

ONTARIO

# PHARMACIST

The Official Publication of the Ontario Pharmacists Association

Volume 82 / Issue 3 / Winter 2018



## Enhancing Quality of Care for Patients with Complex Needs

Turning creative ideas into innovative outputs



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## About the Ontario Pharmacists Association

The Ontario Pharmacists Association is the largest advocacy organization, continuing education, and drug information provider for pharmacy professionals in Canada.

We are dedicated to working on behalf of patients, pharmacists, pharmacy technicians and pharmacy students across the province to evolve the practice of pharmacy and advocate for the highest standards of professional excellence and fair compensation.

We believe that by leveraging the unique expertise of pharmacy professionals, by enabling them to practise to their fullest potential, and by making them more accessible to all Ontarians, we will improve the efficiency and effectiveness of the province's healthcare system.

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## About *Ontario Pharmacist*

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## MESSAGE FROM THE CHAIR

# Measuring Patient Outcomes Effectively

BY MIKE CAVANAGH  
BOARD CHAIR

**E**arlier this year, I participated in a panel discussion on value-based pharmacy at the Canadian Foundation for Pharmacy conference. I was one of five panelists who presented their positions and thoughts on value-based pharmacy. This isn't new. I've been speaking formally about value-based pharmacy for at least year and have had informal discussions for much longer.

Without a doubt, OPA supports improved patient outcomes through measurement. As front-line healthcare professionals, we know all too well the impact that pharmacists' care can have on our patients. We see them frequently, get to know them personally, and know whether their current therapy is affecting their health outcomes positively. It only makes sense that pharmacists want to implement the tools that will help measure outcomes effectively. And, we know that these tools to measure outcomes have been successfully implemented in jurisdictions outside of Canada.

But, implementation of these tools and this process needs to be done in a manner that is fair, transparent, and patient-focused. To reach this desired state, pharmacies and pharmacy professionals will require significant change in order to navigate to this desired state. Changes include, but would not be limited to the following:

- Investments in infrastructure and technology will be required by pharmacy operators;
- Access to patient health records will be needed;
- Pharmacists' expertise will need to be better integrated in primary care

through an expanded scope of practice and prescribing authority; and

- Appropriate reimbursement schedules would be required in order to facilitate and sustain these services.

The Green Shield Canada program consists of eight measures based on clinical guidelines which are divided into three categories:

### Adherence to drug therapy

- Hypertension
- Cholesterol
- Diabetes

### Chronic disease management

- Diabetics using statins
- Asthma patients with uncontrolled disease and who are using high doses of rescue medication
- Asthma patients not using a controller medication
- Patients completing the Health Coaching program

### Safety of medication use

- High risk medication use

Pharmacists got their first look at scorecards and how their pharmacies were faring in October 2018. What has been clear thus far is certain metrics are inadvertently affected negatively because of misinterpretation of data. OPA is working closely with our partners and Green Shield Canada to address these issues.

Reimbursement is scheduled to be implemented in year three of GSC's program. Pharmacies will be reimbursed based on their rating. Store reimbursement can be affected negatively up to 3% and positively up to 5%. Currently, our understanding is

that 60% of pharmacies will be penalized, and 40% of pharmacies will be incentivized. One major concern raised by OPA is the fact that these penalties will be on the total cost of the prescription, not just the fees and markup. Further evaluation and development on these measures need to happen to ensure that they are fair and equitable.

The Ontario Pharmacists Association is taking a strong interest in this program. To date, OPA has collaborated with our national body, the Canadian Pharmacists Association, to develop principles as to what might constitute "Pay for Performance" initiatives, and how a multi-stakeholder solution for a metrics-based system in Canada might be further developed. OPA has also been invited to serve as part of a quality-based initiative, co-led by the Ontario College of Pharmacists and Health Quality Ontario, to identify pharmacy metrics. While this initiative is very different from the Green Shield Canada program, the underlying principles that surround multiple pharmacy and pharmacist measurements remain consistent. As a result, we are working closely with both organizations to ensure any metrics to evaluate performance and standards are fair, transparent and actionable.

I want to stress to all of our members and non-members in the pharmacy profession that application and use of pharmacy metrics will be integral to advancing our healthcare system and improving patient outcomes. This is a good thing. Now it is up to us to reshape our business models and deliver our services in different ways than we ever have before.



# Welcome!

## New Interim CEO Appointed

**T**his summer, Bill Wilson was appointed interim Chief Executive Officer (CEO) at OPA.

Over the next 6 to 12 months, Bill will work with senior management and the Board to facilitate the development and implementation of OPA's new strategic plan and take a lead role in helping OPA to secure a permanent CEO.

Bill received his Bachelor of Science in Pharmacy (B.S.P.) from the University of Saskatchewan and subsequently completed a hospital pharmacy residency at the Toronto General Hospital. Bill has held several positions in hospital pharmacy management including

Toronto General Hospital, Sunnybrook Health Sciences Centre and most recently was Director of Pharmacy and Audiology at Mount Sinai Hospital in Toronto.

Bill has experience with a number of pharmacy associations including serving as President of the Canadian Society of Hospital Pharmacists (CSHP) nationally and provincially, President of the Canadian Pharmacists Association, a past member and Chair of the Canadian Pharmacy Residency Board and has served as a member of the Board of the Ontario Pharmacists Association. He is currently the Vice President of the Canadian Foundation for Pharmacy. He served on several

committees with these organizations and continues to be involved strategically. Bill also served as a part-time lecturer at the Leslie Dan Faculty of Pharmacy at the University of Toronto in the Social/Admin Division. Bill is also involved in consulting as well as chairing a community-based Ethics Review Board.

Bill looks forward to engaging with as many OPA members as he can. He can be reached by email at [bwilson@opatoday.com](mailto:bwilson@opatoday.com).

## OPA's 2019 Membership Campaign is Now Open

For more than 50 years, an OPA membership has provided pharmacy professionals with the knowledge that they are part of something bigger – protecting their interests with best-in-class insurance programs, advocating on behalf of the pharmacy profession and providing them with tools and resources to stay ahead of the curve in healthcare and optimum patient care.

The pharmacy profession is transforming, and it's critical that you help shape.

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**Renew your membership at [opatoday.com](http://opatoday.com)**



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Visit [PrescribeIT.ca](https://PrescribeIT.ca) to learn more.

# Rock Solid Logic In A Hard Workplace

BY ALLAN MALEK, EXECUTIVE VICE-PRESIDENT AND  
CHIEF PHARMACY OFFICER, OPA



In April 2007, the Government of Ontario did an amazing thing. While certainly not intended as a quid pro quo for the massive impact that came with the passage of the infamous Transparent Drug System for Patients Act, 2006, affectionately known as “Bill 102”, the MedsCheck™ Program was introduced into community pharmacy practice. According to then Minister of Health and Long-Term Care George Smitherman, “[MedsCheck] is the first program of its kind in Canada and it will ensure that people are getting the most from their medications by taking them properly and safely. We recognize pharmacists for the valuable role they play in patient care – that is why we have created the MedsCheck program.”

Despite the lingering pains from Bill 102, pharmacists in Ontario welcomed the program’s introduction as the beginning of something bigger, although arguably, we might not have realized just how big and onerous that shift would be. “We are delighted the government is supporting the MedsCheck program as it will better utilize the skills and abilities of pharmacists as front-line health care providers to deliver medication-related patient care,” said Ken Burns, then the Chair of the Board for OPA. “The MedsCheck involves the pharmacists’ assessment of a comprehensive medication list. This helps patients, pharmacists, physicians and other health care providers work together to improve patient outcomes.”

I don’t think we can find anyone in this province that would disagree with the conceptual value and the promise of

the MedsCheck program. Of course, we all wanted (and still want) the program to succeed to deliver better patient care through better informed patients, caregivers and health providers, most notably primary care providers. But hindsight is a wonderful thing, and knowing what we know now of the shortcomings of the original program and the significant operational challenges associated with 2016 “refreshed” implementation, many would suggest the program really needs a set of defibrillator paddles.

But optimism lingers on and no one is suggesting that MedsCheck’s time is done. But there is significant work to be done with the program in order for it to help tell our story. Pharmacists know in their hearts that if only given the opportunity – in a stable, business environment – they can and would deliver a higher quality of care to patients and prescribers and better value and efficiency to government and the entire health system.

The challenges facing patients in our very fast-paced world are only growing.

- Patients continue to struggle to manage their chronic health conditions and improve their quality of life. They look for a magic bullet or panacea of prescription medication, alternative therapies, and other treatment modalities, including OTCs and even recreational cannabis;
- “Hallway healthcare” is a growing concern as patients are seeking increased access to care but cannot get it in a timely fashion. Many

Ontarians turn to their pharmacist, the most accessible of health professionals, but many pharmacists find that despite their training and expertise in medication and chronic disease management, their hands are tied by restrictive regulations that are not seen or needed in other provinces;

- Confusion and illogic continue to confound patients in terms of where to get a flu shot or other publicly-funded immunizations, as it has this year for the high dose flu shot for Ontarians 65 years and older.

Pharmacy unfortunately finds itself facing multiple and almost predictable barriers. We are continually seen as an easy target to help solve whatever fiscal ailments befall the government. Drug price reductions, fee and mark-up caps, frivolous yet aggressive audit clawbacks – the list goes on. Irrational and unfair regulations and policies frustrate and financially penalize pharmacists who are trying to do the right thing for their patients, in many cases troubleshooting problems created elsewhere in the system. It all bubbles up to the creation of a frantic pharmacy marketplace that has not seen stability for a very long time.

Since the launch in 2016 of the refreshed MedsCheck, with its extremely heavy level of documentation, we are hearing that less consultations are being done overall and that the patients who would truly benefit the most from a MedsCheck are not getting one. Perhaps not unexpectedly, the profession gets harshly criticized for focusing too much

on revenue streams and bottom lines and not nearly enough on their patients. And the solution from those outside of the profession looking in? “Just add another pharmacist to the team.”

