

Interprofessional Collaboration

Scope of Practice Review: Pharmacy

Summary & selected highlights from the literature

August 2008

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Background

In June 2007, the Minister of Health and Long-Term Care requested the Health Professions Regulatory Advisory Council (HPRAC) to:

Recommend mechanisms to facilitate and support interprofessional collaboration between health Colleges, beginning with the development of standards of practice and professional practice guidelines where regulated professions share the same or similar controlled acts, acknowledging that individual health Colleges independently govern their professions and establish the competencies for their profession.¹

In the course of preparing an interim report to the Minister, in conjunction with its review of the scope of practice of nurse practitioners, HPRAC and the Ministry determined that it was necessary to include scope of practice reviews of six professions – dietetics, midwifery, pharmacy, physiotherapy, medical laboratory technology and medical radiation technology – within the context of the advice that was requested regarding interprofessional collaboration. Advice on the first four of these professions was requested by August 31, 2008.

The scope of practice reviews have been carried out in response to the Minister's request for advice on collaboration between colleges in the context of exploring the potential of optimizing professional scopes of practice for specific regulated health professions as a mechanism to enhance quality of care and strengthen opportunities for interprofessional collaboration at the clinical level. In Ontario, the legislative framework that defines health professions' scope of practice includes the *Regulated Health Professions Act, 1991 (RHPA)* and a series of profession-specific Acts. The *RHPA* contains provisions with respect to the duties and powers of the Minister, the role of HPRAC, a list of controlled acts and other statutory requirements. It also includes a procedural code governing the operation of regulatory colleges.

Each profession-specific Act includes a scope of practice statement. The scope of practice statement in the *Pharmacy Act, 1991* states that:

The practice of pharmacy is the custody, compounding and dispensing of drugs, the provision of non-prescription drugs, health care aids and devices and the provision of information related to drug use.²

The scope of practice statement found in each health profession act provides a generic frame of reference (or parameters) for the practice of each regulated health profession. A regulated health professional may perform his/her profession's authorized acts only within the profession's scope of practice. However, this statutory scope of practice statement is only one element of a profession's scope of practice, or that of professionals who are members of the College. Each profession-specific Act also indicates any controlled acts the profession is authorized to perform (if any), the title or titles restricted to members of the profession and other provisions.

Accordingly, as part of its review of professional scope of practice HPRAC³:

¹Letter from the Minister of Health and Long-Term Care to HPRAC. June 2007. http://www.hprac.org/en/reports/resources/HPRACletterJune28_2007.pdf

² *Pharmacy Act, 1991*. s.3 http://www.e-laws.gov.on.ca/html/source/regs/english/2004/elaws_src_regs_r04270_e.htm

- analyzes the scope of practice statement and the controlled acts authorized to the profession;
- considers the implications of the harm clause contained in the *RHPA* (which prohibits everyone except health professionals acting within their scope of practice from treating or giving advice with respect to health where serious physical harm may result)⁴;
- considers regulations developed under the profession-specific Act and other legislation that may affect the profession; and
- reviews the standards of practice, guidelines, policies and bylaws developed by the regulatory college.

Collectively, these elements determine the profession's scope of practice and therefore have been considered by HPRAC in its review of the scope of practice for pharmacy.

The profession of pharmacy was invited to submit recommendations articulating proposed changes required to their scope of practice to enhance interprofessional collaboration and assist members in working to the maximum of their scope of practice. The Ontario College of Pharmacists (OCP) submitted its response to HPRAC's *Applicant Questionnaire* respecting the scope of practice review for pharmacy on June 19, 2008. A complimentary submission from the Ontario Pharmacists' Association (OPA) was received June 30, 2008. Both submissions can be found on HPRAC's website.⁵

The Ontario College of Pharmacists proposes to amend to the profession's scope of practice statement as follows:

*The practice of pharmacy is the promotion of health, prevention and treatment of diseases, dysfunction and disorders through medication and non-medication therapy, the monitoring and management of medication therapy; the custody, compounding and dispensing of drugs; the provision of health care aids and devices and information related to their use.*⁶

In addition, the OCP and OPA are seeking authorization to perform controlled acts with terms and conditions as follows⁷:

- Administering a substance by injection or inhalation
- Perform a procedure on tissue below the dermis.

Supplemental to these controlled act requests, the profession is proposing amendments to other legislation⁸:

³ See criteria. Review of a Professional Scope of Practice under the *Regulated Health Professions Act*. Health Professions Regulatory Advisory Council. May 2007.

http://www.hprac.org/en/reports/resources/Scope_of_Practice_June_12_2007.pdf

⁴ s.30 Effective June 4, 2009, or on an earlier day to be established by proclamation, this section will be amended by striking out "physical" and substituting "bodily". See *Health System Improvements Act, 2007*, S.O. 2007, c.10, Sched.M, ss.6 and 75 (1).

⁵ http://www.hprac.org/en/projects/Pharmacy_Scope_of_Practice.asp

⁶ Note: proposed changes are highlighted in italics for additions. Ontario College of Pharmacists. Submission respecting the Review of Scope of Practice of Pharmacy.

http://www.hprac.org/en/projects/Pharmacy_Scope_of_Practice.asp

⁷ Ontario College of Pharmacists. *HPRAC Submission – Scope of Practice of Pharmacy*. Ontario Pharmacists' Association. *Submission to HPRAC on Scope of Practice of Pharmacy*

⁸ Ontario College of Pharmacists. *HPRAC Submission – Scope of Practice of Pharmacy*. Ontario Pharmacists' Association. *Submission to HPRAC on Scope of Practice of Pharmacy*.

- *Laboratory Specimen and Collection Centre Licensing Act, 1990*
- *Public Hospitals Act, 1990*
- *Health Insurance Act, 1990*

HPRAC has established 10 criteria that it considers in reviewing a profession's scope of practice.⁹

Purpose, Approach & Format of the Paper

This paper summarizes some of the recent literature on pharmacy practice as it relates to the proposed changes. It is not intended to represent an exhaustive review of the literature; rather, it focuses on identifying key documents that will help inform discussions about and considerations of the scope of practice review for pharmacy in Ontario.

This review is being undertaken in the context of a broader review being undertaken in Ontario to explore opportunities to advance interprofessional collaboration across health professions. HPRAC's work, in response to a request for advice by the Minister of Health and Long-Term Care, includes a review of scope of practice for a number of health professions that are most directly involved in interprofessional care to ensure that there are no legislative, regulatory, structural or process barriers to members of the professions working to the maximum of their scope of practice or to working in interprofessional settings or teams.

As such, it is recommended that this literature review refer to an earlier literature review¹⁰ completed by HPRAC in January 2008. That review considered interprofessional collaboration with respect to the legislative, regulatory, policy and structural/organizational issues that can facilitate and support health regulatory colleges and their members in advancing collaboration.

The literature included in the pharmacy review comes from diverse sources. Initial reference documents were included in the submissions to HPRAC by the *Ontario College of Pharmacists (OCA)* and the *Ontario Pharmacists' Association (OPA)* (June 2008).¹¹ Additional literature sources were identified through a literature search focused on the following terms: "scope of practice pharmacists" - "scope of practice pharmacy" - "pharmacy and prescribing" - "prescribing pharmacists" - "enhanced scope of practice for pharmacists". The review included a review of regulatory-related articles using *PubMedline Search*. In addition, supplementary searches were undertaken to identify specific articles from government websites, pharmacy associations, and health policy think tanks in an attempt to locate studies related to regulation and pharmacy scope of practice as identified in some of the literature reviewed. Some of these searches were successful, others were not.

