



College of Pharmacists
of British Columbia

CERTIFIED PHARMACIST PRESCRIBER INITIATIVE DRAFT FRAMEWORK

February 2016

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Acronyms and Abbreviations

ACP	Alberta College of Pharmacists
ARNBC	Association of Registered Nurses of BC
BC	British Columbia
CPhA	Canadian Pharmacists Association
College	College of Pharmacists of BC
CPSBC	College of Physicians and Surgeons of BC
CRNBC	College of Registered Nurses of BC
MoH	Ministry of Health
UK	United Kingdom
USA	United States of America

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1.0 Purpose

This Certified Pharmacist Prescriber Initiative Draft Framework (draft framework) sets the parameters of the initiative. The Certified Pharmacist Prescriber Initiative is set out in the College's Strategic Plan, and is a priority for the Board. Previously known as the Advanced Practice Pharmacist Initiative, the title was updated and approved by the Board in September 2015 to better reflect the scope of the initiative. This draft framework outlines the societal need for the initiative, and includes an environmental scan of expanded scope of practice for pharmacists in other jurisdictions as well as other non-medical prescribers in British Columbia (BC). It outlines the proposed eligibility criteria, renewal requirements as well as the standards, limits and conditions to qualify as a Certified Pharmacist Prescriber. The College, with direction from the Certified Pharmacist Prescriber Task Group, developed this document for Board approval for the purposes of stakeholder engagement. Stakeholder engagement planning began in Winter 2015 and feedback will be gathered on the draft framework. The stakeholder engagement results will inform the final framework, which will be developed with direction from the Task Group. The report on stakeholder engagement will be shared with the Board in June 2016. The final Certified Pharmacist Prescriber Framework will be submitted to the Board in September 2016 for approval.

2.0 Issue

Traditional models of care with physician-dominated prescribing have come under pressure due to the combined effects of an expanding aging population, increasing burden of chronic diseases, physician shortages, limited access to primary care services, increasing prescription drug utilization, proliferation of new drug therapies, medication-related hospitalization and polypharmacy.

This growing pressure has led to expanding prescribing rights for pharmacists and other health care professionals to address the drug therapy needs of the population. The health care system is evolving to make better use of highly qualified health care professionals that results in a better team dynamic and partnerships among providers.^{1 2} Health care quality is getting the right care to the right patient at the right time from the right health care professional.^{3 4}

Prescribing allows pharmacists to play a greater role in optimizing patients' drug therapy, helping patients achieve their health goals, and improving patients' quality of life, while ensuring the quality of the medication use system, in collaboration with other health care providers.⁵

Prescribing rights vary for pharmacists across Canada; all provinces currently allow pharmacists to initiate Schedule I prescriptions, except BC.

Pharmacists are trained to prevent, identify, and resolve drug therapy problems. They have the knowledge, skills, and abilities to initiate, monitor and adjust drug therapy. Without the authority to prescribe, pharmacists make recommendations to an authorized prescriber and wait for the prescription

¹ Health Council of Canada. 2005. Primary Health Care: Background Paper.

² Health Council of Canada. 2008. Sustainability in Public Health Care: What Does It Mean? A Panel Discussion Report.

³ BC Patient Safety and Quality Council. 2016. Frequently Asked Questions.

⁴ Ontario Ministry of Health and Long-Term Care. 2012. Ontario's Action Plan for Health Care.

⁵ Canadian Institute for Health Information. 2011. Health Care Cost Drivers: The Facts.

to be authorized, or not. As a result, patients may face delays in treatment and timely access to medications. Pharmacist prescribing would allow timely interventions to initiate, modify, and discontinue therapies.

Pharmacist prescribing is not new in BC, but it is limited and restrictive. BC pharmacists:

- have been assessing patients and prescribing Schedule II and III drugs for years
- became the first in Canada to be formally granted independent authority for emergency contraceptives
- prescribe emergency supplies of drug therapy
- continue (refilling) and adapt (modifying) prescriptions written by authorized prescribers

The College presents evidence which supports an expanded scope of practice for BC pharmacists to prescribe Schedule I drugs based on the following factors (a) a patient-centred multidisciplinary collaborative approach in the delivery of health care services, especially patients with chronic diseases, (b) the need for timely access to primary care due to an expanding aging population and rising burden of chronic disease, (c) the need for timely access to medications for patients in the acute and inpatient settings, outpatient clinics, community-based primary care, and during transitions in care, (d) pharmacist expertise in medication use, (e) pharmacist experience with assessing patients and prescribing (although limited to Schedule II and III drugs and adaptations of prescriptions), (f) the College's role of ensuring patient safety throughout the continuum of care, and (g) significant expansion in pharmacist scope of practice nationally and internationally. A prescribing pharmacist would require College certification as a Certified Pharmacist Prescriber (see Appendix 1 for Certified Pharmacist Prescriber case scenarios).

3.0 Background

3.1 *Societal need for pharmacist prescribing*

At one time, prescribing was limited largely to physicians. However, growing pressure on the health care system, including limited access to primary care services, increasingly important roles for other health professionals, recognition of this expertise, and an increasing focus on a multidisciplinary collaborative approach in the delivery of health care services, especially with chronic diseases, have led to expansion of prescribing rights for other health care professionals including pharmacists. Expanded roles for health care professionals provide opportunities to fill gaps in the health care system when physicians are unavailable, to improve efficiency and access to care by enabling qualified non-physician providers to assess patients and provide care, and to better utilize health care professionals in multidisciplinary collaborative patient-centred health care environments to address patient population needs.

Effective drug therapy management is a key health care need. Canadians spent approximately \$25 billion on prescription drugs in 2009, over half of which was spent on chronic use drugs such as those to

manage cardiovascular risk factors and disease; however, medication adherence can be suboptimal,^{6 7} complicated by challenges accessing primary care.⁸ Individuals with chronic conditions of medium or high complexity use a greater number of health services, including drug therapies, and 50% of British Columbians are taking one or more prescription medications.^{9,10} People living in rural and remote areas face additional challenges as they tend to have poorer health status and limited access to health care services.¹¹

Inadequate drug therapy management can result in a number of complications, including drug-related hospitalization, sub-optimal drug therapy, over-prescribing, and other adverse incidents. A study of internal medicine units of Vancouver General Hospital found that about 25% of patients were hospitalized for drug-related causes, and over 70% were deemed preventable.¹²

The need for effective drug therapy management will continue to increase as BC's population ages. BC has the fastest growing population of seniors in Canada with almost 17% being age 65 or older; this is expected to double in the next 25 years.¹³ Many seniors develop complex health conditions as they age and many require multiple medications. Seniors are at a greater risk for adverse drug reactions and are five times more likely to be hospitalized as a result.¹⁴

Pharmacists have a professional responsibility to improve drug therapy outcomes for their patients and to improve the health care system. Pharmacist-led drug therapy management improves clinical outcomes for patients, contributes to health care cost savings, and receives high satisfaction ratings from patients.¹⁵ Pharmacist prescribing optimizes the pharmacist's role in medication management and could improve continuity of care by decreasing the number of steps a patient must take to obtain the optimal medication regimen for their condition.¹⁶

⁶ World Health Organization. Adherence to long-term therapies: Evidence for action. [Internet]. World Health Organization; 2003. Available from: <http://whqlibdoc.who.int/publications/2003/9241545992.pdf>

⁷ De Vera MA, Bhole V, Burns LC, Lacaille D. Impact of statin adherence on cardiovascular disease and mortality outcomes: a systematic review. *Br J Clin Pharmacol*. 2014 Oct;78(4):684–98.

⁸ Law MR, Ma T, Fisher J, Sketris IS. Independent pharmacist prescribing in Canada. *Can Pharm J (Ott)*. 2012 Jan;145(1):17-23.

⁹ Health Council of Canada. 2014. Where You Live Matters: Canadian Views on Health Care Quality.

¹⁰ Ministry of Health of British Columbia. 2015. Primary and Community Care in BC: A Strategic Policy Framework.

¹¹ Ministry of Health of British Columbia. 2015. Rural Health Services in BC: A Policy Framework to Provide a System.

¹² Samoy, LJ, Zed PJ, Wilbur K, Balen RM, Abu- Laban RB, Roberts M. Drug-related hospitalizations in a tertiary care internal medicine service of a Canadian hospital: A prospective study. *Pharmacotherapy* 2006;26(11):1578-86.

¹³ Ministry of Health of British Columbia. 2014. 2014/15 - 2016/7 Service Plan.

¹⁴ Canadian Institute for Health Information. 2014. Adverse drug reaction- related hospitalizations among seniors 2006 to 2011.

¹⁵ Ramalho de Oliveira D, Brummel AR, Miller DB. Medication therapy management: 10 years of experience in a large integrated health care system. *J Manag Care Pharm*. 2010;16(3):185-95.

¹⁶ Pearson, Glen et al. An Information Paper on Pharmacist Prescribing Within a Health Care Facility. *The Canadian Journal of Hospital Pharmacy*, [S.l.], v. 55, n. 1, May 2009.

Pharmacists' role in medication management *(includes the initiation of drug therapy):

- assess patients and their medication-related needs and identify actual or potential drug therapy problems
- formulate and implement care plans to prevent and/or resolve drug therapy problems
- recommend, adapt or initiate drug therapy where appropriate
- monitor, evaluate and document patients' response to therapy
- collaborate and communicate with other health care providers, in partnership with patients¹⁷

Pharmacists monitor the effects of drug therapy and make dosing and drug selection recommendations. What results without the authority to prescribe is often a redundant and time-consuming process, where pharmacists make recommendations to other health care professionals who are asked to approve them. This causes delays and inefficiencies that are not in the interest of patient care or safety, especially in cases of adverse effects or lack of therapeutic response, and does not improve the overall quality of therapeutic decision-making. Further, it requires patients to visit multiple healthcare practitioners and constrains the time that prescribers (e.g., physicians and nurse practitioners, etc.) have to provide other care within their scopes of practice. Prescribing authority provides pharmacists with an important tool to contribute to the optimization of medication use and improve patient health outcomes.

Lack of continuity and prescribing errors at transitions of care from community to hospital and hospital to community are major causes of morbidity, readmission, inefficiency, and patient dissatisfaction with care.^{18 19 20 21} This has become a major priority of health authorities and is a focus of accreditation standards for hospitals.²² Pharmacists in hospital and the community have a critical role in reconciling and optimizing drug therapy through these transitions. Prescribing is a key to doing this effectively and pharmacist prescribing would contribute greatly to achieving the goal of seamless care delivery.

* Medication management is defined as patient-centred care to optimize safe, effective and appropriate drug therapy. Care is provided through collaboration with patients and their health care teams. This definition was collaboratively defined by the Canadian Pharmacists Association, Canadian Society of Hospital Pharmacists, Association of Faculties of Pharmacy of Canada and Institute for Safe Medication Practices Canada.

