HOUSE OF COMMONS
STANDING COMMITTEE ON HEALTH
STUDY ON POST-MARKET SURVEILLANCE OF PHARMACEUTICAL PRODUCTS

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SUMMARY

CPhA strongly supports measures to increase patient safety including capacity for monitoring, surveillance and research, public access to information, compliance and inspection, regulatory authority, and the need to increase Adverse Drug Reaction (ADR) reporting. Safety, when relating to patients, means more than post-marketing surveillance. Safety needs to be part of the entire chain of events that begins when the prescriber orders a medication or the patient chooses a non prescription product on their own or in collaboration with the pharmacist, until the moment when the medication is completely out of the patient's body. Although safety is a broad topic in itself, it cannot be looked at independently from effectiveness. For a medication to be safe for use, it must also be effective for the patient and condition being treated. We must ensure that appropriate quality indicators are in place so that we can get a better picture of the safety and effectiveness of medications once they are widely used. Appropriate practices and tools must be in place to allow health care providers and patients to prevent and minimize ADRs.

A strong system to ensure safe and effective use of medications must be in place. This will include a progressive early warning system for ADRs, post-market surveillance, and education of health care professionals.

Threats to patient safety and to the sustainability of the health care system have been linked to the increase in the number, expense and sophistication of medications. When used appropriately, medications are good value for the money spent and will increase life expectancy and the quality of life for Canadians. There is an increasing need and demand to optimize patient safety and health outcomes. With this in mind, there is an increased need for professionals with specialized knowledge in drug therapy, that is, pharmacists who will work other health care professionals in achieving safe and effective medication-use systems.

CPhA is concerned that the concept of mandatory ADR reporting is being confused with steps to improve safety. Safe use of medications needs a multi-pronged approach. ARD reporting is simply one tool that can help identify issues with medications. There is no evidence from countries with mandatory ADR reporting to support the face that reporting an ADR improves safety.

RECOMMENDATIONS

1) Establish and aggressively promote education and training programs for health care professionals that focus on appropriate use of an ADR reporting system.

2) Conduct innovative research relating to methods of detecting, evaluating and reporting ADRs and support quality decision-making during the prescribing and medication use processes.

3) The federal government, through Health Canada, should invest in an electronic ADR reporting system that will integrate reporting forms into software used by health care professionals at the point of care. These electronic systems should be integrated into prescriber offices, pharmacies and hospitals.

4) The federal government should fully fund *The Business Plan for the Real World Safety and Effectiveness of Medicines in Canada*.

5) Pharmacists must be supported to play a greater role in ensuring the quality use of medications and reporting of adverse drug reactions.

6) The pharmaceutical industry must be included as a partner in establishing programs and processes to ensure the safe and effective use of medications.

I) INTRODUCTION

Experience has shown that we learn more about drug safety by studying utilization and effective drug use in large populations. In this briefing we will cover the following points:

- the need to develop innovative and research-based approaches to better monitor, detect and evaluate adverse drug reactions
- the need to provide adequate training and education on adverse drug reaction reporting to health care professionals
- the need to develop an electronic ADR reporting system
- express some of our concerns about mandatory reporting of ADRs; and
- how pharmacists can play a greater role when it comes to the safe and effective use of medications

II) WHO WE ARE

The Canadian Pharmacists Association (CPhA) represents the interests of Canadian pharmacists. Established in 1907, our members practise in community, hospital, academia, government and the pharmaceutical industry. We do not represent pharmacies or the pharmaceutical industry.

CPhA has a long history of publishing drug information references, including the *Compendium of Pharmaceuticals and Specialties* (CPS), *Therapeutic Choices*, and *Patient Self-Care*. In our commitment to promote patient safety, we recently published *Safe and Effective: The Eight Essential Elements of an Optimal Medication-Use System*. Between 2004-2006 with funding from Health Canada, we developed *e-Therapeutics*, an evidence-based, web portal for therapeutic decision making. A support for health care professionals at the point of care, *e-Therapeutics* facilitates the reporting of ADRs by linking to Health Canada's reporting forms. New safety notices are posted on *e-CPS* product monographs and in *e-Therapeutics* to ensure health care professionals are up to date on the latest safety information.