The literature reviewed on the issue has been organized as follows:

⁹ See Review of a Professional Scope of Practice under the *Regulated Health Professions Act*. http://www.hprac.org/en/reports/resources/Scope_of_Practice_June_12_2007.pdf

¹⁰ See www.hprac.org for the full copy of the literature review: HPRAC. Interprofessional Regulatory Collaboration – A summary of key reference documents and selected highlights from the literature. January 2008.

¹¹ Ontario College of Pharmacists. *HPRAC Submission – Scope of Practice of Pharmacy*, June 19, 2008. Ontario Pharmacists' Association. *Submission to HPRAC on Scope of Practice of Pharmacy*, June 30, 2008.

- Section 1 provides a high level analysis summarizing some of the key findings arising from the literature included in this review.
- Section 2 summarizes the documents reviewed including categories under the following broad themes: scope of practice; health system needs/ improvement; and health outcomes/patient safety/ risk of harm.

Section 1: Highlights & Analysis of Key Findings from the Literature

Following are some of the key findings arising from key references that were reviewed as part of this project. It is important to note that the synthesis that follows needs to be considered in the context of the limitations associated with the review namely, the paucity of literature available related specifically to the issue of scope of practice/ enhanced scope of practice for pharmacy.

- ***Systematic, evidence- based reviews documenting the role and effectiveness of pharmacists with respect to the implications of pharmacists performing in enhanced roles / enhanced scopes of practice are limited.*** There is, however, some literature describing the conditions and implications of expanded roles being played by pharmacists in drug therapy in specific jurisdictions.
- ***The submissions to the Health Professions Regulatory Advisory Council (HPRAC) by the Ontario Pharmacists' Association (June 2008) and the Ontario College of Pharmacists (June 2008) provide the most focused discussion of issues related to scope of practice including the rationale, potential benefits, and details outlining the proposed changes and additions being proposed for expanding the scope of practice for pharmacists in Ontario.***
- ***Multidisciplinary collaborative pharmacy care has been identified as a means of sustaining and improving access to and quality of pharmacy care.*** Pharmacy scope of practice reviews (and reforms) are being driven by international trends and health system changes related to primary health care reform, interprofessional/team-based care, effective utilization of, health human resources, and the need to improve safety outcomes of drug therapy.
- ***Barriers to enhanced pharmacy roles have been identified including the evolution of the profession, scope of practice, regulation, issues of overlap and shared practice, medico-legal and liability, education and training, and lack of awareness.***
- ***Most of the literature reviewed focused on pharmacists' perceptions of 'Supplementary Prescribing' and other enhanced roles (e.g., diagnosing/ communicating a diagnosis; administering a substance/drug by injection; administering a substance/drug by inhalation), with little information referring to other stakeholders.*** The anecdotal evidence that is emerging, however, supports the merits of enhancing scopes of practice for pharmacists as a mechanism for bringing about positive change in patients' health arising from improvements in the continuity of patient care and models of care delivery.
- ***The body of evidence starting to emerge with respect to the recent introduction of independent prescribing and other new roles pharmacists are playing in providing 'enhanced' activities (including prescribing, medication therapy management - MTM) is largely focused on 'perceptions' about reforms being implemented in Alberta and the***

United Kingdom. Reforms unfolding in these jurisdictions are expected to generate an expanded body of research on this issue.

- ***Many other jurisdictions, across Canada and around the world have taken steps to permit pharmacists to fully engage in the activities required to optimize their roles in medication therapy management. In particular, Alberta’s newly expanded scope of practice for pharmacists is being considered as a potential model for other Canadian jurisdictions and is expected to result in improved health outcomes by optimizing drug therapy for patients.***
- ***The limited research available suggests that nurses and pharmacists are perceived as being more positive about ‘Supplementary Prescribing’ with physicians being more critical largely as a result of lack of awareness and understanding.***
- ***A 1998 literature review summarizing pharmacists’ potential impact on health care (McLean, 1998) suggested that intervention of pharmacists on behalf of patients to improve their drug therapy and provide enhanced pharmaceutical care can influence health outcomes, such as incidence of drug reactions, hospital length of stay, disease control, and cost of drugs, professional time and general utilization of health services.*** Although the review concluded that larger, controlled studies with measurable outcomes were needed, it also confirmed that some evidence is beginning to emerge that supports the role pharmacists can play in improving health outcomes.
- ***The extent and type of prescribing and other enhanced roles being played by pharmacists is influenced by a number of factors including: the motivation of pharmacists, physicians’ reactions, influence of the health care work environments, acceptance by third party payers and reimbursement for professional services, and the public’s acceptance and demand for pharmacists to prescribe.***
- ***Requirements for an effective collaborative prescribing model include: a collaborative practice environment, shifting of workload (utilization of pharmacy technicians), access to patients, access to medical records, knowledge, skills and ability, documentation of activities, compensation for activities, changes to legislation and practice models.***
- ***Evaluating the evolution and ‘success’ of pharmacist prescribing is dependent on health system design, acceptance by the public, acceptance by physicians, reimbursement and acceptance by pharmacists. It also varies with the practice environment.***
- ***There are a number of practical implementation issues related to pharmacists performing enhanced roles (particularly with respect to prescribing authority) and a need to assess the impact and outcomes of specific changes currently being implemented in some jurisdictions.*** More research is needed to underpin decisions related to the effectiveness, quality and value of building on the strengths and scope of practice of pharmacy to enhance patient care. Specific issues identified in the literature that require further research and consideration include:
 - a comprehensive self-analysis of current professional practice
 - consideration of goals and objective of prescribing
 - negotiation of provincial/national health policy guidelines
 - training and accreditation
 - liability, reimbursement and documentation

- assessment of the impact of ‘Supplementary Prescribing’ and other reforms on safety, economic analysis and patients’ experiences, and
- development of a rigorous clinical governance framework to assess the relative merits of establishing different types of prescribing models in different settings

Section 2: Summary of the Literature

SCOPE OF PRACTICE

Authors, Title and Publication	Context/Type of Document	Main Findings/Recommendations
<p>Bacovsky, RA. Pharmacists Prescribing in Alberta: An Examination of the Literature and Pharmacist Practices. Prepared for the Alberta College of Pharmacists. June 2003.</p>	<p>Literature review with 291 citations examining the evolution of prescribing activities by pharmacists with a focus on Alberta.</p> <p>The review was prepared for the Alberta College of Pharmacists as regulations were being developed for regulated health professionals under the <i>Health Professions Act, 1999</i>.</p>	<p>Systematic, evidence- based reviews documenting the effectiveness of pharmacists dependently and independently prescribing and performing prescribing-like activities are limited. However, a base of well-designed research related to this issue is beginning to emerge.</p> <p>Based on the literature reviewed, there was no evidence that the initiatives undertaken by pharmacists result in harm and/or are detrimental to patients. The literature supports pharmacists’ value in contributing to health, and economic outcomes. Pharmacists are increasingly providing ‘enhanced’ activities in response to access issues in the health system and to ensure patient safety.</p> <p>The evolution and ‘success’ of pharmacist prescribing will be dependent on health system design, acceptance by the public, acceptance by physicians, reimbursement and acceptance by pharmacists. It will also vary with the practice environment.</p> <p><u>Limitations:</u> Few studies were randomized, controlled evaluations of pharmacists’ interventions that provide high levels of evidence. Few published articles from Canada.</p>
<p>Bacovsky RA. Prescribing Pharmacists in Alberta: Understanding the Conditions and Implications of Their Expanded Role in Drug Therapy. IMS Health Canada White Paper. November 2007.</p>	<p>White paper outlining the new regulation of pharmacist prescribing in Alberta, a review of prescribing practices by pharmacists in other Canadian provinces and the implications of these practices on the pharmaceutical industry.</p> <p>The <i>Pharmacists Profession Regulation (PRA)</i> was enacted on April 1, 2007 in Alberta, permitting pharmacists to independently prescribe drugs. The legislation and practice framework gives pharmacists the broadest scope of practice in North America and one of the broadest in the world.</p>	<p>Under the <i>Health Professions Act</i>, all pharmacists who have completed an orientation to new practice standards can adapt existing prescriptions and prescribe in emergency situations when immediate treatment is required, but another prescriber is not accessible. Adapting a prescription includes changing the formulation, dosage, regimen; therapeutic substitutions, and providing extensions of the prescription. Pharmacists who have been evaluated and granted additional prescribing authorization may initiate, modify, and manage drug therapy for acute and chronic conditions.</p> <p>Although the legislation permits independent prescribing, most pharmacists’ prescribing will be conducted collaboratively with and communicated to other health professionals. Standards require that a pharmacist who prescribes under his or her own assessment of the patient must have the drug dispensed by another pharmacist unless the health of the patient will be compromised or the patient chooses to have the pharmacist dispense the drug.</p> <p>The extent and type of prescribing done by pharmacists is influenced by many factors including: the motivation of pharmacists, physicians’ reactions, influence of the health care work environments, acceptance by third party payers and reimbursement for professional services, and the public’s acceptance and demand for pharmacists to prescribe.</p> <p>Independent prescribing privileges are expected to have a marked impact on the way pharmaceuticals are marketed and promoted in Alberta, particularly as pharmacists continue to be integrated into interdisciplinary teams and programs.</p>
<p>Berenguer, B. Pharmaceutical Care: Past, Present and</p>	<p>Review studying the evolution of ‘pharmaceutical care’ from its inception to</p>	<p>Different pharmaceutical care programs are demonstrating the potential for bringing about positive change in patients’ health. However, more research is needed to support the impact and outcomes</p>