¹⁷ Blueprint for Pharmacy Steering Committee. Medication Management Definition. Ottawa (ON): Canadian Pharmacists Association; 2012

¹⁸ Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Ann Intern Med* 2003;138:161–7

¹⁹ Kwan JL, Kwan JL, Lo L, Lo L, Sampson M, Sampson M, et al. Medication Reconciliation During Transitions of Care as a Patient Safety Strategy. *Ann Intern Med* 2013;158:397–403

²⁰ Rennke S, Nguyen OK, Shoeb MH, Magan Y, Wachter RM, Ranji SR. Hospital-initiated transitional care interventions as a patient safety strategy: a systematic review. *Ann Intern Med* 2013;158:433–40

²¹ Hesselink G, Schoonhoven L, Barach P, Spijker A, Gademan P, Kalkman C, et al. Improving patient handovers from hospital to primary care: a systematic review. *Ann Intern Med* 2013;158:417–28

²² American College of Clinical Pharmacy, Hume AL, Kirwin J, Bieber HL, Couchenour RL, Hall DL, et al. Improving care transitions: current practice and future opportunities for pharmacists. *Pharmacotherapy* 2012;32:e326–37
<https://accreditation.ca/medication-management-standards>

British Columbians want better, faster access to health care and have specifically identified pharmacists and nurses as key professionals best qualified to assist in alleviating physicians' workload.²³ British Columbians believe an expanded scope of practice will allow health care providers to provide a level of care more reflective of their qualifications, while increasing the efficiency and accessibility of British Columbian's health care network.²⁴ The MoH has responded with expanded scope of practice, including prescribing rights for some health care providers (excluding pharmacists) to initiate prescriptions. Pharmacists are limited to adaptations of prescriptions from authorized prescribers.

As the most accessible health care providers and the first point of contact with the health system for most patients,²⁵ pharmacists can provide efficient care, and offer care when other providers are unavailable or unable to see patients in a timely manner. This expanded scope of practice for pharmacists could ease some of the pressure on access to primary care for British Columbians, and ensure quality continuity of care as patients move from hospital to community pharmacy care.

Pharmacists have the knowledge and skills to initiate, monitor and adjust drug therapy. These skills have been standard competencies in pharmacy degree programs for several years.²⁶ Pharmacists are well positioned for expanded prescribing rights to help patients, other health care professionals, and the health care system achieve more effective and efficient drug therapy outcomes. Several studies have shown improved patient outcomes with pharmacist prescribing.^{27 28 29 30 31 32 33 34}

3.2 Other prescribers in BC

Through the *Prescribed Health Care Professions Regulation*, prescribing authority has been extended over recent years to a number of BC health professionals including optometrists, naturopaths, midwives, and nurse practitioners (see Appendix 2). The objective of the Certified Pharmacist Prescriber Initiative is pharmacist authority for timely prescribing (initiating, modifying, and discontinuing therapies) as a

²³ Geoffrey Appleton, MB. The consensus? There is no consensus.. BCMJ, Vol. 50, No. 1, January, February, 2008, page(s) 10 — President's Comment.

²⁴ Ministry of Health of British Columbia. 2007. Input on the Conversation on Health.

²⁵ Available at: <http://www.pharmacists.ca/index.cfm/news-events/news/pharmacists-improve-health-care-access-in-ontario/>

²⁶ The Association of Faculties of Pharmacy of Canada (AFPC) "Educational Outcomes for First Professional Degree Programs in Pharmacy (Entry-to-Practice Pharmacy Programs) in Canada" [<http://www.afpc.info/node/39>]

²⁷ Al Hamarneh YN, Charrois T, Lewanczuk R, et al. Pharmacist intervention for glycaemic control in the community (the RxING study). *BMJ Open* 2013;3:e003154.

²⁸ McAlister FA, Majumdar SR, Padwal RS, et al. Case management for blood pressure and lipid level control after minor stroke: PREVENTION randomized controlled trial. *CMAJ* 2014;186:577-84

²⁹ Cochrane for Clinicians (2013). Appropriate use of polypharmacy for older patients. *Am Fam Physician*. 2013 Apr1;87(7):483-484.

³⁰ Tsuyuki R, Houle S, Charrois T, et al. A randomized trial of the effect of pharmacist prescribing on improving blood pressure in the community: the Alberta clinical trial in optimizing hypertension (RxACTION). *Can Pharm J (Ott)* 2014;147:S18.

³¹ Rosenthal M, Tsuyuki R. A community-based approach to dyslipidemia management: pharmacist prescribing to achieve cholesterol targets (RxACT Study). *Can Pharm J (Ott)* 2014;147(4):S20

³² Al Hamarneh Y, Sauriol L, Tsuyuki R. Economic analysis of the RxING study. *Can Pharm J (Ott)* 2014;147:S47

³³ Dole EJ, Murawski MM, Adolphe AB, et al. Provision of Pain Management by a Pharmacist with Prescribing Authority. *AM J Health- Syst Pharm*. 2007; 64: 85- 89.

³⁴ Finley PR, Rens HR, Pont JT, et al. Impact of a Collaborative Pharmacy Practice Model on the Treatment of Depression in Primary Care. *Am J Health- Syst Pharm*. 2002; 59(16): 1518- 1526.

component of drug therapy management to improve patient outcomes, enhance patient safety, care and access in multidisciplinary environments.

3.3 Current scope of pharmacist practice in BC

Since 2009, the pharmacist scope of practice has included continuing and adapting prescriptions written by authorized prescribers, as well as administering injections. For several years, pharmacists have been assessing patients and prescribing Schedule II and III drugs³⁵. Since 1999, pharmacists have the authority to prescribe an emergency supply of prescription medications. The BC Ministry of Health's *Pharmacists Regulation*, states that pharmacists may prescribe Schedule IV drugs³⁶ for emergency contraception (ethinyl estradiol, norgestrol, progestin).

3.4 Position of the Canadian Pharmacists Association (CPhA)

In 2011, the CPhA released the *Position Statement on Pharmacist Prescribing*.³⁷ The Statement emphasizes the need for a patient-centred approach, collaboration with other health care providers, and communication and documentation. The document notes that, “*The pharmacist, by having the authority to initiate, continue, and modify prescriptions, can improve the safety and effectiveness of drug therapy. In addition, as the most accessible health care professional, pharmacists will be able to improve access to appropriate medication therapy for patients.*”

3.5 Scope of pharmacist practice nationally and internationally

Pharmacists have gained different levels of prescribing rights in other Canadian jurisdictions as well as several international jurisdictions, e.g., the UK, parts of the USA, and New Zealand (see Appendix 3). The CPhA reported that, as of September 2015, initiating prescriptions is possible in all Canadian provinces except BC (see Appendix 3). Pharmacist prescribing rights have been established with the goals to improve access to primary care, improve timely access to medications, make better use of pharmacist knowledge and skills, increase drug-therapy monitoring, reduce costs (fewer visits to the emergency department), improve continuity of care and improve patient outcomes.^{38 39}

³⁵ Schedule II drugs may be sold by a pharmacist on a nonprescription basis and which must be retained within the Professional Service Area of the pharmacy where there is no public access and no opportunity for patient self-selection.

Schedule III drugs may be sold by a pharmacist to any person from the self-selection Professional Products Area of a licensed pharmacy. Examples include miconazole for vaginal use and tetracaine for topical use on mucous membranes. A description of the *Drug Schedules Regulation* is available at: http://library.bcpharmacists.org/D-Legislation_Standards/D-4_Drug_Distribution/5012-Drug_Schedules_Regulation.pdf

³⁶ Schedule IV drugs are those prescribed by a pharmacist and include “drugs which may be prescribed by a pharmacist in accordance with guidelines approved by the Board” (from the *Drug Schedules Regulation* available at: http://library.bcpharmacists.org/D-Legislation_Standards/D-4_Drug_Distribution/5012-Drug_Schedules_Regulation.pdf)

³⁷ Available at: <http://www.pharmacists.ca/cpha-ca/assets/File/cpha-on-the-issues/PPPharmacistPrescribing.pdf>

³⁸ Department of Health. Improving Patients' Access to Medicines: A Guide to Implementing Nurse and Pharmacist Independent Prescribing within the NHS in England. London: Department of Health; 2006.

³⁹ MacLeod-Glover, N. (2011), An explanatory policy analysis of legislative change permitting pharmacists in Alberta, Canada, to prescribe. *International Journal of Pharmacy Practice*, 19: 70–78. doi: 10.1111/j.2042-7174.2010.00074.x

4.0 Position of the College of Pharmacists of BC

The College is the regulatory body for the pharmacy profession in BC. The College protects public health by registering and regulating pharmacists and pharmacy technicians and the places where they practice. The College is responsible for making sure every pharmacist and pharmacy technician in BC is fully qualified and able to provide the public with competent care.

The Certified Pharmacist Prescriber Initiative is a priority of the College Board in response to the need for improved patient safety through effective drug therapy management (includes initiation of drug therapy). The College's position is that the Certified Pharmacist Prescriber Initiative will:

- make better use of pharmacist expertise with medication use to improve patient safety and drug therapy outcomes
- increase patient choice and access to primary care services
- reduce delays in treatment and access to medications
- improve support to patients, physicians, and other members of the health care team
- foster collaborative multidisciplinary environments
- align with primary health care reform

To ensure competency, the College will require all pharmacists applying for prescribing authority to meet the educational program and assessment requirements recommended by the College's multidisciplinary Drug Administration Committee.

Expanding the authority for pharmacist prescribing to initiate schedule I drugs is intended to make better use of pharmacist expertise with medication use in response to primary health care reform, multidisciplinary collaborative environments, more effective utilization of health human resources, and the need to improve patient safety and drug therapy management.

5.0 Alignment with BC Government Policy

BC's health system is challenged by demands for access, timeliness, quality, and sustainability. The Ministry of Health (MoH) has described the province's current health service design and delivery system as neither optimal in meeting the needs of several key patient populations nor sustainable over the next 10 to 15 years. Two of the three priority areas the MoH is focusing on are:⁴⁰

- improving the effectiveness of primary, community, medical specialist, and diagnostic and pharmacy services for patients with moderate-to-high complex chronic conditions, patients with cancer, and patients with moderate-to-severe mental illness and substance use, to significantly reduce demand on emergency departments, in-patient bed utilization, and residential care
- establishing a coherent and sustainable approach to delivering rural health services

As part of its efforts to reform the health system, the MoH is aiming to enhance drug therapy management through multidisciplinary teams, citing evidence⁴¹ that multidisciplinary teamwork and interventions that address polypharmacy decrease inappropriate prescribing and medication-related problems in patients. As a result, a key recommendation of the Ministry's *"Primary and Community Care in BC: A Strategic Policy Framework"*⁴² is building multidisciplinary teams – including pharmacists – for people with complex needs. Pharmacists can play a key role in stopping, reducing, or slowly withdrawing medications that are inappropriate, unsafe or ineffective.⁴³

The Certified Pharmacist Prescriber Initiative also aligns with the MoH document: *"Enabling Effective, Quality Population and Patient-Centred Care: A Provincial Strategy for Health Human Resources"*. To help drive health system changes, a health human resource strategy will also be developed that will analyze issues such as optimizing scopes of practice, role enhancement, and role enlargement.⁴⁴ The initiative addresses current health system concerns and proposes an innovative solution used in other jurisdictions that will work synergistically with recommendations in the Ministry's cross-sector policy discussion papers.

The introduction of Certified Pharmacist Prescribers will improve patient choice and access to health care services, reduce delays in treatment, and provide timely access to medications. All of these are synergistic with the MoH's objectives for enhancing the effectiveness and efficiency of the health care system.

⁴⁰ Ministry of Health of British Columbia. 2015. Delivering a patient-centred, high performing and sustainable health system in BC: a call to build consensus and take action.

⁴¹ Cochrane for Clinicians (2013). Appropriate use of polypharmacy for older patients. *Am Fam Physician*. 2013 Apr1;87(7):483-484.

⁴² Ministry of Health of British Columbia. 2015. Primary and Community Care in BC: A Strategic Policy Framework.

⁴³ Kwan D, Farrell B. Polypharmacy. Canadian Healthcare Network – Pharmacy Practice. April 1, 2013.

⁴⁴ Ministry of Health of British Columbia. 2015. Enabling Effective, Quality Population and Patient-Centred Care: A Provincial Strategy for Health Human Resources.