And so here is the disconnect. While we can all agree that many things need to be done to realize the hope and promise of the MedsCheck program (perhaps rebranded?), it is imperative to know why it has failed to deliver on its value and to tell our story. Regulators, government officials and financial auditors all need to acknowledge some very big problems that are theirs to address:

**1. Pharmacy must be given time to stabilize and regroup.** Bill 102 in 2006, drug system reforms in 2010, generic price reductions, and fee, mark-up and remittance payment reductions in 2015 with very little else to show in terms of a giveback all push the profession back on its collective heels. And no sooner than a new equilibrium is reached, more rounds of cuts and reductions are introduced. It's time for these to stop so that pharmacy can breathe, regroup, re-stabilize and refocus.

**2. Government must acknowledge the complexity of patient care and appropriately incentivize the work that needs to get done.** There are a lot more expectations from pharmacists with the refreshed MedsCheck, and yet the funding is still the same as it was for the program in its original format. Furthermore, complex patients take a lot more time and effort to manage, and that additional investment of time and effort needs to be appropriately remunerated.

**3. Paper-based documentation is a non-starter.** So too is the expectation that the profession must create their own solution to convert the rigid documentation forms and to incorporate them exactly to specification into multiple technological platforms. This is a government program, and so it is their issue to fix, albeit with help from the profession.

All that said, we too in pharmacy – owners and pharmacists alike – need to accept some of the responsibility as well. As stated earlier, MedsCheck conceptually is a really good program and the refreshed program's expectations really capture what we do and know better than anyone else. We

know drugs – this is our space and we need to own it. What's the risk of not owning it?

- Someone else may come in to yank it away from us. Nurses have already said they could do it.
- Artificial intelligence is here, and the knowledge patients, caregivers and prescribers seek may be only a few keystrokes away.
- Amazon...enough said.

Aside from illogical and often regressive legislation, regulation and policies, we need to own our future, and medication management is ours to have – or to lose. We know the MedsCheck program is far from perfect but shunning it until it is perfect may have dire consequences. Time is not on our side. There is a \$15 billion bullseye that the Ontario Government sees as its deficit target, and simply put, every dollar spent by the government is being looked at microscopically. Let's not lose sight of the forest for the trees, lest we lose the baby with the bathwater.

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**“[MedsCheck] is the first program of its kind in Canada and it will ensure that people are getting the most from their medications by taking them properly and safely. We recognize pharmacists for the valuable role they play in patient care – that is why we have created the MedsCheck program.”**

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# Medication Therapy Management for Older Adults

BY ALLAN CHOI, BSCMRS, BSCPHM, DIP. HEALTH INFORMATICS

**P**harmacists in most practice settings have an important role to play in identifying and preventing drug-related problems in the older adult population. Older adults are more vulnerable to drug therapy problems as a result of the numerous physiological changes that occur as they age, and many of them also have multiple disease conditions that lend themselves to polypharmacy.

OPA sat down with Janet Chong-Lee, clinical pharmacist for the Carefirst Geriatric Assessment and Intervention Network (GAIN) Clinic at the Central East Local Health Integration Network (LHIN), and one of the presenters and developers for the Board Certified Geriatric Pharmacist (BCGP) Preparation Course program available through OPA.

## What is the Board Certified Geriatric Pharmacist (BCGP) designation?

The BCGP designation is a credential obtained through the Board of Pharmacy Specialties (BPS) for pharmacists who have demonstrated that they have the advanced knowledge and experience to:

1. Focus on the special needs of older patients who may have concurrent illnesses taking multiple medications;
2. Resolve complex medication-related issues that arise in the geriatric patient population.

## If BCGP is an American designation, what are the benefits of having the designation in Canada? Is it recognized in the pharmacy field?

The BCGP has become recognized as the gold standard for determining which pharmacists are qualified to contribute at advanced practice levels with respect to geriatrics. There are currently 600 BCGPs in Canada. Many employees seek pharmacists with additional training and certifications such as the BCGP designation. The benefit of pursuing the BCGP designation is to equip yourself with the skills and knowledge needed to recognize and resolve complex medication-related issues that are present in your older patients regardless of your geographical location.

## Why did you decide to complete the BCGP designation, and how has having it focused your practice?

I pursued the BCGP designation so I can improve my practice, as I felt the geriatrics knowledge obtained during my pharmacy degree were insufficient to meet the needs of my complex older adult patients. Also, I felt it was a great way to distinguish myself from other pharmacists because obtaining the BCGP designation demonstrates dedication, perseverance and a desire for continuous improvement. Obtaining my BCGP designation was crucial in me landing my current position. It provided me with the knowledge and resources to transition into my role seamlessly and enabled me to excel at what I do.

**For pharmacists working in hospitals, how can they improve their individual practice by completing the BCGP designation? Is there a demand in the healthcare sector for this area of expertise?**

In hospitals, we are often focused on resolving the immediate issue at hand, and it can be difficult to foresee whether the treatment plan will be sustainable in-home in the long run. For example, if an older adult is admitted to hospital for hyperglycemia, this could be easily resolved in hospital with a basal-bolus regimen. The patient is stabilized and discharged home. However, what if the patient lives alone with no family, does not consistently eat meals, and there are also cognitive concerns? While a home care nurse could potentially come in and provide insulin injections, it's very taxing on our healthcare system to provide home care nursing indefinitely three to four times a day. Another concern is that the home care nurse may not have enough time to coordinate the injections with the timing of meals. I am confident that hospital pharmacists with the BCGP designation will be able to enhance the care they provide to older adults, and be able to provide the best treatment plan in light of the entire patient clinical picture, as opposed to the best therapeutic plan.

**How did you prepare for the BCGP exam? Do you have any tips or recommendations on how to best prepare for the exam?**

First, I would encourage self-discipline. You should be able to devote time on a regular basis to review the material.

Next, I would consider taking a BCGP Exam Preparatory Course such as the one available through OPA. This will save you a lot of time because the learning materials will meet these objectives. And finally, I would refer to the Board of Pharmacy Specialties (BPS) BCGP Detailed Content Outline as well as the breakdown of the exam so you can prioritize what to focus on.

The BCGP course consists of online modules and a multiple-choice assessment. It covers various disease states and essential skills for geriatric pharmacy practice based on the BCGP exam content outline. The program is designed to help participants prepare for the BCGP examination, and increase their expertise in delivering pharmacy care to an older adult population.

**For more information on OPA's preparatory course, visit [www.opatoday.com/224203](http://www.opatoday.com/224203).**

A close-up, profile view of a woman with long, dark hair, smiling warmly. She is wearing a patterned jacket. The background is a plain, light color.

**Janet Chong-Lee**  
Clinical Pharmacist for the Carefirst  
Geriatric Assessment and Intervention Network  
(GAIN) Clinic, Central East LHIN



# Turning creative ideas into innovative outputs

BY PARNIAN GHAFARI  
RPH MSC BSCPHM BCGP PHARMD

*In a fast-paced, competitive and continually advancing world like pharmacy, companies need more from their employees than ever before. Never has it been more crucial to nurture and enhance innovation.*



In 2014, the Clinical Innovation and Quality Team at Medical Pharmacies identified a new service innovation that would expand a pharmacist's role within long-term care (LTC) settings. This opportunity was recognized based on the medication needs of LTC residents as they move through transitions of care and the lack of consistent involvement of a pharmacist at the time of these transitions.

A pharmacy service beyond the provincially required quarterly medication review, the Better Coordinated Cross Sectorial Medication Reconciliation (BOOMR) initiative was developed.

BOOMR is a quality improvement initiative that involves a clinical pharmacist remotely leading a novel interdisciplinary medication reconciliation (MedRec). It has been shown to:

- **improve health outcomes such as reducing drug related problems and polypharmacy;**
- **improve immunization rates;**
- **improve resident and family engagement;**
- **create opportunity to implement the Institute for Safe Medication Practices' (ISMP) "Five Questions to Ask About Your Medications";**
- **increase the quality of information shared;**
- **improve workflow efficiencies between healthcare providers; and**
- **achieve real cost savings to the healthcare system.**

I have been fortunate to work with mentors who foster a mindset of growth and innovation. Carla Beaton, the Vice President of Clinical Innovation and Quality Improvement at Medical Pharmacies, is one of those mentors. Through her experience, I learned how to turn creative ideas into innovative outputs and be open to the idea that the status quo can be challenged.

In collaboration with pharmacy colleagues, Denis O'Donnell, Amanda Propp, Michael Hum, Luna Dekker and

Hrishi Navare, we have been able to enhance the BOOMR initiative and raise the bar on medication reconciliation in LTC settings. We now incorporate pertinent laboratory results into our MedRec to reduce unnecessary testing required on admission. This unique approach at information sharing at the time of MedRec has challenged the status quo of ordering routine lab tests for new admissions with the potential to improve clinical outcomes and reduce costs.

My dream has always been, and will remain, to change the way we practise pharmacy.

It is my hope that our pharmacist-driven models of care will highlight innovative opportunities to use the expertise of a pharmacist, and will further build patient-centred, team-based care that addresses the unmet needs and gaps in care for LTC residents dealing with complex conditions.

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**My dream has always been, and will remain, to change the way we practise pharmacy.**

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# Frailty in Pharmacy

BY NARDINE NAKHLA, COLLEEN MAXWELL, MINA TADROUS

**N**on-prescription medication use has increased in recent years<sup>1-7</sup>, due in part to the deregulation of medicines from prescription to over-the-counter (OTC) status<sup>8</sup>, the aging population, increasing polypharmacy and the growing self-care movement.

