



---

## A Prescription for Optimal Prescribing

---

### Executive Summary

This paper presents the position of the Canadian Medical Association on what physicians can do, working with others, to ensure that Canadians are prescribed the drugs that will give them the most benefit. It also makes recommendations for future action that physicians, governments and others might take to foster optimal prescribing practices.

CMA believes that optimal prescribing is the prescription of a drug that is:

- The most clinically appropriate for the patient's condition;
- Safe and effective;
- Part of a comprehensive treatment plan; and
- The most cost-effective drug available to meet the patient's needs.

Choices made by prescribers are subject to a number of influences, including education (undergraduate, residency and continuing); availability of useful point of care information; drug marketing and promotion; patient preferences and participation, and drug cost and coverage.

The CMA proposes a "prescription for optimal prescribing" that encompasses six elements, and makes the following recommendations:

### A National Strategy

1) Governments at all levels should work with prescribers, the public, industry and other stakeholders to develop and implement a nationwide strategy to encourage optimal prescribing and medication use.

#### Element 1: Relevant, Objective Information for Physicians

2) The CMA supports the development and dissemination of prescribing information that is:

- based on the best available scientific evidence;
- relevant to clinical practice;
- easy to incorporate into a physician's workflow.

3) The CMA encourages all medical educational bodies to support a comprehensive program of education in pharmaceuticals, pharmacology and optimal prescribing, at the undergraduate, residency and continuing medical education levels.

4) The CMA and provincial/territorial medical associations call on governments to support and fund impartial continuing medical education programs on optimal prescribing.

5) The CMA calls on appropriate educational bodies to develop policies or guidelines to ensure

the objectivity and impartiality of continuing medical education.

6) The CMA recommends that governments, research institutes and other stakeholders fund and conduct ongoing clinical research on the effectiveness of interventions designed to change behaviour, and allocate resources to those interventions that demonstrate the greatest effectiveness.

### **Element 2: Electronic Prescribing**

7) The CMA, provincial/territorial medical associations and affiliates encourage governments to give active support to physicians in their transition to electronic prescribing, through a comprehensive strategy that includes financial support for acquisition of hardware and software, and dissemination of appropriate training and knowledge transfer tools.

8) The CMA calls on governments to incorporate into electronic prescribing the following principles:

- Measures to ensure patients' privacy and confidentiality, as well as confidentiality of physician prescribing information;
- A link with a formulary, to provide physicians with best practice information including drug cost data;
- Guidelines for data sharing among health professionals and others;
- Standards for electronic signature that are not overly restrictive.

### **Element 3: Programs by Payers**

9) The CMA recommends that formularies, in both the public and private sectors, simplify administrative requirements on patients and physicians, reducing paperwork to the minimum necessary to ensure optimal patient care.

### **Element 4: Collaboration among Health Care Providers**

10) The CMA recommends that formalized and clearly articulated collaborative arrangements be

in place for practitioners who jointly manage a patient's drug therapy.

### **Element 5: Impartial, Evidence-based Information for Patients**

11) The CMA calls on governments to fund and facilitate the development and provision of unbiased, up-to-date, practical information to consumers about prescription drugs and their appropriate use, and support physicians and pharmacists in disseminating this information to patients.

12) The CMA calls on the Government of Canada to continue to enforce the current ban on direct-to-consumer prescription drug advertising in Canada, and close the loopholes that currently allow a limited amount of drug promotion.

### **Element 6: Research, Monitoring and Evaluation**

13) The CMA calls on those who fund and produce research on drug safety and effectiveness, prescribing guidelines and programs to enhance prescribing practices, to include physicians and medical organizations meaningfully in this activity.

## **1) Introduction**

In an ideal world, all patients would be prescribed the drugs that have the most beneficial effect on their condition while doing the least possible harm, at the most appropriate cost to the patient and the health care system. It is generally agreed that we have not yet achieved that ideal. But the CMA and the physicians of Canada believe it is a goal worth striving to attain.

The CMA has a long-standing commitment to fostering high-quality health care. One of the key elements of the long-term Health Care Transformation project, in which CMA is currently involved, is ensuring that systems are in place to foster health care that is of high quality. One such system would be the active encouragement of optimal prescribing.

This paper presents the CMA's position and recommendations on what physicians can do, working with others, to ensure that Canadians are prescribed the drugs that will give them the most benefit. It looks at prescribing mainly from the perspective of the practicing physician who is seeking the most appropriate treatments for individual patients. However it also comments on the effects of prescribing on the broader health care system, both on Canadians' overall health status and on the costs of delivering health care.

