Lessons Learned from a Multi-Incident Analysis on Medication Incidents Associated with Patient Harm in Saskatchewan

Samuel Chan RPh, PharmD; **Carmen Cheng** RPh, PharmD; **Certina Ho** RPh, BScPhm, MISt, MEd, PhD

Objectives

- Community Pharmacy Professionals Advancing Safety in Saskatchewan (COMPASS) is a standardized continuous quality improvement (CQI) program specific to Saskatchewan pharmacies.
- The objective of this multi-incident analysis was to gain a deeper understanding of the contributing factors to incidents associated with patient harm in Saskatchewan and to offer possible solutions.

Methodology

- A total of 267 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 December 1st, 2017 to January 31st, 2019.
- We conducted a qualitative, thematic analysis on these incidents, and provided recommendations to address patient safety gaps identified.

Results

- We identified four main themes from this multi-incident analysis (Tables 1-4).
- We offered a summary of recommendations to pharmacy professionals (Table 5).

Conclusion

- The thematic elements identified through this multi-incident analysis is applicable towards all medication-use practices.
- The importance of reporting, analyzing, and learning from past incidents should not be overlooked for continuous quality improvement in pharmacy practice.

References: Available upon request

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Corresponding Author: Samuel Chan (samuelc.chan@mail.utoronto.ca)

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THEME 1.

Communication Gaps

Harm incidents were most attributable to miscommunication or a lack of disclosing information within a timely manner.

Table 1.

SUB-THEMES	INCIDENT EXAMPLE(S)
Patient Communication Miscommunication during patient encounters or patient counselling	Patient was taking Gabapentin 100 mg 3 capsules twice daily. A new prescription was filled with 300 mg capsules instead. The pharmacist documented the change and left a note for the cashier to inform the patient. The patient did not recall being informed. The patient took three 300 mg capsules twice daily and noticed adverse effects. The error was discovered when an early refill was requested.
Pharmacy Staff Communication Miscommunication between pharmacy team members, including technicians and students	Patient requested for a refill for one prescription. A relief pharmacist on duty at the time was not aware that the patient preferred brand name. The generic was dispensed. The patient returned the next day after experiencing adverse effects.
Interprofessional Communication Miscommunication between pharmacies and other healthcare providers, such as physicians or nurses, and misinterpretation of physician orders	The patient is seen by several physicians. A new prescription was received by the pharmacy for an increased dose of the patient's medication. At the patient's telehealth meeting, a home care nurse noted a discrepancy where an order was received from a different physician indicating that the dose should not be increased. The nurse was giving the lower dose to the patient during this period.

THEME 2.

Non-Traditional Dispensing Procedures

Harm incidents occur during non-linear or non-traditional dispensing procedures where individual pharmacies may have their own unique processes in place.

Table 2.

SUB-THEMES	INCIDENT EXAMPLE(S)
Long-Term Care (LTC) and Compliance Packaging Incidents that involve the unique aspects of dispensing to LTC homes or preparing compliance packs	The pharmacy received a new prescription for a Warfarin dose change. The change was reflected on the pharmacy dispensing system but not on the nursing home dispensing instructions. As a result, the Warfarin was packed with alternating 0.5 mg and 1 mg tablets instead of the correct 0.5 mg tablets daily. The incident was discovered several weeks later when a technician was checking and noticed a mismatch between the directions and the pack. Patient was scheduled for an INR that day by the physician.
High-Risk Procedures Incidents that involve other community pharmacy services (e.g. methadone, injections, compounding) that have a greater risk of causing significant patient harm when errors occur	Pharmacist was preparing the patient's daily Methadone dose. During the dispensing process, the pharmacist went to assist another staff member before returning to finish the Methadone preparation. Patient received 10 times his regular dose. Patient felt unwell and had to be hospitalized.

THEME 3.

Order Entry Errors

Harm incidents result from inappropriate prescription transcribing, technical errors, or clinical errors.

Table 3.

