THE Tablet

FALL 2019 | ADVOCATING FOR BRITISH COLUMBIA PHARMACY

Medication incident reporting is coming to B.C

Reporting will be mandatory, but anonymous PAGE 14

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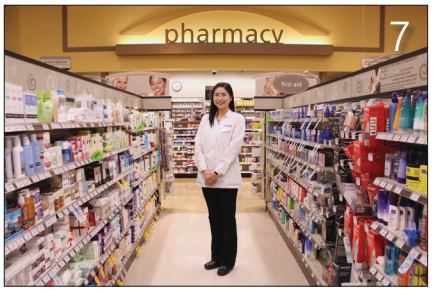

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Mandatory medication incident reporting will be implemented in B.C. by 2022.

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Chris Waller

Fighting for our voice to be heard

As 2019 soon comes to an end, it is time for me to reflect on my tenure as president of the Board of the BC Pharmacy Association over the 2018/19 fiscal year. I want to thank my BCPhA colleagues and fellow Association members for their commitment to advancing the interests of community pharmacists and pharmacies across the province. It has been an honour to serve the profession and my fellow pharmacists in this way.

Over the past term, much has been achieved in an effort to expand the role of community pharmacists in B.C.'s health-care system. We have enhanced our educational opportunities for members, through hands-on training such as OAT CAMPP; advocated in key areas of legislation and regulation, advising on numerous ongoing issues such as appropriate cannabis dispensing protocols and a framework to expand the pharmacist's prescribing authority; partnered with key health providers, such as the First Nations Health Authority, in delivering enhanced support to pharmacists and patients navigating PharmaCare's Plan Wellness; and increasingly addressed urgent health crises, such as ongoing drug shortages and measles outbreaks, aligning with manufacturers, wholesalers, and regulators to provide timely and effective solutions.

Throughout my term, one thing has become crystal clear: our work in advocating for our role—our rightful place in the health-care framework—has become an even more urgent issue to be addressed. As the drug experts, we must continue to fight for our voice to be heard.

It has become increasingly frustrating to me that whenever there is a shortage of drug supplies, members of government and the media turn to doctors for comment. What do they know about drug supply? The truth of the matter is that when they write a prescription, they expect it to be filled. They understand little of the time pharmacists spend on a day-to-day basis sourcing prescriptions from a wholesaler or calling around to other pharmacies looking for supply for their patients. While some may say that is our job—and I do not disagree—pharmacists still deserve the credit for what they do to ensure continuance of care for patients in B.C.

Pharmacists were also overlooked by the federal government's Advisory Council on the Implementation of National Pharmacare, which led a national dialogue on how to implement affordable national pharmacare for all Canadians. While pharmacists were consulted as stakeholders, we did not have a seat at the council table, leaving a critical viewpoint out of discussion. This is very concerning to me as a pharmacist, businessman, and Association representative. As dialogue continues following Canada's federal election this fall, I am eager to see how pharmacists' experience and expertise is addressed in the future planning for a national pharmacare system. T

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Geraldine Vance

National pharmacare needs input from pharmacists

By the time this issue of *The Tablet* is in your hands, Canada will have elected a new government. While I can't possibly predict the outcome, what I know for sure is that the next federal government will make some moves to put a national pharmacare program in place.

Of course, the starting point has to be defining what is national pharmacare? Is it a common drug formulary that all provinces agree to provide coverage for? Is it a federally funded program that covers gaps in coverage that remain despite provincial PharmaCare programs and third-party benefits program? Is it a nationally funded program that enables coverage for high cost drugs and rare diseases?

It's hard to know because none of the parties have been clear about what their view of national pharmacare will look like in any real detail. I am guessing if I stopped 10 people on the street and asked them what a national pharmacare program would be, I would get at least that many answers.

Politicians have offered little beyond broad platitudes on the subject, though the provinces generally agree that whatever the program is they will need more funding from Ottawa.

Certainly, no Canadian would argue that patients should be denied necessary medications due to affordability. The Canadian social contract includes the fundamental promise that health care is a right. So, extending the definition of health care to include coverage for needed medications is widely accepted and is the aim of provincial drug coverage plans. But beyond this general premise, I suspect few Canadians or our politicians can really define how a national program will work.

But as the saying goes, "the devil is in the details." And those details have the potential to greatly influence patients and community pharmacy. There have been some glib suggestions that it would be easy to develop a national formulary of essential medicines and that this would ensure all Canadians had the "essential" medications they need. Sounds good, right? But what if it also meant coverage would be limited to only those medications? Is that good for patients? And how would that impact community pharmacies that are already straining to absorb the impact of the generic pricing agreement? And what would that do to the drug shortage issue we face?

There are, no doubt, a host of varied and legitimate views on how best to address the concern that some Canadians can't afford the medications they need and that rare disease and new high-cost drug costs can't be absorbed by standard provincial drug plans. But what is deeply troubling to me is that the "debate" about a national pharmacare program has excluded the people who have the most to offer on the subject: Canada's community pharmacists. The recent Hoskins Committee itself had no pharmacists on it, and only reluctantly invited community pharmacy to provide "stakeholder" input. Pharmacists are not stakeholders. They are experts and the best advocates for their patients on issues related to drug shortages, drug coverage gaps and opportunities to improve pharmacare programs.

Whoever forms the next government must be challenged to ensure that community pharmacists are at the core of any plans to design and implement a national pharmacare program. T

The Tablet asks our contributors:

"How will medication incident reporting change pharmacy practice?"

Derek Desrosiers is President and Principal Consultant at Desson Consulting Ltd. "Medication incident reporting has the potential to change pharmacy practice in at least two significant ways. First, the ongoing tracking will be a tremendous learning tool that should lead to improved workflow processes that reduce the overall frequency and possibly severity of medication incidents. Secondly, the requirement for medication incident reporting may lead to a higher level of care and diligence on the part of all pharmacy staff resulting in less frequent medication incidents."

Miguel Lopez-Dee is Pharmacist/Owner of Pharmasave Greystone Village in Burnaby. "A formal medication incident reporting system for pharmacists will support a more consistent mechanism for incorporating these events into patients' health care records, which can enhance health-care delivery."

Member News

Do you have a professional or personal update you want to share in The Tablet? Email editor@bcpharmacy.ca to share your member news.

Congratulations to **Alex Dar Santos**, past BCPhA president, 2019 Patient Care award winner Andrea Silver and 2002 Innovative Practice award winner Michael Ortynsky for their election to the College of Pharmacists of BC board of directors. The trio will begin their terms at the beginning of November.

All member pharmacies are encouraged to create a new account on **ImmunizeBC's Flu Locator** at immunizebc.ca by entering your pharmacy/flu clinic details. In order to have your pharmacy clinic displayed online, you must update your account with the mandatory fields: the vaccine clinic end date and the ages of clients immunized.

BC PharmaCare has announced that at least one pharmacist from every pharmacy currently enrolled as a Methadone Maintenance Provider (now Opioid Agonist Treatment Provider) will be required to complete **Opioid Agonist Treatment Compliance and Management Program** for Pharmacy (OAT CAMPP) by Jan. 19, 2020.

Association member Omar Saad appointed to National Seniors Council

This summer, BC Pharmacy Association member and Senior National Director at Remedy'sRx Specialty Pharmacy **Omar Saad** was appointed to the National Seniors Council.

An advisory group made up of experts on seniors issues and aging, those that work with seniors and seniors themselves, the National Seniors Council plays a key role in consulting with Canadians in an effort to provide recommendations to the federal government on matters related to the health, well-being and quality of life of seniors. The council is responsible for commissioning research, convening expert panels, roundtables and consultative meetings to provide advice to government on seniors-related issues.