## 2) Optimal Prescribing: CMA's Definition and Principles

### a) What is Optimal Prescribing?

Prescribing is not an exact science; the choice of a particular drug to treat a particular patient depends on that patient's unique circumstances. CMA's proposed definition and principles for optimal prescribing is as follows:

Optimal prescribing is the prescription of a drug that is

- the most clinically appropriate drug for the patient's condition;
- safe and effective;
- part of a comprehensive treatment plan; and
- the most cost-effective drug available to best meet the patient's needs.

### b) Principles for Optimal Prescribing

CMA believes that in an optimal prescribing environment, the following principles should apply:

Principles for Optimal Prescribing

- 1) The primary goal of prescribing should be to improve or maintain the health of the patient.
- 2) Prescribing should take place in the context of overall patient care which involves diagnosis of the condition, other forms of treatment including rehabilitation, counselling and lifestyle adjustments, ongoing monitoring and re-evaluation of the patient's condition and treatment to make sure the patient is responding

appropriately, ensuring patient adherence to medication regimen, and discontinuation of drug treatment when it is no longer needed.

3) Patients should be actively involved in decisions regarding their drug treatment; for this, useful and practical patient information is required.

4) Prescribing decisions should be based on the best available scientific evidence, which is continually evaluated and updated as need arises.

5) Physicians should retain clinical autonomy in deciding which drugs to prescribe.

6) Prescribing decisions should take into account the cost to the patient, and strive to achieve cost-effectiveness as long as this does not conflict with the goal of optimal patient care.

7) Physicians should be updated on new developments in pharmacotherapy, through an ongoing process of relevant, objective continuing education.

8) Health professionals should take a leadership role in developing and evaluating strategies and tools to enhance best practices in prescribing.

Though these principles may also apply to the optimal use of medical devices, prescription drugs are the primary focus of the paper.

## 3) Why Optimal Prescribing is Important

Prescription drugs are an increasingly important part of patient care in Canada. Fifty years ago, they were used mainly for short periods of time to treat acute conditions, and their contribution to overall health care costs was small. But in 2005, Canadians received 14 prescriptions per capita; that number rose to 74 for people 80 years and over.<sup>i</sup> Many Canadians now take prescription drugs over the long term to manage chronic conditions such as diabetes, osteoporosis or high cholesterol.

Increased drug utilization, and the high prices of many new drug therapies, have increased the cost of prescription drugs to Canadians and to the health care system. In 2008 Canadians spent about \$25.4 billion on prescription drugs. This, in constant dollars, is roughly triple what was spent in 1985.<sup>ii</sup> Together, prescription and over-the-

counter drugs consume a larger portion of overall costs than do physicians' services; in fact, only hospitals consume a larger share.

In many cases prescription drugs have reduced reliance on hospitalization and surgical procedures. For example, over the past decades drugs to treat peptic ulcer disease have changed its treatment profile from one based mainly on surgery to a largely medical one. On the other hand, patients may take certain medications or classes of medications for many years, and this long-term use may have health consequences that are currently unknown.

As their role in health care increases, there is increasing public scrutiny over whether the prescription drugs Canadians use are safe and effective, whether they give good value for money, and whether they are being prescribed and taken optimally for maximum patient benefit.

As mentioned before, prescribing is not an exact science; what in some cases might be considered "suboptimal" is in other cases quite appropriate. In most instances, drugs are prescribed appropriately. However, evidence suggests that in some areas there is room for improvement. Prescribers can enhance patient care and improve Canadians' health by adopting strategies such as the following:

- Reducing overprescribing of certain drugs. For example, overuse of antibiotics is a worldwide concern <sup>iii</sup> since it may hasten the development of antibiotic resistance, thereby reducing the physician's therapeutic arsenal.
- Reducing underprescribing of certain drugs. A study of primary care practices in Ontario found that while 14% of adult patients had dyslipidemia, 63.2 % were untreated and, of those treated, 47.2% were not adequately controlled.<sup>iv</sup>
- Prescribing drugs according to generally accepted clinical practice guidelines to ensure that first-line drugs are used where indicated. Second-line therapies are frequently newer and less established than first-line ones, and

are thus more likely to have unidentified safety risks.

- Ensuring that drugs are prescribed and taken safely, to reduce the harm caused by adverse interactions with other drugs, natural health products, alcohol or other agents in the patient's system.

Activities in support of the above strategies should be included in any program or initiative aimed at improving health care in Canada. CMA believes they will contribute to Canadians' overall health status, and may have the additional benefit of reducing health care costs if the prescribed drugs are the most cost-effective available to appropriately treat patients' conditions.

