An Analysis of Economic Value & Health System Benefits for Pharmacy Professional Services

Ontario Pharmacists’ Association
September 1, 2009
FINAL REPORT
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Overview

• With a growing number of Ontarians without a family physician, crowded emergency departments, walk-in clinics and physicians’ offices, an escalating number of hospital admissions resulting from adverse drug reactions or poor medication adherence, and an overall shortage of various healthcare professionals in the province, healthcare delivery in Ontario is not optimized.

• The Ontario Pharmacists’ Association (OPA) has long advocated that pharmacists represent a major part of the solution for what ails the province’s health system. Accordingly, there is a need to determine the tangible value of the services pharmacists provide – now and under an expanded scope of practice – that will ultimately deliver:
  – Increased access to healthcare services
  – Improved quality of care and quality of life
  – More efficient utilization of resources (GPs, ED, etc)
  – Increased personal productivity (quality of life)
  – Millions of dollars in both short- and long-term savings.
Executive Summary
Role of the Pharmacists

Pharmacists perform various acts at any patient’s visit. These acts can generally be categorized as either prescription-based events or professional services.

<table>
<thead>
<tr>
<th>Prescription-Based Events</th>
<th>Professional Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of prescription-based events include, but are not limited to:</td>
<td>Examples of professional services include, but are not limited to:</td>
</tr>
<tr>
<td>• Reviewing each prescription for a medication that a patient is taking</td>
<td>• Prevention and management of chronic diseases</td>
</tr>
<tr>
<td>• Ensuring that dose and instructions for use of the medication are correct, and conferring with the prescriber when necessary</td>
<td>• Adherence initiatives</td>
</tr>
<tr>
<td>• Dispensing medication</td>
<td>• Therapeutic modification</td>
</tr>
<tr>
<td>• Ensuring required procedures are followed for controlled substances</td>
<td>• Prescription intervention</td>
</tr>
<tr>
<td>• Ensuring that medications are managed in a manner that assures the integrity of the product, including minimization of diversion and dispensing errors</td>
<td>• Treatment of minor ailments</td>
</tr>
<tr>
<td></td>
<td>• Smoking cessation program</td>
</tr>
<tr>
<td></td>
<td>• Immunization programs</td>
</tr>
</tbody>
</table>

Note that not all acts are required at each patient’s visit. A subset of these acts will be performed according to the patient’s needs.
Executive Summary
Context of Evaluation

There are a number of areas in which pharmacists can play an increased role in optimizing patient care and delivering system savings. This analysis will look at a subset of services which fall broadly under the term Medication Therapy Management*.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Disease Prevention and Management</td>
<td>A pro-active, population-based approach that addresses chronic diseases early in the disease cycle to prevent disease progression and reduce potential health complications.</td>
</tr>
<tr>
<td>Adherence Initiatives</td>
<td>Activities whereby a health care practitioner (HCP) works with the patient and/or caregiver, and, if necessary, other HCPs to ensure that chronic medication therapy is optimized through regular and continued use.</td>
</tr>
<tr>
<td>Therapeutic Modification (TM)</td>
<td>Optimizing an individual patient’s therapeutic outcome through the adaptation and/or adjustment of therapy</td>
</tr>
<tr>
<td>Prescription Intervention (PI)</td>
<td>A pro-active, point-in-time assessment of the appropriateness of a prescription (new or refill) to avoid negative patient outcomes, duplication in therapy, and optimize drug utilization.</td>
</tr>
<tr>
<td>Treatment of Minor Ailments (MA)</td>
<td>Provision of assessments and, if necessary, initiation of prescription and/or over-the-counter therapy for minor ailments</td>
</tr>
</tbody>
</table>

* For a definition of Medication Therapy Management, please refer to Appendix A.
Executive Summary
Scope of Evaluation

The Ontario Pharmacists’ Association requested an economic value analysis of professional services in five categories of Medication Therapy Management, offered by or under consideration for pharmacists in Ontario.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Services</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Disease Prevention and Management</td>
<td>Health, Wellness and Disease Education</td>
<td>Activities that aim to prevent and manage chronic disease, which include, but are not limited to, prescription dispensing, prescription counseling, clinic and education days, device and diagnostic aid training, and medication reviews.</td>
</tr>
<tr>
<td>Adherence Initiatives</td>
<td>Refills of Chronic Care Medications</td>
<td>An adherence initiative that enables a pharmacist’s extension of an existing chronic care prescription without the need for a call or visit to a prescriber for reauthorization.</td>
</tr>
<tr>
<td>Therapeutic Modification</td>
<td>Therapeutic Modification</td>
<td>The act of optimizing an individual patient’s therapeutic outcomes through the execution of services that do not necessarily require consultation with the prescriber (adapt/adjust therapy and order/receive lab tests).</td>
</tr>
<tr>
<td>Prescription Intervention</td>
<td>Prescription Intervention Program</td>
<td>An activity whereby the pharmacist uses professional judgment NOT to dispense a clinically inappropriate prescription.</td>
</tr>
<tr>
<td>Treatment of Minor Ailments</td>
<td>Minor Ailments Program</td>
<td>The performance of assessments according to a defined protocol – including referrals – and, if necessary, initiating Schedule I, II, or III medication therapy from a limited formulary for a defined list of ailments.</td>
</tr>
</tbody>
</table>

These five services are only a subset of the professional services that could be offered by pharmacists. Additional services such as immunization program and smoking cessation therapy could also be delivered.
Executive Summary
Creating Value in Healthcare Priority Areas

The economic value analysis illustrates that delivering these professional services would address issues such as access, quality and resource utilization and productivity.

<table>
<thead>
<tr>
<th>Access</th>
<th>Quality</th>
</tr>
</thead>
</table>
| • Entry into the healthcare system that is timely, at the right level of care and with the appropriate resource  
• Allowing easier access to the healthcare system, be it with reduced waiting time at the ED-level or through contact with a regular GP, is a major priority of the Ministry | • Provision of safe healthcare services to the patient  
• Improving patient safety is a key outcome that Ontario hopes to achieve by expanding the scope of practice of many healthcare professionals |

<table>
<thead>
<tr>
<th>Resource Utilization</th>
<th>Personal Productivity</th>
</tr>
</thead>
</table>
| • Effective and efficient use of capacity at the ED- and GP-level  
• Providing care at the appropriate level of care is imperative for Ontario. Non-emergency situations should not lead to ED visits and healthcare professionals should practice to the fullest extent of their education and training | • Economic impact of absenteeism  
• Minimizing negative economic externalities of illness on patients and employers is an important objective of patient-centric health systems |
Executive Summary
Potential Value Generated from Professional Services in Year 1

The economic value analysis has identified the following estimates of gross value generated from implementation of the five professional service categories in Year 1.

**YEAR 1**

### Estimated Outcomes

- **Avoided ED Visits:** 107,586
  - (2% of Total 2008 ED visits*)
- **Avoided GP Visits:** 1,280,190
  - (3.5% of Total 2005-2006 GP visits**)
- **Avoided ADEs:** 53,658
  - (32% of estimated ADEs in community setting***)

### Estimated Savings

- **Avoided ED & Hospitalization Costs:** $23.70M
- **Avoided GP Fees:** $40.90M
- **Avoided Drug Costs:** $2.92M
- **Avoided Absenteeism Costs:** $4.90M

**Total Estimated Savings in Year 1:** $72.42M

Across a five-year period, the present value of the gross savings to the system is estimated at **$473M.**

* 5.25M ED visits annually, MOHLTC, May 2008
** 36M GP visits annually, CIHI, 2008 (2)
*** 168,153 community ADEs, nD analysis, extrapolated from Zhan, C. et al., 2005
Executive Summary
Potential Value Generated from Professional Services in Year 5

In Year 5, gross savings to the healthcare system are estimated to be greater than $128M.

