THE PHARMACIST OPTION

Leveraging Newfoundland and Labrador’s Pharmacists for Cost-Effective Health Care Delivery
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Health care issues make more headlines – and stir more debate – than any other issue in the country. They are a constant source of controversy for governments, health professionals and the general public. With an aging population, a growing array of public health issues, escalating health care costs, dwindling financial resources and a vast geography, the province of Newfoundland and Labrador is at the forefront of this discussion. Residents of this province demand health care services on par with those in richer provinces, even when government revenues see a decline.

The members of the Pharmacists’ Association of Newfoundland and Labrador (PANL) are committed to the health and well-being of the people we serve. With this report, PANL will demonstrate that pharmacists can contribute to more effective and efficient health care delivery. There is room to advance pharmacists’ scope of practice to achieve even greater efficiencies and enhanced services. Pharmacists are not being used to their fullest potential. If they were, the benefits would include:

- Increased access to vital health care services
- Improved quality of care and quality of life
- More efficient and effective usage of health care resources, including physicians and pharmacists
- Significant financial savings for the Government of Newfoundland and Labrador

According to the National Association of Pharmacy Regulatory Authorities, in their Model Standards of Practice for Canadian Pharmacists, the scope of practice for pharmacists is focused mainly on patient care, drug information, drug distribution, management and education. In their current role, pharmacists’ interactions with patients are based largely around the dispensing of prescription medications. These events include, but are not limited to:

- Reviewing each prescription to ensure that dose and instructions are correct, weighing the clinical significance of drug interactions and conferring with the prescribing doctor when necessary
- Dispensing medications safely and effectively
- Counselling the patient on appropriate prescription medication use and over the counter medication choices
- Ensuring required procedures are followed for controlled substances
- Ensuring that medications are managed and stored in a manner that assures the integrity of the product

While these tasks are clearly important to health care delivery, pharmacists are capable of doing so much more. There is significant potential to make greater use of pharmacists by expanding their scope of practice.

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1 Model Standards of Practice for Canadian Pharmacists, from the National Association of Pharmacy Regulatory Authorities http://www.ocpinfo.com/Client/ocp/OCP-IPhome.nsf/object/Model_Standards/$file/Model_Standards.pdf
Pharmacists realize that they are not being used to their full capacity and are eager to play an expanded role in patient care. In a 2012 survey of the membership of PANL, the vast majority of pharmacists said they would welcome an increased scope of practice in line with their qualifications and capabilities (see chart below).

PANL is proposing that pharmacists take an expanded role in health care delivery, in the following areas:

**Expanded Medication Reviews**

As our population ages, there is an increase in the number of prescription medications taken per person.

The expanded services as proposed in this document can provide demonstrable benefit to the health care system. Based on the Goals stated in the Department of Health and Community Services Strategic Plan 2011-2014, the benefits of the services are shown below.

### NL Pharmacists Survey on Acceptance of Expanded Scope of Practice

<table>
<thead>
<tr>
<th>Service</th>
<th>Not At All</th>
<th>Possibly</th>
<th>Very Possibly</th>
<th>Likely</th>
<th>Very Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication Management</td>
<td>0%</td>
<td>0%</td>
<td>3%</td>
<td>6%</td>
<td>91%</td>
</tr>
<tr>
<td>Expanded Medication Reviews</td>
<td>0%</td>
<td>3%</td>
<td>15%</td>
<td>20%</td>
<td>83%</td>
</tr>
<tr>
<td>Minor Ailments</td>
<td>0%</td>
<td>3%</td>
<td>6%</td>
<td>9%</td>
<td>71%</td>
</tr>
<tr>
<td>Administration of Injections</td>
<td>7%</td>
<td>13%</td>
<td>20%</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Ordering/Interpreting Lab Values</td>
<td>11%</td>
<td>13%</td>
<td>28%</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>Therapeutic Substitution</td>
<td>1%</td>
<td>5%</td>
<td>13%</td>
<td>17%</td>
<td>65%</td>
</tr>
<tr>
<td>Pharmaceutical Opinion</td>
<td>0%</td>
<td>1%</td>
<td>8%</td>
<td>17%</td>
<td>74%</td>
</tr>
</tbody>
</table>

### Benefits of Expanded Scope of Practice for Pharmacists

<table>
<thead>
<tr>
<th>PHARMACY SERVICES</th>
<th>Improvement Dimensions</th>
<th>Minor Ailments</th>
<th>Medication Management</th>
<th>Therapeutic Substitution</th>
<th>Medication Reviews</th>
<th>Injections/Immunizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Quality</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Resource Utilization</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Personal Productivity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
The number of medications, varying administration instructions and potential interactions with over-the-counter products may all contribute to patient confusion and inability to get the most benefit from therapy. Drug therapy used appropriately (medication adherence) has been shown to lead to lower health care use and costs. Pharmacists are often the first contact for patients when experiencing problems with managing medications and/or disease, and have the knowledge and training to advise their patients on the proper use of medications.

**Medication Adherence**
Medication adherence refers to the extent to which a patient takes medication as prescribed by his or her health care provider. Non-adherence is frequently a hidden problem, undisclosed by patients and unrecognized by prescribers. Pharmacists already play a role in encouraging medication adherence. However, given the scope of this problem in Canada, more work needs to be done. Pharmacists could increase medication adherence among patients with chronic conditions through intervention and follow-up when a medication is newly prescribed. A higher rate of medication adherence has been linked to positive clinical outcomes including decreased rates of emergency department visits and hospitalization.

**Immunizations**
Immunizations are proven effective in preventing communicable diseases, including viruses that can cause critical illness and even fatalities. However, current systems of vaccine delivery have not achieved optimal
rates of vaccinations in this province. In fact, we have the lowest influenza vaccination rate in the country. Pharmacists are positioned and qualified to take an expanded role administering vaccinations. By doing so, pharmacists would have a significant and direct impact on vaccine-preventable morbidity and mortality, thus improving population health and easing the burden on an already strained health care system.

**Minor Ailments**
Minor ailments can be reliably self-diagnosed by the patient, and could include headaches, insect bites, heartburn, diaper rash, cold sores, eczema, hemorrhoids, back pain, sinus congestion, and so on. Studies have shown that minor ailments comprise up to 40 percent of family doctor office visits. Physician time would be best re-directed to patients with complex and chronic health issues. Studies have shown that a minor ailments program for pharmacists can provide safe and effective treatment for patients as well as cost savings to the health care system in general.

**Smoking Cessation**
Of the 82,000 tobacco smokers in NL, studies show that the majority want to quit. Approximately 17% of deaths in NL are related to chronic diseases caused by or directly related to tobacco use, including asthma, cardiovascular disease and chronic obstructive pulmonary disease. NL can reduce smoking rates by developing the most complete and effective smoking cessation program in Canada. To achieve this goal, the Government of Newfoundland and Labrador should expand access to smoking cessation services outside traditional physician office settings to include community-based, pharmacist-led cessation programs that are proven to help smokers quit smoking.

