PHARMACY IN THE 21ST CENTURY:
ENHANCING THE IMPACT OF PHARMACY ON PEOPLE'S LIVES IN THE CONTEXT OF HEALTH CARE TRENDS, EVIDENCE AND POLICIES

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The Ontario Pharmacy Evidence Network is a team of multidisciplinary researchers working together to evaluate the quality, outcomes and value of medication management services that pharmacists and other healthcare professionals provide.

We are fostering knowledge translation and exchange, building capacity in medication management research, and addressing the needs of Ontario's vulnerable populations.

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The purpose of a White Paper is to provide an authoritative, in-depth report on a specific topic by presenting an existing problem and providing possible policy preferences, options or solutions. A White Paper seeks to provide strategic, informed guidance on an issue of interest that is relevant to a variety of stakeholders and can be used to inform implementation and decision-making processes.

Definition adapted from Doerr, Audrey D. The Role of White Papers. In: Doern, G.B. and Peter Aucoin. The Structures of Policy-making in Canada. Toronto, MacMillan, 1971. pp. 179-203.

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Pharmacy in the 21st century: Enhancing the impact of the profession of pharmacy on people's lives in the context of health care trends, evidence and policies

EXECUTIVE SUMMARY

The use of medications continues to be essential as a means to maintain and improve health. As medication experts and managers on behalf of the health care system, the profession of pharmacy increasingly impacts patients, health care providers, health care system planning organizations, regulators and other stakeholders. This White Paper seeks to provide the profession of pharmacy with critical insight and strategic direction to help envision the future of pharmacy.

Objective of White Paper: The objective of this White Paper is to describe opportunities for the profession of pharmacy in the future, with particular attention to opportunities that encourage the use of existing or expanded scopes of pharmacy practice within the health care system in ways that make a difference in people's lives.

Approach used to develop the White Paper: A six-step process was used to meet the objective of the report. First, current health care trends, evidence and policies were considered to identify an overarching set of principles the profession of pharmacy should strive to achieve. Second, 10 topics that represent different aspects of pharmacy practice were examined to generate topic-specific future opportunity statements for the profession of pharmacy. Third, these statements were combined across the topics to generate an overall set of 50 future opportunity statements for the profession of pharmacy. Fourth, the future opportunity statements were mapped onto the overarching set of principles the profession of pharmacy should strive to achieve. Fifth, deliberation on the set of 50 future opportunity statements generated two summary themes that emerged as the key future directives for pharmacy in the coming 5-10 years. Finally, an assessment of MESPO in relation to selected expanded scopes of pharmacy practice was conducted.

Current Healthcare Trends, Evidence and Policies: The way our health care system is organized is in the midst of significant change. Ontario government policies and strategies including the recent 'Patients First Action Plan' and the associated Proposal to Strengthen Patient-Centered Health Care in Ontario are driving the patient-centered transformation of health care. These policies encourage improved integration of the health care system and enhanced patient and community engagement in health policy and practice. These policy directives are in response to overwhelmingly obvious gaps in care (e.g. for vulnerable populations, lack of access to primary care providers, lack of home and community care services, inconsistent population health planning) coupled with increasing fiscal challenges. Scopes are expanding for several front-line health care providers, including prescribing by nurses. The policy directives promote strengthening service integration for primary care, home and community care, while simultaneously providing more responsibility to Local Health Integration Networks (LHINs) for health care resource allocation and delivery. However, it is revealing that Pharmacy as a key health care provider is almost invisible or nonexistent within more recent policy documents.

The College of Family Physicians of Canada (CFPC) vision of the Patient's Medical Home (PMH) is another influential driver of change within primary care. A PMH family practice will offer medical care that is seamless and centred on individual patients' needs, within their community, throughout every stage of life, and integrated with other health services. Depending on patients' needs, teams may involve nurses, other specialists, and other health care providers, who work together in one centre or virtually. The PMH model places pharmacy outside of the PMH, but still part of a patient's circle of care. The main demonstration of the PMH vision in Ontario is through Family Health Teams. There are currently over 3 million Ontarians enrolled in Family Health Teams in over 200 communities across Ontario.

There is increased emphasis on understanding and monitoring health care quality in almost all sectors. The 2010 Excellent Care for All Act (ECFAA) laid the foundation for Health Quality Ontario (HQO) as the province's advisor on health care quality. HQO monitors and reports on health system performance, provides guidance on quality issues, assesses evidence to determine what constitutes optimal care, and engages with patients to give them a voice in shaping a quality health system and promote continuous quality improvement. The patient safety agenda aligns with the mandate of HQO.

Technology is rapidly changing the way health care services are provided. Many pharmacies allow patients to access their own dispensing records. The majority of physicians use electronic records and almost 20% of Canadian physicians can exchange patient summaries electronically with other doctors. As pharmacies develop their own technology, the integration of health care provider records and the emergence of patient-controlled or viewable health records are important areas of health care transformation. Pharmacies are not generally connected to physician-based electronic medical records nor do pharmacies have their own clinically focused records system. Dispensed drug events are not easily accessible beyond the scope of individual pharmacies; however, the Ontario-based Digital Health Drug Repository (DHDR) and planned national E-prescribing system will improve access to more complete medication records. In addition, the e-prescribing system is envisioned as a platform for many functions beyond medication management such as e-referrals, patient bookings, inter-clinician messaging.

Current Context of Pharmacy: Pharmacy has a growing evidence base that supports the health and cost benefits of pharmacist activities in many settings including community, primary care team, long term care and hospital settings. Ontario pharmacists provide care through broad set of expanded patient-focused clinical activities within a variety of health care settings including: conducting comprehensive medication reviews (including diabetes focused reviews), and providing prescribing recommendations including Pharmaceutical Opinions, advising and administering vaccines against 14 diseases, counseling and prescribing for smoking cessation, independently renewing and adapting prescriptions and providing targeted clinical services (e.g. anticoagulation, antimicrobial stewardship). Data from the OPEN research group and others demonstrates that uptake of remunerated medication reviews done in the community and injection community pharmacy services is high. OPEN's work has also uncovered challenges in remunerated community pharmacy service implementation including delivery of services away from those with more complex health situations towards younger less comorbid individuals.

Pharmacy is a self-regulated health care profession. In Ontario, the Ontario College of Pharmacists is responsible for serving and protecting the public and to hold Ontario's pharmacists and pharmacy

technicians accountable to the established legislation, standards of practice, code of ethics and policies and guidelines relevant to pharmacy practice. The Professional Standards Authority (PSA) in the UK has put forward six core principles for effective regulation as part of the Right-Touch regulation approach. These principles are proportionate, consistent, targeted, transparent, accountable, and agile. The most important attributes of Right-Touch regulation are identified as clearly identifying and framing problems, enumerating real risks, focusing on outcomes, and using regulation as a tool for controlling professional practice only when it is actually necessary. The recent Model for Evaluation of Scopes of Practice in Ontario (MESPO) set out by the Ontario Ministry of Health and Long Term Care provides structure to the review of scope of practice requests and is very well aligned with the Right-touch regulation approach.

Principles the profession of pharmacy should strive to achieve: Consideration of current health care trends, evidence and policies generated an overarching set of principles the profession of pharmacy should strive to achieve. These principles (safe, effective, comprehensive/complete, person-focused, accessible, inclusive/equitable, longitudinal, collaborative and integrated) were combined into a set of 50 challenge statements for the profession of pharmacy to consider in stimulating transformation.

Challenge statement for the profession of pharmacy:
Recent healthcare trends and policies challenge pharmacists to provide safe, effective, comprehensive/complete and person-focused care that is accessible and inclusive/equitable for all. By adopting a longitudinal and collaborative approach, pharmacists can also ensure that the provision of care is integrated across the healthcare system and for all stakeholders.

Future Directions for Pharmacy: Two summary themes of **organizational change** and **better external relationships** have emerged as the key future directives for pharmacy in the coming 5-10 years. These future directions will help to transform how pharmacy tackles the medication management needs of Ontarians for the purpose of improving health outcomes. These directions apply to pharmacists working in all practice settings.

Organizational Change: Pharmacy needs to undertake **substantial organizational change within the pharmacy setting**. Organizational change involves implementing specific policies and practices to support proactive, comprehensive, quality care for individual patients in every pharmacy setting and within organizations that support pharmacies. This includes:

- Explicit identification and understanding of each patient's ongoing goals, risks and needs
- Providing and delivering preventative care for individual patients or groups
- The delivery of professional pharmacy services, including routine monitoring and follow-up, as an integral part for a holistic and patient-centered care plan
- Pharmacists and pharmacy technicians practicing to the full extent of their scopes and working as a team to provide effective, high-quality clinical care
- Optimizing physical pharmacy layout to support patient assessment and communication (with the consideration that dispensing medication may or may not be offered on-site)

- Documentation of every encounter in the clinical record
- The use of electronic pharmacy records to support comprehensive and longitudinal clinical care
- Incorporating quality improvement initiatives (including patient safety) and population-based approaches to care delivery as a key component of regular routine practice
- A dedicated focus on vulnerable patient groups including Indigenous peoples, people with mental health and addictions, or members of cultural groups (especially newcomers); especially those with multi-morbidity or on high risk medications

The achievement of organizational change transformation is not *dependent* on first attaining new scopes of practice. Rather, this transformation can be accomplished by leveraging existing opportunities to enhance how the profession of pharmacy applies the current scope of practice. There is a great need to ensure each patient can be served with optimal scope available at this time *before* seeking additional scope. Subsequently, further enhanced scopes, such as initiation of any prescription, making recommendations for common ailments or widening the set of approved injections given by pharmacists (or pharmacy technicians), will offer additional benefit for patient care.

Better external relationships: The profession of pharmacy needs to **transform how it connects to patients where they live and with other health care organizations**. Building better external relationships involves better connections between the profession of pharmacy and patients where they live and with other health care organizations. In this transformation, a pharmacist will have a relationship with their patient that strengthens the pharmacist's understanding of the spectrum of the patient's care. This includes:

- Pharmacists developing and implementing care plans together with other members of the health care team
- Pharmacists easily sharing clinical records with other health care providers or organizations, in a Patient's Medical Home and with patients themselves
- Patients providing the pharmacists with information on their health through regular electronic (including health records or Apps at home) or manual information exchange
- Pharmacists accessing clinical information from other locations (e.g. community, hospital, home) including laboratory and diagnostic test results
- Pharmacists triaging or referring patients to other health and community organizations or activities in addition to having a system in place to receive referrals from other health care team members located within or external to an organization
- Pharmacy team members initiating and participating in local education and health policy initiatives with other health care team members
- Pharmacist integration into interprofessional health care pathways, particularly for the management of chronic disease and hospital admission/post hospital discharge care
- Pharmacists taking an active role in local health policy decision making
- Pharmacists from different organizations or sectors establishing collaborative approaches to their work that are in the best interest of the patient (i.e. intra-professional collaboration)

A pharmacy profession that demonstrates achievement of internal organizational change and better external relationships will be well suited to meet the medication management needs of Ontarians for the purpose of improving health outcomes.

The **Model for Evaluation of Scopes of Practice in Ontario** is a useful process to establish the justification for expanding the scope of pharmacy (or any other health care provider) practice. At present, there are no potential scopes of practice that are able to establish an evidence-based justification in all MESPO areas (i.e. a patient need, system need, patient benefit and health system benefit). Instead, most new scopes (e.g. common ailments, initial prescribing authority, access to/ordering/interpreting laboratory tests) considered can be justified based on *some* MESPO criteria, demonstrating that there is either a need or a benefit to considering a specific expanded scope. The MESPO criteria are also useful to highlight evidence gaps that can be addressed by the profession in order to generate evidence in focused areas. New evidence will improve understanding of how a particular expanded scope can better meet patient and health care system needs or provide associated benefits. There is also a risk that MESPO will be applied in a manner that creates more hurdles or more regulation. Therefore, it will be helpful to consider how to balance efforts between maximizing existing pharmacist scope versus work to expand scope of practice, and only apply the MESPO process when the outcome is expected to make a major difference in the lives of Ontarians.

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BACKGROUND

The Ontario College of Pharmacists (OCP) Council/Board regularly considers the evolving landscape of health care, social and demographic trends and practices. This scanning activity informs their role to serve and protect the public and hold Ontario's pharmacists and pharmacy technicians accountable to the established legislation, standards of practice, code of ethics and policies and guidelines relevant to pharmacy practice.[1] The Ontario Ministry of Health and Long Term Care recently developed the Model for Evaluation of Scopes of Practice in Ontario (MESPO), an evidence based analytical framework to be used in reviewing all scope of practice requests. The creation of MESPO has stimulated the OCP Executive Committee and OCP senior leadership to consider the future of pharmacy practice, and more specifically how that future vision can guide the work of OCP in the next 5-10 years. OCP approached the Ontario Pharmacy Evidence Network to develop this White Paper based on OPEN's recent experience with research and innovative practice in Ontario to stimulate discussion across the profession on the future of pharmacy.

This White Paper briefly considers the challenges faced by the pharmacy profession, including the changing needs and demands by the public, health care services delivery and policy organizations that effectively influence the ability of the profession of pharmacy to move forward. The practice examples considered in the White Paper include prescribing for common ailments, deprescribing, opioid stewardship/management, eHealth and workflows that maximize the meaningful use and impact of technology, injection services and others. The White Paper provides views on where the profession is going, so that OCP and other stakeholders can assess where there may be risks to patient protection or opportunities for further contribution of pharmacy to patient and public health. Different stakeholder groups may consider distinct opportunities for moving forward.

INTRODUCTION

There has never been a greater need for individuals to access high quality expertise about the effectiveness, safety and use of medications. While drugs improve health and save lives, they are not without risk when sub-optimally managed.[1-4] In Canada, older adults now outnumber children under 15 years of age.[5] At present, 2 of 3 people over 65 take >5 different medications and 2 of 5 people over 85 take >10 medications in Canada.[6] Drug therapy problems are common, largely preventable, clinically harmful and present an increasing burden on/to our health care system. In Ontario, adverse drug reaction related emergency room visits by seniors cost the system over $13.6M annually, based on data from 2003-2008[7]. The Government of Ontario spent $11.5 billion on drugs in 2015/16.[8]

In light of these significant investments and costs, ensuring that pharmacists are well equipped to make a meaningful impact on people's health is critical to achieving the best value for the effort, experience and expense of using medications.

I. Health care System

Recent government health care policy stimulating health system changes

The organization of the Ontario health care system is in the midst of significant change. The recently released 'Patients First Action Plan'[9], the MOHLTC's 2016 Mandate Letter[10] and the associated 2016 Proposal to Strengthen Patient-Centred Health Care in Ontario[11] are driving the patient-centered transformation of health care in Ontario. This transformation focuses on encouraging improved integration of the health care system and enhanced patient and community engagement in health policy and practice through the four components of Patients First – namely, Access, Inform, Protect, and Connect. These policy directives are in response to overwhelmingly obvious gaps in care coupled with increasing fiscal challenges. As outlined in the 2017 Patients First: Proposal to Strengthen Patient-Centred Health Care in Ontario,[11] major gaps in patient care include:

- Some Ontarians – particularly Indigenous peoples, Franco-Ontarians, members of cultural groups (especially newcomers), and people with mental health and addiction challenges – are not always well-served by the health care system.
- Although most Ontarians now have a primary care provider, many report having difficulty seeing their provider when they need to, especially in evenings, nights or weekends – so they go to emergency departments and walk-in clinics instead.
- Some families find home and community care services inconsistent and hard to navigate, and many family caregivers are experiencing high levels of stress.
- Public health services are disconnected from the rest of the health care system, and population health is not a consistent part of health system planning.