THE ROLE OF THE PHARMACIST

The pharmacist is the most accessible and knowledgeable health care professional when it comes to medications. Pharmacists are integral members of the health care team who work collaboratively with prescribers and patients to improve safety and effectiveness of medication therapy. [2]

However, the role of the pharmacist continues to be underutilized. Pharmacists will make their greatest contribution to the health of Canadians and to the overall accessibility and safety of health services when the full extent of their education and training is utilized.

While pharmacists and their skills are an important aspect of patient safety, the elements of a safe and effective medication use system must involve a mutual and coordinated process with all health care professions and patients.

III) OUR CONCERNS ABOUT MANDATORY ADVERSE DRUG REACTION (ADR) REPORTING

CPhA is strongly supportive of measures to increase patient safety including the need to increase the reporting of ADRs. The collection of incident reports is only one component of a successful incident reporting system. According to the World Health Organization (WHO), "reporting is only of value if it leads to a constructive response and meaningful analysis." The full value of any ADR reporting system will only be realized if the information gained from the analysis of reports is broadly disseminated and

used to drive change. It is important that recommendations coming from reports be shared widely with health care providers and the public.

In terms of making reporting of serious ADRs mandatory, we question whether all other avenues have been exhausted. Creating a framework for a mandatory system would be costly and time consuming. While mandatory reporting (MR) will likely increase the number of reports received, in the absence of other changes, the quality of reports is likely to be poor. The WHO guidelines note that "even a small number of reports can provide sufficient data to enable expert analysts to recognize a significant new hazard and generate an alert." The aim of a reporting system must be well articulated to all participants with well established parameters to be reported. The higher the number of parameters, the less likely busy health care professionals will be to provide sufficient input to produce high quality data.

From the 2005 Health Canada discussion document, it does not appear that countries with mandatory ADR reporting have a safer health care system. The countries have found it problematic to enforce reporting, despite its mandatory nature. Nations who have chosen to exercise MR of ADRs saw no increase in number of reports. The United Kingdom has a voluntary system with low rates of reporting; however, the UK is currently not recommending MR, but education of health care professionals as a means to increase reporting.

A primary principle of any system change is that we should not repeat the mistakes of others. Prior to launching a program whose success has yet to be proven, other viable, and possibly more effective, alternatives should be examined. Feedback from the 2005 discussion paper demonstrated that 50% of respondents (professional associations and industry) are against MR and 25% (general public, NGOs) are in support. Current evidence does not support the broad use of MR.

Quality cannot be legislated. Certain fields in a reporting form can be made mandatory, but legislation that mandates quality would be seen as compromising professional autonomy. It could also engender significant resentment among pharmacists and other health care professionals toward the process. One of CPhA's main concerns about the potential for a MR system is the issue of enforcement. In recent years, we have seen Health Canada reduce staffing for programs that require reporting such as narcotics. We question whether Health Canada will be able to devote and maintain sufficient resources for mandatory ADR reporting in terms of compliance or analysis.

We agree that increasing the quality and richness of ADR reports is as important as increasing their number. Perhaps it is even more important, since high-quality reports allow for high-quality analysis. Mandatory reporting will not improve the *quality* of ADR reports; it will simply increase their *quantity*. It may even compromise the system's efficiency and effectiveness by increasing the volume of clinically insignificant reports. International experience has shown that true quality cannot be legislated or imposed. We wonder why mandatory reporting has been singled out for discussion when a holistic approach to reforming Canada's drug safety system is called for.

Voluntary or sentinel reporting systems for conditions such as FluWatch for influenza work well in Canada and allow public health officials to make decisions and plan for strategies to address outbreaks. A similar system may well work for ADRs.

IV) HOW BIG IS THE PROBLEM OF ADVERSE DRUG EVENTS (ADE)?