Saad was appointed to the role on July 16, 2019 by the Hon. Filomena Tassi, Minister of Seniors and the Hon. Ginette Petitpas Taylor, Minister of Health. Dr. Kevin McCormick, President and Vice-Chancellor of Huntington University, was also appointed to the 12-member council.

"I am humbled and honoured to be appointed to the National Seniors Council," says Saad. "As the only current member of the Council with a pharmacy background, it is a great privilege to share my expertise with this Council, in an effort to provide advice to the federal government on matters relating to the well-being of Canada's aging population. At the same time, I am honoured to represent the pharmacy sector at a national level, further demonstrating the important role of pharmaceutical care in the lives of seniors."

Seniors are the fastest growing demographic group in Canada. By 2030, the number of seniors will reach 9.6 million, representing close to one quarter of Canada's population. Since 2007, the National Seniors Council has examined issues related to the social inclusion of seniors, labour participation of older Canadians, low income among seniors, positive and active aging, volunteerism and elder abuse. T

Modernizing injections training, one pharmacist at a time

Upon graduation in 2012, Sobeys pharmacist **Joanne Hui** quickly rose to become a pharmacist facilitator, teaching new students at the University of British Columbia practical lab skills.

Two years later, Hui saw an opportunity to bring refresher injections training courses to Sobeys, as many pharmacists first took their training years ago, and some were a little out of practice.

Hui estimates she has helped train at least 200 pharmacy students in classroom settings, in addition to many others through an online training webinar she developed for Sobeys to keep pharmacists' injection skills fresh and updated to current best practices.

"I wanted to bring the focus back to knowing why things are done a certain way, as opposed to memorizing it as a recipe," says Hui, currently the pharmacy manager at the Safeway location at 800 McBride Blvd. in New Westminster. "If you just remember it step by step, once you start switching the steps you don't know the consequences."

How did you become an injections expert?

During school, I always really loved and enjoyed the lab course and I always took the opportunity to mentor other students in this area. So after I graduated, a paid opportunity came up for a pharmacist facilitator. The course coordinator contacted me right away and offered me the job, which I happily accepted. I have been on their regular roster for the past six years. When they had offered me that opportunity, I was there once a week and was really quite involved with students and their learning. In late 2014, when it was announced that pharmacists were allowed to train other pharmacists in injections—as opposed to clinical nurses—I was one of five pharmacists trained by UBC to teach other pharmacists these skills.

Up until then, they had all of their students enroll in the BCPhA course, which I took myself, too. But because of the upcoming changes with the program, they started integrating their own injections course. Instead of doing a 10-hour online module and eight hours with a nurse, they split it up into more what a university course would be. There would still be the online component, and my role was to be there for their first hands-on experience. About eight students work in pairs and start to get familiarized with the supplies, and get to the point where they are injecting each other to get the certification.

How did you bring your experience to Sobeys?

I knew at Safeway our pharmacists were trained by nurses and other pharmacists were actually sent down to the United States to receive injections training. I saw that there was a need, there were pharmacists who were trained back in 2009 and there was no opportunity to be retrained.

What ends up happening is without retraining or an opportunity to refresh your skills, you just start practicing kind of in your own bubble. Injection is not something where your other staff might be around to observe or discuss afterwards. It's a very private moment with your patient. So if you're doing great, great, you might never hear about it again. But if you don't do well, and if the feedback doesn't come back to you and it spreads, it can have a negative impact on patients and on the pharmacy.

After I was trained and it was fresh, I brought it back to headquarters. I wanted to take what I learned and I wanted to make it so that I can give back and offer something for my colleagues, so they can refresh their memory and sharpen their skills. There are pharmacists that are practicing and injections just isn't their forte. It could be for many reasons, but often it's because they just don't feel like they use it enough.

So I developed a course and a presentation. At the beginning, it was just a slide presentation. And then in 2016, we filmed a live injection, which

Safeway pharmacy manager Joanne Hui helped develop an injections webinar used by pharmacists in Sobeys locations across Canada.

is now used for training at Sobeys. I also recorded a webinar, which is available as an internal resource for any of our pharmacists across the country to review and that gets updated on a yearly basis.

What areas needed to be emphasized when it comes to injections training?

I think a lot of times, pharmacists focus on what is convenient for them, but sometimes those things aren't necessarily the bits that causes the patient the most comfort. Like the injection angle, why does it have to be at a certain angle? Why should we be eye level to the person as opposed to standing up and giving the injection? For example, you started off being told to sit next to your patient and be at eye level. But at the practice setting, the table is higher, so it makes sense for patients to sit and pharmacists to stand. But then what ends up happening is that your 90-degree angle is based off of your eye level, and it might not be perfect and even hurt the patient a little bit. You're going in at a different angle and they're not getting the full benefit of the vaccine.

With more people coming to pharmacists to receive vaccines each year, how has that affected your training and practice?

When I started developing this course for Sobeys, the focus was very technical—about getting your skills right, getting it down. But now, throughout more years of myself practicing, having seen more flu seasons, giving more injections, it really is the overall experience. As a pharmacist, you not only need to be able to give that shot nicely, you have to have a confident demeanor when you offer that service as well. Not just confidence in the technical skills, but also confidence in the product that you're giving. Why does someone need to be given an injection? What are the risks? All of this is now part of the training to provide the patient a more complete and more well-rounded experience. Also post-vaccination care. After you give the shot, you call them in a couple of days to see how they're doing. Call them again when the booster shot is due, because with three-shot series (zero, one and six), sometimes they just don't remember. We have tools in the pharmacy that allows us to be reminded, and therefore we can remind the patient and just provide a more complete overall experience.

How could the BCPhA offer more support to pharmacists during major vaccination seasons?

For us, sometimes when the vaccines are late, we really need to know about it. We need an accurate estimation of the vaccine availability, so we can start getting the word out there. People will come in, they might panic, think they're not getting it, and they might look around and get frustrated. If there is a way for the information to come down in one place. Some health units are better at conveying the message than others. In New Westminster, our health unit is excellent but I've worked with others that are not so proactive at getting the information out there.

It would also be helpful to continually hear of certain media outlets reporting negativity towards the vaccines. You may get patients coming in asking questions. They'll come in and say, "I heard this on the news," and if you seem like you don't know what is on the news, they kind of take a step back and think, 'Should I really be listening to you?' Being on top of the news gives us a better chance to educate the patient.

Reminding the public pharmacists do more than count pills

BY MICHAEL MUI

In September, the BC Pharmacy Association launched the See Your Pharmacist campaign to encourage British Columbians to use their local pharmacies as primary community health-care centres.

The campaign's objectives are simple: to encourage the public to consider pharmacies as their first stop when seeking health care. To get the message out, the BCPhA has partnered with a highly experienced marketing firm to launch a series of television and online advertisements, expected to reach more than 1.2 million British Columbians over the course of two months.

The BCPhA's messaging emphasizes that pharmacists are available when walk-in clinics and family doctors are not—during evenings, weekends and holidays. And while our more than 4,000 colleagues are practicing in nearly every community in B.C., the public is not currently taking advantage of the full extent of services pharmacists offer.

This campaign seeks to change that lack of awareness by promoting less publicly known services such as prescription adaptations, renewing prescriptions, medication reviews and vaccinations.

The public's demand for health care is only increasing as the population ages. Research conducted by the BCPhA finds British Columbians want pharmacists to perform more health-care services.

By reinforcing the public's understanding that pharmacists can be their first stop for health care, we can demonstrate that we are ready to step in as part of the solution in caring for a growing aging population expected to consume more health-care resources with each passing day.