The Patient's First policy directives have also supported the expanded scope of practice for several front-line health care providers, including prescribing by nurses. In addition, the directives provide more responsibility to Local Health Integration Networks (LHIN) for health care resource allocation and delivery, including the creation of smaller geographic units within each LHIN to foster population-based care planning and delivery. The policy directives also emphasize the inclusion of the patient voice in health care planning and promote better service integration between primary care and home and community care. In fact, a key component of the Patients First: Action Plan for Health Care is to strengthen home and community care[12, 13] in a manner that helps people live independently at home. This direction is especially important for older Canadians with multi-morbidity and related polypharmacy. The plans are to introduce greater consistency, transparency and quality in care, create a better understanding of the home and community services available, expand capacity for home and community care service delivery, provide more support for caregivers, and update funding and health care delivery models (including bundled care). For example, with bundled care, a group of providers will be given a single payment to cover all the care needs of an individual patient.

Mental health is a dedicated policy focus in Ontario. The Ontario's Comprehensive Mental Health and Addictions Strategy's mission is to reduce the burden of mental illness and addictions by ensuring that all Ontarians have timely access to an integrated system of excellent, coordinated and efficient

promotion, prevention, early intervention, community support and treatment programs[14]. The 2016 Mental Health and Primary Care Policy Framework published by CAMH highlighted that mental health is intricately linked to physical health, and recommends that mental health care (including addictions) should be a core component of primary care.

It is revealing that the role of pharmacy as a key health care profession is almost invisible or nonexistent in recent policy documents. These gaps identify the potential for pharmacy stakeholders (such as the Ontario Pharmacists Association) to assume an advocacy role with respect to the development of pharmacy practice. Delineating opportunities to allow the profession of pharmacy to contribute to quality medication management could maximize the potential of Ontario's 14,000 pharmacists (the third largest health care profession after nurses and physicians)[15], who remain an incredibly underutilized health resource.[16]

Patient's Medical Home

The Patient's Medical Home offers an approach to redesigning the health care system that is aligned with recent health system policies. The College of Family Physicians of Canada (CFPC) presented the Patient's Medical Home (PMH) as a vision for the future of family practice in Canada[17] in 2011. In this vision, every family practice across Canada offers the medical care that Canadians want in a manner that is seamless and centred on individual patients' needs, within their community, throughout every stage of life, and integrated with other health services. The goal of the PMH initiative is for every family practice in every community across Canada to offer comprehensive, coordinated, and continuing care to their populations through a family physician working with health care teams. The PMH approach in Canada mirrors similar initiatives in the United States, which describes the medical home as a model or philosophy of primary care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety.[18] The PMH is where patients can present and discuss their personal and family health concerns and receive a full spectrum of expert care. Depending on patients' needs, teams may involve nurses, other specialists, and other health care providers who work together in one centre or virtually. The PMH vision also reinforces the physician-patient relationship and the importance of the Four Principles of Family Medicine. The PMH model places pharmacy outside of but still closely connected to the PMH as part of patient's circle of care (Figure 1). Determining how patients can benefit from the expertise and services provided by pharmacists as care providers within an integrated care system such as the PMH presents an important and exciting opportunity for the pharmacy profession.

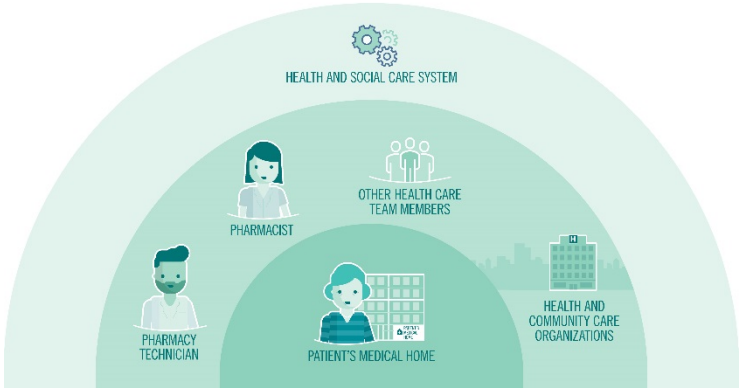

Figure 1: The relationship of the profession of pharmacy to the Patient's Medical Home within the health care system

The most aligned example of the PMH vision in Ontario is through Family Health Teams. Family Health Teams (FHTs) are primary health care organizations that include a team of family physicians, nurse practitioners, registered nurses, social workers, dietitians, and other professionals who work together to provide primary health care for their community.[19] They ensure that people can easily access and receive the care they need, as each FHT is set-up based on local health and community needs.

Family Health Teams were created to expand access to comprehensive family health care services across Ontario. Since 2005, 184 Family Health Teams have been operationalized through five waves of implementation, with the last 50 implemented in 2011/12. There are currently over 3 million Ontarians enrolled in FHTs in over 200 communities across Ontario. There are also approximately 170 pharmacists working as salary-paid health care providers within FHT settings. Pharmacists within FHTs provide direct patient care, manage specific medication issues (e.g. oral anticoagulation, insulin/diabetes management, smoking cessation, asthma care), provide drug information and education, and often work to improve health system performance.[20, 21]

Health Care Quality

Another important trend in health care in Ontario is the increased emphasis on understanding and monitoring health care quality. The Excellent Care for All Act (ECFAA) was passed in the legislature on June 8, 2010. ECFAA was one of the first explicit signals from the Government of Ontario in support of policy and clinical decisions driven by evidence *and* lessons learned through everyday health care delivery. The ECFAA laid the foundation for Health Quality Ontario's mandate. Health Quality Ontario[22] (HQO) is the province's advisor on health care quality and has been entrusted to:

- Monitor and report on how the health system is performing
- Provide guidance on important quality issues
- Assess evidence to determine what constitutes optimal care
- Engage with patients and give them a voice in shaping a quality health system

- Promote continuous quality improvement aimed at substantial and sustainable positive change in health care

Technology

Technology is rapidly changing the way health care services are provided. Information technology in health care, also referred to as eHealth technology, may offer a promising solution to the provision of better care and support people with multiple conditions and complex care needs and their caregivers. As of the 2014 National Physician Health Survey, 75% of physicians report using electronic records to enter or retrieve clinical patient notes on a laptop or desktop.[23] These findings were corroborated by the May 2017 Commonwealth Fund study noting that 73% of Canadian primary care physicians use electronic records[24] (although Canada's use was still the second lowest among the study's 18 countries). A May 2017 report from Alberta's Auditor General noted that 19% of Canadian doctors can exchange patient summaries electronically with other doctors.[25] The emergence of integrated health records, including integration of health care provider and patient-controlled or viewable health records is an important area of health care transformation. However, pharmacies are not connected to physician-based electronic medical records nor do pharmacies have their own clinically focused records system.

The Digital Health Drug Repository (DHDR)[26] is under development as the first foundational component of the province's Comprehensive Drug Profile Strategy (CDPS). The DHDR is an electronic repository of dispensed drug and pharmacy service information that will expand on what has been available to date in the Drug Profile Viewer (DPV). Over time the plan is to expand the DHDR to provide incrementally expanded access to records of dispensed drug events and pharmacy services to authorized health care providers. These currently include records relating to publicly funded drugs, monitored drugs and pharmacy services held by the Ministry of Health and Long-Term Care. Over time, the DHDR plans to expand further to include pharmacy records for drugs paid for directly by patients or by private insurance. Future enhancements to DHDR could include the addition of prescribed drug events in electronic medical record systems (EMRs) and hospital information systems (HIS). Of note, E-prescribing is also a priority for Canada Health Infoway (CHI). In May 2017, CHI selected TELUS Health to come up with the technology for a national E-prescribing system.[25] The system is envisioned as a platform for a variety of functions beyond medication management such as e-referrals, patient bookings, and inter-clinician messaging.[25] In Quebec, where an integrated Health Information Exchange (HIE) system went live two years ago, most pharmacists (80%) and the majority of family physicians (66%) in the province have adopted the system. Medication data was the most frequently used domain, indicating its broad value across clinical settings.[27]

II. Current Context of the Pharmacy Profession

Evidence Supporting the Value of Pharmacy

Pharmacy has a growing evidence base that supports the benefits of pharmacist activities in many settings. Clinically-oriented pharmacist activities across all practice settings including hospital,

community or ambulatory practices have also been generally found to be cost-effective or were found to have a good benefit-cost ratio.[28] Pharmacists working in inpatient and ambulatory care hospital settings carry out a variety of activities in areas including antimicrobial use, heart failure, antiarrhythmic monitoring and anticoagulation management that improve medication management and patient health as well as reduce the use of hospitals and emergency departments. [29-32] Many of these activities are associated with cost savings to the health care system.[33]

Overall, evidence studying medication reviews or reconciliation in the hospital and community settings has been mixed.[34-39] Of note, evidence from a recent study of pharmacists in hospital settings who provided a multi-component medication review intervention including structured follow up found that pharmacist care reduced hospital readmission.[40] Early in-hospital medication review by pharmacists has also been shown to reduce length of hospital stay.[41]

A multitude of studies has demonstrated the value of community pharmacist-based targeted interventions including those for cardiovascular care, renal disease, dyslipidemia, smoking cessation and diabetes care in improving outcomes in chronic disease management.[42-45] Evidence demonstrates that pharmacists practicing in long term care improve medication management including, for example, anticoagulation management.[46] Activities including medication review carried out by pharmacists embedded within a primary care team setting have been shown to improve medication prescribing and use along with providing other benefits to patients, pharmacists and physicians.[47-49]

Existing and expanding scopes of practice in the profession of pharmacy

There have been notable recent changes in health policy that promote pharmacists' contribution to better medication management across Canada.[50] In communities across Ontario, pharmacists now provide expanded, quality, patient-focused clinical services including: advising and administering vaccines against 14 diseases, counseling and prescribing for smoking cessation, independently renewing and adapting prescriptions, conducting comprehensive medication reviews (including diabetes focused reviews), and providing Pharmaceutical Opinions.

Remunerated Pharmacy Professional Services

Ontario residents visit their pharmacies frequently to receive and get education about their medications (the average pharmacy fills 54,350 prescriptions each year).[51] They also access a significant number of pharmacist-delivered medication management services. Administrative claims data analyses conducted by OPEN demonstrate that about 1 in 9 Ontarians received a MedsCheck Annual (MCA) medication review.[52] Additionally, during the first 3.5 years of the Pharmaceutical Opinion (PO) Program, more than 700,000 POs were delivered with the majority (68%) resulting in a changed prescription.[53] In the 2013-14 flu season, there was a net increase of 448,278 influenza vaccinated patients (many of whom had not been vaccinated previously) due to pharmacist-administered vaccinations.[54] OPEN data also suggests that once a patient receives a professional pharmacy service, they increasingly view pharmacists as

trusted and accessible health care providers for their medication management needs, and the community pharmacy as a place where they can receive primary health care services.

The Ontario Ministry of Health and Long Term Care allocates $150 million yearly for these medication management services (OPDP, 2015) and spent $83 million on these services in 2016/17.[55] The new Government of Ontario policy, which provides prescription medications for free to everyone under the age of 25 in Ontario[56] (OHIP+), provides additional opportunities for pharmacists to be remunerated for professional pharmacy services because professional pharmacy services including MedsCheck, Professional Opinion and the Pharmacy Smoking Cessation Program are remunerated as part of OHIP+.

OPEN's work also uncovered important challenges in remunerated professional pharmacy services implementation. Many of the challenges mirror those identified in the 'Patients First Action Plan' including the need to improve access to the right care, delivery of better coordinated and integrated care in the community, enhanced support for people and patients to make the right decisions about their health and ensuring the sustainability of the health care system.

OPEN analyses of MCA service data uncovered a shift in focus of MCA delivery away from seniors with markers of health complexity, towards younger less comorbid individuals over time.[57, 58] High proportions of MCA recipients were dispensed gastroprotective agents (35%), narcotics (27%), or benzodiazepines (22%), offering opportunities for deprescribing or other strategies for optimizing medication use.[57]

Organizational level considerations in pharmacy

While pharmacy is practiced in diverse public and private settings, the for-profit community pharmacy sector employs a large number of pharmacists and technicians. The structure of this sector is complicated by the diverse types of ownership and management structures that exist, ranging from franchise systems to owner-operator models to traditional employer-employee systems. Successful change management in community pharmacy is highly dependent upon these structures and as a result, highly divergent pathways to practice evolution have emerged. Further, economic incentives in the community pharmacy sector can act as a barrier or facilitator to practice change, depending on individual and context specific factors. As the broader health system reform continues, several key themes continue to emerge for the community pharmacy sector, in particular:

a) *The organizational complexity of the sector:* Beyond the different corporate structures in community pharmacy itself, the primary care sector within which community pharmacy operates is also extraordinarily complicated. Patchwork funding and governance models among governments, employers, private citizens, and third-party payers create tension, but also opportunities for innovation and professional evolution. Finding mechanisms for enhancing communication and articulation amongst these diverse "moving parts" and leveraging reciprocal partnerships amongst organizations that are mutually rewarding can be challenging, but will be essential for improving professional pharmacy practice.
b) *The need to bring pharmacies "in" to the health care system:* The for-profit private sector structure of community pharmacy has historically resulted in community pharmacies standing

somewhat apart from other health care organizations, attempting a delicate balance between being a "business" and a "health care provider". As the need for sustainable and comprehensive medication management grows, there is a need to tightly integrate community pharmacy within the broader health care system, in order to facilitate sharing of information and collaborative activities related to optimizing medication use for patients.

c) *Economic pressures:* the competitive nature of community pharmacy has resulted in a form of commoditization of the drug dispensing process. As government and private payers continue to put downward pressure on professional fees, and as the number and range of pharmacies (particularly in urban and suburban areas) continues to increase, community pharmacies will need to find efficiencies to support operations and current levels of profitability.
d) *Shift to chronic disease prevention, management and health promotion:* As the needs of the broader population shift away from acute to chronic care, the traditional dispensing transactional focus of community pharmacy is changing. Longitudinal relationships between patients and pharmacists are needed to support health promotion, disease prevention, and chronic management. Yet, the physical structure and workflow systems of most community pharmacies are still oriented towards high-volume transactional dispensing practice.
e) *A fit-for-purpose workforce:* As scope of practice expands and evolving patient needs are identified, the readiness of pharmacists and pharmacy technicians to manage these changes becomes an important consideration. Pharmacists who are trained and experienced in a care model focused on meeting physician needs (versus patient needs) and technical dispensing will require support to learn and gain confidence in new skills and practices.
f) *Decoupling of professional services*: In response to *a-d* above, new practice models are evolving to fundamentally shift the nature of community practice by decoupling the compounding/dispensing/drug stewardship functions of the profession of pharmacy from the medication management/cognitive services functions. Emerging trends, such as "central fill" and quasi-automated call centres to manage refills, will have impacts on the numbers and types of pharmacists and pharmacy technicians required, and on the physical design of community pharmacy itself.