Current data from the United States illustrate particularly high prevalence estimates for concurrent prescription, non-prescription and natural health product (i.e., supplements and herbals) use among older community-dwelling adults.<sup>1</sup> These trends have raised concerns about increased chances for potentially inappropriate non-prescription medication use, drug-drug (and drug-supplement) interactions and heightened risks for adverse health consequences, especially for vulnerable older adults.<sup>9-14</sup>

Though often viewed as beneficial and low risk, non-prescription products may pose safety concerns when combined with other medications, used in vulnerable older patients or not used according to package/label instructions. The potential risks of non-prescription medications may be heightened for older adults with frailty because of their increased likelihood for multimorbidity, pre-existing physical or cognitive impairments, and age-related physiological and pharmacokinetic changes, including reduced clearance of pharmacologically active compounds.<sup>12,15,16</sup>

Increases in use of select categories of non-prescription medications (e.g., sleep aids and other anticholinergic agents; analgesics) are particularly worrisome given the health risks posed by these agents, including increased impairment in cognitive functioning and adverse effects on the gastrointestinal and renal systems.<sup>10,15</sup>

Safe and effective use of non-prescription medications is dependent on the knowledge, perceptions and related behaviours of both pharmacists and their older patients.

Although older adults are likely to be the heaviest users of non-prescription *and* prescription medications, current information on patterns of non-prescription use in Canada is scarce, including whether use is higher among persons with higher frailty. Similarly absent are data regarding older patients' perspectives, beliefs and knowledge about the optimal use of non-prescription medications and the relevance of frailty in altering the balance of benefits and risks associated with these products.

While community pharmacists play a significant role in advising and counselling older adults regarding their non-prescription medication use,<sup>9,14</sup> their role in identifying and managing potential concerns of non-prescription use among older adults *with* frailty is unclear. Additionally, their understanding and knowledge of frailty,

including strategies for detecting it, remains unknown in Canada.

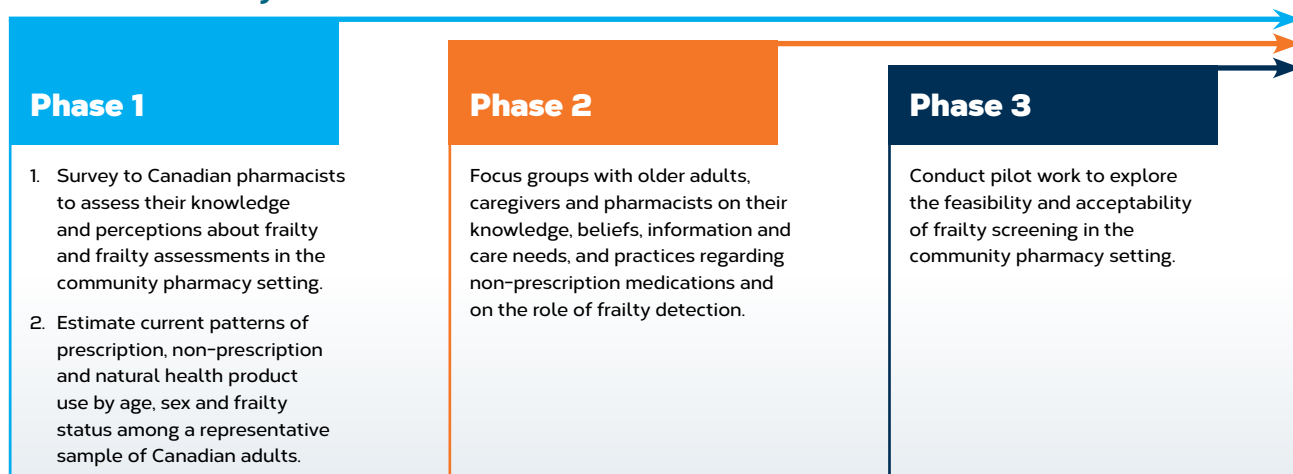
## Potential Impact

To bridge the clinical care gaps that currently exist in the literature, our multidisciplinary team of researchers, clinicians and stakeholder partners from across Canada is actively engaged in the activities described below. We believe this work will enhance our current understanding of strategies to optimize pharmacotherapy and self-care practices<sup>17,18</sup> among older Canadians with frailty.

We believe our research will add three major benefits to the literature and pharmacy practice:

1. Better understand current knowledge and perceptions of frailty among community pharmacists and older patients;
2. Estimate current patterns of non-prescription medication use in older adults with frailty; and
3. Collect pilot data on the feasibility and acceptability of frailty screening in the community pharmacy setting.

## Research Activity Timeline



For more information or to contact the research team, email [UWpharmacaresearch@gmail.com](mailto:UWpharmacaresearch@gmail.com).

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Sara Guilcher, assistant professor at the Leslie Dan Faculty of Pharmacy

## Enhancing Quality of Care for Patients with Complex Needs

BY KATE RICHARDS, UNIVERSITY OF TORONTO, LESLIE DAN FACULTY OF PHARMACY

In Ontario, patients with complex needs account for more than 60 per cent of healthcare spending. The majority of these patients see six or more physicians and are taking an average of 13 different medications. These patients, who often have multiple chronic condition like diabetes, congestive heart failure, and chronic obstructive pulmonary disease, would likely benefit from increased pharmacist involvement in the coordination of care. Current practice often does not proactively include pharmacists, particularly those working in the community, as part of care teams responsible for working with these patients and managing their transitions between areas of healthcare.

"We haven't really leveraged pharmacists enough," says Sara Guilcher, assistant professor at the Leslie Dan Faculty of Pharmacy who is looking at ways to better integrate pharmacists to enhance patient care. "Medication management is at the core of a pharmacist's clinical practice and contribution to patient care, so there is an opportunity here for pharmacists, especially those in the community, to play an important role in providing care to patients with complex health and social needs."

To lead this work, Guilcher is collaborating with Health Quality Ontario (HQP) as an embedded clinician researcher, supported by a salary award from the Canadian Institutes for Health Research (CIHR). HQO's focus on improving health of patients with complex needs through coordinated care and timely, relevant research provides Guilcher with the platform and connections she needs to co-develop research questions and deliver analyses that can help achieve a higher quality of care.

"We know that transitions from one sector of the healthcare system to another are the most vulnerable periods for patients," says Lee Fairclough, vice-president, quality improvement at HQO. "If these transitions aren't well managed, the result could be a worsening of patient conditions and hospitalizations that might have been avoided."

As an embedded clinician researcher, Guilcher can also offer emerging scientists under her academic supervision the opportunity to participate in this kind of applied research. Guilcher explains that the thinking behind the embedded researcher role came out of a "growing recognition that we train students in the peer model often without making important links to the end user. We need to develop research questions in collaboration with the people who rely on the research to make policy or system-level decisions, and this is a great way to do it."

In addition to this work, Guilcher is actively exploring ways to improve transitions in care for older adults with a hip fracture or a delay in discharge from hospital. Hip fractures are one

of the top causes of hospitalizations among the older population and have significant direct costs. Patients with hip fractures transition on average to three different care settings prior to reaching their final destination, increasing risk of readmission to acute care as well as adverse medication events.

"We are interviewing clinicians across different health sectors, patients and caregivers, as well as decision-makers in order to understand care journeys across the continuum and how we can improve patient experiences and outcomes," she says. "The perspective of pharmacists will be important to understand how we can make these transitions safer and overall more optimal."

If you would like to learn more about this research, please email [Guilcher.Lab@utoronto.ca](mailto:Guilcher.Lab@utoronto.ca).

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# Mental Health

## 10 Tips for Pharmacists

BY SALEEMA BHADANI AND STACEY D'ANGELO,  
WHOLE HEALTH PHARMACY PARTNERS

Helping patients affected by mental illness is an important undertaking. Here are 10 tips to help in your pharmacy practice.

### **1. Be considerate of your patients.**

It's easy to get so focused on the task at hand that we miss what our patients want and need from us. Take time to notice them.

### **2. It's okay to be treated with medication.**

Patients may fight with the idea of taking medications, even if they know it will help. Remind them that what they are suffering from is a medical condition and deserves treatment. Talking candidly about medication benefits and potential adverse effects can help them overcome any concerns.

### **3. Offer privacy.**

Post signage indicating that privacy is a priority at your pharmacy. Use your counselling room or talk to patients by phone if that makes them most comfortable.

### **4. Let them tell their story.**

People living with mental health challenges and their caregivers often just want someone to listen. They may feel more open to talking with others that have been through what they are going through.

### **5. Go that extra mile.**

Sometimes their symptoms may be projected on the staff at the pharmacy. Try to be patient. Use verbal cues to try to redirect their behaviour and see how you can help.

### **6. Adherence to medications is often difficult.**

Implementing the Appointment-Based Model into your pharmacy can help patients with their medication adherence and allows for quality time and dialogue with the pharmacist.

### **9. You don't have to do it alone.**

You may uncover situations patients are dealing with that are not pharmacy-specific, such as trouble with relationships, socioeconomic factors like the inability to find a job or food, etc. If you identify an issue, help connect them with the right resources in your community.

### **7. Caregivers need support too.**

Conveniences such as refill reminders and compliance packaging or delivery can relieve added stress carried by caregivers and family members.

### **8. Anyone can be affected.**

Use screening tools such as the Patient Health Questionnaire (PHQ-9) to help flag patients who are experiencing symptoms that could relate to depression. Early identification can go a long way.

### **10. SMILE.**

Sometimes the simplest strategies go a long way.

Looking for more tips? Talk to your patients! Ask them how you can enhance your practice to cater to all their health needs and make their overall experience in the pharmacy a positive one.



# Ask OPA

## Why would higher-than-recommended doses of second-generation antihistamines be prescribed?

BY TIFFANY BARKER, BScPhm, RPh

Pharmacists may receive prescriptions for second-generation antihistamines (sgAHs) prescribed at up to four times the standard dose. The indication for this could be treatment of chronic urticaria (CU).

