National Incident Data Repository for Community Pharmacies

SMART Medication Safety Agenda

June 2026

Focus on **ANTI-REJECTION MEDICATIONS**

Did you know?

45% of reported incidents associated with anti-rejection medications involved tacrolimus,[1] which is available as immediate-release (Prograf, generics), extended-release (Advagraf, generic), and prolonged-release (Envarsus PA) formulations.

Patients who have undergone organ transplant may require multiple medications to prevent organ rejection. A multi-incident analysis of incidents involving medications used to prevent organ rejection was conducted to detect system vulnerabilities and identify system safeguards.[1]

Formulation Mix-Ups

INCIDENT EXAMPLE:

Prograf (immediate-release tacrolimus) was prescribed for a patient, but Advagraf (extended-release tacrolimus) was dispensed. Blood work revealed a tacrolimus level substantially higher than the therapeutic range. By the time the error was discovered, a chronic infection had developed.

POTENTIAL CONTRIBUTING FACTOR:

Knowledge gap related to the multiple available formulations of tacrolimus

RECOMMENDATION:

Work with software providers to make brand and generic names (as well as the original brand name) visible throughout the medication-use process (particularly during order entry and clinical verification), as well as during patient profile review.

Complex Dosing Regimens

INCIDENT EXAMPLE:

A patient's prescription for Prograf (immediate-release tacrolimus) 2 mg AM and 1.5 mg PM had been regularly filled with separate entries for 1 mg and 0.5 mg capsules. The patient's new prescription had a lower dosage of 1.5 mg BID. The prescription file for 0.5 mg capsules was copied, and the directions were mistakenly left unchanged; the prescription file for 1 mg capsules was overlooked. The patient was given 0.5 mg capsules to be taken in the afternoon. The incident was fortuitously recognized when the patient came back to the pharmacy for another reason.

POTENTIAL CONTRIBUTING FACTORS:

- Use of the "copy" function for a prescription with a dose change
- Dosing regimen that required combining multiple prescription entries for different strengths of a medication

RECOMMENDATION:

Update the patient's profile with each new prescription and inactivate discontinued prescriptions (including previous dosing regimens).[2]

Resources

1. Anti-rejection medications: analysis of reported errors. ISMP Can Saf Bull. 2022 [cited 2026 Apr 8];22(1):1-4. Available from: https://ismpcanada.ca/bulletin/anti-rejection-medications-analysis-of-reported-errors/
2. A multi-incident analysis of reports associated with newer insulins. ISMP Can Saf Bull. 2026 [cited 2026 Apr 8];26(3):1-6. Available from: https://ismpcanada.ca/bulletin/insulins-mia/

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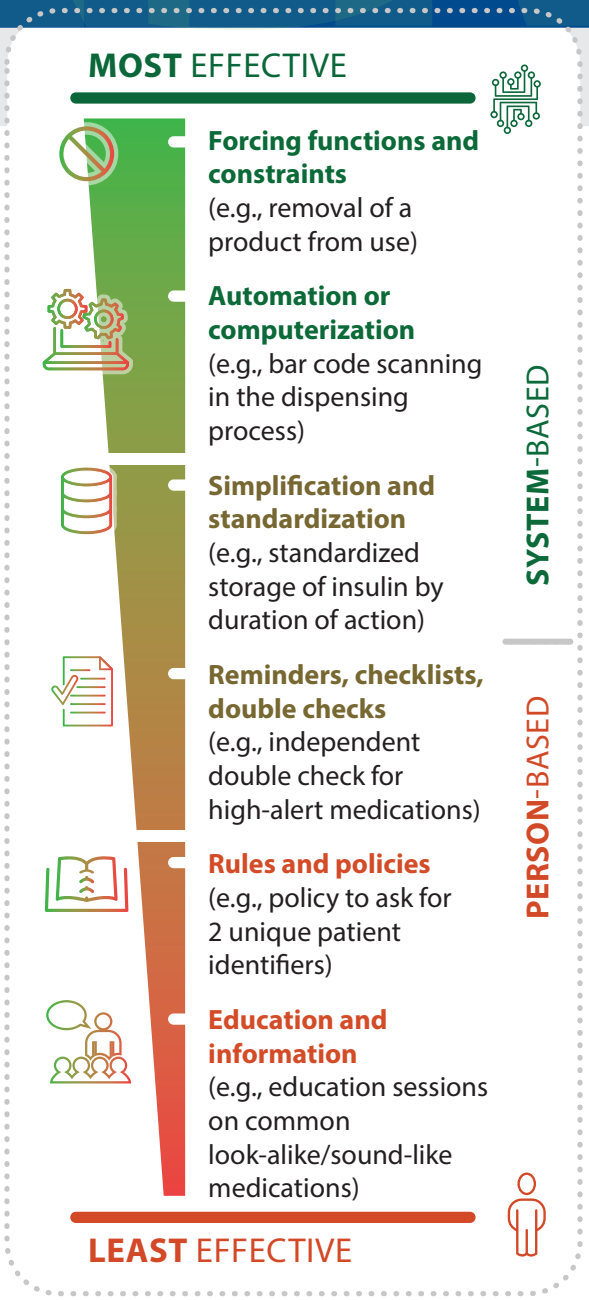
Overview