As part of the efforts to create linkages between the various organizational levels of pharmacy at present, the CPhA convened 106 pharmacy leaders from across Canada for the Pharmacy Thought Leadership Initiative Summit on June 23-24, 2016. The vision that emerged was that the profession of pharmacy in Canada should enable practice settings where pharmacy professionals can use their full scope of practice and where they can feel supported and positive about their evolving roles. Participants identified a list of topics that would have the greatest impact on advancing the profession forward over the next several years and would be most feasible to achieve. The top priorities were: Technology and workplace environments (18.2%), Payer/Policy issues (16.0%), and Research (11.7%), with Collaborative Care (10.8%) and Confidence (10.0%) close behind.

Professional accountabilities: regulation of professions in a time of change

Regulatory bodies face unique pressures to serve and protect the public. The "protection" mandate has historically been interpreted as the application of regulations to control the risk of harm to the public. Regulation can also be a tool for practice change.

The Professional Standards Authority (PSA) in the UK has developed the concept of "Right-Touch Regulation" as a tool for describing best practices for regulatory bodies. Six core principles for effective regulation have been identified for pharmacy practice in the UK:

a) *Proportionate:* regulation should be used as a tool only when necessary and should be appropriate to the risks posed
b) *Consistent:* regulations should be fair and equally apply to all
c) *Targeted:* regulation should be focused on specific real problems, and conscious efforts should be undertaken to minimize inadvertent side effects of regulation
d) *Transparent:* regulations should be clearly articulated, simple to understand, user-friendly and readily accessible to all
e) *Accountable:* all regulations should be fully justified, and subject to scrutiny by the general public and the professionals being regulated; and
f) *Agile:* regulation should look forward and be able to adapt to anticipated changes in the environment, the practice context, and the profession

Within the profession of pharmacy, there has been significant evolution in scope and role for both pharmacists and technicians over the past decade – and it is reasonable to anticipate that there will continue to be changes of scopes and roles in the future. As noted by the PSA, when used as a bludgeon in a heavy-handed manner, regulation not only stifles practice innovation and change, it also demoralizes and demotivates professionals themselves. Conversely, the absence of appropriately weighted regulation opens the public to unnecessary risk and potential harm, and diminishes the credibility of regulatory bodies in the eyes of the public they serve.

For regulators, the need for agility is frequently described as the ability to "…look forward to anticipate change rather than looking back to prevent the last crisis from happening again." It is therefore incumbent upon regulators to anticipate risks and mitigate them, but equally to "…not react to everything as changes may occur which do not need a regulatory response". Too little regulation may produce harm and be ineffective; too much regulation results in wasted effort, squandered resources, and alienated practitioners. Clearly identifying and framing problems, enumerating real risks, focusing on outcomes, and using regulation as a tool for controlling professional practice only when it is actually necessary have been identified as important attributes of right-touch regulation. The recent Model for Evaluation of Scopes of Practice in Ontario (MESPO) set out by the Ontario Ministry of Health and Long Term Care provides structure to the review of scope of practice requests and is very well aligned with the Right-touch regulation approach.

OBJECTIVE OF THE WHITE PAPER

The objective of this White Paper is to describe opportunities for the profession of pharmacy in the future, with particular attention to opportunities that encourage use of existing or expanded scopes of pharmacy practice within the health care system in ways that make a difference in people's lives.

APPROACH USED TO GENERATE FUTURE OPPORTUNITY STATEMENTS AND SUMMARY THEMES:

A six step process was used to meet the objective of the report. First, current health care trends, evidence and policies were considered to identify an overarching set of principles the profession of pharmacy should strive to achieve. Second, 10 topics that represent different aspects of professional pharmacy practice were examined to generate topic-specific future opportunity statements for the profession of pharmacy. Five topics address specific pharmacy services (pharmacist prescribing, pharmacists as immunizers/injectors, diabetes as an exemplar for chronic disease management, opioid dependence, and medication review) and 5 topics cover overarching topics pertinent to professional pharmacy practice (quality improvement, eHealth, substance use disorders, deprescribing, and the role of technicians). An overview of each of the 10 topic areas is provided, including the current context and topic-specific future opportunities that identify existing strengths within the profession of pharmacy and how these strengths can be supported to best serve and protect the public when considering health care trends, evidence and policies. We intentionally chose to use these 10 topics to encourage future-oriented thinking for the pharmacy profession over the next 5-10 years, while simultaneously grounding these topics in the present context. It was felt that this approach would provide inspiration for how the profession of pharmacy can evolve from the current state to a better future. Third, the topic-specific future opportunity statements for the profession of pharmacy were combined across the topics to generate an overall set of 50 future opportunity statements for the profession of pharmacy. Fourth, the set of future opportunity statements was mapped onto the overarching set of principles the profession of pharmacy should strive to achieve that was identified after considering current health care trends, evidence and policies. Fifth, deliberation on the set of 50 future opportunity statements generated two summary themes that emerged as the key future directives for the profession of pharmacy in the coming 5-10 years. Finally, an assessment of MESPO in relation to selected expanded scopes of pharmacy practice was carried out. Where possible, MESPO categories are indicated in brackets within the current state and future opportunities sections for each of the 10 topics reviewed.

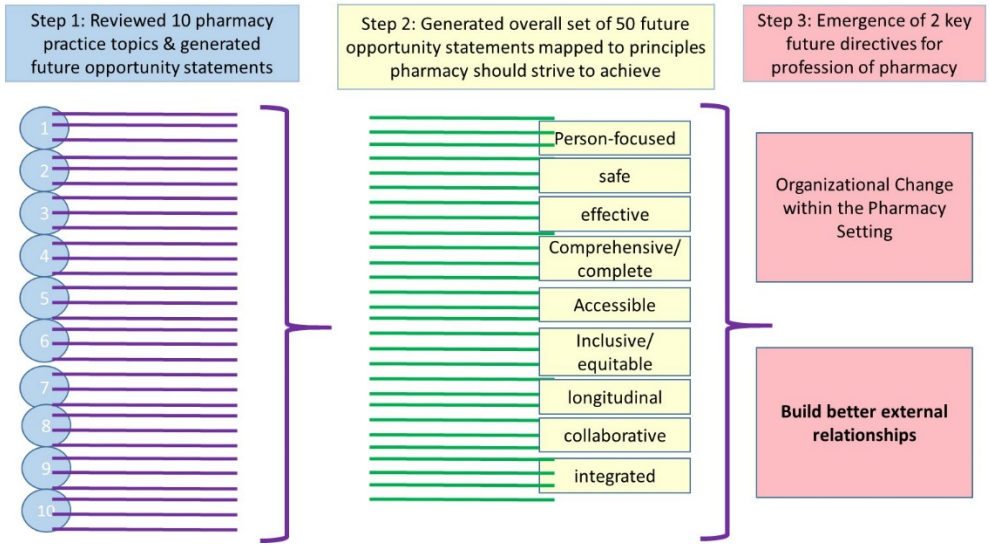

Figure 2: Description of the steps used to generate the future opportunity statements and summary themes

INDIVIDUALLY REVIEWED PHARMACY PRACTICE TOPICS

TOPIC 1: Pharmacist prescribing (including common ailments)
Lead: Lisa McCarthy

Current context:
Prescribing by health care providers other than physicians (commonly referred to as non-medical prescribing) is becoming more commonplace in many jurisdictions internationally. Typically, this can emerge as independent models (where professionals have the authority to prescribe) or dependent models (where the authority to prescribe is delegated by an authorized professional). In Ontario, pharmacist independent prescribing in the form of renewals (for patients with chronic and stable conditions, except for narcotics and controlled substances), adaptations (changing the dose, formulation, route or regimen) and initiation of Schedule I medications (i.e., bupropion and varenicline) for the purposes of smoking cessation has been in place since October 2012.

Canadian health care is primarily under provincial jurisdiction and while most provinces (and territories) have approved legislation that supports pharmacist prescribing, there are differences in the type of prescribing that pharmacists are allowed to perform. All provinces (and Northwest Territories) in Canada can renew and adapt prescriptions (i.e., change the dose, regimen, route, or formulation) without prior approval by the initial prescriber.[59-61] Pharmacists in every province except British Columbia and Saskatchewan can prescribe drugs for smoking cessation.

Jurisdictions differ in whether or not pharmacists can make therapeutic substitutions (i.e. switch a medication to an alternate in the same therapeutic class), initiate therapy for smoking cessation, the

management of common ailments, or in emergencies (i.e., when immediate treatment is required, but another prescriber is not accessible). Therapeutic substitutions are currently allowed in all provinces except Manitoba, Ontario, and Quebec.

Pharmacists in Alberta who have obtained additional prescribing authorization (APA) can independently prescribe prescription-only (i.e. Schedule I) medications, except narcotics and controlled substances. Pharmacists in New Brunswick, Nova Scotia, Saskatchewan, and Manitoba may also initiate prescriptions but only within collaborative practice settings. In BC, a Draft Framework and proposal has been developed to propose pharmacist prescribing within a collaborative practice setting. While originally proposed as a broader prescriptive authority, BC has opted to narrow its focus for pharmacist prescribing to take place within collaborative practice settings to address specific concerns that arose through stakeholder consultations (i.e., pharmacists' inability to diagnose, pharmacists' lack of access to clinical information in certain settings, potential for conflict of interests).

In 2007, Alberta became the first province to allow pharmacists with APA to prescribe for minor ailments (minor, self-limiting and self-diagnosed ailments such as rashes, cold sores and hay fever). Currently, pharmacists in all provinces (within specified limits) except Ontario and British Columbia can assess and prescribe medications for the treatment of specific common ailments (though most lack a consistent remuneration method).

While 94% of Ontarians aged 16 and over now have a primary care practitioner, timely access to those professionals remains an issue.[62] As widely accessible health care providers, pharmacist prescribers for specific conditions (e.g., common ailments) are well positioned to contribute to improve timely access to care (MESPO justification: Access to care). Currently in Ontario, nurse practitioners (NPs) can perform a number of controlled acts including diagnosing, administering a substance by injection or inhalation, and prescribing (including controlled substances after successful completion of an approved controlled substances education), dispensing, selling or compounding a medication. In February 2017, an amendment to Ontario's Nursing Act was proposed to the Ontario government to expand the scope of practice of Registered Nurses (RNs) to include independent prescribing of medications. Currently in Ontario, pharmacists can adapt and renew prescriptions; however, they do not have access to laboratory or other diagnostic test results, medical history, and indications for medication use (MESPO justification: System Need, Legislation/Regulatory Changes).

Some trends in pharmacy and health care in general that may influence pursuit or uptake of pharmacists as prescribers include concerns that existing professional pharmacy practice is of suboptimal quality[63] and barriers for two-way information sharing between community pharmacies and primary care providers. In a recently completed series of qualitative interviews with the public, pharmacists' lack of access to clinical information was identified as a key factor influencing the public's support for pharmacist prescribing.[64] Focus group participants also reported concerns that the business aspects of community pharmacies posed a potential conflict of interest (i.e., pharmacists may be motivated by desire for profit to prescribe a medication when not in the best interest of patients). They also had concerns about a perceived lack of training and the skills pharmacists possess with respect to prescribing

and about the capacity of pharmacists to manage an expanded scope of practice.[65] These concerns are consistent with concerns which arose during consultations about BC's certified pharmacist prescriber model. As such, the newest framework in BC mandates that pharmacists who prescribe do not dispense the medication. In consultations conducted by OPEN and the McMaster Health Forum (2015) about future models of pharmacist prescribing in Ontario, stakeholders urged proponents of expanded models to avoid further fragmentation of an already fragmented health system.[66]

Existing data sources in Ontario make demonstrating impact on health care outcomes extremely challenging. Evidence on the real world effect of pharmacists prescribing for smoking cessation is not available, however a randomized controlled trial of a pharmacist initiated smoking cessation intervention that included provision of nicotine replacement therapy, tested in Ontario, demonstrated a reduction in participant quit rates.[67] Real world evidence is difficult to generate because prescription claims where pharmacists are prescribers cannot be identified through conventional administrative databases available to researchers in Ontario. OPEN undertook a series of feasibility studies where it was identified that the number of prescription records with pharmacist prescribers was far below the frequency with which pharmacists estimate they prescribe (based on findings from the Ontario Pharmacist Prescribing Survey). That survey also found that many pharmacists are reluctant to identify themselves as prescribers in their dispensing software.

At present, there is no central mechanism through which Ontario pharmacists or pharmacies are compensated for renewing or adapting prescriptions. This is in contrast to Alberta, where pharmacists are paid for their assessment (amount based on APA status) regardless of whether a prescription is written or not, or in Saskatchewan, where pharmacists are paid $18 for minor ailments prescribing. In the Ontario Pharmacist Prescribing Survey, pharmacists did not endorse the lack of remuneration as a barrier to renewing or adapting prescriptions (McCarthy et al., unpublished data). However, remuneration models were discussed during the Ontario stakeholder summit in 2015,[66] where stakeholders cautioned the profession to reflect upon alternatives to fee-for-service remuneration.

Future Opportunities

- Explore the opportunity for pharmacists to prescribe or encourage best use of medication for common ailments to improve access and health benefits in treating common ailments.
- Improve public awareness of the circumstances in which pharmacists can prescribe safely and effectively and for pharmacist-administered vaccines.
- Improve the documentation of pharmacist prescribing activities so that this can be used to evaluate the impact of pharmacist prescribing on health outcomes for Ontarians and to facilitate knowledge sharing among health care providers.
- Explore expansion of prescribing to include a specific independent prescriber designation for a greater number/types of medications to increase the opportunity for patients to receive optimal medications to improve health.
- Support development of documentation guidelines about what to provide to other health care providers for each pharmacy based consultation including individualized recommendations regarding modifications, care plan, and transmittal via e-health technologies.

TOPIC 2: Pharmacists as immunizers/injectors in Ontario
Lead: Nancy Waite

Current Context:
Despite strong pro-vaccine evidence, there has been a rise in vaccine-preventable disease and outbreaks in Canada and the US that are directly linked to unvaccinated or under-vaccinated individuals.[68] While many of these outbreaks are linked to childhood vaccination decisions, adult vaccines do not fare much better with low uptake and suboptimal vaccine coverage.[69]

Influenza vaccine will be used in this White Paper section to demonstrate the role and impact of the pharmacist as immunizer. Data on pharmacist's role with other vaccines is available but more limited. At a recent international pharmacists-as-immunizers research meeting,[70] many of the non-influenza vaccines were discussed and, while there is less documentation, it became clear that principles, lessons learned and unrealized opportunities were common across all adult vaccines. That is not to say that some vaccines have special considerations – such as the challenges of accessing young men who need HPV vaccine or encouraging pregnant women to get pertussis vaccine – which would need to be worked through in research and practice.

Influenza continues to cause significant morbidity and mortality,[71-73] work absenteeism, and lost productivity and earnings.[74, 75] It is estimated that influenza causes 3,500 deaths per year and 12,200 hospitalizations in Canada,[76] and 272 deaths and 621,151 incidents of health care use in Ontario annually.[73] Influenza vaccination remains the most effective mechanism to prevent influenza.[77, 78] (Patient need, Patient Outcomes).