We know that pharmacists are the true experts in medication. Help us spread the word. With each positive memory and interaction a patient shares with a pharmacist, with each additional patient educated about the services offered by pharmacists, the standing of pharmacists in the eyes of the public will only grow. T

MEET YOUR BCPHA BOARD OF DIRECTORS NOMINEES

This year's elections for the BC Pharmacy Association Board of Directors will take place Nov. 1, 2019 and will allow general BCPhA members the option to vote electronically or by traditional paper ballot.

Derek Desrosiers

Principal, Desson Consulting Ltd. Succession and Acquisitions Consultant, Rxownership.ca (Vancouver)

Derek is a licensed pharmacist with 37 years of industry experience. During his career, he has served as a front-line pharmacist, Director of Pharmacy Practice Support for the BC Pharmacy Association and CEO of a regional pharmaceutical wholesale company. He has served six terms as President of the BCPhA.

Why do you want to be a Board member?

I see that a voice of experience is needed to keep the Board grounded and focused on the right questions and strategies for the benefit of all BCPhA members. I sense that there is a lot of doom and gloom in the profession with difficult working conditions for staff pharmacists, difficult economic conditions for owners/managers and more pressure from all private and public payers. However, I see opportunities in it all because I have the experience of the past 37 years to draw upon. I can help guide other Board members with my unique perspectives from my varied career.

What unique skills or experience do you offer?

I believe that my past experience as a Board member with the BCPhA (including six terms as President), CPhA, CAPDM and CFP, along with my nine years of experience as a BCPhA staff member, when combined with work experience as a front-line pharmacist, pharmacy manager/owner and CEO of a pharmaceutical wholesale company; collectively gives me multiple perspectives to understand the journey of how the profession arrived at where it is at today. Furthermore, this experience will help me provide a unique perspective to assist the BCPhA and other Board members to move the profession forward positively in the future with opportunities such as scope of practice expansion.

What are your top three goals for this role?

1. Keep the rest of the Board grounded and focused on working for the benefit of all members.
2. Work towards finding new opportunities, such as expanded scope of practice, for pharmacists to assert their unique skill set for the benefit of patients while at the same time achieving personal and professional satisfaction.
3. Creating new revenue opportunities for pharmacies and pharmacists alike to ensure the long-term viability of the profession while giving pharmacists the financial compensation and freedom they deserve for their contribution to the positive health outcomes of all their patients.

Kory Hu

Associate-Owner, Shoppers Drug Mart #227 (Richmond)

Kory has been associate-owner of two Shoppers Drug Mart locations, in West Kelowna and Richmond. He provides educational opportunities for patients, physicians and pharmacists as a Certified Diabetes Educator and preceptor with the Practice Education program at UBC. He has a Bachelor of Science in Pharmacy degree from UBC and a Doctor of Pharmacy from the University of Florida.

Why do you want to be a Board member?

As a practicing pharmacist, I see the exciting changes that are occurring in our profession. Since beginning my career, the scope of a pharmacist has expanded from giving vaccinations, to completing medication reviews and providing prescription renewals and adaptations. As part of the Board, I would like to continue to create a path for more responsibility, such as minor ailment prescribing and expanded vaccination services. In addition, I want to help develop strategies to combat challenges we face in pharmacy and when challenges do arise, come up with solutions to mitigate and manage the impact to our profession.

What unique skills or experience do you offer?

Ten years of pharmacy experience, I have worked as a pharmacist for nine years and a pharmacy owner for six years in many areas around B.C. I have also been a pharmacy assistant in both the community and hospital settings. These experiences have given me perspective on the challenges we face as a profession throughout our province. In addition to this, my focus during my PharmD was on pharmacist-led care in the outpatient setting for chronic disease management. As such, I have seen firsthand the benefits of expanding the role of the pharmacist to improve patient outcomes.

What are your top three goals for this role?

1. Continue to expand the role of the pharmacist through government and third-party reimbursement opportunities.
2. Continue the development of educational programs the BCPhA offers to help support the profession.
3. Advocate on behalf of our profession when we face challenges that affect our ability to provide the best possible care to patients.

There are seven candidates vying for two three-year positions on the Board of Directors, which will begin on Jan. 1, 2020.

The Tablet asked each candidate to outline their experience, intentions and goals. Read their responses below, published according to their order on the official ballot.

Pindy Janda

Retail Business Development, Imperial Distributors Canada Inc. (Vancouver)
Principal Consultant, CenseoPharm Consulting Inc.

Pindy is an accomplished community pharmacist with over 20 years of front-line experience. She has served as a Certified Diabetes Educator, media spokesperson for a major Western Canadian pharmacy chain, and pharmacist consultant with BCPhA—authoring a CCCEP-accredited program and facilitating OAT CAMPP workshops. She also serves as principal consultant with CenseoPharm Consulting Inc.

Why do you want to be a Board member?

My aspiration stems from the fundamental principle of supporting my fellow community pharmacists in their practice and business. Although community pharmacists work in various settings, we are all united in our mission to provide optimal pharmaceutical care. However, the fundamental challenge we face is that we also must consider financial viability. We have been subjected to several industry changes over the past few years, from Pan-Canadian pricing to PharmaCare reimbursement changes. I hope to significantly contribute to the Association and, in turn, community pharmacists in B.C.

What unique skills or experience do you offer?

My career path offers a unique perspective to the role of BCPhA Board member. As a front-line corporate pharmacist with over 20 years of experience, including diabetes education, managed care program execution and management, I am well versed with the demands of retail practice. As a former generic pharmaceutical marketing manager and now retail business development for a wholesaler, I appreciate the balance between providing pharmaceutical care to patients and pharmacy business challenges of pharmacy owner/operators.

What are your top three goals for this role?

1 Work as a liaison for front-line pharmacists, new graduates and pharmacy students and the Association.
2 Contribute to the efforts of the BCPhA team in expanding pharmacists' scope of practice, in particular, prescribing rights for community pharmacists and PharmaCare reimbursement for OAT management activities.
3 Collaborate with the Association in education- and business-building opportunities for community pharmacists.

Mario Linaksita

Pharmacy Manager/Owner, University Pharmacy (Vancouver)

Mario is the 2018 recipient of the BCPhA Excellence Award for New Practitioner and is an active member in Pharmacy Leaders of Tomorrow and the BCPhA MLA Outreach program. He regularly collaborates with UBC Varsity Athletics and UBC Hospital on pharmaceutical care.

Why do you want to be a Board member?

Modern pharmacy is a world which has evolved faster than anyone has been able to predict. With telepharmacy, registered technicians and rapid changes to avenues of revenue, just keeping up with additional mandatory paperwork and increasingly heavy patient loads is daunting to today's B.C. pharmacist. My previous experiences with the BCPhA have been positive glimpses at the possibilities of pharmacy beyond these daily matters. Taking this active role in shaping the future where pharmacy becomes even more involved with directly affecting patient health outcomes with their advanced medication knowledge is a passion that has never wavered since entering the profession.

What unique skills or experience do you offer?

As a pharmacist with a family background in the profession, growing up in a crib in the backroom, I often listened to the laughs as well as the tribulations of the wide variety of clientele that would visit a retail community pharmacy. My father often emphasized the importance of adding value to the patient experience. Following graduation from UBC, I worked in a diversity of pharmacy environments, leading to expertise in: sterile/veterinary compounding, hospital discharge (cardiac, renal, IDC,post-hip/knee surgery), nursing home management, home health care, compression therapy, cold chain, methadone management, sport pharmacy, travel consultation and vaccination.

What are your top three goals for this role?