YEAR 5

<table>
<thead>
<tr>
<th>Estimated Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided ED Visits: 146,350 (3% of Total 2008 ED visits*)</td>
</tr>
<tr>
<td>Avoided GP Visits: 2,642,107 (7% of Total 2005-2006 GP visits**)</td>
</tr>
<tr>
<td>Avoided ADEs: 56,721 (34% of estimated ADEs in community setting***)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoided ED &amp; Hospitalization Costs: $30.97M</td>
</tr>
<tr>
<td>Avoided GP Fees: $84.42M</td>
</tr>
<tr>
<td>Avoided Drug Costs: $3.09M</td>
</tr>
<tr>
<td>Avoided Absenteeism Costs: $9.56M</td>
</tr>
</tbody>
</table>

Total Estimated Savings in Year 5: $128.0M

In Year 6 and beyond, the ongoing value to the healthcare system of these five service categories would be $128M.

* 5.25M ED visits annually, MOHLTC, May 2008
** 36M GP visits annually, CIHI, 2008 (2)
*** 168,153 community ADEs, nD analysis, extrapolated from Zhan, C. et al., 2005
Summary of Value Overview of Potential Benefits Realized

By applying an evidence-based and structured (benefit/cost) analytical approach to determine the gross economic value of expanding pharmacists’ scope of practice, the following benefits were identified:

<table>
<thead>
<tr>
<th>Summary of Benefits (Year 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>Access</td>
</tr>
<tr>
<td>Demand for Emergency Department Services</td>
</tr>
<tr>
<td>Demand for General Practitioner Services</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Patient Safety</td>
</tr>
<tr>
<td>Resource Utilization</td>
</tr>
<tr>
<td>Emergency Department and Hospital</td>
</tr>
<tr>
<td>General Practitioners</td>
</tr>
<tr>
<td>Drugs</td>
</tr>
<tr>
<td>Personal Productivity</td>
</tr>
<tr>
<td>Absenteeism</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Total economic benefits in Year 1 are estimated at $72.4M. The benefits pertaining to patient safety amount to approximately 50,000 avoided ADEs. System benefits include an estimated 1.4M reduction in ED and GP visits.
Executive Summary

Approach

A two-phased approach was used to build economic models in order to identify the potential value of pharmacy professional services to the Ontario Healthcare System.

1. Framework and Information Gathering
   - Current State Analysis
   - Analytical Framework
   - Scope
   - Data
   - An analytical framework was established to pursue in-depth current state analysis and inform model development

2. Economic / Value Analysis
   - Model Structure
   - Model Results
   - Value of Pharmacy Professional Services
   - A cost-benefit approach was used to determine the value of each category
   - The findings of the model were synthesized and positioned with regards to current realities of the healthcare system
Executive Summary
Framework and Information Gathering

Primary and secondary sources were reviewed to identify key data, to be inputted into the models, as well as to gather relevant information that could be used in the report.

**Analytical Framework**
The framework consisted of two key elements:
1. High-level workflows of processes for an individual to obtain prescribed medications under current and future scope of pharmacists’ professional services
2. Value trees for the identified service categories

**Current State Analysis**
An analysis of Ontario’s current situation was executed to inform key sections of the report:
• Key challenges faced within the healthcare sector
• Ontario’s priorities with regards to health
• Potential barriers and future opportunities for extending scope of practice of Pharmacists

**Data**
Data has been collected from a variety of sources to inform both the current situation as well as potential impact:
• Governmental Sources – e.g.: Ontario Ministry of Health and Long-Term Care
• Public Agencies – e.g.: Health Council of Canada, Institute for Clinical Evaluative Science, Canadian Institute for Health Information
• Scientific Literature – e.g.: Annals of Pharmacotherapy, Lancet
• No data from the pharmaceutical industry has been used in the models
Executive Summary
Economic Value Analysis

A cost-benefit analytical approach was used for each service category based on the established framework.

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Costs</th>
</tr>
</thead>
</table>
| • Value of identified benefits was estimated using Ontario data where available  
• Key assumptions concerning the potential impact of an extended pharmacist scope of practice were validated through a peer-reviewed journal literature review  
• High, low and likely scenarios were also developed to provide a range around assumptions | • Costs were considered in relation to the associated benefit. Program costs related to implementation of service categories were not in the scope of this analysis  
• For example, newly created GP capacity would be filled, incurring costs to the health system  
• Pharmacists would be provided with compensation to offer these professional services |
| Example of Benefits:  
• Avoided emergency department visits  
• Avoided adverse drug events  
• Decrease in absenteeism  
• Additional general practitioner capacity  
• Decreased net professional costs for services provided by a pharmacist | Costs identified:  
• Pharmacist professional fees  
• System costs related to filling capacity |

A conservative approach has been taken in evaluating the benefits for each service category.

Note: See Appendix E for Model Sample
Executive Summary
Assumptions

Various assumptions have been used in developing this model.

<table>
<thead>
<tr>
<th>Assumption</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population growth follows projections by the Ontario Ministry of Finance</td>
<td>Demographic shifts will increase the number of patients presenting to a GP, creating incentives to alleviate this pressure through alternative care</td>
</tr>
<tr>
<td>For CDPM, pharmacist action is maintained throughout the period and continued in steady-state</td>
<td>Studies have observed that, post intervention, adherence to therapy guidelines would fall back to pre-intervention level</td>
</tr>
<tr>
<td>Diabetes and hypertension-related complications considered in this model would only affect patients with low productivity</td>
<td>A conservative approach has been taken in estimating the avoidance of productivity loss because of the type of data used in calculating complications related to diabetes and hypertension. As a consequence, loss of productivity due to diabetes and hypertension were excluded</td>
</tr>
<tr>
<td>Only one refill a year per Rx</td>
<td>According to the PAPE* agreement, pharmacists may authorize a prescription extension only once</td>
</tr>
<tr>
<td>Adverse drug events would be detected by pharmacists who would then adapt/adjust the medication therapy or intervene by not dispensing the clinically inappropriate prescription</td>
<td>Some problematic prescriptions cannot be adjusted or adapted based on TM guidelines. For these prescriptions, the pharmacist would refuse to fill them and would contact, when appropriate, the prescriber to obtain a new prescription</td>
</tr>
<tr>
<td>ADEs would either lead to ED visits or GP visits</td>
<td>Patients would visit their physician because of the adverse effects even if the ADE does not warrant an ED visit</td>
</tr>
<tr>
<td>Adherence to pharmacy MA service will increase progressively to reach a steady state over five years</td>
<td>As Ontarians familiarize themselves with the usefulness of being able to obtain a prescription for MA at their local pharmacy, uptake would increase</td>
</tr>
<tr>
<td>Ontarians who visit an emergency department for a minor ailment will only do so once a year</td>
<td>To provide conservative evaluation given the lack of data on MA at the ED level (no breakdown of CTAS IV and V data available publicly)</td>
</tr>
<tr>
<td>GP capacity will remain stable over the five-year period to a steady state (i.e. # of visits remain relatively the same)</td>
<td>Number of GPs has remained stable, limiting capacity expansion. Recent actions to increase the number of GPs will produce results in the medium term, but may be compensated by GPs retiring or decreasing volume of services</td>
</tr>
</tbody>
</table>

*PAPE: Pharmacist Authorization of Prescription Extensions
Executive Summary
Net Value

Implementing pharmacy professional services can free up capacity in the system (e.g. GP Capacity). However, as this capacity gets filled, costs can incur, reducing the direct financial benefits to a net present value of $180M for the five-year period.

Key Benefits of Added Capacity

- Chronic care patients who do not have a regular physician tend to make use of emergency departments more frequently
  - It is estimated that the added capacity generated by extending pharmacists’ scope of practice would prevent between 15,000 and 30,000 visits
- Approximately 700,000 Ontarians do not have a family physician
  - This number could be reduced by 50% if pharmacists were enabled to perform the five identified professional services

Source: nD Analyses 2009
Executive Summary
Key Considerations

To provide a comprehensive analysis of the impact of expanding the scope of practice for pharmacists, potential barriers and additional opportunities will need to be considered.