In 2000, Ontario initiated the Universal Influenza Immunization Program (UIIP) to provide free influenza vaccines to anyone aged 6 months and older from physician offices, public health clinics, and workplaces.[79] While this strategy has been effective in increasing vaccination rates on average, influenza vaccine coverage in Ontario remains suboptimal.[69, 80-85] (Patient need, Population need) Ontario expanded UIIP in 2012 to allow injection certified pharmacists in community pharmacies to administer influenza vaccines to Ontarians aged 5 years or older based on the rationale that the widespread accessibility of community pharmacies would increase influenza vaccination rates(20).[86]

US public health policy permitting pharmacists to immunize has resulted in increased influenza vaccination rates of 4.7-10.7%. Buchan et al. found that patients living in a Canadian province where pharmacist influenza vaccine administration was allowed were 4% more likely to be vaccinated.[87] OPEN's large administrative billing data analysis combined with distributed/returned dose data from the Ontario Government Pharmacy revealed that during 2013-14 influenza season an additional 468,666 vaccinations were given by pharmacists.[88] The most recent Ontario data for the 2016/2017 influenza season has over a million influenza doses administered by pharmacists.[89] (Patient benefit, Access to care)

Further analysis revealed that compared to those individuals immunized by physicians, those who received the influenza vaccine from pharmacists were more likely to be between 20 and 64 years, live in

higher income areas, be non-immigrant and not be visiting MD offices for diabetes and COPD(22).[88] Therefore, a group of individuals who are frequently working or assume the role of caregivers, are often both challenging to reach and important vectors in the infection chain. It also appears there is less "reach" by pharmacists into the most vulnerable communities such as seniors and individuals with chronic diseases, presenting an opportunity for further enhancing this service. (Patient need, Population need)

In 2013, Papastergiou et al. surveyed patients from four Toronto community pharmacy locations to examine experiences and perceptions of pharmacist-administered vaccinations. Ninety two percent of respondents were "very satisfied" with this service and 28% of patients in general and 21% of patients at high-risk for influenza complications reported they would not have been vaccinated if this service was not available.[90] A similar study was conducted by Poulose et al. (2015) where ninety-two percent of patients surveyed stated they would receive their next influenza vaccine at a community pharmacy and 69% wanted pharmacists to administer other vaccines[91] (Patient Benefit, Patient preferences). OPEN's survey of patients who were not vaccinated by pharmacists found that approximately 30% were not aware that pharmacists could provide this service.[92]

Vaccines are one of the top ten most influential public health achievements and even today are estimated to save 2.5 million lives per year and billions of dollars in health care costs.[93] A recent economic analysis completed by OPEN using this data examined the impact of the introduction of pharmacist administration of influenza vaccine in Ontario on influenza-related outcomes and costs and change in productivity costs.[94] Results showed a net increase in cost to the Ministry of Health of $6.3M while the money saved due to the reduction in influenza-related outcome costs was $763,158. In addition, the work-related productivity losses decreased by $4.5M and $3.4M for the time invested to get vaccinated and time off work due to influenza illness, respectively. This resulted in a potential savings of $2.3M in direct health care costs and lost productivity (Economic impact).

The justification case for pharmacists to administer influenza vaccine is incredibly strong and the outcomes have been highly beneficial. In 2016, Minister Eric Hoskins committed to the public to increase vaccine accessibility through pharmacies and in Nov 2016 the MOHLTC Pharmacy Travel Vaccine Working Group recommended and implemented an expansion to thirteen vaccines to permit patients to get have their travel vaccines administered by a pharmacist.[95] At the same time, policy change occurred to allow pharmacy students to administer vaccine.[96] Both of these decisions were supported by evidence generated by OPEN researchers. (Health System Benefit, Legislation/Regulation). Similar, although less robust data, is available for the pertussis, herpes zoster, pneumococcal, meningococcal, Tdap, hepatitis A and B, HPV, and varicella vaccines, more than 40 US States allow pharmacists to administer these vaccines,[97] as do the majority of Canadian provinces.[98] The challenges with these vaccines, and in some jurisdictions influenza vaccine, lie in the policy restrictions regarding whether pharmacists can prescribe, and/or administer in non-community pharmacy settings (or outside their public health unit) or to a limited age range. Research done by OPEN and others suggests that the infrastructure, training, and experience of influenza vaccination have laid a solid groundwork for

pharmacists as they continue to administer influenza vaccine and the more recent additional "travel" vaccines to Ontario residents.

Several challenges have also been identified, including how to best communicate with other health care providers to ensure everyone is aware of the vaccines that a patient received both before and after the pharmacist vaccinated the patient. OPEN's research has shown that most pharmacists are reactive to a patient's request to be vaccinated and are challenged as how to be proactive in assessing an individual's vaccine needs. In addition, identification and outreach to high risk and vulnerable populations is lacking. Engaging vaccine hesitant patients in quick, productive, and positive immunization conversations remains elusive for many pharmacists.

Finally, pharmacists expressed to OPEN that the biggest challenge to furthering their immunization work lies in overcoming operational issues at the pharmacy level that they believe limit their ability to be proactive, target higher risk and vulnerable patients and address vaccine hesitancy concerns. To this end, the role of the pharmacy technician should be explored and, with proper training and pharmacist supervision, they could participate in activities such as collecting vaccination information and possibly administering vaccines, which some pharmacists identify as a "technical" task.

Future Opportunities

- Explore how the infrastructure, training, evidence and experience of influenza vaccination affects the scope of pharmacist-administered vaccines and consider improvements.
- Explore the role of the pharmacy technician in contributing to information gathering and screening, the delivery of medication reviews, influenza vaccinations, opioid management activities, and other specific roles to assist pharmacists with technical tasks.
- Support development of documentation guidelines about what to provide to other health care providers for each pharmacy based consultation including individualized recommendations regarding modifications, care plan, and transmittal via e-health technologies.
- Support initiatives that encourage pharmacists to be able to administer immunizations to people without an OHIP card; children younger than five years of age; and outside of community pharmacies, including residents of retirement homes or during medication review visits at home.
- Improve how pharmacists and pharmacy technicians promote vaccination including a focus on vaccine hesitancy to improve the uptake of vaccinations.
- Support approaches that ensure medication reviews or other comprehensive care services include an assessment of health promotion/prevention needs including immunization, particularly for high risk or vulnerable populations to increase the uptake of health promotion/prevention in those populations.
- Support activities that encourage the use of electronic pharmacy records including records pertaining to medication use and health information such as patient signs, symptoms, vaccine history and point-of care testing data) to help pharmacists and patients have the information needed to better manage their medications.
- Improve public awareness of the circumstances in which pharmacists can prescribe safely and effectively and for pharmacist-administered vaccines.

TOPIC 3: Diabetes as an exemplar for chronic disease management
Lead: Lori MacCallum

Current context

Over 860, 000 people living in Ontario have diabetes and the number is expected to continue to increase. This number may actually be much higher if the number of people with the disease and who are unaware of the diagnosis are included[99] (Patient need, Population need). In Ontario, the economic burden was estimated to be 4.9 billion in 2010 and is expected to reach over 6.9 billion by 2020.[100, 101] A recent Canadian study demonstrated that only 13% of diabetes patients from family practice settings were reaching all 3 disease management targets for controlled hemoglobin A1C, blood pressure and lipids.[102] Although not the only contributor, non-adherence to medication is estimated to be as high as 60% or more[103](Patient need, Patient outcomes).

Diabetes is one of many chronic noncommunicable diseases afflicting a growing number of people in the developed and developing world. People, especially as they age, often have more than one chronic disease. Data from the 2011/12 Public Health Agency of Canada's Canadian Chronic Disease Surveillance System (CCDSS) found that among Canadians aged 40 years and older the prevalence of two or more and three or more chronic conditions was 26.5% and 10.2%.[104] 2011 data from US primary care practices found that overall, 45.2% of patients had more than one chronic illness (most common was hypertension).[105] There is growing recognition that chronic disease management is managed best when a person is cared for within an integrated health care system.[106] The World Health Organization framework on integrated, people-centred health services advocates that there are five interdependent strategies that will cumulatively help to build more effective health service.[107] These are: (1) empowering and engaging people and communities; (2) strengthening governance and accountability; (3) reorienting the model of care; (4) coordinating services within and across sectors; and (5) creating an enabling environment.[107] The profession of pharmacy needs to consider how to be part of an integrated health care system to maximize the effect it can have on improving people's health.

People with diabetes interact with a pharmacist more than any other health care provider so the opportunities to improve care are abundant.[108] In Ontario, there are 331 diabetes self-management programs partly or fully funded by the MOHLTC. However, a recent study showed that only 1 in 5 people with newly diagnosed diabetes attended one of these programs within 6 months of diagnosis.[109] Pharmacists from all sectors are an alternative to promote self-management skills to people with diabetes (and other chronic diseases). Pharmacists have demonstrated that, as a profession, there is a great deal of activity providing diabetes care and are also the fastest growing group that becomes Certified Diabetes Educators. In Ontario, over 400,000 people with diabetes received a MedsCheck Diabetes medication review service over the first 3.5 years of the program.[110] This represents almost 50% of the population with diabetes (Patient benefit, access to care). There is a growing body of evidence that pharmacist interventions improve A1C, blood pressure, lipids and cardiovascular risk in people with diabetes (Patient benefit, Clinical outcomes).[42-44, 48, 111, 112] There is also evidence of the role of pharmacists screening for diabetes in the community.[113] The MOHLTC implemented MedsCheck Diabetes in 2010 providing reimbursement to community pharmacists for a formal medication review.

The program also provides reimbursement for follow-up visits including further diabetes education. Other private payer drug plans also have implemented programs to reimburse for health coaching and chronic disease management by pharmacists.[114, 115] When pharmacists have access to more complete patient information, they are better able to identify potential drug-related problems.[116] Pharmacists are able to order and interpret labs in a number of provinces including Alberta, Manitoba, Nova Scotia and Quebec) and legislation is pending in other provinces including Saskatchewan, New Brunswick and PEI) (System need, Legislative/Regulatory changes).[50] A study from Alberta looking at the influence of pharmacy practice on community pharmacists' integration of medication and lab value information from electronic health records showed that pharmacies that were more patient-care centered and included medication management activities were more likely to embrace the change than those focused more on dispensing.[117] To effectively use the data, time constraints, workflow, role understanding, communication with other health care providers, knowledge, confidence and skills are important. If pharmacists do have access, for example are they then liable if they dispense a medication without adjusting the dose based on renal function? Integration of labs and other patient information with current pharmacy software would be helpful to reduce workload burden for the pharmacist.

One of the opportunities to aid in the implementation of many of evidence-based interventions for diabetes and other chronic diseases within community pharmacy in Ontario is with increasing access to pertinent information about the patient, including laboratory data and diagnosis. Better access to the documentation of other care providers (i.e. electronic health record) would also provide pharmacists with access to treatment goals, (in addition to labs and diagnosis) which is critical for monitoring and follow-up to ensure patients are meeting the goals of therapy. The fundamental monitoring and assessment for all patients with diabetes includes A1C, blood pressure, and lipids in addition to the use of drugs for vascular protection, and lifestyle modification. Despite the similar indicators for all patients with diabetes, treatment goals are individualized based on stage of disease, co-morbidities and patient values and preferences. This is why access to labs and diagnosis alone, although a good starting point, is not enough to ensure full integration within the health care system. Laboratory data is also pertinent for monitoring the response to pharmacotherapy of almost every chronic disease.[115] Pharmacists would be greatly aided by access to complete patient information including laboratory data and diagnosis to fully apply their medication expertise.

Pharmacists from all sectors are an alternative that can promote self-management skills to people with diabetes (and other chronic diseases). Pharmacists continue to be the fastest growing group becoming Certified Diabetes Educators. However the designation is not specific to pharmacy practice and does not ensure competency of medication management in diabetes. In considering how a pharmacist and all working in the pharmacy setting can demonstrate competency in chronic disease management, it may be useful to consider whether additional training or certification is needed that is more specific to pharmacy.

Future Opportunities:

- Encourage approaches that incorporate expanded scope activities into longitudinal proactive care (versus reactive care) such as recognizing when a patient's goals or targets change or when

medications are having exaggerated effects due to the body's aging processes to ensure a patient's goals, risks and needs are addressed at every stage of life.

- Develop approaches that can encourage pharmacist access to, use of and safe stewardship of patient health information, including lab values.
- Explore the development of a pharmacy accreditation model focused on ensuring pharmacies have processes in place to provide clinically-focused chronic disease prevention and management. This may include processes for routine clinically focused communication with other health care providers, routine triage and referral, routine follow up and monitoring, routine provision of self-management education, clinically oriented documentation in a sharable format, regular patient and community engagement/ input into pharmacist services and other critical processes and activities needed. This type of model would promote internal pharmacy reorganization and better external relationships with patients and other health care providers.
- Develop professional competencies and further certification pertaining to the educational mandate of pharmacists for chronic diseases and other complex pharmacotherapy needs to better prepare pharmacists to deliver a higher level of care recognizing there is a debate on how to best enact pharmacist designations as advanced or specialist practitioners.
- Support approaches that encourage intraprofessional collaboration for pharmacists across sites such as community pharmacies, family health teams, or hospitals to improve communication between patients and multiple pharmacists.