1 Advocate for expanded scope of practice, particularly for minor ailments prescribing authority. This would be a pivotal moment for pharmacy in B.C., where capacity to affect real change in the patient experience with public health care's accessibility is drastically increased.
2 Advocate for expanded injection/immunization services like: childhood vaccinations, iron, vitamin B, or hormonal injections.
3 Explore the possibilities of telepharmacy and scrutinize the regulation of online mail order pharmacy's resurgence through Amazon. The internet has brought the pharmacy experience to the rural edges of the province where it has been lacking but also accelerates demand for a value-based pharmacy experience.

MEET YOUR BCPHA BOARD OF DIRECTORS NOMINEES

Matthew Kootnikoff

Director Pharmacy Operations,
BC Loblaw Companies Limited (Kelowna)

Matthew has supported hundreds of pharmacists across B.C. over the past 10 years as director of pharmacy operations with Loblaw Companies Limited, and has collaborated nationally to optimize the delivery of patient-centred care. He is currently pursuing an MBA from Thompson Rivers University.

Why do you want to be a Board member?

To ensure that critical decisions being made today, such as continued downward pressure on pharmacy reimbursement and the discussions on major policy initiatives, like a national pharmacare program have been strategically evaluated with future sustainability and optimization in mind.

What unique skills or experience do you offer?

Ten years of pharmacy experience, including as a pharmacy manager in B.C.; exposure to pharmacy on a national level as well as regional; business schooling (completed Graduate Diploma of Business Administration, currently completing MBA).

What are your top three goals for this role?

1 Increased professional development of pharmacist scope of practice to improve patient outcomes with appropriate reimbursement.
2 Short and long-term sustainability of pharmacy practice.
3 Strengthen the voice of pharmacists in B.C.

Mark Kunzli

Pharmacy Manager, Chetwynd Drug Mart
(PharmaChoice) (Vancouver)

Mark began his career as a locum throughout B.C. while pursuing an Executive MBA at UBC. His MBA project formed the basis for the BCPhA's pilot study of pharmacogenomics in community pharmacy, where he guided the project through Phase 1. Before his current role, he served as Executive Vice President of Avricore Health Inc.

Why do you want to be a Board member?

I want to represent community pharmacists and focus on the everyday issues that impact their ability to provide care for their patients. I enjoy the challenge of making things work better, and want to address many of the current requirements and regulations that don't take into account the reality of pharmacy practice. As a member of the Board, I want to increase engagement by ensuring that the BCPhA's priorities are aligned with, and responsive to, the needs of the silent majority of pharmacists who have become disengaged and discouraged by the current health-care system.

What unique skills or experience do you offer?

I bring a common-sense approach, diverse experience, and a track record of challenging the status quo and getting things done. I have worked in academia and industry but remained rooted in community pharmacy. My experience is not limited to one chain, banner or city; I can represent pharmacists from Vancouver to Vanderhoof because I've worked alongside them. I have led on issues both transformative and administrative. I was an early promoter of pharmacogenomics in community pharmacy and worked closely with the UBC faculty, the College and the BCPhA on its initiatives. I was the initial voice for online voting, petitioning the board and ultimately serving on the BCPhA working group that helped make it a reality. Ultimately, I believe in fairness and integrity, and will use these values to guide my decisions as a member of the BCPhA Board.

What are your top three goals for this role?

1 Reduce claim recovery risk: Work with payers to provide clear and consistent policies, increase negotiation with payers to ensure policies and practices are fair to pharmacies and patients, and position the BCPhA as a resource for best billing practices.
2 Expand pharmacist-initiated Special Authority: Expanded list of medications pharmacists can apply for, increased Special Authority approval periods, reduced processing times, and faster coverage of non-LCAs during shortages.
3 Modernize OAT compensation: Witness fees for non-methadone treatment, billing policy that takes into account extra work involved in split dose or longer carries, and compensation for additional administrative requirements involved in providing Opioid Agonist Treatment.

Logan McNeil

Associate-Owner, Shoppers Drug Mart
(Lake Country)

Since graduating from UBC in 2008 with his Bachelor of Science in Pharmacy degree, Logan has worked in both rural and urban communities, in different chains and pharmacy formats. He has been associate-owner of two Shoppers Drug Mart locations, including his current location in Lake Country, B.C.

Why do you want to be a Board member?

As a Board member, I will act as a strong advocate for moving our profession forward. As pharmacists we are uniquely positioned to provide accessible and cost effective care to manage minor ailments and chronic diseases in our communities. However, expansions to our scope of practice have lagged significantly behind that of other provinces. As automation continues to disrupt our roles in filling prescriptions, and B.C.'s population ages, it is paramount that our profession continues to expand in a way that allows us to best use our skills in a shifting landscape. I'm committed to using my voice to promote our value as an integral part of B.C.'s health system.

What unique skills or experience do you offer?

I have had opportunities to work in several areas of the province, in different chains and pharmacy formats. I have had the privilege of operating two different Shoppers Drug Mart franchises, including where I practice today in Lake Country, B.C. I've worked in high, as well as lower volume stores. I have seen and lived the many challenges we face day-to-day and have also experienced the joy of using my skills to help patients with their pharmacy-related needs. I want to see those opportunities expanded for pharmacists, while working to eliminate unnecessary technical barriers to providing the best service possible.

What are your top three goals for this role?

1 To champion expanded scope of practice for pharmacists, including prescribing privileges within community pharmacy settings.
2 To advocate for access to lab values in community pharmacy settings to ensure safe and effective adaptations and renewals.
3 To promote streamlined pharmacy processes by working with the College, PharmaCare and private insurers to address unnecessary complications to our day-to-day practice (e.g. transferring adapted prescriptions, applying directly for additional Special Authorities with PharmaCare and/or private insurers, extending prescription expiries to 18 months, and allowing backdating of prescriptions once Special Authorities are approved to the date they were applied on).

Jamie Wigston

Pharmacist, West End Medicine Centre
(New Westminster)

Jamie has worked as a pharmacist in the Okanagan and Metro Vancouver for the past six years. He has been a member of the BCPhA Board of Directors since September 2016. He has completed two degrees: Bachelor of Science in Biology and Bachelor of Science in Pharmacy

Why do you want to be a Board member?

I would like to continue to serve on the BCPhA Board to further move the Association in the direction I believe will be in the best interest of all pharmacists and pharmacies in B.C. I would like to maintain our vision of advocating for the profession of pharmacy in order to allow pharmacists to practice to their full scope, as well as being paid to practice at that full scope, allowing our profession to continue its growth and sustainability.

What unique skills or experience do you offer?

I believe that I bring a unique perspective as one of the few front-line pharmacists on the Board that is not also a pharmacy owner. My point of view is extremely important because otherwise it would be completely lacking on the current Board. In addition to this, my experience over the previous three years on the Board of Directors is invaluable when considering who to elect for one of the next three-year terms.

What are your top three goals for this role?

1 Continue to advocate for pharmacists to practice and be paid for their full scope of practice.
2 Push for the expansion of our scope of practice to better line up with the rest of the country.
3 For the provincial government to better recognize community pharmacy as an integral part of the health-care landscape in B.C. T

B.C. to implement anonymous medication incident reporting

A motion approved by the College of Pharmacists of BC will see program implemented by 2022

BY MICHAEL MUI

Pharmacy manager Alex Dar Santos twists his chair to face his computer monitor, booting up his pharmacy's electronic medication incident reporting system. The monitor flickers to life and a page filled with rows of fillable spaces and drop-down menus populates the screen.

Whenever he loads the incident reporting software, it usually means somebody on his pharmacy team has made a mistake, either through human error or through a system error caused by inadequate processes or workflow in the pharmacy. It's Dar Santos' job to make sure the errors are logged for analysis, and that future mistakes are not made.

Medication incident reporting software is still novel in British Columbia, but that is expected to change in the coming years. In mid-September, the College of Pharmacists of BC approved a motion to require mandatory anonymous medication incident reporting in all pharmacies across the province. Standards, criteria, bylaw and policy changes will be developed over the next several years, and the program could be implemented within the next four years.