#### **4) Many Factors Affect Prescribing**

Prescribing does not occur in a vacuum, but is the result of a number of factors that influence physicians. It may be questioned whether these factors provide the necessary support to physicians as they seek to prescribe optimally. Some of these influences are discussed below:

##### **a) The Challenge of Acquiring Information**

Our knowledge of prescription drugs and their effects is continually being updated, and physicians are required to absorb new information throughout their careers. But are physicians receiving the information they most need, in such a way that they can easily and painlessly incorporate it into their practices? CMA's answer is: there is room for improvement. The major information sources available to physicians are discussed below:

##### **i) Physician Education**

Medical school and residency training - Medical schools vary in how they discuss pharmacological issues, and critics have questioned whether Canada's current medical school curriculum is training future physicians adequately in the art and science of prescribing.<sup>v</sup> In some cases, pharmacotherapy is taught in the context of each individual body system - cardiac, renal, etc. - rather than as a discrete subject. With this

approach, some valuable unifying elements of pharmacology may go untaught.

Continuing medical education (CME) - For physicians, CME is an important source of information on new drugs and new indications for existing drugs. But is it imparting the most necessary or appropriate information? Concerns have been raised as to its impartiality; it is estimated that pharmaceutical industry sponsorship accounts for 65% of the total revenue of CME programs in the U.S. and the figure is assumed to be much the same in Canada.<sup>vi</sup>

#### ii) Point-of-care information

With increasingly heavy patient loads, the time at physicians' disposal for research is limited. Often new information is required at the point of care; for example, in the examination room during a patient encounter, when the physician requires an answer quickly. The clinical practice guidelines and point of care reference guides in common use may not be readily accessible in a concise, user-friendly format when needed. In addition, it is of concern that some experts who develop practice guidelines have ties to pharmaceutical manufacturers, which could affect the guidelines' impartiality.

To compound the problem, widely used sources of information may not be giving physicians the material they most need. Physicians often receive new safety information, such as warnings of recently discovered drug risks, in the form of advisories from Health Canada or elsewhere. These advisories may not provide physicians with prescribing advice, or information about other treatment options if the drug is considered too dangerous for use.

#### iii) Drug promotion and marketing

Much of physicians' information about drugs and prescribing comes from the pharmaceutical industry representatives who visit them in their offices. Drugs promoted in this manner tend to be newer; consequently they are often more expensive than established medications and less is known about their efficacy and possible side effects. Drug promotion might help instil in some physicians' minds the perception that when it

comes to medication, "new" equals "better," when this is not always the case.

Industry marketing also comes in more subtle forms, such as:

- Free drug samples provided to physicians; since samples tend to be mainly for new drugs, it has been suggested that they encourage these drugs' use at the expense of possibly cheaper and safer alternatives.
- Collection, by commercial data management companies, of information on physicians' prescribing patterns, which is then sold to pharmaceutical companies to help tailor sales messages to individual physicians.
- Manipulation of the medical publication process, through: design of clinical trials so as to get the most positive results; selective publication of clinical trial results; or "ghostwriting" of scholarly research articles by pharmaceutical industry contractors.<sup>vii</sup>

#### b) Patient education and participation

When considering a patient's drug therapy, the physician must consider the possible effect of the patient's behaviour on treatment. A patient may require counselling on the impact of natural health products, alcohol and other substances when mixed with their prescribed medications; on the importance of adherence to the prescribed treatment; or on the need for changes in behaviour (improved diet, increased physical activity) to augment the medication's benefits. This requires open and honest dialogue between patient and physician.

Patient knowledge and preferences can influence both over- and under-prescribing. Some patients may not feel that they have been "treated" unless they leave the doctor's office with a prescription. A physician may prescribe a drug if a patient requests it, despite feeling ambivalent about the choice of treatment.<sup>viii</sup> On the other hand, a physician may not prescribe a needed medication because a patient insists he or she does not want to be "on drugs."

The pharmaceutical industry directs promotional activities at patients as well as physicians. Though

direct-to consumer advertising (DTCA) or prescription drugs is technically illegal in Canada, loopholes in the law permit a limited amount of Canadian-based drug promotion, and drug ads are often beamed across the border from the United States, one of only two countries (the other being New Zealand) where DTCA is legal. DTCA has a strong influence on patient behaviour; according to one survey by the U.S. Government Accounting Office, 27% of people who saw prescription drug advertisements, requested and received these drugs from their physicians.<sup>ix</sup> DTCA has been widely criticized for overstating drugs' benefits, playing down their risks, and contributing to a "pill for every ill" mindset and the "medicalization" of conditions that could be more appropriately managed by lifestyle changes or other non-drug therapies.

In addition, the pharmaceutical industry can exert indirect influence on patient attitudes through funding of patient advocacy groups and disease-specific web sites.

A patient's social context may also motivate a physician to prescribe a drug that may not be clinically indicated. For example, an antipsychotic may be prescribed to calm a patient with dementia, not so much for the patient's benefit as for that of tired and stressed-out caregivers, despite growing evidence of the drugs' health and safety risks and lack of efficacy <sup>x</sup>. Ideally, prescribing recommendations and guidelines should take into account the broader context in which a drug is prescribed.