6.0 Benefits of the Certified Pharmacist Prescriber Initiative for BC's Health Care System

The Certified Pharmacist Prescriber Initiative will help address current demands for enhanced access, timeliness, and quality of health care services by:

- increasing patient access to health care services while alleviating pressure on other parts of the health care system by allowing more time for other prescribers, such as physicians and nurse practitioners, to focus on other medical issues
- improving access to drug therapy for patients by optimizing the use of the expert drug knowledge of Certified Pharmacist Prescribers
- reducing delays in initiating and changing therapy to optimize drug therapy
- improving patient health outcomes^{27 28 29 30 31 32 33 34}
- increasing the capacity of highly qualified health care professionals to meet the demands for appropriate prescription drug utilization by an aging population and the rising burden of chronic disease
- preventing delays in discharge for patients in hospital beds cleared for discharge but waiting for an authorized prescriber to write or sign the orders
- reducing the number of practitioners a patient must visit to be assessed and, if necessary, access drug therapy
- improving continuity of care and patient flow by reducing unnecessary interruptions and providing seamless care, for example, when transitioning between settings (e.g., between inpatient and community care)
- supporting greater collaboration among health care professionals
- creating opportunities to enhance patient safety and reduce adverse drug events and hospital admissions with drug therapy management which includes identifying, preventing, and resolving drug therapy problems

7.0 Details of the Certified Pharmacist Prescriber Initiative

7.1 Proposed eligibility criteria

A full pharmacist registered with the College would be qualified to apply as a Certified Pharmacist Prescriber after meeting the following criteria: be in good standing as a full pharmacist with the College, and successfully complete an educational program and assessment. The educational program will include testing on therapeutics, patient assessment, and the ordering and interpreting of laboratory tests. The College's multidisciplinary Drug Administration Committee will be leading the development of the educational program and assessment.

7.2 Proposed renewal requirements

Renewal requirements for a Certified Pharmacist Prescriber includes proof of additional 15 units of continuing education in the area of prescribing, and an annual self-declaration.

7.3 Proposed standards, limits, and conditions

Standards:

1. Pharmacists prescribe Schedule I, II, or III drugs only within the scope of their education, training and competence.
2. Pharmacists must have the patient or patient's representative informed consent before undertaking prescribing.
3. Pharmacists must review the patient's PharmaNet profile prior to prescribing.
4. Pharmacists must conduct a patient assessment that includes:
 - developing and/or updating a best possible medication history
 - other relevant health information
5. Pharmacists must conduct a patient assessment that may include, as appropriate:
 - physical Assessment
 - mental health assessment
 - laboratory values
 - diagnostic information
6. Pharmacists must refer the patient to another prescriber as appropriate.
7. A pharmacist may prescribe a drug based on the pharmacist's own assessment.
8. A pharmacist may prescribe a drug based on validation of another regulated healthcare professional's assessment of the patient, as per standard 4 and standard 5.
 - The prescribing pharmacist is ultimately responsible for how they use the assessment information, regardless of who conducted the assessment

9. A pharmacist must only prescribe where there is a genuine clinical need for treatment, and should only prescribe medication to meet identified needs of patients and never for convenience, or because patients demand the medication.
10. A pharmacist engages in evidence-informed prescribing and considers best practice guidelines and other relevant guidelines and resources when prescribing for patients, including when recommending complementary or alternative health therapies.
11. A pharmacist is solely accountable for their prescribing decision.
12. If an adverse drug reaction as defined by Health Canada is identified the pharmacist must notify the patient's practitioner, make an appropriate entry on the PharmaNet record, and report the reaction to the Canada Vigilance Program regional office.
13. After prescribing, pharmacists must:
 - inform patients of the need for follow-up care to monitor whether any changes to the prescription are required
 - monitor patients for any adverse events, emerging risks, or complications
 - stop drug therapy, following appropriate protocol, if it is not effective, or the risks outweigh the benefits
14. Completes prescriptions accurately and completely, that includes all information required for a prescription, in accordance with Schedule F, Part 1, Section 6(2).
15. Notify and provide relevant information to the patient's primary care provider and other health professionals, as appropriate.
16. The pharmacist must document in the patient's record:
 - informed consent
 - the patient and/or the patient representative (name: _____) was provided sufficient information about the proposed course of treatment, including any known serious or common side effects or adverse reactions, and voluntarily provided their informed consent
 - patient assessment
 - prescribing decision and the rationale
 - patient understood the instructions provided
 - monitoring and follow-up plan
 - patient's primary health care provider and other relevant health professionals, as appropriate were notified and provided with relevant information

17. Pharmacists should collaborate by communicating respectfully, effectively and in a timely way about a patient with the patient's primary health care professionals, and other health care providers as appropriate.
18. Pharmacists should take reasonable steps to engage a patient's primary health care professional and other health care professionals as appropriate in discussions aimed at determining mutual goals of therapy for a patient and mutual sharing of relevant patient information.
19. A pharmacist who transfers care to another pharmacist or other health care provider within the same or different pharmacy, hospital, or other healthcare facility must ensure the accepting health care provider has the necessary information to assume care.

Limits:

1. A Certified Pharmacist Prescriber is not authorized to prescribe controlled drug substances which are regulated federally by the *Controlled Drugs and Substances Act* and its regulations.
2. A Certified Pharmacist Prescriber must not prescribe a drug unless the intended use is:
 - an indication covered by Health Canada
 - considered a best practice or accepted clinical practice in peer-reviewed clinical literature
 - part of an approved research protocol
3. A Certified Pharmacist Prescriber that prescribes a medication for a patient must not dispense that medication, unless:
 - the patient has been advised that he or she may choose to have the prescription dispensed by another pharmacist or pharmacy
 - no other pharmacist is available on site
 - the patient's informed consent to dispense the drug has been obtained
4. A Certified Pharmacist Prescriber must not self-prescribe or prescribe for a family member or friend, unless there is an emergency and no other prescriber is available.

Conditions:

1. A full pharmacist must apply to the College of Pharmacists of BC to be a Certified Pharmacist Prescriber to prescribe Schedule I, II or III drugs.
2. A full pharmacist must not prescribe Schedule I, II or III drugs prior to receiving confirmation from the College of Pharmacists of BC of their Certified Pharmacist Prescriber authority to prescribe Schedule I, II or III drugs.
3. Must have a private consultation room to conduct patient assessment.

8.0 Maintaining Patient Safety with Certified Pharmacist Prescribers

The College's role is to protect the public by ensuring that patients receive safe and effective pharmacy care. The following potential implementation challenges have been identified about maintaining patient safety with the introduction of the Certified Pharmacist Prescriber Initiative and were considered in the development of the draft framework. Stakeholder engagement will also help inform the best possible regulatory framework for the Certified Pharmacist Prescriber Initiative.

8.1 Considerations for standards, limits and conditions

Proposed Certified Pharmacist Prescriber standards, limits and conditions are included in the framework to ensure patient safety maintained:

- standards for transfer of care to avoid fragmentation of care
- standards for collaborative practice in an environment of multiple prescribers (considerations are facilitation of communication, mutual goals of therapy that are acceptable to patients, sharing of health information, establishing the expectations of each regulated health professional when working with a mutual patient)
- limits to ensure that the same pharmacist does not prescribe and dispense, unless:
 - the patient has been advised that he or she may choose to have the prescription dispensed by another pharmacist or pharmacy, and
 - no other pharmacist is available on site, and
 - the patient's informed consent to dispense the drug has been obtained

8.2 Managing the potential perverse incentive to prescribe and dispense

Robust standards are required to mitigate the potential for financial interests affecting advice or treatment of the patient. Considerations for addressing this incentive include:

- that any indication that a decision is based on benefit to the pharmacist or pharmacy, rather than the patient, will be considered professional misconduct
- that a pharmacy owner cannot prescribe drugs pursuant to the *BC Pharmacy Operations and Drug Scheduling Act (PODSA)*, section 5(1) and therefore pharmacy owners are not eligible to apply for Certified Pharmacist Prescriber
- the College's Code of Ethics and Conflict of Interest Standards includes clear guidance for BC pharmacists (<http://www.bcpharmacists.org/acts-and-bylaws>) regarding patient choice, informed consent and conflict of interest clauses
- collaborative practice standards for prescribing are provided to keep physicians and other health care providers informed

- implementing monitoring activities such as: (a) monitoring pharmacist prescribing; (b) identifying pharmacist owner prescribing and dispensing; (c) identifying prescribing of narcotic and controlled drugs; (d) checking documentation for patient consent; (e) targeting drugs for chronic conditions or that require laboratory monitoring; (f) targeting duplicate prescribing; and (g) running PharmaNet exception reports to identify pharmacists prescribing and dispensing for the same prescription at the same pharmacy and at multiple pharmacies with the same owner

8.3 Ordering and accessing laboratory tests

The College has identified the value of a Certified Pharmacist Prescriber having the authority and ability to order and interpret laboratory tests to prescribe for relevant drug therapies. This element falls outside the scope of the Certified Pharmacist Prescriber Initiative, as it is not within the College’s jurisdiction.

9.0 Stakeholder Engagement

The College will begin early stakeholder engagement in Spring 2016. Stakeholder groups include other health professionals in BC who have prescribing authority, pharmacy groups, and patient groups. Stakeholder engagement will help inform the final framework, which will be developed with direction from the Task Group, and presented to the Board for approval.

10.0 Next Steps

The stakeholder engagement results will inform the final framework which will be included in the College’s submission to the Ministry of Health. The report on stakeholder engagement will be shared with the Board in June 2016. The final Certified Pharmacist Prescriber Framework will be submitted to the Board in September 2016 for approval.

Appendices	
1	Certified Pharmacist Prescriber Case Scenarios
2	Other Prescribers in BC – Prescribing Parameters
3	Pharmacists’ Prescribing Authorities Nationally and Internationally
4	CPhA “Pharmacists’ Expanded Scope of Practice in Canada, January 2016”

Appendix 1: Pharmacist Prescribing Case Illustrations

These cases are based on actual patients encountered in practice and illustrate actions taken by pharmacists.

They are written in the standard form of health care professionals communicating with each other.

Like all health care professionals, pharmacists must gather information about their patients' condition and/or concerns, synthesize this information to draw conclusions about the potential etiologies of problems, and perform interventions to resolve the problems and thereby improve their patients' health. Many terms are used for these fundamental components of health care provision. In the cases below, the following are the terms used and their definitions:

“Assessments by pharmacist” – Describes patient assessments performed by the pharmacist, including those based on interview, physical assessment, and laboratory test interpretation. Such assessments take many forms and are influenced and guided by the patient's presentation and the information available and the clinical acumen and professional judgment of the pharmacist.

“Synthesis” – a description of the conclusions reached by the pharmacist based on the Assessments performed. These conclusions may prompt actions in order to address and resolve the patient's issue(s).

“Actions” - distinct from the “Assessments” (which are also types of actions), these are the interventions the pharmacist performs in order to address the patients' problems and improve their health.

Cases 1 – 6 are prescribing pharmacists' approach to managing self-limiting conditions.

Acknowledgement: University of Saskatchewan Guidelines for Minor Ailment Prescribing (<http://medsask.usask.ca/professional/guidelines>)

Cases 7-17 are prescribing pharmacists' approach to managing chronic conditions and a few examples of other scenarios.