CU is a condition affecting 1-2% of the population and is characterized by continuous or episodic hives over a period lasting six weeks or longer. Approximately half of patients with CU also have angioedema.<sup>1,2</sup> The pathogenesis of urticaria is complex and involves the release of histamine and other mediators from dermal mast cells.<sup>2,3</sup>

Since urticarial symptoms are primarily mediated by H<sub>1</sub>-receptors, H<sub>1</sub>-antagonists are the cornerstone of pharmacotherapy.<sup>2,3</sup> Guidelines from the United States published in 2014 recommend a stepwise approach to the treatment of CU. The first step of the four-step treatment ladder is standard-dose sgAH monotherapy, taken on a continual basis. Various options comprise the second step, including a two- to four-fold increase in the approved sgAH dose, as this may have greater efficacy when response to standard doses is insufficient.<sup>2</sup> Similarly, 2018 European guidelines (endorsed by AAAAI\* and ACAAI\*\*) recommend standard-dose sgAHs as first-line treatment with up to four-fold sgAH dosing as second-line therapy in the management of CU.<sup>3</sup> Escalating from the first to second step may be considered if symptoms are not adequately controlled within one to four weeks (earlier if symptoms are intolerable).<sup>1,3,4</sup> High-dose sgAHs, which can be administered as divided doses, should be trialed for two to four weeks before moving to the next step.<sup>2,3,4</sup> Once urticaria is consistently controlled, gradually decreasing the antihistamine dose (e.g., every two to four weeks) may be appropriate.<sup>1,2</sup>

Studies specifically assessing higher doses of sgAHs are limited, with improved efficacy not shown for all agents.<sup>1</sup> Desloratadine has the strongest evidence for higher dosing, whereas evidence is weak for fexofenadine and conflicting for cetirizine.<sup>1</sup> According to a systematic review, 63% of patients with insufficient response to standard-dose sgAHs found that higher doses helped control pruritus (studies included in this review were of relatively low quality and had significant heterogeneity).<sup>1,5</sup> Large double-blind controlled trials comparing high doses of various sgAHs are still needed.<sup>3,5</sup>

There is potential for increased risk of adverse effects from high sgAH doses; however, doses used for CU appear to be well-tolerated.<sup>4</sup> Caution regarding sedation may be warranted.<sup>6</sup>

**Table 1. Common second-generation antihistamine doses for adults with urticaria<sup>‡,2</sup>**

Second-generation antihistamine	Dose for urticaria
Cetirizine	10-40 mg/day
Desloratadine	5-20 mg/day
Fexofenadine	180-540 mg/day
Loratadine	10-40 mg/day

<sup>‡</sup> Excerpted from U.S. guidelines, which do not address dosing of bilastine and rupatadine.<sup>2</sup> European guidelines state that studies using up to four-fold higher-than-recommended doses of bilastine and rupatadine have shown benefit.<sup>3</sup>

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\* AAAAI: American Academy of Allergy, Asthma & Immunology

\*\* ACAAI: American College of Allergy, Asthma, and Immunology

β Further details of the stepwise therapy recommendations can be found in the complete U.S. and European urticaria guidelines<sup>2,3</sup>

# Therapeutic Options

## FOCUS ON: PREVENTION OF MIGRAINES IN ADULTS

By Victoria Ip, BScPhm, RPh, BCGP

### INTRODUCTION

Migraine is a neurological disorder characterized by recurrent episodes of moderate to severe headaches accompanied by systemic symptoms such as nausea, vomiting, and/or light and sound sensitivity.<sup>1,2</sup> Migraines can be classified based on frequency: episodic migraines (<15 headache days per month) or chronic migraines (≥15 headache days per month for >3 months).<sup>3</sup> During a migraine attack, approximately 90% of sufferers experience moderate to severe pain, 75% experience impaired function, and 33% require bed rest.<sup>4</sup> Although medications can be taken to treat a migraine, the potentially debilitating nature of this condition may warrant the use of prophylactic therapy.

### EPIDEMIOLOGY

Migraine is the most common type of headache amongst patients seeking help for headache disorders.<sup>4</sup> It is ranked as the third most prevalent medical condition and the second most disabling neurological disorder in the world according to the World Health Organization.<sup>1</sup> In the general population, the annual prevalence of migraine is 12%.<sup>1,2</sup> It is more common in women than men, with annual and lifetime prevalence of 18% and 33% in women compared to 6% and 13% in men, respectively.<sup>1,2</sup> Amongst Canadian adults, approximately 2.6 million women and 1 million men have suffered migraines.<sup>4</sup> Migraines also tend to occur more commonly in people 30 to 39 years of age.<sup>2</sup>

### PATHOPHYSIOLOGY AND ETIOLOGY

Migraines are believed to be a result of neuronal dysfunction in the brain causing intracranial and extracranial changes.<sup>2,5</sup> Neuronal dysfunction causes a phenomenon called *cortical spreading depression*, a depolarizing wave that moves across the cerebral cortex leading to activation and sensitization of the trigeminovascular system.<sup>2,5</sup> This results in the release of vasoactive neuropeptides (e.g., substance P, calcitonin gene-related peptide, neurokinin A) that are associated with neurogenic inflammation of the cerebral blood vessels, which leads to pain and other migraine symptoms.<sup>2,5</sup> Serotonin may also contribute to migraine pathogenesis, however its exact role is unclear.<sup>2</sup>

### RISK FACTORS AND TRIGGERS

Migraines may be inherited.<sup>5</sup> An individual has a 40% chance of having migraines if one parent is affected, however, this likelihood increases to 90% if both parents have a history of migraines.<sup>5</sup> Poor sleep quality and obesity have also been associated with an increase in migraine frequency and severity.<sup>2</sup> In addition, rapid head motion, sneezing, physical exertion, constant movement, and straining while having a bowel movement can worsen migraine headaches.<sup>2</sup> The probability that a migraine will occur can increase upon exposure to migraine triggers.<sup>6</sup> These may include lifestyle factors (e.g., irregular or too little sleep, missed or skipped meals, lack of exercise), dietary factors (e.g., caffeine, nitrites, alcohol), environmental factors (e.g., visual stimuli, weather changes, high altitude), hormonal

factors (e.g., menstrual cycle changes, menopause, hormone therapy), and psychological factors (e.g., stress).<sup>2,5,6</sup>

### SIGNS AND SYMPTOMS

Typical migraine attacks usually consist of four phases: prodrome, aura, headache, and postdrome, although not all may be present.<sup>2</sup> The prodrome usually starts 24 to 48 hours before headache onset and symptoms may include euphoria, depression, irritability, food cravings, yawning, neck stiffness, and constipation.<sup>2</sup> Approximately 25% of patients may experience an aura, which can occur with or without a headache, develops over at least 5 minutes, and lasts 5 to 60 minutes.<sup>2,3</sup> Aura symptoms are fully reversible and can include visual (e.g., flickering lights, seeing spots or lines, partial vision loss), auditory (e.g., tinnitus, noises, hearing loss), somatosensory (e.g., numbness, paresthesia), motor (e.g., jerking or repetitive movements, inability to move part of the body), and/or speech disturbances.<sup>2,3</sup> The headache associated with migraines is usually moderate to severe in intensity and described as unilateral/bilateral, throbbing/pulsating, and aggravated by physical activity or head movement.<sup>1,3</sup> Although the headache usually peaks in intensity at 1 hour and generally lasts 24 hours, the duration can range between 4 to 72 hours.<sup>1</sup> Other symptoms may include nausea and/or vomiting, photophobia, phonophobia, cutaneous allodynia, vertigo, and/or cognitive impairment.<sup>1,3</sup> A postdromal phase may occur after the headache resolves and is characterized by pain at the previous headache location upon sudden head movement.<sup>2</sup> In most cases,

patients will feel drained or exhausted, however some may feel mildly elated or euphoric.<sup>2</sup> Referral for further investigation should be made for red flag symptoms, such as thunderclap onset, fever, new onset after 50 years of age, atypical symptoms, aggravation by neck movement, jaw symptoms, increase in headache severity or frequency, changes in headache patterns, and neurological signs (e.g., stiff neck, reduced consciousness).<sup>4,7</sup>

## MIGRAINE PREVENTION

Prophylactic medications can be used to reduce the frequency of migraine attacks. Although 25% to 38% of migraine patients are expected to benefit from the use of prophylactic therapy, only 3% to 13% of those patients use prophylaxis.<sup>5</sup> Therefore, it is important to recognize which patients may benefit from therapy, which medications can be used, and how to monitor therapy. Table 1 provides information on who should be considered for migraine prophylaxis while Box 1 outlines general principles associated with the use of prophylactic medications.

### Pharmacotherapy

In general, one prophylactic medication should be tried at a time.<sup>8</sup> The most commonly used drugs for episodic migraine prophylaxis are beta-blockers, tricyclic antidepressants, and topiramate, however other agents have also demonstrated efficacy.<sup>8</sup> Table 2 outlines some of the prophylactic medications that can be used for prevention of episodic migraines in adults. Choice of therapy will be influenced by evidence for efficacy, contraindications, side effect profiles, comorbid conditions, migraine severity, and patient preferences.<sup>7,8</sup>

**Beta-Blockers** – Beta-blocker use can result in at least a 50% decrease in migraine frequency in 40% to 80% of patients.<sup>11</sup> Initial choices include propranolol, metoprolol, or nadolol, however, propranolol is the best studied of these for migraine prophylaxis.<sup>7</sup> Atenolol can also be used, but less evidence exists for this option.<sup>7</sup> Although beta-blockers are commonly used for migraine prevention, they are not suggested as initial therapy in patients over 60 years of age, smokers, or patients with certain conditions (e.g., erectile dysfunction, low blood pressure).<sup>7,13</sup>

**Tricyclic Antidepressants (TCAs)** – TCAs have shown an 80% efficacy rate, compared to placebo, in achieving at least a 50% improvement in headaches.<sup>11</sup> Amitriptyline is commonly used since it has the most data; however, despite the lack of clinical trials, nortriptyline is felt to have