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<p>Future. <i>Current Pharmaceutical Design</i>. 2004; 10 (31) : 3931-46.</p>	<p>2004.</p> <p>Analyses implementation programs in Europe, the U.S. and Latin America with respect to clinical, economical and humanistic outcomes.</p> <p>Evaluates the benefits of pharmaceutical care on patients' health and ultimately on society given the important relationship between morbidity/mortality and pharmacotherapy and the differences that exist in pharmacy systems and health care structures across jurisdictions.</p>	<p>of specific changes arising from different types of program delivery.</p> <p>The role of pharmacists as experts in medication therapy is not always acknowledged by patients and physicians. Some of the barriers that need to be removed for pharmacists to take full advantage of their role in pharmaceutical care include: interprofessional relationships with physicians, and changes in the philosophy of training and pharmaceutical care.</p> <p>The positive outcomes obtained with different programs of pharmaceutical care are making a beneficial change in patients' health but still more research is needed to support this change.</p>
<p>Canadian Pharmacists Association. Task Force on a Blueprint for Pharmacy. <i>Blueprint for pharmacy: the vision for pharmacy</i>. Ottawa. 2008. www.pharmacists.ca</p>	<p>The Blueprint for Pharmacy initiative is led by the Canadian Pharmacists Association (CPhA) in partnership with national/provincial pharmacy organizations and corporate pharmacy.</p>	<p>Vision for Pharmacy: Optimal drug therapy outcomes for Canadians through patient-centred care.</p> <p>To realize this vision, strategic action is needed in five key areas:</p> <ol style="list-style-type: none"> 1. Pharmacy human resources 2. Education and continuing professional development 3. Information and communication technology 4. Financial viability and sustainability 5. Legislation, regulation and liability.
<p>Canadian Pharmacists Association. <i>Expanding the Role of Pharmacists</i>. 2005. www.pharmacists.ca</p>	<p>Information paper</p> <p>Increasingly, patients are turning to pharmacists for a more holistic approach to their health care.</p> <p>Pharmacists' expertise lies in how medications should be used, how to maximize benefits and minimize adverse effects of drug therapy, and how prescription drugs interact with other medications.</p>	<p>Pharmacists have an important role in meeting patient needs as medication experts. As pharmacists take on an expanded role in the face of health human resource shortages, a number of provinces have approved some form of pharmacist prescribing, with varying scopes of authority. That means pharmacists can:</p> <ul style="list-style-type: none"> ▪ prescribe prescription and over the counter drugs to treat minor, self-diagnosed disease conditions such as a rash, a cough or diarrhea, and ▪ start, adjust, continue or discontinue a medication in collaboration with a doctor. <p>Expanding the roles and responsibilities of pharmacists will require action with respect to the following:</p> <ul style="list-style-type: none"> ▪ compensation (current model fee for dispensing services discourages reimbursement for expanded pharmaceutical care) ▪ access to patient/electronic health records ▪ shifting of workload (utilization of pharmacy technicians) ▪ health consultation centres in pharmacies ▪ changes to legislation and practice models
<p>Canadian Pharmacists Association. <i>Position Statement on Pharmacist Prescribing</i>. August 2007.</p>	<p>Position statement.</p> <p>An expanded scope of practice for pharmacists is an international trend that is arising from reforms focused on primary health care reform, interprofessional collaboration, effective</p>	<p>The Canadian Pharmacists Association is committed to obtaining recognition and authority for pharmacists to practise at a level that allows them to play a larger role in ensuring the quality of medication use and optimizing drug therapy to help patients achieve health goals that will improve their quality of life.</p> <ol style="list-style-type: none"> 1. All decisions related to medication management, including prescribing, must be collaborative, patient-centred and focused on addressing the health care needs of the patient.

Authors, Title and Publication	Context/Type of Document	Main Findings/Recommendations
	<p>utilization of health human resources, and the need to improve safety outcomes of drug therapy.</p>	<ol style="list-style-type: none"> 2. Collaboration with other health providers is an important and integral component to pharmacist prescribing and medication management. This includes close contact and ongoing two-way communication and documentation regarding drug therapy decisions. Prescribing by pharmacists should complement care provided by other health professionals. 3. Pharmacists are medication experts and play a significant role in the prescribing and monitoring of medication to ensure safe and optimal use. Pharmacists will take on increased accountability and responsibility for patient-centred outcomes-focused care. 4. The pharmacist, by having the authority to initiate, continue and modify prescriptions, can improve the safety and effectiveness of drug therapy. In addition, as the most accessible health care professional, pharmacists will be able to improve access to appropriate medication therapy for patients. 5. A patient-pharmacist relationship is essential to allow a pharmacist to prescribe optimally and carry out follow-up activities. 6. Pharmacists who prescribe should do so within their area of competence, scope of practice and with sufficient clinical knowledge of the patient. 7. To support optimal medication management, pharmacists require access to the patient’s relevant health information, which may include diagnosis, therapeutic intent and laboratory results. Pharmacists should also have the authority to order laboratory tests for the purpose of monitoring drug therapy outcomes. 8. Actions related to prescribing and medication management need to be communicated verbally, in writing or through electronic media, when appropriate, to other health professionals in the circle of care. All actions should be supported by documentation. A shared electronic health record will facilitate this communication. 9. Legislation and regulations should enable rather than oblige pharmacists to prescribe. 10. Governments must ensure that legislation enabling pharmacist prescribing is consistent with other policies in health care. This includes recognition of the pharmacist as a prescriber for the purpose of reimbursement through public and private insurance plans.
<p>Canadian Society of Hospital Pharmacists. Statement on Pharmacist Prescribing. August 2001.</p>	<p>Position Paper from the Canadian Society of Hospital Pharmacists (CSHP).</p> <p>The provision of health care in Canada involves collaborative efforts among health practitioners; the pharmacist’s efforts in this interdisciplinary approach to patient care is to ensure the responsible provision of drug therapy for the purpose of achieving definite outcomes (pharmaceutical care). Ultimately, pharmacists share in the responsibility for patient</p>	<p>The CSHP advocates the role of pharmacists as capable prescribers and supports the pharmacist’s role in a collaborative prescribing model to improve patient health outcomes and increase the successful and efficient delivery of pharmaceutical care. A collaborative prescribing model requires a cooperative practice relationship between a pharmacist and a physician or health professional with the legal authority to prescribe medications. In an ideal collaborative practice, the physician will diagnose and make initial treatment decisions for the patient and then the pharmacist will select, initiate, monitor, modify, continue and discontinue pharmacotherapy as appropriate in order to achieve the desired patient outcomes. In this collaborative practice model, both the physician and the pharmacist share in the risk and responsibility for the patient outcomes achieved.</p>