The medication use system is an integral component of Canadian health care. Drug spending represents the second largest (17%) health care expenditure in Canada, behind hospitals. Drug expenditure (both private and public) has grown from $18.4 billion in 2002 to $25.1 billion in 2006 which corresponds to the increasing cost and use of drugs. Pharmacies dispense over 414 million prescriptions each year, representing 84% of total drug costs.

In 2004, according to the CIHI Hospital Morbidity Database, approximately 45,000 hospital admissions were coded as an adverse reaction and less than 2% were reported to Health Canada. However, a Canadian adverse events study by Baker and Norton estimated that of the 2.5 million hospital admissions in Canada annually, approximately 185,000 (7.4% of total admissions) were associated with an adverse event (AE) and close to 70,000 (37.8%) of these were potentially preventable. A subsequent study by Forster evaluated adverse events among patients after discharge from the general internal medicine service of a Canadian teaching hospital. This study demonstrated that 23% of patients experienced an adverse event within 30 days of discharge; 50% of these were deemed to be preventable and 72% were due to medications. The majority of problems with medications were either already well known side effects or a result of poor therapeutic decisions resulting in inappropriate medication choices. ADRs are not listed as a major factor. Although medications are commonly involved in adverse events, ADRs do not appear to be as large an issue as selection of appropriate medications.

A more recent, study of adults presenting to the emergency department (ED) of a large Canadian teaching hospital demonstrated that one in every nine emergency department visits was drug-related. Of these, over two-thirds (68%) were deemed to be preventable. ADRs were listed as a reason for ED visit, but so were lack of drug therapy, inappropriate drug use and incorrect drug selection by the prescriber. Drug-related visits and admissions to hospitals and after hospital discharge is a significant problem that stems from multiple sources, not simply from ADRs.

From these studies it is clear that many adverse events occur but not all adverse events are ADRs. Drug therapy management issues figure prominently in the list of problems resulting in ER visits and hospital admissions. We do not know the scope of visits to physician offices relating to these factors. Clearly, we need research to allow decision makers to understand the scope and causes of these problems. We must focus on training prescribers, pharmacists and other health care professionals to make better informed decisions to reduce the number of preventable adverse events. Training on reporting of ADRs should figure prominently in this strategy, but making the reporting mandatory without training or addressing other sources of safety issues will be of little consequence. . It is essential we develop a system that will continue to improve, and strive towards the safe and effective use of medications for all Canadians.

DEFINTIONS

Safety: Freedom from accidental injuries

Adverse Event: An injury related to medical management, in contrast to complications of disease. Medical management includes all aspects of care, including diagnosis and treatment, failure to diagnose or treat, and the systems and equipment used to deliver care. Adverse events may be preventable or non-preventable.

Adverse Drug Event: A medication-related adverse event.

Adverse Drug Reaction: A medication-related adverse event due to administration of a drug. May or may not be preventable or predictable.

Preventable Adverse Event: An adverse event caused by an error or other type of systems or equipment failure.