**Self-Monitoring of Blood Glucose in Type 2 Diabetes**
The prevalence of diabetes in NL will rise from 47,000 in 2010 to 73,000 in 2020, resulting in an increase of health care costs from $254 million per year to $322 million. One of the contributors is the cost of blood glucose test strips. Self-monitoring of blood glucose (SMBG) is in widespread use among patients with type 1 and type 2 diabetes. Pharmacists interact with patients when they are purchasing test strips, and are uniquely positioned to influence patients’ future testing patterns. This can have an immediate impact on the use of blood glucose test strips, with the potential to save a significant portion of the estimated $6.6 million spent on blood glucose test strips in 2011.
Managing multiple medications is a complex task. The number of medications, varying administration instructions and potential interactions with over-the-counter products may all contribute to patient confusion and inability to get the most benefit from therapy. Drug therapy used appropriately (medication adherence) has been shown to lead to lower health care use and costs.

**The Scope of the Problem**
The population of Newfoundland and Labrador is aging quickly. Over the last 30 years, it has aged faster than any other province in the country. In 2007, people over the age of 65 made up about 13.9 per cent (69,000) of the population in this province. This is likely to increase to 20 per cent within 10 years.

As our population ages there is also an increase in the number of prescription medications taken per person. In 2005, pharmacists dispensed an average of 35 prescriptions per person aged 60 to 79, and 74 prescriptions per person aged 80 or older, compared with an overall average of 14 prescriptions per Canadian. Multiple medication use (taking five or more different drugs over two consecutive days) was reported for 53% of seniors in health care institutions and 13% of those in private households.²

**What Role Can Pharmacists Play?**
Pharmacists are the most accessible health care professional and as a result are often the first contact for patients when experiencing problems with managing medications and/or disease. Pharmacists are medication experts and have the knowledge and training to advise their patients on the proper use of medications and how to properly manage side-effects of certain medications. Medication reviews aim to increase communication between patient and pharmacist to promote safe and effective medication use and improve health outcomes.

**How Can This Benefit the Patient?**
Sitting down with a pharmacist and gaining a better understanding of one’s medications and condition can improve a person’s health outcomes and drug adherence. Getting one’s questions answered by a pharmacist can be empowering and promote proper medication usage. Once patients are better informed of their condition and adhering to their medication regime they are more likely to take care of their condition and less likely to end up in ER or at their family physician’s office. All of this in the end will hopefully promote a better quality of life for these patients.

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How Can This Benefit the Health Care System?
When a patient is more knowledgeable about their medications they are more inclined to properly adhere to their medication regime and this may prevent adverse drug reactions or at least encourage a patient to report any unwanted side-effects. Patients are also more likely to experience more fully the intended benefit of the medication.

In the literature, Medication Reviews have been shown to significantly reduce the number of drugs used and the cost of therapy. A 2000 randomized controlled trial showed that Medication Review resulted in changes to medication regimens in 47% of intervention patients. The service also improved adherence to therapy (adherence level of 91% in the intervention group, as compared to 79.5% in control group) in one study.\(^3\)

Adverse drug reactions (ADR) have been estimated to account for up to two-thirds of drug-related hospital admissions and ER visits. It has been reported that up to one-quarter of patients who visit ERs due to ADRs are admitted to hospital.\(^4\)

PANL’s Proposal
The following recommendations are developed to ensure that a comprehensive approach is taken to the implementation of medication review service in Newfoundland. The various types of Expanded Medication Reviews can be implemented in a step-wise approach with appropriate guidelines and funding in place.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Eligibility Criteria</th>
<th>Requirements</th>
<th>Time Commitment</th>
<th>Proposed Fee</th>
</tr>
</thead>
</table>
| **Basic Medication Review**      | 1. Annually for all Newfoundland residents with 3 or more chronic medications        | 1. Document Best Possible Medication History to facilitate information sharing and optimize care among health care professionals and caregivers  
2. Dialogue with the patient to ensure full understanding of medication regimen | 20-30 min        | $52.50        |
| **Medication Review for Diabetics** | 1. Annually for all Newfoundland residents diagnosed by a Physician with Type 1 or 2 diabetes | 1. Document Best Possible Medication History to facilitate information sharing and optimize care among health care professionals and caregivers  
2. Dialogue with the patient to ensure full understanding of medication regimen  
3. Diabetes Assessment summary outlining diabetes status and Pharmacist care plan | 30-45 min        | $75.00        |
| **Medication Review Follow-Up** | 1. Newfoundland resident with 3 or more chronic prescription medications that received a Medication Review and requires follow-up based on health goals | 1. Document Best Possible Medication History to facilitate information sharing and optimize care among health care professionals and caregivers  
2. Dialogue with the patient to ensure full understanding of medication regimen  
3. Document recommendation to prescriber to resolve drug related problems | 10 min           | $25.00        |


Medication Review Outline
Following are the basic steps of an expanded medication review service conducted by a pharmacist:

• Patient eligibility is assessed and patient gives consent to receive the service.
• The pharmacist prints a record of patient’s medications from the computer record. If patient is not a client of the pharmacy where the service is performed, patient is asked to bring in ALL their medications. Pharmacists connected to the Pharmacy Network would consult the patient’s electronic health record.
• In a one-on-one consultation, pharmacist reviews each medication the patient takes, typically starting with prescription medications, and including non-prescription (NPDs) drugs and natural health products (NHPs). Pharmacist ensures patient knows the name of each drug, understands reason for use, dosing frequency, special instructions for use, storage requirements, and other important information for effective use. Pharmacist also confirms that prescriptions are renewed on time and medications are not expired.
• A medication review service may lead to identification of some Drug Related Problems (DRPs). A number of them may be resolved with pharmacist’s advice concerning NPDs that leads to a drug interaction. Other DRPs will require pharmacist to consult with the prescriber (e.g. patient needs additional medication, medication is not effective, etc.) or for pharmacist to make change to the medication (e.g. dose is too low or too high) and notify the prescriber. This last option requires regulatory changes to pharmacists’ scope of practice to allow pharmacists to adapt prescriptions and enable funding for this service.
• In other provinces, the action of identifying and resolving DRPs is an additional reimbursed component to the basic medication review or is a separately funded service. In British Columbia, the basic medication review when pharmacist identifies DRP becomes “pharmacist consultation.” In Ontario, a pharmaceutical opinion service is provided at the end of a medication review, if required.
• At the conclusion of a medication review, patient is provided with a complete medication list that includes all of their prescriptions, NPDs and NHPs. Medication review list is signed by both the patient and the pharmacist, with a copy retained at the pharmacy to become part of the patient record.
### Current Pharmacist Remuneration in Provinces with Medication Reviews Services