TOPIC 4: Opioid stewardship and caring for patients with chronic pain
Lead: Feng Chang

Current Context

Pain is a symptom of many disorders and chronic pain, often defined as pain that lasts longer than three months, significantly affects multiple domains of life.[118] In Canada, chronic pain affects nearly one in five individuals and results in an annual cost of $15 billion.[119, 120] Although pain is best managed using a collaborative team approach, medications such as opioids form a key component of management and can present considerable risk of harm. Canada is currently one of the highest per-capita opioid consumption countries; ranked second only to the US in opioid use.[121] A 2011 study that surveyed 658 primary care physicians in Ontario found that almost all clinicians reported prescribing opioids in the three months preceding the study.[122] On average, 1 in 550 patients prescribed opioids for chronic pain can potentially die of opioid-related causes and the risk of death upsurges to 1 in 32 among patients receiving 200 morphine mg equivalents (MME) per day.[123] In 2014, more than 700 people died in Ontario alone from opioid-related problems,[124] and in 2016, Canada's apparent opioid-related mortality rate was 8.8 per 100,000 population, with an estimated 2458 opioid overdose deaths across Canada, excluding Quebec.[125] Patients dealing with opioid use disorder can consume significant proportions of health care resources consisting of emergency department (ED) visits, hospitalization, medication and outpatient mental health visits.[126-129] Additional information on opioid use disorder and related treatment is discussed in Topic 8. A 2011 survey of primary care physicians in Ontario reported that although a majority (86%) was comfortable and confident with opioid prescribing, 70% of participants were concerned about opioid addiction.[122] Primary care practice visits with an average of 10 minutes in duration are also not always able to incorporate appropriate assessment, care planning or education for complex conditions such as chronic pain.[122]

Pharmacy is viewed as a positive, highly trusted profession[130, 131] in Canada and pharmacists rank second only to physicians as reliable sources of medical information.[132] Individuals commonly seek pharmacists' assistance in treatment chronic pain syndromes such as lower back pain or headache disorders as they are highly visible and easily accessible. In addition, pharmacists routinely provide information on opioid therapy, benefits and risks, overdose identification and management, and proper storage and disposal[133] (Patient benefit, access to care). Pharmacists already play an integral role in harm reduction programs such as providing access to naloxone kits and participating in the fentanyl patch return programs.[134] Other services pharmacists can provide include optimizing patients' opioid therapy through pain assessment, medication review, monitoring for interactions, ensuring appropriate dosing and consulting on switching or tapering of opioids.[135] Pharmacist opioid assessment and consultation alone or as part of interprofessional approaches reduce opioid prescribing and morbidity from chronic opioid use.[136-142] (Patient benefit, patient outcomes)

Various harm reduction, prevention, and treatment policies have been imposed to minimize the negative effects associated with opioid use.[143] These include amendments to regulations to raise awareness on opioid use disorder[144] and the prescription monitoring program networks such as the Narcotic Monitoring System[145] launched as a key part of the Narcotic Safety and Awareness Act

instituted in Ontario in 2011. Health Canada's Opioid Action Plan also outlines support for better treatment options for patients with opioid use disorder including access to medication-assisted-treatment support programs and improving access to naloxone.[143] In Ontario, new quality standards for opioid prescribing for chronic pain were released in 2018.[146] In 2017, the Ontario College of Pharmacists developed a comprehensive opioid strategy that targets multiple areas of pharmacy practice including opioid-related education for pharmacy professionals, delivery of opioid dependence treatment, overdose and addiction prevention, and strengthened oversight for drug distribution.[145] In Alberta, pharmacists will be required to provide comprehensive assessment and monitoring including conducting a review of Electronic Health Records (Netcare) and documenting details of the evaluation and care plan for the opioid prescription. Pharmacists will also need to monitor patients for adverse effects or signs of opioid use disorder and develop a treatment plan for those at risk of opioid use disorder.[144] Other changes include adding opioids to Schedule I under the Controlled Drugs and Substance Act (CDSA), modifying the Cannabis Act, and establishing stricter regulations to control prescribing and dispensing of fentanyl patches.[143] The Canadian Pharmacists Association recently recommended pharmacists no longer recommend the use of over-the-counter codeine products for acute or chronic pain, as part of their Choosing Wisely recommendation list. (https://choosingwiselycanada.org/pharmacist/ 2017) Another opportunity for collaborative care exists as the prescribing of controlled drugs and substances is now within the scope of practice for nurse practitioners in provinces including Ontario.[147] A pharmacist-nurse practitioner collaborative model can potentially support physicians in expanding patient access to safe and effective opioid prescribing practices.

Collaborative models have been supported as an integral part of chronic pain management, however in practice, barriers like outdated policies, reimbursement issues and workflow design remain. For example, currently there is no effective information exchange system, prescription coordination program or a provincial prescription database;[148, 149] pharmacists are unable to access information such as medical diagnosis, lab test results or opioid dosing history outside of one pharmacy;[150] pharmacists in Ontario also do not have prescriptive authority to initiate any other trial medication or modify an opioid prescription. Moreover, a successful collaborative model requires willingness to cooperate and adequate role recognition from all parties.[150-153] Pharmacists with more education or more practice experience reported higher knowledge about the management of chronic pain and confidence in practice.[154, 155] However, gaps in knowledge existed across the board with less than half (48%) acknowledging familiarity with the Canadian opioid guidelines and only 52% able to provide the recommended opioid watchful dose.[155]

While opioid prescribing is unlikely to cease, especially when many patients with chronic pain find them effective, how opioids are prescribed and monitored will continue to receive greater scrutiny. The 2017 Canadian Guidelines for Opioids for Chronic Non-Cancer Pain[155] highlighted a number of important updates based on synthesized evidence. High risk populations are outlined where risks associated with opioid use may outweigh potential benefits, and the dosing threshold is changed to 50-90 MME per day. Opioid switching and tapering are also given increased prominence as strategies for minimizing dose escalation. These major shifts in practice, coupled with increased public awareness and greater urgency placed on the primary care system to respond, provide pharmacists with an

opportunity to define and take on a proactive, independent but complementary role in helping prescribers and patients understand and apply these best practices.

Medication stewardship refers to a set of coordinated interventions which promote the optimal selection, dosing and duration of medication therapy. Antimicrobial stewardship is one example where pharmacists play a prominent role in ensuring the appropriate use of antimicrobials.[156] Such a role in opioid stewardship will be a natural extension of the principles of Pharmaceutical Care and align well with emerging pharmacist roles in chronic disease management and medication deprescribing. To ensure successful implementation, opioid stewardship programs will need to 1) clearly define the service to prescribers and the public; 2) incorporate a collaborative approach between pharmacist, prescriber, and the patient; 3) be well- structured with appropriate education and workflow tools to support uptake at the pharmacy level; 4) apply clear, trackable outcomes to avoid service duplication and confusion; and 5) build in associated reimbursement for sustainability.

Specific Core Roles for Pharmacists in Opioid Stewardship *(based on current scope of practice)**:***

1) **Conduct assessment and education,** verify medical and medication history, assess for risk factors using standardized tools such as the Opioid Risk Tool, determine patient's suitability as an opioid candidate and provide education and/ or recommendations on complementary management strategies including non- pharmacotherapy and non-opioid options.
2) **Coach patient on being a partner in safe opioid use**, provide calculation of MME dose and standardized opioid education plan including expected efficacy and degree of risk, as well as risk mitigation strategies including training for naloxone as appropriate. Promote safe storage of opioids at home and returning unused opioids to reduce unintended access.
3) **Schedule targeted monitoring** of opioid response, adverse effects, adherence and aberrant behaviors. **Make recommendations regarding opioid switching and tapering** as appropriate.
4) **Provide timely identification of at-risk patients** including aberrant behaviors, high MME dose and co-prescribing with high risk medications such as benzodiazepines, provide early referral and recommend opioid use disorder management strategies.

Future opportunities:

- Develop training in specific pharmacotherapy situations such as deprescribing or opioid management and explore mechanisms to confirm training is completed.
- Support approaches that encourage pharmacists to take on stewardship activities such as management of biologics, antimicrobials, or opioids, to foster safe use of medications for individual patients and groups of patients.
- Explore the role of the pharmacy technician in contributing to information gathering and screening, the delivery of medication reviews, influenza vaccinations, opioid management activities, and other specific roles to assist pharmacists with technical tasks.
- Explore opportunities for the expansion of the pharmacist's scope of practice, including opportunities or mechanisms for pharmacists who wish to operate a non-traditional, non-product-oriented pharmacy to focus on specific patient care needs (e.g for complex geriatric

medication review or opioid assessment, initiation, dose titration, and discontinuation) to stimulate new types and levels of care delivery.

- Explore the development of an updated definition of a prescription to ensure vital information such as the reason for use, patient's goals and patient's targets and relevant lab tests (i.e. liver, renal function) are communicated where appropriate to improve everyone's understanding of what benefits and harms are expected when using a medication.
- Explore opportunities for the expansion of the pharmacist's scope of practice, including opportunities or mechanisms for pharmacists who wish to operate a non-traditional, non-product-oriented pharmacy to focus on specific patient care needs (e.g for complex geriatric medication review or opioid assessment, initiation, dose titration, and discontinuation) to stimulate new types and levels of care delivery.

TOPIC 5: Medication review
Lead: Lisa Dolovich

Current context

Medication use is increasing which emphasizes the importance of medication review as part of pharmacist delivered medication therapy management services. In Canada, 2 of 3 people over 65 take >5 different medications; 2 of 5 people over 85 take >10 medications. (Patient need, patient outcomes)

Overall, evidence studying medication reviews or reconciliation in the hospital and community settings has been mixed.[34-39] Of note, evidence from a recent study of pharmacists in hospital settings who provided a multi-component medication review intervention including structured follow found that the care provided reduced hospital readmission.[40] Early in-hospital medication review has been shown to reduce length of hospital stay.[41] Activities (mainly medication review) carried out by pharmacists embedded within a primary care team setting have been found to improve medication prescribing and use along with providing other benefits to patients, pharmacists and physicians.[47, 49]

In Ontario, medication review in the community setting is generally represented by the MedsCheck program (including Annual, Diabetes, Long Term Care and Home). Major revisions to the MedsCheck Annual and MedsCheck Diabetes program occurred in October 2016. Previously the MedsCheck program included medication reconciliation and an adherence review. The revised MedsCheck program expanded the scope of a reimbursed MedsCheck medication review to include clinical review incorporating the identification of drug therapy problems.[157]

Formal evaluation of the previous iteration of the Ontario based MedsCheck Annual and MedsCheck diabetes reviews were undertaken by OPEN during 2013-2017. Over the first 6 years of the MedsCheck Annual program, approximately 1 in 9 Ontarians received an MCA.[52] There was rapid and widespread uptake of the service. 1,498,440 Ontarians (55% seniors, 55% female) received an MCA. One-third (36%) had 2 or more MCAs within 6 years.[52] (Patient benefit, patient access) A cohort study using a random sample of community pharmacy claims for MCA-eligible Ontario seniors using linked administrative data from April 2012 to March 2013 compared to eligible individuals who did not receive an MCA, and found that overall, MCA recipients were healthier, younger, urban-dwelling, and taking fewer medications than non-recipients. However recipients were more likely to have a prior MCA (OR=3.03), receive a new medication on the claim-date (OR=1.78), be hypertensive (OR=1.18) or have a recent hospitalization (OR=1.07) demonstrating that MCA services were reaching groups of people who likely can derive benefit from a medication review.[158] (Patient benefit, population need). A recent population-based cohort study examined claims for all MedsCheck programs for the 2012-13 fiscal year and found that 27.1% (*n* = 799,674) of Ontarians eligible for public drug coverage (primarily those over age 65) received a professional pharmacy service, with 64% (*n* = 511,490) of these receiving an MCA.[58] The study also found that as patient complexity (number of prescription medications in the past year) increased, the proportion of Ontario Drug Benefit (ODB) beneficiaries who received a professional pharmacy service, which included a MedsCheck or a Pharmaceutical Opinion, also increased.[58] (Patient benefit, access to care). When patients were surveyed 73% agreed that MedsCheck was helpful, 82% thought that the

duration was “perfect” and 53% felt more confident managing their medications (Patient benefit, patient preference). Issues with quality of the service including documentation and interprofessional communication have been identified. A pharmacy audit of MedsCheck Annual and MedsCheck diabetes showed variability in completeness of documentation for key fields. (MacKeigan, 2017 unpublished) An audit of Pharmaceutical Opinions showed that approximately half of those billed were ineligible, many due to missing information (such as no recommendation actually provided within the documentation). (MacKeigan, unpublished)(System need, Legislative/Regulatory Changes). In physician qualitative interviews, many had a hard time identifying when a pharmacist had done a medication review. Those that experienced receiving one had mixed experiences (Dolovich, unpublished). The 2016 revised MedsCheck review addressed some of the quality and communication issues identified. (System need, Legislative/Regulatory Changes).

Future opportunities

- Develop and support approaches that focus on monitoring and follow up activities for patients after an initial assessment is completed. This ensures care can be altered or tailored based on response to taking a medication for the first time or to any medication changes that have occurred.
- Develop approaches for development and documentation of care plans that are shared with other health care team members (and co-developed where relevant).
- Support approaches that encourage medication review activities for vulnerable patient groups.
- Support approaches that ensure medication reviews are documented including reason for use of a medication and available to pharmacists, prescribers, and health care providers in order to ensure the patient/family and all members of the health care team have complete medication information and medication care plans.
- Encourage development of eHealth technology that is integrated with health care delivery systems.
- Improve linkages between pharmacists and the Patient’s Medical Home as part of an integrated care system.

TOPIC 6: Quality improvement / change management in pharmacy
Lead: Sherilyn Houle (with Lisa McCarthy)

Current context:
Expansion in professional role and scope of practice necessitates supporting pharmacists to change practice from a dispensing focus to a patient-care focus. Workspaces in many community pharmacies are still designed to promote dispensing efficiency. Even with expanded scope opportunities, a number of barriers to patient care services have been identified, including workflow/time constraints, fear of liability, lack of financial incentive, and lack of support or collaboration from other health professionals.[63] One mechanism to both assure and promote the delivery of high quality patient care is to instill a culture and practice of quality assurance and improvement into everyday practice. Quality Assurance is an effort to find and over-come problems with quality, which includes directing the performance and behaviours of practitioners and institutions towards more appropriate and acceptable health outcomes, expenditures or both.[159] Quality Improvement "is a systematic approach to making changes that lead to better patient outcomes (health), stronger system performance (care) and enhanced professional development. It draws on the combined and continuous efforts of all stakeholders – health care professionals, patients, their families, researchers, planners and educators – to make better and sustained improvements."[159]

The focus of many pharmacy college's practice assessments/inspections has shifted from enforcing regulations to facilitating higher quality practice. Pharmacy regulators in three Canadian jurisdictions manage formal quality improvement programs, with one pending in Ontario. Only 1 (Nova Scotia) is mandatory. Ontario, Saskatchewan, and Nova Scotia focus on reporting of medication incidents, while Quebec program measures and reports on clinical performance. None provide a financial incentive. A number of programs exist internationally including programs in Australia,[160] New Zealand, England[161], the Netherlands,[162, 163] Switzerland (hospital pharmacies only).

OCP is currently developing a mandatory standardized continuous quality assurance (CQA) program that will support ongoing continuous quality improvement (CQI) and put in place a mandatory consistent standard for all community pharmacies in the province.[164] CQI enables practitioners to learn from medication incidents, and better understand why they happen and how they can be prevented. Using both a preventative approach through proactive reviews of work processes to identify areas of risk and retrospective reviews of specific medication incidents, pharmacy professionals can identify learnings that will help prevent incidents and enhance patient safety.
There are four elements to the program:

- anonymous reporting of all medication incidents to an independent, objective third-party organization for population of an aggregate incident database to identify issues and trends;
- documentation of appropriate details of medication incidents and near misses;
- completion of a medication safety self-assessment (MSSA) within the first year of implementation and then every 2-3 years to analyze individual and aggregate data to inform the development of quality improvement initiatives; and
- shared learning that encourages an open dialogue about medication incidents and safety.

When Ontario community pharmacists were surveyed pharmacists reported positive perceptions of CQI programs and the associated benefits to patient care and safety. However, the dominant concern was a perceived blame-and-shame culture in community pharmacy.[165]

There are other efforts supporting improved quality of care that have the potential to affect pharmacist practice in Ontario. Health Quality Ontario works with multiple stakeholders to identify quality issues to prioritize across the province, and defines specific priority indicators that organizations can use to track their performance on these key issues. Organizations such as hospitals or primary care practices are expected to develop and submit a quality improvement plan (QIP) yearly. Libraries of already developed quality indicators are potential sources for clinical and process outcomes for an Ontario-focused program. Green Shield Canada (GSC) has introduced its *Value-Based Pharmacy Initiative* in Fall 2017.[166] This is the first payer-led program in Canada that seeks to measure, evaluate, and eventually rank a pharmacy's performance against a defined set of health outcome metrics (assessed based on an analysis of GSC claims data). In the future, GSC plans to use pharmacies' performance on these metrics to determine reimbursement. Using a monthly *Patient-Impact Scorecard*, pharmacies receive feedback on a number of adherence, disease management and safety measures of performance.[167] The GSC initiative is adapted from a similar system of the American Centers for Medicare and Medicaid Services (CMS) Five-Star Quality Rating System which rates health plans on multiple measures/metrics. Many of the metrics used in the U.S. were developed by the Pharmacy Quality Alliance (PQA) (http://www.pqaalliance.org/), a non-profit alliance of more than 200 member organizations that include the major American pharmacy chains, academic institutions, health plans, pharmaceutical companies, and now OPEN.