<table>
<thead>
<tr>
<th>Potential Barriers</th>
<th>Additional Opportunities</th>
</tr>
</thead>
</table>
| 1. Lack of Stakeholder Collaboration  
  • Early collaboration among healthcare providers is necessary for advancing system integration | 1. Knowledge Sharing Among Healthcare Providers  
  • Greater knowledge sharing will strengthen Ontario’s healthcare system |
| 2. Additional Costs  
  • Set-up and operating costs will be incurred with each of these initiatives. Merits of pharmacy professional services should be reinforced | 2. Advice & Orientation Services  
  • On some matters, pharmacists could act as an entry point to the healthcare system to Ontarians who lack access to a regular physician |
| 3. Lack of awareness/adherence  
  • System impact of pharmacy professional services will remain dependent on pharmacists’ capacity to create awareness and adoption among Ontarians and other healthcare providers | 3. Partner in Controlling Costs  
  • Pharmacist can help identify waste and implement cost control activities |
|                                | 4. Information Technology and Information Management  
  • Greater quality of care could be achieved by leveraging pharmacist data |

Expanding pharmacists’ scope of practice is an essential step towards improving the affordability and quality of healthcare in Ontario.
Current State of Affairs
Growing Healthcare Expenditures

Over the last 10 years, Canada’s total healthcare expenditures have grown at an average rate of approximately 7.4% annually and are forecasted to continue to grow at an unsustainable rate.

Healthcare expenditures must be controlled in order to prevent the crowding out of other government priorities.

Source: Canadian Institute for Health Information, National Health Expenditure Trends, 1975-2008
Current State of Affairs
Shifting Demographics

As the population ages, the healthcare spending can be further exacerbated.

- StatsCan projections indicate that seniors constitute the fastest growing demographic group in Canada
- The population of Canadian seniors is expected to reach 6.7 million in 2021 and 9.2 million in 2041 (nearly one in four Canadians)
- Canadian seniors typically use the healthcare system more frequently and intensively
- The aging population will exacerbate the prevalence of chronic disease

Growth in healthcare costs must be brought to a sustainable level without compromising on quality of care and without losing the focus on improving outcomes.

Source: Statistics Canada
Current State of Affairs
Ministerial Direction

Ontario’s Minister of Health and Long-Term Care is already acting to curb healthcare spending and advance quality of care through improvements in two major priority areas: Emergency Department Wait Times and Access to Primary Care.

Reduce ED Wait Times
To deliver on its ED Wait Times strategy, Ontario will:
- Improve chronic disease prevention and management
- Promote healthy living
- Increase funding to community-based services
- Improve and expand mental health and addictions services
- Provide additional funding for hospitals in high-growth areas

Increase Access to Primary Care
To ensure Ontarians have access to healthcare in their community, Ontario will:
- Provide family healthcare to unattached patients
- Increase physician supply
- Increase the number of Family Health Teams
- Establish Nurse Practitioners-led clinics
- Hire additional nurses

Key enablers:
- eHealth
- Information Management
- Equity Policy

As people better manage their chronic diseases, live healthier lives and obtain community care, ED wait times will be reduced.

Both the wait times and the family healthcare priorities are supported by enablers.
Current State of Affairs
Access to Primary Care

Accessing primary care remains a challenge for Ontarians.

- More than 700,000 Ontarians do not have access to primary and preventative care, including blood tests, eye examinations and cancer screening
- Close to 20% of unattached patients (individuals who are without a family physician) in Ontario visit the ED for primary care
- Lack of continuity of care impacts the quality of services rendered to patients and can lead to unnecessary and expensive hospitalizations*

Growing healthcare demand and increasing retirement rates among GPs will exacerbate the existing health human resource shortages in the near future.

Current State of Affairs
ED Wait Times

ED wait times can be reduced by addressing two key issues: alternate-level of care patients and unnecessary/preventable ED visits.

Admit patients who are waiting in the ED to an in-patient bed

ED Visit
- There are 163 EDs in the province
- 2.8M people make 5.25M visits to the ED each year
- 9.6%* these visits result in hospitalization

Avoid ED visits and hospitalizations by increasing access to healthcare providers and through preventative care

Hospitalization
- 14%** of ADE***-related ED visits result in hospitalization
- Many of these are preventable
- Pharmacists can help prior to the occurrence of ADE

While the province continues to reduce the ALC back-log, pharmacists can play a crucial role in decreasing the incidence of Adverse Drug Events, preventing ED visits and hospitalizations, as well as improving access to GPs.

*Source: CIHI, 2007  
**Source: Zed, 2005  
***Adverse Drug Events: Injury caused by a medication
Current State of Affairs
Pharmacists: Healthcare Providers

Pharmacists are currently helping to address these issues through Drug Therapy, MedsCheck and ADE Prevention.

- **Drug Therapy**
  - Pharmacists help and counsel patients on their drug therapy
  - Drugs have increasingly been used to help patients cope with various conditions – sometimes even reducing the need for surgery
  - Drugs are also a key element of many preventative therapies (e.g. blood pressure management)

- **MedsCheck Program**
  - Pharmacists help to counsel patients who take three or more medications for a chronic condition
  - Collaboration between pharmacists and physicians can optimize a patient’s drug therapy
  - Pharmacist intervention can minimize potential adverse events and medication errors

- **Adverse Drug Events Prevention**
  - Pharmacists play an essential role in preventing ADEs
  - A growing number of pharmaceutical products are approved each year—approximately 22,000 drug products are currently on the Canadian market and 4,400 drug submissions are made annually – which places an undue burden on GPs
  - Pharmacists can identify problematic prescriptions and avert ADEs

But, as medication experts and healthcare providers, they can and want to help more.
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Expanding the Role of Pharmacists  
Intra-Jurisdictional Review

Other jurisdictions* have expanded the scope of practice for pharmacists.

<table>
<thead>
<tr>
<th>Pharmacists Authorized Acts</th>
<th>BC</th>
<th>AB</th>
<th>SK</th>
<th>MB</th>
<th>QC</th>
<th>NS</th>
<th>UK</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribe Schedule 2 and 3 Drugs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>N/A</td>
<td>○</td>
</tr>
<tr>
<td>Extend existing prescriptions</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Adjust prescription (dosage, regime, etc)</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Adjust dosage in response to monitoring</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Order laboratory tests for patient medication monitoring and management</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>N/A</td>
<td>○</td>
</tr>
<tr>
<td>Administer drugs through injection or inhalations for education and demonstration</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>N/A</td>
<td>○</td>
</tr>
<tr>
<td>Perform procedure on tissue below dermis</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>N/A</td>
<td>○</td>
</tr>
<tr>
<td>Providing immunization services to patients, if necessary</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>N/A</td>
<td>○</td>
</tr>
</tbody>
</table>

○ Not In Scope ● Implemented ○ Under Consideration

Ontario is considering expanding the pharmacists’ scope of practice to include many of these acts.

*Note: Policy reforms, including pharmacists’ scope of practice, are executed at the state level in the United States. No state could be clearly identified as being at the forefront of this issue. Therefore, scope of practice changes in the United States were examined but not included in this report.
Expanding the Role of Pharmacists
Pending Legislation

The Government of Ontario has introduced amendments to the existing legislation and regulations to expand the scope of practice of pharmacists.

