Prescribing by pharmacists in Alberta

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Over the last century, pharmacy practice has evolved from apothecaries who compounded and dispensed medicinals but were virtually unknown to patients to pharmacists who now manage drug therapy and prescribing. In 1971, the report of the Commission on Pharmaceutical Services stated, “It has been suggested that the ultimate goal should be to give the pharmacist the responsibility for prescribing medication and monitoring the patient’s response to this therapy.” This concept has been suggested for decades.

Worldwide, the legislative authority for pharmacist prescribing varies between countries. In the United Kingdom, supplementary prescribing was approved in 2002 and allowed pharmacists to prescribe any medications listed under a clinical management plan developed with an independent prescriber. More recently, regulations permitting independent prescribing by qualified pharmacists for any licensed medication, with the exception of controlled drugs, came into effect. In this setting, mandatory training, testing, and certification are required to enable pharmacists to act as independent prescribers. In the United States, over 41 states have some form of legislation that allows for dependent prescribing as part of collaborative drug therapy management, and 5 states allow collaborative prescribing of controlled substances. Across Canada, provinces are in various stages of adapting or changing legislation to expand prescribing rights for pharmacists. Previously, some provinces had limited prescribing authority for pharmacists. For example, Quebec pharmacists have been able to adjust therapy based on a collaborative...
protocol, while pharmacists in Nova Scotia and New Brunswick can continue an existing prescription.

The purpose of this article is to describe the evolution of prescribing by pharmacists in Alberta, Canada.

Our prescribing model

Prescribing by pharmacists is different than prescribing by other health care professionals. Pharmacists may alter an existing prescription or create a new one. Pharmacy practice is very diverse—both in terms of the services pharmacists provide and the settings they work within. Most pharmacists are employed in community pharmacies, but others work in hospitals, long-term care institutions, and ambulatory clinics. Depending on the task and practice environment, different levels of information exchange with collaborating health care professionals is sometimes necessary. Given these considerations, a model was developed to define prescribing by pharmacists (Table 1).

Our prescribing model is defined by three categories of prescribing a Schedule 1 drug, a drug available only by prescription in Alberta. Pharmacists are not authorized to prescribe narcotics and controlled drugs (i.e., opium and its derivatives, barbiturates, and benzodiazepines) that are federally regulated. Only practitioners (i.e., doctors, dentists, and veterinarians) who are authorized federally may prescribe these types of drugs. The first two categories of prescribing a Schedule 1 drug, adapting a prescription and prescribing in an emergency, legitimize existing practices that were not previously recognized in legislation. Pharmacists who are registered on the Alberta College of Pharmacists’ (ACP’s) clinical registry and have completed an orientation program delivered by ACP may prescribe for these purposes. When prescribing to adapt a prescription, the pharmacist modifies an existing prescription either to meet the unique needs of the patient or to extend therapy on an incidental basis when the patient is unable to contact the original prescriber. In these circumstances, the pharmacist can only modify the dosage to minimize the potential for adverse events in which physiological function is compromised or to optimize treatment when suboptimal dosing has been ordered on the original prescription. Emergency prescribing enables pharmacists to prescribe in unique situations when patients are unable to access other health services. The pharmacist determines that drug therapy must be initiated right away.

In such circumstances, it is the pharmacist’s responsibility to facilitate access to another health professional for further assessment and diagnosis as soon as possible.

Additional prescribing, the third category, provides the ability to independently prescribe—a privilege that is not authorized in any other jurisdiction in North America to date. Pharmacists who seek additional prescribing privileges must complete a detailed application that is assessed.