**Table 1. Potential Candidates for Migraine Prophylaxis<sup>1,4</sup>**

Indication for Use	Details
Frequent migraine attacks	≥4 attacks per month or ≥8 headache days per month
Decreased quality of life	Despite appropriate use of acute medications and lifestyle modifications
At risk of medication-overuse headache due to frequent use of acute medications	E.g. triptans, ergots, opioids, and/or combination analgesics used on ≥10 days per month; acetaminophen and/or NSAIDs used on ≥15 days per month
Unable to use acute treatment medications	Due to contraindications, treatment resistance, or adverse effects
Diagnosed with a rare migraine subtype	E.g. migraine with brainstem aura; aura symptoms that are frequent, prolonged, or uncomfortable; hemiplegic migraine; or migrainous infarction

**Box 1. General Principles for Use of Prophylactic Medications for Migraines<sup>1,4</sup>**

- When choosing therapy, consider comorbid conditions (e.g., depression, epilepsy, hypertension, obesity), but be aware that monotherapy may not optimally treat both conditions (e.g., the tricyclic antidepressant dose used for migraines may be different than that used for depression)
- Start with the lowest dose possible and gradually increase until effectiveness or target dose is reached, or until adverse effects occur
- Have the patient keep a headache diary to record headache frequency, medication use, and disability levels to assess effectiveness of prophylactic treatment
- Help set realistic patient expectations:
  - Goals of therapy: reduction in frequency, severity, or duration of acute attacks (prophylaxis may not eliminate headache attacks; a 50% reduction in headache frequency is considered successful)
  - Medications must be taken daily; substantial benefit may not be seen for 4-8 weeks
  - A 2-3 month trial is necessary to evaluate effectiveness (6 months may be necessary for maximal response in some cases)
  - If substantial benefit is seen in the first 2 months of therapy, continuing prophylaxis for several more months may further increase benefit
- Females of childbearing age should be advised of the potential adverse fetal effects of prophylactic medication and appropriate precautions or options should be chosen
- After 6-12 months of successful prophylactic therapy, consider gradual discontinuation of prophylactic medication in most patients

similar efficacy.<sup>10,11</sup> Nortriptyline may also be better tolerated as it has fewer anticholinergic side effects.<sup>7,10</sup> TCAs should be used with caution in those with cardiovascular disease as they have been associated with serious effects such as arrhythmias, QTc prolongation, heart block, and orthostatic hypotension.<sup>7</sup>

**Anticonvulsants** – Migraine frequency is reduced by at least 50% in about half of patients on topiramate and in over 40% of patients on divalproex.<sup>11</sup> Although gabapentin has been historically used, more recent clinical trial data have shown that it is not useful for preventing episodic migraines and it is therefore no longer recommended.<sup>7,8</sup>

### Serotonin-Norepinephrine Reuptake Inhibitors

– Venlafaxine has been associated with a median reduction of three fewer headaches over two months compared to placebo as well as a reduction in headache severity.<sup>11</sup>

**Angiotensin-Converting Enzyme Inhibitors (ACEIs)/Angiotensin Receptor Blockers (ARBs)** – ACEIs/ARBs can cause a 25% decrease in migraine days compared to placebo.<sup>11</sup> Although lisinopril costs less than candesartan, it has less efficacy evidence and may have more side effects.<sup>8</sup>

**Serotonin Antagonists** – Migraine frequency is reduced by at least 50% in over 40% of patients who use pizotifen; however, side effects of weight gain and sedation may limit its use.<sup>11,14</sup>

**Table 2. Prophylactic Migraine Medications<sup>7-12</sup>**

DRUG	INITIAL DOSAGE; TITRATION*	TARGET DOSAGE	COMMENTS
<b>Beta-Blockers (First-line)</b>			
Propranolol	20 mg BID; increase by 40 mg/day weekly	40-120 mg BID <sup>#</sup>	<ul style="list-style-type: none"> <li>Consider in patients with hypertension, angina</li> <li>Contraindicated in asthma, insulin-dependent diabetes, heart block</li> <li>Nadolol and atenolol may have fewer CNS side effects</li> </ul>
Metoprolol	50 mg BID; increase by 50 mg/day weekly	100-200 mg/day (divided BID; SR taken OD)	
Nadolol	20-40 mg OD; increase by 20 mg/day weekly	80-160 mg OD	
Atenolol	50 mg OD; increase by 50 mg/day weekly	100-150 mg OD	
<b>Tricyclic Antidepressants (First- or second-line)</b>			
Amitriptyline	10 mg HS; increase by 10 mg/day weekly	10-100 mg HS (Doses up to 150 mg HS have been used as needed/tolerated)	<ul style="list-style-type: none"> <li>Consider in patients with concomitant depression, anxiety, insomnia, tension-type headache</li> <li>Caution in elderly due to anticholinergic effects</li> </ul>
Nortriptyline	10 mg HS; increase by 10 mg/day weekly	10-100 mg HS (Doses up to 150 mg HS have been used as needed/tolerated)	
<b>Anticonvulsants (First- or second-line)</b>			
Topiramate	15-25 mg OD; increase by 15-25 mg/day weekly	25-50 mg BID (May increase up to 100 mg BID but this may increase risk of side effects)	<ul style="list-style-type: none"> <li>Consider as first-line in overweight patients or for severe migraines (little effect on mild to moderate migraines)</li> <li>Caution about nephrolithiasis, acute myopia, CNS depressant effects</li> </ul>
Divalproex	250 mg OD; increase by 250 mg/day weekly	500-1500 mg/day (divided BID)	
<b>Serotonin-Norepinephrine Reuptake Inhibitors (Second-line)</b>			
Venlafaxine	375 mg OD; increase by 375 mg/day weekly	150 mg OD	<ul style="list-style-type: none"> <li>Consider in patients with depression, anxiety</li> </ul>
<b>Angiotensin-Converting Enzyme Inhibitors/Angiotensin Receptor Blockers (Second- or third-line)</b>			
Lisinopril	10 mg OD; increase by 10 mg/day weekly	20 mg OD	<ul style="list-style-type: none"> <li>Consider in patients with hypertension</li> <li>Lisinopril has more side effects than candesartan</li> </ul>
Candesartan	8 mg OD; increase by 8 mg/day weekly	16 mg OD	
<b>Serotonin Antagonists (Third-line)</b>			
Pizotifen	0.5 mg HS; increase by 0.5 mg/day weekly (can divide dose into TID dosing)	1.5-4 mg/day (can divide BID or TID; doses up to 3 mg can be given as a single dose) Max: 6 mg/day	<ul style="list-style-type: none"> <li>Somnolence and weight gain should be monitored</li> </ul>
<b>Calcium Channel Blockers (Third-line)</b>			
Flunarizine	5-10 mg HS; if at 5 mg increase to 10 mg HS after 1-2 weeks	10 mg HS	<ul style="list-style-type: none"> <li>Avoid in depression or those with extrapyramidal disorders</li> <li>Contraindicated in hypotension, heart failure, arrhythmia</li> </ul>
Verapamil	40 mg TID; increase to 80 mg TID over 1-2 weeks SR: 160 mg OD; increase to 120 mg BID over 1-2 weeks	240-320 mg/day (divided TID; SR divided BID) Doses >480 mg/day are not recommended	
<p><b>BID</b> = twice daily; <b>CNS</b> = central nervous system; <b>HS</b> = at bedtime; <b>OD</b> = once daily; <b>SR</b> = sustained-release; <b>TID</b> = three times daily</p> <p>* Dosage titration can be done every two weeks if necessary to avoid side effects.<sup>8</sup></p> <p># Some sources only recommend a target dose of up to 160 mg/day (divided OD [for long-acting formulation] or BID), however it has also been suggested that up to 320 mg/day can be used.<sup>7,9,10</sup></p>			

**Calcium Channel Blockers (CCBs)** – Good efficacy data exists for flunarizine use in migraine prophylaxis, but its side effect profile of precipitating depression and causing weight gain and extrapyramidal effects may limit its use.<sup>7,10</sup> Verapamil has been used for many years despite the poor quality of evidence supporting its use.<sup>10</sup>

### Alternative Options

**Calcitonin Gene-Related Peptide (CGRP) Receptor Monoclonal Antibody Antagonist** – Erenumab (Aimovig™) received Health Canada approval in August 2018 for migraine prevention in adults who have at least four migraine days per month.<sup>15</sup> In about half of patients, it can result in at least a 50% decrease in migraine frequency, and versus placebo, can prevent 1–2 more episodic migraines per month.<sup>11</sup> Erenumab is dosed at 70–140 mg subcutaneously once monthly and common side effects include injection site reactions and constipation.<sup>9</sup> Erenumab may be considered for use in patients with adherence issues, poor response, side effects, or drug interactions with oral medications.<sup>11</sup> Although not seen in clinical trials, there is a theoretical concern for cardiac adverse effects since erenumab blocks CGRP, a potent vasodilator widely distributed in the body.<sup>11,16</sup> More head-to-head trials comparing erenumab with standard therapy are required in order to determine its place in therapy.<sup>16</sup>

**Natural Health Products** – Magnesium citrate 300 mg twice daily, riboflavin 400 mg once daily or divided twice daily, and co-enzyme Q10 100 mg three times daily have all been used for migraine prophylaxis.<sup>8</sup> These options have few side effects, thus making them attractive alternatives to patients.<sup>10</sup> However, based on expert opinion, they may have lower efficacy than other drug choices and thus, should not be considered first-line in most cases.<sup>8,10</sup> Butterbur demonstrated some efficacy in small placebo-controlled trials, but is not recommended for migraine prophylaxis due to the lack of quality control and/or the presence of hepatotoxic and potentially carcinogenic pyrrolizidine alkaloids in some available products.<sup>8,13</sup> Feverfew is not recommended due to conflicting efficacy evidence.<sup>8,13</sup>

### Special Populations

**Refractory Patients** – Refractory patients are those who continue to experience migraines despite optimal use of acute and prophylactic medications and trigger and lifestyle management.<sup>10</sup>

Polypharmacy may be indicated in individuals who have failed to respond to adequate trials of medications from at least two of the four main classes of prophylactic medications (beta-blockers, anticonvulsants, TCAs, and CCBs).<sup>10</sup> Little scientific evidence exists to support the use of polypharmacy and the risk of adverse effects and/or drug interactions may be increased; specialist referral should be considered in these cases.<sup>10</sup>