Selected Medical Abbreviations used in the Cases:

A+O: alert and oriented	JVP: jugular venous pressure
A1C: hemoglobin A1C	LAA: left atrial appendage
ACR: albumin to creatinine ratio	LVEF / EF: left ventricular ejection fraction / ejection fraction
AECOPD: acute exacerbation of COPD	MedicationHx: medication history
AF: atrial fibrillation	MMSE: mini mental status exam
ASCVD: atherosclerotic cardiovascular disease	MPL: medical problem list
BP: blood pressure	NFA: no fixed address
CAD: coronary artery disease	NKA: no known allergies
CC: chief complaint	NOAC/DOAC: new oral anticoagulant / direct oral anticoagulant
CBC: complete blood count	NRT: nicotine replacement therapy
CHADS₂/ CHA₂DS₂-VASc: the two dominant atrial fibrillation stroke risk estimation clinical prediction rules	O/E: on examination
CKD: chronic kidney disease	OAC: oral anticoagulant
COPD: chronic obstructive pulmonary disease	PFT: pulmonary function test (spirometry)
CVD: cardiovascular disease	POC: point-of-care
eGFR: estimated glomerular filtration rate	PMH: past medical history
EMR: electronic medical record	PVD: peripheral vascular disease
FBG: fasting blood glucose	QOL: quality of life
FRS: Framingham risk score	SOBOE: shortness of breath on exertion
GERD: gastroesophageal reflux disease	SocialHx: social history
HCTZ: hydrochlorothiazide	S&Sx: signs and symptoms
HF: heart failure	STEMI: ST-elevation myocardial infarction
HPI: history of present illness	T2DM: type 2 diabetes mellitus
HTN: hypertension	Td booster: tetanus diphtheria booster
Hx: history	UBT: urea breath test

CASE 1: Acne

ID	A 15-year-old male presents to you in today in your community pharmacy, accompanied by his mother	SOCIALHx	Unremarkable
CC	They are seeking your recommendation on therapy for his “acne”	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • Topical benzoyl peroxide 2.5% for acne x 6 months. • NKA • Immunizations up to date
HPI	Acne first appeared about 1 year ago and he has been managing it with hygiene, “diet”, and benzoyl peroxide products. It has progressed and he is eager to do something more effective	O/E	<ul style="list-style-type: none"> • Comedones (open and closed), papules, pustules on cheeks, forehead, nose, chin, neck • No cysts, no nodules • No other locations affected
PMH	None	MPL	Acne

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (including PharmaNet) (BPMH)
- Assess regimen and routine with current benzoyl peroxide
- Assess based on patient interview willingness to use topical medications, potential for adherence, and affordability

SYNTHESIS

- Mild-moderate acne vulgaris based on physical assessment
- Intensification of treatment and education warranted

ACTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Prescribe benzoyl peroxide 10% topical and educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost, administration instructions) <ul style="list-style-type: none"> ○ apply to the entire affected area, not "spot treatment" | <ul style="list-style-type: none"> • Educate and co-create treatment goal. e.g., within 8 weeks, lesion count decreased by 10-25%, comedones have decreased or less are developing, inflammatory lesions have mostly resolved • Advise that therapy can continue indefinitely until after puberty, when acne usually resolves spontaneously |
|---|---|

- symptoms may worsen initially for the first 2 to 4 weeks
- may take up to 3 months for maximum improvement of symptoms
- if skin irritation is bothersome, use every other day
- consult pharmacist or GP if skin irritation becomes severe

- Advise to use water-based moisturizing cream for skin dryness
- Educate re: other therapeutic options if current strategy unsatisfactory [topical retinoids (tretinoin, adapalene, tazarotene), topical antibiotics (erythromycin, clindamycin), combinations]
- Generate documentation and convey to primary care provider

MONITORING PLAN

- Reassess patient in 8 weeks in person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

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CASE 2: Allergic Rhinitis

ID	27-year-old female presents to your community pharmacy today seeking a “better antihistamine” for her symptoms	SOCIALHx	Unremarkable
CC	Itchy eyes, rhinorrhea, and nasal congestion. Symptoms onset 3 weeks ago	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> loratidine 10mg once daily seasonally NKA Immunizations up to date
HPI	Similar syndrome annually at this time of year. Usually lasts ~8weeks and self-managed with H1 antagonists, but she suspects something more can be done	O/E	As above
PMH	None	MPL	Allergic rhinitis

ASSESSMENTS BY PHARMACIST

- Assess based on patient interview willingness to take, potential for adherence, affordability of additional medication, including intranasal therapy
- Assess loratidine adherence. Adherence is good

SYNTHESIS

- S&Sx consistent with allergic rhinitis

ACTION

- | | |
|---|---|
| <ul style="list-style-type: none"> Prescribe beclomethasone 50ug/dose aqueous nasal spray, 1 spray in each nostril once daily Advise her to hold her loratidine starting in 2 days educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost, administration instructions and patient demonstration) | <ul style="list-style-type: none"> Advise that if after a week there is no improvement or insufficient improvement, come back (options would include increasing the dose/frequency, adding loratidine to the regimen) Advise her to try discontinuing at the time when her symptoms usually abate Generate documentation and convey to primary care provider |
|---|---|

MONITORING PLAN

- Reassess patient in 2 weeks via phone or in person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

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CASE 3 : Atopic Dermatitis

ID	55-year-old female presents to your community pharmacy	SOCIALHx	Unremarkable
CC	Itchy rash on her hands and is seeking treatment	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> levothyroxine 75 mcg once daily x 3 years
HPI	Started 5 days ago. She has been using a moisturizing cream for the “dryness”, but it hasn’t helped much	O/E	<ul style="list-style-type: none"> skin on backs of hands dry, cracking, erythematous, itchy, signs of excoriation d/t scratching appears well otherwise
PMH	Hypothyroidism x 3 years	MPL	<ul style="list-style-type: none"> rash, suspected atopic dermatitis

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- No exposure to photosensitizing drugs, suspicious plants, detergents, or other toxins, not suspicious for adverse drug reaction
- Based on patient interview, the rash is confined to the hands. No other body parts affected
- Patient reports having TSH measured 1 months ago and it was “normal”
- Assess based on patient interview willingness to use topical medication, potential for adherence, affordability

SYNTHESIS

- Appears to be atopic dermatitis warranting initial therapy
- No pustules, no plaques, appearance not consistent with bacterial infection

ACTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Educate about atopic dermatitis (chronic, recurring condition, manageable, not curable) • Educate about potential allergen triggers (soaps, grass/leaves, detergents, alcohol based products, shampoos, astringents) • Prescribe triamcinolone acetonide 0.1% cream, applied to affected area twice daily | <ul style="list-style-type: none"> • ~2 days after symptoms have resolved, use hydrocortisone 0.5% twice daily for 5-7 days before discontinuing, and educate re: rationale (rebound prevention) • Advise to continue to use moisturizing lotion as needed 2-3 times/day indefinitely |
|---|---|

- Educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost, administration instructions)
- Expect resolution in 1-2 weeks, and continue for ~2 days after resolution

- Advise to perform this treatment plan whenever the symptoms recur, which is likely
- Advise to consult with you or GP if the symptoms do not resolve after 2 weeks of triamcinolone therapy.
- Generate documentation and convey to primary care provider

MONITORING PLAN

- Reassess patient in 1 week via phone or in-person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

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CASE 4: Cold Sore

ID	23-year-old male university student presents to your community pharmacy	SOCIALHx	Unremarkable
CC	Cold sore. He is aware that viruses cause them, and is seeking “antibiotics”	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • No medications • NKA • Immunizations up to date
HPI	Onset 2 days ago	O/E	<ul style="list-style-type: none"> • Vesicular lesion on border of upper lip
PMH	None, other than one previous cold sore 1 year ago	MPL	<ul style="list-style-type: none"> • Presumed cold sore

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Lesion is visually consistent with herpetic cold sore
- No fever, so systemic symptoms, feels otherwise well
- Interview reveals that there were 2-3 days of tingling and burning before the lesion erupted
- Assess based on patient interview willingness to take medication, potential for adherence, affordability

SYNTHESIS

- S&Sx consistent with cold sore
- second episode, so recurrence is likely
- lesion present, so antiviral therapy unlikely to be effective

ACTION

- | | |
|---|--|
| <ul style="list-style-type: none"> • Educate re: causes (HSV), triggers (stress, sun exposure, systemic infections) transmission (via saliva), and prognosis (lesions normally crust over and heal without scarring in 7-10 days, and often recur) • Educate re: non-pharmacologic treatment <ul style="list-style-type: none"> ○ keep the area clean using mild soap and water ○ avoid touching the lesion to prevent spread of HSV | <ul style="list-style-type: none"> • Recommend Zilactin® if pain and itching are an issue, and educate re: administration instructions (esp, hand washing) • Advise that next time he feels the prodrome (tingling burning), consult with pharmacist or GP immediately (ie, within 1-2 hours) so that antiviral therapy (e.g. valacyclovir 2g bid x 2 doses) can be prescribed. Advise that you can provide a prescription for this now so he can initiate promptly in the future, if he wishes. |
|---|--|

- wash hands before & after applying products and after touching the affected area
- avoid kissing and oral sex until lesion is gone

- Generate documentation and convey to primary care provider

MONITORING PLAN

- Reassess patient in 1 week via phone or in-person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

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CASE 5: Aphthous Ulcers

ID	48-year-old male presents to your community pharmacy	SOCIALHx	Unremarkable
CC	“Canker sores” in the mouth that “keep happening and aren’t going away”	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> No medications. NKA Immunizations up to date
HPI	Current ulcers present for ~1 week. No identifiable precipitants.	O/E	<ul style="list-style-type: none"> 4 white ~3mm diameter sores in upper and lower oral mucosa
PMH	None, other than “canker sores” every few months. They typically persist for 1-3 weeks.	MPL	<ul style="list-style-type: none"> presumed aphthous ulcers

ASSESSMENTS BY PHARMACIST

- Assess based on patient interview willingness to use topical medication, potential for adherence, affordability

SYNTHESIS

- S&Sx consistent with aphthous ulcers, no obvious precipitants or complicating factors (e.g., immunocompromised, adverse drug reactions), topical triamcinolone appropriate

ACTION

- | | |
|---|--|
| <ul style="list-style-type: none"> Educate re: assessment, identity of the lesions, common causes Prescribe triamcinolone 0.1% oral paste (Oracort®) for 7 days Educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost, administration instructions [small dab of about ~0.5cm over the sore at bedtime until a smooth, slippery, thin film develops. Use only enough to coat the area with a thin film. Do not rub in as the film may break]). Reapply 2 or 3 times a day after meals, depending on the severity of symptoms. Stop using when lesions resolve. | <ul style="list-style-type: none"> Advise to use acetaminophen or ibuprofen for pain PRN Educate re: avoiding possible precipitants (e.g., spicy foods, acidic drinks, oral injury from toothbrush, mouthguard) Generate documentation and convey to primary care provider. |
|---|--|

MONITORING PLAN

- Reassess patient in 1 week via phone or in-person.
- May continue therapy x 1 more week if partial resolution

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

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CASE 6: Oral Thrush

ID	72-year-old female presents to your community pharmacy	SOCIALHx	Unremarkable. Stopped smoking 3 years ago.
CC	Fuzzy feeling and white spots in mouth	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • amlodipine 10mg once daily x 2 years • atorvastatin 20mg once daily x 2 years • Advair (salmeterol / fluticasone) 2 puffs bid x 1 month • Ipratropium 2 puffs qid prn
HPI	First noticed about 3 days ago	O/E	<ul style="list-style-type: none"> • White lesions visible on oral mucosa and tongue, non-painful • No respiratory distress, no cough, no sputum production • Otherwise unremarkable
PMH	<ul style="list-style-type: none"> • COPD • Hyperlipidemia • HTN 	MPL	<ul style="list-style-type: none"> • Possible oral candidiasis (oral thrush)

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Assess MDI technique, including all steps patient follows before and after using (i.e., including whether she rinses her mouth)
- Assess based on patient interview willingness to use topical medication, potential for adherence, affordability

SYNTHESIS

- Immunocompetent
- Lesions and Hx most consistent with oral thrush
- Oral thrush likely caused by recent initiation of fluticasone