<table>
<thead>
<tr>
<th>Prescribing Category</th>
<th>Example</th>
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<tbody>
<tr>
<td>Adapting a prescription</td>
<td>Adjusting the dosage of an antibiotic for renal dysfunction</td>
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<tr>
<td>Altering dose, formulation, or regimen; can only be done on a new prescription to facilitate dosing based on organ function, commercial availability, appropriateness for patient</td>
<td></td>
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<tr>
<td>Substituting a drug within same therapeutic class for patient-specific reasons (e.g., avoid adverse effects, allow coverage by drug plan)</td>
<td>Switching from fluticasone propionate nasal spray to beclamethasone dipropionate nasal spray to accomodate drug plan coverage</td>
</tr>
<tr>
<td>Issuing prescription for continuity of care</td>
<td>Providing a short-term supply of an antihypertensive until physician can be seen</td>
</tr>
<tr>
<td>Prescribing in an emergency</td>
<td>Patient arrives in a remote community with history of asthma and requires albuterol (salbutamol)</td>
</tr>
<tr>
<td>Only when it is not reasonably possible to see another prescriber and there is an immediate need for drug therapy</td>
<td></td>
</tr>
<tr>
<td>Additional prescribing</td>
<td>Pharmacist aware of diagnosis based on collaborative relationship with health care provider and initiates or adjusts antihypertensive to achieve and maintain target blood pressure</td>
</tr>
<tr>
<td>Ability to prescribe Schedule 1 drugs based on the pharmacist’s assessment at initial point of access, collaboration with another authorized prescriber, or collaboration with regulated health professionals who do not have prescriptive authority</td>
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*In Canada, Schedule 1 drugs do not include narcotics and controlled substances (i.e., opium and its derivatives, barbiturates, and benzodiazepines).
by peers who have been standardized in the evaluation process. Pharmacists who successfully complete the application process will be authorized to actively manage chronic drug therapy. These pharmacists will have the ability to select, initiate, monitor, continue, and modify drug regimens when indicated.

When prescribing in any category of the model, several fundamental principles must be met. The pharmacist must be knowledgeable about the disease that is being treated and the drug being prescribed, have adequate information to make an informed decision, inform the patient about prescribing by a pharmacist, appropriately document the prescribing decision, and communicate this information to other appropriate members of the patient’s health team.

Foundational elements to support prescribing by pharmacists

The journey to receiving prescribing privileges has occurred over decades and has included many challenges. The key factors that have facilitated this process include progress in the delivery of pharmacy education, advancements in professional development programs, and many changes within our practice framework (e.g., access to patient information). These factors have culminated with enabling changes to our regulatory framework.

Regulatory framework. The recognition of pharmacists as providers of direct patient care who focus on patient outcomes, in addition to pharmacists’ roles as dispensers and compounders, was introduced through the concept of pharmaceutical care and has been a foundation for teaching at Canadian faculties of pharmacy. The Pharmaceutical Profession Act introduced these principles into practice in Alberta.

In 1999, the Alberta government passed the Health Professions Act (HPA), which consolidated the governance of all health professionals (30 professions) into one act. This act replaced the exclusive scopes of practice with 18 restricted activities. Each profession was required to identify which of the 18 restricted activities its registrants were competent to perform. These restricted activities ranged from performing surgical procedures to compounding and prescribing drugs.

In addition to pursuing the restricted activity of dispensing, ACP also pursued the ability to prescribe Schedule 1 drugs and blood products and to administer drugs by injection. Blood products are not classified as Schedule 1 drugs in Alberta. Despite this, blood derivatives or serums can only be accessed with a prescription. It was observed that pharmacists could benefit public health by providing improved access to certain immunoglobulins for immunizations.

Before the HPA, some pharmacists prescribed through delegated authority that was granted by specific authorized prescribers. The HPA does not permit the delegation of a restricted activity such as prescribing to another individual or health care professional. In pursuing prescriptive authority, ACP commissioned a committee in 2001 to develop an operational model describing how pharmacists could better serve the needs of the health care system by independently prescribing while working interdependently with other health care professionals (Table 1). The overall goals of the model were to benefit Albertans, positively affect the sustainability of the health care system, and offer a framework that would facilitate risk management and accountability.

This model was the foundation for stakeholder consultations with pharmacists, physicians, nurses, technicians, physical therapists, regional health authorities, and patients. ACP’s proposal for legislated authority to enable pharmacists to prescribe was presented to the province’s health professions advisory board in the fall of 2003. The board held responsibility for advising the minister of health and wellness about the feasibility of new scopes of practice proposed by professions. In December 2004, the minister of health and wellness approved the development of regulations under the HPA that enabled pharmacists to prescribe scheduled drugs. This finally went into effect on April 1, 2007. ACP also succeeded in obtaining privileges that allowed pharmacists to administer drugs by injection. Interested pharmacists must complete a training program approved by ACP before applying to the registrar for these privileges. These programs are currently being developed.