<table>
<thead>
<tr>
<th>Province</th>
<th>Medication Review Type</th>
<th>Service Fee</th>
<th>Service Frequency</th>
<th>Patient Eligibility Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario</td>
<td>MedsCheck Annual</td>
<td>$60.00</td>
<td>Once per year</td>
<td>Ontario resident taking 3 chronic prescription medications</td>
</tr>
<tr>
<td>Ontario</td>
<td>MedsCheck Diabetes</td>
<td>$75.00</td>
<td>Once per year</td>
<td>Resident diagnosed with type 1 or 2 diabetes and taking medication for the condition</td>
</tr>
<tr>
<td>Ontario</td>
<td>MedsCheck Follow-up</td>
<td>$15.00</td>
<td>No limit</td>
<td>Patients who received MedsCheck Annual or MedsCheck Diabetes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Hospital discharge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Pharmacist decision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Physician/nurse referral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Hospital scheduled admission</td>
</tr>
<tr>
<td>Ontario</td>
<td>MedsCheck at Home</td>
<td>$150.00</td>
<td>Once per year</td>
<td>As per MedsCheck Annual, but patient must be unable to come to the pharmacy</td>
</tr>
<tr>
<td>Ontario</td>
<td>MedsCheck LTC Annual</td>
<td>$90.00</td>
<td>Once per year</td>
<td>Resident of licensed long term care (LTC) Home</td>
</tr>
<tr>
<td>Ontario</td>
<td>MedsCheck LTC Quarterly</td>
<td>$50.00</td>
<td>Up to four times per year</td>
<td>Resident of licensed LTC Home who received MedsCheck LTC Annual</td>
</tr>
<tr>
<td>British Columbia</td>
<td>Medication Review Standard (MR-S)</td>
<td>$60.00</td>
<td>Once every six months</td>
<td>Resident with 7 unique medications recorded in PharmaNet (Rx or NPD)</td>
</tr>
<tr>
<td>British Columbia</td>
<td>Medication Review Pharmacist Consultation (MR-PC)</td>
<td>$70.00</td>
<td>Once every six months</td>
<td>As above plus when pharmacist identifies a drug therapy problem</td>
</tr>
<tr>
<td>British Columbia</td>
<td>Medication Review Follow-up</td>
<td>$15.00</td>
<td>Up to four times per year</td>
<td>Received one of above plus medication change or to evaluate response to pharmacist’s action taken to resolve DTP</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>Basic Medication Review Service (BMRS)</td>
<td>$52.50</td>
<td>Once per benefit year</td>
<td>Beneficiary of NS Pharmacare program (except LTC &lt;65), taking 3 or more chronic prescription medications</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>NB PharmaCheck</td>
<td>$52.50</td>
<td>Once per benefit year</td>
<td>NBPDP Plan A (Senior) beneficiaries taking 3 or more chronic prescription medications</td>
</tr>
</tbody>
</table>

**References for Provincial Medication Review programs**

<table>
<thead>
<tr>
<th>Province</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><a href="http://www.medsforme.ca/">http://www.medsforme.ca/</a></td>
</tr>
<tr>
<td>New Brunswick</td>
<td><a href="http://www.gnb.ca/0212/NBPharmaCheck-e.asp">http://www.gnb.ca/0212/NBPharmaCheck-e.asp</a></td>
</tr>
<tr>
<td>PEI</td>
<td><a href="http://www.peipharm.info/docs/Pharmacheckprogramguide2013.pdf">http://www.peipharm.info/docs/Pharmacheckprogramguide2013.pdf</a></td>
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</table>
Medication Adherence

Medication adherence can be generally defined as the extent to which a patient takes medication as prescribed by his or her health care provider. A person’s rate of adherence is often expressed as a percentage representing the amount of medication that is taken as prescribed. Adherence rates vary greatly, depending on the type and number of conditions being treated, and are typically lower for chronic versus acute conditions. Non-adherence is frequently a hidden problem, undisclosed by patients and unrecognized by prescribers. This is problematic considering the significant costs of non-adherence in Canada.

According to a review article by Osterberg and Blaschke,5 barriers to adherence may arise from a patient’s personal factors as well as his or her interactions with both health care providers and the health care system. Some of the major predictors of poor adherence to medication include:

- Presence of psychological problems, particularly depression
- Presence of cognitive impairment
- Symptomless diseases
- Inadequate follow-up or discharge planning
- Side effects of medications
- Patient’s lack of belief in the benefit of treatment
- Patient’s lack of insight into the illness
- Poor provider-patient relationship

• Barriers to care or medications
• Cost of medications
• Complexity of treatment
• Pharmacists play a role in encouraging medication adherence by ensuring that patients receive necessary information and the most appropriate and affordable medication. However, given the scope of this problem in Canada, more work needs to be done.

The Scope of the Problem
“Drugs don’t work in patients who don’t take them.”
C. Everett Koop, M.D.

Patients who do not take any of their prescribed medication do not receive any pharmacotherapeutic benefits; patients who only partially follow their medication regimen may receive some benefit but are also at risk for serious complications. Potential negative outcomes include failed treatments, inappropriate dose escalation, development of drug-resistant infectious microorganisms, and misdiagnosis.

Medication non-adherence has an impact on hospitalization risk and health care costs. In a study of patients with diabetes, hypertension, hypercholesterolemia and congestive heart failure, Sokel, et al. found that hospitalization rates were significantly lower for patients with high medication adherence. In fact, for patients with diabetes and

hypercholesterolemia “a high level of medication adherence was associated with lower disease-related medical costs.”

Estimates of medication non-adherence rates vary greatly. Some articles have suggested rates as high as 50 per cent,\(^7\) with one meta-analysis finding an average non-adherence rate of 24.8 per cent \(^8\) for 17 conditions, including diabetes, lung disease and cancer. Another study found that medication class was the strongest predictor of non-adherence, with newly prescribed medicines for chronic conditions having the highest rates of primary non-adherence, or failure to fill a new prescription (e.g.: 31.4 per cent for diabetes, 28.4 per cent for hypertension, 28.2 per cent for hyperlipidemia).\(^9\)

Despite a lack of consensus on the exact causes and prevalence of non-adherence, it is impossible to deny its pervasiveness. In 2009, US research estimated that non-adherence costs its health care system $290 billion in avoidable medical spending every year.\(^10\) In Canada, data on the economic burden of non-adherence is sparse. In 1995 the Pharmaceutical Manufacturers Association of Canada released a report estimating the cost of non-adherence to be approximately $7-9 billion annually. This estimate was equally divided between direct and indirect (lost productivity) costs. The largest component of direct costs was due to the estimated 6.5 per cent of all hospitalizations attributed to nonadherence.\(^11\) More recently, a report released by PharmIndies Research and Consulting Inc. estimated that 5.4 per cent of all hospitalizations are due to medication non-adherence and estimated total annual costs to be between $687 million to $1.633 billion dollars.\(^12\) As well, the 2011 Drug Trend Report from Express Scripts\(^13\), using a medication possession ratio (MPR) measurement tool, found a huge gap between a patient’s perception of their adherence and actual adherence rates. That report also estimated that private drug plans alone in Canada wasted approximately $5 billion in expenditures (although the figure captures waste attributed to other causes besides non-adherence). Finally, a 2012 study\(^14\) (using data gathered in 2007) in the Canadian Medical Association Journal found that approximately 10 percent of Canadians reported non-adherence due to cost of drugs.

What Role Can Pharmacists Play?
Numerous studies have assessed a wide variety of interventions for improving medication adherence.\(^15\)
While many pharmacist interventions have been shown to benefit adherence in both the short- and long-term, most evidence tends to agree that improvements in drug use or health care are not large.\(^16,17,18,19\) However, given the significant cost and health ramifications of this problem, incremental improvements may still result in valuable cost savings.

Improving medication adherence is particularly challenging for patients with chronic conditions, especially those with multiple conditions.\(^20\) Strategies to improve medication adherence are typically highly focused on modifying patients’ beliefs, feelings and understanding about their medications and health conditions.

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\(^{7}\) Balkrishnan R. The importance of medication adherence in improving chronic-disease related outcomes: what we know and what we need to further know. Medical Care 2005;43(6): 517-20.