ACTION

- Educate re: assessment and cause
- Prescribe nystatin oral suspension 100,000 U/mL QID x 1 week (swish, retain in mouth for as long as possible (up to a few minutes), swallow) and educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost, administration instructions and patient demonstration)
- Advise that lesions should improve within 48 hours, and call me if they have not improved within 4 days
- Educate re: proper use of Advair to avoid thrush (rinse mouth with water after each dose)
- Generate documentation and convey to primary care provider

MONITORING PLAN

- Reassess patient in 1 week via phone or in-person
- May continue nystatin x another 7 days if partial resolution

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient receives immediate assessment, education, therapy, support, and follow-up plan
- Physician visit avoided

DRAFT

CASE 7: Shingles

ID	Its 8PM. A 67-year-old male presents to your community pharmacy asking for antibiotic cream for his rash.	SOCIALHx	<ul style="list-style-type: none"> Ex-smoker (quit 15 years ago) Reports 5 alcoholic drinks weekly
CC	Itching red rash bugging me "right where my shirt is... it's rubbing."	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> HCTZ 12.5mg po daily Ramipril 5mg po daily Tylenol #3 1-2 tabs q4-6h prn for knee pain (uses approximately 30 tabs every 3 months) Diclofenac 10% gel apply to knees 2-3 times a day prn Tylenol arthritis 1300mg am and pm NKA Vaccinations: Yearly influenza vaccine, Pneumococcal pneumonia vaccine
HPI	First noticed this 48h ago	O/E	<ul style="list-style-type: none"> Typical vesicular erythematous rash affecting single dermatome around the L side of waist
PMH	<ul style="list-style-type: none"> chickenpox as a child osteoarthritis x 5 years hypertension x 10 years 	MPL	<ul style="list-style-type: none"> Suspected shingles episode

ASSESSMENTS BY PHARMACIST

- Rule out cellulitis, psoriasis, eczema, fungal infection based on observation, patient afebrile
- Rule out hypersensitivity based on patient interview re: cleansing products, detergents, other allergens (e.g., plant exposure, pet exposure)
- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Rule out immunosuppression based on Hx and BPMH
- Confirm with patient no varicella vaccination, no prior shingles episodes
- Assess based on patient interview re: renal function, liver disease

- Describe antiviral therapeutic alternatives (acyclovir, valacyclovir, famciclovir), including efficacy, regimens, cost
- Assess based on patient interview willingness to take, potential for adherence, affordability

SYNTHESIS

- Shingles episode, within window of potential efficacy of antiviral therapy (48h-5d)

ACTION

- | | |
|---|--|
| <ul style="list-style-type: none"> • Pharmacist prescribes valacyclovir 1000mg PO tid x 7d • Educates patient re: goals of therapy, potential adverse effects, risk of PHN & its features, contingency if not resolving, importance of vaccination 1 year hence | <ul style="list-style-type: none"> • Generate documentation and convey to primary care provider |
|---|--|

MONITORING PLAN

- Reassess patient in 1 week via phone or in-person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- ED/Urgent care/ Primary care / walk-in clinic visit averted
- Timely initiation of therapy resulting in reduced risk of postherpetic neuralgia, and its significant chronic pain consequences
- Patient receives care immediately, no referrals, no waiting



CASE 8: Diabetes and CVD

ID	65-year-old male presents to the primary care clinic today for their intake consultation with pharmacist (initial patient assessment prior to seeing physician). He has a meet-and-greet appointment scheduled with his new GP scheduled for 2 months from now.	SOCIALHx	<ul style="list-style-type: none"> Lives alone Retired Occasional EtOH Non-adherent to diabetic diet No regular exercise
CC	None	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> metformin 1000 mg PO bid x 15 yr glyburide 10 mg PO bid x 10 yr ramipril 2.5 mg PO daily x 1 month acetaminophen 500-1000 mg PO daily PRN sitagliptin 100 mg PO daily x 1 month (stopped himself 3 months ago due to high cost and no self-observed improvement to fasting glucose levels)
HPI	N/A	O/E	<ul style="list-style-type: none"> Appears well, A+O
PMH	<ul style="list-style-type: none"> T2DM (diagnosed 15 yr ago) HTN (diagnosed 15 yr ago) Ex-smoker (quit 15 y ago) CKD (diagnosed 3 yr ago) 	MPL	<ul style="list-style-type: none"> T2DM with inadequate glycemic control HTN High CV risk (primary prevention) Diabetic nephropathy

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (BPMH) including PharmaNet
- Laboratory values accessed via my e-health
- Glycemic control assessment
 - Asymptomatic
 - A1c 9.6% (1 month ago), FBG (ac breakfast) 10-16 mmol/L

- CV risk assessment
 - Lipids: TC 5.5 mmol/L, HDL-C 1.0 mmol/L, LDL-C 3.8 mmol/L
 - BP 169/92 mmHg, HR 66 bpm and regular
 - Asymptomatic
 - No family Hx of premature CVD
 - Framingham Risk Score >20%
- CKD assessment
 - Asymptomatic
 - SCr 185 µmol/L, CrCl 50 mL/min, ACR 3 mg/mmol
- Ask patient re: most recent eye exam
- Perform diabetic foot exam
- Assess vaccination Hx (influenza, pneumococcal)
- Height 170 cm, weight 100 kg, BMI 34.6 kg/m²
- Assess based on patient interview willingness to take medication, potential for adherence, affordability of medication

SYNTHESIS

- Pre-contemplative re: lifestyle changes
- Glycemic control not at target
- BP not at target
- Inadequate CV risk reduction therapy

ACTION

- | | |
|--|--|
| <ul style="list-style-type: none"> • Prescribe atorvastatin 10 mg PO daily and educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost) • Increase ramipril to 5 mg PO daily and educate | <ul style="list-style-type: none"> • Secure special authority for linagliptin 5mg PO daily (covered by PharmaCare) and educate • Prescribe 1 additional serving of fruit/vegetable per day and educate • Document all above patient assessments, actions, rationale, monitoring plan in EMR |
|--|--|

MONITORING PLAN

- Follow-up via phone in 2-4 weeks
- A1C, SCr and ACR in 2 months

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Timely initiation of therapy
- Increased efficiency (time, cost) of care by pharmacist performing initial consultation, which streamlines eventual physician assessment

CASE 9: Smoking Cessation

ID	65-year-old male presents to community pharmacist because they've heard that smoking cessation therapies are now covered in BC, and they are frustrated at their inability to quit smoking.	SOCIALHx	<ul style="list-style-type: none"> Lives alone. Recently retired. Alcohol: occasional 1-2 beer on the weekend but not routinely
CC	None	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> Allergy status: NKA Vaccinations: influenza, Td booster up to date HCTZ 12.5mg po daily ramipril 10mg po daily atorvastatin 20mg po daily monitors BP at home: 125-130/80-85
HPI	N/A	O/E	<ul style="list-style-type: none"> Appears well
PMH	<ul style="list-style-type: none"> Smoking: 50 year pack history HTN diagnosed 10 years ago no ASCVD 	MPL	<ul style="list-style-type: none"> HTN-currently controlled High CV risk – primary prevention

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Provide detailed smoking cessation interview and education: review of pathophysiology of nicotine dependence, lifestyle and pharmacotherapy options and importance of preparation to quit
 - Has decreased from 2 ppd within the last year but struggling to smoke less than 1 ppd
 - Tried cold turkey several times but never got past a few days then relapsed
 - Varenicline didn't help
 - Hx of rash with NRT patch (tried both Nicoderm and Habitrol)
 - NRT gum "didn't work" (using it appropriately but smoking 2 ppd at the time)
 - Drinking 4-6 cups of regular coffee/day currently
 - Struggles to identify smoking triggers during consultation
 - Fagerstrom: 7/10
 - Motivation 8/10 Confidence 5/10
- Review COPD pathophysiology, PFTs for monitoring and diagnosis, signs and symptoms and potential management
- Psychiatric and seizure history ruled out via patient interview.

- Review HTN lifestyle management strategies
 - Plant based approach to diet, no added salt
 - Exercise: walks, bikes 30-60 minutes 5 days/week and plays floor hockey once a week
- Assessments and labs based on interview, patient assessment, and patient's myhealthBC report provided by patient:
 - A&O x 3
 - SCr: 80, LDL:2.0 Tchol: 5.0 HDL: 1.6, FBG: 5.6, PFTs: FEV1: .80 FEV1/Ratio: .75, FRS > 20%, BMI 26

SYNTHESIS

- No medication adherence concerns currently
- Would benefit from smoking cessation in view of increased risk for COPD and FRS
- Motivated to quit smoking but not confident he can do it
- Current LDL to target on statin for primary prevention
- Would benefit from gradual decrease in caffeine intake in preparation for stop date in view of potential for increased serum levels with smoking cessation
- BP to target with current pharmacotherapy and lifestyle strategies.
- Would benefit from Pneumovax- confirmed no vaccination to date

ACTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Give Pneumovax • Advise patient to review quitnow.ca • Provide & educate re: Score Card: for tracking of cigarettes and trigger identification • Prescribe Nicorette inhaler or spray and educate (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost) | <ul style="list-style-type: none"> • Educate re: working to decrease caffeine intake by 1-2 cups/day as tolerated • Schedule follow-up appointment next week to review trigger management • Generate documentation and convey to primary care provider |
|---|---|

MONITORING PLAN

- Use scorecard for 1 week
- Follow-up appointment in 1 week
- Prescribe Zyban 150mg po x 3 days then 150mg po bid for start after follow up appointment next week

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Patient received care immediately, no referrals, no waiting

CASE 10: Optimizing BP

<p>ID</p>	<p>40-year-old male presents at the pharmacy at 8pm on a Friday to pick up his refills for anti-hypertensives. Reports concern that home BP reading have been gradually increasing and wondering if current meds are working.</p>	<p>SOCIALHx</p>	<ul style="list-style-type: none"> • Lives with his wife. Desk job with more work stress recently. • Occasional alcohol. • No regular exercise. Eats out 5-6 times a week. Admits that he has been gaining weight – up 10 lbs in the last 6 months.
<p>CC</p>	<p>Home BP readings consistently > 140/90 recently</p>	<p>MEDICATIONHx / ALLERGIES / IMMUNIZATIONS</p>	<ul style="list-style-type: none"> • NKA • Vaccinations: influenza, Td booster up to date • Medication: <ul style="list-style-type: none"> ○ HCTZ 12.5mg po daily (on for the last 5 years) ○ ramipril 5mg po daily (on for the last 4 year) ○ acetaminophen 500mg 2 po prn (takes for occasional headaches – max 2 doses/day)
<p>HPI</p>	<p>Gradually increasing numbers over the last 6 months. Sees GP annually for BP review/refills. BPs at the time of last GP visit 6 months ago were consistently < 140/90.</p>	<p>O/E</p>	<ul style="list-style-type: none"> • Appears well. Here with home BP readings diary from the last 4 weeks: 140-155/88-95
<p>PMH</p>	<ul style="list-style-type: none"> • Ex-smoker: Quit ~5 years ago • HTN diagnosed 5 years ago 	<p>MPL</p>	<ul style="list-style-type: none"> • Uncontrolled HTN