#### c) Drug cost and coverage

The physician's prescribing of a drug and the patient's purchase of it are separate and unconnected acts. As a result, physicians may not have access to reliable, convenient information on drug costs; or if they do, they may have little reason to use this information if the patient has insurance coverage. However, rising drug prices, and the increased use of drug therapy, may require them to take cost into consideration more often. Provincial and territorial governments, and increasingly, private insurers as well, can

influence physician and patient choice of drugs by restricting what medications are covered on their formularies. In addition, many payers have programs to encourage the prescribing of certain drugs such as generics. If, as not infrequently happens, a patient's condition requires a drug not on the formulary, obtaining coverage for this drug requires time-consuming paperwork. The administrative burden this imposes can be a barrier to optimal prescribing.

#### d) The policy context

Canadian decision makers have already recognized that action on prescribing is needed. One of the original nine elements of the federal/provincial/territorial National Pharmaceuticals Strategy (NPS), announced in 2004, was "Enhance action to influence the prescribing behaviour of health care professionals so that drugs are used only when needed and the right drug is used for the right problem." However, this was not considered a priority, and the entire NPS is now dormant.

In 2009, the Health Council of Canada recommended that optimal prescribing be a priority element in a revived pharmaceutical strategy, noting the need for easily accessible, evidence-based information on the proper use and risks of each medication, and for national co-ordination of efforts toward improved prescribing.<sup>xi</sup>

### 5) The CMA's Prescription

The previous sections have described the problems that currently exist with prescribing in Canada, and factors that contribute to these problems. In this section the CMA discusses what can be done to make prescribing optimal. Even as a variety of factors influence prescribing, so a variety of elements can contribute to optimizing it.

What should be done to encourage optimal prescribing in Canada? The CMA believes that optimal prescribing should be addressed through the development and implementation of a national

strategy comprising the six elements discussed in the following pages:

#### Recommendation 1

Governments at all levels should work with prescribers, the public, industry and other stakeholders to develop and implement a nationwide strategy to encourage optimal prescribing and medication use.

### **Element 1: Relevant, Objective Information for Prescribers**

As our knowledge base on prescription drugs expands, it is communicated to physicians by many different means. The CMA believes it is possible to improve these communications and make them more relevant and useful to prescribing physicians.

#### Recommendation 2

The CMA supports the development and dissemination of prescribing information that is:

- based on the best available scientific evidence
- relevant to clinical practice
- easy to incorporate into a physician's workflow.

#### a) Undergraduate medical education and residency training

A basic grounding in pharmacology is a vital part of undergraduate medical education. Appendix 1, which was taken from a 2009 report prepared by Britain's Royal College of Physicians, contains a specific proposal for a core undergraduate curriculum in therapeutics.

Basic education in pharmacology should, among other things, help prepare future physicians for the challenge of maintaining their knowledge base in practice. The academic community has a role to play, during undergraduate training and residency, in providing impartial advice on pharmaceutical matters, and ensuring that students and residents can appraise drug research and prescribing guidance critically.

#### Recommendation 3

The CMA encourages all medical educational bodies to support a comprehensive program of education in pharmaceuticals, pharmacology and optimal prescribing, at the undergraduate, residency and continuing medical education levels.

#### Continuing medical education (CME)

Traditionally, CME meant face-to-face seminars or conferences; however, studies are demonstrating that Internet-based learning is as effective as face-to-face CME.<sup>xii</sup> Developers and practitioners are increasingly looking at delivering CME online. Of particular promise are formats that deliver information electronically in short, summary bullet points, presenting the most pertinent information on a single screen where feasible.

As mentioned before, a large proportion of CME is sponsored by the pharmaceutical industry. Like pharmaceutical detailing, industry-sponsored CME might steer physicians toward newer drugs which may not be first-line therapies, and which are often less thoroughly evaluated and more expensive than established treatments. Therefore, in order that physicians can be assured of receiving objective information, there is an urgent need for objective funding sources for CME, that are as distant as possible from potential sources of bias.

#### Recommendation 4

The CMA and provincial/territorial medical associations call on governments to support and fund objective and impartial continuing medical education programs on optimal prescribing.

#### Recommendation 5

The CMA calls on appropriate educational bodies to develop policies or guidelines to ensure the objectivity of continuing medical education. CMA's *Guidelines for Physicians in Interactions with Industry* (2007) proposes ways in which physicians, medical associations and medical educational bodies can minimize bias when

collaborating with industry on CME and continuing professional development programs.