<table>
<thead>
<tr>
<th>Ontario’s Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increasing patient access and improving chronic disease management by better utilizing regulated healthcare professionals and reducing barriers to practice</td>
</tr>
<tr>
<td>2. Supporting the public delivery of healthcare by responding to the implications of better utilization and barrier reductions</td>
</tr>
<tr>
<td>3. Improving patient safety by strengthening the health professional regulatory system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmacist Controlled Acts Under Proposed Amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dispense, sell or compound a drug and supervise the part of a pharmacy where drugs are kept</td>
</tr>
<tr>
<td>2. Administer, by injection or inhalation, a substance specified in the regulations</td>
</tr>
<tr>
<td>3. Prescribe a drug specified in the regulations</td>
</tr>
<tr>
<td>4. Perform a procedure on tissue below the dermis</td>
</tr>
</tbody>
</table>

It is the government’s goal that these legislative and regulatory changes will improve access to healthcare and improve patient safety.
Areas of Priority

The framework used to review each service category has the following improvement dimensions: Access, Quality, Resource Utilization and Personal Productivity.

<table>
<thead>
<tr>
<th>Access</th>
<th>Quality</th>
</tr>
</thead>
</table>
| • Timely entry into the healthcare system, at the right level of care and with the appropriate resource
• Easier access to the healthcare system, be it through reduced waiting time at the ED-level or through contact with a regular GP, represents a major priority of the Ministry | • Provision of safe healthcare services to the patient
• Improving patient safety is a key outcome that Ontario hopes to achieve by expanding the scope of practice of many healthcare professionals |

<table>
<thead>
<tr>
<th>Resource Utilization</th>
<th>Personal Productivity</th>
</tr>
</thead>
</table>
| • Effective and efficient use of capacity at the ED- and GP-level
• Providing care at the most appropriate level is imperative for Ontario. Non-emergency situations should not lead to ED visits and healthcare professionals should practice to the fullest extent of their education and training | • Economic impact of absenteeism
• Minimizing negative economic externalities of illness on patients and employers is an important objective of patient-centric health systems |
Summary of Benefits by Areas of Priority

By expanding the scope of practice for Ontario’s pharmacists to include five specific service categories, a number of benefits pertaining to access, quality, resource utilization, and productivity could be realized.

<table>
<thead>
<tr>
<th>Pharmacy Service Categories</th>
<th>Improvement Dimensions</th>
<th>Health, Wellness and Disease Education</th>
<th>Refills of Chronic Disease Medications</th>
<th>Therapeutic Modification</th>
<th>Prescription Intervention Program</th>
<th>Minor Ailments Program</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>

✓: Check marks identify impact dimensions scoped in the model and not the full scope of benefits for the selected professional services.

The following section will explain how each service category will provide benefits in one or more improvement dimensions.
Value Analysis of Pharmacy Professional Services:

Health, Wellness and Disease Education

- A Subset of Chronic Disease Prevention and Management (CDPM) -
CDPM – The Issue

Due to a lack of collaboration among healthcare providers, Ontario has yet to achieve its full potential in CDPM.

Addressing the issue requires a systemic approach – one that could include pharmacists as part of the inter-disciplinary team of healthcare providers for chronic disease patients.

- Ontarians with chronic health conditions typically consume higher levels of healthcare services:
  - They consult more frequently with nurses, GPs and specialists
  - They are more likely to be admitted for hospital stays and use more home care services
  - They are also at higher risk of developing co-morbidities

Use of Healthcare Resources by People With Chronic Health Conditions

- Select CHC include arthritis, cancer, COPD, diabetes, heart disease, high blood pressure, and mood disorders
Expanding the scope of practice for pharmacists, to incorporate Health, Wellness and Disease Education as a function of CDPM programs, would positively impact multiple parts of the healthcare system.

The value of CDPM is based on the principle that pharmacist interventions would increase proper adherence to therapy guidelines, thereby reducing the occurrence of complications requiring ED visits and hospitalizations.

* During the visit, the pharmacist could perform an MTM act, such as ordering a lab test or adapting the prescription
Expanding the scope of practice for pharmacists to become more integrated in CDPM would result in close to $10 million in benefits in the first year.

Given that asthma, diabetes and hypertension represent only a subset of all chronic diseases, the potential benefits could be significantly more.
CDPM – Potential Patient Benefits

The value to patients of CDPM, through the adoption of the Health, Wellness and Disease Education programs, includes the avoidance of hospitalizations and of productivity loss.

The burden of chronic disease is high for patients who suffer from them. Pharmacists can help alleviate this burden.
CDPM – Potential Health System Benefits

The benefits accrued to the healthcare system by CDPM, through the adoption of the Health, Wellness and Disease Education programs, include the reduction in costs associated with preventable ED visits and hospitalizations.

In addition to the direct economic savings gained by managing hypertension, the risk of developing other costly heart conditions among hypertension patients may also be reduced.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED Costs</td>
<td>Hospitalization Costs</td>
<td>ED Costs</td>
<td>Hospitalization Costs</td>
<td>ED Costs</td>
</tr>
</tbody>
</table>

### Estimated Avoided Costs By Properly Managing Asthma, Diabetes and Hypertension

- **Diabetes**: 2.8
- **Asthma**: 4.6
- **Hypertension**: 1.8

**Breakdown of Estimated Avoided Hospitalization Costs per Chronic Health Conditions**

Source: nD Analyses 2009
Value Analysis of Pharmacy Professional Services:

Refills of Chronic Care Medications

- *A Subset of Adherence Initiatives* -
Adherence to Chronic Care Medications – The Issue

Issues with adherence are twofold – the challenge of keeping stable patients on chronic therapy (remaining adherent) and the challenge of educating unstable patients on the importance of adherence (related to CDPM initiatives).

### Canada’s Top 10 Treated Health Conditions

<table>
<thead>
<tr>
<th>Claims Ranking</th>
<th>Health Condition or Need</th>
<th>% of Total Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High Blood Pressure</td>
<td>12.80</td>
</tr>
<tr>
<td>2</td>
<td>Depression</td>
<td>7.22</td>
</tr>
<tr>
<td>3</td>
<td>Antibiotics/Anti-Infectives</td>
<td>7.19</td>
</tr>
<tr>
<td>4</td>
<td>Diabetes</td>
<td>6.22</td>
</tr>
<tr>
<td>5</td>
<td>Pain, Narcotic Analgesics</td>
<td>5.13</td>
</tr>
<tr>
<td>6</td>
<td>High Cholesterol</td>
<td>4.98</td>
</tr>
<tr>
<td>7</td>
<td>Asthma/COPD</td>
<td>4.84</td>
</tr>
<tr>
<td>8</td>
<td>Ulcer/Reflux</td>
<td>4.39</td>
</tr>
<tr>
<td>9</td>
<td>Birth Control</td>
<td>3.83</td>
</tr>
<tr>
<td>10</td>
<td>NSAIDs – Pain &amp; Inflammation</td>
<td>3.76</td>
</tr>
</tbody>
</table>

**Total** 60.36

Source: ESI Canada, subsidiary of Express-Scripts Inc., 2007

**Chronic Diseases**

- Most of Canada’s Top 10 treated health conditions are related to chronic diseases
- Chronic diseases, such as high blood pressure, diabetes or asthma, require continuous drug therapy, which explains their high percentage of total claims
- Many patients with a chronic health condition are considered stable and do not require frequent assessments by their GP to obtain a prescription extension

Pharmacists require the authority to extend existing chronic care prescriptions for stable patients to avoid having them make unnecessary visits to the physician that decrease GP capacity.
Expanding the scope of practice for pharmacists, to include Refills of Chronic Care Medications, as one of several adherence initiatives possible, could positively impact multiple parts of the healthcare system.

Instead of assessing stable patients, GPs can concentrate on helping unstable patients with CHCs.

Allowing stable patients to extend their prescription at the pharmacy is more convenient to them.

The value of refilling chronic medications is based on the principle that shifting the extension of stable patients’ prescriptions from GPs to pharmacists will create additional GP capacity.
Refills of Chronic Care Medications – Overall Benefits

The total value of expanding the scope of practice to allow pharmacists in Ontario to extend chronic care medications is estimated to be $14M in the fifth year.