**Chronic Migraines** – Chronic migraines are often treated with many of the same prophylactic medications used for episodic migraines despite the paucity of efficacy evidence.<sup>8</sup> Of these medications, topiramate has the best evidence for efficacy, but amitriptyline can also be considered.<sup>8</sup> Although onabotulinumtoxinA is not recommended for episodic migraine prevention, it is recommended for prophylaxis of chronic migraines.<sup>8,14</sup>

**Menstrual Migraines** – Standard migraine prophylaxis options can be used for patients who experience severe menstrual migraines and do not obtain relief from acute treatment.<sup>8</sup> In addition, short-term prophylaxis can be an option in patients who primarily experience perimenstrual migraines and have regular, predictable menstrual periods.<sup>8</sup> Naproxen and hormonal agents (e.g., estradiol cream or patch) have been used for intermittent short-term prophylaxis.<sup>8</sup> However, the use of frovatriptan 2.5 mg twice daily starting two days before expected menses onset and continuing for a total of 5–7 days has demonstrated the best evidence for efficacy.<sup>7,8</sup> Other potentially effective options for menstrual migraines include perimenstrual use of naratriptan or zolmitriptan, or the continuous use of low-dose oral contraceptives.<sup>7,8</sup>

**Pregnancy/Lactation** – Medications for migraine prophylaxis should be avoided in pregnancy and lactation whenever possible.<sup>8,10</sup> If necessary, magnesium, propranolol, metoprolol, and amitriptyline can be considered.<sup>10</sup> Nortriptyline is also an option, however routine use is not recommended due to insufficient evidence.<sup>10</sup> Divalproex is considered to be compatible with breastfeeding but is teratogenic and should be avoided in pregnancy or women of childbearing potential.<sup>7,10</sup>

### Nonpharmacologic Interventions

Headache diaries can be used not only to monitor the frequency and severity

of migraine attacks, but to also identify migraine triggers in order to develop a plan for avoidance and/or management.<sup>8</sup> Lifestyle management strategies include maintaining regular exercise, good sleep hygiene, and consistent dietary habits while reducing excessive caffeine intake.<sup>4,5,8</sup> Stress management techniques include relaxation training, cognitive behavioural therapy, pacing activity, and biofeedback.<sup>4</sup> Acupuncture and transcutaneous electrical nerve stimulation can also be considered.<sup>8,13</sup>

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# Antimicrobial Stewardship

BY ZAHAVA ROSENBERG-YUNGER, PhD, MA, Hon BSc AND  
SAYAKO YOKOYAMA, MPH, BSc(Pharm), ACPR

**N**ovember 12-18, 2018 marked World Antibiotic Awareness Week. Leading up to this, OPA highlighted the amazing work that hospital pharmacists have contributed to the global health concern of antimicrobial resistance (AMR) and are now calling on community pharmacists to become more involved in antibiotic stewardship activities.

Antimicrobials play an essential role in fighting disease; however, inappropriate use has led to the rise of resistant organisms, making treatment of infections increasingly difficult. In Canada, antibiotics are prescribed more frequently than in other Organisation for Economic Co-operation and Development (OECD) countries, and 60 per cent of antibiotic prescriptions in OECD countries were for inappropriate conditions.<sup>1</sup> If left unaddressed, global mortality from AMR infections is expected to increase from approximately 700,000 annual deaths to more than 10 million in 2050.<sup>2</sup> Additionally, costs associated with medical care resulting from antimicrobial-resistant organisms have been estimated at \$1 billion annually in Canada.<sup>3</sup>

There are many initiatives implemented to address AMR including antimicrobial stewardship (AMS) programs.<sup>2</sup> AMS programs focus on interventions that decrease AMR, optimize health outcomes, minimize adverse events, and reduce costs without lowering the quality of care.<sup>2</sup> These programs mitigate misuse and overuse of antibiotics, the main contributors to AMR, and aim to ensure judicious antimicrobial use.<sup>2</sup> Generally, interprofessional teams lead the AMS programs and often include pharmacists specializing in infectious disease.<sup>4</sup> Hospital

pharmacists have played a critical role within hospital AMS programs including developing guidelines and/or protocols for treating bacterial infections,<sup>5</sup> as well as implementing formulary restrictions.<sup>4</sup> They have proven their ability to reduce AMR through a variety of initiatives including (but not limited to) ensuring an antibiotic with the most narrow spectrum of activity that is appropriate for the patient and infection is administered, monitoring stop-dates, switching to oral step-down therapy from intravenous administration,<sup>6</sup> as well as reviewing and following up culture and susceptibility reports.<sup>5</sup> These initiatives have led to an increase in the identification of inappropriate antibiotic use,<sup>5</sup> and a decrease in the emergence of adverse effects and AMR.<sup>6,7</sup>

Community pharmacists are uniquely positioned within the healthcare system to discuss AMR issues with both patients and prescribers at the point of dispensing, and can play a greater role in AMS activities.<sup>8</sup>

To this end, OPA has created a number of tools for community pharmacists to assist them with becoming more involved in these activities. Visit [www.opatoday.com](http://www.opatoday.com) to download. These tools are designed to help pharmacists evaluate appropriateness of antibiotic therapy and identify potential issues. Templates are also available for documentation and communication of recommendations to prescribers.

Additionally, OPA is collaborating with Brett Barrett, Adjunct Clinical Assistant Professor and Lindsay Dockrill, PharmD (candidate) at University of Waterloo, and Emily Black, Assistant Professor at Dalhousie University, on a project which examines antimicrobial stewardship

strategies implemented by primary care pharmacists and investigates any barriers or facilitators to implementation of these strategies. Stay tuned for results of this work.

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# Prepare for the **Best,** Not for the **Worst** with

## Critical Illness Insurance

DEBORAH CELEMENCKI, B.COMM., CEBS  
CONSULTANT, JOHNSON INC.

Although it is an uncomfortable subject, more people are forced to talk about it, and it often hits closer to home because almost everyone knows someone who has been diagnosed with a condition such as cancer, heart disease or stroke.

### The Good:

People are surviving serious diseases. With the advancements in medical science, more people are beating the odds. Even the most devastating of illnesses, such as cancer or heart disease, are seeing survival rates higher than ever before, and a better chance to maintain quality of life.

### The Bad:

It's difficult to predict who will suffer a critical illness, or when one might happen. Consider these statistics:

#### National cancer statistics at a glance<sup>1</sup>:

- 206,200 new cancer diagnoses and 80,800 deaths from cancer occurred in Canada in 2017
- About one in two Canadians will develop cancer in their lifetimes and one in four will die of the disease.
- 60% of Canadians diagnosed with cancer will survive at least five years after their diagnosis

#### Heart health facts<sup>2</sup>:

- Heart disease is the second leading cause of death in Canada
- There are an estimated 70,000 heart attacks in Canada; one every seven minutes
- Up to 40,000 cardiac arrests occur each year in Canada; one every 13 minutes
- 9 in 10 Canadians have at least one risk factor for heart disease and stroke; representing more than 24 million Canadians

#### Facing the facts about kidney disease<sup>3</sup>:

- 1 in 10 Canadians has kidney disease, and millions more are at risk
- An average of 15 people per day are told that their kidneys have failed
- The number of Canadians being treated for kidney failure has more than tripled in the past two decades with diabetes being the leading cause of kidney failure

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3. The Kidney Foundation of Canada, [www.kidney.ca/document.doc?id=9034](http://www.kidney.ca/document.doc?id=9034)

### The Not So Pretty:

If you don't have critical illness insurance, you may not have the financial means to safeguard your financial lifestyle or that of your family. The additional expenses of a potentially lifelong illness can challenge anyone's financial planning.

# Insurance Q&A

## **I have health, life and disability coverage. Is that enough?**

While traditional insurance products are integral parts of financial protection, they are not designed to meet the needs for those diagnosed with a life-long critical illness.

A health plan will certainly help pay for the cost of many of your expenses, but may not cover them all. Plus, many plans have maximums and co-pays that can still be a financial burden when the expenses are high. Life insurance provides cash to protect the financial interests of your family in the event of your death. Disability insurance provides monthly income replacement, which helps you cover the same expenses you had prior to your diagnosis only.

None of these coverages will go the distance to protect your assets (RRSPs, investments, family home, etc.) when you are unexpectedly diagnosed and live with serious illness. Even the best financial plans can be derailed by such an event. For example, drawing from an RRSP to pay for additional medical expenses impacts your financial retirement plans and has immediate income tax implications.

## **How can critical illness coverage help to protect my financial planning?**

A critical difference – this is where critical illness insurance comes into play. Critical illness protection is not a substitute for either health, life or disability insurance. Critical illness is designed to complement these, by providing a tax-free lump sum of money to assist you, the patient, to adapt to changing circumstances.

Critical illness insurance is still relatively unknown in the overall insurance marketplace by comparison, but it is becoming increasingly popular with those who take financial planning to heart. Surviving a critical illness is something to celebrate and should not be a bittersweet experience tarnished with financial catastrophe.

## **What can I do with the money I receive from a critical illness plan?**

The money you receive is yours to do as you see fit. The financial challenges of living with a critical illness can vary dramatically from person to person. For example, critical illness insurance benefits are often used to pay for home healthcare or for drug prescriptions that are not covered by your health plan or OHIP, or even to seek medical treatment abroad, if that is what you want. The money can go towards making renovations to a home, such as adding a wheelchair ramp for improved mobility. It can also provide a financial “cushion” to help meet the monthly financial demands if there is a shortfall in your regular income or a delay in your disability payments.

One of the greatest advantages of critical illness insurance is that you, the beneficiary, can use the money in whichever way you decide it most benefits you and your family.

## **Are there really no restrictions on the money received?**

None. Critical illness Insurance is all about living.

For some people – often those who are diagnosed in an advanced stage of illness – critical illness insurance represents something that is priceless -- the opportunity to make a dream come true.