SUB-THEMES	INCIDENT EXAMPLE(S)
Technical Errors Order entry errors resulting from choosing the wrong product or incorrectly transcribing the prescription directions or instructions	Patient was taking Bupropion XL 150 mg 2 tablets once daily. With a backorder, the physician issued a new prescription for Bupropion SR 150 mg 1 tablet twice daily. When entering the prescription, the Bupropion XL prescription was copied over; the medication was changed correctly but the prescription directions were not. As a result, the patient felt unwell for several weeks and had to see the physician.
Clinical Errors Order entry errors due to improper clinical verifications	Patient was prescribed Tylenol No. 3. There was an allergy notification for Codeine on the patient's profile, but the alert was bypassed by the pharmacy assistant when entering the prescription. The pharmacist did not review the patient's allergies when checking nor inquire about patient allergies upon counselling. Several days later, the patient reported allergy-related adverse effects.

THEME 4.

Product Mix-Up

Harm incidents occur when an incorrect product was selected, filled, and/or given to the patient.

Table 4.

INCIDENT EXAMPLE	CONTRIBUTING FACTORS	RECOMMENDATIONS
A prescription was brought in by a patient for 3 different medications. One of them was a narcotic. As the pharmacy was busy, the pharmacist counted the medications, while the student was entering the prescription into the dispensing software. The pharmacist noticed that a different brand of the narcotic was entered and billed to the third-party insurance and hence a return-to-stock process is needed. However, one of the 3 medications was incorrectly returned to the narcotic stock bottle. As a result, the patient received two different brands of the narcotic medication and did not receive one of his other medications. The error was discovered when the pharmacy was filling the same narcotic for a different patient.	• Workarounds (e.g. bypassing barcode scans, filling multiple prescriptions at the same time) • Look-alike/sound-alike labelling and packaging • Similar patient identifiers • Lacking authentication process for patient identification	• Complete the filling process for one medication before moving on to another • Verify the drug identification number (DIN) of the product when selecting the medication for filling • Incorporate barcode scanning of medication stock bottles when filling • Show patients the medications that they are expecting at pick-up (especially when it is a refill prescription); this can serve as an independent double check • Require at least 2 different unique patient identifiers when identifying patients

Table 5. **Summary of Recommendations**

SUB-THEMES / CONTRIBUTING FACTORS	RECOMMENDATIONS
Patient Communication • Inadequate confirmation of patient understanding • Non-standardized information gathering during patient encounters • Assumptions made by care team and/or patients	• Double check patient understanding after counselling • Standardize patient encounters (e.g. always include medication name and indication verification)
Pharmacy Staff Communication • Lack of documentation after patient encounter • Overlooked existing documentation	• Adopt a standard for written and verbal communication among pharmacy team members • Flag or use alerts for patients with clinically significant documentation on profile
Interprofessional Communication • Incomplete information sharing among care providers within the patient's circle of care • Handwritten orders • Lack of understanding of the respective roles among different health care professionals • Confirmation bias	• Encourage patients to carry an up-to-date medication and immunization records • Clarify handwritten or unclear orders with prescribers if there are uncertainties • Establish clear roles and responsibilities among healthcare professionals
Long-Term Care (LTC) and Compliance Packaging • Compliance packs / LTC medication "roll" changes • Complex medication regimens • Lack of independent double checks • Lack of verification with the most up-to-date patient's medication therapy	• Update compliance pack guides or templates as soon as changes are made to the patient's medication therapy and attach a copy of the new prescription to the guide or template for verification • Compare patient profile with the MAR and prescription labels every time the medication is dispensed. • Incorporate independent double checks throughout the medication-use process
High-Risk Procedures (E.g. Methadone, Injections, Compounding) • Calculation errors • Inadequate training on high-risk procedures	• Incorporate independent double checks in all high-risk procedures • Ensure all pharmacy team members are well trained on high-risk procedures
Technical Errors • Look-alike/sound-alike drug names and medications with multiple strengths available • Copying from old prescriptions	• Incorporate tall-man lettering in pharmacy dispensing software to help differentiate look-alike/sound-alike drug names • Implement policy to minimize copying from old prescriptions
Clinical Errors • Bypassing or overlooking system alerts • Inadequate knowledge of drug formulations, therapeutics, and patient information	• Mandate documentation (with rationale) when bypassing or overriding system alerts • Implement evidence-based, point-of-care clinical decision support system and easily accessible drug information resources