Authors, Title and Publication	Context/Type of Document	Main Findings/Recommendations
	<p>outcomes from drug therapy. Pharmacists do not just provide basic dispensing functions and drug information services, but they solve patient and medication related problems and make decisions regarding drug prescribing, monitoring and drug regimen adjustments.</p>	
<p>Cooper et al. (2008) <i>Nurse and Pharmacist Supplementary Prescribing in the UK – A Thematic Review of the Literature</i>. Health Policy 85 277-292.</p>	<p>Review of the literature relating to nursing and pharmacy supplementary prescribing in the U.K.</p> <p><u>Citations:</u> 35 empirical research papers 30 nurse/pharmacy papers offering anecdotal opinions/experiences 20 policy documents 1 book</p>	<p>Supplementary prescribing (SP) is a recent development in non-medical prescribing in the UK. SP is based on a tri-partite agreement between the independent medical prescriber, dependent prescriber and patient, allowing the dependent prescriber to prescribe according to the patient’s specific clinical management plan (CMP).</p> <p>Nurse and pharmacists were positive about SP. The medical profession were more critical and lacked awareness and understanding.</p> <p>SP was acknowledged in many clinical settings, but implementation barriers emerged including funding problems, delays in practicing and obtaining prescription pads, encumbering CMPs and access to records.</p> <p>There is a need for more research regarding SP. There has been an under-evaluation of safety, economic analysis and patients’ experiences in empirical studies. There are also perceptions that nurse and pharmacist independent prescribing may supersede independent prescribing.</p> <p>Despite nurses’ and pharmacists’ enthusiasm, there are concerns that implementation issues, medical apathy and independent prescribing can potentially undermine the success of SP.</p> <p><u>Limitation:</u> Literature on supplementary prescribing is still in infancy.</p>
<p>Council of the Ontario College of Pharmacists, Ontario Pharmacists’ Association, Ontario Medical Association and the College of Physicians and Surgeons of Ontario. (2008) <i>Pharmacist Authorization of Prescription Extensions (PAPE) Agreement</i>.</p>	<p>Position Paper/Agreement Provides conditions under which a pharmacist in Ontario may provide authorization of a prescription extension to a patient where an urgent need for patient drug therapy management exists and the prescribing physician is unavailable to provide refill authorization.</p>	<p>The agreement is based on the notion that prescription extensions cannot and do not take the place of ongoing medical care. Prescription extensions are judged on the individual nature of the patient’s need and history with appropriate professional judgement. The pharmacist is responsible for the extended refill.</p> <p>The agreement furthermore outlines conditions under which a pharmacist may authorize a prescription extension.</p>
<p>Emmertson L, Marriott J, Bessell T, et al. <i>Pharmacists and Prescribing Rights: Review of International Developments</i>. Journal</p>	<p>Summary article reviewing pharmacists prescribing models that have been implemented internationally.</p>	<p>Practical implementation considerations related to pharmacists’ prescribing include: negotiation of national health policy, training and accreditation, liability, reimbursement and documentation.</p> <p>Eight models of pharmacist prescribing exist:</p> <ul style="list-style-type: none"> • Independent prescribing

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of Pharmaceutical Sciences 2005; 8(2):217-225.		<ul style="list-style-type: none"> • Dependent Prescribing <ul style="list-style-type: none"> ○ Prescribing by protocol ○ Patient group directions ○ Prescribing by patient referral ○ Prescribing by formulary ○ Repeat prescribing ○ Supplementary prescribing ○ Collaborative prescribing <p>The impact of the eight models of pharmacist prescribing have not been well studied. Establishment of a rigorous clinical governance framework is needed to establish optimal prescribing models in any setting.</p>
Evans, A. <i>Pharmacists and Prescribing. in Non-Medical Prescribing: Multidisciplinary Perspectives</i> , Bradley, E and Nolan, P. eds. Cambridge University Press, 2008.		
Foppe van Mil, J.W. Pharmaceutical Care in Community Pharmacy: Practice and Research in the Netherlands. <i>The Annals of Pharmacotherapy</i> . Vol 39: 1720-1725. October 2005.	Description of pharmaceutical care activities and research in community pharmacy in the Netherlands.	<p>Pharmaceutical care is well advanced in Dutch practice. Since the late 1980s, clinical pharmacy has been integrated as part of community pharmacy practice.</p> <p>Not all pharmacies in the Netherlands provide pharmaceutical care at the same level, although medication surveillance is part of every day practice. Implementation of quality assurance systems in community pharmacy practice is needed to ensure high levels of care.</p> <p>Pharmaceutical care has been implemented in many Dutch community pharmacies, but not everywhere to the same extent. Dutch patients are well protected against many drug related problems due to excellent automated medication surveillance, structured/ high quality medication counselling and the fact that patients usually visit the same pharmacy.</p> <p>New entrants to the market (such as supermarket and pharmacy chains) appear to be placing little emphasis on care provision.</p>
Guillaume, L., Cooper, R. et al. Supplementary Prescribing by Community and Primary Care Pharmacists: an Analysis of PACT Data, 2004-2006. <i>Journal of Clinical Pharmacy and Therapeutics</i> . Vol 33: 11-16. 2008.	Examines the volume, costs and trends for pharmacist prescribing using Prescription Analysis and Cost (PACT) data at national, chapter and sub-chapter level for 2004-06. Supplemental data and statistical analysis from other sources relating to prescribing of individual drugs were also used.	<p>Pharmacist prescribing is a relatively new initiative in the extension of prescribing responsibilities of non-medical health care professionals. Pharmacist prescribing was introduced in the U.K. in 2003 in accordance with a clinical management plan agreement involving medical practitioners and patients focused on improving access to medicines and better utilizing the skills of health care professionals.</p> <p>Pharmacist prescribing is increasing but represents an extremely small proportion of primary care prescribing. (In 2006, pharmacist prescribing represented only 0.004% of all prescribing in the community and primary care setting.)</p> <p>PACT data between 2004 and 2006 reflects pharmacist supplementary prescribing alone and has been in the anticipated therapeutic areas of drugs which treat chronic conditions such as hypertension. Cardiovascular medicines were the most frequently prescribed therapeutic class followed by central nervous system,</p>