\(^{14}\) Canadian Medical Association Journal, 2012 www.cmaj.ca/content/184/3/297


Recently a time-limited New Medicine Service (NMS) was launched in community pharmacies in the UK by the National Health Service. This service was designed to provide early support to patients to “maximise the benefits of the medication they have been prescribed”, which supports Fischer, et al.’s work that identified high nonadherence rates for newly prescribed medication for chronic conditions. An evaluation of the initial 18 months of the service (October 1, 2011 to September 30, 2012) has shown promising results.

The NMS targets patients with certain chronic conditions (e.g.: asthma, chronic obstructive pulmonary disease, type 2 diabetes, high blood pressure or blood-thinning) who are prescribed specific new medications. Eligible patients can then choose to participate in two consultations (intervention stage and follow-up stage) following the initial dispensing of the medication and pharmacist counselling.

The goals of the service are to:

• Improve medication adherence
• Increase patients’ engagement with their condition and medicines, which will support them in making decisions about their treatment and self-management
• Reduce medication wastage
• Reduce hospital admissions due to adverse events associated with medicines
• Increase reporting by pharmacists and patients of medicine adverse reactions
• Increase positive patient assessments
• Provide evidence based on the effectiveness of the service
• Enable the development of outcome and/or quality measures for community pharmacy

After 18 months 224,554 patients had completed the NMS program. The prevalent conditions in those recruited were hypertension (55 per cent), asthma/COPD (26 per cent), diabetes (11 per cent) and conditions requiring antiplatelet/anticoagulant drugs (eight per cent). At the intervention stage, 35,249 (18.2 per cent) patients were not taking approximately 36,805 (18.1 per cent) medicines as prescribed. By the follow-up stage, the same cohort of people, 31.9 per cent of non-adherent patients became adherent to 31.5 per cent of their medicines after pharmacist intervention.

In 2012, the New Zealand government signed a new agreement with community pharmacists in which a number of new clinical services are included. A medication adherence program has been initiated for people with long-term conditions. The program is aimed at improving medication non-compliance in a targeted group of the population. It provides for pharmacist intervention and provides continuity of support by enabling pharmacists to work with their patients over the course of a year.

If pharmacists are able to help patients manage chronic diseases by adapting dosages, renewing prescriptions and monitoring progress, they can:

• Help the NL Government save an estimated $33.1 million in healthcare costs;
• Reduce emergency room visits by one to two percent;
• Save an estimated $2.7 to $5.3 million preventable healthcare costs related to adverse drug reactions (ADR);
• Reduce ADR’s by 15 to 20 percent.

How Can This Benefit the Patient?

Improving patients’ attitudes, beliefs and understanding regarding their treatment regimens has been shown to have beneficial effects on medication adherence.

Increasing patient engagement at the time of a newly diagnosed condition or newly prescribed medication will support patients in making decisions about their treatment and self-management.
How Can This Benefit the Health Care System?
A higher rate of medication adherence has been strongly linked to positive clinical outcomes including decreased rates of emergency department visits and hospitalization.

There remains a lack of information on its economic costs, yet nonadherence continues to be a significant clinical problem with no immediate resolution in sight. After reviewing the available worldwide literature, Bosworth and colleagues conclude that:

_A resounding theme emerged in this chapter – despite knowing that nonadherence can lead to poor patient outcomes, we lack information on the costs of nonadherence behaviour. The few studies that exist focused on treatment nonadherence leading to increased hospitalization. Few economic evaluations of interventions explicitly consider the costs and effects of nonadherence behaviour, and few studies in the health economics or health services literature have used multivariate modeling techniques to estimate the costs of nonadherence for a broad population of patients. Despite this, nonadherence continues to be a significant clinical problem in medicine and shows no sign of abating._

PANL’s Proposal
Pharmacists could increase medication adherence among patients with chronic conditions through intervention and repeated short-term follow-up when a medication is newly prescribed. Based on the success of the UK’s NMS, PANL proposes the development of a similar service in NL, targeting patients receiving a new prescription for a chronic condition. Also, the recently introduced New Zealand program provides an important model that should be considered when developing a NL program.

The service would increase access to care for patients with chronic conditions. Pharmacists could support patient self-management by providing education and support related to the patient’s medication regimen and lifestyle.

When presenting the prescription at the pharmacy, the patient would receive the standard counselling on the new medication, as well as advice on the importance of medication adherence and potentially beneficial lifestyle changes. An initial follow-up intervention would be scheduled to take place seven to 14 days later, either in person or by telephone.

At the initial follow-up, the pharmacist would assess the patient’s adherence to the new medication and, if any problems were identified, determine the patient’s need for further information and support. A secondary follow-up would then be scheduled to take place 14-21 days later.

At the secondary follow-up, the pharmacist would again assess the patient’s adherence and complete the medication adherence service by:

(a) Confirming the patient is adhering to the medication regimen
(b) Identifying an adherence problem and working with the patient to create an adherence plan for the patient to follow
(c) Identifying an adherence problem and referring the patient to his or her physician or other health care provider for review assistance.

Patients would be eligible for a maximum of two interventions for each new drug prescribed for an eligible chronic condition. Pharmacists would be funded $15 for each of the follow-up interventions provided to the patient.

Conclusion
Despite extensive suggestions on how to improve adherence, the best research in this area indicates that the effectiveness of proposed interventions is limited. Even the most effective interventions, especially for individuals with chronic conditions, lead to improvements of only five to 15 per cent in adherence and treatment outcomes. However, given the prevalence and estimated costs of non-adherence, interventions are needed to address the growing problem.

This proposal aims to impact the significant annual costs of up to $9 billion in Canada due to nonadherence.

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Immunization has been proven one of the most effective ways of preventing communicable diseases, including viruses that can cause critical illness and even fatalities, particularly in seniors, infant children and those with weakened immune systems. However, for a variety of reasons, current systems of vaccine delivery have not proven effective in achieving optimal rates of vaccinations in this province.

The Scope of the Problem
The immunization rate in Newfoundland and Labrador is nothing short of abysmal. We are well below the national average and have been singled out repeatedly for having the lowest influenza vaccination rate in the country (a rise from 11% to 22% from 1996 to 2005 is still well short of the 80% target at that time).²⁸

In 2008 Statistics Canada found that all sampled areas of NL had vaccination rates that were ‘significantly lower’ than the national average (see chart below). In contrast, Nova Scotia had ‘significantly higher’ rates and most of NB & PEI had ‘not significantly different’ rates than the national average.

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Our low vaccination rates are likely attributable to the geographic distribution of the province’s population and the shortage of health care professionals (primarily family physicians) to administer vaccinations.

**What Role Can Pharmacists Play?**
Clearly, pharmacists are uniquely positioned to address these challenges in a way that is efficient and cost-effective. Pharmacists are located within easy driving distance of almost every resident of the province. They currently receive and dispense a wide variety of medications so distribution channels are already in place. Pharmacists are experienced in the storage and safe handling of medications and can administer on site, which mitigates security and stability issues around temperature-sensitive vaccines. Patients could receive vaccinations from a qualified provider without experiencing financial penalties or barriers of distance.

