

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

Objectives

- Medication incidents can result in sub-optimal disease management or expose patients to unnecessary drug therapy, calling attention to the need to adopt strategies to mitigate risks and improve medication safety.
- The objective of this multi-incident analysis was to gain a deeper understanding of the possible contributing factors to incidents associated with patient harm, and to develop recommendations to prevent incident recurrence.

Methodology

- A total of 971 medication incidents associated with patient harm were extracted from the Institute for Safe Medication Practices Canada (ISMP Canada) Community Pharmacy Incident Reporting (CPhIR) Program from 2009 to 2017.
- Following exclusion criteria, we conducted a qualitative, thematic analysis on 909 incidents, and provided recommendation to address patient safety gaps corresponding to harm related incidents.

Table 1: Theme 1 – High-risk Processes in the Pharmacy

METHADONE MAINTENANCE THERAPY

Incident Example: A patient was mistakenly given another patient's dose of methadone. The dose given was significantly higher than the patient's normal dose. Both patients had similar names and the incident was discovered when the second patient arrived for his dose, but it could not be found.

Contributing Factors:

- Pre-pouring of daily methadone doses.
- Similar patient names and/or doses.

COMPLIANCE PACKS

Incident Example: A patient was prescribed hydrochlorothiazide and her blister packs were repackaged to include the medication. When the following month's blister packs were made, hydrochlorothiazide was omitted. The patient experienced higher than normal blood pressure as a result.

Contributing Factors:

- Change of drug regimens in the middle of a pack.
- Frequent changes in medication regimens.
- Preparing of packs weeks in advance of pick-up.

COMPOUNDING

Incident Example: A patient reported that the menthol and hydrocortisone cream compound she had received caused burning, which did not happen previously. The technician who prepared it did not get another staff member to double check the amount measured and initial for it. The compound was re-made and the patient reported no burning.

Contributing Factors:

- Lack of standardized compounding process.
- Look-a-like, sound-a-like medications.
- Inadequate training of personnel.

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RSON-Base



A Multi-Incident Analysis on Medication Incidents Associated with Patient Harm

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Results

Figure 1: Designing Effective Recommendations Using the Hierarchy of Effectiveness

LEAST EFFECTIVE

Rules and policies

(e.g., policies to prohibit

borrowing doses from

other areas)

Education

and information

(e.g., education sessions on

high-alert medications)

Medium Leverage

MODERATELY EFFECTIVE

Simplification and standardization

(e.g., standardized paper or electronic order sets)

Reminders, checklists double checks (e.g., independent double checks for high-alert medications)

High Leverage **MOST EFFECTIVE**

Forcing functions and constraints (e.g., removal of a product from use)

Automation or computerization (e.g., automated patientspecific dispensing)

Table 2: Theme 2 – Communication Gaps

More Effective / Less Feasible

Recommendations:

- Implement barcode scanning to ensure correct selection of medication [Automation and Computerization]
- 2. Develop standardized procedures and documentation for high-risk processes [Simplification and Standardization].
- Perform independent double checks throughout all steps of a high-risk process [Reminders, Checklists, Double Checks].
- 4. Only designated staff members are allowed to perform high-risk processes [Rules and Policies].
- . Ensure designated staff members are adequately trained and equipped [Education and Information]

Less Effective / More Feasible

PATIENT-PROVIDER ENGAGEMENT

Incident Example: A patient experienci cough was given a new prescription for valsartan to replace ramipril. The patient discontinued metoprolol instead of rami and brought the metoprolol back for destruction. The incident was discovered when the patient called for a refill of his ramipril

Contributing Factors:

- Complicated medication directions.
- Inadequate check of patient understanding.

INTERPROFESSIONAL COLLABORA

Incident Example: The nursing home contacted the pharmacy for a refill of a patient's prescription for Arthrotec® (diclofenac/misoprostol). There was no record of Arthrotec® on the patient file, there was a prescription for diclofenac. was discovered that, in addition to receive diclofenac, the patient was taking a sam of Arthrotec® that he received from the doctor.

Contributing Factors:

- Limited sharing of medical information between providers.
- Lack of an up-to-date medication list.

Low Leverage



ng		More Effective / Less Feasible
t oril	ased	Recommendations:
d	STEM-B	 Implement Electronic Health Records and E-prescribing in pharmacy practice [Automation and Computerization].
	Ş	 Have standardized documentation for follow-up of problematic orders and hand off between health care professionals [Simplification and Standardization].
TION		 Use "show and tell" and "teach back" technique to ensure understanding during counselling [Reminders, Checklists, Double Checks].
but It ving	PERSON-Based	 Require staff to offer medication reviews to eligible patients annually to identify drug therapy problems [Rules and Policies].
SIE		 Encourage patients to carry an updated medication list when interacting with health care professionals [Education and information].
		Less Effective /
		More Feasible

DRUG-DRUG INTERACTION

Incident Example: A

started on lithium car was prescribed metro days later without ca the interaction. The p the pharmacy reporti consistent with overd

Contributing Factors

- Knowledge deficit of Too many insignific resulting in "alert fa
- Inadequate alert to drug-interactions.

DOCUMENTED DRUG ALLERGY

Incident Example: A patient complained of tight throat over several days. He/she went to emergency and was diagnosed with an allergic reaction to moxifloxacin. The pharmacist had missed the allergy caution when dispensing.

Contributing Factors:

- Inadequate alert to indicate drug allergy. Bypassing entry of allergy
- information.
- Free-form entry of allergies.

• Independent double checks are an effective strategy for preventing incidents associated with high-risk

- Clear communication within the circle of care is necessary for safe and effective patient-centered care. • Technology can serve as clinical decision support for healthcare practitioners in mitigating preventable
- We hope our findings from this multi-incident analysis can provide a platform for reflection and shared

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ISMP Canada

Institute for Safe Medication Practices Canada www.ismp-canada.org

CMIRPS Canadian Medication Incident Reporting and Prevention System www.ismp-canada.org/cmirps/

CPhIR

Community Pharmacy Incident Reporting Program www.cphir.ca

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- Adrian Boucher Nothing to disclose
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- Certina Ho Nothing to disclose

Table 3: Theme 3 – Preventable Adverse Drug Reactions

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More Effective / Less Feasible

Recommendations:

- Clinical decision support systems (CDSS) for prescribers and pharmacists should have the functionality to detect drug-drug interactions/drug allergies and be updated regularly to prevent "alert fatigue" [Automation and Computerization].
- 2. Develop standardized procedures and documentation when a drug interaction or drug allergy is identified [Simplification and Standardization].
- 3. Double check allergy status at order entry and pick-up [Reminders, Checklists, and **Double Checks]**.
- Require documentation when a drug interaction or allergy override occurs, and audit regularly (i.e. monthly) [Rules and Policies].
- Subscribe to a drug information service and post information on known dangerous drug interactions [Education and Information].
- Less Effective / **More Feasible**