The National Incident Data Repository for Community Pharmacies (NIDR) is a component of the Canadian Medication Incident Reporting and Prevention System (CMIRPS). The NIDR was established to support the collection of reports of near misses and medication incidents submitted by community pharmacies for the purpose of improving medication safety, thereby demonstrating a growing commitment to reporting and a culture of safety.

The SMART (**S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-based) Medication Safety Agenda describes medication incidents that were anonymously reported to the NIDR, potential contributing factors, and recommendations to reduce the risk of recurrence.

Call to Action

1. Discuss the medication incidents and potential contributing factors to determine if the risk exists in your pharmacy.
2. Consider the recommendations provided, and brainstorm additional safety strategies to prevent these types of medication incidents.
3. Document (e.g., in your reporting platform) and implement an action plan to prevent these types of medication incidents.
   - Use the Hierarchy of Effectiveness (to the right) to focus on system-based rather than person-based solutions, where possible.
   - Consider the feasibility of each action with respect to human resources, physical environment, finances, etc., and identify a suitable timeframe (e.g., within 1 month, within 6 months).
4. Regularly monitor the progress of action plan implementation to identify opportunities for continuous quality improvement.



Adapted from: https://ismpcanada.ca/resource/hierarchy-of-effectiveness/

National Incident Data Repository / Référentiel de données nationales sur les incidents

CMIRPS Canadian Medication Incident Reporting and Prevention System / SCDPIM Système canadien de déclaration et de prévention des incidents médicamenteux

ISMP CANADA

National Incident Data Repository for Community Pharmacies

SMART Medication Safety Agenda – Action Plan

TEMPLATE

Discussion Topic:

Date:

	Recommended Action
Specific Describe the action with precise details, including who will be responsible.	
Measurable Create a monitoring plan to evaluate the implementation of the action, as well as its effectiveness.	
Attainable Brainstorm key challenges and barriers, particularly with respect to available resources and supports.	
Relevant Define the level and type of action according to the Hierarchy of Effectiveness.	
Time-bound Specify the timeframe for implementation and the frequency of monitoring for safety improvement.	

National Incident Data Repository for Community Pharmacies

SMART Medication Safety Agenda – Action Plan

EXAMPLE

Discussion Topic: EXAMPLE ("incorrect drug" incident)

Date: YYYY MM DD

	Recommended Action
Specific Describe the action with precise details, including who will be responsible.	Implement bar code scanning technology in the dispensing process to help detect selection errors during filling before they reach the patient. Pharmacy Owner will select a bar code scanning machine that is compatible with the dispensing software.
Measurable Create a monitoring plan to evaluate the implementation of the action, as well as its effectiveness.	Monitoring for implementation: Review prescription counts to determine the proportion that bypass bar code scanning. Schedule team meetings to ask for reasons (e.g., product not in system) and then incorporate solutions. Monitoring for effectiveness: Review medication incident data to analyze changes in "incorrect drug", "incorrect strength", and "incorrect dosage form" types of incidents, targeting a decrease in such incidents.
Attainable Brainstorm key challenges and barriers, particularly with respect to available resources and supports.	Financial resources will be affected initially (due to the cost of bar code scanning technology) but may be recovered in the long term with fewer "incorrect product" incidents that lead to waste. Staff will need supporting policies and workflow diagrams to help incorporate bar code scanning into the dispensing process.
Relevant Define the level and type of action according to the Hierarchy of Effectiveness.	Bar code scanning technology is an example of automation/computerization, which is a system-based, high-leverage strategy. Bar code scanning automates an independent double check of a product after it is selected from the pharmacy shelves for filling, alerting the user if it does not match the product in the system.
Time-bound Specify the timeframe for implementation and the frequency of monitoring for safety improvement.	• Pharmacy Owner will secure the necessary financial resources to purchase (and maintain) bar code scanning technology within 1 year. • Pharmacy Manager will create implementation supports (policies, diagrams) to be made available during staff training on the bar code scanning technology. • Monitoring for implementation will be conducted by the Pharmacy Manager weekly for the first 3 months, then monthly until < 1% of prescriptions bypass bar code scanning. • Monitoring for effectiveness will be conducted by the Pharmacy Manager monthly.