branch, and

was developed with survey feedback from CSHP OB members and an in-depth review of risk assessment items by a panel of CSHP OB member pharmacists. CSHP OB collaborated on

the project with HumanEra, who are a research team at the University of Toronto and North York General Hospital, and the Institution for Safe Medication Practices Canada (ISMP Canada). The tool is

hosted and administered by ISMP Canada. The tool is designed for each hospital site to complete with an interprofessional group (estimated 2-3 hour meeting), and walks through safeguards



RISK ASSESSMENT TOOL FOR THE DIVERSION OF CONTROLLED SUBSTANCES IN ONTARIO HOSPITALS... continued

suggested in multiple categories, including:

- System wide considerations (e.g., orientation for new staff, dedicated committee to review diversion metrics, suggested audits)
- Ordering, receiving, and restocking in the inpatient pharmacy
- Packaging, preparation or compounding of controlled substances

- Transfer of controlled substances between clinical units
- Withdrawal and administration of controlled substances on clinical units
- Wasting or disposal of controlled substances

At the end of the tool, hospitals will be able to benchmark their responses against other hospitals who have completed the risk assessment.

The official launch of the tool will be shared via the monthly e-blast and CSHP OB social media accounts. Please keep an eye on these. We are looking forward to sharing this tool with you!

Thank You!

We thank the generous contribution of time and expertise from CSHP OB members that supported the development of this

tool: Eric Romeril, Louise
Hebert, Lindsay Coyne, Kelly
Sequeira, Anna Lee, Hennie
Wei, Andrew Wylie, Tamara
Milicevic, Albert Karas, and
Samantha Yau. We also thank
ISMP Canada and HumanEra
for their research in this
area, and BD Canada Inc. for
sponsoring the development of
this tool

Canadian Society of Hospital Pharmacists



Société canadienne des pharmaciens d'hôpitaux









Canadian Society of Hospital Pharmacists



HOSPITAL PHARMACY IN ONTARIO

EDITOR Andrea Beaman, Trillium Health Partners, Mississauga, On.

EDITORIAL EMAIL cshp.ob.communications@gmail.com

COMMUNICATIONS COMMITTEE Victor Lam - Co-Chair Andrea Beaman - Co-Chair Al-Amin Ahamed - U of Toronto rep

Andy Kwok - U of Waterloo rep

Lindsay Dryden Wei Wei Shreeya Thakrar Melika Bozorgi Mira Maximos Sean Park Design Rework & Layout Brian Graves BriKen Graphic Design



The HPO Newsletter is supported by TEVA and STERIMAX and published on behalf of the Ontario Branch, Canadian Society of Hospital Pharmacists.

All published articles including editorials and letters reflect the opinions of its contributors and not necessarily representative of TEVA or STERIMAX, the editor, nor CSHP.