For many, the approval was not a surprise—the appetite to log and track errors made at pharmacies during dispensing is growing across the country.

Nova Scotia, Saskatchewan, New Brunswick and Ontario have already made the jump. Manitoba is expected to follow soon after.

"In British Columbia, in our fiscal year 2017/18 and 2018/19, it was the most common complaint received by the College. They were related to medication dispensing errors by pharmacy professionals," said Ashifa Keshavji, College director of practice reviews and quality assurance, in a presentation to her Board.

Above: Alex Dar Santos, pharmacy manager at Shoppers Drug Mart on Cambie and No. 5 Road in Richmond, says mandatory medication incident reporting is not as daunting as it sounds. Above right: Patient safety advocate Melissa Sheldrick stands with BCPhA deputy CEO Linda Gutenberg while presenting to pharmacists at the 2019 BCPhA annual conference.

"Globally, the cost associated with these kinds of errors has been estimated at US$42 billion annually. The consequences of medication errors though aren't limited to monetary losses. In fact, they're far greater than that."

But for many not used to declaring their own mistakes, the expectation of doing so can be daunting, says Dar Santos. At his pharmacy, the Shoppers Drug Mart on the corner of Cambie Road and No. 5 Road in Richmond, medication incident reporting has been a requirement for more than a decade. This requirement often surprises new pharmacy staff thinking of joining his team.

"The first thing a new pharmacist will think is, 'This is a way I can get myself into trouble,'" says Dar Santos. "But when that team member starts to understand that these error reports are not punitive in nature, and that it's to the benefit of all and fundamentally to the benefit of patient safety, pharmacists understand. They're health professionals and they get it."

B.C. community pharmacies are currently required to have a continuous quality improvement system. Some, such as Shoppers Drug Mart and the Loblaw chain of pharmacies, have interpreted that to mean a requirement for a medication incident reporting system. But the College doesn't currently specify what a continuous quality improvement system should look like.

"What that means is there's a lack of concerted information, and really, no way for us to quantify the number and types of medication incidents that are occurring in an aggregate manner across British Columbia," says Keshavji.

Keshavji says that so far the College has joined a working group of the National Association of Pharmacy Regulatory Authorities with the aim of developing Canada-wide standards, so data can be measured consistently across the country. That group was established in June, and began meeting at the end of September.

In any case, the aim of B.C.'s mandatory medication incident reporting requirement is that the data will be in aggregate form. Individual reports, at least at the College level, will be anonymous, and individual incidents and those involved will not be identified.

This puts B.C. in line with other jurisdictions in Canada, none of which have used medication incident reporting systems for disciplinary measures, says Certina Ho, a project lead with the Institute for Safe Medication Practices Canada.

"Essentially all those reports are anonymous," Ho says. "Even if there is a harm report reaching the

patient, the college will not know which pharmacy is involved, or which practitioner is involved. That is very clear among all of the provincial colleges."

Ho and her team have studied jurisdictions with medication incident reporting systems. In one study, her team examined more than 98,000 medication incidents reported by 301 pharmacies over the course of seven years in Nova Scotia, where mandatory reporting has been a requirement since 2010.

The study sought to measure what happened to patients who were affected by medication errors, how the errors themselves were discovered, what caused the errors, and even to quantify the number of "near misses," incidents where an error could have occurred, but was discovered and fixed by the pharmacy team before reaching the patient.

More than 80 per cent of the incidents were near misses, and fewer than 0.1 per cent of the incidents resulted in any harm at all to the patient. The remaining included incidents that did reach the patient, but resulted in zero harm.

Three categories of mistakes made up 60 per cent of all errors detected by Ho's study: identifying the incorrect dose or frequency of medication, an incorrect quantity of medication, or the incorrect drug altogether.

It was the latter of the three types of errors that overturned the lives of Melissa Sheldrick and her family. Sheldrick, a teacher from Ontario, lost her eight-year-old son when the wrong bottle of medicine was used to fill his prescription. Instead of a 150 mg/ml concentration of tryptophan prescribed for his parasomnia, her son Andrew received 135 mg/ml of baclofen, a muscle relaxant.

Andrew received one dose before he went to bed the night of March 12, 2016. He never woke up.

Sheldrick has since campaigned across the country to have mandatory medication incident reporting in place in every province, including before the B.C. College's board of directors.

"I make mistakes all the time, we all do. It's what we do with those mistakes that matters," says Sheldrick. "Without knowing where and when the errors are being made, we cannot address the problems to prevent them from re-occurring. Data is necessary to identify gaps in the system so that changes can be made to decrease potential harm to patients and to improve public safety."

One question for pharmacists in B.C. will be the extent to which they have to report errors. To date, the definition of a "near miss" and precisely what types of incidents must be reported is still being defined across the country.

"The definition of what a 'near miss' is, is going to be critical," says Dar Santos. "Near misses cannot be nitpicking. Otherwise we're just chasing clerical errors or administrative errors.

"We need to look at, realistically, what potentially could have caused patient harm. There are many errors that happen in day-to-day life that translates into dispensing that does not fundamentally jeopardize patient safety."

The other question that remains is whether incident reporting will truly be anonymous, not just to the regulatory body, but also to the corporation employing the pharmacy staff.

"Anonymous reporting … since the word was introduced in Nova Scotia in 2010, it has been interpreted in different ways by different people," says Ho. "Is it anonymous at the point of data entry? Anonymous at the corporate office? Or anonymous at the college? The interpretation by the front-line, by members, by the corporate office and by the college staff, I think that part really needs to be clarified."

College Registrar Bob Nakagawa says the goal will be to allow pharmacies to use any reporting platform, as long as they meet the still-under-development criteria. The College expects it could develop draft bylaw and policy changes as early as 2021, with the actual program being implemented a year after that.

"This will provide B.C.'s pharmacy professionals with valuable data, enabling them to learn from mistakes, improve their practice and ultimately better protect the public," Nakagawa says.

"While implementation is still in its early stages, the College encourages registrants to ensure their pharmacy's patient records are kept up-to-date and accurate. We also encourage registrants to keep an eye out for updates on the College's website."

THE INSTITUTE FOR SAFE MEDICATION PRACTICES CANADA STUDY FOUND

98,097 medication incidents over seven years in Nova Scotia

909 incidents resulted in some type of patient harm

82 per cent of incidents were considered "near misses" and did not reach the patient

Only **.09 per cent** of cases resulted in moderate to severe

SOURCE: ISMP CANADA

Wellness Pharmacy manager Pegah Arasteh began offering pharmacogenomic testing for patients more than a year ago.

More patients, pharmacists adopting pharmacogenomics

BY MICHAEL MUI

An increasing number of Canadians understand pharmacogenomics could help personalize their medications to work more effectively for them, while reducing the risk of adverse effects. Few understand the importance of tailored medications more than community pharmacists who consult with patients regularly.

Earlier this year, a survey of more than 1,500 Sanofi health benefit plan holders found 74 per cent of their membership would consent to providing a DNA sample for the benefit of more personalized medication. Additionally, 65 per cent of plan sponsors expressed interest in providing coverage for pharmacogenetic testing.

Here in B.C., more than 110 pharmacies across British Columbia have already signed up to offer their patients pharmacogenetic testing through myDNA testing kits—a pharmacist-led genetic testing and interpretation service promoted through RxOme Pharmacogenomics Canada Inc., a joint venture between the BC Pharmacy Association and myDNA.

myDNA uses a cheek swab to collect DNA for the purpose of analyzing a patient's genetic profile. The test is purchased at the pharmacy and the results are returned to the affiliated pharmacy through a secure online portal. Results are released to the patient once they have had an opportunity to review their results with the pharmacist.