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
 - No medication adherence concerns or barriers
 - No OTC NSAID use
- Home BP monitoring routine is twice weekly
- Consider secondary causes of HTN
 - Sleep apnea ruled out by patient interview
 - Hyperaldosteronism unlikely based on serum K
 - Hyper/hypothyroidism improbable in 40 year old male, no S&Sx based on interview, and much more probable explanation for worsening BP control (inactivity, weight gain, stress, inattentive diet)”
 - HPI does not indicate secondary causes as likely, and alternative hypothesis for worsening BP control is available
- Glycemic Control (via myehealthBC and patient interview)
 - Last FBG outside normal range
 - Family Hx of diabetes: mother and older brother
 - Recent increasing stress and weight increases risk for insulin resistance
 - No symptoms of hyperglycemia but reports more carb craving
- CV risk assessment:
 - No symptoms of concern
- CKD assessment:
 - No concerns noted with last screening
- Lifestyle Management for HTN:
 - Diet: Eating red meat 3-4 times/week and struggles to eat fruits and veggies consistently. Some juice or pop 3-4 days/week as well. Salt: adding “a bit” and restaurant food is high
 - Exercise: “none” except for an occasional 20-30 minute walk on weekends
 - Stress management: No tools for managing this

O/E:

Labs provided per eHealth profile 6 months ago:

FBG: 5.8

LDL: 3.2 T Chol 5.0 HDL 1.2

Lytes normal (notably, Na/K)

SCr 85

BMI: 28

FRS < 10%

BP: 150/90 P 70

SYNTHESIS

- BP not at target
- Increasing risk for prediabetes and uncontrolled HTN in view of increasing weight
- Struggling with lifestyle management of HTN
- Primary prevention for CV disease and current risk remains low

ACTION

- Prescribe amlodipine 2.5mg po daily and educate patient re: goals of therapy, potential adverse effects (adding additional BP therapies is superior to maximizing doses of existing BP drugs)
- Daily BP monitoring at variable times of the day, keep BP diary
- Confirm Lifestyle Action Plan, including:
 - 1) 1 additional fruit/vegetable serving/day
 - 2) no added salt
 - 3) week day walking: park 5 blocks away from work and walk.
- Generate documentation and convey to primary care provider

MONITORING PLAN

- Reassess patient in 2 weeks via phone or in person

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- ED/Urgent care/walk-in clinic visit averted
- Timely initiation of therapy
- patient received care immediately, no referrals, no waiting

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CASE 11: Polypharmacy

ID	<p>92-year-old female is being assessed in residential care for regularly-scheduled 6-month medication review</p>	SOCIALHx	<ul style="list-style-type: none"> • Widow • Lives alone • Retired • 2 children and 4 grandchildren—all live nearby • No EtOH
CC	<p>None</p>	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • alendronate 70 mg PO q week on Sundays x 2 yr • furosemide 40 mg PO daily x 3 months • KCl 8 mEq PO bid x 3 months • warfarin 5 mg PO daily • rabeprazole 20 mg PO daily x 3 months • metoprolol 25 mg PO bid • citalopram 20 mg PO daily • brinzolamide/timolol eye drops 1 drop ou daily • acetaminophen ER 650-1300 mg PO up to tid PRN pain
HPI	<p>N/A</p>	O/E	<ul style="list-style-type: none"> • Appears well, A+O
PMH	<ul style="list-style-type: none"> • Atrial Fibrillation (CHADS2 = 2) • Osteoarthritis (knee, hip) • Hypertension • Osteoporosis (diagnosed 2 yr ago) • Depression/anxiety • CKD • Glaucoma • Community acquired pneumonia requiring hospitalization (3 months ago) 	MPL	<p>(polypharmacy)</p>

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (BPMH) including PharmaNet
 - Furosemide and KCl were prescribed on discharge from hospital 3 months ago (admitting diagnosis: community-acquired pneumonia). Had never taken either medication in the past
 - Does not know why she takes rabeprazole. No Hx of peptic ulcer disease, GERD or GI bleeding
 - Has never taken calcium or vitamin D
- Emergency Department assessment and discharge summary reviewed from 3 mos prior
 - Furosemide and KCl prescribed on admission for possible heart failure
 - Rabeprazole was prescribed for stress ulcer prophylaxis while in hospital
- Laboratory values from last week accessed from facility chart
 - SCr 55 $\mu\text{mol/L}$, CrCl 49 mL/min, Na 138 mmol/L, K 4.0 mmol/L, INR 2.3
- Functional assessment:
 - Ambulates with walker
- Heart failure assessment:
 - Denies SOB or at rest, orthopnea or PND
 - Able to ambulate around home normally
 - Denies peripheral edema
 - Recent echocardiogram: normal LV size and function, LVEF 55%, normal valves
- Assess vaccination Hx (influenza, pneumococcal)
- Height 158 cm, weight 54 kg, BMI 21.6 kg/m²
- O/E: BP 135/80 mmHg, HR 50 bpm and irregularly irregular, no postural change in BP or HR, JVP <2 cm ASA, normal breath sounds bilaterally, no peripheral edema
- Denies palpitations, occasional presyncope

SYNTHESIS

- Questionable indication for furosemide and KCl, initiated during ED visit, sx later attributed to CAP, not heart failure. No diagnosis of HF made despite echo.
- No identifiable valid indication for rabeprazole
- Resting bradycardia—may not require current dose of beta-blocker
- No calcium and vitamin D for osteoporosis

ACTION

- Decrease furosemide to 20 mg PO daily
- Decrease KCl to 8 mEq PO daily
- Decrease metoprolol to 12.5 mg PO bid
- Discontinue rabeprazole
- Prescribe calcium 500 mg PO elemental PO bid and vitamin D 1000 units PO daily
- Educate for each of the above (rationale, administration/titration, goals of therapy, common adverse effects & their management, cost)
- Document in facility health record and convey to primary care provider

MONITORING PLAN

- Follow-up via home visit in 1 week
- Monitor for worsening signs or symptoms of heart failure
- Monitor for palpitations/assess resting HR, BP
- Monitor for any symptoms of GERD

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Reduce polypharmacy
- Potentially avoid adverse effects associated with unnecessary therapy (e.g., hypovolemia leading to fall, C. difficile infection secondary to chronic PPI)
- Optimize osteoporosis therapy to prevent vertebral/non-vertebral fracture and associated hospitalization +/- mortality

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CASE 12 : Medication Reconciliation on Admission

<p>ID</p>	<p>35-year-old female admitted overnight to general surgery unit at a community hospital for cholecystectomy for recurrent cholecystitis. She is assessed by the clinical pharmacist in the morning.</p>	<p>SOCIALHx</p>	<ul style="list-style-type: none"> • Single • Lives alone • Unemployed • No children or family support • Denies EtOH or illicit drugs • Smoker 1 ppd x 22 yr
<p>CC</p>	<p>Right upper quadrant abdominal pain, nausea, abdominal tenderness</p>	<p>MEDICATIONHx / ALLERGIES / IMMUNIZATIONS</p>	<ul style="list-style-type: none"> • aripiprazole 15 mg PO daily in AM • divalproex 500 mg PO bid • sertraline 100 mg PO daily at HS
<p>HPI</p>	<p>Patient was admitted for cholecystitis 6 months ago. She received supportive care and was discharged home. She did not have any recurrent symptoms until last night, and promptly presented to the Emergency Department. General surgery was consulted and laparoscopic cholecystectomy is planned for later today. The general surgery resident completed the admission orders, but did not perform any medication reconciliation, no orders currently written re: prior-to-admission medications.</p>	<p>O/E</p>	<ul style="list-style-type: none"> • Appears in distress with abdominal pain and nausea • A+O x 3, able to converse appropriately
<p>PMH</p>	<ul style="list-style-type: none"> • Schizophrenia (x 8 yr) • Depression/anxiety • Obesity 	<p>MPL</p>	<ul style="list-style-type: none"> • Cholecystitis • Schizophrenia • Depression/anxiety • Nicotine dependence

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (BPMH) including PharmaNet
 - Patient receives q1 weekly blister packs
 - Contact community pharmacy to review medication administration times
 - Knowledgeable about her medications—she is very concerned about worsening symptoms if she does not receive her medications
 - Carries accurate home medication list
 - Reports very good adherence (only 1 missed dose in past 3 months)
 - All medications deemed to be appropriate to continue while in hospital and not contraindicated by surgery.
- Perform assessment of nicotine dependence
 - 22-pack yr Hx
 - Never tried to quit in the past
 - No interest in quitting long-term, but willing to accept nicotine replacement therapy (NRT) while in hospital
 - Has never used NRT or pharmacotherapy
 - Starting to experience symptoms of withdrawal (restlessness, agitation, tachycardia)

SYNTHESIS

- High-risk for exacerbation of psychiatric medications due to lack of medication reconciliation—all members of the general surgery team are currently in the operating room (and unavailable)
- Indication for NRT to prevent/treat withdrawal symptoms

ACTION

- Prescribe medications as per home regimen including aripiprazole, divalproex and sertraline
- Order nicotine patch 21 mg applied daily
- Explain actions patient

MONITORING PLAN

- Pharmacist to follow-up daily while in hospital
- Assess for psychiatric symptoms
- Assess for nicotine withdrawal symptoms

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Prevents adverse event due to lack of indicated psychiatric medications
- Prevent medication withdrawal symptoms (e.g., SSRI)
- Positive patient experience due to lack of interruption of chronic therapy, and minimization of discomfort from mandatory temporary smoking interruption
Surgical team not interrupted

CASE 13: Medication Reconciliation on Discharge from Hospital

ID	<p>72-year-old male recently discharged to a shelter as he was no-fixed-address prior. Admitted 3 weeks ago due ischemic right arm and bilateral leg ischemia. Identified by primary care clinic pharmacist for med review due to discharge 3 days go from hospital. Patient not previously known to the clinic.</p>	SOCIALHx	<ul style="list-style-type: none"> • etOH abuse • Smoker 1ppd • Was NFA now living in shelter • Receives pension
CC	<p>He is out of meds, lost discharge prescription</p>	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • NKA • Patient did not have any meds with him <p>Med list per discharge summary:</p> <ul style="list-style-type: none"> ○ warfarin 7mg OD ○ bisoprolol 5mg OD ○ ASA 81mg OD ○ furosemide 40mg OD ○ ramipril 2.5mg OD ○ spironolactone 12.5mg OD
HPI	<p>None</p>	O/E	<ul style="list-style-type: none"> • Reviewed labs from chart prior to discharge • WBC 6.9, Hgb 123, Hct 0.38, HCV 110, Plts 460, INR 2.2, Na 136, K 4.5, SrCr 104, eGFR 61 • Vague historian unable to describe what happened in hospital or where his discharge prescription went
PMH <i>(from hospital d/c summary and CareConnect)</i>	<ul style="list-style-type: none"> • CAD with STEMI in 2011 and bare metal stent x 1 • CHF with EF 27% • PVD • Left atrial appendage and left ventricular apex thrombus found while hospitalized 	MPL	<ul style="list-style-type: none"> • CHF with reduced EF – not on treatment • Identified thrombus – not on anticoagulation • CAD – not on appropriate secondary prevention

ASSESSMENTS BY PHARMACIST

- BPMH based on discharge note, PharmaNet and client. Nothing on PharmaNet
- Assess vitals: BP 130/70, HR 66, weight 63.5kg
- Patient currently not on any medications or OTCs
- Lab values from CareConnect
- Normal liver function test
- CHF assessment/CAD/Secondary prevention
- Denies orthopnea, SOBOE, sleeps with 2 pillows, can walk 2 blocks until leg pain makes him stop
- Denies pre/syncope
- Denies angina
- LV/LAA thrombus
- Denies numbness or unusual weakness to arms/legs, visual changes, difficulty speaking or vertigo
- Ascertain pts PharmaCare coverage status (Plan I, able/willing to pay deductible)
- Ascertained that his shelter provides Medication Management and Outreach workers to help him store and administer his medications. Outreach workers can walk with him to the lab for INR and other labwork

SYNTHESIS

- CHF assessment: Bblocker, ACEi, diuretics should be restarted
- CAD/secondary prevention: ACEi, ASA should be restarted; Statin should be initiated
- LV/LAA thrombus risk of sequelae (embolic stroke, peripheral embolism) as not anticoagulated
- With the supports provided by his shelter, it may be feasible to prescribe these indicated therapies

ACTION

- Restart/initiate medications from hospital discharge Rx
 - ramipril 2.5mg OD
 - furosemide 40mg OD
 - spironolactone 12.5mg OD
 - bisoprolol 5mg OD
 - ASA 81mg OD
 - warfarin 7mg daily.
- Prescribe atorvastatin 10 mg once daily.
- Plan to titrate ACEi, B-blocker to target doses (10mg, 10mg, respectively).
- Adjust furosemide to symptoms.
- Educate for all of the above re: rationale, administration/titration, goals of therapy, common adverse effects & their management, cost
- Additional education
 - Anticoagulation: importance of compliance, and risks of bleed and embolic risks
 - CHF: fluid management, salt restrictions
 - Medication education regarding each med and monitoring parameters.
- Liaise with shelter to communicate therapeutic plan, schedule follow-up, coordinate outreach and medication management services.