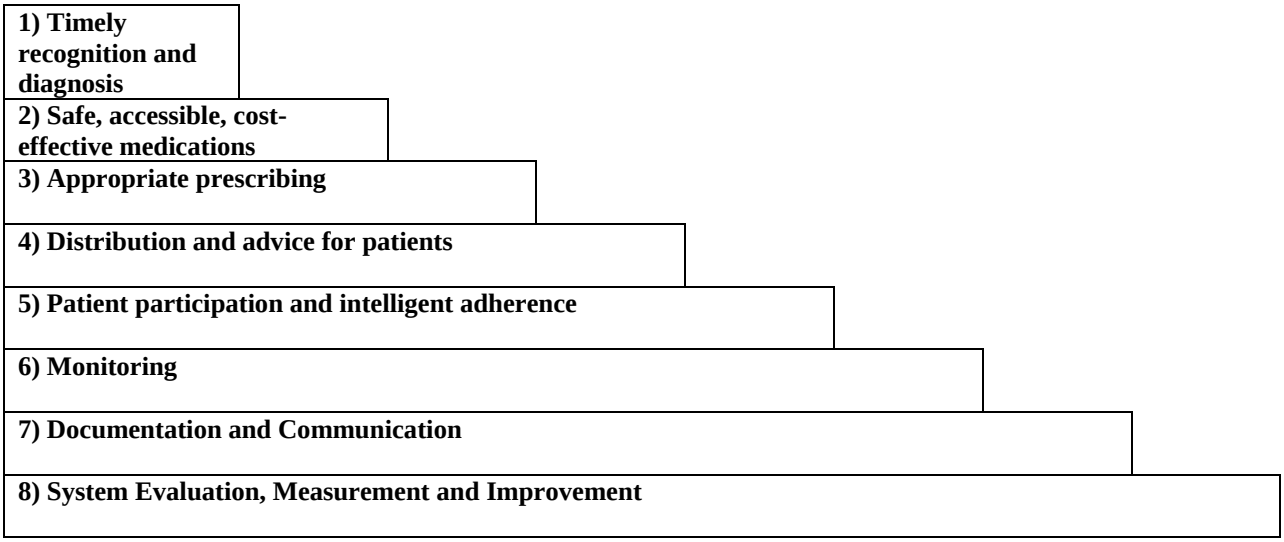
Drug-related Problem: An undesirable event or patient experience involving drug therapy that interferes with, or has the potential to interfere with, an optimum outcome of medical care

Side Effect: Any effect of a drug, chemical or other medicine that is in addition to its intended effect, especially an effect that is harmful or unpleasant.

V) WHAT NEEDS TO BE DONE

The optimal medication use system has been described as encompassing eight essential elements: timely recognition and diagnosis; safe, accessible, and cost-effective medications; appropriate prescribing; distribution and advice for patients; patient participation and intelligent adherence; monitoring; documentation and communication; lastly, system evaluation, measurement and improvement. It is important that we understand how drugs are used today and the kinds of influences and barriers that prescribers, pharmacists, nurses and patients face in order to allow for safe and effective use of drugs. The absence of any one of the eight elements, results in a heightened risk for an adverse drug related outcome for a patient. A combination of these elements is the best way to preventing drug-related morbidity. In situations where one element is more critical than the others; we must aim for a mediation-use system in which all eight elements are in place for all patients all the time.

Eight Essential elements of a safe and effective medication-use system (for more information, refer to *Safe and Effective: The Eight Essential Elements of an Optimal Medication-Use System*)



1. Timely recognition and diagnosis: Systems must be put in place to allow health care professionals and patients to anticipate drug-related problems (DRPs) and screen for diseases before they occur.

2. Safe, accessible, cost-effective medications: Canadians must have access to proven safe and effective drugs that can be provided at a reasonable cost. This may mean using older, more well known medications instead of newer more expensive drugs with a less well proven track record.

3. Appropriate prescribing: Prescribers and pharmacists must have support to use evidence based guidelines and studies to make appropriate drug therapy choices in conjunction with the patient. Inappropriate prescribing appears to be a larger problem than ADRs.

4. Distribution and advice for patients: Canada's distribution system, in the hands of pharmacists, is efficient and safe. Pharmacists are an important safety check in the prescribing process. Systems need to be in place to allow pharmacists to provide tailored advice to patients along with their medications and to monitor for both safety and effectiveness of medications.

5. Patient participation and intelligent adherence: Actively engaging patients in the decision to implement drug therapy should be used as a means to empower the patient to recognize signs of therapeutic success, adverse drug reactions, and what to do if they appear.

6. Monitoring: Many problems can be detected before they become adverse events or treatment failures; however, health care professionals need policies and systems in place that allow them access to appropriate patient and drug information to support the assessment of safety and effectiveness of the drugs being used.

7. Documentation and Communication: Documentation and communication will help to ensure safety of patients in their transition from hospital to community and vice versa. Implementation of the electronic health record has been slow but will serve this role and can be a source of data for identifying patters in ADRs.

