

Presentation to the Health Professions Regulatory Advisory Council Registered Nurse Prescribing January 14, 2016

Who are we?

ISMP Canada is an independent, not-for-profit organization. We collect reports about medication incidents from health professionals and consumers. By reviewing incident reports, we often identify system issues that can increase the chances of harmful errors occurring. This helps us to suggest safer ways to prescribe, package, dispense or give medication. ISMP Canada's recommendations have informed more than 50 medication management standards and required organizational practices for hospital accreditation and have also informed professional standards of practice.

Our recommendation:

We support nurse prescribing in Ontario. Access to needed medications can bring benefits to the health of Ontarians and safety can be designed into the system.

We recommend a Prescribing Model that includes:

- a defined list of medications;
- a select list of conditions for which nurses can prescribe;
- defined clinical decision supports readily available (e.g. treatment algorithms);
- a collaborative inter-disciplinary working environment that supports nurse assessment and prescribing authority (e.g. family health team);
- defined requirements for assessing competency

Prescribing comes with inherent risks, and there are steps that can be taken to reduce the risks in developing the optimal model for RN prescribing. We offer the following discussion of challenges and strategies to reduce the likelihood of associated errors. Appendix 1 provides additional supporting information.

What is needed for safe prescribing?

The prescriber must have:

- the necessary skills and competency
- knowledge of the condition being treated
- knowledge of non-pharmacological options
- knowledge of the medications
- knowledge of the patient
 - Symptoms
 - Current and pre-existing health conditions, including medication allergies
 - Comprehensive medication history

- Other (personal circumstances, needs, values)
- Note: Twenty-nine percent of prescribing errors were associated with inadequate knowledge of patient factors that affect drug therapy. (Reference: [Lesar TS, Briceland L, Stein DS. Factors related to errors in medication prescribing. JAMA. 1997;277\(4\):312-7](#))

A key challenge for prescribers is weighing the balance of risk (potential harm) and benefits inherent in any medication. The number of medications on the market increases the complexity of prescribing. Prescribing becomes even more challenging when a person has more than one medical condition and/or the person is taking several medications.

Ultimately, we need to ensure that prescribers, together with patients and other health professionals involved in the care of the patient, have enough information to make educated decisions about medication treatment.

What specific measures can we put in place to make RN prescribing safer?

Systems must be proactively designed to support safe prescribing.

Specific safety measures include:

- Point-of-care access to patient information and drug information.
- Clinical decision support tools that embed key considerations and procedures for prescribing. Some clinical decision support tools (e.g. algorithms) can be paper-based and ideally, decision supports are components of electronic systems. Clinical decision support can:
 - provide prompts and information to verify that the medication is being used for an appropriate indication;
 - check for contraindications, drug allergies, drug-disease interactions and drug-drug interactions;
 - guide dosing based on patient's kidney function, liver function, age and weight,
 - help ensure that the minimal effective dose is provided, and maximum daily dose communicated,
 - help ensure adequate monitoring (e.g. lab tests, follow-up visits),
 - limit duration of use of certain medications (e.g. antibiotics and opioids) and guide the proper quantity to be prescribed/dispensed,
 - suggest non-pharmacologic options for disease management,
 - build in reminders for patient counselling (e.g., side effects to monitor)

Clinical decision support tools can be made available to other healthcare team members involved in the circle of care of the patient. These tools should be evidence-based yet also allow flexibility in the care of individual patients.

- Electronic order entry systems prevent errors associated with illegible hand-writing, prevent the use of dangerous dose designations or abbreviations, and provide high leverage safeguards such as allergy and drug interaction checking.
- A system for initial and continuing competency assessment should be in place, to avoid wide variations in competencies.
- Education pertaining to prescribing should be non-commercial based. However, note that education is a lower leverage system safeguard in terms of designing systems for clinical decision support – i.e., relying on human memory at the point of care can be very difficult.