Simultaneously, other initiatives that supported prescribing were being addressed. The development of a competency profile for Alberta pharmacists in 2003, which outlined the knowledge, skills, behaviors, and attitudes held by pharmacists, provided the foundation for the development of updated standards of practice for pharmacists, which included practice expectations when prescribing. In the spring of 2005, a working group formed by ACP and the College of Physicians and Surgeons of Alberta explored a collaborative framework for pharmacist and physician practice.

Once the regulations were approved, ACP commissioned an expert panel to advise its council about the competency and level at which a clinical pharmacist must demonstrate skills before receiving additional prescribing privileges. Central to the panel’s recommendations were six key activities required for prescribing (appendix). The panel identified indicators for each activity and described either the expected outcome or the process of performing the activity. In doing so, the indicators are used to assess the performance of the activity. The panel also identified an
Pharmacists interested in additional prescribing privileges are encouraged to first self-assess their performance of activities against the indicators to contemplate whether they are adequately prepared for this expanded role. A detailed application is mandatory, including information about education and training, experience and practice environment, and collaborative working relationships.

In addition, two letters of collaboration from regulated health professionals (at least one from an authorized prescriber) that help assess the applicant’s practice relationships and collaborative practices are required. Elements evaluated include effective and constructive communication, sharing of relevant health information, determining common therapeutic goals with other providers and the patient, and establishing complementary expectations with other care providers serving a common patient. The second part of the application involves the submission of three actual care plans that include notes and records made by the pharmacist that portray a detailed description of the patient’s history, the actions the pharmacist took, and the rationale for the pharmacist’s actions. These care plans are evaluated against the indicators identified for each of six activities necessary for prescribing (Appendix). An oral interview may be completed to address any deficiencies in the application.

The privilege of additional prescriptive authority is not disease specific. The purpose is to demonstrate the competencies relevant to prescribing new drug therapies believed to be transportable across disease states. Pharmacists must maintain knowledge about diseases and conditions, including etiology and treatment (pharmacologic and nonpharmacologic), for which they prescribe. Moreover, further formalized educational programs are not required to pursue additional prescriptive authority.

**Formalized education and continuing competence assessment.** The undergraduate degree program offered through the Faculty of Pharmacy and Pharmaceutical Sciences at the University of Alberta is a five-year bachelor of science program that consists of one year of preprofessional study, followed by four years of study in the faculty. The program is in its fourth year of a major curriculum redesign that incorporates integrated therapeutic modules (traditional lectures integrated with case-based learning) and a greater emphasis on experiential learning. The program addresses requirements of the Canadian Council for Accreditation of Pharmacy Programs and recognizes that quality pharmacy education is dependent not only on knowledge of basic and professional science, but also on skills through which this knowledge is applied in professional

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**Figure 1. Process for seeking additional prescriptive authority.**

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<th>Determination of eligibility</th>
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<tr>
<td>• In good standing on clinical registry of Alberta College of Pharmacists (ACP)</td>
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<tr>
<td>• At least two years of full-time (or equivalent) direct patient care experience</td>
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<td>• Completion of orientation to your new practice framework</td>
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<table>
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<tr>
<th>Completion of additional prescribing authorization self-assessment form</th>
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<tr>
<th>Completion of application</th>
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<tbody>
<tr>
<td>• Application form</td>
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<td>• Form letters of collaboration</td>
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<td>• Care plans</td>
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<th>Submission of application package to ACP</th>
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<tr>
<th>Criterion-based assessment of application by ACP using two peer (pharmacist) assessors</th>
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<table>
<thead>
<tr>
<th>Successful</th>
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</thead>
<tbody>
<tr>
<td>Issuance of practice permit with additional prescribing authorization noted</td>
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</table>

<table>
<thead>
<tr>
<th>Unsuccessful</th>
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<tbody>
<tr>
<td>Reapplication after addressing issues identified in feedback</td>
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</table>
practice. This curriculum sets the framework needed to incorporate aspects of prescribing for pharmacists so that the necessary skills, abilities, and confidence can be developed at the undergraduate level.

Considering the importance of interprofessional collaboration and communication, interdisciplinary education is paramount in preparing pharmacists for prescribing. The University of Alberta has been successful in developing interprofessional education. Its first elective interdisciplinary course has been offered since 1996 and is now a mandatory course for all students in health care disciplines, including pharmacy.