8. System Evaluation, Measurement and Improvement: Evaluation of the medication use system is essential to help identify best practices and problem areas. Data gathered through well designed monitoring systems can be used to make population based decisions and policies that support the safe and effective use of medications.

With respect to day-to-day care of patients, key decisions need to be made at each of eight steps to ensure safe and effective delivery of treatment. The decision making process depends on the healthcare professionals and patient working together with appropriate information and insight into potential courses of action.

VI) DECISION CYCLE

Before a person begins taking a medication, whether a prescription or over-the-counter medication, a complex series of decisions must occur (see Figure 1).

First, the patient must perceive a complaint or ailment, and then make the decision to seek care. Alternatively, a health care provider may recognize a sign or symptom requiring treatment, such as elevated blood pressure.

In collaboration with the patient, the prescriber assesses the need for treatment. Next, the prescriber plans, and initiates treatment by writing a prescription.

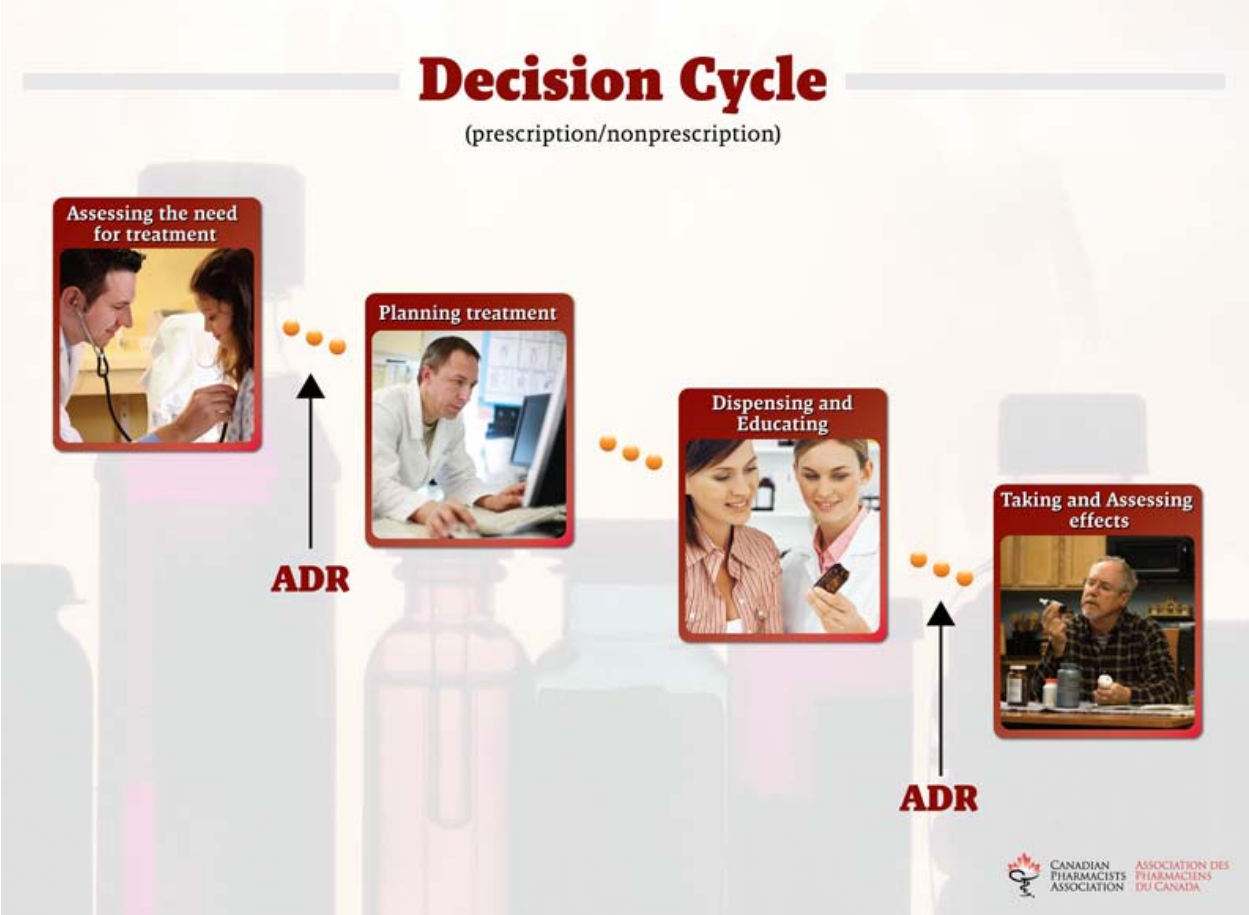
The patient then takes the prescription to the pharmacy, where the pharmacist will dispense and educate the patient on the drug.

