The Institute for Safe Medication Practices Canada (ISMP Canada) is an independent national nonprofit agency established for the collection and analysis of medication error reports and the development of recommendations for the enhancement of patient safety.

The Healthcare Insurance Reciprocal of Canada (HIROC) is a member owned expert provider of professional and general liability coverage and risk management support.

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Analysis of a Cluster of Medication Incidents in Community Pharmacy

In a collaborative effort to enhance medication safety in the community pharmacy practice setting, ISMP Canada recently reviewed a cluster of medication incidents reported to the Ontario College of Pharmacists (OCP). The term "medication incident" is widely used to refer to the preventable subset of potential and actual adverse drug events. It is also recognized as an alternative term for "medication error".[1] The information from this analysis is shared, with permission from the OCP, for the purpose of raising awareness nationally.

In 2008, ISMP Canada conducted a review of incident reports received by the OCP Complaints Committee from 2001 to 2007 (*n* = 229 incidents). The goal of the review was to seek information about trends in medication incidents and to identify system-based issues that might be useful to community pharmacists in their efforts to enhance consumer safety. Given the small number of incident reports and the limited source of data (complaints data, and from a single province), the results reported here cannot be generalized to represent community pharmacy practice. Nonetheless, this review provides information about the nature of medication incidents that occur in community pharmacy practice and points to possible contributing factors.

About 26% of the total incidents reported (59 of 229) were associated with harm or death, although 97% of these (57 of 59) were classified as producing only temporary harm. About 74% of the incidents reported (170 of 229) were associated with no harm, but further examination of this category revealed that approximately 15% of this group (26 of 170) resulted in the utilization of additional resources, either for monitoring to confirm lack of harm or for interventions to prevent harm.

The top 4 medications reported as causing harm were warfarin, prednisone, atenolol, and chlorpromazine. Further data are required to determine the significance of this information (e.g., whether this ranking was related to the frequency of use of these medications or whether these are "red flag" medications in community pharmacy). Seven percent of all incidents (16 of 229) involved medications dispensed for children.

The 3 most common types of incidents reported were incorrect drug, incorrect dose, and incorrect strength or concentration (Figure 1).

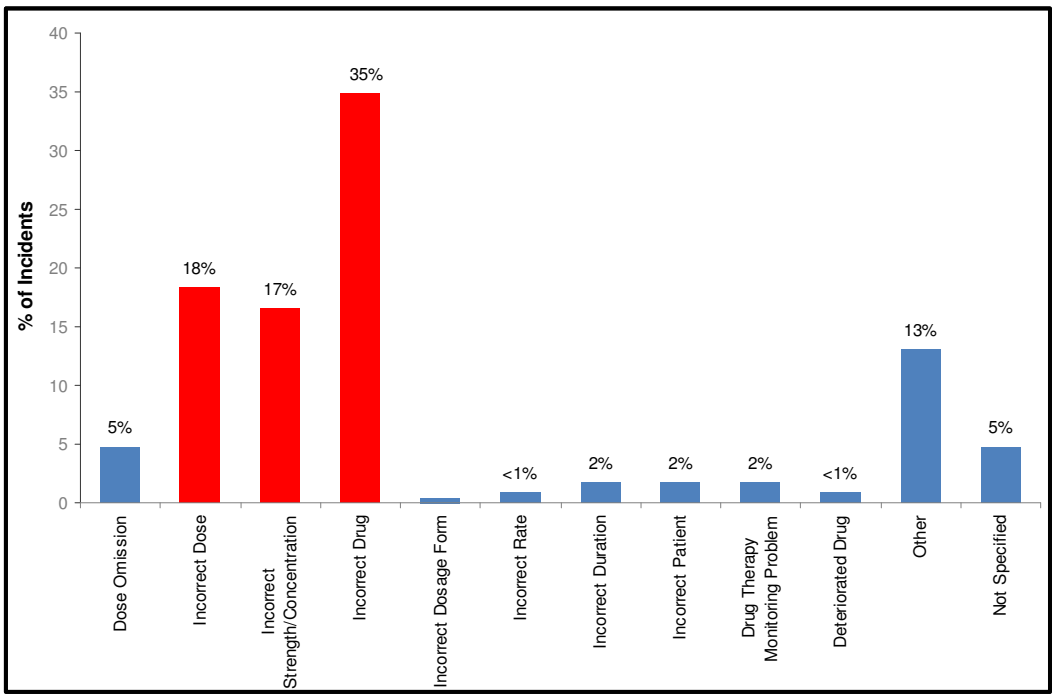

Figure 1: Types of medication incidents reported to the Ontario College of Pharmacists, 2001–2007 (*n* = 229).