While Newfoundland did have a fairly high H1N1 vaccination rate when compared to other provinces, this was an exceptional, well-publicized situation and improvements are still needed to pandemic preparedness. Allowing pharmacists to more directly contribute to these efforts will further increase access and uptake and result in a more efficient and effective pandemic preparedness plan. British Columbia, Alberta, Ontario, New Brunswick and Nova Scotia have already
identified appropriately trained pharmacists as key delivery mechanisms in an effective pandemic response. NL Health & Community Services highlighted this issue in the vaccine section of their Pandemic Influenza document:

“While production will be a national initiative, the Department of Health and Community Services, with the Regional Health Authorities, must be prepared for the challenges of secure storage, distribution and safe administration of the vaccine as rapidly as possible.”

Pharmacists are positioned and qualified to take an expanded role administering vaccinations. By doing so, pharmacists would have a significant and direct impact on vaccine-preventable morbidity and mortality, thus improving population health and easing the burden on an already strained health care system.

More than 100,000 vaccinations were provided to Canadians by pharmacists during 2010-2011. In the United States the numbers are much higher, as 150,000 pharmacists are certified to inject. The Centre for Disease Control (CDC) in the U.S. reports that pharmacists provide 20% of influenza vaccinations. This increased access is instrumental in improving immunization rates among individuals without a regular physician or medical clinic. Many adults patronize a pharmacy when they are well and often avoid the doctor’s office when they are sick. This frequent exposure of patients to pharmacists offers ample opportunity to identify high-risk groups, provide education and facilitate action. Pharmacists are often engaged in the community as well and could provide the service outside of their facility for community groups, churches, workplaces, etc.

Pharmacists are already performing injections successfully in various other jurisdictions, where their services have been shown to be safe, cost effective, readily accessible, and a vital contributor to the nation’s public health goals. Pharmacists are already providing injections in British Columbia, Alberta and New Brunswick. During the first three months of this service in New Brunswick, pharmacists vaccinated more than 15,000 residents at $12 per injection (drug cost not included).

A 2003 pilot study in Nova Scotia found that individuals preferred being able to get their vaccinations at the pharmacy rather than the doctor's office. There are 285 pharmacy locations in Nova Scotia with the ability to provide on-demand vaccinations of residents.

Perhaps most importantly, patient vaccination rates have improved through expansion of pharmacist-provided immunizations.

Reimbursing pharmacists to provide such services would help eliminate barriers to patient access, increase patient uptake and result in improved population health. Significant cost savings to the health care system could be realized, due to a reduced burden on more expensive arms of the system and better prevention of illness and disease.

**How Can This Benefit the Patient?**

Vaccine preventable diseases have a huge impact on the health and well-being of the general population, and certain target populations in particular. A large percentage of Newfoundlanders and Labradorians – including the elderly and chronically ill – fall into higher risk categories and would benefit from increased access to immunization services.

Influenza is the leading cause of death from infectious disease in Canada and pharmacists are ideally situated in our communities to increase vaccination rates and minimize morbidity, mortality and overall burden on the health care system. Considering the ease of access, frequent contact and trusted role that pharmacists enjoy with patients, they are in a position to communicate accurate information (and dispel misinformation) about injections and administer them immediately, upon dispensing.

**How Can This Benefit the Health Care System?**

The provision of vaccinations by pharmacists will result in financial savings to the health care system as spending on hospitalizations from vaccine preventable illnesses, drug spending on medication in community for preventable illness and public spending for administration of injections is decreased by moving the task to a lower cost health care provider.
By enabling pharmacists to administer vaccinations, the province could:

- Save an estimated $1.1 million in provincial health care costs;
- Increase vaccination rates by one to three percent.

**PANL’s Proposal**

PANL recommends the Government of Newfoundland and Labrador enact legislation enabling pharmacist administration of vaccinations. Similar legislation is currently in place in British Columbia. All pharmacists who choose to inject would need to complete an education and training program, as defined by the Newfoundland and Labrador Pharmacy Board. This could include valid and up-to-date First Aid and CPR certification. Ongoing practice experience and/or professional development would also be required to ensure continued proficiency.

Based on available data it is expected to take, on average, 10 minutes to complete each vaccination. Pharmacists who provide injections should be compensated at the same rate as physicians for this service, however based on projected time to complete and cost, we are recommending that pharmacists be compensated $17.10 for each vaccination they provide under provincial government public vaccination programs. This fee would include both the service charge and “tray” costs (relating to sterile gloves, syringes and other supplies) but exclude the cost of the drug.

The provision of this service by pharmacists will potentially improve the efficiency and effectiveness of the health system by increasing the number of professionals capable of meeting population needs in a timely manner at a reasonable cost.
Minor Ailments

Minor ailments are those that can be reliably self-diagnosed by the patient. Laboratory tests are not required to diagnose the condition, which must be self-limiting. Treatment of the condition should not mask other underlying conditions, and only minimal or short-term follow-up is needed. Taking a medical and medication history should reliably differentiate more serious conditions.

Minor ailments could include headaches, insect bites, heartburn, diaper rash, cold sores, eczema, hemorrhoids, back pain, sinus congestion, and so on. Some people manage such ailments on their own, with over the counter medications, but many others take the matter to their family doctors. In fact, it is estimated that general practitioners spend one-quarter to one-third of their time dealing with minor ailments.

The Scope of the Problem
In 2011/12, the Government of Newfoundland and Labrador spent $440 million on MCP Physician Services, for office visits concerning conditions that required examination and history, including conditions that would be considered minor ailments. Studies have shown that minor ailments comprise up to 40 percent of GP office visits.

The National Physician Survey (NPS) conducts annual surveys of Canadian physicians, residents and students. In the 2010 NPS, primary care physicians said their greatest challenges are increasing complexity of patient caseloads, management of patients with chronic disease and increasing patient expectations. Their workload pressure was also increasing as the number of family doctors continued to fall short of current needs.

The population is aging, presenting at clinics more often and in worsening health, so the GP’s time will become even more valuable. The current health care model has family physicians as the initial contact point, and while the vast majority of Newfoundland and Labrador seniors have a regular family physician, the challenge of accessibility is significant. According to “Health Care in Canada, 2011: A Focus on Seniors and Aging”, prepared by the Canadian Institute for Health Information, In 2009, less than half of seniors could get same- or next-day appointments in 2009, and more than one-third (34%) reported waiting six or more days for an appointment. This leads to an increase in the use of ERs and walk-in clinics, both of which increase health care costs while putting potentially vulnerable seniors at risk.

Because current workload pressure is predicted to increase along with the complexity of care delivered in the primary care setting, the time physicians spend on minor ailments is not an optimal use of a critical health human resource. Physician time would be best re-directed to patients with complex health issues with a
greater need for stretched health care resources. Studies have shown that pharmacists can provide safe and effective minor ailments treatment for patients as well as cost savings to the health care system as a whole.  

**What Role Can Pharmacists Play?**
National and provincial governments are working to ensure maximum competency for all health care professionals. In Newfoundland and Labrador, pharmacists have been granted additional authority to better use their full range of knowledge and skills to help reduce pressure in the primary care system. These expanded roles include medication reviews, adapting and renewing prescriptions, and providing emergency supplies of medication.

Nova Scotia has recently introduced a program through which pharmacists were granted authority to prescribe for minor ailments.

**How Can This Benefit the Patient?**
Enabling pharmacists to treat minor ailments would create new avenues of access to health care professionals and reduce pressure on doctors, allowing them to focus on patients with more serious and complex conditions. Pharmacists could provide more education on self-care and better use of medications and health care services. Early intervention by the pharmacist may also result in earlier detection and referral of more serious conditions. Those patients in rural Newfoundland and Labrador who must drive a considerable distance to see a physician would enjoy ready and convenient access to a health care professional for basic minor ailments treatment.