Community pharmacists who have adopted pharmacogenomics into their practice are already seeing the difference personalized medications have on their patients' lives.

"A lot of patients find the results fascinating," says Pegah Arasteh, pharmacy manager at Wellness Pharmacy in North Vancouver. "For me, it's a resource available now on the market that allows us to help patients find a more suitable drug therapy."

Arasteh's pharmacy began using myDNA more than a year ago. After an online tutorial explaining how to use myDNA, her pharmacy began offering the tests to patients.

Often, it's the patients themselves who will proactively ask for the tests to ensure their medications are effective, says Arasteh. On other occasions, Arasteh would identify the patients herself. Often these patients may have had problems with medications in the past, such as concerns over side effects, or complaints that the medication has not reduced their symptoms.

More than 200 pharmacies across Canada, including more than 100 in B.C., now use myDNA in their practice.

Patients most often interested in myDNA include those taking medications for pain or mental health, as well as elderly patients on multiple medications.

"I love to give the example of codeine. Almost everyone knows what Tylenol #3 is. Your body has to convert codeine into its more active form, morphine, for it to give you pain relief," says Arasteh. "If you don't have the enzyme in your liver to convert the codeine then you're not going to get pain relief but you still have the potential to get side effects from it. It's an easy and simple way to explain how myDNA works."

It only takes a few minutes per patient

After identifying the patient, the time it takes to conduct a myDNA test really depends on how many questions the patient has, and how thoroughly they want to understand the test, Arasteh says. Patients have the option to take a single-category medication report, or a multiple-category medication report. Many opt for the latter.

"We do a quick cheek swab. Then we take about five minutes to input the patient's information into the computer. I'm one of the pharmacists that actually likes to take more time with patients to go through an example of what the results will look like," Arasteh says.

It's important to ask patients to identify which medications they are currently taking. Since the test focuses on medications metabolized by certain enzymes in the liver, not all medications are on the test. After about three weeks, the results are ready and the patient can be brought back for consultation.

Ideally, you want the patient to come back once the results are available, in order to build a relationship with them. After which, the patients can print off the results themselves, or the results can be sent to a designated health professional such as a family physician. The test lets the patient know how well they metabolize each medication, so pharmacists and other health professionals can understand whether any adjustments to drug regimen are required.

"Once you have the results you go through the listed drugs and provide clarification. If you're a rapid metabolizer of the enzyme, for this specific active drug, your body is getting rid of it too quickly. Meaning that the amount of this drug in your body at any given time is too low to respond properly to the medication. That's basically the process," Arasteh says.

Patients are increasingly interested in pharmacogenetic testing

Bryce Wong, general manager of RxOme Pharmacogenomics Canada Inc., says there are more than 200 pharmacies across Canada now using myDNA in their practice.

"Taking medications is not something people take lightly," he says. "As a patient, of course, I would want to know that a medication is going to do more good than harm before I take it."

"For patients that have already experienced sub-optimal or negative outcomes with medications, pharmacogenomic testing can sometimes offer an explanation for those experiences and help provide direction in terms of where to take their treatment next. Pharmacogenomic testing is a powerful tool that pharmacists should be using to help patients make these important decisions." T

To learn more about how to introduce myDNA to your pharmacy, visit rxome.ca

Three barriers to adoption of pharmacogenomics: GenomeBC

Lack of education among health professionals, complex genetic reports and the struggle to find a way to apply pharmacogenomics in medical practice are all barriers to a faster adoption of pharmacogenomics in health care, says Dr. Catalina Lopez-Correa, chief scientific officer of GenomeBC.

Despite growing support among pharmacists in B.C. to deliver personalized medications for patients willing to be genetically tested, there is still resistance among the current generation of health professionals, Lopez-Correa says.

"Most of them didn't get any training about genomics when they did their studies or their training," she says. "And when the patient comes saying my pharmacist prescribed that, or I got this from my pharmacy, the doctor will say that is not serious, because they don't know it."

Other criticisms include how many genetic test reports are difficult to understand, and do not clearly spell out how a patients' genetics could affect their medications—and how their prescriptions should be adjusted to ensure best outcomes.

"There's clearly a need for the doctors of B.C. and around the world to get a better understanding of genomics and how they can use this test, not just for pharmacogenomics, but genomics in general," Lopez-Correa says.

Dr. Catalina Lopez-Correa.

More than just training

What I learned from the Community Pharmacy Manager Training Program

BY MIGUEL LOPEZ-DEE

Miguel Lopez-Dee recently completed the Community Pharmacy Manager Training Program. He has been a pharmacy manager since 1998 and says the training is a useful refresher.

As August drew to a close, I spent the last few weeks of summer getting the kids ready for another school year, making the most of our fantastic Vancouver weather and completing the Community Pharmacy Manager Training Program developed by the BC Pharmacy Association.

In spite of having been a pharmacy manager since 1998, it was certainly a valuable exercise to tackle the Community Pharmacy Manager Training Program for a number of reasons. Firstly, the training program was useful as a refresher pertaining to the key elements that a pharmacy manager is accountable for. As I navigated my way through the program, I also realized its value as a resource that can be drawn upon in various types of situations in day-to-day practice. Finally, the program motivated me to reflect on my current practice as both manager and pharmacist, and think of possible improvements in this regard.

As there is an ongoing responsibility to stay on

top of clinical, regulatory and other changes within and related to our profession, the training program did an excellent job of organizing much of this information and serving as a reminder of the key elements that a pharmacy manager is accountable for. The program modules covered a broad number of areas thoroughly, from various aspects of pharmacy practice to physical, operational and human resource requirements and/or standards. It essentially functioned as a checklist, to make sure our i's are dotted and our t's are crossed. After completing the program, I felt a sense of reassurance that my practice met the standards expected of our profession.

As I was going through the program modules, it also became apparent that it could serve an ongoing function as a resource that can be referred to both in daily practice and in more unique situations that may arise from time to time. For example, if I wished to clarify information about how to handle a drug recall, or look up specific details regarding cold chain management, or some other type of query, the Community Pharmacy Manager Training Program slide deck is an easy and reliable resource, and in many cases, links to the relevant regulation(s) or to more detailed information, documents, webpages, etc. are also provided right on the slides. In a profession governed by regulations from various pieces of legislation and practice frameworks, it is helpful to have one or two "go-to" resources close at hand.

The program also has value in that it could be a springboard for reflection and evaluation, and consequently as a quality management tool for continuous improvement. Going through the modules gave me an opportunity to reflect on my current practice as both manager and pharmacist, and think of possible improvements in this regard. In addition to providing reassurance that my practice met or exceeded standards as mentioned earlier, the program prompted more reflection and a desire to tackle areas where there could be an opportunity for improvement or enhancement. As the saying goes, "there's always room for improvement," and access to a resource that enables one to consider opportunities for development is a good thing to have. Ultimately, the benefits of any practice enhancements would hopefully translate to improved patient care and healthcare delivery.

After having completed the Community Pharmacy Manager Training Program, I encourage pharmacy managers that have not yet undertaken the program to approach it with a mindset similar to that of going for a personal health checkup—to ensure all is going well in your pharmacy and to look for opportunities for development. If you are a pharmacist considering pharmacy management, I urge you to sign up for the program as it provides a thoughtful and comprehensive overview of what is necessary to take on such an important role in our profession. T

Miguel Lopez-Dee is Pharmacist/Owner at Pharmasave Greystone Village in Burnaby.