#### b) New Forms of Education

Besides formal CME, there are many ways of conveying information to physicians with the intent of influencing prescribing behaviour. One promising intervention is academic detailing, in which trained physicians or pharmacists use the personalized, one-on-one techniques employed by pharmaceutical detailers to encourage adoption of a desired behaviour (e.g., prescribing of a particular drug or treatment regimen) rather than specific drugs, to counterbalance marketing by pharmaceutical representatives. Academic detailing has demonstrated some success. Because it is expensive and labour intensive, it has often been difficult to persuade governments to invest in it. However, a growing number of provinces have developed, or are considering, academic detailing programs.

Another promising intervention is physician self-directed learning. In Alberta two medical schools are preparing to perform an analysis of physicians' perceived and unperceived learning needs with the intention of developing individualized learning programs to address the needs of physicians in their practices.

The effectiveness of various learning programs in changing behaviour is being studied on an ongoing basis xiii, through means such as the Rx for Change database, a collaborative effort between two Cochrane Collaboration groups and the Canadian Agency for Drugs and Technologies in Health. This database summarizes current research evidence, regularly updated, about the effects of strategies to improve drug prescribing practice and drug use.

Because different physicians have different needs, goals and styles of learning, multiple formats are required to address them. Though one intervention in and of itself may not produce widespread, immediate or dramatic changes in behaviour, the cumulative effect of multiple messages over time can be very strong.

#### Recommendation 6

The CMA recommends that governments, research institutes and other stakeholders fund and conduct ongoing research on the effectiveness of interventions designed to change clinical behaviour, and allocate resources to those interventions that demonstrate the greatest effectiveness.

#### d) Point-of-care information

In addition to formal education programs, information on pharmaceuticals and prescribing is also available to physicians at the point of care. Physicians' preference is for brief summaries of key points, which can be absorbed quickly and be accessed at point of care through hand-held personal digital assistants (PDA's) or, increasingly, through electronic health and prescription records.

Drug information compendia are available in electronic and print format. For example, [cma.ca](http://cma.ca) provides information about prescription drugs through a program called Lexi-Drugs Online. e-Therapeutics+, developed by the Canadian Pharmacists Association, is another online resource for prescribing and managing drug therapy at the point of care.

Online programs are also available that monitor physicians' prescribing habits and compare them to those of their peers. Such programs are to be encouraged if their purpose is to educate rather than to enforce a certain behaviour. However, they will require additional investment, particularly in information technology and software development.

#### **Element 2: Electronic Prescribing**

Electronic prescribing has the potential to dramatically improve drug therapy. For example an effective e-prescribing system has the potential to:

- list all the drugs a patient is taking. It could also identify duplicate prescriptions for the same drug from different providers, thus

helping to reduce prescription fraud and prescription drug abuse;

- provide decision-support tools; for example, a warning could appear on the screen if the physician proposes to prescribe a drug that interacts harmfully with another the patient is already taking. This decision support should ideally be updated in real time so the physician has access to the most current information.
- Enable the improvement of patient adherence to drug therapy, perhaps by generating reminders to patients to refill and take prescriptions.
- Transmit prescriptions to pharmacies electronically, increasing convenience for the patient and eliminating a major cause of medication errors, illegible handwriting.
- Automatically link to a formulary to enable the prescriber to see whether the patient's insurer has approved the medication, or to find the lowest-cost drug in a class. Two-way electronic communication with formulary managers may also help reduce some of the administrative paperwork which is a barrier to optimal prescribing.
- Automatically notify physicians of drug shortages, recalls or other urgent situations.

In the U.S., e-prescribing is being actively encouraged. Since January 2009, the American Medicare system provides financial incentives for its physicians who adopt e-prescribing. In Canada adoption has been slow; <sup>xiv</sup> it is estimated that fewer than 10% of physicians e-prescribe. This may be due partly to the expense, and partly because of issues which remain to be addressed, such as:

- How do we assure that the confidentiality of patients' health information, and of physicians' prescribing information, is protected?
- What information should be shared with other health professionals?
- What legally constitutes a "signature," or other means of authenticating a prescription?
- Can we ensure that pharmacies as well as physicians' offices are equipped to receive electronic prescriptions?

- Can we ensure that e-prescribing software is designed so as to be practical and user-friendly for physicians; for example, that pop-up warnings contain the most important and relevant information?
- Can we ensure that e-prescribing protocols simplify a physician's workload rather than adding to it - for example, that they eliminate duplication of prescription writing?

E-prescribing is in its early stages, and knowledge and policy in this area are developing rapidly. CMA will continue to study the issue in the coming years.

Several provinces maintain electronic prescription databases and others are in development. For example, BC PharmNet provides drug-to-drug interaction checking and patient medication profiles to pharmacists, emergency rooms and physicians with controlled access. In most provinces and territories, medical associations are working with governments on standards to implement e-prescribing.