In addition to its financial benefits, a refills-based adherence program would improve the quality of life of Ontarians with stable chronic health conditions. Pharmacy-based activities toward adherence for unstable patients would be captured through Health, Wellness and Disease Education (CDPM) initiatives.
Refills of Chronic Care Medications – Potential Patient Benefits

The benefits accrued to the patient, through the adoption of the refills-based adherence program, mostly revolve around time economy.

The present value of productivity gains associated with these lost hours over the next five years is estimated to be between $3.6M and $10.8M.

**The “Burden” of Refills**

- Appointments with GPs can be time consuming and frequently occur during the patient’s working hours
- Obtaining refills from alternative options to GPs, such as nurse-practitioners, walk-in clinics or EDs, do not represent an effective use of the healthcare system

Source: nD Analyses 2009
Refills of Chronic Care Medications – Potential System Benefits

The benefits accrued to the healthcare system, through the adoption of the refills-based adherence program, include the reduction in costs associated with physician assessment fees when a refill visit occurs.

In the first year...

- At least 130,000 GP visits could be avoided
- If filled, this capacity would be equivalent to 35 new GPs
- This represents about 10% of all graduating family physicians in 2008

Ontario would have to invest more than $1.5M to create as many family residency positions as the GP capacity created by a refills-based adherence program.
Value Analysis of Pharmacy Professional Services:

Therapeutic Modification
Therapeutic Modification – The Issue

Under the current scope, pharmacists are prevented from optimizing and making changes to a prescribed therapy without prior consultation with the prescriber.

Why Therapeutic Modification?

- Medication therapy is increasingly becoming a customized solution to an ever-changing, unique patient profile
- Adapting and adjusting medication therapy can increase the effectiveness of the treatment and prevent harm
- Many of these modifications currently require approval by the prescriber, even though they are simple and could quickly be completed by the pharmacist

Examples of Therapeutic Modification

- Adjusting the strength of a medication based on the body weight of a patient
- Modifying a prescription from a solid dosage form (e.g., tablet) to an easier-to-swallow liquid formulation
- Adjusting warfarin therapy based on INR levels
- Ordering and receiving lab tests to enhance pharmacists’ ability to monitor and, when necessary, tailor therapy to meet patients’ specific needs

The value of Therapeutic Modification is based on the principle that pharmacists, by adapting and adjusting prescribed therapy to meet patient’s needs without the prescriber’s direct involvement, can prevent ADEs and reduce the work burden of prescribers.
Therapeutic Modification – An Alternate Patient Journey

Expanding the scope of practice for pharmacists, to include the Therapeutic Modification program, could positively impact patients and multiple parts of the healthcare system.

GPs can see more patients and spend additional time on more complex problems.

Pharmacists can play an important role in detecting medications with potential for adverse events.

Preventing adverse drug events reduces the number of unnecessary ED visits, hospitalizations and deaths.
Therapeutic Modification – Overall Benefits

The total value of expanding the scope of practice for pharmacists in Ontario to include a Therapeutic Modification program is estimated to be $3.3M by Year 5.

- Allowing pharmacists to participate in a Therapeutic Modification program has high impact potential, including the ability to:
  - Prevent the onset or worsening of chronic disease(s)
  - Generate new capacity among GPs to provide greater access to excellent healthcare
  - Reduce unnecessary ED visits, thereby allowing ED staff to focus on critical problems

A Therapeutic Modification program is complementary to the act of dispensing and would improve care provided to patients.
The benefits accrued to the patient, through the adoption of the Therapeutic Modification program, include improved health outcomes and productivity gains.

Overall, the implementation of the Therapeutic Modification program would result in the avoidance of more than 40,000 hours spent by patients at the hospital each year.
Therapeutic Modification – System Benefits

The benefits accrued to the healthcare system, gained with the adoption of the Therapeutic Modification program, include the creation of additional GP capacity, reductions in unnecessary ED visits and avoidance of hospitalization costs.

The number of unnecessary GP visits can be reduced by preventing ADEs as well as enabling Pharmacists to adapt and adjust some prescriptions without GP consultation.
Value Analysis of Pharmacy Professional Services:

Prescription Intervention Program
Prescription Intervention – The Issue

Adverse drug events have become a prominent issue with regards to patient safety in Canada. As the number of available drugs increase, as well as the number of people taking multiple medications, tackling this issue will only become a greater challenge.

### Situation
- Ontarians are relying more and more on drugs to manage their various health conditions
  - Ontario’s publicly funded drug programs account for $3.8 billion annually
- Prescriber information on new and existing pharmaceuticals is provided primarily through the pharmaceutical industry
  - This model fails to ensure impartiality, appropriate cost-benefit analysis and consistent geographical coverage
- The current direct funding model for pharmacy is predicated on the filling of prescriptions, not on the provision of optimal care to the patient.

### Complication
- Higher pharmaceutical consumption results in greater demand for assessments and counseling at the front end of the system
  - This creates an additional burden on healthcare providers
- The trend to treat patients outside of institutional settings is increasing
  - Medication management expertise is needed to ensure therapies are used appropriately and that patients are adherent

Proper structures and processes that include pharmacists can help reduce the burden of ADEs.
Expanding the scope of practice for pharmacists, to include the Prescription Intervention Program, would positively impact multiple parts of the healthcare system.

Dispensing unnecessary medications can be prevented by adopting a Prescription Intervention program, thereby reducing the total costs of drugs.

The value of the Program is based on the principle that pharmacists prevent adverse drug events and help patients save on medication costs by refusing to fill problematic prescriptions.
Prescription Intervention – Overall Benefits

The total value of expanding the scope of practice for pharmacists in Ontario, to include a Prescription Intervention Program, is estimated at $7.7M in Year 5.

A key role for pharmacists is to ensure that medications are safe and appropriate for the patient. As a corollary, the non-dispensing professional pharmacy services they can provide tangible value to the system.
Prescription Intervention – Patient Benefits

The patient benefits accrued by adopting the Prescription Intervention Program include avoidance of ADE-related hospitalizations and improved personal productivity.

Productivity loss due to ED visits and hospitalizations can be reduced by a Prescription Intervention Program. Avoided productivity losses are estimated at $250,000 to $750,000 in Year 5.
Prescription Intervention – System Benefits

Benefits accrued to the healthcare system, gained by incorporating the Prescription Intervention Program within the scope of practice for pharmacists in Ontario, include the avoidance of $3M in expenses associated with the cost of prescriptions.

A Prescription Intervention Program could help foster greater patient-focused professional behaviour among pharmacists in Ontario.
Value Analysis of Pharmacy Professional Services:

Minor Ailments Program (MAP)
Minor Ailments Program – The Issue

Even if assessments for minor ailments can be quick and simple, the sheer number of them consumes significant GP & ED resources.

**Issues**

- Of all Canadians who used an ED, 39% report that their primary care provider could have treated them if available*
- 15% of all GP visits are for minor ailments
- Ontario GPs spend more than 1.3 million hours, the equivalent of approximately 155 years, assessing patients with minor ailments

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**This represents time that could be used by GPs to:**

- Add patients to their roster
- Spend more time on patients with complex health problems
- Help patients better manage their chronic disease(s)
- Participate in cancer screening programs

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Ontario wants to be more efficient in its use of healthcare resources. Minor ailments represent an area where the province could achieve this goal.

*Source: Health Council of Canada, 2008*
Minor Ailments Program – An Alternate Patient Journey

The Minor Ailments Program would allow individuals to be redirected, from visiting GPs or EDs, to their local pharmacist. Their condition would be assessed and, if necessary, they would receive a prescription and medication to address a defined list of minor ailments.

This alternative is a cost-effective, safe and convenient solution that benefits both the healthcare system and the patients.
Minor Ailments Program – Overall Benefits

Total value of expanding the scope of practice for pharmacists in Ontario, to include a Minor Ailments Program, could be as high as $91M by Year 5.