Evidence for the impact of these Canadian/ international programs on outcomes is modest, however, quality improvement has been recognized as a priority for many countries internationally.

A focus on Quality Improvement within health care is becoming a normal component of health care delivery. Activities that contribute to the culture and application of Quality Improvement within the pharmacy environment is consistent with Quality Improvement activities within other health care sectors. This includes

- Education on quality improvement concepts and practical application including evaluation methods.
- Use of practice facilitation within the pharmacy setting- modelled after practice facilitation in medical offices. Practice facilitation in health care is a quality improvement process that involves bringing an individual with expertise in change management and a solid understanding of health care into a practice to assist the group in adapting their clinical practices to optimize patient care delivery through increased adherence to evidence-based guidelines.[168] Practice facilitators fulfill 7 roles of a change agent: quality improvement expert, communicator, collaborator, system thinker, manager, educator and scholar, and leader.[169]

- Use of regular audit and feedback. This involves comparing an individual's professional practice or performance to professional standards or targets, where the results of this comparison are then fed back to the individual.[170]
- Incorporating review of research evidence including pharmacy practice research that would identify what areas would benefit from attention in quality improvement activities.

Future opportunities:

- Explore opportunities for quality improvement within pharmacies to encourage more complete reporting, improve drug safety, and reduce drug dispensing errors and harm from medications.
- Support approaches that encourage the inclusion of pharmacy technicians within quality efforts.
- Explore opportunities to incorporate quality improvement activities or programs within the pharmacy setting including the use of quality improvement plans within pharmacy.
- Improve how evidence is used to inform practice and policy decisions.

TOPIC 7: eHealth including workflows that maximize the meaningful use of technology
Lead: Kelly Grindrod

Current context

eHealth is an all-encompassing term used to describe the application of information and communications technologies in the health sector.[171] It spans administrative through to health care delivery[171] functions. Research evidence demonstrates that computer decision support can support patients by improving prescribing.[172-174]

In particular, eHealth technologies such as electronic medical records, telemonitoring systems, web-based portals and mobile health (mHealth) can enable information sharing between providers, clients and their families to improve integration of care across health and social care systems.[175] Connected health, a term recently proposed by some academics and industry, refers to the development, testing, and integration of smart technology tools into health care.[176] However, for connected health to achieve its full potential, issues must be addressed pertaining to active engagement in use, privacy, security, quality and commercialization, as well as the development of evidence-based guidelines.[176] The success of technology in enhancing collaboration for chronic disease management depends upon supporting the social relationships and organization in which the technology will be placed.[177] Decision-makers should take into account and work toward balancing the impact of technology together with the professional and cultural characteristics of health care teams.[177]

Almost 10 years ago, Health Canada reviewed federal statutes and determined that Part C of the *Food and Drugs Regulations* made under the *Food and Drugs Act*, and regulations made under the *Controlled Drugs and Substances Act* do not present any impediments to e-prescribing, and that electronically generated and transmitted prescriptions are permissible to the extent that they achieve the same regulatory objectives as written prescriptions.[171]

In Ontario, the Digital Health Drug Repository (DHDR) represents the first foundational component of the province's Comprehensive Drug Profile Strategy (CDPS).[26] The DHDR is an electronic repository of dispensed drug and pharmacy service information that will expand on what has been available to date in the Drug Profile Viewer (DPV).[26] The DHDR will provide incrementally expanded access to records of dispensed drug events and pharmacy services to authorized health care providers. These currently include records relating to publicly funded drugs, monitored drugs and pharmacy services held by the Ministry of Health and Long-Term Care. Over time, the DHDR will expand further to include pharmacy records for drugs paid for directly by patients or by private insurance. Future enhancements to DHDR could include the addition of prescribed drug events in electronic medical record systems (EMRs) and hospital information systems (HIS).

The PrescribeIt[178] initiative is underway in Canada, with TELUS Health as the vendor. One aspect of this innovation is that prescription information will flow more directly between prescribers (EMRs) and pharmacies. The pharmacy management systems (PMSs) will also begin to incorporate features wherein the pharmacist can send queries and messages directly to a prescriber regarding a prescription. At the

same time, pharmacists in Ontario are starting to get access to regional electronic health records such as Clinical Connect in Southwestern Ontario. This gives them access to diagnostic imaging, lab values and hospital discharge summaries, among other pieces of information. However, these systems do not yet include data from the family physician's or other prescriber's EMR.

Of note in Ontario, Loblaw Companies Limited has acquired QHR Corporation.[179] QHR is a Canadian health care technology company and a leader in the electronic medical records (EMR) market with AccuroEMR, providing software for health care providers and their patients.

As we move to adopt the e-prescribing program, we have an opportunity to change the way prescription information is shared. Notably, we can look at what information must be shared to account for changing scopes of practice. In work done in Ontario, it has been identified that pharmacists require the "reason for prescribing" for a medication to be able to properly assess it for appropriateness and safety. Similarly, prescribers need access to dispensing records to properly assess if a patients' medication is not working due to non-adherence. Further, it has also been identified that many prescribers would also benefit from "reason for prescribing" when a prescription was prescribed by a different clinician such as a walk-in clinic physician or specialist. Finally, as patients begin to get access to EHRs such as in Nova Scotia (MyHealthNS) or will have control over their own sharable personal health record (e.g. KindredPHR),[180] they have a similar need to know the "reason for prescribing" when accessing or creating their medication lists.

In discussions with TELUS Health, they have pointed out that it is up to the regulators (OCP, CPSO) to make "reason for prescribing" a mandatory piece of information on prescriptions. However, they also acknowledge that physicians or other prescribers do not want to do this. That said, the designs of the "reason to prescribe" field in the current EMRs have low usability and usefulness. Too often, they limit the "reason to prescribe" to one option, to an ICD9/10 code or to a diagnosis in the patient's chart. They do not allow for multiple indications (e.g., duloxetine for pain and depression) or when medications are being used in diagnosis (e.g., levodopa in Parkinson's disease).

Another consideration is that pharmacists are well known to be poor documenters. As pharmacists' scope expands, they need to have the opportunity to document their decisions and to communicate efficiently with physicians. Pharmacy management systems rarely include any support for documentation of conversations. High quality documentation of pharmacy activities or recommendations is often identified as a major barrier in practice.

Future Opportunities

- Encourage development within Electronic Medical Records of the design of a "reason to prescribe/ reason for use" field on EMR forms for physicians and pharmacists (i.e. to list multiple uses for one medication) and explore how to incorporate a "reason to prescribe/ reason for use" field within a prescription to improve everyone's understanding of why someone is taking a medication.

- Support pharmacy management system vendors to develop documentation features that align with workflow, meet current standards of practice, and provide a comprehensive patient record to help improve the effectiveness and efficiency of pharmacist delivery of care.
- Support opportunities to improve pharmacy health policy and practices related to use and sharing of electronic pharmacy records with other health care providers.
- Support approaches that encourage sharing of electronic pharmacy records including records pertaining to medication use and health information such as patient signs, symptoms, and point-of-care testing data) with patients and other health care providers/organizations.

TOPIC 8: Substance use disorders
Lead: Beth Sproule

Current Context

Pharmacists play a key role in optimizing pharmacotherapy in the management of opioid, nicotine and alcohol use disorders. Pharmacists also play a key role in the prevention, monitoring, detection and treatment of medication use disorders that arise during the therapeutic use of pharmaceutical products, for example, opioids, benzodiazepines, and medical cannabinoids. Health professionals report frequently identifying addiction to medicines among patients, including those with long-term pain, mental health problems, sleep disorders, and other substance use disorders, but also report that these addictions were often not addressed.[181] The prevalence rates of use of these substances is extremely high, so much so that pharmacists can expect to be presented with opportunities to help people prevent or manage substance use disorders as part of everyday practice.

The current opioid crisis is the most urgent problem.[182] The increased prescribing of opioids, particularly for chronic non-cancer pain conditions, has resulted in large numbers of people exposed to opioids and associated harms.[183] Rates of developing opioid use disorder (addiction) in patients using opioids for chronic pain have ranged between 5% to 10%.[184, 185] We now have a large cohort people with opioid use disorder who may also have complex medical and psychiatric comorbidities, and who may access opioids from non-medical sources. There has been a 4-fold increase opioid-related deaths in Ontario in the last 25 years.[186] In a 2009 study, over half of those who had died had had a prescription for opioids in the month before death, and had a median of 10 prescriptions in the year before death.[187] There is also a clear relationship between prescribed dose and overdose death.[186] Recently, the death rate from opioids has increased due to the contamination of 'street' drugs with very potent fentanyl-related substances.[186] The challenges now are to provide rapid, wide-spread access to opioid use disorder treatment, reduce the harms of ongoing opioid use, and prevent more people from developing an opioid use disorder, particularly from therapeutic exposures. Despite the growing prescription opioid problem over the last 15 years, the pharmacy profession has not yet fully stepped up, with multiple contributing factors.[188] Opioid stewardship practices by pharmacists as prevention and harm reduction strategies are discussed in Topic 4 in this document. Opioid agonist therapy has been available in community settings since the 1990's, yet still not available in all pharmacies. The prevailing societal and health care professional views around drug use and addiction produces stigma and judgmental attitudes towards drug users, which directly impacts treatment seeking by people who use drugs, as well as the availability of quality treatment services.[189] As a chronic, relapsing disorder with effective pharmacotherapy at the core of treatment, pharmacists have an important role in the collaborative care of these patients. Additional roles include providing take-home naloxone kits for opioid overdose reversal and pharmacy-based needle/syringe exchange programmes that are effective for reducing risk behaviours among people who inject drugs.[190]

An ongoing concern is that of the 77% of Canadians that consume alcohol, 20% exceed the Canadian low risk drinking guideline recommended limits to reduce long-term health risks, and 15% exceed the recommended limits to reduce the risk of injury and harms.[191, 192] There are more hospitalizations

entirely caused by alcohol than for heart attacks.[193] Nearly 3 out of 4 of these hospitalizations are due to mental health conditions (e.g., alcohol use disorder, alcohol withdrawal), with the rest due to physical conditions (e.g., alcoholic liver disease, pancreatitis).[193] Unfortunately, prescribing rates are low for supportive pharmacotherapy in the management of alcohol use disorder (e.g., acamprosate, naltrexone) and advocacy is required to promote their use where indicated. In addition, it has been recognized that pharmacists are in an excellent position to be involved in delivering an alcohol brief intervention.[194] Patients and pharmacists are supportive of a role for pharmacists in alcohol screening and brief intervention (SBI) by pharmacists,[195, 196] however there is a knowledge and skills gap, and stigma/lack of comfort working in this area. Limited skills and confidence among community pharmacists in raising sensitive alcohol-related issues with clients, suggest the need for specific alcohol-related training and support.[197, 198]

Fortunately, rates of smoking in Canada are decreasing, but approximately 13% of Canadians are current smokers, with higher rates (18%) in young adults 20-24 years.[192] Half of daily cigarette smokers have made at least one quit attempt in the past year and one-third try to quit on two or more occasions. Most daily smokers (63%) consider quitting in the next 6 months.[192] Smoking continues to be the leading cause of premature death in Canada, with 29% of all smoking-related deaths related to heart disease and stroke. Pharmacotherapy is an important component of treatment in which pharmacists have been taking an active role. Pharmacist delivery of smoking cessation services is effective in improving quit rates.[67]

Analogous to opioids, therapeutic exposures to benzodiazepines and medical cannabis can lead to medication use disorders. Of the 10% of Canadians who had used sedatives in the past year, 3% reported non-medical use.[192] Benzodiazepine-related morbidity problems are common, particularly among older adults and benzodiazepines are identified as a contributing factor in poisoning deaths.[199] Cannabis use is increasing in Canada, with a prevalence of past-year use of 12% in 2015, with use more prevalent among youth aged 15 to 19 (21%) and young adults aged 20 to 24 (30%) than among adults aged 25 or older (10%).[192] Among past-year cannabis users, 24% (or 831,000) reported using it for medical purposes.[192] Pharmacists have an important role to play in preventing unnecessary exposures to benzodiazepines or medical cannabis, and to assess and monitor for the development of problems such as risky combinations, withdrawal symptoms that require management and/or benzodiazepine/cannabis use disorders.

Key policy initiatives in Ontario/Canada

There are a number of initiatives that support pharmacist involvement in managing substance use disorders including the Pharmacy Smoking Cessation Program reimbursed service from the Ontario Ministry of Health, and prescribing authority for varenicline and bupropion for smoking cessation. The Ontario Naloxone Program for Pharmacies has just expanded to include intranasal formulations. Health Quality Ontario has developed standards for the treatment of opioid use disorder. The Narcotics Monitoring System data has been added to the Digital Health Drug Repository available in the ConnectingOntario Clinical Viewer. The Federal government has introduced the Access to Drugs in Exceptional Circumstances initiative in response to the opioid crisis. In the case of an urgent public health need, medications for the treatment of opioid use disorder that are not available in Canada, but

are approved in the US or Europe can be imported for use in Canada (e.g., buprenorphine implant, naltrexone injectable). The Section 56 exemption requirement to prescribe methadone is being removed, the impact of which will require close monitoring to ensure it has increased access to methadone treatment, as well as to detect any increases in methadone-related harms. Access to Cannabis for Medical Purposes Regulations (ACMPR) and the coming legalization of cannabis will change how all health care providers approach inclusion of cannabis within health assessments offering opportunities to promote judicious use.

Future opportunities

- Explore opportunities for more pharmacies to be sites for naloxone distribution and expanding the scope of pharmacist prescribing for opioid agonist maintenance therapy, particularly in certain circumstances (i.e. Improving rapid access); simultaneously support policies approaches to expand opioid agonist maintenance treatment.
- Support approaches that encourage pharmacists to take on stewardship activities such as management of biologics, antimicrobials, or opioids, to foster safe use of medications for individual patients and groups of patients.
- Support approaches that encourage pharmacists to conduct alcohol screening, deliver brief interventions and provide expertise on alcohol use disorder pharmacotherapy such as recommending use where indicated and monitoring outcomes to reduce harm from alcohol.
- Improve and expand the reach of smoking cessation services.
- Support approaches that address how pharmacists can consider the effect of medical cannabis products within medication management activities.
- Support approaches that encourage pharmacists to increase their focus on optimal management of high risk medications (e.g. deprescribing opioids, antipsychotics, benzodiazepines) by take responsibility in monitoring, referring, managing, tapering regimens including prescribing (adapting) to increase the benefit and reduce harms from these medications.
- Support approaches to encourage pharmacists to conduct substance use screening including alcohol, illicit drugs, cannabis, screening, deliver brief interventions and provide expertise on substance use including alcohol use disorder pharmacotherapy such as recommending use where indicated and monitoring outcomes.