Review of Naloxone Delivery Devices for Bystander Intervention

BY MARY YOVANOFF, MS, ASSOCIATE ENGINEER, KATHRYN G. TIPPEY, PHD, HUMAN FACTORS ENGINEER, PETER SNEERINGER, MS, RESEARCH & STRATEGY DIRECTOR (DESIGN SCIENCE)

Prefilled nasal spray can be used successfully by untrained individuals in high-stress situations and requires no preparation aside from opening the packaging.

Introduction

While the number of opioid fatalities continues to rise across Canada, the Canadian government is working in earnest to promote the use of lifesaving treatments by bystanders that can quickly counteract overdoses. Naloxone is an opioid receptor antagonist than can be delivered intravenously, intramuscularly or intranasally. Providing any form of this antidote to non-medical professionals has a great advantage because bystanders are typically the first people able to respond to opioid overdoses, potentially saving the lives of friends and family. However, considering that bystanders do not have several characteristics of trained first responders, such as health knowledge, emotional readiness and physical dexterity, designing devices that are easy for them to use presents unique challenges. These distinct needs must be taken into consideration.

The purpose of this article is to compare different methods of naloxone delivery and to provide evidence supporting Ontario's decision in March 2018 to make NARCAN® nasal spray freely available to the public.

Background

In Canada, the opioid epidemic began in the 1990s and continues to grow. The rise of opioid use in Canada reflects a change in prescribing habits after legal changes by Health Canada in 1996 that permitted more extensive use of opioids for pain management, with the thought that they were a low-risk, non-addictive, safe treatment for pain. In the mid-2000s, illicit drugs, including formulations using fentanyl, began appearing more frequently. These trends are associated with a rapid increase in death rates.

There were approximately 3,000 opioid-related deaths in 2016, approximately 4,000 in 2017 and another 3,286 occurred between January and September 2018, 73 per cent of which involved fentanyl or fentanyl analogues. From 2010 to 2016, fentanyl deaths in six pan-Canadian provinces increased significantly and accounted for the majority of opioid-related deaths in British Columbia in 2016. British Columbia declared a state of emergency that year.

Increase in synthetics shorten the therapeutic window for naloxone administration

Historically, opioid-overdose patients have tended to survive long enough for emergency medical services (EMS) to arrive. For example, results from a study published in 1996 conducted in the U.S. revealed that 84 per cent (609/726) of patients had a pulse when EMS arrived, and that 94 per cent (575/609) of those patients responded to naloxone. However, a study published in 2017 found that 90 per cent of fentanyl overdose victims did not have a pulse upon EMS arrival. An important difference is that an overdose with an opioid such as heroin typically occurs within 20-30 minutes of use, while fentanyl overdoses can occur within minutes or even seconds of use. Some estimates suggest that fentanyl and its derivatives are 50-100 times more potent than morphine, with one analogue, carfentanil, estimated to be 10,000 times more potent than morphine.

Despite the difficulties associated with fentanyl, the national response-time goal in Canada for EMS to arrive remains eight minutes, 59 seconds for critical emergencies, but even this goal is only met 30 per cent of the time. In sum, the high potency and fast action of fentanyl in combination with the inadequate EMS response time signal a clear need for increasing the willingness and ability of bystanders to intervene and administer naloxone; however use of naloxone by bystanders is low.

Development of naloxone and historical use

Naloxone was developed in the early 1960s. In the early 1970s, it was being used to reverse the effects of anesthesia. By the mid-1980s, naloxone was used by medical emergency personnel in ambulances and hospitals as an antidote for reversing opioid/heroin overdose. Conversations regarding the use of naloxone by lay users began in the mid-to-late 1990s. In 2012, the BC Centre for Disease Control (BCCDC) began preparing for the BC Take Home Naloxone (THN) program. Around the same time, the United States Food and Drug Administration (FDA) held a workshop to examine the use of naloxone beyond clinical settings to reduce the number of deaths related to opioid overdose.

The FDA hosted a public meeting in July of 2015 to discuss expanding both the accessibility and availability of naloxone. At this time, naloxone was only available as an injection (intravenous, intramuscular, or subcutaneous). As part of the expansion process, training on the proper use of naloxone was highlighted as a specific need. In the U.S., injectable formulations are often modified using nasal atomizers to allow off-label intranasal administration by Basic Life Support (BLS) EMS personnel as a non-invasive means to administer naloxone. The FDA approved NARCAN®, a nasal spray formulation of naloxone in November of 2015.

Health Canada identified a need to increase access to alternative formulations of naloxone that are easier to administer. On July 6, 2016, the Minister of Health signed an interim order to allow NARCAN® prefilled nasal spray to be imported for one year while Health Canada completed an expedited review of the product to grant it normal approval on the Canadian market. Health Canada granted approval in June of 2017.

Human factors

Before a device receives FDA approval, rigorous testing is required, including Human Factors Validation Testing, with the goal of ensuring "that the device user interface has been designed such that use errors that occur during use of the device that could cause harm or degrade medical treatment are either eliminated or reduced to the extent possible." During testing, participants from a representative user population are provided devices to use in a real-world simulation. For example, usability testing with naloxone would include people who might witness an opioid overdose but have no medical training or background. The results must demonstrate that the device is safe to use and that it effectively delivers the medication as intended.

The combination of psychology, engineering and design is called Human Factors (HF) and is specifically related to the cognitive, physical, emotional, perceptual and behavioral aspects of a human. When designing a product, HF must be considered, especially in relation to what impacts the environmental situation has on the use of the device. User-centered design is closely associated with HF and focuses on the very specific type of person who will be using the product. Key considerations for bystanders who might observe an overdose and, ideally, deliver a dose of naloxone, include emotional distress and the likelihood that they also may be under the influence of a substance. The HF validation testing for the naloxone pre-filled nasal spray specifically evaluated the ability of individuals to use the product in this circumstance.

The results of the validation testing for FDA approval showed that 91 per cent (48/53) of participants were able to successfully administer a dose of the medication to a manikin simulation of an unconscious person. Of the five participants who were not successful, three of them appeared to have been confused by the

manikin, however, they stated that they would be able to administer the drug successfully in the "real world." Thus, the rate of successful administration was very high, even without training or instruction. Since an individual experiencing an overdose will likely die if untreated, any successful use of naloxone prefilled nasal spray means the possibility of a life saved. For both the FDA and Health Canada, the role of naloxone prefilled nasal spray in preventing death with little risk of harm was an important factor in their decision to approve it.

Participation of bystanders

Results from a survey of 100 opioid users regarding their experiences with overdose and naloxone use showed that while 68 per cent of participants had witnessed an overdose in the past, only 21 per cent saw a bystander administer naloxone. Although 65 per cent of participants accurately identified naloxone for opioid overdose reversal, only 33 per cent knew where to get the rescue kits. Additional research suggests that less than half of users reported having naloxone and, among those who had it, few had ever used it. These results highlight missed opportunities for bystanders to reverse an opioid overdose and begs the question, if users are aware of naloxone, and may even have it, why are they not using it?

Evidence indicates that a barrier to expanding access to the naloxone is the restriction of administration methods to injection-based administration. Research from McDonald, et al. validated this claim and showed that a layperson's unfamiliarity with needle-based devices and fears of needle-stick-related injuries deters their use of needle-based devices such as injectable naloxone. Also, the World Health Organization (WHO) suggested that training for naloxone kits should not be mandatory, since a need for training may be a barrier to provision.

Despite evidence showing that access to naloxone kits and bystander training reduces the number of opioid-related deaths, several barriers exist for proper administration, including complicated assembly. It follows that there is a need for a product that is easier to use and less intimidating. NARCAN® (naloxone prefilled nasal spray), which was approved by the FDA in 2015 and by Health Canada in 2016, may provide an alternative as it is needle free and can be used effectively without training, as discussed above.