At home, the patient is tasked with using the drug according to the prescribed instructions, watching for signs of improvement and assessing for adverse events.

It is the series of decisions that are made at each of these steps by multiple people that has the potential to give rise to an adverse event. Health care professionals are being asked to make rapid decision often with limited information or support. Patients have little support to be involved in the decision making process but are increasingly being expected to take on greater responsibility for their care and care of family members. A poorly informed choice at any step of the decision making process can lead to an adverse event and potential harm. To help health care professionals and patients make better decisions, education, information and tools must be readily accessible.

Investment in education and training is crucial to ensure appropriate prescribing and utilization of drugs. Public awareness about medication use and management is also an important element of patient safety. CPhA believes a greater focus on prevention, safety and decisions made at these steps will contribute to safer and more effective medication-use systems for all Canadians. With this in mind, we provide the following recommendations to address this problem.

Figure 1


Decision Cycle
(prescription/nonprescription)
Assessing the need for treatment
Planning treatment
Dispensing and Educating
Taking and Assessing effects
ADR
ADR
Canadian Pharmacists Association
Association des pharmaciens du Canada

VII) RECOMMENDATIONS

1) Establish and aggressively promote education and training programs for health care professionals that focus on appropriate use of an ADR reporting system.

Health care providers should be encouraged to participate voluntarily in reporting ADRs. International experience demonstrates that meaningful participation occurs when those involved are willing participants. A successful ADR reporting system must be well-designed for monitoring, detection and reporting of ADRs. It must be simple to use and fit into the busy practice of the health care provider. This will also allow for effective expert analysis of the quality data gathered so that we are better able to identify hazards and trends.

2) Conduct innovative research relating to methods of detecting, evaluating and reporting ADRs and support quality decision-making during the prescribing and medication use processes.

3) The federal government, through Health Canada, should invest in an electronic ADR reporting system that will integrate reporting forms into software used by health care professionals at the point of care. These electronic systems should be integrated into prescriber offices, pharmacies and hospitals.

A clear and concise process for electronic submission is essential to ensuring completed reports produce quality data. The ideal ADR reporting system should include:

- a simple, comprehensive and user-friendly reporting process
- rigorous analysis of reports to identify significant threats to patient safety; and
- a communications system that produces useful information, distributed to health care providers and the public in a timely, effective and easily understood manner

4) The federal government should fully fund *The Business Plan for the Real World Safety and Effectiveness of Medicines in Canada*.

The federal government needs to support the development of the network of excellence in pharmaceutical research and the oversight body proposed in this paper. The Canadian Agency for Drugs and Technologies in Health (CADTH) provides some of this oversight currently and could be considered as the overseeing body.

5) Pharmacists must be supported to play a greater role in ensuring the quality use of medications and reporting of adverse drug reactions.

Pharmacists are the only health care professional with a university education devoted entirely to drugs and their use. Better use of their knowledge and skills will go a long way to solving many of the problems with medication use in Canada.

6) The pharmaceutical industry must be included as a partner in establishing programs and processes to ensure the safe and effective use of medications.

The pharmaceutical industry possesses considerable data that, when combined with ADR data held by Health Canada, will help decision makers and health care providers take steps to ensure safe and effective use of medications. The industry has very effective methods for collecting and disseminating information that can be used to the advantage of Canadians.