TOPIC 9: Deprescribing
Lead: Barb Farrell

Current context

Deinvesting' in screening and diagnosis is gaining momentum globally (e.g., programs like Choosing Wisely).[200, 201] Many are also looking for ways to reduce unnecessary treatments, as is evident in a ***growing international emphasis on deprescribing*** (i.e., reducing or stopping medications no longer needed or causing more harm than benefit – particularly for the elderly).[202-206] Deprescribing is the planned process of reducing or stopping drugs no longer of benefit or which may be causing more harm than benefit. Deprescribing is a particularly promising approach to mitigate the growing problem of polypharmacy in the elderly, where adverse effects and drug interactions often lead to morbidity, hospitalization and even death.[7, 207-212]

Older Canadians are consuming more and more medications that can cause harm. Older adults are at risk of medication adverse effects (memory loss, confusion, dizziness, balance problems, falls and fractures) that contribute to emergency room visits, motor vehicle accidents, hospitalization and death. "Potentially inappropriate medications" are those considered risky for older adults. In Canada, 2 of 3 people over 65 take >5 different medications; 2 of 5 people over 85 take >10 medications. And, nearly 50% of adults over 85 take potentially inappropriate medications. The number of seniors in Ontario aged 65 and over is projected to almost double from about 2.3 million (16.4% of the population in 2016) to over 4.6 million (25% of the population) by 2041. In 2013 Canadians spent $419 million on potentially inappropriate medications for seniors and an estimated $1.4 billion on health care costs to treat related adverse effects. Based on the total costs reported for Canada as a whole, it could be estimated that the costs to Ontario amount to as high as $167 million for the direct costs of potentially inappropriate medications and up to $560 million for total onward health-related consequences. We often do not have accurate information about how effective drugs are as people age. Medications added as part of a hospitalization, or by a specialist, may conflict with other medications a person is taking and lead to serious adverse effects. Family physicians and pharmacists are often not informed by specialists or each other about the reasons for medications and therefore find it difficult to know when a medication should be continued, reduced or stopped, or how to do so safely.

Through research funded by the Government of Ontario, we developed and implemented 3 priority ***evidence-based deprescribing guidelines*** (for proton pump inhibitors, benzodiazepine receptor agonists and antipsychotics) as tools for health care providers.[213-216] The ***most successful implementation efforts were those led by pharmacists conducting medication reviews as part of interprofessional teams.*** One of our practice sites conducted a drug utilization review and confirmed an approximate 20% reduction in PPI use following deprescribing guideline implementation.[217] An increase in self-efficacy for deprescribing was observed among health care professionals in sites where the guidelines were consistently used.[218] A fourth deprescribing guideline (for antihyperglycemics) has been funded by the Canadian Institutes of Health Research. Our finding that ***pharmacists were integral to the implementation of deprescribing guidelines*** is consistent with other published studies on medication management approaches to polypharmacy. Several trials have demonstrated the positive impact of

pharmacist-conducted medication reviews on reduction in medication use and improvement of health outcomes of older patients.[219-223]

While 70-90% of patients are willing to stop a medication if their prescriber advises it, these conversations are challenging due to lack of guidelines and processes, brief patient/doctor encounters, and lack of clarity about optimal deprescribing guideline implementation.[224, 225] Low public awareness of the issue further compounds the challenges of deprescribing.[226, 227] In addition, non-pharmacologic alternatives to drugs (such as physiotherapy for pain relief or cognitive behavioral therapy to improve sleep patterns, or simple sleep hygiene measures) are often preferable to drug therapy but are not always accessible due to cost or awareness.

Initiated in January 2015, the Canadian Deprescribing Network (CaDeN) has established a national framework aimed at *reducing the use of potentially inappropriate medicines*. Founded by Drs. Cara Tannenbaum and Barbara Farrell and others, CaDeN began as a group of patients, health care providers, and policy leaders in health care working collaboratively to make progress toward achieving that goal. This diverse group developed a comprehensive approach to promoting action on potentially inappropriate medicines, focused on the practice of "deprescribing".

Pharmacists practicing in the community are ideally positioned to become champions for deprescribing, and many have indicated that they are willing to take on this role. When empowered by training, communication tools and implementation strategies based on deprescribing guidelines, they will be equipped to successfully partner with patients and health care professionals to facilitate deprescribing, resulting in improved patient outcomes.

Future opportunities

- Support approaches that encourage a focus on those with multi-morbidity or complex polypharmacy. For example, the frail elderly who have an increased need for managing complex medication regimens, including facilitating decision-making regarding when to lower doses or stop medications that may be causing more harm than benefit.
- Support the inclusion of deprescribing concepts and content into quality improvement activities to improve the culture and application of deprescribing in practice.
- Develop training in specific pharmacotherapy situations such as deprescribing or opioid management and explore mechanisms to confirm training is completed.
- Explore approaches to incorporate deprescribing activities within everyday professional pharmacy practice to identify ways for prescriptions to be adapted to taper or stop at risk medications where harm clearly outweighs benefit.

TOPIC 10: Integration of pharmacy technicians into community pharmacy practice
Lead: Zubin Austin

Current context

Pharmacy regulatory authorities (PRAs) in diverse jurisdictions have created the role of pharmacy technician (RPT), as a way of optimizing and rationalizing roles and responsibilities within pharmacy to manage workload and time required for direct patient care activities.[228, 229] It was anticipated that RPTs would relieve pharmacists of technical tasks to facilitate greater time and focus on therapeutic and cognitive aspects of medication management services.[230]

Around the world, large numbers of RPTs now exist, yet there is scant literature highlighting whether the initial expectations of their role has actually been fulfilled, and what barriers and facilitators to optimizing RPTs' roles (particularly in community practice) exist .[230-232] Instead, after regulatory change has occurred, it has been left substantially to employers and managers to work out integration details at the local/store level. [233, 234]

In Ontario, there were 4145 pharmacy technicians employed as of September 2016; 92% were female and 87% worked in a single pharmacy. Most technicians had been registered in the previous two years. The scope of practice for RPTs includes accepting of telephone orders for verbal prescriptions (with the exception of narcotics, controlled drugs, benzodiazepines, and targeted substances), providing prescription transfers, and checking of prescriptions for dispensing accuracy (e.g. correct patient, prescriber, dosage form, route of administration and directions for use).[235]

Ontario based research conducted in 2017 identified several key themes that could provide insights into how best to leverage the role of the RPT.[236]

a. Physical Layout/Environment

The physical environment/layout of the pharmacy was identified by all participants as a crucial predictor of successful integration. Physical layout was a particular concern: several studies had previously identified the physical layout of community pharmacies as being a potential barrier to delivery of direct patient care services, but none had focused on RPTs in particular(Jones et al; Beney et al).[1, 3, 229, 230] One important design feature highlighted by many participants involved a dedicated/designated workstation for RPTs that provided some measure of privacy or insulation from distraction/disruption.

b. Management practices to enhance interpersonal communication

With the introduction of RPTs, an entirely new team dynamic has been evolving in community pharmacy practice, particularly due to potential overlapping/redundant functions shared by both RPTs and pharmacists. A recent study suggested that this may produce conflict within the pharmacy team based on role ambiguity and a desire for "turf protection"(Gregory et al).[10, 237]

Participants in this study highlighted the importance of effective management practices within the the profession of pharmacy to support integration of RPTs. A key aspect of this involved clear role definitions for pharmacists, RPTs, and assistants, and clear boundaries around who-does-what. Some participants in this study reported some frustration with the lack of trust displayed by some pharmacists as to their competencies, particularly since there is sufficient evidence to confirm that accuracy rates of technicians in checking prescriptions is at least similar (if not superior) to pharmacists.

c. Delegation of cognitive tasks utilizing RPT's knowledge and skills

Participants in this study – particularly pharmacists – noted that there are important tasks that RPTs could potentially take responsibility for that are not currently part of their scope of practice. These participants noted that the knowledge and skills required to successfully complete RPT registration requirements translate into other areas beyond prescription checking. Some specific additional areas for expansion of RPT scope of practice discussed by participants included:

a) *Adherence screening programs:* The process of identifying patients at high risk for adherence issues is both important and time consuming. It is also somewhat proceduralized, involving asking patients questions regarding their real-world experience of taking medications and carefully documenting responses. Both pharmacists and technicians indicated that a more formalized adherence screening program in community pharmacy, built upon the work of RPTs could be a significant value to patients and pharmacists if it were to become a more common part of practice. Pharmacists in particular noted that they know they should be more diligent in adherence screening activities but currently experience time pressures that make this challenging.
b) *Medication reviews:* The best possible medication history (BPMH) is the foundation for many important pharmacy services, including MedsCheck, medication synchronization, and seamless care/transitions of care activities between hospital and home. RPTs may be in a strong position to support the work of pharmacists by taking greater responsibility for BPMH and medication review lists, leaving the pharmacists to undertake the actual assessment and problem solving activities associated with these roles.
c) *Training on devices:* Increasingly, devices such as glucometers, peak flow meters, spirometers, and ovulation detection kits are important in community pharmacy practice. Currently education on use of these devices is left mainly to pharmacists, though there may be opportunities for expanded roles for RPTs in these areas.
d) *Releasing refills before therapeutic double-check by pharmacist:* The timing of release of prescriptions checked by RPTs was highlighted as an area of potential future interest. The unique role of the pharmacist in ensuring therapeutic appropriateness of all medications used by patients is well established; on-going monitoring of drug therapy is integral to the care provided by pharmacists. Ensuring, for example, that patients are not experiencing (or are appropriately managing) side effects of medications requires a pharmacotherapeutic knowledge base and skill set that is aligned with the education and training of pharmacists. Pharmacists have a unique opportunity during the refill process to engage in conversation with patients around therapeutic response, management of side effects, potential drug interactions and other topics of importance. While a completely independent technician-run refill pathway may have some immediate appeal in terms of operational efficiency, it must be balanced against the potential loss associated with the on-going monitoring and follow-up roles that are an essential part of the patient care process and that are uniquely associated with pharmacists' scope of practice.

Future opportunities

- Explore opportunities to improve the physical layout of the pharmacy to support the pharmacy technician's role in medication management activities, such as the space and workflow requirements.
- Support activities that promote teamwork between pharmacists and technicians within the pharmacy.
- Explore how the role of pharmacy technicians can be enhanced to support medication management and health promotion activities such as identifying and approaching patients to interact with the pharmacist using standardized protocols, ensuring standardized data collection, preparing clinical documents, conducting portions of medication reconciliations and other training activities.

PRINCIPLES THAT THE PROFESSION OF PHARMACY SHOULD STRIVE TO ACHIEVE

A set of principles that the profession of pharmacy should strive to achieve was identified based on recent demographics, health care and policy trends, namely: **person-focused, effective, safe, comprehensive/complete, longitudinal, collaborative, inclusive/equitable, accessible and integrated** care**.** These principles act as a guide to the provision of care delivered by the profession of pharmacy to overcome the 'challenge' to the profession of pharmacy that was generated earlier based on current health care trends, evidence and policies. These principles are essential as they have a significant impact with respect to patients being served through safer and more effective care. These principles apply to pharmacists working in all practice settings.

Challenge statement for the profession of pharmacy:
Recent healthcare trends and policies challenge pharmacists to provide safe, effective, comprehensive/complete and person-focused care that is accessible and inclusive/equitable for all. By adopting a longitudinal and collaborative approach, pharmacists can also ensure that the provision of care is integrated across the healthcare system and for all stakeholders.

50 FUTURE OPPORTUNITIES THAT SUPPORT PRINCIPLES THE PROFESSION OF PHARMACY SHOULD STRIVE TO ACHIEVE

Consideration of the 10 topics described previously has generated a set of 50 future opportunity statements that have been mapped onto an overarching set of principles the profession of pharmacy should strive to achieve. These principles were identified by reflecting on current health care trends, evidence and policies. The 50 future opportunity statements are provided below. These future opportunity statements can be considered by pharmacists working in all practice settings.

Person-focused

- Explore approaches that emphasize pharmacist understanding of an individual patient's experience with medication including positive and negative effects in order to help pharmacists work with patients to weigh risks and benefits and identify steps to increase benefit while minimizing risk.
- Support approaches that encourage a focus on those with multi-morbidity or complex polypharmacy. For example, the frail elderly with an increased need for managing complex medication regimens, including facilitating decision-making regarding when to lower doses or stop medications that may be causing more harm than benefit.
- Support activities that encourage the use of electronic pharmacy records including records pertaining to medication use and health information such as patient signs, symptoms, vaccine history and point-of-care testing data to help pharmacists and patients have the information needed to better manage their medications.
- Improve how pharmacists and pharmacy technicians promote vaccination including a focus on vaccine hesitancy to improve the uptake of vaccinations.

- Improve the provision of holistic care by linking clinical encounters, services, and activities for each individual patient (i.e. a preventative health group of activities) so that care is organized, proactive, planned and followed up in a manner that is understood by the patient, can be better tailored to patient needs and can prevent or minimize drug therapy problems.

Effective

- Improve how evidence is used to inform practice and policy decisions.
- Explore opportunities to incorporate quality improvement activities or programs within the pharmacy setting including the use of quality improvement plans within pharmacy.
- Improve the documentation of pharmacist prescribing activities so that this can be used to evaluate the impact of pharmacist prescribing on health outcomes for Ontarians and to facilitate knowledge sharing among health care providers.
- Explore opportunities for the enhancement of the pharmacist's scope of practice, including opportunities or mechanisms for pharmacists who wish to operate a non-traditional, non-product-oriented pharmacy to focus on specific patient care needs (e.g. for complex geriatric medication review or opioid assessment, initiation, dose titration, and discontinuation) to stimulate new types and levels of care delivery.
- Develop professional competencies and further certification pertaining to the educational mandate of pharmacists for chronic diseases and other complex pharmacotherapy needs to better prepare pharmacists to deliver a higher level of care, recognizing that there is a debate on how to best enact pharmacist designations as advanced or specialist practitioners.

Safe

- Explore the development for an updated definition of a prescription to ensure vital information such as the reason for use, patient's goals and patient's targets and relevant lab tests (i.e. liver, renal function) are communicated where appropriate to improve everyone's understanding of what benefits and harms are expected when using a medication.
- Develop approaches that can encourage pharmacist access to, use of and safe stewardship of patient health information, including lab values.
- Develop training in specific pharmacotherapy situations, such as deprescribing or opioid management, and explore mechanisms to confirm training is completed.
- Explore opportunities for quality improvement within pharmacies to encourage more complete reporting, improve drug safety, and reduce drug dispensing errors and harm from medication.s
- Encourage development within Electronic Medical Records of the design of a "reason to prescribe/ reason for use" field on EMR forms for physicians and pharmacists (i.e. to list multiple uses for one medication) and explore how to incorporate a "reason to prescribe/ reason for use" field within a prescription to improve everyone's understanding of why someone is taking a medication.
- Support approaches that encourage pharmacists to take on stewardship activities, such as management of biologics, antimicrobials, or opioids, to foster safe use of medications for individual patients and groups of patients.