Some people choose to use their critical illness coverage to take their family on a special trip or vacation that will leave everyone with lasting, happy memories. Others might choose to make a dream purchase or go on a personal adventure that they might not have been able to afford.

**For more information, visit**  
[www.opatoday.com/professional/insurance](http://www.opatoday.com/professional/insurance)



# Pharmacy Ownership

## What You Need to Know

BY MIKE JACZKO AND MAX BEAIRSTO

If you aspire to own your own pharmacy one day, keep in mind that ownership can take several forms that will affect your liability and taxation. In this last of a three-part series we'll fill you in on some key aspects of sole proprietorship and joining a partnership, and when it makes sense to incorporate your business.

### Going Solo

Owning 100 per cent of a business means you can call all the shots—it's the simplest way to operate a business. But it also means you're personally liable for your pharmacy's debts and obligations. If anyone decides to sue the business, your personal assets are at risk.

For example, if one of your customers slips on the floor in your pharmacy and successfully sues you for damages incurred, you will have to pay the settlement personally. If that involves millions or even tens of thousands of dollars, you may need to sell your personal assets (i.e., cottage, home, etc.) to foot the bill.

Under current law, a sole proprietor and the owner are the same legal entity. That means whatever the

company earns in a year is deemed to be the income of the owner and therefore reported on personal income tax. Given that personal tax rates are generally higher than corporate tax rates, expect to have a higher tax bill if you've earned a substantial amount in a sole proprietorship.

### Sharing the Load

The only difference between a sole proprietorship and a business partnership is that there is now more than one owner. That means all owners are personally liable and must report their share of the income on their personal tax returns.

Your creditors will often insist that owners are joint partners so they can collect all their debts from one partner if needed—instead of claiming from each based on their percentage ownership. The “easier” partner would pay the creditor fully and then have to sue the other partner for their share of the liability. Basically, this means the creditor has to do less in collecting debt.

### Is it time to incorporate?

As a legal entity, a corporation is separate from its owner(s), which means any debts and obligations become the

responsibility of the corporation rather than the owner(s). The good news is that this means your personal assets will not be exposed to creditors. The bad news? There are exceptions where a creditor, such as a bank or landlord, will insist that the shareholder[s] of the corporation personally guarantee any obligations before they provide any loans or resources.

Incorporating a business is also more expensive to set up because it requires you register it with the government. (You can easily identify if a business is incorporated if “Limited,” “Ltd.,” “Incorporated” or “Inc.,” is included at the end its name.)

From a tax perspective, incorporating your business as a separate entity—and filing a separate corporation income tax return—can have several advantages. For example, the tax liability on income earned by the business can be split between the corporation and owners through salaries and dividends.

Whichever path you choose towards pharmacy ownership, be sure to factor in your exposure to taxation and liability to ensure you make the best choice.



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# Professional Development Grants Waiting for You

BY JON JONES, MBA, CPA, CMA  
DIRECTOR, PROFESSIONAL DEVELOPMENT, OPA

## HealthForceOntario provides financial support for health professionals through the Allied Health Professional Development Fund (AHPDF)

**P**ractising members of nine allied health professions – pharmacists included – are eligible to apply for up to \$1,500 per year for professional development (PD) courses and programs. This is a little-known program that is available to pharmacy professionals.

AHPDF improves healthcare professionals' access to professional development (PD) activities in order to:

- Advance clinical practice knowledge and skills to continuously improve the quality of patient care
- Contribute to the provision of more effective and efficient healthcare service delivery
- Advance clinical practices in priority healthcare areas
- Integrate evidence into professional practice
- Assist healthcare professionals to become change agents and to adapt to changing expectations and patient healthcare needs

Pharmacists have access to the majority of this funding. In 2017-2018, more than \$732,000 in funding was claimed by pharmacists alone, but more than \$201,000 in eligible funding was unclaimed by pharmacy professionals.

Types of fees that are eligible for the fund:

- Tuition fees
- Registration fees
- Fees for workshops, courses, conferences or seminars
- Fees for distance learning and education acquired outside of Canada
- Reimbursement funding for PhD students

When applying for the fund, it is important to ensure that you complete the forms correctly. If the forms are not completed correctly, you may not be given a chance to resubmit them and you could be denied the funding. If you need help completing the forms, OPA's Practice Support Network can help. Send an email to [info@opatoday.com](mailto:info@opatoday.com).

For more information on the Allied Health Professional Development Fund or to apply for funding, visit [www.ahpdf.ca](http://www.ahpdf.ca).



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# Preparing the Future

BY FABIOLA TAKLA, RPHT, PROGRAM COORDINATOR AT CENTENNIAL COLLEGE

The pharmacy profession is always evolving to better serve the public. As a pharmacy technician for more than 20 years, I have seen and experienced the changes in this role. Pharmacy technicians are now regulated professionals, and our role has expanded in community and institutional settings.

Historically, pharmacy technicians have always been the backbone of any pharmacy setting, and this is even more the case now that technicians are regulated. Pharmacy technicians play an important role as team members in the healthcare field and are of great value in both hospital and community settings. The education and training of pharmacy technicians is both intense and rigorous as they are responsible for preparing final products with zero tolerance for errors.

Our practical courses are taught in three newly renovated labs: a community dispensing and compounding lab, an aseptic lab and a long-term and institutional dispensing lab. All the pharmacy

Our graduates have been hired in a variety of sectors. Some of the interesting positions are:

- Auditor in a long-term care facility; auditing the work of nurses while caring for patients in a variety of different positions. The Pharmacy Technician program prepares students for the registration process with the Ontario College of Pharmacists, and practice. They have the competencies and professionalism needed to meet the growing demand for expanded pharmacy services.
- Members of the Ontario College of Pharmacists' discipline committee
- Ministry of Health and Long-Term Care; after pursuing one of the pathways to undergraduate and graduate education
- Lead pharmacy technician involved in operating and maintaining automated dispensing machines in both hospital and community settings

Part of a clinical informatics team supporting other pharmacy technicians while using pharmacy applications in a hospital setting

- Medication reconciliation in the emergency room gathering and documenting medication history for newly admitted patients
- Board member of the Ontario Pharmacists Association
- Lab technicians supporting the learning environment, supervised by professors during practical lab courses



# A Technician's Guide to Pharmacy Abbreviations

Having difficulty translating a prescriber's directions at the drop-off counter? Refer to the following guide of abbreviations commonly found on prescriptions.\*

SIG		Route of administration	
w/f	with food	IM	intramuscular
w/o	without	IV	intravenous
ad lib.	as much as desired; liberally	pr.	rectally
d.c.; d/c	discontinue	p.v	vaginally
q	every: per	p.o.	by mouth; orally
bid	twice a day	SL; s.l.	sublingually; under the tongue
tid	three times a day	IN	intranasal
qid	four times a day	inh.	inhalation
od	once daily	top.	topical
q__h	every __ hours	o.s.	left eye
qod	every other day	o.u.	both eyes
qhs; hs	every night at bedtime	o.d.	right eyes
qam	every morning	a.d.	right ear
qpm	every evening	a.s.	left ear
sw	shake well	neb.	nebulizer
pc	after meals		
AAA	apply to affected area		
UF	until finished		
UD	as directed		
STAT	immediately		
PRN	as needed		
Dosage form		Dosage strength	
amp	ampoule	kg	kilogram
cap	capsule	g	gram
inj	injection	mg	milligram
oint	ointment	mg/kg	milligram(s) per kilogram
tab	tablet	mol	mole
supp.	suppository	mmol	millimole
susp.	suspension		
Drug or class name		Other	
CR	controlled release	BMI	body mass index
EC	enteric coated	BSA	body surface area
LA	long-acting	BP	blood pressure
SR	slow release	HR	heart rate
XR	extended release	SOB	shortness of breath
NSAID	nonsteroidal anti-inflammatory	aq.	water

\*Note: Some prescribers may use variations of these abbreviations. Consult with the pharmacist if unsure.



**Connie Beck**  
Pharmacy Technician  
Coordinator  
Pharmacy Technician Program  
Lambton College

# A passion for the pharmacy profession

Without a doubt, the most valuable part of an OPA membership is the opportunity to make change in our profession. I'm the first registered pharmacy technician on the OPA Board of Directors to be granted voting rights, which means I have a strong voice with our Association, our regulator and government when negotiating for pharmacy technicians, and ultimately a better healthcare system.

Join OPA with me  
and start changing  
the pharmacy  
profession.

Renew your membership  
or join OPA at  
[www.opatoday.com](http://www.opatoday.com)

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**In addition to technical checks, other roles performed by pharmacy technicians in MMT include:**



### **Entering, Billing and Processing Prescriptions**

The pharmacy technician or assistant can enter and process new and refill methadone prescriptions. As per amendments to the Narcotic Control Regulations, pharmacists no longer need to verify if a prescriber holds a valid exemption to prescribe methadone.



### **Inventory Management**

The maintenance of stock and ordering methadone supplies generally falls to the pharmacy assistant or technician. Keeping enough methadone supplies on hand is important for running a successful MMT program. A pharmacy technician or pharmacy assistant should be monitoring inventory on a regular basis.



### **Discrepancy Reporting**

A properly trained technician can identify and report key issues including missing patient documentation, patient identification discrepancies, unusual discoloration of solution, unusual pharmacy behaviour, etc. These issues should be reported to the pharmacist to ensure they are handled and documented appropriately should any of the situations require prescriber intervention.



### **Monitor Empty Bottle Returns from Take Home Doses**

Empty take home bottles have street value and should be returned to the pharmacy by the patient. Pharmacy technicians can monitor the return of empty containers and report any discrepancies to the pharmacist. The rules and expectations surrounding the return of empty containers should be discussed with the prescriber and patient, and noted on the patient's profile to ensure there is a firm understanding of what to expect when the patient returns.

