Medication Safety Self-Assessment for Community Pharmacy: National Insights

Rajiv Rampersaud RPh, HBSc, PharmD; **Stephanie Weisgerber** RPh, BSP, MBA; **Certina Ho** RPh, BScPhm, MISt, MEd, PhD; **Enna Aujla** RPh, BScPhm, CAPP

Background

- The Medication Safety Self-Assessment® for Community Pharmacy (MSSA-CP) Canadian Version II was launched in May 2022.
- The MSSA-CP was designed to support community pharmacy teams to proactively identify safety gaps and areas of improvement to prevent medication incidents and patient harm.
- The MSSA-CP meets the requirements of mandatory continuous quality improvement (CQI) programs in various provinces. It consists of 116 items, categorized into seven key elements of a safe medication system (Table 1).

Objective

To identify CQI opportunities (Table 2) for community pharmacy practice in Canada.

Methods

We reviewed MSSA-CPs (Canadian Version II) completed by community pharmacies between May 1, 2022, and December 31, 2023. Descriptive statistics were used to analyze the MSSA-CP items and the seven key elements of a safe medication system (Table 1), where possible, to generate a national trend.

Results

- **756** community pharmacies completed at least one MSSA-CP in five provinces – **Manitoba, New Brunswick, Nova Scotia, Ontario, and Saskatchewan**.
- Most of these pharmacies serve a small population (i.e., 1,000-2,999) with weekly prescription volume ranged from 701 to 1,500.
- Many of the MSSA-CP items that scored the lowest in the aggregate analysis were related to **high-alert medications** – drugs that bear a heightened risk of causing significant patient harm when used in error. Other areas of improvement involved **patient education**, **safe use of Methotrexate and Opioids** (Table 3).

Table 1.
Seven Key Elements of a Safe Medication System

I	Patient Engagement and Partnership
II	Medication Storage and Handling
III	Use of Technology and Devices
IV	Quality Assurance and Continuous Management
V	Addressing Known Areas of Risk
VI	Considerations for Selected Clinical Situations
VII	Considerations for Selected High-Alert Medications and Classes

Table 2.
How to Use the MSSA-CP for Quality Improvement

1	Complete the MSSA-CP with your pharmacy team and compare your responses to anonymous aggregate data.
2	Identify lower scoring core characteristics and assessment items. Highlight key areas for improvement.
3	Brainstorm strategies to improve identified low-scoring areas.
4	For every strategy, document: relevance to patient safety, timeframe for implementation, individual team member responsibilities, potential barriers and challenges, and steps to monitor progress.
5	Prioritize the action plan in accordance with your team's goals.
6	Take action! Implement outlined strategies to improve medication safety in your community pharmacy.

Table 3. Sample Findings from Aggregate Analysis

MSSA-CP Item	Average Score (Out of 4) *	Improvement Strategy
22.1: Pharmacy team members receive training on safeguards to reduce the likelihood of errors with **high-alert medications**.	2.97	Review the ISMP Canada High-Alert Medication List and User Guide and consider safeguards that can be incorporated in your pharmacy. Consider strategies to enhance pharmacy team awareness and provide guidance for specific safeguards, e.g.: • *Add "high alert" auxiliary labels to stock bottles/prescription vials to help notify team members during prescription processing and pharmacist clinical checks.* • *Add targeted notifications into the drug files for selected high-alert medications (e.g., methotrexate – "ensure weekly dosing"; high-dose opioids – "check morphine equivalents; provide naloxone kits").*
22.2: Patients prescribed **high-alert medications** are provided with information about how to prevent common types of errors known to be problematic with these drugs (e.g., **methotrexate** inadvertently prescribed daily instead of weekly for arthritis, wrong dose errors due to frequently changing warfarin orders, tacrolimus dosage form mix-ups).	3.01	Implement a mechanism to ensure there is counselling and follow-up for all new prescriptions of high-alert medications. During counselling sessions, emphasize the importance of patient awareness of their medication regimen and how to address unexpected changes that could lead to harm (See MSSA-CP Item 22.2 for examples of unexpected changes).
26.1: Patients prescribed **methotrexate** for non-oncologic indications receive clear verbal and written instructions that specify the day of the week to take their medication.	3.33 ★	When possible, dispense only a 4-week supply of methotrexate at a time. Ensure that every patient receives counselling and written information (e.g., methotrexate patient information sheet from ISMP). Ideally, pharmacy computer systems should automatically generate this information for all new and refill prescriptions. For more strategies related to the safe use of methotrexate, refer to ISMP Canada Safety Bulletin on incidents involving low-dose methotrexate.
27.5: Patients are provided with written information about safe use of **opioid medications**, including appropriate storage and disposal (e.g., ISMP Canada resources for safe use of opioids for patients and families).	3.59 ★	Review relevant resources to support appropriate management of high-alert medications, including identifying patients taking high morphine equivalents per day, appropriate opioid dosing, offering naloxone kits, and tapering recommendations. For more information, refer to ISMP Canada Safety Bulletin on understanding opioid potencies and overdose risk.

* MSSA-CP scores are assigned numeric values ranging from 0 (Not Implemented or Not Applicable) to 4 (Always Implemented) by the community pharmacy. The average score is obtained from 756 community pharmacies that submitted MSSA-CP data to ISMP Canada in 2022-2023.

Conclusion

- Patient safety and CQI are important elements for safe and effective patient care.
- MSSA-CP is helpful to identify areas in practice that require attention proactively and advance patient/medication safety in community pharmacy practice.

Resources:

- MSSA-CP Data Spotlight. June 2024. https://ismpcanada.ca/wp-content/uploads/MSSA-Data-Spotlight-Final-June-2024.pdf
- MSSA-CP Canadian Version II: https://mssa2.ismp-canada.org/comm-pharm-ii
- MSSA-CP Canadian Version II User Guide: https://ismpcanada.ca/wp-content/uploads/MSSA-CP-User-Guide.pdf
- MSSA-CP Action Plan Template: https://ismpcanada.ca/wp-content/uploads/MSSA-Action-Plan-Final-June-2024.pdf
- Canadian High-Alert Medications List. 2024. https://ismpcanada.ca/resource/highalertlist/
- Canadian High-Alert Medications List User Guide. 2024. https://ismpcanada.ca/wp-content/uploads/ISMP-Canada-High-Alert-Med-List-User-Guide-2024.pdf
- 5 Questions to Ask About Your Medications: https://ismpcanada.ca/resource/5-questions-to-ask-about-your-medications/
- Oral Methotrexate [Patient Information Sheet]. 2018. https://www.ismp.org/sites/default/files/attachments/2018-11/Methotrexatefinal.pdf
- Severe Harm and Deaths Associated with Incidents Involving Low-Dose Methotrexate. September 2015. https://ismpcanada.ca/wp-content/uploads/ISMPCSB2015-09_Methotrexate.pdf
- Opioid Stewardship: https://ismpcanada.ca/resource/opioid-stewardship/
- Sink or Swim? Helping Patients and Practitioners to Understand Opioid Potencies and Overdose Risk. September 2017. https://ismpcanada.ca/wp-content/uploads/ISMPCSB2017-08-UnderstandOpioids.pdf

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