MONITORING PLAN

- Reassess patient in 2 weeks in person at shelter
- Bloodwork: SrCr/eGFR, lytes, INR at 7 days.
- Need to be re referred at 3 mos for possible echocardiogram to determine duration of warfarin

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Prevention of serious adverse effects /hospitalization from any of his conditions. He could have deteriorated quickly (CHF/fluids, embolic event etc)
- Timely access to care especially for marginalized patients
- Was able to work with his social supports to coordinate supportive services

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CASE 14 : COPD

ID	60-year-old male coming to see primary care clinic pharmacist for general medication review.	SOCIALHx	<ul style="list-style-type: none"> Smoking – decreased to 13 cigs/day Family Hx – father – emphysema, mother smokes, sister recently dx with non hodgkins lymphoma
CC	None	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> NKA warfarin titrated to INR 2-3 OTCs including senna, CaCarbonate Never had flu/pneumo vaccine
HPI	N/A	O/E	<ul style="list-style-type: none"> No visible distress, well groomed, good eye contact Height 178, weight 90.2kg, RR 16, oximetry resting SpO2 95%, HR 78 Cough, productive of grey sputum
PMH	<ul style="list-style-type: none"> Hx of recurrent unprovoked PEs/DVTs, prothrombin gene mutation– indefinite anticoagulation COPD diagnosed 6 months ago via spirometry. No AECOPD since diagnosis. GI – polypectomy Remote history of suicidal ideation in the 80s 	MPL	<ul style="list-style-type: none"> History of COPD - untreated

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Review Spirometry results (patient has spirometry report): FEV1/FVC ratio 0.55.
- History of symptoms: SOBOE, mild cough, worse at night, moderate grey sputum to clear during the night and AM
- Infrequent colds

- INR therapeutic – continue same dose
- Assess based on patient interview willingness to take medication, potential for adherence, affordability of medication

SYNTHESIS

- Patient would benefit from initiation of chronic COPD therapy
- Guideline-recommended therapy for his level of severity is LABA+ICS
- Willingness / ability to use MDIs, cost, coverage status make starting with ICS, LABA, or both debatable
- Smoking cessation is an important priority

ACTION

- | | |
|--|--|
| <ul style="list-style-type: none"> • Initiate salbutamol 2 puffs QID PRN and ipratropium 2 puffs QID • Education about <ul style="list-style-type: none"> ○ rationale, goals of therapy ○ optimal MDI use ○ monitoring (may need LABA and/or ICS if regular bronchodilator use) ○ smoking cessation ○ vaccines | <ul style="list-style-type: none"> • Initiate patient self-management through COPD Action Plan • Reassess smoking cessation plan • Generate documentation and convey to primary care provider |
|--|--|

MONITORING PLAN

- Reassess patient in 1 month via phone or in person
- Reinforce COPD education and warning signs on each visit
- Reassess smoking cessation plan on each visit

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Timely initiation of treatment
 - Reduce risk of AECOPD
 - Improved quality of life

CASE 15: H.pylori

<p>ID</p>	<p>A 45-year-old female presents to the community pharmacy with a prescription for H.pylori eradication treatment. You notice on her prescription profile that prescriptions for the same indication were filled 4 months ago.</p> <p>Today's prescription is for:</p> <ul style="list-style-type: none"> omeprazole 20mg bid clarithromycin 500mg bid amoxicillin 1gm bid (all x 14 days) 	<p>SOCIALHx</p>	<ul style="list-style-type: none"> Non-smoker Drinks alcohol 2-3 standard drinks/week although has been abstaining recently due to dyspeptic symptoms
<p>CC</p>	<p>Patient continues to be troubled by dyspeptic symptoms (heartburn, general abdominal discomfort, some nausea and bloating)</p>	<p>MEDICATIONHx/ ALLERGIES / IMMUNIZATIONS</p>	<ul style="list-style-type: none"> Levothyroxine 88mcg po once daily Ibuprofen 200-400mg bid prn for menstrual cramps or lower back pain (estimates use at 3-4 days per month, max 800mg/24 hours) Tums prn for dyspeptic symptoms (estimates use at 5 tablets weekly), minimal improvement seen with use NKA Has been avoiding dairy products as it was suggested she may have an intolerance. This hasn't resulted in any appreciable change in symptoms. <p>Immunizations</p> <ul style="list-style-type: none"> Completed Twinrix (Hepatitis A/B) 2010 Typhoid po vaccine 2010 Tetanus, diphtheria, pertussis 2010 MMR booster 2014

<p>HPI</p>	<p>Patient states that symptoms have been bothering her on most days for several months. Her appetite has been diminished somewhat and she has lost about 2kg. She says a referral to a gastroenterologist is pending but may take 6 months or more until she can be seen. She went to a new GP today as she was frustrated that her symptoms haven't resolved with the treatment prescribed by her regular GP 4 months ago.</p>	<p>O/E</p>	<ul style="list-style-type: none"> • Appears well although expressing frustration at ongoing symptoms • Weight 63kg (states she is normally around 65kg)
<p>PMH</p>	<ul style="list-style-type: none"> • Hypothyroid x 5 years • Multiparous (children are 16 and 12) • Treated for H.pylori 4 months ago with sequential therapy <ul style="list-style-type: none"> ○ rabeprazole 20mg twice daily x 10 days ○ amoxicillin 1gm bid days 1-5 ○ clarithromycin 500mg bid days 5-10 ○ metronidazole 500mg bid days 5-10 	<p>MPL</p>	<ul style="list-style-type: none"> • Risk of inadequate H.pylori eradication therapy – prescription not appropriate given suspected prior eradication therapy failure

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
 - Patient states that she was compliant with the treatment given 4 months ago but that it did not result in an appreciable improvement in symptoms
- Patient reports a second urea breath test performed last week was positive for H.pylori
- Patient denies any signs of bleeding; reports that, per GP, abdominal exam was normal Patient has third party insurance and is not worried about cost. Is confident that she can adhere to a complicated medication regimen for 2 weeks as she really hopes to resolve her symptoms
- Patient is able to access myeHealthBC which shows a normal CBC and UBT positive for H.pylori

SYNTHESIS

The new prescription for H.pylori eradication is not likely to be effective. This combination is no longer recommended due to potential macrolide resistance and increased failure rates.

ACTION

- Provide patient with a prescription for:
 - bismuth subsalicylate 2 tabs po qid
 - metronidazole 500mg po tid
 - tetracycline 500mg po qid
 - omeprazole 20mg bid, all for 14 days
- Generate documentation and convey to primary care provider, in this case the most recent GP that she saw
- Educate patient on importance of a follow up urea breath test 4 weeks after completion of treatment to confirm H.pylori eradication, per Canadian guidelines for this context
- Assist patient in creating a medication schedule for new regimen, advise on how to prevent and manage potential side effects

MONITORING PLAN

- Reassess patient within 1 week via phone or in-person.
- Patient to obtain a requisition for a follow up urea breath test in 6 weeks
- Encourage patient to remain with one GP for the best continuity of care

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- Reduce the risk of treatment failure by optimizing treatment for H.pylori infection
- Patient does not have to return to the GP for an additional visit

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CASE 16: AF Stroke Prevention

ID	66-year-old female presents to your primary care clinic today, prompted by a cardiologist who recently diagnosed her with recent-onset atrial fibrillation. The cardiologist told her to talk to her primary care provider about starting anticoagulation.	SOCIALHx	Unremarkable
CC	Asymptomatic, no specific complaints. She presents the report from the cardiologist which documents atrial fibrillation and advises her primary care provider to “start anticoagulation”.	MEDICATIONHx/ ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> • amlodipine 10 mg daily x 3 years for HTN • bisoprolol 10mg daily x 2 weeks for rate control since ED visit. • NKA • Immunization status unknown
HPI	Last seen in your clinic 6 months ago for routine check-up. Developed palpitations and dizziness 1 week ago and went to ED. Assessed there by a cardiologist who prompted today’s visit.	O/E	<ul style="list-style-type: none"> • HR 70, irregularly irregular • Otherwise unremarkable
PMH	<ul style="list-style-type: none"> • HTN x 3 years. • Hysterectomy 10 years ago for uterine fibroids 	MPL	<ul style="list-style-type: none"> • plan to initiate AF stroke prevention therapy

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- CHADS2/ CHA2DS2-VASc re: AF stroke risk. CHADS2=1 (3.6% annual stroke risk); CHA2DS2-VASc=3 (4.3% annual stroke risk). Candidate for OAC therapy.
- HAS-BLED score re: OAC major bleeding risk. Score ~0 (HTN, but controlled) (2-3% annual risk of major bleeding on any OAC).
- Assess based on patient interview willingness to take, potential for adherence, affordability

SYNTHESIS

- Patient remains in AF. Ventricular rate is controlled.
- Patient is willing to take SPAF therapy. Prefers OAC to aspirin. Wants to take a NOAC/DOAC, but is concerned about the cost, has no private coverage, understands PharmaCare won't cover unless warfarin unsuccessful.