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		<p>respiratory, endocrine and gastrointestinal medicines.</p> <p><u>Limitations:</u> PACT data only includes prescribing in the primary care and community settings, not the hospital setting; data obtained was for England only; PACT data was not at the level of individual prescribers, thus it is not possible to comment on the distribution of prescribing.</p>
<p>Holland, R and Nimmo, C. Transitions, part 1: Beyond Pharmaceutical Care. <i>American Journal of Health System Pharmacy</i>. Vol 56 : Sept. 1, 1999.</p>	<p>First paper in a series that proposes a model for helping pharmacy department directors facilitate changes in practice by staff members.</p> <p>Total pharmacy care (TPC) incorporates five (5) existing practice models: drug information, self care, clinical pharmacy, pharmaceutical care and distribution.</p>	<p>Pharmacy’s evolution is traceable in a series of stages: manufacturing pharmacy, compounding distribution, clinical pharmacy and pharmaceutical care. Good pharmacy practice represents an international attempt to unite various conceptualizations of practice, including pharmaceutical care.</p> <p>Total pharmacy care is the delivery of a comprehensive range of services that result in the maximum possible contribution to the health of a nation’s population within the limits of the health care delivery structure.</p>
<p>Holland, R and Nimmo, C. Transitions in Pharmacy Practice, Part 2: Who Does What and Why. <i>American Journal of Health System Pharmacy</i>. Vol 56. Oct. 1, 1999.</p>	<p>Reviews the competencies required by the five practice models that constitute the TPC model.</p>	<p>Though they share the common underpinning of theory and practice, professional competence in the five models that make up TPC require distinctly different knowledge and skills, professional attitudes, and values, as well as judgement developed through experience.</p>
<p>Holland, R and Nimmo, C. Transitions in Pharmacy Practice, Part 3: Effecting Change – the Three Ring Circus. <i>American Journal of Health System Pharmacy</i>. 1999; 56.</p>	<p>The Holland-Nimmo practice change model outlines three prerequisites for successfully achieving a change in practice: practice environment, appropriate training, and appropriate motivational strategies to be applied by the manager.</p>	<p>All three components of the practice change model must be present at the same time for change to occur. Maximizing the potential for change requires that managers create an environment conducive to the new practice, identify needed learning resources, and motivate practitioners to change.</p>
<p>Holland, R and Nimmo, C. Transitions in Pharmacy Practice, Part 4: Can a Leopard Change its Spots? <i>American Journal of Health System Pharmacy</i>. 1999; 56 : 2450-62.</p>	<p>Examines the personal and social characteristics of pharmacy practitioners that predispose them to reacting in a certain way to a change in practice.</p>	<p>Pharmacists are shaped by their personalities and professional socialization. Conflict may occur if a pharmacist’s personality does not mesh with new professional roles.</p> <p>Most pharmacists will require re-socialization to prepare them for changes in practice.</p>
<p>Holland, R and Nimmo, C. Transitions in Pharmacy Practice, Part: Walking the Tightrope of Change. <i>American Journal of Health System</i></p>	<p>Describes a systematic process for reformulating the practice-related attitudes and values of pharmacists to help them adapt to a new practice model.</p>	<p>The key to motivating pharmacists to commit to practice change lies in fostering a change in intrinsically held professional attitudes and values.</p> <p>Managers can help pharmacists adopt a new practice model by guiding them through stages of attitude and value formation.</p>

Authors, Title and Publication	Context/Type of Document	Main Findings/Recommendations
<i>Pharmacy</i> . 1999; 57 : 64-72.		
Johnson George, et al. Supplementary Prescribing: Early Experiences of Pharmacists in Great Britain. <i>The Annals of Pharmacotherapy</i> : Vol. 40, No. 10, pp. 1843-1850.		
National Association of Pharmacy Regulatory Authorities. Professional Competencies for Canadian Pharmacists at Entry to Practice. March 2007.	<p>National competencies originally developed in 1997 in response to the federal government’s Agreement on Internal Trade (AIT). These competencies reflect entry to practice requirements for initial licensing pharmacists in jurisdictions that are signatories to the mutual recognition agreement.</p> <p>The National Association of Pharmacy Regulatory Authorities (NAPRA) was formed as an umbrella organization in 1995 of Canada’s provincial pharmacy regulatory bodies.</p>	Competencies outlined include patient care; professional collaboration and teamwork; ethical, legal and professional responsibilities; drug, therapeutic and practice information; communication and education; drug distribution; management knowledge and skills.
Ontario College of Pharmacists. Submission to the Health Professions Regulatory Advisory Council. June 19, 2008.	Submission to HPRAC.	<p>A position paper detailing the College’s support for an amended scope of practice statement for pharmacist to more accurately reflect current pharmacy practice.</p> <p>The College proposes that the existing scope of practice statement be amended as follows: <i>The practice of pharmacy is the promotion of health, prevention and treatment of diseases, dysfunction and disorders through medication and non-medication therapy, the monitoring and management of medication therapy; the custody, compounding and dispensing of drugs; the provision of health care aids and devices and information related to their use.</i></p>
Ontario Pharmacists’ Association. Submission to the Health Professions Regulatory Advisory Council on Scope of Practice of Pharmacy. June 30, 2008.	Submission to HPRAC.	<p>A position paper outlining the rationale and details supporting the need for a change in scope of practice to enable pharmacists to have greater responsibility for prescribing decisions and the necessary tools to monitor drug therapy outcomes (e.g., access to patient’s health information including test results and treatment indications).</p> <p>OPA recommends an expanded scope of practice for pharmacists in Ontario with the addition of the following professional services to include, but not limited to:</p> <ul style="list-style-type: none"> - Refilling chronic medications under a defined protocol when the appropriate medical information is available to the pharmacist and they can accurately determine the suitability of the refill. - Refilling a patient’s chronic medication on a one-time basis if the

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		<p>original prescriber is not available.</p> <ul style="list-style-type: none"> - Ordering and receiving laboratory tests, as needed, under a defined set of protocols. - Monitoring and adjusting doses of chronic medications under a prescribed protocol. - Adapting the dose, dosage form, product selected or quantity required of a prescription for the appropriate treatment of the patient. - Initiating prescription therapy for minor ailments from a set formulary using an established protocol for assessment. - Initiating therapy for travel prophylaxis and immunizations when needed. - Facilitating and administering immunizations and other injectable drugs. - Assessing, initiating and monitoring the most appropriate therapy for smoking cessation.
<p>Pearson, Glen J. et al. An Information Paper on Pharmacist Prescribing Within a Health Care Facility. <i>Canadian Journal of Hospital Pharmacy</i>. 2002; 55: 56-62.</p>	<p>Summarizes prescribing models in Canada and the requirements for collaborative prescribing. Explores the issue of pharmacist prescribing in Canada with limited control regulation.</p>	<p>Requirements for an effective collaborative prescribing model include: a collaborative practice environment, access to patients, access to medical records, knowledge, skills and ability, documentation of activities, compensation for activities. The shift of pharmacy practice from product-focused to patient-centred allows pharmacists to be recognized as significant contributors to optimizing drug therapy outcomes.</p> <p>The next logical step in pharmacy's evolution to achieve medication management is prescribing. Pharmacists' prescribing authority requires: a comprehensive self-analysis of current professional practice; consideration of goals and objectives of prescribing; and, collaboration with physicians to develop a coordinated process by which pharmacists may be delegated prescribing authority.</p>
<p>Pearson, Glen J. <i>Evolution in the practice of pharmacy – not a revolution!</i> Canadian Medical Association Journal, 24 April 2007, 176 (9).</p>	<p>Commentary. Describes the evolution of the pharmacists' role, with a focus on the current transition in pharmacy involving the expanding scope of the profession and (in some jurisdictions) the assumption of the authority to prescribe in defined situations.</p>	<p>The separation between prescribing and dispensing is critical to ensure patient safety and prevent conflict of interest. However, Alberta's newly expanded scope of practice for pharmacists can serve as a model for other Canadian jurisdictions and is expected to result in improved health outcomes by optimizing drug therapy for patients.</p>
<p>Tonna, A.P. et al. Pharmacist Prescribing in the UK – a Literature Review of Current Practice and Research. <i>Journal of Clinical Pharmacy and Therapeutics</i>. 2007. Vol 32, p. 545-556.</p>	<p>A review of the research literature on pharmacist prescribing in the UK (2004 to 2007).</p> <p>Explores the main areas of care and practice settings related to pharmacist prescribing including any benefits and limitations.</p>	<p>Most of the literature focuses on pharmacists' perceptions of SP, with little information referring to other stakeholders, including patients. There is limited published research focusing on the issue of clinical and economic outcomes related to pharmacist SP. However, the recent introduction of independent prescribing in the UK is expected to generate an expanded body of research on this issue.</p> <p><u>Limitations:</u> Most research on pharmacist prescribing is still in its infancy.</p>
<p>Watanabe T, Ohtani Y, Yamamoto T, Nemoto Y, Ida Y, Bachynsky JA. The case for a shift in pharmacists' activities and pharmacy</p>	<p>Comparative analysis of pharmacy education and activities in different jurisdictions with a focus on Alberta and Japan.</p>	<p>Japan can learn from Canada's pharmacy education and the pharmacist's role to modernize its pharmacy profession. Key learnings include:</p> <ul style="list-style-type: none"> ▪ Six-year pharmacy education; ▪ Developing advanced clinical skills; ▪ Focusing on pharmacy practice education;

Authors, Title and Publication	Context/Type of Document	Main Findings/Recommendations
education. Yakugaku Zasshi. 2005 Mar;125(3):283-92.		<ul style="list-style-type: none"> ■ Applying pharmaceutical knowledge to improve health care.