**How Can This Benefit the Health Care System?**
Treatment of minor ailments by pharmacists will reduce health care pressures and allow physician resources to focus on more serious and urgent cases. These changes could increase capacity in the health system and possibly reduce health care costs.

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**In the existing system (above), patients follow a convoluted path to get their prescriptions. In the proposed new system (below), it’s a much more streamlined process.**
PANL’s Proposal
The proposed Newfoundland and Labrador minor ailments program would enable pharmacists to:

• Consult with a patient
• Assess whether treatment is needed
• Provide the appropriate medications
• Refer the patient to another health care professional where necessary

In Nova Scotia, Pharmacists are able to prescribe for the following conditions:

• Dyspepsia (indigestion)
• Gastro-esophageal Reflux Disease (acid reflux)
• Nausea
• Non-infectious Diarrhea
• Hemorrhoids
• Allergic Rhinitis
• Cough
• Nasal Congestion
• Sore Throat
• Mild Headache
• Minor Muscle Pain
• Minor Joint Pain
• Minor Sleep Disorders
• Dysmenorrhea (menstrual cramps)
• Emergency Contraception
• Xerophthalmia (dry eyes)
• Oral Ulcers
• Oral Fungal Infection (thrush)
• Fungal Infections of the Skin (such as Athlete’s Foot)
• Vaginal Candidiasis (yeast infection)
• Threadworms and Pinworms
• Herpes Simplex (cold sores)
• Contact Allergic Dermatitis (skin reaction from coming into contact with an allergy)
• Mild Acne
• Mild to Moderate Eczema
• Mild Urticaria (including bites and stings, hives)
• Impetigo
• Dandruff
• Calluses and Corns
• Warts (excluding facial and genital)
• Smoking Cessation

In Newfoundland and Labrador, the list may be similar or may have some differences, as determined by the NLPB.

Legislative Changes Required
PANL would support the Department of Health and Community Services and the Newfoundland and Labrador Pharmacy Board (NLPB) in developing the legislative framework necessary to enable NL pharmacists to treat minor ailments.

Training for Pharmacists
Pharmacists would need appropriate education and training prior to providing these services. This education would address assessment and documentation skills, treatment guidelines and protocols, standards of care, and limits and conditions of this scope of practice. The training would also promote change management to increase uptake of this service by pharmacists. PANL and the NLPB have worked together in the past to help educate pharmacists, and would be able to do the same for minor ailments. Nova Scotia has a training program in place, which could potentially be adapted to our province.

Proposed Remuneration Model
The Nova Scotia model, on which the proposed NL model is based, estimates that the assessment and consultation associated with minor ailments – as well as documentation required – will take about 15 to 20 minutes. If a prescription results from the assessment, the pharmacy filling the prescription would charge a dispensing fee. Note that the patient can choose to have the assessment at one pharmacy and the prescription filled at another, if they so choose.

To optimize the use of professional resources, PANL suggests combining funding for consultation and assessment. Based on calculations of time and other resource requirements, we estimate that the service could be provided by pharmacists for approximately $22.50, or two-thirds of the fee paid to physicians for a similar service.
Financial Savings
Based on projections from the Pharmacy Association of Nova Scotia, during the first year in a publicly funded minor ailment program, 75% of pharmacies would conduct one minor ailment assessment per day (six days per week) for the first half of the year and 1.5 per day for the second half. This would amount to approximately 64,350 minor ailment assessments in the first year. After five years, the total number of minor ailments seen by pharmacists is projected at 121,600 annually.

If we apply the Nova Scotia model as the basis for calculation, pharmacists in this province would see approximately 44,928 minor ailments per year. The assumption is that visits to the pharmacist would replace and offset visits to the physician, with cost savings achieved through the lower fee schedule. Based on a proposed fee of $22.50 for pharmacists (using 192 pharmacies X 75 percent over 312 days, then calculating pharmacist fees against physician fees) the savings would be $1.6 million by the third year. The savings are projected at $561,000 annually. These fee-related cost savings are in addition to the value of optimized physician time, resulting in enhanced management of patients with serious and complex medical conditions.

Evaluation
An evaluation framework should be developed to measure and demonstrate the effectiveness of treatment of minor ailments by pharmacists.

Conclusion
Pressures on the health care system in Newfoundland and Labrador affect patients, physicians and taxpayers. By enabling pharmacists to assess and treat minor ailments, we will be making better, more effective use of our trained health care professionals, while improving access to timely and affordable health care for everyone in the province, particularly those in rural areas.

According to a recently released report from the Institute for Clinical Evaluative Sciences: “Approximately one-quarter to one-third of all visits to GP/FPs are of probable low acuity and could potentially be dealt with by a non-physician health care provider.”

Community pharmacists in the UK and elsewhere in Canada are successfully providing treatments for minor ailments, helping to streamline patient care and ensure that patients receive timely, expert advice without having to make an appointment with their family physician.
According to “Tobacco Use in Canada” (2013), approximately 82,000 people smoke tobacco in NL, and studies show that the majority of people who smoke want to quit.

The Scope of the Problem
Tobacco-related illnesses are the leading cause of preventable death in Newfoundland and Labrador. Approximately 17% of deaths in NL are related to chronic diseases caused by or directly related to tobacco use, including asthma, cardiovascular disease and chronic obstructive pulmonary disease. Based on mortality rates documented by Statistics Canada for 2009-2012, this translates to 14-16 people every week.

The Canadian Centre on Substance Abuse concluded that, in 2002, smoking cost the province an estimated $363.7 million annually in direct health care costs and indirect costs including productivity lost due to illness and premature death. It is expected that these costs would be higher today as the health impacts of smoking can be delayed up to 30 years, and the cost of providing health care continues to rise. This is a staggering toll on our economy, our health care system and, above all, our people.31

While the Government of Newfoundland and Labrador has done significant work related to tobacco control – including the Tobacco Control Act, The Smoke-Free Environment Act 2005, and Smokers’ Helpline – the province’s strategy should not end there. A recent study had the province ranked toward the bottom compared to other provinces in terms of reducing smoking rates. Clearly, much more needs to be done.

What Role Can Pharmacists Play?
NL can reduce smoking rates by developing the most complete and effective smoking cessation program in Canada. To achieve this goal, the Government of Newfoundland and Labrador should expand access to smoking cessation services outside traditional physician office settings to include community-based, pharmacist-led cessation programs that are proven to help smokers quit smoking.

Pharmacists are well-placed to advise smokers on the appropriate use of their NRT (Nicotine Reduction Therapy) and to regularly monitor their cessation progress.32 Evidence shows that pharmacist-led cessation programs can lead to quit rates that are five to 11 per cent higher than rates among those attempting to quit.

without a structured program. In the UK, for example, pharmacists are credited with facilitating at least 100,000 of the NHS’s 500,000 quit attempts.

Expanding NL’s cessation services to include pharmacist-led programs would benefit the province by addressing the current gap in support services for smokers. An annual survey of outpatient visits in BC determined that more than 70 per cent of smokers visit a physician annually, with most reporting wanting to quit.

However, 32 per cent of patient charts did not include information about tobacco use, while 80 per cent of identified smokers had no documentation of cessation assistance.

