Medication Safety

The Role and Impact of the Institute for Safe Medication Practices Canada

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Over the past few years, there have been a number of media stories concerning medication errors and reports on studies of such cases, and medical errors in general, in Canadian health care facilities.

Two tragic cases occurred recently in Canada involving medication errors: one in the emergency department of an acute care hospital, where a patient with a non-life threatening problem died after mistakenly being given hydromorphone 10 mg intramuscularly instead of the intended morphine 10 mg. The other in a nursing home, where a number of patients were given ten times the prescribed dose of liquid amantadine. In situations like these, ISMP Canada is often called upon for comment and for assistance in reviewing the medication systems of the facility to help avoid any reoccurence of such serious errors.

What Is the Institute for Safe Medication Practices Canada (ISMP Canada)?

ISMP Canada is a national, independent, non-profit agency established for the collection and analysis of reports of medication errors and the development of recommendations, education, and tools for the enhancement of patient safety. Located in Toronto, headed by David U, President and CEO, the Institute is staffed by a team of nurses, physicians, and pharmacists with diverse clinical and administrative backgrounds who have been trained in failure mode and effects analysis and root cause analysis. Additionally, there is support from a number of consultants, including human factors engineering experts. ISMP Canada is governed by a Board of Directors, comprised of representatives from many disciplines and from all across the country.

What does ISMP Canada do?

ISMP Canada provides a number of services to improve the safety of drug use and management, including product selection, drug distribution, administration, drug delivery system design, naming, packaging, labelling, and computer program design.

Voluntary error collection: ISMP Canada receives error reports from practitioners across Canada. These are used to identify problem areas requiring further investigation and resolution. Errors can be reported by any practitioner to ISMP Canada's website www.ismp-canada.org, by e-mail to info@ismp-canada.org, or its toll-free number 1-866-544-7672.

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Creation of tools to enhance safety: The *Medication Safety Self-Assessment*™ is available to acute care hospitals and community pharmacies. Work is in progress to develop a version for long-term care facilities. This tool assists in identifying the strengths and weaknesses of a facility's medication use processes and in planning for improvement. It also provides the facility with a way to measure its own progress in making improvements as well as its progress in comparison to others. The Canadian Council on Health Services Accreditation (CCHSA) refers to this tool for quality monitoring in its acute care services Standard 14.5. The latest Lilly survey[1] of hospital pharmacies likewise refers to it. In addition, ISMP Canada has developed software (*Analyze-ERR*®) to manage the database of reported medication errors and thus assist in the storage, retrieval, follow-up, and analysis of errors. This software can be obtained from ISMP Canada, as described on its website. The program is available as a CD-ROM for internal, facility-specific error reporting.

Provision of education: ISMP Canada provides education in the form of workshops on medication safety, failure mode and effects analysis (FMEA), and root cause analysis (RCA). Information is shared through publication of safety bulletins. The *ISMP Canada Safety Bulletin* for hospitals is distributed monthly by e-mail to all requesting facilities free of charge, thanks to the financial support of the Ontario and federal governments. The *ISMP Medication Safety Alert!* Bulletin is disseminated bimonthly by e-mail. A monthly community pharmacy safety bulletin is also available. (If you are interested in receiving any bulletin, contact info@ismp-canada.org). In addition, ISMP Canada staff participates in teaching health professional students and offer annually a fellowship position in safe medication management.

Consulting: When a serious medication error has occurred in a health care facility, ISMP Canada has been called upon to assist with root cause analysis and recommendations for system improvement. There have been cases where collaboration with the pharmaceutical industry was required to amend product labelling to be consistent with human factors' principles to be more understandable for users. Examples of these interventions have been published in ISMP Canada safety bulletins.

Service contracts: With the increasing focus on patient safety in the health care sector, ISMP Canada has been contracted to provide services in a number of provinces across Canada. In 2002, the Ontario government contracted with ISMP Canada to assist hospitals in removing concentrated potassium chloride – the cause of a number of patient fatalities - from patient care areas. This project, also supported by the Ontario Hospital Association, was very successful, as evidenced by hospital survey outcomes before and after the initiative. An Ontario Hospital Association (OHA) survey in December 2004 reported that 86% of hospitals had taken action to remove concentrated potassium chloride from their patient care areas.