HEALTH SYSTEM NEEDS & IMPROVEMENT

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
Bellingham C. How to manage a minor ailment service. <i>Pharmaceutical Journal</i> 2005; 275:694.	<p>Descriptive article of the minor ailment service in Scotland.</p> <p>As one of the four core services in the new Scottish community contract, minor ailment service will be offered in every community pharmacy.</p>	<p>Minor ailment service is a core service. Patients must register with the pharmacy to use its services. The service includes the provision of advice and treatment from Pharmacists from a national formulary or referral to another practitioner. All consultations are recorded electronically. Pharmacists are remunerated on a capitation basis and reimbursed for products supplied.</p>
Chan BTB, Schultz SE. <i>Supply and Utilization of General Practitioner and Family Physician Services in Ontario</i> . ICES Investigative Report. Toronto: Institute for Clinical Evaluative Sciences. 2005.	<p>Research report and discussion document.</p> <p>Examines the changes in the supply and utilization of GP/FP services in Ontario from 1993/94 -2001/02.</p>	<p>There are fewer children and young Ontarians visiting GPs while the elderly maintain visit rates.</p> <p>The proportion of the population with no GP/FP visits in a year rose from 21.4% to 24.6%.</p> <p>One quarter to one third of all GP/FP visits was of probable low acuity, suggesting there may be opportunities for delegation to other health professionals.</p> <p>There is an inverse relationship with GP and Emergency Department visits.</p> <p>GP/FP supply continues to decline.</p> <p>The GP/FP workforce is aging.</p> <p>Declining comprehensiveness of care in areas of primary care outside office visitations – GPs are increasingly disconnected from the hospital environment.</p> <p>There is a rising physician supply in the North.</p>
Department of Health. <i>Pharmacy in England: Building on Strengths – delivering the future</i> . 3 April, 2008.	<p>Government policy paper. Promotes a wider role for pharmacy as part of an overall strategy for improving patient care. Sets out a framework for future actions, consultations and policy development.</p>	<p>Key proposals:</p> <p><u>Practice</u>: Chapter 4 illustrates a vision for Pharmacy that is summarized as: supporting healthy living and better care; expanding access to clinical services; and providing more support for people with Long Term Conditions (LTC's) through supported self-care, disease management and case management.</p> <p><u>Communication</u>: Chapter 5 outlines the communications strategy for implementing the 'new' vision for pharmacy. Recognizes the need to foster closer professional relationships between pharmacy and other healthcare professionals.</p> <p><u>Research and Innovation</u>: Supports the need to develop a sound evidence base to underpin decisions relating to the effectiveness, quality and value of pharmacy service provision. Describes the role of an expert panel under the Chief Pharmaceutical Officer that advises on priorities for health service research in pharmacy. Identifies the need to build on new technologies and systems such as the Electronic Prescription Service.</p>

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		<p><i>Education and Regulation:</i> Outlines actions to ensure there is sufficient meaningful clinical context and experience in undergraduate training programs. Supports the importance of committing to an appropriate funding framework to support clinical practice and academia.</p> <p>Also described is the government’s intention to establish a new regulator – the General Pharmaceutical Council in 2010, including a continuing professional development scheme. The Paper also stresses the importance of pharmacy expertise in the industry (both science based and clinically informed), and its leadership as the pharmacy’s role is changing.</p>
<p>Dobson RT, Henry CJ, Taylor JG, et al. Interprofessional health care teams: attitudes and environmental factors associated with participation by community pharmacists. <i>Journal of Interprofessional Care.</i> 2006.</p>	<p>Mail questionnaire. Reports on participation rates of pharmacists on interprofessional health teams, the extent to which this participation was related to pharmacists’ attitudes about their preparedness for this role, their relationship with physicians, and their assessment of potential barriers to interprofessional teamwork within their practice setting.</p>	<p>Most community pharmacists are not participating in team-based models of interprofessional practice, yet most respondents support the idea of community pharmacists being members of teams. Structural and attitudinal barriers are the key factors inhibiting the adoption of teamwork by community pharmacists that need to be addressed.</p> <p><u>Limitations:</u> Potential of non-response bias. No definition of interprofessional teamwork provided to the respondents.</p>
<p>Dugan, B.D. (2006) Enhancing Community Pharmacy Through Advanced Pharmacy Practice Experiences. <i>American Journal of Pharmaceutical Education.</i> 70 (1) Article 21.</p>	<p>Discussion and analysis of the benefit of advanced pharmacy practice experiences as a critical part of pharmacy education.</p> <p>The potential for medication therapy management (MTM) provide additional career opportunities for community pharmacists. Advanced pharmacy practice experiences (APPEs) in the community prepare pharmacy students for practice today and tomorrow.</p>	<p>If community pharmacy practice continues its evolution, the transition to enhanced community APPEs must be accelerated.</p> <p>APPEs are the key to learning the skills and abilities needed to fill the roles of community pharmacy practice’s future.</p>
<p>Howard M, Trim K, Woodward C, Dolovich L, et al. Collaboration between community pharmacists and family physicians: lessons learned from the Seniors Medication Assessment Research Trial. <i>Journal</i></p>		

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
of the American Pharmacists Association: 2003; 43(5):566-72.		
Ontario Health Quality Council. <i>2008 Report on Ontario's Health System</i> . 2008:www.ohqc.ca	<p>Research report on how well Ontario's health system is working, focusing on quality improvement.</p> <p>The Ontario Health Quality Council, established in September 2005, was created under <i>The Commitment to the Future of Medicare Act, 2004</i>. The Council is an Operational Service Agency that reports to the Minister of Health and Long-Term Care.</p>	<p>Ontario is failing to meet the chronic disease challenge. The system could be saving 8,000 lives a year by achieving modest increases in testing, treating and monitoring people with diabetes and coronary heart disease. The Ontario Wait Times Strategy (WTS) has successfully reduced wait times for surgery for cataracts, knee replacements, hip replacement and cancer. Although more MRI and CT scans are being done than four years ago, there has been little progress in reducing wait times.</p> <p>60% of Ontarians who have a primary care provider cannot get an appointment in 2 days of becoming sick; 42% say they do not spend enough time with their doctor and 39% say they are not told about treatment options and involved in decisions about their treatment. Continuous quality improvement of the system will only happen when Ontario creates province-wide electronic information systems</p>
Ontario Pharmacists Association Family Health Team Resource Kit. <i>The Association of Family Health Teams of Ontario</i> . http://www.aftho.com	<p>Outlines a system model for integrating pharmacists' professional services into a FHT and integrating community pharmacists' professional services with FHTs.</p> <p>Defines pharmacists' professional services, provides clinical evidence to support the provision of these services, and includes resources to assist in developing a business case for pharmacists' professional services as part of a FHT.</p>	<p>The OPA has a Four-Pillar Approach to policy development and implementation that clearly outlines how pharmacists and pharmacy can be integrated into the health care system to improve access to pharmacists' professional services. The Four-Pillar Approach includes:</p> <ol style="list-style-type: none"> 1. <i>New Reimbursement Model</i>: Establish a fair reimbursement model for traditional dispensing and pharmacists' professional services. 2. <i>Information Technology</i>: The effective use of information technology to support professional practice, integration and collaboration, and to improve patient health. 3. <i>Integration and Collaboration</i>: Pharmacists are recognized as valued members of the health care team and are effectively integrated into collaborative practice models. 4. <i>Pharmacists' Professional Services</i>: Establish comprehensive medication management policies and strategies that ensure appropriate medication use and improve health outcomes, and that support public health and disease prevention and promotion.
Royal Pharmaceutical Society of Great Britain. <i>Better Management of Minor Ailments: Using the Pharmacist</i> .	<p>Briefing/Issue Paper. The British NHS is struggling to treat people with minor ailments: General Practitioners (GPs) in the U.K. spend approximately 39% of their time dealing with potentially self-treatable minor ailments, and their workload could be reduced by up to 16 consultations a day if self-medication were encouraged for certain minor ailments.</p>	<p>There are successful schemes that refer patients from the GP to the pharmacist for specified minor conditions.</p> <p>Access to treatment for patients is quicker and easier. GPs spend more time with patients who really need them. Medicines are used more appropriately.</p>