Coordination of continuing professional education in Alberta exists through a unique partnership between the faculty and ACP. The continuing pharmacy education department has been the recipient of numerous national and international awards for its education programs. While traditional continuing-education programs are still available in Alberta, the faculty is offering innovative delivery modules that use mentoring, coaching, and workplace learning to enhance the application of basic knowledge and skills.

Since 1975, Alberta pharmacists have been required to participate in continuing professional development annually as a condition of licensure. Onsite (conducted in pharmacists’ own practice sites) peer assessments of pharmacists’ performance in relation to ACP’s standards of practice began in the late 1990s. The college’s continuing competence program is being further enhanced as new tools for assessing competence become available. New strategies to assess and monitor pharmacist prescribing practices are being developed.

ACP’s continuing professional development program has evolved to a continuous process through which pharmacists perform a self-assessment, create a learning plan, complete relevant learning activities, evaluate their learning, and maintain a record of their experience in a learning portfolio. The key philosophical change is that professional development should be ongoing and relevant to the individual’s practice needs. Pharmacists are able to participate in accredited or unaccredited professional development experiences. It is important that pharmacists’ learning experiences align with their identified personal learning needs and that the pharmacists are clear about the objectives being pursued. These methods are consistent with international continuing pharmacy education models. The methods also support the concept that pharmacists will achieve and maintain competencies specific to their role as prescribers in their own practice setting.

Where are we now?

By April 1, 2007, over 2,800 (75%) pharmacists who were registered on the clinical registry had completed the orientation program necessary for prescribing to adapt a prescription or for an emergency encounter, and by September 1, 2007, over 3,300 (89%) had completed the program. Claims data from both private and public sector clients administered by Alberta Blue Cross indicate that 2,173 pharmacists prescribed at least 1 prescription from April 1, 2007, to September 30, 2007. These pharmacists prescribed just over 65,000 prescriptions during this period, most of which were to meet the needs of patients with diabetes, cardiac disease, and respiratory disease. Claims data will not enable qualitative evaluation of the purpose for which the prescriptions were written; however, cursory analyses of the claims data suggest that the primary reason for prescribing was to ensure that drug therapy was not interrupted when continued use was intended and when patients were unable to access the original prescriber for assessment and authorization.

The assessment process to grant additional prescribing authority was piloted among 29 pharmacists. Applications have been reviewed by a panel of peers who were trained and standardized with respect to the assessment tools and process. The process was evaluated by a psychometrician and has been determined to have the necessary rigor and reliability. The ACP council reviewed the results from the pilot and approved it subject to several small refinements based on feedback from participants, assessors, and program design experts. Refinement of the indicators using the Delphi process was completed, and the assessment process was offered to all pharmacists on the clinical registry beginning in summer 2008.

Fifteen pharmacists were granted additional prescribing privileges upon completing the pilot. Most practiced in an ambulatory care clinic (40%), while 33% practiced in a community pharmacy and 27% practiced in a hospital pharmacy, hospital-based clinic, or continuing care facility. Half of the pharmacists who were successful had postbaccalaureate doctor of pharmacy degrees, while half did not have any further formalized education beyond the bachelor of science in pharmacy degree.

To get to this point, communication with pharmacists, stakeholders, and the citizens of Alberta was paramount. Communication materials that targeted each of these groups were prepared to explain prescribing by pharmacists and clarified limitations and what to expect. These materials were posted on ACP’s website so pharmacists could print them and discuss them with patients and other health professionals. ACP was cautious not to give patients unrealistic expectations about roles and services that pharmacists were not authorized or prepared to deliver.

Future directions

Prescribing is another tool that
will be applied by some pharmacists when taking responsibility for their patients’ drug therapy. It is a tool that enables pharmacists to fill their role as medication management experts. The personal responsibility associated with writing a prescription compared to the responsibility of making recommendations to another prescriber who ultimately makes the final decision is part of a large cultural change. Some pharmacists will be resistant and impartial to prescribing. Others will require support to enhance their confidence.