For more than three-quarters of the incidents (173 of 229, or 76%), at least one possible contributing factor was identified. The 3 most commonly reported possible contributing factors were lack of quality control or independent check system; environmental, staffing, or workflow problems; and problems with drug name, label, or packaging (e.g., look-alike or sound-alike names, or look-alike packaging) (Figure 2).

Although most of the incidents resulted in no harm, this analysis revealed that overall, 37% (85 of 229) of the incidents reported to the OCP did require some type of intervention, either monitoring to confirm that the incident resulted in no harm, an intervention to prevent harm, or an intervention to manage harm that did occur.

This unique collaboration between the OCP and ISMP Canada has made it possible to share nationally an analysis of a cluster of medication incidents occurring in the community pharmacy setting. Further research, such as an analysis of a larger sample of medication incidents, is needed. The collaborative approach will continue, and it is hoped that there will be similar collaborations across Canada in order to analyze, report, and learn from the findings of a larger data set of medication incidents occurring in community pharmacy.

ISMP Canada has developed proactive safety programs such as the Medication Safety Self-Assessment® for Community/Ambulatory Pharmacy (http://www.ismp-canada.org/amssa/index.htm). This and other safety tools, such as the Canadian Failure Mode and Effects Analysis Framework (http://www.ismp-canada.org/fmea.htm) and the Canadian Root Cause Analysis Framework (http://www.ismp-canada.org/rca.htm), are available to help inform community pharmacists of potential actions for enhancing medication systems.

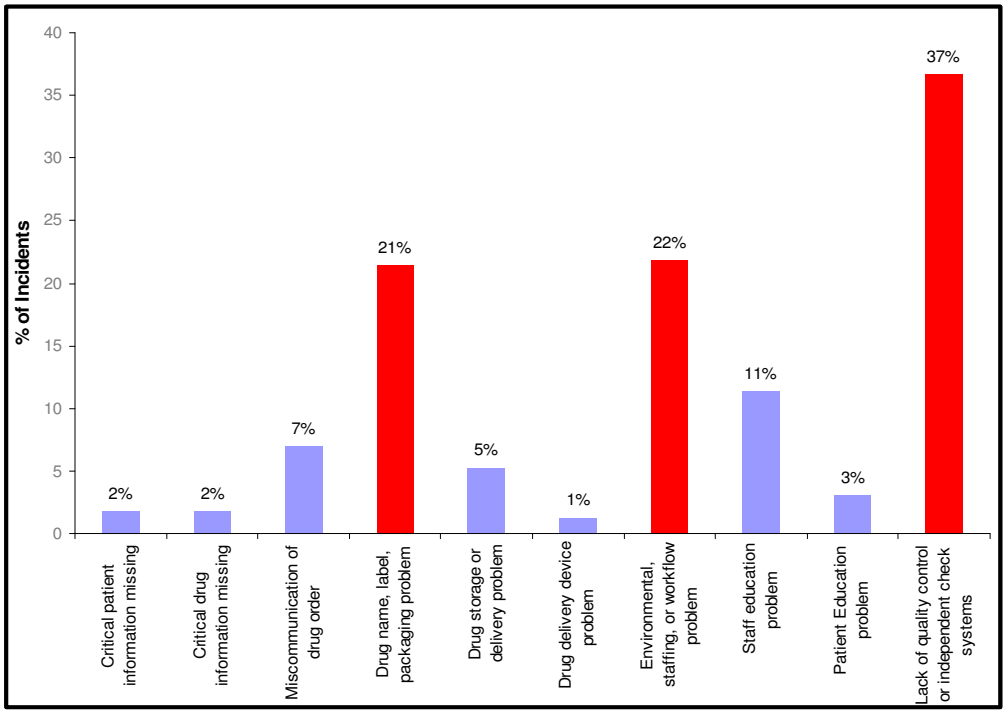

Figure 2: Possible contributing factors to the medication incidents reported to the Ontario College of Pharmacists, 2001–2007 (*n* = 229).

Reference

[1] Definition of terms [Internet]. Toronto (ON): Institute for Safe Medication Practices Canada; c2000-2008 [cited 2008 Nov 3]. Available from: http://www.ismp-canada.org/definitions.htm