ACTION

- Educate patient re: AF, stroke risk, therapeutic options, implications of OAC therapy vs. aspirin vs. no therapy. Bleeding risks, INR testing, cost, diet/etOH, drug interactions, # of daily doses.
- Guide patient through choice of therapy based on preferences using a decision aid (e.g., sparctool.com, afib.ca)
- Based on this, prescribe warfarin 10mg daily. Use dosing nomogram, schedule INR testing, followup phone calls to titrate to INR 2-3.
- Do warfarin teaching and provide written and online counselling resources
- Discuss self-monitoring and self-adjusting via POC testing at a pharmacy or at home, and advise that we can assess this once stabilized on warfarin
- Generate documentation and convey to community pharmacist and cardiologist

MONITORING PLAN

- As above

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- More efficient management of drug therapy than by GP
- Pharmacist in clinic more accessible than physician



CASE 17: HF diuretic optimization

ID	<p>73-year-old male presents to your community pharmacy today.</p>	SOCIALHx	<ul style="list-style-type: none"> Lives independently with partner Quit smoking 7 years ago
CC	<p>He mentions that he has been feeling dizzy when transitioning from lying or sitting to standing and “almost fainted” this morning when doing so.</p>	MEDICATIONHx / ALLERGIES / IMMUNIZATIONS	<ul style="list-style-type: none"> ramipril 10mg daily x ~5 years bisoprolol 10mg daily x ~7 years furosemide 60mg daily x 2 weeks. Formerly 40mg daily x 1 year. ASA 81 mg daily x 7 years atorvastatin 10 mg daily x 7 years NKA
HPI	<p>His furosemide dose was increased from 40mg qAM to 60mg qAM 2 weeks ago by his cardiologist in response to his having had several episodes of pedal edema and reduced exercise tolerance over the past year that prevented him from completing his daily exercise goals. Patient associates his dizziness with the furosemide dose change, but is worried because it takes many months to get an appointment with his cardiologist for an assessment/resolution, and usually >1 week to see his GP.</p>	O/E	<ul style="list-style-type: none"> A+O x 3 based on conversation Appears bright, ambulating independently Physical assessment deferred
PMH	<ul style="list-style-type: none"> Heart failure (systolic, EF 30%, NYHA class II/III) x 5 years. Last echocardiogram 1 year ago. CAD (MI 7 years ago). No angina since. 	MPL	<ul style="list-style-type: none"> Heart failure, possible hypovolemia, fall risk

ASSESSMENTS BY PHARMACIST

- Perform best-possible medication history (incl. PharmaNet) (BPMH)
- Interview re: HF symptoms. No edema x 2 weeks. Exercise tolerance improved over the week since increasing furosemide, but has declined in the past few days to similar levels as when he had edema. No respiratory sx in the past year aside from SOB on exertion.
- Interview re: dietary changes recently, particularly changes in salt or water intake. Patient was reminded by cardiologist to “watch his salt” and has been more adherent to a <3 g/d regimen than previously. No change to water intake lately.
- Informally assess his cognition (he is known to you to be cognitively intact and sharp – MMSE?)
- Inquire about whether he weighs himself regularly (he does not, but he says he “normally weighs 175 lbs” based on ~weekly weights and has a scale at home).
- Patient confirms that he feels well and is able to do his physio-guided HF exercise routine when his weight is ~175 lbs. Weigh him now (170 lbs).
- Do vitals, including sitting → standing BP & HR (with supports in case of dizziness). [sitting: 135/85 HR 80; standing: 115/85 HR 115; dizzy] – positive test for hypovolemia.
- Obtain most recent serum electrolytes (from patient via myEhealth BC or GP office). (1 month ago Na 133, Cl 100, K 4.1, SCr 145)

SYNTHESIS

- Patient is receiving excessive daily furosemide for systolic HF, resulting in progressive hypovolemia, now symptomatic
- Hypothesis is that furosemide 40 mg daily combined with new adherence to <3g/d Na intake was the etiology
- Patient is cognitively intact and potentially able to self-titrate diuretic based on daily weight
- Patient’s safety is at risk, intervention is pharmacotherapeutic, and can be quickly resolved

ACTION

- Educate patient about your assessment, and explain your hypothesis about its etiology. (excessive diuresis, possibly compounded by increased adherence to low-Na intake).
- Inquire about patients’ interest/willingness to self-titrate furosemide based on weight. (He is interested in learning more about this).
- Advise him to weigh himself each morning after getting up (slowly) and first morning void.
- Advise him to hold his furosemide dose tomorrow AM, and the next morning, expecting his weight to increase to 175 lbs.
- Advise him to continue adhering to low-Na diet and maintaining his current water intake.
- Make a diary/table for him with his goal weight (175 lbs) and instructions re: furosemide dose: regular daily dose is 40mg qAM. If AM weight is 174-176, take furosemide 40mg that AM. If AM weight *increases* by >2 lbs vs. previous day, take an extra 20mg of furosemide (ie, 60mg) that morning and every day until weight is in target range. If AM weight *decreases* by >2 lbs vs. previous day, hold furosemide that morning and every day until weight is in target range. If >3d of holding or taking 60mg/d, call pharmacist to reassess.
- Advise him to make an appointment with his cardiologist, and that you will convey today’s events and plan to cardiologist and GP in writing.

- Generate documentation and convey to primary care provider and his cardiologist.
- Additional pharmacotherapeutic optimization: add eplerenone or spironolactone per CCS HF Guidelines. Defer until stabilized re: fluid status.

- Make a plan to supply patient with the diary sheets (by pharmacist, by printing themselves, etc.)

MONITORING PLAN

- Call patient in 2 days to assess progress/understanding
- Advise patient to bring in their diuretic diary in 1 week to assess progress/understanding and offer to provide the same education to his partner so she can support him

BENEFITS OF PATIENT SEEING CERTIFIED PHARMACIST PRESCRIBER

- ED/UCC visit for fall/injury avoided
- patient's lifestyle and exercise regime maintained/restored
- patient empowered to self-monitor and titrate therapy within appropriate parameters and with support/supervision
- long-term instability / reduced QOL due to long lead-times for specialist visits avoided

DRAFT

Appendix 2: Other prescribers in BC – Prescribing parameters

	Naturopaths	Midwives	Nurse Practitioners	Optometrists
Training	Prescribing Certification requirements: Registrants must successfully complete the Prescribing Upgrade Course offered by the Boucher Institute of Naturopathic Medicine (BINM) including an online course and oral exam.	4-year undergraduate degree. Clinical experience requires 40 births attended as a primary midwife.	Master’s degree program. No additional training; however, created new competencies and updated OSCE’s. Three streams of practice are used to register NPs: family, adult and pediatric	No training requirements if they graduated after 2000. <i>Optometrists certified in Ocular Therapeutics to treat and manage ocular disease as per Bylaws Schedule: Successfully completed a 20-hour therapeutic pharmaceutical agent updating course given at any time after January 1, 2004 and has also successfully completed one of the following: (a) a 100-hour course in ocular therapeutics; (b) the Treatment and Management of Ocular Disease section of the National Board of Examiners in Optometry; or (c) the ocular therapeutics section of the national qualifying examination.</i>
Schedule of Drugs	Schedule I, II and III.	Schedule I, IA, II and III.	Schedule I, IA (controlled prescriptions), II.	Schedule I, II and III.
List of Drugs	List of excluded drugs (e.g., antibiotics with narrow therapeutic index and antipsychotics.	Inclusive list of drugs.	List of drugs: Schedule I, IA, II. NP prescribes in area registered to practice (family, adult, pediatric)	Limited list of drugs: Glaucoma agents, topical treatment of eye disease.
Standards	Usual and customary standards for prescribing	Standards provide indications, routes of administration and upper dosage limits where appropriate.	Usual and customary standards for prescribing.	Co-manage with ophthalmologist for glaucoma. Inform patients they have a choice to be managed by an optometrist or ophthalmologist for glaucoma. Must refer to an ophthalmologist if condition does not improve or worsens.

Appendix 2: Other prescribers in BC (continued)

	Naturopaths	Midwives	Nurse Practitioners	Optometrists
Limits	Cannot prescribe drugs for a number of categories.	Limited to pregnancy, lactation and labour.	Limits and conditions by drug category. A drug category with the notation “No Exceptions” means that NPs may prescribe all drugs in that category. A drug category with the letters C (continuation prescribing only) and/or O (cannot prescribe) mean there are restrictions on NP prescribing.	No glaucoma drugs for patients age < 30.
Conditions	Can request special authority medications	Conditions around prescribing some drugs in collaboration with a medical practitioner, e.g., controlled drugs for labour.	Restrictions on prescribing – see above.	Cannot prescribe if glaucoma is advanced.
Narcotics	Under the federal <i>Controlled Drug Substances Act and Regulations</i> , no authority to prescribe narcotics and controlled drugs, including benzodiazepines.	Yes	Yes	No

Appendix 3: Pharmacists' Prescribing Authorities Nationally and Internationally

Table 1: Pharmacists Initiating Prescriptions in Canadian Provinces (from the CPhA, 2015)

Province	Can Initiate Prescription Drug Therapy	Can Order and Interpret Laboratory Tests
BC	x	x
AB	✓	✓
SK	✓	Pending legislation, regulation, or policy for implementation
MB	✓	✓ (authority limited to ordering lab tests)
ON	For smoking/tobacco cessation	x
QC	For smoking/tobacco cessation For minor ailments	✓
NB	✓	Pending legislation, regulation, or policy for implementation
PE	For smoking/tobacco cessation For minor ailments	Pending legislation, regulation, or policy for implementation
NS	✓	✓
NL	For smoking/tobacco cessation For minor ailments	x

Table 2: Pharmacists Initiating Prescriptions Internationally

Country	Can Initiate Prescription Drug Therapy	Can Order and Interpret Laboratory Tests
NZ	✓	✓
UK	✓	✓
USA	✓	✓ >75% of the States and federal government (armed forces and Veterans Affairs)

Appendix 4: Pharmacists' expanded scope of practice in Canada, January 2016

Available at: <http://www.pharmacists.ca/index.cfm/pharmacy-in-canada/scope-of-practice-canada/>

Pharmacists' Scope of Practice in Canada

Scope of Practice ¹		Province/Territory													
		BC	AB	SK	MB	ON	QC	NB	NS	PEI	NL	NWT	YT	NU	
Prescriptive Authority (Schedule 1 Drugs) ¹	Independently, for any Schedule 1 drug	X	✓ ⁵	X	X	X	X	X	X	X	X	X	X	X	
	In a collaborative practice setting/agreement	X	✓ ⁵	✓ ⁵	✓ ⁵	X	X	✓	✓	X	X	X	X	X	
	Initiate ²	For minor ailments/conditions	X	✓	✓	✓ ⁵	X	✓	✓	✓	✓ ⁵	✓	X	X	X
		For smoking/tobacco cessation	X	✓	P	✓ ⁵	✓	✓	✓	✓	✓ ⁵	✓	X	X	X
		In an emergency	X	✓	✓	✓	X	X	✓	✓	✓	X	X	X	X
Adapt ³/Manage	Independently, for any Schedule 1 drug ⁴	X	✓ ⁵	X	X	X	X	X	X	X	X	X	X	X	
	Independently, in a collaborative practice ⁴	X	✓ ⁵	✓ ⁵	✓ ⁵	X	X	✓	✓	X	X	X	X	X	
	Make therapeutic substitution	✓	✓	✓	X	X	X	✓	✓	✓	✓	X	X	X	
	Change drug dosage, formulation, regimen, etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	
	Renew/extend prescription for continuity of care	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	
Injection Authority (SC or IM) ^{1,5}	Any drug or vaccine	X	✓	✓	✓	X ⁷	X ⁷	✓	X	✓	✓	X	X	X	
	Vaccines ⁶	✓	✓	✓	✓	X	X	✓	✓	✓	✓	X	X	X	
	Travel vaccines ⁶	✓	✓	✓	✓	P	X	✓	✓	✓	✓	X	X	X	
	Influenza vaccine	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	X	X	X	
Labs	Order and interpret lab tests	X	✓	P ⁸	✓ ⁹	X	✓	P	✓	P	X	X	X	X	
Techs	Regulated pharmacy technicians	✓	✓	✓	✓ ¹⁰	✓	X	✓	✓	✓	✓	X	X	X	

1. Scope of activities, regulations, training requirements and/or limitations differ between jurisdictions. Please refer to the pharmacy regulatory authorities for details.

2. Initiate new prescription drug therapy, not including drugs covered under the *Controlled Drugs and Substances Act*.

3. Alter another prescriber's original/existing/current prescription for drug therapy.

4. Pharmacists independently manage Schedule 1 drug therapy under their own authority, unrestricted by existing/initial prescription(s), drug type, condition, etc.

5. Applies only to pharmacists with additional training, certification and/or authorisation through their regulatory authority.

6. Authority to inject may not be inclusive of all vaccines in this category. Please refer to the jurisdictional regulations.

7. For education/demonstration purposes only.

8. Ordering by community pharmacists pending health system regulations for pharmacist requisitions to labs.

9. Authority is limited to ordering lab tests.

10. Pharmacy technician registration available through the regulatory authority (no official licensing).

-  Implemented in jurisdiction
-  Pending legislation, regulation or policy for implementation
-  Not implemented