HEALTH OUTCOMES, PATIENT SAFETY/ RISK OF HARM

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
<p>Brown JN, Barnes CL, Beasley B, et al. Effect of pharmacists on medication errors in an emergency department. <i>American Journal of Health System Pharmacy</i> 2008; 65(4):330-3.</p>	<p>Measured the frequency of medication errors in an emergency department (ED) after an ED pharmacist was assigned to check medication orders.</p> <p>Retrospective chart review was conducted for any patient admitted to the ED of a large rural hospital between November 6, 2005, and December 6, 2005 (control group), or between November 6, 2006, and December 6, 2006 (intervention group).</p> <p>For the control group, no pharmacist was present in the ED to check drug. N = 94 (control) N = 104 (intervention)</p>	<p>The rate of medication errors in the ED decreased significantly when pharmacists prospectively reviewed ED medication orders. A total of 37 and 14 medication errors were identified for the control and intervention groups, respectively.</p> <p>The rate of errors was 16.09 per 100 medication orders for the control group compared with 5.38 per 100 orders for the intervention group (a 66.6% difference).</p> <p>The ED pharmacists made 183 recommendations, of which 98.6% were accepted.</p>
<p>Bungard TJ, Archer SL, Hamilton P, et al. Bringing the benefits of anticoagulation management services to the community. <i>Can Pharm J</i> 2006;139(2):58-64.</p>		
<p>Chambers LW, Kaczorowski J, Dolovich L. et al. A community-based program for cardiovascular health awareness. <i>Canadian Journal of Public Health</i>. 2005; 96(4):294-8.</p>	<p>Descriptive study of the Cardiovascular Health Awareness Program (CHAP) that explored a collaborative approach to implementing a primary care intervention and health awareness program.</p> <p>Two Ontario communities including family physicians, pharmacists, public health authorities and their personnel.</p>	<p>Community-based CHAP sessions are a feasible way of improving patient, physician and pharmacist access to reliable blood pressure measurements and cardiovascular health information.</p> <p><u>Limitations:</u> Study limited to 2 communities with participants 65 and older.</p>
<p>Diamond SA, Chapman KR. The Impact of a nationally coordinated pharmacy-based asthma education intervention. <i>Canadian Respiratory Journal</i>. 2001, Jul-Aug; 8(4):261-5.</p>		

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
<p>Dolovich L, Kaczorowski J, Howard M, et al. for the IMPACT team. Cardiovascular outcomes of a pharmaceutical care program integrated into family practices (abstract). <i>Can Journal of Clinical Pharmacology</i> 2007;14(2):e116.</p>		
<p>Epping-Jordan, J.E. et al. Improving the Quality of Health Care for Chronic Conditions. <i>Quality and Safety in Health Care</i>.2004. 13: 299-305.</p>	<p>Descriptive analysis of the Innovative Care for Chronic Conditions (ICCC) framework.</p>	<p>Describes the ICCC framework as a flexible and comprehensive base on which to rebuild or redesign health systems in accordance with local health resources and demands.</p> <p>Patients with chronic conditions do better when they receive effective treatment within an integrated system with self-management support and follow up.</p>
<p>Grant, D. et al. Risks of Prescribing Designated Therapeutic Pharmaceutical Agents by Optometrists. A Report to the Health Professions Regulatory Advisory Council. February 6, 2008.</p>	<p>Research report.</p> <p>In 1994 the Ontario Association of Optometrists (OAO) requested approval for an expansion in their scope of practice to enable the prescribing of specific therapeutic pharmaceutical agents (TPAs) by optometrists. In February 2005, the Minister of Health and Long-Term Care asked the Health Professions Regulatory Advisory Council (HPRAC) for further advice on the currency of a previous conclusion that there was not sufficient evidence to demonstrate a need for changing the scope of practice. The current submission forms one part of the conduct of this review and consultation process.</p>	<p>A thorough understanding of principles of drug pharmacokinetics (absorption, distribution, metabolism, excretion, quantitative concepts of drug clearance and dosing requirements), pharmacodynamics (actions of each drug class at intended cellular targets) and toxicology (adverse drug actions at unintended targets, drug-drug interactions and drug contraindications) is required in order to appreciate the processes that will occur in patients to whom TPAs are being prescribed.</p> <p>This understanding needs to be superimposed upon a detailed knowledge of normal human physiology and of pathological changes that occur during both idiopathic and drug-induced disease, so that the accurate differential diagnosis of a disease state can be achieved. Finally, a large body of clinical experience (clinical residency or internship) which focuses on the practice of differential diagnosis to recognize disease phenotypes and signs of both appropriate and adverse drug responses is essential.</p> <p>There is sufficient didactic course teaching in basic principles of pharmacology for students in Optometry programs to graduate with an understanding of the theory behind possible mechanisms of drug toxicity that are related to the systemic and ocular administration of the designated TPAs. It is less clear, however, whether optometry graduates have the same level of practical clinical experience and exposure to patient treatment situations as those trained in general medicine or in ophthalmology as a medical specialty. Such exposure is required in order to properly recognize ocular disorders in the patient setting, and to arrive at an appropriate differential diagnosis from which the prescribing of an appropriate agent would arise. Furthermore, it is unclear how the process of patient follow-up to monitor the course of TPA therapy following prescription by an optometrist would function, in order to properly observe the progress of therapy and to recognize potential drug toxicities as they occur and to take appropriate action.</p>