A Minor Ailments Program represents an innovative solution to some of the key issues confronting Ontario’s healthcare system.

- Allowing pharmacists to prescribe for defined minor ailments has a high impact potential, including the ability to:
  - Generate new capacity among GPs to provide greater access to excellent healthcare
  - Reduce unnecessary ED visits, thereby allowing ED staff to focus on critical problems
  - Enable patients to obtain faster relief for their minor ailments

Source: nD Analyses 2009

A Minor Ailments Program represents an innovative solution to some of the key issues confronting Ontario’s healthcare system.
By Year 5, a Minor Ailments Program would generate new GP capacity within the healthcare system equivalent to 570 full time GPs.

This new capacity could be used to link unattached patients to GPs and to help alleviate the existing burdens on other areas of the healthcare system.
Minor Ailments Program – Patient Benefits

Additional benefits to the patient include ED visit avoidance and improved time economy.

![Bar chart showing estimated # of ED visits avoided and estimated # of hours lost due to ED and GP visits.]

Source: nD Analyses 2009

In addition to its negative impact on patients’ quality of life, avoidable waiting times at the ED or at the GP’s office represent an estimated economic cost in lost productivity of $4.7M to $14M per year.
Value Analysis of Pharmacy Professional Services:

Summary of Value
Summary of Value
Overview of Potential Benefits Realized

By applying an evidence-based and structured (benefit/cost) analytical approach to determine the gross economic value of expanding pharmacists’ scope of practice, the following benefits were identified:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Metrics</th>
<th>Health, Wellness and Disease Education</th>
<th>Refills of Chronic Care Medications</th>
<th>Therapeutic Modification</th>
<th>Prescription Intervention Program</th>
<th>Minor Ailments Program</th>
<th>All Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Demand for Emergency Department Services</td>
<td>19,702</td>
<td>–</td>
<td>4,078</td>
<td>6,654</td>
<td>77,153</td>
<td>107,586</td>
</tr>
<tr>
<td></td>
<td>Demand for General Practitioner Services</td>
<td>–</td>
<td>132,232</td>
<td>30,278</td>
<td>26,614</td>
<td>1,091,065</td>
<td>1,280,190</td>
</tr>
<tr>
<td>Quality</td>
<td>Patient Safety</td>
<td>–</td>
<td>–</td>
<td>20,390</td>
<td>33,268</td>
<td>–</td>
<td>53,658</td>
</tr>
<tr>
<td>Resource Utilization</td>
<td>Emergency Department and Hospital</td>
<td>$9.98M</td>
<td>–</td>
<td>$1.87M</td>
<td>$3.05M</td>
<td>$8.80M</td>
<td>$23.70M</td>
</tr>
<tr>
<td></td>
<td>General Practitioners</td>
<td>–</td>
<td>$4.22M</td>
<td>$0.97M</td>
<td>$0.85M</td>
<td>$34.86M</td>
<td>$40.90M</td>
</tr>
<tr>
<td></td>
<td>Drugs</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>$2.92M</td>
<td>–</td>
<td>$2.92M</td>
</tr>
<tr>
<td>Personal Productivity</td>
<td>Absenteeism</td>
<td>$0.95M</td>
<td>$0.37M</td>
<td>$0.13M</td>
<td>$0.21M</td>
<td>$3.23M</td>
<td>$4.90M</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>$10.9M</td>
<td>$4.6M</td>
<td>$3.0M</td>
<td>$7.0M</td>
<td>$46.9M</td>
<td>$72.4M</td>
</tr>
</tbody>
</table>

Total economic benefits in Year 1 are estimated at $72.4M. The benefits pertaining to patient safety amount to approximately 50,000 avoided ADEs. System benefits include an estimated 1.4M reduction in ED and GP visits.
Summary of Value
Net Value

The present gross value of benefits accrued, if the five service categories are implemented, is approximately $473M. However, if the new GP capacity is filled, the net value would amount to approximately $180M for the five-year period.

**Estimated Net Present Value of Benefits and Filled Capacity (Years 1 to 5)**

- **$473 M**
- **$293 M**

**Estimated Net Benefits Per Service Category**

- Year 1
- Year 2
- Year 3
- Year 4
- Year 5

Source: rD Analyses 2009
Summary of Value
Benefits of New Capacity

Approximately 1.3M GP visits could be freed up by modifying the provision of pharmacists’ professional services. Ontario would need to add 334 additional GPs to provide an equivalent capacity to the healthcare system.

Unattached Patients

- Additional 350,000 Ontarians could have access to a regular GP

Preventative care

- Between 15,000 and 30,000 ED visits by chronic care patients could be avoided

Health human resources

- Equal to a $5M investment aimed at increasing the number of family residency positions in medical schools

This new capacity could be utilized to increase access for unattached patients, reduce ED visits or increase GP time with their current patient complement.
Summary of Value – Alignment with Ministry Priorities

The outcomes of the five service categories are also aligned with one or more of the Ministry’s priorities.

<table>
<thead>
<tr>
<th>Service Categories</th>
<th>ED Wait Times Priority</th>
<th>Access to Primary Care Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health, Wellness and Disease Education</strong></td>
<td>• Reinforces preventative care and elements of health promotion to avoid hospitalization&lt;br&gt;• Increases opportunities to identify chronic diseases&lt;br&gt;• Improves treatment adherence on chronic medications for unstable patients&lt;br&gt;• Supports community care initiatives such as aging at home</td>
<td>• Provides alternate source of information pertaining to chronic diseases</td>
</tr>
<tr>
<td><strong>Refills of Chronic Care Medications</strong></td>
<td>• Maintains or improves adherence rates for stable patients&lt;br&gt;• Supports community care initiatives such as aging at home</td>
<td>• Redirects stable patients to another professional</td>
</tr>
<tr>
<td><strong>Therapeutic Modification</strong></td>
<td>• Improves effectiveness of treatment</td>
<td>• Prevents multiple visits to the GP for same issue</td>
</tr>
<tr>
<td><strong>Prescription Intervention Program</strong></td>
<td>• Detects inappropriate prescriptions with potential for adverse events</td>
<td>• n/a</td>
</tr>
<tr>
<td><strong>Minor Ailments Program</strong></td>
<td>• Provides patient with an alternate option to see a professional</td>
<td>• Redirects patient with minor ailment to another professional</td>
</tr>
</tbody>
</table>

Key enablers identified by the Ministry, such as ePrescribing and other eHealth initiatives, could also be leveraged to increase the value delivered through the five service categories.
Key Considerations: Mitigation of Potential Barriers
Overview

Extending pharmacists’ scope of practice requires a structured and deliberate change management process to address potential barriers.

<table>
<thead>
<tr>
<th>Potential Barriers</th>
<th>Design</th>
<th>Implement</th>
<th>Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Stakeholder Collaboration</td>
<td>• Some stakeholders may initially oppose the proposed changes as a whole or in parts.</td>
<td>• It will be essential to engage these stakeholders on the benefits of collaboration and knowledge sharing.</td>
<td>• It will be especially important to reinforce the positive aspects of the proposed changes for these stakeholders and to address their concerns.</td>
</tr>
<tr>
<td>Additional Costs</td>
<td>• To ensure proper implementation of those changes, different groups will face initial set-up and operating costs.</td>
<td>• By clearly identifying the gains associated with an extended scope of practice for pharmacists, concerns around costs may be alleviated.</td>
<td>• Business plans will be key in conveying these gains to different stakeholders.</td>
</tr>
<tr>
<td>Lack of awareness/adherence</td>
<td>• Success of these initiatives will largely depend upon the adherence by key stakeholders.</td>
<td>• Some of these services may require that pharmacists obtain additional training.</td>
<td>• Patients will have to be made aware that their pharmacists can be their point of entry within the healthcare system, especially if they do not have a regular GP.</td>
</tr>
</tbody>
</table>

At all stages of the transformation, it will be essential to identify a mitigation strategy for each identified potential barrier.
Key Considerations: Mitigation of Potential Barriers
Design: Lack of Stakeholder Collaboration

Early collaboration among healthcare providers is necessary for advancing system integration. It can also serve to strengthen system design and the creation of implementation strategies to improve the care received by Ontarians.