#### Recommendation 7:

The CMA, provincial/territorial medical associations and affiliates encourage governments to give active support to physicians in their transition to electronic prescribing, through a comprehensive strategy that includes financial support for acquisition of hardware and software, and dissemination of appropriate training and knowledge transfer tools.

#### Recommendation 8:

The CMA calls on governments to incorporate into electronic prescribing the following principles:

- measures to ensure patients' privacy and confidentiality, as well as confidentiality of physician prescribing information
- a link with a formulary, to provide physicians with best practice information including drug cost data
- guidelines for data sharing among health professionals and others
- standards for electronic signature that are not overly restrictive.

### **Element 3: Programs by Payers**

Government drug plans and, increasingly, private insurance companies, have instituted programs to encourage prescription of certain drugs. Such programs, which are often motivated by the desire to control rising drug costs, can include the following:

#### **a) Formularies**

There are 18 public drug formularies in Canada managed by federal or provincial/territorial governments. These formularies often use various means to help control drug costs. For example, if a generic drug is available to treat a given condition, a payer may reimburse patients only for the generic rather than for brand-name equivalents. Or if several related drugs exist in the same class, a formulary could reimburse only for the lowest-priced drug in that class, as British Columbia's reference-based drug pricing (RDP) program does for five drug categories that contain several drugs with equal efficacy; if patients want to purchase a higher-priced drug they must pay the difference out of pocket. Such programs are not confined to Canada; Britain's National Health Services funds specific treatments only if recommended by the National Institute for Clinical Excellence (NICE) which assesses new drugs for efficacy and cost-effectiveness. Under New Zealand's PHARMAC system the government reimburses only for one drug in each class.

A formulary's cost-control objectives can sometimes conflict with the goal of physician and patient to obtain the care they believe will be most optimal. For example, formulary rules limiting the length of chronic prescriptions can make it difficult for physicians to prescribe over the long term to patients who manage their conditions well. It is important that formulary rules be based on the best available scientific evidence. The ideal formulary will be designed to improve clinical care, optimize patients' health outcomes, promote patient safety, and reduce the administrative burden on the physician.

### **Recommendation 9**

The CMA recommends that formularies, in both the public and private sectors, simplify administrative requirements on patients and physicians, reducing paperwork to the minimum necessary to ensure optimal patient care.

#### **b) Prescribing incentives**

Sometimes, payers may provide incentives such as reward payments for physicians who prescribe in a desired way (for example, who prescribe more than a certain percentage of a given drug class as generics), or impose a financial penalty for physicians who do not exhibit the desired behaviour. Financial incentives to physicians to provide preventive care services have been used effectively but their effect on prescribing practices is only beginning to be evaluated. A study of U.K. prescribing incentive schemes concluded that reward payments may have contributed to cost control, but their effect on prescribing quality remained uncertain.<sup>xv</sup>

CMA's ongoing Health Care Transformation initiative will provide decision makers with blueprint for a high-performing, patient-centered health care system. Among its other activities over the next few years, this initiative will be examining in greater detail the effect of pay-for-performance schemes on the quality of care in Canada.

### **Element 4: Collaboration Among Health Care Providers**

No health professional is an island. Increasingly health care providers are working in collaborative teams to manage drug therapy and other forms of patient care. In such teams, for example, pharmacists may perform a variety of functions, such as reviewing patients' medication profiles to catch medication related problems such as inappropriate dosing, duplicate or unnecessary therapies; or managing long-term drug therapy for patients with chronic conditions such as asthma or diabetes.

At their most effective, such collaborative arrangements could greatly improve drug therapy, and patient care in general, by allowing the team to draw on a common pool of expertise. However, if improperly implemented, they could lead to breakdown of communication and fragmentation of care.

To ensure that collaborative management of a patient's drug therapy functions smoothly, it is important that clearly articulated arrangements be in place. CMA's position statement *Achieving Patient-Centered Collaborative Care (2007)* includes the following principles:

- Patient-centered care. Patient care (including drug therapy) must be aligned around the values and needs of the patient.
- Clear communication. Effective communication is essential to ensure safe and coordinated drug therapy and to ensure that the patient is receiving timely, clear and consistent messaging. For example, if a physician and pharmacist are both managing and monitoring a patient with asthma, it is essential that they notify each other if a change is made to a prescription, such as a new drug or a new dosage. Electronic health records have the potential to greatly improve communication among providers.
- Clinical leader. CMA's position statement defines a clinical leader as "the individual who, based on his or her training, competency and experience, is best able to synthesize and interpret the evidence and data provided by the patient and the team, make a differential diagnosis and deliver comprehensive care for the patient." In most cases the physician, by virtue of training, knowledge, background and patient relationship, is best positioned to assume this role.