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Johnson George, et al. Supplementary Prescribing: Early Experiences of Pharmacists in Great Britain. <i>The Annals of Pharmacotherapy</i> : Vol. 40, No. 10, pp. 1843-1850.		
Koshman SL, Charrois TL, Simpson SH, et al. Pharmacist care of patients with heart failure: a systematic review of randomized trials. <i>Arch Intern Med</i> 2008;168:687-94.	<p>A review of randomized control trials up to 2007.</p> <p>Total = 12 trials (2060 patients).</p> <p>Clarifies the role of pharmacists in the care of patients with heart failure (HF), and their effect on patient outcomes with HF.</p>	<p>While the role of multidisciplinary teams in the treatment of patients with heart failure (HF) is well established, there is less evidence characterizing the role of individual team members.</p> <p>Pharmacist care was associated with significant reductions in the rate of all-cause hospitalizations and HF hospitalizations, and a non-significant reduction in mortality.</p> <p>Pharmacist collaborative care led to greater reductions in the rate of HF hospitalizations than pharmacist-directed care.</p> <p>The incorporation of pharmacists into HF care teams should be strongly considered.</p> <p><u>Limitations:</u> Notable differences in pharmacist activities made it difficult to define which intervention provides the best outcomes. Differences in patient population and settings. Different co-interventions across studies could not be accounted for.</p>
Lalonde L. Martineau J. Blais N. et al. Is long-term pharmacist-managed anticoagulation service efficient? A pragmatic randomized controlled trial. Submitted Thrombosis Research (August 2007).	<p>Randomized control trial. Once Pharmacist Managed Anti-Coagulation Services (PMAS) patients were stabilized and ready for discharge, they were randomized to be transferred to their physician or stay with the PMAS. Quality of international normalized ratio (INR) control, incidence of complications, health-related quality of life, use of health care services, and direct incremental cost of PMAS follow-up were evaluated.</p> <p>Some PMAS provide initial follow-up to patients on oral anticoagulant, who are transferred to their physician once they are stabilized. This may be as effective as and less expensive than long-term PMAS follow-up.</p>	<p>Once PMAS patients are well stabilized, maintaining a PMAS follow-up or transferring them to their physician is associated with excellent INR control.</p> <p>Maintaining a PMAS follow-up seems to be more expensive in the long run than transferring stable patients to their physician, in contrast to the results of previous studies.</p> <p><u>Limitations:</u> Pragmatic approach may have affected the external validity of the results.</p>
Lane, C. et al. Potentially Inappropriate Prescribing in Ontario	Comparative analysis. Reviewed potentially inappropriate drug therapy prescribing for community	Older adults residing in the community were significantly more likely to be dispensed at least one drug therapy in the always avoid or rarely appropriate category than nursing home residents.

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
<p>Community-Dwelling Older Adults and Nursing Home Residents. <i>Journal of the American Geriatrics Society</i>. 2004; 52: 861-866.</p>	<p>dwelling older adults and nursing home residents in Ontario. More than 1.2 million older adults aged 66 and older in Ontario who were dispensed at least one prescription from the comprehensive drug plan in 2001. In Ontario, the provision of clinical pharmacy services is mandated in the nursing home; no comparable program exists for older adults in the community setting.</p> <p>Main outcome measurements: drug prescribing in two categories: 1) those to always avoid and 2) therapies considered rarely appropriate to prescribe.</p>	<p>Nursing home residents were almost half as likely to be dispensed one of the potentially inappropriate drug therapies as community dwelling older adults (odds ratio = 0.52).</p> <p>Clinical pharmacist services, mandated through the nursing home setting, may be responsible for these differences in Ontario.</p>
<p>McLean, William. <i>Pharmaceutical Care Evaluated: the Value of Your Services</i>. Canadian Pharmaceutical Journal. May 1998. Vol 131 (4); 34.</p>	<p>Review of the literature summarizing pharmacists' potential impact on health care. Over 500 articles were reviewed.</p> <p>Presents a summary of pharmacists' potential impact, reviewing some of the most important studies related to the pharmacist's impact on health and economic outcomes.</p>	<p>Pharmacists contribute to attaining the maximum health outcomes for the lowest possible costs (both direct and indirect). The studies indicate that in the new health model, pharmacists are accepting responsibility for the outcomes of pharmacotherapy.</p> <p>Pharmacists intervening on behalf of patients to improve their drug therapy and providing pharmaceutical care can influence health outcomes, such as incidence of drug reactions, length of hospital stay, disease control, costs of drugs, professional time and general utilization of health services.</p> <p>Although larger, controlled studies with measurable absolute outcomes are needed, there is emerging evidence that supports the important, cost-effective role pharmacists play in improving health outcomes.</p>
<p>McLean W, Gillis J, Waller R. The BC Community Pharmacy Asthma Study: A study of clinical, economic and holistic outcomes influenced by an asthma care protocol provided by specially trained community pharmacists in British Columbia. <i>Canadian Respiratory Journal</i>. 2003; 10:195-202.</p>		

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
<p>Nickerson al. <i>Drug-Therapy Problems, Inconsistencies and Omissions Identified During a Medication Reconciliation and Seamless Care Services</i>. Healthcare Quarterly Vol 8, Special Issue. October 2005.</p>	<p>Randomized control trial. Investigates the impact of pharmacist controlled seamless care service N = 253. Intervention patients admitted to one of two general medicine units were subjected to a comprehensive seamless care discharge process as they were discharged from a regional, academically affiliated hospital in Moncton, NB.</p> <p>Main outcome measures: Frequency and clinical impact of (1) drug-therapy problems for seamless monitoring (DTPsm) as identified by a seamless care pharmacist at the time of discharge and (2) drug therapy inconsistencies and omissions (DTIOs) in hospital discharge medication orders.</p>	<p>The interventions performed as part of this pharmacist-directed seamless care service identified and resolved an average of 3.5 DTPsm per patient, and eliminated almost all discrepancies related to DTIOs.</p> <p>The study confirmed the need to enhance the safety of the medication-use systems and care processes in hospitals that have not established pharmacist-directed seamless care services.</p> <p><u>Limitations:</u> Study results based on one clinical pharmacist at one hospital site. A multi-pharmacist and multi-centre study would have been preferable to increase the generalizability of the results. Seamless care service only occurred in one direction – from the hospital to the community; seamless care evaluations that bridge the gap in the opposite direction should be conducted. Number of intervention patient medical charts reviewed in the retrospective chart review.</p>
<p>Sinclair HK, Bond CM, Stead LF. Community pharmacy personnel interventions for smoking cessation. <i>Cochrane Database of Systematic Reviews</i>. 1, 2008.</p>	<p>Randomized trials. Compares interventions by community pharmacy personnel to promote smoking cessation compared to usual pharmacy support or any less intensive program.</p>	<p>Main outcome measure: smoking cessation rates six months or more after the intervention.</p> <p>Smoking cessation is a potentially appropriate role for community pharmacists because they are encouraged to advise on the correct use of nicotine replacement therapy (NRT) products and to provide behavioural support. Limited studies undertaken to date suggest that community pharmacists may have a positive effect on smoking cessation rates.</p> <p><u>Limitation:</u> Strength of evidence is limited because only one trial showed a statistically significant effect.</p>
<p>Tsuyuki RT, Olson KL, Dubyk, AM et al. Effect of Community Pharmacist Intervention on Cholesterol Levels in Patients with High Risk of Cardiovascular Events: The second Study on Cardiovascular Risk Intervention by Pharmacists (SCRIP-plus). <i>American Journal of Medicine</i>. 2004; 116:130.</p>		
<p>Zed PJ, Abu-Laban RB,</p>	<p>Prospective observational</p>	<p>Emergency department visits identified as drug related were 12%.</p>

Authors, Title and Publication	Context/ Type of Document or Study	Main Findings/Recommendations
<p>Balen RM, et al. Incidence, severity and preventability of medication-related visits to the emergency department: a prospective study. CMAJ 2008;178 1563-1569.</p>	<p>study of randomly selected adults presenting to the emergency department over a 12 week period. N = 1017. Study was conducted at Vancouver General Hospital; emergency department visits were identified as drug-related on the basis of assessment by a pharmacist research assistant and an emergency physician; discrepancies were adjudicated by 2 independent reviewers.</p> <p>Main outcome measures: visits were deemed medication related if the presentation was directly related to the chief complaint and could be classified into one of eight pre-defined drug related categories.</p>	<p>Most common reasons for visits were adverse drug reactions (39.3%), non-adherence (27.9%), and the use of wrong or sub-optimal drug (11.5%).</p> <p>More than 1 in 9 emergency department visits are due to drug related adverse events, a potentially preventable problem.</p> <p><u>Limitations:</u> Bias in determining a 'drug-related' visit. Bias in the adjudication of the case summaries. Increased attention to the subject of drug-related visits may have heightened physicians' awareness and produced a Hawthorne effect.</p>