However, the findings of a high level stakeholder mapping exercise* indicate the potential for resistance to partnership.

<table>
<thead>
<tr>
<th>Potential Barrier</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
</table>
| • Providing pharmacists with an expanded scope of practice may result in a perceived duplication of services offered among the following health service providers:  
  – Physicians  
  – Nurses  
  – Family Health Teams | • Engagement Plan  
  – Take a proactive approach to engage each potential opposition group in an open discussion on how reform could be leveraged to benefit all parties, including the public |

By proactively engaging stakeholders, pharmacists can assist in early issues identification processes, thereby positioning themselves as industry leaders in the drive toward increased collaboration.

*See Appendix B
Key Considerations: Mitigation of Potential Barriers
Implement: Additional Costs to the Healthcare System

While costs related to increased GP capacity have been included in the value forecasts of the five service categories, the associated set-up and operating costs have yet to be taken into account.

<table>
<thead>
<tr>
<th>Potential Barrier</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Set-up costs:</td>
<td>• Develop business case(s) to identify the associated costs and benefits, including:</td>
</tr>
<tr>
<td>− Stakeholder communication</td>
<td>− Increased access (e.g. wait times)</td>
</tr>
<tr>
<td>− Pharmacist training</td>
<td>− Increased quality of care (e.g. chronic disease management)</td>
</tr>
<tr>
<td>− Additional/new billing processes</td>
<td>− Demand for the development of business processes to support automated information</td>
</tr>
<tr>
<td>• Operating costs:</td>
<td>management systems (e.g. integrated health systems)</td>
</tr>
<tr>
<td>− Pharmacist professional fees</td>
<td></td>
</tr>
<tr>
<td>− Time associated with increased</td>
<td></td>
</tr>
<tr>
<td>collaboration between providers</td>
<td></td>
</tr>
<tr>
<td>− Potential duplication of services</td>
<td></td>
</tr>
<tr>
<td>− Additional billing support</td>
<td></td>
</tr>
</tbody>
</table>

The merits of adopting each service category, and the appropriate implementation order for each, could be further clarified by developing a detailed business plan.
Key Considerations: Mitigation of Potential Barriers
Maintain: Lack of Awareness and Adoption

The ability of pharmacists to improve access, quality, resource utilization and productivity will remain largely dependent upon their capacity to create awareness and adoption among Ontarians and other healthcare providers.

<table>
<thead>
<tr>
<th>Potential Barrier</th>
<th>Mitigation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Adoption by pharmacists and pharmacies of the five service categories</td>
<td>• Develop a communication plan</td>
</tr>
<tr>
<td>• Public awareness of their new options for care</td>
<td>• Establish proper incentives:</td>
</tr>
<tr>
<td>• Creation of opportunities for GPs to enroll new patients and focus on chronic disease prevention</td>
<td>– Pharmacist (e.g. fees)</td>
</tr>
<tr>
<td></td>
<td>– Public (e.g. convenience)</td>
</tr>
<tr>
<td></td>
<td>– GP (e.g. new capacity)</td>
</tr>
</tbody>
</table>

In addition to establishing awareness and adoption, the creation of appropriate incentives may also be necessary to sustain adherence and promote system transformation.
Key Considerations: Additional Opportunities Overview

Potential benefits offered by pharmacists are not limited to the five identified areas. Additional opportunities could be developed within Ontario’s healthcare system along different dimensions.

The additional opportunities identified also have the potential to reinforce the effectiveness and quality of the healthcare system in multiple ways.
Pharmacists, working together with other healthcare providers, can further enhance system access, quality of care and quality of life, leveraging each other’s domain-specific knowledge and skills.

Pharmacists
- Provide in-depth training related to academic detailing and appropriate dosing
- Offer an impartial perspective or in-depth drug cost-benefit analyses
- Share recently identified trends

Other Providers
- Provide training to identify potential chronic disease patients
- Provide insight into new assessment techniques that may affect drug therapy
- Share recently identified trends

**Improved Health Outcomes**

**Lower Healthcare Costs**

Greater knowledge-sharing will facilitate the development of effective, efficient and proactive interactions among healthcare providers.
Pharmacists represent a well established resource which could be leveraged to provide advice & orientation services to the public, particularly given the high levels of awareness and trust.

Ontario has started to use pharmacists as an entry point to the healthcare system:
• As part of the ColonCancerCheck screening program, Ontarians without a regular GP can go to their local pharmacy to obtain more information on how colorectal cancer can be prevented and can receive a FOBT screening kit.

As a trusted resource, pharmacists could offer educational and navigational services. Similar to their role in the ColonCancerCheck Screening program, they could also act as an additional entry point into the healthcare system, especially through the Minor Ailments Program.

Source: Trust Survey 2007 Canada – Ipsos.pdf

The 2007 Ipsos Reid poll identified pharmacists as the third most trusted profession for Canadians.

Source: Ipsos Reid 2007
Key Considerations: Additional Opportunities - Controls
A Partner in Controlling Costs

Pharmacists can provide additional value to the healthcare system by identifying waste and implementing control activities.

**Waste**
- Patient using Ontario Drug Benefit Program funds instead of private insurance
- Patient receives multiple prescriptions for the same issue (duplication in therapies)
- Patient needs to travel to multiple locations to get information

**Situation:** A patient is covered by both ODBP and a private insurance plan
**Waste:** When it comes time to pay, the pharmacist assumes a payment through ODBP
**Result:** Ontario government covers the cost of medications

**Control Activity**
- Pharmacists understand payment options
- Ability to control fraudulent use of prescriptions
- Pharmacists could provide educational sessions, counseling, and other advice

**Situation:** A patient is covered by both ODBP and a private insurance plan
**Control:** When it comes time to pay, the pharmacist asks if the patient is covered by private insurance
**Result:** Private insurance covers the cost of medications

Over time and with high volumes, such costs could be significant.
Key Considerations: Additional Opportunities - IT Information Technology and Information Management

Information technology enables the Ministry of Health and Long-Term Care to capture, store and communicate information to assist healthcare providers in making more informed decisions.

**Technology**
- Pharmacists could provide valuable information during the development of new applications, such as ePrescribing, by identifying the impact to business processes on system utilization
- An electronic system such as an Electronic Health Records (EHR) will improve collaboration by providing a centralized location for information storage and dissemination on individual patients
- The duplication of services could be reduced via electronic tracking

**Data**
- The direct patient contact and access to nearby computers, afforded to pharmacists, offers an ideal opportunity to capture accurate patient data
- Pharmacists can work with the MOHLTC to capture more than ODBP data to facilitate policymaking and system planning
- Ensuring that pharmacists have an electronic system to manage patients offers an opportunity to ensure greater access to evidence-based data and best practices

By improving the management of information technology, greater collaboration between pharmacists, other health service providers and the Ministry can be leveraged to improve the quality of care received by Ontarians.
## Contents

- Executive Summary
- Current State of Affairs
- Expanding the Role of Pharmacists
- Value Analysis of Pharmacy Professional Services
- Key Considerations
- Appendix
Appendix A
Medication Therapy Management (MTM)

- Pharmacists are experts in medication therapy management*, a broad-based description of services designed to improve care, enhance communication among patients and providers, improve collaboration among providers, and optimize medication use that leads to improved patient outcomes.