**Recommendation 10:**

The CMA recommends that formalized and clearly articulated collaborative arrangements be in place for practitioners who jointly manage a patient's drug therapy.

The CMA, recognizing the need for and value of collaboration in the management of drug therapy,

will continue to explore and encourage the most effective models for collaborative practice among health professionals.

**Element 5: Impartial, Evidence-based Information for Patients**

Canadians have the right to accurate, reliable information on prescription drugs and their uses, so that they can become knowledgeable partners in their care.

A good deal of information is already available to patients, and there are ways in which it could be improved and made more accessible and relevant. One way would be to improve its clarity and readability, to address the needs of the estimated 6 in 10 Canadians who lack the health literacy necessary to properly manage their health and engage in preventive practices.<sup>xvi</sup>

Another way would be to provide more information from impartial sources, to reduce the impact of direct-to-consumer advertising. The CMA believes that in general, brand specific advertising is a less than optimal way of providing drug information, and that the laws currently banning direct-to-consumer prescription drug advertising in Canada should remain in effect, and tightened to eliminate existing loopholes.

Physicians and other health care providers can also play an important role in providing patients with guidance and with accurate information on the medications they take. CMA and the Canadian Pharmacists Association have collaborated with Canada's Research-based Drug Companies (Rx&D) to produce a pamphlet called "Knowledge is the Best Medicine" which provides consumers with advice on safe medication use, and guidance on how to interact effectively with their physician or pharmacist.

**Recommendation 11:**

The CMA calls on governments to fund and facilitate the development and provision of unbiased, up-to-date, practical information to consumers on prescription drugs and their appropriate use, and support physicians and

pharmacists in disseminating this information to their patients.

**Recommendation 12:**

The CMA calls on the Government of Canada to continue to enforce the current ban on direct-to-consumer prescription drug advertising in Canada, and close the loopholes that currently allow a limited amount of drug promotion.

**Element 6: Research, Monitoring and Evaluation**

Drug development is an ongoing process, and the evaluation of drugs and their prescribing should be ongoing as well.

Canada already supports a certain amount of research activity in this area. For example, Health Canada funds the Canadian Optimal Medication Prescribing and Utilization Service (COMPUS), a collaborative, pan-Canadian service to identify and promote optimal drug therapy.

COMPUS collects and evaluates relevant existing evidence, and provides advice, tools, and strategies to implement and support the adoption of optimal drug therapy. COMPUS has produced, or is producing, evidence-based recommendations for prescribing proton pump inhibitors and drugs for diabetes management. COMPUS has established links to university-based providers of CME, and with academic detailing groups, who help to disseminate its recommendations and materials.

It also manages the Rx for Change database previously mentioned.

The federal government has recently established and funded a national Drug Safety and Effectiveness Network. This network will link researchers to help coordinate and fund independent research on the risks and benefits of drugs that are on the market. We hope that this signifies a long-term commitment on the country's part to optimal drug therapy.

CMA believes Canada should build on this activity by encouraging research on an ongoing basis on:

- prescribing guidelines and what drugs work best for which conditions
- dissemination of prescribing information - what interventions most effectively influence practice?
- effect of changes in prescribing on patient health outcomes, and on utilization of health services;
- the safety and effectiveness of drugs, building on what currently exists (such as Health Canada's system for reporting adverse drug reactions and communicating drug safety advisories), so that information derived from post-market surveillance quickly reaches health care providers and patients and becomes part of our body of knowledge.

Since the great majority of prescriptions in Canada are written by physicians, it is essential that the medical community participate actively in evaluation of prescribing practices, and disseminating and implementing the results of research.

**Recommendation 13:**

The CMA calls on those who fund and produce research on drug safety and effectiveness, prescribing guidelines and programs to enhance prescribing practices, to include physicians and medical organizations meaningfully in this activity.

**Conclusion**

It is likely that drug therapy will continue to increase in importance as a component of patient care and that it will continue to become more complex and, in many cases, more costly. As a result, we expect that health professionals and the Canadian public will continue to need readily available and up-to-date information on prescription drugs: the availability of new products; the results of safety and effectiveness studies; and advice on how to prescribe and take these medications for the best health outcome. It is also likely that electronic prescribing systems,

formularies and other monitoring methods will continue to be developed, and that these will influence physicians' prescribing habits.

To deliver evidence-based prescribing information effectively, and encourage its smooth incorporation into clinical practice, Canada needs a comprehensive, multi-disciplinary strategy in which physicians and other health care providers, governments, patients, industry and other stakeholders work together to encourage and support optimal prescribing, in the interest of achieving the best possible health for Canadians with the most effective use of resources.

