National Incident Data Repository for Community Pharmacies: Lessons Learned from Medication Safety Snapshots

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Background

- The Institute for Safe Medication Practices Canada (ISMP Canada) National Incident Data Repository for Community Pharmacies (NIDR) is a collection of reported medication incidents submitted anonymously by community pharmacies for the purpose of improving medication safety in community pharmacy practice.
- The NIDR is a component of the Canadian Medication Incident Reporting and Prevention System (CMIRPS). It has an Application Program Interface (API) through which it can receive medication incident data from reporting platform/software used in community pharmacies. It meets the requirements of mandatory continuous quality improvement (CQI) programs in various provinces.
- The NIDR contains more than 325,000 reports of medication incidents that have been shared by community pharmacies since 2008. Over 25,000 incident reports are submitted to the NIDR every year.

Objective

To identify CQI opportunities for community pharmacy practice in Canada and contribute to the CMIRPS. The goal of CMIRPS is to facilitate development and dissemination of information on best practices in safe medication use systems for improved medication safety.

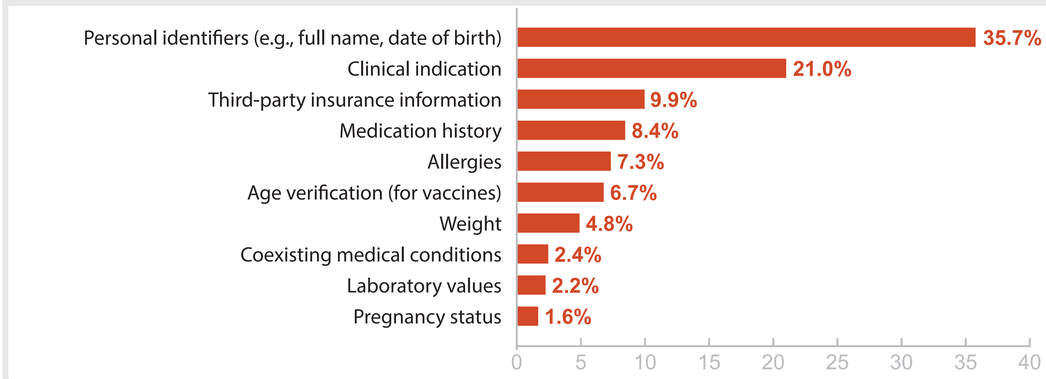
Methods

We conducted a review of medication incidents submitted to the NIDR by community pharmacies from January 1 to December 31, 2022. Descriptive statistics and multi-incident analysis using the Canadian Incident Analysis Framework were used to analyze the incidents, where possible, to generate a national snapshot.

Results

- 49,650 medication incidents were submitted to the NIDR from participating provinces.
- Most of these incidents were near misses or no-harm incidents. 1.21% (*n* = 603) were associated with mild, moderate, severe harm, or death.
- **Critical patient information missing** was specified as a contributing factor in 315 incidents where detailed descriptions were included. The findings of a multi-incident analysis of these incidents and strategies for improvement are presented in **Figure 1** and **Table 1**, respectively.

Figure 1. Types of critical patient information missed during the processes of prescription order entry, pharmacist clinical check, vaccine administration, and/or prescription delivery (*n* = 315)



[This image was extracted from the NIDR National Snapshot July 2023: https://ismpcanada.ca/wp-content/uploads/NIDR-National-Snapshot-July-2023.pdf.]

Table 1. Strategies to improve the collection and verification of critical patient information

Collection of relevant patient information	Verification of patient information
• Use a standardized patient intake form (for new patients) or checklist (for returning patients) to capture relevant patient information, including updates (e.g., pregnancy status, medical conditions, weight). • Incorporate a forcing function in the dispensing software to require completion of the allergy field in the patient profile before a prescription can be filled. • Implement a medical condition alert to trigger review of relevant laboratory values (e.g., filling a prescription for a patient with chronic kidney disease would prompt a check of glomerular filtration rate [GFR]; filling a prescription for a patient with diabetes would prompt a check of glycated hemoglobin [HbA1c]).	• Complete a best possible medication history (BPMH) through discussion with the patient and reference to additional sources of information (e.g., discharge prescriptions, medication profile). • Ask open-ended questions when confirming patient identification (i.e., name and date of birth) at the time of prescription pickup in the pharmacy, before delivering prescriptions to the patient, and before administering vaccines. • Integrate “same name alerts” within the computer system, to minimize wrong patient errors involving patients with the same or similar names. • Encourage use of the 5 Questions to Ask tool to support patient engagement and dialogue.

Conclusion

- Reporting, sharing, and learning about medication incidents can help create a safer healthcare system for patients and healthcare providers. Overtime, annual trends can be further analyzed and used for identification of CQI insights and opportunities.
- Analysis of medication incidents has informed the shared learning offered in ISMP Canada Safety Bulletins, NIDR National Snapshot, and provincial NIDR Safety Briefs.
- ISMP Canada is committed to analyzing medication incidents, developing and disseminating learning, with the goal of improving health care systems and medication safety.

Resources:

- Community Pharmacy Reporting & Learning: https://ismpcanada.ca/impact/community-pharmacy-reporting-learning/
- NIDR Information and Frequently Asked Questions: https://ismpcanada.ca/wp-content/uploads/NIDR-faq.pdf
- NIDR National Snapshot. July 2024. https://ismpcanada.ca/wp-content/uploads/NIDR-National-Snapshot-July-2024.pdf
- NIDR National Snapshot. July 2023. https://ismpcanada.ca/wp-content/uploads/NIDR-National-Snapshot-July-2023.pdf
- NIDR National Snapshot. July 2022. https://ismpcanada.ca/wp-content/uploads/NIDR-National-Snapshot-July-2022.pdf
- Canadian Incident Analysis Framework. 2012. https://www.healthcareexcellence.ca/media/gilnw3uy/canadian-incident-analysis-framework-final-ua.pdf
- Improving Medication Safety in Community Pharmacy: Assessing Risk and Opportunities for Change. 2009. https://www.ismp.org/sites/default/files/attachments/2018-02/ISMP_AROC_whole_document.pdf
- Allergy Never Events. December 2016. https://ismpcanada.ca/wp-content/uploads/ISMPCSB2016-10-AllergyNeverEvents.pdf
- Best Possible Medication History Interview Guide: https://ismpcanada.ca/resource/bpmhinterviewguide/
- MedRec Process in Primary Care Practice Settings: https://www.ismp-canada.org/primarycaremedrecguide/MedRecProcess.htm
- Targeted Medication Safety Best Practices for Community Pharmacy: 2023-2024. https://www.ismp.org/sites/default/files/attachments/2023-01/TMSBP%20for%20Community_handout.pdf
- 5 Questions to Ask About Your Medications: https://ismpcanada.ca/resource/5-questions-to-ask-about-your-medications/

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