Research: ISMP Canada has entered the research arena as well. A number of research projects on medication errors and safety medication systems have been completed. ISMP Canada is now an invited player in planning the future direction of research into patient safety in Canada. Its database of errors and root causes is a rich source for research.

[1] 2003/2004 Report, Hospital Pharmacy in Canada, Medication Safety Chapter
http://www.lillyhospitalsurvey.ca/HPC2/content/2004_Report/52.pdf

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What Is ISMP Canada Working on Now?

ISMP Canada has a number of service and consulting contracts across Canada. It has recently formed a very important partnership with the federal government (Health Canada) and the Canadian Institute for Health Information to develop a national error reporting system and from it to create and maintain a database of reported events and analyze them.

In Ontario, funded by the provincial Ministry of Health and Long-Term Care, ISMP Canada is working to create safer systems for narcotic use in hospitals, reviewing medication processes in operating rooms, providing education on failure mode and effects analysis (FMEA) (a process recommended by the Canadian Council on Health Services Accreditation), root cause analysis (RCA), and general medication safety, and expanding into the health care sectors of emergency medical services (ambulances), long-term care and community pharmacy. For community pharmacy, the goals are to increase awareness of medication safety issues (accomplished through free distribution of the community pharmacy bulletin), and to increase the use of the *Medication Safety Self-Assessment*™ (through work with the Ontario College of Pharmacists and other interested parties).

What Role Will Community Pharmacists Play?

Pharmacists can increase their awareness and understanding of medication safety issues in community pharmacy by reading the safety alert bulletins that are distributed free on request and by assessing their pharmacy medication processes, guided by the *Medication Safety Self-Assessment* ™.

Reporting of errors or near-miss events to ISMP Canada is encouraged as a means of identifying problem areas in which ISMP Canada could provide assistance. Pharmacists can help educate patients to protect themselves by knowing the names and uses of medications they are taking. The OHA will soon have "patient tips" information for communication to the public.

Debriefing with all staff after an error has occurred is one great way for everyone concerned to learn about risks inherent in processes and to create solutions together to prevent future problems. Reviewing systems as a whole to identify potential for error, to seek ways to enhance the medication processes and to establish safeguards in the working environment will prevent errors.

Pharmacists' commitment to medication safety is important. With statistics from recent Canadian studies[2,3,4,5,6] indicating the potential for medication errors, effort must be directed to avoid them. Governments, institutions, and professional associations are working to improve the health care system. Pharmacists, at the front line with patients and the community, have an important role to play in promoting medication safety, as a part of this effort.

Seldom are errors the result of one individual's professional performance, systems should incorporate checks or barriers to prevent an error in the first place – a lesson that the health care industry is learning from other high risk sectors, such as the aviation and nuclear industries. We have a long way to go before we achieve a work environment which will support us in this way, but striving together we can reach this goal!

For more information, check out our website: www.ismp-canada.org.

[2] Baker GR, Norton PG, Flintoft V et al. The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada. CMAJ 2004; 170(11):1678-1686.

[3] Forster AJ, Clark HD, Menard A et al. Adverse events among medical patients after discharge from hospital. CMAJ 2004;170(3):345-9.

[4] Forster Aj, Asmis TR, Clark HD et al. Ottawa Hospital Patient Safety Study : incidence and timing of adverse events in patients admitted to a Canadian teaching hospital. CMAJ 2004; 170(8):1235-40.

[5] Cornish PL, Knowles SR, Marchesano R et al. Unintended Medication Discrepancies at the Time of Hospital Admission. Arch Intern Med 2005;165:424-29.

[6] Gurwitz JH, Field TS, Judge J et al. The Incidence of Adverse Drug Events in Two Large Academic Long-Term Care Facilities. Am J Med. 2005;118(3):251-258.