- Core components of MTM are as follows:

  1. **Medication Therapy Review (MTR)** - conducted between the patient and/or caregiver and the pharmacist, preferably in person and face-to-face. The face-to-face interaction establishes or enhances the pharmacist-patient relationship. This interaction allows the pharmacist the optimal ability to observe signs of and visual cues to the patient's health problems, including early detection of adverse drug reactions. In Ontario, the MedsCheck® Program is an excellent example of MTR.

  2. **Personal Medication Record (PMR)** - a portable record of all his or her medications (prescription and nonprescription medications, herbal products, and other dietary supplements) that contains information such as the medication’s intended use, directions for use, precautions, start/stop dates, prescriber’s name, and the date the PMR was generated. Again, this is a component of Ontario’s MedsCheck Program.

  3. **Medication Action Plan** - a patient-specific care plan document containing information such as patient identifiers, prescriber and pharmacist/pharmacy identifiers, medication-related issues identified, proposed actions and responsibilities, and results of actions, when known, along with the date results are achieved. In Ontario, the proposed MedsCheck Consult Program will embrace this team-based approach to care.

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Appendix A
Medication Therapy Management (MTM)

• Core components of MTM (continued):

4. **Intervention and/or Referral** - Some patients' medical conditions or medication therapy may be highly specialized or complex, and the patients' needs may extend beyond core MTM services. In such cases, pharmacists may provide additional care according to their level of expertise, or they may need to refer the patient to the most appropriate health care provider, such as a physician, a pharmacist with additional qualifications, or another member of the health care team. In Ontario, while pharmacists can refer patients to their family physician, a walk-in clinic or a local hospital Emergency Department (ED), there are no official referral protocols. As the most accessible provider within the healthcare team, it makes practical and economic sense for referral protocols for pharmacists to more efficiently use health human resources.

5. **Documentation and Follow-Up** – a critical component to patient care. The pharmacist is responsible for documenting services in a manner appropriate for evaluating patient progress and sufficient for billing purposes. The use of core documentation elements will help to create consistency in professional documentation and information sharing among members of the health care team, while facilitating practitioner, organization, or regional variations. Timely feedback to prescribers and other professionals involved in a patient's care is part of thorough MTM documentation. At the end of an MTM visit, the pharmacist schedules a follow-up appointment with the patient or caregiver according to individual patient requirements. Documentation and consistent follow-up enhance continuity of care. In Ontario, documentation is a regulatory requirement for all new prescriptions and is strongly advised for all instances where advice is provided through a defined patient/pharmacist relationship.
Appendix B
Understanding the Stakeholders

An organization can employ methods specific to each type of stakeholder in seeking to understand its position on reputational issues.

Aside from community pharmacies, the OPA should recognize the importance of the value provided across the pharmacy profession, including:
  – Hospital pharmacists and pharmacies
  – Faculties of Pharmacy (University of Toronto and University of Waterloo)
  – FHT pharmacists
  – Long-term care pharmacists

The OPA must also recognize and address:
  – the implications associated with the introduction of new professional services on the insurance industry; and
  – the need for clear and consistent communication regarding the changing and overlapping of the roles of multiple healthcare providers

Identifying potential challenges and establishing a communication and mitigation strategy for each associated stakeholder is crucial to ensuring success.
Appendix C
Value Tree

The value trees were constructed for each of the professional service categories. By representing both the benefits and costs, the value trees informed the structure of the models and were used to identify data needs.

• As part of the broader terms of Medication Therapy Management, the identified service categories include:
  – Health, Wellness and Disease Education (subset of CDPM)
  – Refills of Chronic Care Medications (subset of Adherence Initiatives)
  – Therapeutic Modification
  – Prescription Intervention Program
  – Minor Ailments Program

Please refer to the Model Methodology Report for additional details on the models and calculations used in this report.
Appendix C
Value Tree: Health, Wellness and Disease Education

Pharmacists’ role in preventing and managing chronic diseases impacts the following categories of benefits and costs.
Appendix C
Value Tree: Refills of Chronic Care Medications

Allowing pharmacists to refill prescriptions without requiring the consent of the prescriber would impact the following categories of benefits and costs.
Appendix C
Value Tree: Therapeutic Modification

Allowing pharmacists to adjust and adapt medication therapy would impact the following categories of benefits and costs.
Appendix C
Value Tree: Prescription Intervention Program

Allowing pharmacists to refuse to dispense a clinically inappropriate prescription would impact the following categories of benefits and costs.
Appendix C
Value Tree: Minor Ailments Program

Allowing pharmacists to prescribe drugs from a limited formulary based on a specific list of ailments would impact the following categories of benefits and costs.

The value of these benefits and costs are determined through calculations involving a number of data points and underlying assumptions.
## Appendix D

### Bibliography: Report Sources

<table>
<thead>
<tr>
<th>Report Bibliography</th>
</tr>
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<tbody>
<tr>
<td><strong>Canadian Institute for Health Information, 2008. National Health Expenditure Trends, 1975-2008, Ottawa</strong></td>
</tr>
<tr>
<td><strong>Canadian Institute for Health Information, 2008 (2), Physicians in Canada: Fee-for-Service Utilization, 2005–2006, Ottawa</strong></td>
</tr>
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<td><strong>ESI Canada, subsidiary of Express-Scripts Inc., 2007. Drug Trend Report, Mississauga</strong></td>
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# Appendix D

## Bibliography: nD Analyses Sources

## Report Bibliography

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<thead>
<tr>
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<tr>
<td>Statistics Canada, Canadian Community Health Survey, 2003, 2005 and 2007, Ottawa</td>
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## Appendix D

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<tr>
<td>IMS Health, 2009., <em>Reports Retail Prescription Volume</em></td>
<td>Refills of Chronic Care Medications</td>
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<td>Lougheed, MD et al., 2006. &quot;The Ontario Asthma Regional Variation Study&quot;, Chest, 129: 909-17.</td>
<td>Health, Wellness and Disease Education</td>
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<tr>
<td>Régie de l’Assurance Maladie du Québec, 2007</td>
<td>Therapeutic Modification Prescription Intervention Program</td>
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<td>Statistics Canada, 2009. Perspectives on Labour and Income – Minimum Wage, Ottawa</td>
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## Appendix E
Model Sample

### Benefits

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<tr>
<th>Cost Category</th>
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<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tr>
<td>Avoidance of ED Costs</td>
<td>$8,800,826</td>
<td>$10,000,885</td>
<td>$11,260,722</td>
<td>$12,574,546</td>
<td>$13,956,923</td>
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<td>Avoidance of Productivity Loss (Shift From GP to Pharmacy)</td>
<td>$3,020,887</td>
<td>$3,851,631</td>
<td>$4,714,397</td>
<td>$5,610,132</td>
<td>$6,539,811</td>
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<td>Avoidance of Productivity Loss (Shift From ED to Pharmacy)</td>
<td>$213,617</td>
<td>$243,373</td>
<td>$274,727</td>
<td>$307,547</td>
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<td>Avoidance of Prescriber Assessment Fees</td>
<td>$34,859,539</td>
<td>$43,574,424</td>
<td>$52,289,308</td>
<td>$61,004,193</td>
<td>$69,719,078</td>
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<tr>
<td><strong>Total Benefits</strong></td>
<td><strong>$46,894,869</strong></td>
<td><strong>$57,670,313</strong></td>
<td><strong>$68,539,154</strong></td>
<td><strong>$79,496,418</strong></td>
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### Costs

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### Net Value

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<th>Year 3</th>
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<tr>
<td><strong>Total Net Value</strong></td>
<td><strong>$12,035,331</strong></td>
<td><strong>$14,095,889</strong></td>
<td><strong>$16,249,846</strong></td>
<td><strong>$18,492,225</strong></td>
<td><strong>$20,838,929</strong></td>
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TBD: To Be Determined
## Appendix F
### Glossary

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<td>Alternate-Level of Care</td>
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<td>Chronic Obstructive Pulmonary Disease</td>
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<td>Refusal-to-Fill</td>
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<td>Therapeutic Modification</td>
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