- Support approaches that encourage pharmacists to conduct alcohol screening, deliver brief interventions and provide expertise on alcohol use disorder pharmacotherapy, such as recommending use where indicated and monitoring outcomes to reduce harm from alcohol.
- Support approaches that address how pharmacists can consider the effect of medical cannabis products within medication management activities.
- Support the inclusion of deprescribing concepts and content into quality improvement activities to improve the culture and application of deprescribing in practice.

Comprehensive/Complete

- Explore the opportunity for pharmacists to prescribe or encourage best use of medication for common ailments to improve access and health benefits in treating common ailments.
- Explore expansion of prescribing to include a specific independent prescriber designation for a greater number/types of medications to increase the opportunity for patients to receive optimal medications to improve health.
- Explore the development of a pharmacy accreditation model focused on ensuring pharmacies have processes in place to provide clinically-focused chronic disease prevention and management. This may include processes for routine clinically focused communication with other health care providers, routine triage and referral, routine follow up and monitoring, routine provision of self-management education, clinically oriented documentation in a sharable format, regular patient and community engagement/input into pharmacist services and other critical processes and activities needed. This type of model would promote internal pharmacy reorganization and better external relationships with patients and other health care providers.
- Explore how the infrastructure, training, evidence and experience of influenza vaccination influenced the ability of pharmacists to administer other vaccines and consider improvements.
- Support approaches that ensure medication reviews or other comprehensive care services include an assessment of health promotion/prevention needs, including immunization particularly for high risk or vulnerable populations to increase the uptake of health promotion/prevention in those populations.
- Support pharmacy management system vendors to develop documentation features that align with workflow, meet current standards of practice, and provide a comprehensive patient record to help improve the effectiveness and efficiency of pharmacist delivery of care.
- Explore how the role of pharmacy technicians can be enhanced to support medication management and health promotion activities such as identifying and approaching patients to interact with the pharmacist using standardized protocols, ensuring standardized data collection, preparing clinical documents, conducting portions of medication reconciliations and other training activities.
- Support approaches that encourage pharmacists to increase their focus on optimal management of high risk medications (e.g. deprescribing opioids, antipsychotics, benzodiazepines) by take responsibility in monitoring, referring, managing, tapering regimens including prescribing (adapting) to increase the benefit and reduce harms from these medications.

Longitudinal

- Encourage approaches that incorporate expanded scope activities into longitudinal proactive care (versus reactive care), such as recognizing when a patient's goals or targets change or when medications are having exaggerated effects due to the body's aging processes, to ensure a patient's goals, risks and needs are addressed at every stage of life.
- Develop and support approaches that focus on monitoring and follow up activities for patients after an initial assessment is completed to ensure care can be altered or tailored based on response to taking a medication for the first time or to any medication changes that have occurred.
- Support approaches that ensure medication reviews are documented including reason for use of a medication and available to pharmacists, prescribers, and health care providers in order to ensure the patient/family and all members of the health care team have complete medication information and medication care plans.

Collaborative

- Develop approaches for development and documentation of care plans that are shared with other health care team members (and co-developed where relevant).
- Support opportunities to improve pharmacy health policy and practices related to use and sharing of electronic pharmacy records with other health care providers.
- Support activities that promote teamwork between pharmacists and technicians within the pharmacy.
- Encourage development of eHealth technology that is integrated with health care delivery systems.
- Support approaches that encourage intraprofessional collaboration for pharmacists across sites such as community pharmacies, family health teams, or hospitals to improve communication between patients and multiple pharmacists.

Inclusive/Equitable

- Support initiatives that encourage pharmacists to be able to administer immunizations to people without an OHIP card; children younger than five years of age; and outside of community pharmacies, including residents of retirement homes or during medication review visits at home.
- Support approaches that encourage medication review activities for vulnerable patient groups.
- Support approaches that encourage the inclusion of pharmacy technicians within quality efforts.
- Support approaches to encourage pharmacists to conduct substance use screening including alcohol, illicit drugs, cannabis, and deliver brief interventions and provide expertise on substance use, including alcohol use disorder pharmacotherapy such as recommending use where indicated and monitoring outcomes.

Accessible

- Improve public awareness of the circumstances in which pharmacists can prescribe safely and effectively and for pharmacist-administered vaccines.

- Explore the role of the pharmacy technician in contributing to information gathering and screening, the delivery of medication reviews, influenza vaccinations, opioid management activities, and other specific roles to assist pharmacists with technical tasks.
- Improve and expand the reach of smoking cessation services.
- Explore opportunities for more pharmacies to be sites for naloxone distribution and expanding the scope of pharmacist prescribing for opioid agonist maintenance therapy, particularly in certain circumstances (i.e. Improving rapid access); simultaneously support policies and approaches to expand opioid agonist maintenance treatment.
- Explore approaches to incorporate deprescribing activities within everyday pharmacy practice to identify ways for prescriptions to be adapted to taper or stop at risk medications where harm clearly outweighs benefit.
- Explore opportunities to improve the physical layout of the pharmacy to support the pharmacy technician's role in medication management activities, such as the space and workflow requirements.

Integrated

- Support approaches that encourage sharing of electronic pharmacy records including records pertaining to medication use and health information such as patient signs, symptoms, and point-of-care testing data with patients and other health care providers/organizations.
- Improve linkages between pharmacists and the Patient's Medical Home as part of an integrated care system.
- Explore the development of a pharmacy accreditation model focused on ensuring pharmacies have processes in place to provide clinically-focused chronic disease prevention and management. This may include processes for routine clinically focused communication with other health care providers, routine triage and referral, routine follow up and monitoring, routine provision of self-management education, clinically oriented documentation in a sharable format, regular patient and community engagement/ input into pharmacist services and other critical processes and activities needed. This type of model would promote internal pharmacy reorganization and better external relationships with patients and other health care providers. (note: also listed in comprehensive/complete section above; it is repeated because it is an important opportunity to consider and is related to both principles).
- Support development of documentation guidelines about what to provide to other health care providers for each pharmacy based consultation including individualized recommendations regarding modifications, care plan, and transmittal via e-health technologies.
- Support approaches that improve pharmacist access to and ability to interpret relevant data in order to provide optimal medication management.
- Support activities that promote teamwork between pharmacists and technicians within the pharmacy.

[+]not disease oriented[238]
*comprehensive as it relates to drug therapy
**some future opportunities are repeated as they relate to more than one professional goal

FUTURE DIRECTIONS FOR THE PROFESSION OF PHARMACY

Two summary themes, **organizational change** and **better external relationships** have emerged as future directions the profession of pharmacy can take over the coming 5-10 years that will transform how pharmacy tackles the medication management needs of Ontarians for the purpose of improving health outcomes. These directions apply to pharmacists working in all practice settings.

Summary Theme 1: Organizational Change

The profession of pharmacy needs to undertake **substantial organizational change within the pharmacy setting**. In this transformation, specific policies and practices to support proactive, comprehensive, quality care for individual patients will be in place in every pharmacy and within organizations that support pharmacies. The ongoing goals, risks and needs of a patient will be explicitly identified and well understood by the pharmacist and form the basis of care provided by the pharmacist. Preventative care will be planned and organized for an individual patient or groups of patients as part of a continuous, routine care. Delivery of a professional pharmacy service to an individual will be considered as a tool or component of a more holistic care plan. Linking multiple service providers as a means to deliver more comprehensive care will be commonplace. Monitoring and follow-up will be part of routine care. Pharmacists and pharmacy technicians will practice to the full extent of their scopes and work as a team to provide clinical care. A pharmacy will optimize physical layout to support patient assessment and communication including the use of eHealth technology, private rooms, inter-professional and intra-professional teamwork. Documentation of any encounter in the clinical record will be considered essential so as to ensure complete clinical information will be available for the next encounter. Electronic pharmacy records will be arranged to support comprehensive and longitudinal clinical care that will also incorporate or link with dispensing and service delivery records, electronic records from other organizations (e.g. primary care or hospitals) and electronic software applications (Apps). Dispensing medication may or may not be a component of on-site pharmacy services. Quality improvement (including patient safety) and population based approaches to care delivery will be part of everyday practice. Patients who are more vulnerable, including those on high risk medications or with multimorbidity, will be a focus of increased attention. Most importantly, the transformation will occur in all pharmacy settings.

The achievement of organizational change transformation is not *dependent* on first attaining new scopes of practice. Rather, this transformation can be accomplished by leveraging existing opportunities to enhance how the profession of pharmacy applies the current scope of practice. There is a great need to ensure each patient can be served with optimal scope available at this time *before* seeking additional scope. Subsequently, further enhanced scopes, such as initiation of any prescription, making recommendations for common ailments or widening the set of approved injections given by pharmacists (or pharmacy technicians), will offer additional benefit for of patient care.

Summary Theme 2: Better External Relationships

The profession of pharmacy needs to **transform how it connects to patients where they live and with other health care organizations** including how connections occur among community, hospital, primary care, other health care professionals, long-term care and home settings. In this transformation, a pharmacist will have a relationship with their patient that strengthens pharmacist understanding of the spectrum of the patient's care. Pharmacists will develop and implement care plans together with other members of the health care team. Pharmacists will easily share clinical records with other health care providers or organizations, including those in a Patient's Medical Home, and with patients themselves. Patients will provide the pharmacist with information on their health through regular electronic (including health records or Apps at home) or manual information exchange. Pharmacists will have access to and interpret clinical information from other locations (e.g. community, hospital, home) including laboratory and diagnostic test results. Pharmacists will be able to easily triage or refer patients to other health and community organizations or activities and have a system in place to receive referrals from others inside or outside an organization. Pharmacy team members will initiate and participate in local education and health policy initiatives together with other health care team members. Pharmacy initiatives will be integrated into interprofessional health care pathways for the management of chronic disease or hospital admission / post hospital discharge care. Pharmacists will be active in local health policy decision making. Pharmacists from different organizations or sectors will have established ways of collaborating in the best interest of the patient (i.e. intra-professional collaboration).

ASSESSMENT OF MESPO IN RELATION TO EXPANDED SCOPES OF PROFESSIONAL PHARMACY PRACTICE

The Ministry of Health & Long-Term Care (MOHLTC) has developed the MESPO Framework to give structure to the way scope of practice requests are reviewed in Ontario. The MESPO Framework requires the submission of comprehensive documentation outlining justification for scope of practice requests based on a set of criteria. Evidence from the literature, the ministry's criteria for reviewing proposals, and key population and health system values, frameworks and strategies informed the development of MESPO. This evidence-based analytical framework takes a patient- and system-centred approach and will be used to review all outstanding and future scope of practice requests, while creating more transparency in this process. The two intended outcomes are improved patient outcomes and an enhanced review process. In this context, the MESPO Framework provides a foundation for the OCP (and the profession of pharmacy) to utilize in order to ensure evidence-based research and practice, and can support additional scope of practice activities that provide the best combined set of justifications.

When a scope of practice request or initiative is submitted to the MOHLTC, it will be assessed through the 2-step MESPO method outlined here. Step 1 asks whether the scope of practice request serves as a "Patient Need" or a "System Need". If it serves a **Patient Need**, the request is then assessed for alignment with the following 5 categories: **Patient Outcomes, Access to Care, Equity, Patient Preference, and Population Need**. If it serves a **System Need**, the request is checked against the following 4 categories: **Government Strategic Objectives, Health Care Workforce Planning, Technological**

advances/innovation, and Legislative/Regulatory Changes. The submission must address specific questions associated with the category, reference desired outcome, potential metrics and include sources of evidence. If the request submission meets the aforementioned criteria, the application will move forward to step 2. Step 2 features a "Value Assessment Framework". At this stage, the initiative must fit into one of the following 4 categories: Patient Benefit, Health System Benefit, Economic Impact, or Patient Safety. Again, the application is evaluated with respect to answers to specific category questions, assessing desired outcome, potential metrics and sources of evidence. If alignment and evidence is low, the application will less likely considered further for approval and may consequently be dismissed at this stage. If alignment and evidence is high, the application will move forward for consideration to be approved at one of three levels: full approval, limited approval or approval under specified conditions.

MESPO provides a structure and process for OCP and other stakeholders to assess future scope of practice requests and develop strategic priorities. Consideration of future opportunities for the profession of pharmacy, alongside MESPO, is intended to help inform pharmacy policy and practice opportunities in the coming 5-10 years.

The Model for Evaluation of Scopes of Practice in Ontario is a useful process to establish the justification for expanding the scope of pharmacy (or other health care provider) practice. At present, there are no potential scopes of practice that are able to demonstrate an evidence-based justification in all MESPO areas (i.e. a patient need, system need, patient benefit and health system benefit; see Tables 1 and 2 below). Instead, most new scopes (e.g. common ailments, initial prescribing authority, access to/ordering/interpreting laboratory tests) considered can be justified based on *some* MESPO criteria demonstrating that there is either a need or a benefit for considering a specific expanded scope. There is also a risk that MESPO will be applied in a manner that creates more hurdles or more regulation because the MESPO process requires consideration and supply of justification across many areas. Therefore, it will be helpful to consider how to balance efforts between maximizing existing pharmacist scope versus work to expand scope of practice and only apply the MESPO processes when the outcome is expected on balance to make a major difference in the lives of Ontarians.

Table 1. Justification to expand or enhance professional pharmacy practice based on "Patient Need" or a "System Need" according to the Model for Evaluation of Scopes of Practice (MESPO) for selected topics

Category	Type of Need	Pharmacist prescribing including common ailments	Pharmacists as Immunizers/ injectors	Chronic disease management (diabetes)	Opioid dependence	Medication review
Patient need	Patient outcomes		x	x	x	X
	Access to Care	x				
	Equity					
	Patient Preference					

	Population Need		x	x	x	
System need	Government strategic objective					
	Health care workforce planning					
	Technological Advancement/ Innovation					
	Legislation/ Regulatory changes					

Table 2. Justification to expand or enhance professional pharmacy practice based on potential for Value according to the Model for Evaluation of Scopes of Practice (MESPO) for selected topics

Category		**Pharmacist prescribing including common ailments**	**Pharmacists as Immunizers/ Injectors**	**Chronic disease, diabetes**	**Opioid dependence**	**Medication review**
Patient benefit	Clinical Outcomes			x		
	Patient Preferences		x		x	x
	Access to Care		x	x	x	x
	Equity					
	Population Need					x
Health system benefit	Strategic Objectives					
	Health care Workforce					
	Innovation					
	Legislation/Regulation		x	x		x
Economic Impact	Other professions		x			
Patient Safety	Professional Competencies					

The MESPO criteria are also useful to highlight evidence gaps that can be addressed by the profession in order to generate evidence in focused areas. Evidence gaps include the need for data on implementation of new professional pharmacy practice/medication management approaches from the perspective of

patients, pharmacists, other care providers and health related organizations. Evidence gaps also include the need for data on the health outcomes and health care resource utilization changes due to implementation of new professional pharmacy practice/medication management approaches. New evidence will improve understanding of how a particular expanded scope can better meet patient and health care system needs or provide associated benefits. In turn, this will help the profession of pharmacy transform to encourage organizational change within the pharmacy setting and transform how it connects to patients where they live and with other health care organizations.

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