

Medication Safety in Long-Term Care

The long-term care environment presents unique challenges for the provision of safe medication systems. Because many long-term care clients are aging and infirm, the average number of medications tends to be high, and the likelihood of adverse outcomes from medication incidents is increased by factors such as reduced renal and hepatic function. On-site access to physicians and other members of the healthcare team may be lower than in the acute care setting. Additionally, the residential nature of facilities may necessitate creative approaches to key processes such as patient identification. Although many of the principles of medication safety are transferable from acute care to long-term care, little information on medication safety in this setting has been published in Canada. This bulletin shares information related to medication safety in long-term care, which has become available through recent ISMP Canada collaborative initiatives associated with the implementation of a medication safety self-assessment program.

In response to widespread interest in improving systems and processes to enhance medication safety, ISMP Canada has developed a series of Medication Safety Self-Assessment® (MSSA) programs for a variety of settings. The MSSA for Long Term Care¹ is a comprehensive survey directed toward multidisciplinary teams in long-term care settings such as nursing homes and homes for the elderly. The program is intended to complement a facility's ongoing medication safety-related activities, such as review of medication incident and near-miss reports. The MSSA process aims to heighten awareness of the characteristics of a safe medication system, assist in the identification of opportunities for system improvements, and support the identification of priorities for enhancing medication system safeguards.

The MSSA for Long Term Care consists of 125 items assessing the safety of the medication use system. These self-assessment items were developed on the basis of expert input and review, best practice expectations, and analysis of medication incidents. The MSSA items are grouped according to the key elements of medication use (Table 1).

A facility requesting to participate in the MSSA program is given a unique password through which to access the ISMP Canada secure website, where facility-specific information can be entered. A facility can generate site-specific reports of their own results, as well as comparative reports, the latter based on aggregate results from similar facilities or aggregate provincial or national results. A facility can also

use its MSSA results to generate a baseline status report on the safety of its medication system, which allows systematic evaluation of future progress with medication safety initiatives over time.

Table 1: Key Elements of the Medication Safety Self-Assessment for Long Term Care

Key Element	Description
I	Resident information
II	Drug information
III	Communication of drug orders and other drug information
IV	Labelling, packaging, and nomenclature of drugs
V	Standardization, storage, and distribution of drugs
VI	Acquisition, use, and monitoring of medication delivery devices
VII	Environmental factors
VIII	Staff competence and education
IX	Resident education
X	Quality processes and risk management

Organizations in several provinces are making concerted efforts to target the enhancement of medication safety in long-term care. For example, the Health Quality Council of Alberta received a grant from Alberta Health and Wellness to establish a baseline for medication management practices within continuing care facilities. The key objectives were to identify opportunities for improvement in medication management, and leading practices that could be spread through province-wide initiatives. The MSSA for Long Term Care program was selected as the method of gathering information for this project. All facilities in the continuing care sector in Alberta were invited to complete the MSSA and submit the data to the secure website; 93% (159) of Alberta's 171 facilities participated. This high level of participation has provided Alberta with a meaningful provincial baseline for medication management initiatives. Ongoing efforts to identify and share information on leading practices create a focus for knowledge translation projects in the province.

In Ontario, the Ministry of Health and Long-Term Care supports use of the MSSA for Long Term Care. An initiative

utilizing the program is underway to similarly assist and inform the design of priority interventions in Ontario. Participation by 53 residential facilities in the Interior Health Authority region of British Columbia, as well as facilities in other regions of British Columbia, and several facilities in Manitoba, further enhances the richness of this Canadian database.

As of December 4, 2008, a total of 504 facilities had completed the MSSA for Long Term Care: 271 in Ontario, 159 in Alberta, 63 in British Columbia, and 11 in Manitoba (Figure 1). The database now contains data for a variety of facility sizes, facility types, and methods for provision of pharmacy services (e.g., internal or contracted services).

The information submitted to date suggests several areas of strength. The following are some examples of the practices and strategies that are widely used:

- maintenance of resident medication profiles in computerized pharmacy information systems
- allergy screening by pharmacy information systems and listing of medication allergies on every page of a resident's medication administration record
- dispensing of medications to care units in labelled, ready-to-use single doses or in resident-specific unit-of-use containers. Of interest, the MSSA data suggest a higher level of provision of unit dose drug distribution systems in long-term care facilities than in acute care facilities.
- availability of a current photograph in each resident's medication administration record to assist in identifying residents during medication administration
- standard times used for scheduled medication administration
- availability of pharmacists to work with the care teams on a regularly scheduled basis

Themes have also emerged with respect to opportunities for

improvement. The following examples highlight potential areas for evaluation and improvement in Canadian long-term care facilities:

- improving the handling of high-alert medications:
 - identifying the high-alert medications which require additional precautions
 - establishing standardized processes such as protocols (e.g., for residents with diabetes or for administration of anticoagulants) and monitoring checklists
 - establishing consistent processes for performing and documenting independent double checks
- employing measures to minimize interruptions during medication administration processes
- including the clinical indication for new medication orders, both scheduled and prn, to assist healthcare professionals in ensuring appropriate review of medication orders and appropriate resident monitoring
- implementing advanced technology (e.g., computerized prescriber order entry, electronic medication administration records, barcoding at point of care). Some long-term care facilities are implementing such technologies. Strategic planning that includes an assessment of readiness to adopt appropriate technology is an important first step.
- prohibiting the use of dangerous abbreviations and dose designations throughout the medication use process, which includes:
 - establishing a list of prohibited abbreviations and designations²
 - ensuring that listed abbreviations and designations are avoided in the communication of drug orders and drug information
- using internal and external incident reports for sharing, learning, and redesigning systems (a fundamental

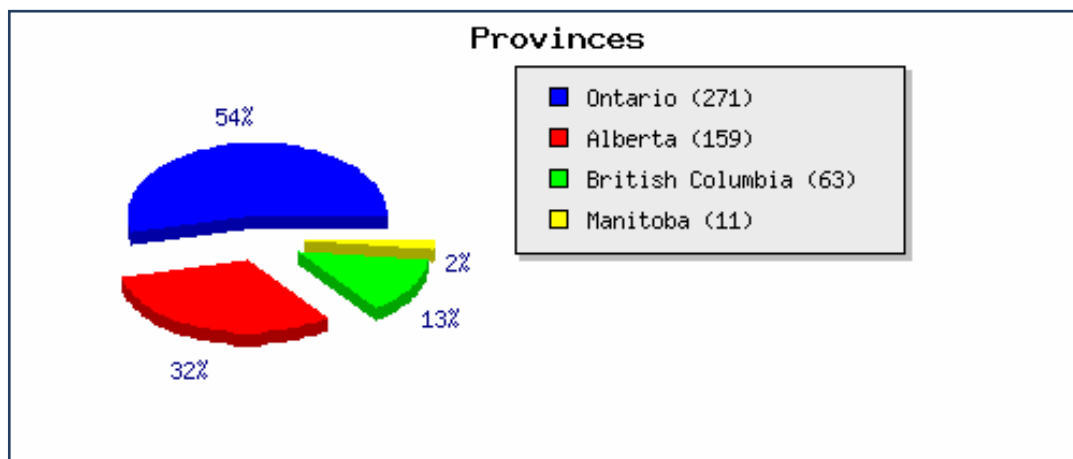


Figure 1: Medication Safety Self-Assessment for Long Term Care participation by province, as of December 4, 2008. Numbers in parentheses represent number of institutions participating, and percentages represent percentage of total participants.

component of enhancing medication safety):

- performing root cause analysis of serious and potentially serious errors
- sharing information about error experiences
- designating specially trained practitioners to enhance the detection of medication errors, oversee their analysis, and coordinate an error reduction plan

MSSA results from more than 500 facilities in 4 provinces suggest emerging themes that reflect the current status of medication use systems in long-term care facilities. The participation of additional facilities in other regions and other provinces will allow further analysis and research regarding medication safety in long-term care at the national level.

References

1. Medication Safety Self-Assessment for Long Term Care: Introduction. Toronto (ON): Institute for Safe Medication Practices; c2001-2008 [cited 2008 Dec 7]. Available from: <http://www.ismp-canada.org/lmssa/index.php>
2. Eliminate use of dangerous abbreviations, symbols, and dose designations. ISMP Can Saf Bull. 2006[cited 2008 Dec 4];6(4):1-3. Available from: <http://www.ismp-canada.org/download/ISMPCSB2006-04Abbr.pdf>

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ISMP Canada is a national voluntary medication incident and 'near miss' reporting program founded for the purpose of sharing the learning experiences from medication errors. Implementation of preventative strategies and system safeguards to decrease the risk for error-induced injury and thereby promote medication safety in healthcare is our collaborative goal.

Medication Incidents (including near misses) can be reported to ISMP Canada:

(i) through the website: http://www.ismp-canada.org/err_report.htm or (ii) by phone: 416-733-3131 or toll free: 1-866-544-7672.

ISMP Canada can also be contacted by e-mail: cmirps@ismp-canada.org. ISMP Canada guarantees confidentiality and security of information received, and respects the wishes of the reporter as to the level of detail to be included in publications.

A Key Partner in the Canadian Medication Incident Reporting and Prevention System