**With the help of a registered pharmacy technician and pharmacy assistant in MMT, pharmacists can focus on better patient outcomes and together they can play a vital role in the fight against opioid abuse and addiction.**



# The Importance of a Pharmacy Team in Methadone Maintenance Therapy

BY NATHAN MAPP, PROFESSIONAL PRACTICE  
COORDINATOR, OPA

*As the opioid crisis grips many communities across Ontario, pharmacies are becoming integral to helping patients manage addictions and substitution therapy regimens.*

**R**egistered pharmacy technicians play a pivotal role in their pharmacies to ensure that patients who require Methadone Maintenance Therapy (MMT) receive the care and attention they require.

Ensuring technicians can practise to their full capacity will provide for a smooth and functional process that will enable everyone on the pharmacy team to perform at their best. To start, methadone prescriptions can be entered and processed by pharmacy assistants, then prepared and technically checked for accuracy by a technician. A technician can check any prescription for technical accuracy and completeness, and methadone is no exception.

Once a methadone prescription has been checked for accuracy by a registered pharmacy technician, the pharmacist conducts a double check for technical accuracy as well as a final clinical check to ensure that quality care is being provided. The activities of the pharmacy technician in MMT provide more time for the pharmacist to speak in-depth with patients taking methadone, and allows the pharmacist to gather any necessary feedback for prescribers to ensure patients are receiving appropriate therapy.

# Ask OPA

What are enteral feeding tubes? What should be considered when a patient has one?

BY SAYAKO YOKOYAMA, BSc(Pharm), ACP, RPh, MPH



Enteral feeding tubes (EFTs) provide access to the stomach or small intestine in individuals who have difficulty swallowing or are at risk of malnutrition.<sup>1</sup> Nutritionally-complete liquid feeds are administered through EFTs continuously or intermittently.<sup>2</sup> Medications can also be administered through these devices.<sup>1</sup> EFTs are categorized by entry site (nose, mouth or abdomen) and delivery site (stomach or intestine), as shown in Table 1.<sup>1</sup>

When receiving prescriptions for patients with trouble swallowing, or when questions arise about crushing tablets, it is important to note if the patient has an EFT and if so, details on tube type, size and enteral feed frequency.

Flagging patients who have an EFT and recording pertinent details allows pharmacists to carefully review properties of the medication and EFT details to ensure safe and effective medication administration. Such information is also important when evaluating therapeutic alternatives or adjustments to medication regimens.

Although elixirs and emulsions are the preferred preparations for administration via these devices, certain liquid formulations are inappropriate as side effects can result from their physico-chemical properties or non-medical ingredients (e.g., sorbitol amount).<sup>1,2</sup> Furthermore, some EFTs may bypass the sites of the medication's action or optimal absorption.<sup>1,2</sup>

For short-term (<1 month) use, naso-entric (and sometimes oroenteric) tubes are preferred, whereas percutaneous tubes are reserved for long-term enteral feeding.<sup>2</sup> Tubes vary in length, diameter, and material (generally silicone or polyurethane), each of which can impact medication administration.<sup>1</sup> The tube diameter is classified as large-bore (≥14 French) or small-bore (5–12 French), where 1 French unit equals 0.33 mm.<sup>2</sup> Medications can be administered through both tube categories.<sup>2</sup> Large-bore tubes are also used for suctioning and decompression of the stomach.<sup>2</sup>

Evaluating medications for administration through EFTs requires consideration of various factors to prevent problems. Not all drugs and drug formulations are suitable for this delivery route. Clogging of EFTs, one of the most common complications, may be due to pieces of crushed tablet/coating or thick liquid formulations.<sup>1,2</sup> For patients, tube obstruction can result in feeding or medication administration delays, infection, and/or bleeding.<sup>1</sup> Drug-drug, drug-nutrient, and drug-tube interactions can also reduce medication bioavailability and effectiveness, or lead to feed safety and efficacy profile of medication.<sup>1,3</sup> Importantly, the formulations are altered (e.g., crushed) prior to administration through an EFT.

Table 1. Common enteral feeding tubes<sup>1,2</sup>

EFT types	Entry site	
Nasogastric (NG) Nasoduodenal (ND) Nasojejunal (NJ)	Nose	<b>Nasoenteric</b>
Gastrostomy (e.g., percutaneous endoscopic gastrostomy [PEG]) Jejunostomy Gastrojejunostomy	Abdomen	<b>Percutaneous</b>
Orogastric (OG)	Mouth	<b>Oroenteric</b>

**References**

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2. Williams NT. *Am J Health Syst Pharm*. 2008 Dec;15(24):2347–57.
3. Boullata JI et al. *ASPEN J Parenter Enteral Nutr*. 2017 Jan;41(1):15–103. Available from: <https://doi.org/10.1177/014860716673053>

## MEMBER HIGHLIGHT

Q&A  
With Annie Greaves  
RPhT, Niagara Health

Ensuring patients receive the highest level of care motivates Annie Greaves to adapt to changes presented within her field, and to pursue continuing education. Annie started working as a pharmacy assistant at the age of 16 after completing a high school co-op program, which led her to attend Niagara College to become a pharmacy technician. Directly out of college, she began working in hospital pharmacy, and now assumes the role of Compounding Supervisor for Niagara Health.

As an RPhT, I always want to make sure the five Rs are correct – right patient, right medication, right route, right dose, right time – and our technology provides me an added verification process in each case.

So, whether it be quick access to an electronic patient file that will let me verify a doctor's order, or a scan verification that I have the right first dose medication in my hand before I send it out, I love having technology in the pharmacy.

### How do you see technology advancing pharmacies in hospitals?

I hope in the future to see a more centralized health record database for our patients. This would allow quicker access to information and patient histories. Given the opportunity in an emergency situation, healthcare providers can make a proper assessment based on a better understanding of our patient's pharmaceutical history and otherwise.

### What can we apply from hospital pharmacy to community?

I think in both cases as a technician we'd like to be able to practise at the full ability of our scope. With either setting it's always great to work in an environment where changes are considered, adapted and applied.

### Why are you an OPA member?

Being an OPA member offers me access to so much information. The quarterly magazine and frequent email updates keep me up-to-date of changes and advancements within the pharmaceutical industry. I also appreciate that OPA always recognizes the role of the RPhT within the pharmacy community.

to demonstrate the need for two different roles of pharmacy technicians that are equally challenging and amazing.

### How do you continue to develop as a pharmacy professional?

Reading *Ontario Pharmacist* as well as following information put out by

the College) and other pharmacy organizations provides me with a great deal of information and keeps me up-to-date on changes. I also believe working in both community as well as hospital helps me see and experience the changes first-hand and allows me to put them into practice.

### What do you love about your job?

I just love pharmacy, it's an ever-changing world with interesting developments that can be life changing for our patients.

### What's one thing you wish people knew about hospital technicians?

I want people to know we're here and we're working hard for their healthcare. We want to work to the max of our scope and are eager to do so.

### How does hospital technology and/or software help in day-to-day activities?

I'm lucky enough to be at a hospital that was built within the last 10 years, and with that we have access to amazing technology. I know some people shy away from allowing technology into their workspace, but I enjoy it.

Comparing community and hospital pharmacy practice is like trying to compare apples and oranges. We are registered pharmacy technicians in both settings, but otherwise there's little comparison.

Hospital pharmacy is comprised of so many different subsections. We have medication reconciliation, pharmacy IT, inventory, narcotics, unit dose packaging and dispensing, and even further into hazardous and non-hazardous preparations.

### What is the biggest thing a pharmacy technician needs to consider when moving from community to hospital or vice versa?

Coming into community from hospital, pharmacy technicians would likely be dealing with drug plans for the first time, as well as contacting prescribers for refills and approvals. They may also be working with a wider variety of medications. Hospitals run on a formula so some medications we see routinely in community may rarely or never be used. The same goes for a flip situation, there are many medications I dispense within the hospital that I rarely work with in a community setting.

Going from community to hospital may also introduce new scenarios, such as sterile preparation, hazardous compounding and unit dose medication dispensing.

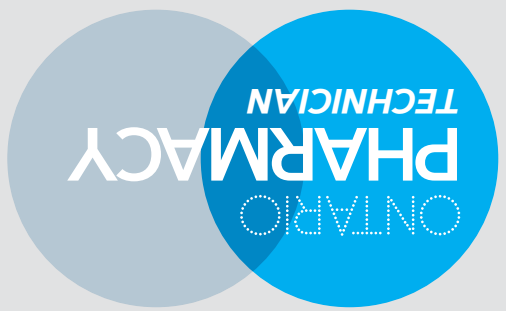
While community and hospital settings can share overlapping skills, especially when we look at specialized community pharmacies, they continue



O&A with  
Annie  
Greaves



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# PROFESSIONAL DEVELOPMENT FOR PHARMACY TECHNICIANS

Being able to take what you've learned and apply it to practice right away is a key element of OPA's professional development programs. Our live and blended programs mix didactic training with practical skills application – giving you the information you need to succeed, plus the confidence in your skills so that you can begin implementing your learning as soon as you return to your practice.

## **SELLING WHAT YOU CAN DO FOR YOUR CLIENTS PROGRAM**

Explore how sales and marketing strategies can increase pharmacy revenue, but more importantly demonstrate how they can improve the overall patient care and pharmacy experience. This interactive session is designed to allow participants to practise using common sales strategies to maximize service uptake.

## **THIRD PARTY AUDITS: AN INTRODUCTION**

The Third Party Audits: An Introduction online program focuses on the audits conducted by private payors. It addresses third party policies and provider agreements, preparing for third party audits and strategies in minimizing risks. Case studies are integrated in each module to assist in translating knowledge into practice.

## **CONFRONTING MEDICATION INCIDENTS -**

### **A FRESH APPROACH**

The Confronting Medication Incidents – A Fresh Approach program is an online learning program developed by the Ontario Pharmacists Association (OPA) for pharmacists and pharmacy technicians who wish to develop a better understanding of the frequency, causes, and handling of medication incidents in practice.

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# Interview with Hospital Pharmacy Technician: Annie Greaves

The Importance of a Pharmacy Team  
in Methadone Maintenance Therapy

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