Clearly, Newfoundlanders and Labradorians who want to quit smoking need better access to cessation programs. Pharmacist-led smoking cessation programs would provide the support services people need to successfully quit smoking.

This suggests that current physician-led cessation programs are not adequately meeting the demand for support services.

How Can This Benefit the Patient?
Pharmacist-led smoking cessation treatments lower smoking rates and save lives and money. The immediate and long-term health benefits of quitting smoking are well documented, from reducing the risk of heart disease to preventing respiratory infections and chronic lung diseases, to reducing post-operative complications.

Quitting smoking also reduces the risk of cancers, which is significant considering that smoking is responsible for 30 per cent of all cancer-related deaths and more than 85 per cent of lung cancer-related deaths.

Community pharmacists have medication expertise and are familiar with smokers’ NRT needs, medication history and chronic conditions. Their support helps ensure that smokers use cessation medications that are right for their individual medical needs. The proper, safe and effective use of cessation medications by smokers, with the support of their pharmacists, ensures the avoidance of medication complications that can often lead to costly hospitalizations.

Pharmacist-led cessation services provide smokers with ongoing counselling support, which is widely recognized as a vital and effective part of a smoking cessation program. Ongoing counselling has been found to increase smoking-cessation rates by 50 per cent. And the increased number of convenient settings where smokers can access this service improves the odds that smokers can quit successfully.

How Can This Benefit the Health Care System?
Pharmacist-led smoking cessation programs have been successfully implemented in a number of health care systems and delivered benefits in several ways, including incremental cost savings that result in substantial reductions in provincial health care expenditures. Pharmacist-led smoking cessation programs have been shown to be cost-effective alternatives to self-directed quit attempts. In the US, comparisons of community pharmacy-based smoking cessation programs with self-directed quit attempts found the incremental cost-effectiveness of the pharmacist-led program to be US$844 to US$1,662 per life year saved (depending on the smoker’s age).

Analysis in the UK determined that pharmacist-led cessation programs had a lower cost per quality-adjusted life year gained (benefits quitters receive) compared with self-directed quit attempts and group services.

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36Centers for Disease Control and Prevention. The health consequences of smoking: a report of the Surgeon General. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Atlanta, GA. 2004.
Further evaluations of community pharmacy-based cessation programs that included counselling meetings for smokers determined that the cost-effectiveness of using pharmacists compares favorably with other disease prevention medical interventions, such as screening for hypertension or hypercholesterolemia.

In the US, a pharmacist-led smoking cessation program run by the Department of Veterans Affairs showed a 16 per cent quit rate, with annual savings of $691,200 and a net cost benefit of $551,200.

According to the Conference Board of Canada research report related to chronic lung disease, the economic burden for those with chronic lung disease is approximately $2,450 per person. The economic burden for the provincial government is approximately $200 million – the vast majority of it attributable to smokers.

In NL, a pharmacist-led smoking cessation program could help an additional five to 11 per cent of smokers quit, potentially resulting in millions in avoided health care costs. If approximately eight per cent of smokers using NRT and 15 per cent using prescription smoking cessation drugs successfully quit, the result would be approximately 16,000 successful quitters. The costs of NRT and prescription smoking cessation drugs for every unsuccessful quit attempt range from $240-$340, respectively, for a standard 12-week treatment.

In the past year, more than 80 per cent of all NRT issued as part of the BC Smoking Cessation Program was picked up at community pharmacies. This translates to 120,000 smokers picking up NRT from their pharmacist and 40,000 smokers picking up prescription smoking cessation drugs. A pharmacist-led cessation program providing improved patient access to follow-up counselling could help reduce these NRT and cessation drug costs, which would contribute to the province avoiding health expenditures of $1.37 billion.

**PANL’s Proposal**

PANL proposes that the Government of Newfoundland and Labrador collaborate with community pharmacy to develop and implement a pharmacy-led smoking cessation program, funded by the Ministry of Health, to provide residents with the improved access, medication expertise and ongoing counselling they need to successfully quit smoking. The cessation program would be modelled after the Ontario Pharmacy Smoking Cessation Program.

Similar to the program in Ontario, the NL program would consist of an initial patient assessment to determine readiness to quit. For patients ready to quit, the assessment would be followed by a consultation to document the patient’s smoking habits/history and previous quit attempts and to determine a plan to quit.

Patients agreeing to further consultations with their pharmacist would be eligible for continued smoking cessation consultations. This regular follow-up with the patient would be documented to ensure program continuity. Ideally, the consultations would take place when NRT or prescription smoking cessation drugs are received at the pharmacy.

PANL also proposes that the program include a minimum of three and a maximum of eight consultation sessions, each lasting approximately three minutes, which have been shown to increase the chances of prolonged abstinence. This approach is supported by evidence from Ontario, where pharmacist-led smoking cessation interventions with three consultations were shown to result in a higher quit rate when compared with a single consultation intervention (27.7 per cent vs. 18 per cent).

The model of intervention should be based on the Five A’s (ask, advise, assess, assist, arrange), as recommended.

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38www.conferenceboard.ca/press/newsrelease/12-03-01/chronic_diseases_are_taking_a_toll_on_canadians.aspx
40CAN-ADAPTT. Canadian Smoking Cessation Clinical Practice Guideline: Summary Statements. Toronto, Canada: Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment, Centre for Addiction and Mental Health. 2011.
41Pharmacy Smoking Cessation Program Ontario Ministry of Health and Long Term Care. September 1, 2011.
by the Canadian Action Network for the Advancement, Dissemination, and Adoption of Practice-Informed Tobacco Treatment (CAN ADAPTT) and as implemented in the Ontario Smoking Cessation Program. Other techniques such as FRAMES (feedback about personal risk, responsibility of patient, advice to change, menu of strategies, empathetic style, promote self-efficacy) could also be explored. Pharmacists would be required to complete training on smoking cessation counselling prior to participating in the NL program.

The program would be operated over a defined period and be regularly evaluated to assess its clinical impact and cost effectiveness. Pharmacists could also be included in program evaluation by entering into the PharmacyNetwork the patient’s quit status at the end of a 12-week course of NRT or smoking cessation therapy. PANL and the Ministry of Health would collaborate on developing program evaluations and documentation requirements to ensure financial accountability.

PANL’s proposed program is summarized in the figure below. If the proposed service was offered to each patient who received NRT or prescription smoking cessation drugs in 2011/12 (160,000 patients) with an average cost of $100 per patient, it would generate a potential net cost avoidance of $52-134 million dollars to the health care system, based on the increased number of smokers who would quit smoking.