Comparing intramuscular and intranasal options

In 2017, the Canadian Agency for Drugs and Technologies in Health (CADTH) conducted a review and found that the intramuscular (IM) and intranasal (IN) formulations of naloxone were both effective in reversing an opioid overdose. The review also cited the potential benefits of IN naloxone in reducing the risk of needle sticks in a potentially at-risk population for blood-borne diseases. The following summarizes the difference between IM and IN administration as well as the difference between two IN products—naloxone PFS with nasal-atomizer adapter kit and naloxone prefilled nasal spray.

Eggleston et al. compared the rate of successful administration of IM naloxone, multi-step atomized nasal naloxone and single-step naloxone prefilled nasal spray by community members in a simulated-use scenario. The authors found that, after completing a two-minute training video, community members were able to correctly administer the single-step naloxone nasal spray significantly more often than IM naloxone and significantly more rapidly than both the IM and multi-step atomized nasal naloxone products. Another recent study comparing multi-step atomized nasal naloxone and single-step naloxone prefilled nasal spray found that the success rate of administration of the single-step product was higher compared to the multi-step product.

The key factor differentiating IM and single-step IN options is the number and difficulty of the tasks required to administer the respective products. Table 1 summarizes the steps required to use NARCAN® prefilled nasal spray and a naloxone injection kit. Because the prefilled nasal spray device requires fewer steps (half of those required for the PFS with nasal adapter), it is ideal for emergency situations, since each additional step takes time and leaves room for error. An in-depth task analysis of both options revealed that the simple design of the prefilled nasal spray is well suited to meet bystander needs.

Discussion/Conclusion

As the use of synthetic opioids such as illicit fentanyl continues to rise, so do opioid-related deaths. Since overdose with fentanyl can occur within minutes, the window of time to react to an overdose has become very narrow and administration of naloxone by EMS alone is no longer sufficient. It is crucial that bystanders have an active role in naloxone administration, however they have unique needs. Prefilled nasal spray can be used successfully by untrained individuals in high-stress situations and requires no preparation aside from opening the packaging. It is dramatically more usable and has a more simple design compared to the naloxone injectable kit. Increased usability may result in a much better chance of successful reversal of an opioid overdose. T

For full article details and references, visit bcpharmacy.ca/news/nasal-naloxone-delivery

TABLE 1 Comparison of two naloxone products

NARCAN® Nasal Spray Kit	Naloxone Injectable Kit
	
1 Remove nasal spray from packaging 2 Lay person on his or her back and tilt person's head back 3 Insert into nostril 4 Press plunger 5 Remove from nostril	1 Remove syringe from packaging* 2 Swirl ampule to remove liquid from cap 3 Open ampule, using ampule breaker 4 Remove needle cap from syringe 5 Draw up medication from ampule into syringe 6 Remove air from syringe (if applicable) 7 Choose injection site 8 Insert syringe into muscle at 90° angle 9 Inject entire dose 10 Remove syringe from muscle 11 Dispose of syringe properly

*Depending on the kit, additional steps may be needed to remove the ampules from the packaging and to attach the ampule breaker to the ampule.

ABOUT THE AUTHORS *Design Science is a human factors medical device consulting company with over 25 years of experience. The lead author, Mary Yovanoff, has an M.S. in Industrial Engineering with a focus in Human Factors from Penn State, a B.S. in Psychology and a B.S. in Mechanical Engineering. The authors have over 20 years of combined experience conducting studies in Human Factors.*

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Implementing technology to improve efficiency

BY DEREK DESROSIERS, BSC(PHARM), RPH

Technology, like tablets, can help pharmacists improve patient care, gain workflow efficiencies, higher margins and even new streams of revenue.

Pharmacists have always been relatively early adopters of technology, especially within the health-care ecosystem. Pharmacy became "computerized" back in the early 1980's when the profession moved from keeping patient profiles on 8.5 x 11 cards (handwritten, no less) and typing prescription labels on carbon copy label/receipt stock on rolls, with a typewriter (electric hopefully). I know there are some young pharmacists who may find all this hard to believe, but it is true, and I can vouch for it personally. As a 1982 BSc(Pharm) graduate, I did that for a couple of years before coming into the age of computers and other technology.

Since those early days, pharmacists have looked to take advantage of all manner of available technology in an effort to improve patient care, gain workflow and other efficiencies in the pharmacy, generate higher margins, and create new streams of revenue. Some of the technology adoption has been voluntarily implemented by the profession and some of it has been implemented out of necessity to keep pace with requirements of care facilities and the needs of patients.

However, here is the rub. Technology will only do good things for patients and the business if its implementation and ongoing use are well planned and constantly monitored. Many a pharmacist has tried to implement technological advances to gain efficiencies only to have the "experiment" fail due to lack of planning and poor execution. This inevitably results in overall additional costs to the business—the exact opposite of what the pharmacists were hoping to achieve.

The advent of robotic dispensing technology is probably one of the most notable technologies implemented in pharmacy, but it is more specific to those pharmacies servicing care facilities and those with high volume dispensing. It is expensive and the costs are not justifiable for all pharmacies. High prescription volumes are required to make this type of technology cost effective.

You may not think of some of the other technological advances in pharmacy but there are many. For example, the use of a wide variety of point of care (POC) testing products represents technological advancement being used by pharmacists. These include blood glucose meters, HbA1c test-

ing devices, blood pressure monitors, 24-hour ambulatory blood pressure monitoring, anticoagulation therapy management software and hardware, pharmacogenomic and nutrigenomic testing and even various weight management tools. This is not an exhaustive list but it does give you a sense of the wide scope of technology in this area. There are many other POC technologies that are available and being used by pharmacists in selective locations.

From a business perspective, pharmacies have taken full advantage of advances in computing technology to develop a strong online and social media presence for their businesses. Additionally, many pharmacies have used the Internet advantageously to gain efficiencies for themselves and their patients with services like online prescription refill requests and the like. Online patient counselling using various video conferencing technologies is also catching on and being used by many pharmacists to service patients who have difficulty attending the pharmacy in person.

As noted earlier, technology can vastly improve efficiencies in the pharmacy and improve patient care. These concepts are not mutually exclusive. However, this can only be achieved through proper planning, execution and monitoring for quality assurance. If you are unsure whether you want or need to implement technology for a specific function, service or efficiency; get some expert help. This includes writing this into your business plan if you have one. Any costs associated with the expertise of a third-party professional will be well worth it and will likely save you money in the long run, while also achieving optimal results for you and your patients. T

Derek Desrosiers, BSc(Pharm), RPEBC, RPh is President and Principal Consultant at Desson Consulting Ltd. and a Succession & Acquisitions Consultant at RxOwnership.ca.

It's a Wrap!

Celebrating 70 years of BSc(Pharm) graduates, the University of B.C.'s Faculty of Pharmaceutical Sciences hosted a banquet dinner and a trip down memory lane for its alumni through the decades on Sept. 14, 2019.

Grant Rowley, grad class 1982, poses for a photo with dad Ed Rowley, who graduated in the very first graduating class of the BSc(Pharm) program in 1949!

Grant Rowley, James McCormack, Bradley Craig, Beverly Louis, Mary Shyng, Lauretta Gauthier and Mathew Chong, all of the class of 1982, pose for a photo.

Wayne Riggs, Sandra Hill and David Hill from the Bachelor of Science in pharmacy grad class of 1971.

The BSc(Pharm) Wrap Up event saw attendees from the most recent graduates to those from the first grad class in 1949.

Alumni Ahmad Ghahary, Frances Hanson-Monnie, Andrea Paterson and Kyle Collins pose for a photo.

Michael Coughtrie, dean of the Faculty of Pharmaceutical Sciences, unveils a plaque to recognize the seven-decade history of the UBC BSc(Pharm) program.

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