Several elements must be in place for pharmacist practice to flourish in this capacity. Pharmacist motivation is likely to be the most significant enabler to change. Holland and Nimmo defined motivation as involving “internalized attitudes and values, and influenced by personality.” Pharmacists’ beliefs in their knowledge, skills, and abilities also influence motivation and ultimately affect confidence when making prescribing decisions. Changes in pharmacy infrastructure and system design encompass the ability to have timely access to information, tools to facilitate documentation, and the appropriate balance of human resources. This change in Alberta is part of the development of a province-wide electronic health record that will provide pharmacists comprehensive records of patient care, including prescribing, dispensing, and laboratory information, about all patients. Economic models that reward pharmacists for dispensing drugs are outdated and do not complement the pharmacists’ role as medication managers. The new practice expectations must be supported by economic models that focus on patient care rather than commodity-driven formulas based on selling drugs. To facilitate the ability for widespread implementation of additional prescriptive authority, these elements must evolve.

Within Alberta, we are embarking on a journey unique to North America. Patients will benefit through pharmacists’ prescribing decisions in the broadest sense based on the individual competencies of each pharmacist. While some pharmacists will choose not to prescribe at all, some may prescribe to adapt a prescription or in an emergency situation, and others will have the ability to apply for additional prescriptive authority that will allow the selection, initiation, ongoing monitoring, continuing of therapy, and modification of any drug therapy regimen listed in Schedule 1. This evolution of pharmacist prescribing has been facilitated by several concomitant initiatives. Advances in professional development programs with the simultaneous development of a comprehensive competency profile and the development of our prescribing framework (e.g., the prescribing model) have culminated in changes to provincial legislation that is enabling. Further system enhancements will facilitate participation and engagement by pharmacists. As we embark on this new scope of practice in North America, it is clear that we must ensure each step is thoroughly contemplated and implemented to ensure a smooth transition to pharmacist practice.

Conclusion

Collaborative efforts among health care professionals, regulatory health authorities, and patients led to the development of the current prescribing model for pharmacists practicing in Alberta. The model includes provisions for adapting a prescription, prescribing in an emergency, and additional prescribing by pharmacists who obtain authorization.

References


Appendix—Activities necessary for prescribing and indicators for assessment

Activity A: Form and maintain professional relationship with patient

Indicators:

• Role and responsibility of pharmacists in prescribing are clearly described to patient or his or her agent.
• Patient is given an opportunity to describe health problems, articulate needs, and ask questions.
• Confidentiality is maintained.

Activity B: Assess patient

Indicators:

• Patient’s signs and symptoms are appropriately evaluated.
• Patient’s needs and health outcomes are identified and discussed.
• Patient demographics and medical and treatment history are obtained from patient or reliable source.
• Information provided by patient or reliable source is recorded and documented.
• Actual or potential drug-related problems are identified.
• Mutual goals of therapy are discussed and established.

Activity C: Develop and implement care plan

Indicators:

• Care plan options and recommendations are developed with patient to meet mutual goals of therapy.
• Therapeutic decisions are made to maximize patient health outcomes and safety.
• Rationale for prescribing decisions is clearly articulated and explained.
• Care plan identifies other regulated health professionals who may verify assessment and therapeutic decisions or who will contribute to ongoing monitoring processes as applicable.
• Patient is provided with ongoing education and support to implement the care plan.
• Prescribing decisions meet all legal and professional requirements as described in the Standards for Pharmacy Practice.
• Follow-up plan is detailed and includes monitoring parameters, expected outcomes, and time frames.

Activity D: Follow-up with patient to monitor progress
Indicators:
• Changes in health outcomes and status are monitored and documented.
• Modifications to care are made to maximize health outcomes and minimize risk to patient.

Activity E: Document patient information, assessment, interventions, and communications with other regulated health professionals
Indicators:
• Patient records are accurate, clear, concise, and easy to read.
• Patient records facilitate sharing, ease of use, and retrieval of patient information by authorized individuals.
• Patient records are created and maintained in compliance with all legal and professional requirements.

Activity F: Make professional judgments to maximize patient safety and desired health outcomes
Indicators:
• Practice is designed and conducted to maximize patient safety and minimize conflict of interest.
• Prescribing decisions reflect best practices and are evidence based.
• Patient is made aware that prescription is his or her property and he or she can determine where to fill it.
• Drug-related problems are dealt with appropriately and accurately documented.
• Collaborative relationships are formed with other regulated health professionals to maximize access to reliable, current, and relevant information to optimize mutual goals of therapy and enhance patient safety.

*Deemed critical and must have been demonstrated.