<table>
<thead>
<tr>
<th>Point of Contact</th>
<th>Description</th>
<th>Outcomes</th>
<th>Remuneration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td><strong>ASK</strong> client if he/she smokes</td>
<td>If the client is NOT ready to make a quit attempt or does not want further consultation services: Provide client with information.</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td><strong>ADVISE</strong> smoker to quit</td>
<td>If the client is ready to make a quit attempt and set a quit date: Proceed to or schedule First Consultation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ASSESS</strong> patient readiness to make a quit attempt now</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| First Consultation| **ASSIST** the client in making a quit attempt | • Set a quit date  
• Create quit plan  
• Provide practical counselling  
• Provide handouts or refer to other community supports | $50 |
| Follow-up Consultation(s) Maximum 8 annually. | **ARRANGE** for follow-up contact, either in person or via telephone | • Determine quit status  
• Assess pharmacotherapy use  
• Discuss triggers and strategies to overcome them | $15 |
| Program Evaluation| **DOCUMENT** patient’s success status with the program | Document:  
• Patient succeeded in quitting smoking  
• Patient did not succeed in quitting smoking  
• Patient did not indicate whether he/she quit smoking | $5 |

Evidence shows that a successful smoking cessation program needs face-to-face, ongoing support from a health care professional. A pharmacist-led smoking cessation program in Newfoundland and Labrador would address this shortfall, expand access to cessation services, improve the odds of successful quit attempts and result in significant savings in health care costs.
Self-Monitoring of Blood Glucose in Type 2 Diabetes

Self-monitoring of blood glucose (SMBG) is in widespread use among patients with type 1 and type 2 diabetes. A recent (2010) systematic review by the Canadian Agency for Drugs and Therapeutics in Health (CADTH) provides evidence that most patients with type 2 diabetes who are not on insulin can reduce the amount of testing they do without negative health effects. Evidence shows that in this group, routine self-monitoring of blood glucose will not result in any clinically significant improvement in glycemic control. The Canadian Diabetes Association (CDA) has also revised its guidelines and moved away from recommending daily testing to establish protocols on an individual basis. If a patient is on a stable oral regimen and glycemic control is within the target range, infrequent SMBG monitoring is appropriate.

What is the Scope of the Problem?
The NL population has a far higher risk for diabetes given that NL has the oldest population among Canadian jurisdictions, the highest rates for overweight and obesity in Canada, the highest pre-diabetes rate, and close to lowest median family income. These risk factors contribute to the highest prevalence rate in 2010 and forecast for 2020. According to the Canadian Diabetes Association the prevalence of diabetes in NL will rise from 47,000 in 2010 to 73,000 in 2020, resulting in an increase of health care costs from $254 million per year to $322 million. One of the contributors to that high health care cost is the cost of blood glucose test strips. In fact, blood glucose test strips were the third-highest BC PharmaCare expenditure, accounting for $52.5 million of which $22.8 million was spent on testing among patients with non-insulin-dependent type 2 diabetes. When scaled back to the population of NL, approximately $6.6 million is spent on blood glucose test strips and $2.9 million of that is testing among patients with non-insulin-dependent type 2 diabetes.

The Canadian Medical Association Journal (CMAJ) published a study in 2009 that outlined the usage of blood glucose test strips. The study revealed that test strip use increased by almost 250% from 1997 to 2008, with 52.6% (n = 263 513) of included patients receiving a prescription during 2008. Almost half of these patients

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were at low risk for drug-induced hypoglycemia. In 2008, over 117 million test strips were dispensed in Ontario; however, more focused policy scenarios could have reduced this number by between 9.5 million and 74.5 million test strips.  

What Role Can Pharmacists Play?
For people with diabetes, information on their disease comes from a variety of health providers, including pharmacists. Patients purchase blood glucose test strips from pharmacists who are well-positioned to inform and educate patients with non-insulin-dependent type 2 diabetes about proper self-monitoring of blood glucose and proper use of blood glucose test strips according to the current CDA recommendations.

It is also well known that management of diabetes involves much more than glucose testing. And pharmacists can educate patients about other essential elements of self-management including:

- Eating a healthy, nutritious diet
- Exercising regularly
- Maintaining a healthy weight
- Taking all prescribed medications as directed
- Monitoring blood pressure
- Managing cholesterol
- Maintaining good foot care

How Can This Benefit The Patient?
SMBG may lead to a lower quality of life for some type 2 patients. Many patients are uncertain what the numbers mean and as a result may even become frustrated. As well, pain upon testing is often experienced by patients and this effect can be amplified in the elderly. There may also be an out of pocket expense to the patients themselves when blood glucose test strips are purchased.

Pharmacists are ideally positioned to advise patients about individualized glucose testing as recommended in the accepted guidelines. Easy access to this advice will help ensure that patients are testing themselves only when required. Furthermore, access to a pharmacist for help with diabetes management is convenient for patients.

How Can This Benefit the Health Care System?
Pharmacist input and influence on the level of testing in the patient population will have an immediate impact on the use of blood glucose test strips, with the potential to save a significant portion of the estimated $6.6 million spent on blood glucose test strips in 2011 (a number, it should be noted, that is projected to grow in the future). Unlike other health care professionals involved in providing diabetes education (physicians, care providers in hospital-based clinics), pharmacists interact with patients when they are purchasing test strips. This creates a unique opportunity to influence patients’ future testing patterns.

PANL’s Proposal
PANL recommends utilizing community pharmacists to educate and support patients with diabetes to follow the principles of testing as outlined by the CDA. This information can be found easily on the CDA’s website or at www.diabetes.ca.

This proposal anticipates that over the next five years, pharmacist intervention will be provided to at least three quarters with non-insulin-dependent diabetes and will reduce their testing frequency by 50 per cent, resulting in a cost savings of approximately $1.1 million annually or $5.5 million over five years.

Pharmacists will provide a standardized consultation with non-insulin-dependent diabetes patients. Each patient intervention will include a review of the patient’s current testing patterns and will create a testing protocol that is appropriate for that patient. The consultation will include the provision of other self-management information. A report will be generated for patients as well as their physicians.

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For planning purposes and to estimate savings potential, we propose setting the service at $50 per pharmacist consultation. The cost for providing this service to 6,250 patients (approximately half of patients in NL with diabetes, not using insulin) over the five years will be up to $1.5 million, resulting in a net saving of $4 million. The savings are ongoing beyond the first five years and will increase in line with the rising number of people diagnosed with diabetes in NL.

**Conclusion**

Governments have a significant opportunity to utilize pharmacists to control drug costs. Pharmacists have a role in non-insulin-dependent type 2 diabetes management. By implementing a SMBG consultation service focused on educating patients about purposeful testing, pharmacists will reduce the burden of testing on these patients, while equipping them with tools to better manage their disease.47

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A recent report by the Health Council of Canada makes the case quite eloquently for an expanded scope of services for pharmacists. “Progress Report 2013: Health Care Renewal in Canada” says that expanding pharmacist services will enhance health care delivery and create significant efficiencies.

“Expanding the scope of practice for pharmacists is an important step in ensuring that drugs are used safely and effectively and is a way to increase efficiencies within the system,” says the report, on page 23. “Currently the scope of practice for pharmacists varies across the country. The Canadian Pharmacists Association identifies eight activities within pharmacists’ scope of practice: providing emergency prescription refills, renewing/extending prescriptions, changing drug dosages/formulations, making therapeutic substitutions, prescribing for minor ailments, initiating prescription drug therapy, ordering and interpreting lab tests, and administering a drug by injection. Alberta and New Brunswick have expanded pharmacists’ scope of practice the furthest to include seven of the eight activities; Saskatchewan and Nova Scotia have implemented six. Nunavut and the Yukon are the only jurisdictions that have made no changes to pharmacists’ scope of practice… Many provinces have expanded scope of practice for pharmacists, providing patients with better access to the care and medications they need on a continuing basis. Drug information systems and e-prescribing facilitate this process. However, variations in scope of practice across the country continue to contribute to unnecessary pressures on family physicians for services that could be provided by pharmacists.”