- Processes designed to ensure communication with other healthcare professionals involved in the care of the patient provide safety checks and help prevent fragmentation of patient care.

How will we know that the system is safe?

Evaluation of prescribing is critical. ISMP Canada uses reporting and surveillance to analyze medication incidents and to develop strategies for safety. Our organization leads the Canadian Medication Incident Reporting and Prevention System (CMIRPS), a program that collects and analyzes incident reports and shares learning from incidents through safety bulletins and informs standards development. We cannot overstate the value of this surveillance and the opportunity that monitoring actual and potential errors and adverse events can contribute to evaluation efforts. Our experience shows that reporters tend to report the severe and unexpected cases of harm from medications, and this helps to detect new signals. Analysis and investigation of causes must occur so that strategies for improvement and prevention of future events may be identified and implemented.

Attachment: Appendix I: What has ISMP Canada learned about safe prescribing through analysis of incident reports?

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Appendix I: What has ISMP Canada learned about safe prescribing through analysis of incident reports?

Prescribing errors are common, and can cause harm or even death. Of 92 harmful incidents reported to the Ontario Critical Incident Reporting Program between Oct 2011 and Dec 2014, 18 incidents (20%) were associated with prescribing. Of these, 16 resulted in harm and 2 resulted in death. It is important to note that these incidents occurred in hospitals where systems and safeguards to prevent prescribing errors typically exist.

Many types of incidents can occur during the prescribing process. For example:

- The patient may receive:
 - The wrong medication (or a medicine that is not the best choice for that person),
 - The wrong dose,
 - A medication to which he/she has a known allergy,
 - A medication that interacts with another medication that the person is taking,
 - The right medication and dose but at the wrong time/frequency/schedule.
- The patient may receive a medication that is not needed (over-prescribing or therapeutic duplication).
- The patient may not receive a needed medication.

Some drugs are more likely than others to cause harm when a mistake occurs. Medication errors can occur with any drug and in any setting, but certain medications are more likely to cause significant harm when a mistake occurs. These medications are called “high alert” medications. Examples include anticoagulants, opioids and antidiabetic agents. All prescribers need to be aware of high alert medications. Additional tools or protocols may be needed in order to ensure safe prescribing of high alert medications. The *ISMP List of High-Alert Medications in Acute Care Settings* is available at <https://www.ismp.org/tools/institutionalhighAlert.asp>; and the *ISMP List of High-Alert Medications in Community/Ambulatory Healthcare* is available at <https://www.ismp.org/communityRx/tools/ambulatoryhighAlert.asp>.

Drug names that look alike or sound alike can increase the chances of an error occurring. The risk of this type of mix-up causing harm to a patient increases if handwritten orders are not legible, if typical doses for the medications overlap, or if the indication for the drug is not known by the persons dispensing or administering the drug. The *ISMP's List of Confused Drug Names* is available at <https://www.ismp.org/tools/confuseddrugnames.pdf>.

- For specific examples of errors during the prescribing process, refer to Appendix I, “Results from the ISMP Canada Knowledge Mobilization Tool (KMT)” (an internal program used to search published ISMP Canada Safety Bulletins for incidents related to prescribing errors).

Over-prescribing is an important issue. We are a society that is quick to reach for medications, and not as quick to consider non-pharmacological solutions (e.g. diet, exercise and relaxation). Communications from the pharmaceutical industry are extensive and effective.

- According to the U.S. Centers for Disease Control and Prevention, the excessive prescribing of opioid analgesics is fuelling an epidemic of addiction and death.
- Over-prescribing of antibiotics has led to antimicrobial resistance.
- Over-prescribing of psychotropics has led to medication-related falls.
- Perverse incentives to prescribe large quantities exist (e.g., to avoid dispensing fees).
- There are currently safety initiatives called “de-prescribing” and these efforts are designed to counter over-prescribing of medications. Further information regarding “de-prescribing” is available at <http://www.open-pharmacy-research.ca/research-projects/emerging-services/deprescribing-guidelines>.