The CMA is ready to join with others in developing and implementing such a strategy, in the hope that eventually, all patients will receive the prescription drugs they need, when they need them.

## **Appendix 1**

A core undergraduate curriculum for prescribers in therapeutics

### *Core knowledge and understanding*

- Basic pharmacology
- Clinical pharmacokinetics
- Monitoring drug therapy
- Adverse drug reactions
- Drug interactions
- Medication errors
- Poisoned patients
- Prescribing for patients with special requirements (e.g., the elderly, children, women of childbearing potential, pregnant and breastfeeding women, and patients with renal or liver disease)
- Legal aspects of prescribing drugs
- Developing new drugs
- Medicines management
- Ethics of prescribing
- Commonly used drugs
- Common therapeutic problems
- Complementary and alternative medicine
- Integration of therapeutics into understanding of disease management.

### *Core skills*

- Taking a drug history
- Prescription writing
- Drug administration
- Prescribing drugs in special groups
- Prescribing drugs to relieve pain and distress
- Adverse drug reactions and interactions
- Drug allergy
- Clinical pharmacokinetics
- Monitoring drug therapy
- Analyzing new evidence
- Obtaining accurate objective information to support safe and effective prescribing
- Obtaining informed consent to treatment

### *Core attitudes*

- A rational approach to prescribing and therapeutics
- Risk-benefit analysis
- Recognizing the responsibilities of a physician as part of the prescribing community
- Recognizing personal limitations in knowledge
- Responding to the future

SOURCE: Maxwell S, Walley T. Teaching safe and effective prescribing in UK medical schools: a core curriculum for tomorrow's doctors. *Br J Clin Pharmacol* 2003;55:496-503.100. Cited in *Innovating for Health: Patients, physicians, the pharmaceutical industry and the NHS. A report from the Royal College of Physicians (UK)* February 2009

## **References**

- i Metge C, Sketris I. "Pharmaceutical Policy." In MacKinnon NJ, ed. *Safe and Effective: the Eight Essential Elements of an Optimal Medication Use System*. Canadian Pharmacists Association, 2007.
- ii Canadian Institute for Health Information. *Drug Expenditure in Canada, 1985 to 2009*. Released April 2010. Accessed at <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC1428&lang=en&media=0>.
- iii Wang E, Einarson T, Kellner J, Conly. Antibiotic prescribing for Canadian preschool children: evidence of overprescribing for viral respiratory infections. *Clin Infect Dis*. 1999; 29(1):155-60.

- iv Petrella R, Merikle E, Jones J. Prevalence and treatment of dyslipidemia in Canadian primary care: a retrospective cohort analysis. *Clin Ther.* 2007; 29(4):742-50.
- v Dr. Jean Gray, speaking at the Health Council of Canada symposium, "Safe and Sound: Optimizing Prescribing Behaviours"; Montreal, June 2007
- vi Steinman MA, Baron RB. Is continuing medical education a drug promotion tool? Yes. *Can Fam Phys* 2007; 53(10); 1650-53.
- vii Angell M. Industry-sponsored clinical research: a broken system. *JAMA* 2008; 300 (Sept. 3); 1069-1071.
- viii Mintzes B, Barer ML, Kravitz RL et al. Influence of direct to consumer pharmaceutical advertising and patients' requests on prescribing decisions: a two-site cross-sectional survey. *BMJ* 2002; 324 (2 February): 278-279.
- ix "Should Canada allow direct-to-consumer advertising of prescription drugs?" (Debate) *Can Fam Physician* Vol. 55, No. 2, February 2009, pp.130 - 133.
- x Valiyeva E, Herrmann M, Rochon PA. Effect of regulatory warnings on antipsychotic prescription rates among elderly patients with dementia: a population-based time series analysis. *Can Med Assoc J* 2008; 179(5) doi 10.1503.
- xi Health Council of Canada. "A commentary on The National Pharmaceuticals Strategy: a Prescription Unfilled." (January 2009)
- xii Cook DA, Levinson AJ, Garside S et al. Internet-based learning in the health professions: a meta-analysis. *JAMA* 2008; 300 (10): 1181-1196.
- xiii Rx for Change database; accessed at <http://www.acmts.ca/index.php/en/compus/optimal-ther-resources/interventions>.
- xiv Canadian Medical Association. "Information technology and health care in Canada: 2008 status report."
- xv Ashworth M, Lee R, Gray H et al. How are primary care organizations using financial incentives to influence prescribing? *J Public Health* 2004; 26(1); doi: 10.1093.
- xvi Canadian Council on Learning. Health literacy in Canada: initial results from the International Adult Literacy and Health Skills Survey (September 2007). Accessed at <http://www.ccl-cca.ca/ccl/Reports/HealthLiteracy/HealthLiteracy2007.html>.