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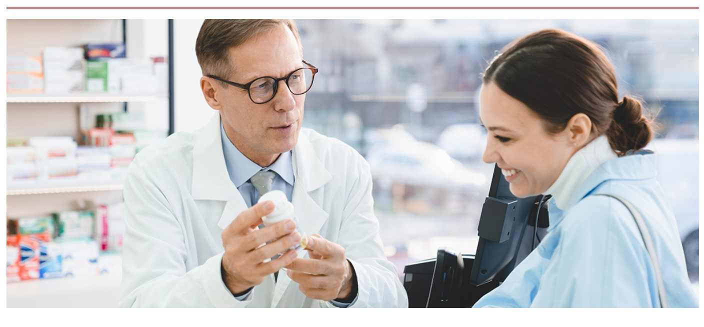


MedSCIM Analysis on Incidents Associated with Patient Harm

The Medication Safety Culture Indicator Matrix (MedSCIM) is utilized during Quality Improvement Reviews (QIRs) to assess the completeness and maturity of medication incident reports.

In addition to using the MedSCIM tool during QIRs, SCPP has previously engaged ISMP Canada to perform a MedSCIM assessment on medication incidents from Saskatchewan pharmacies that have caused patient harm in order to assess progress towards a positive Culture of Safety.

The previous reviews were completed for incidents that occurred from Dec. 1, 2017, to Jan. 31, 2019, and then Feb. 1, 2019, to Aug. 30, 2020. A copy of the previous assessments are available on the SCPP website in the COMPASS tab under Research.

This third review is for incidents that have occurred from Sept. 1, 2020, to March 31, 2022. A summary of the results of the third assessment by ISMP Canada is below.

There were **322** medication incidents that were reviewed by ISMP Canada. Each incident was assessed using two dimensions of the MedSCIM tool.

- **Core Event: Degree of Documentation** evaluates incident reports based on their clarity and completeness. This includes whether readers can understand ***what*** the medication incident was, and ***why*** the incident may have occurred (i.e., underlying contributing factors). Ratings on the "Core Event" domain can range from **1 to 3**.
- **Maturity of Culture to Medication Safety** evaluates incident reports based on the reporter's perceived approach to **patient safety culture**. This includes the reporter's ability to view medication incidents from a **system-based perspective**, rather than one focused on individual fault. Ratings on the "Maturity of Culture to Medication Safety" domain can range from **A to D**.

Results for Degree of Documentation

- With respect to degree of documentation, the **majority** of the incident reports (209 of 322) were deemed to be "fully complete" (i.e., **Level 1**), as the details of the medication incident were clear and potential contributing factors were suggested.
- Approximately **31 per cent** of the incidents (101 of 322) were deemed to be "semi-complete" (i.e., **Level 2**), as their level of documentation allowed for an understanding of what medication incident had occurred but offered no potential contributing factors.
- **Very few** of the incidents (12 of 322) were deemed to be "not complete" (i.e., **Level 3**). In these cases, details of the medication incident remained unclear.

Results for Maturity of Culture

- About **25 per cent** (79 of 322) of the analyzed incidents were characterized as having a "generative" (i.e., **Grade A**) culture. Which means reporters went beyond simply resolving medication incidents as they occur and offered solutions to identified system flaws with the aim of preventing error recurrence.
- **34 per cent** (110 of 322) of reports fit within the "calculative" (i.e., **Grade B**) culture. Reporters considered how the medication system may have allowed the incident to occur but did not advance remedial strategies.
- **31 per cent** (101 of 322) of the reported incidents have a "reactive" (i.e., **Grade C**) culture. These reports treated incidents as isolated events and did not approach them from a system-based perspective or offer a solution.
- **10 per cent** (32 of 322) of the reports displayed a "blame and shame" or "pathological" (i.e., **Grade D**) culture, which emphasized human behaviours and individual fault in their description of events.

When a comparison was made between the previous assessments and this more recent one, the following results were observed.

Degree of Documentation

When compared to the results from the 2020 MedSCIM assessment, it was found that COMPASS pharmacies continued to show strength in documenting with the majority of incident reports continuing to fall into Level 1. However, while the percentage of incidents in Level 2 increased from 2020, the percentage of incidents in Level 1 decreased.

In 2019, less than half (41 per cent) of medication incident reports were classified as "fully complete" (Level 1), so there has been an increase from 2019.

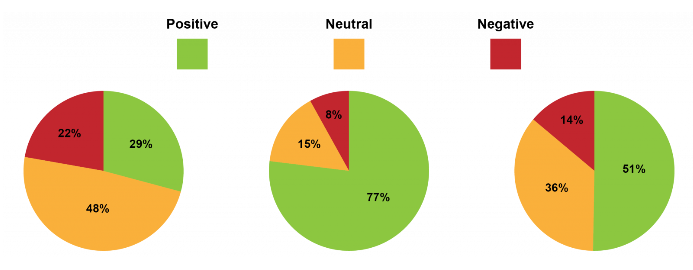
Maturity of Culture

The maturity of culture showed a significant difference when comparing 2020 and 2022. The percentage of medication incidents rated "generative" (Level A) decreased from 64.1 per cent in 2020 to 24.5 per cent in 2022. There was approximately a two-fold increase in the number of medication incidents falling in the "reactive" (Grade C) and (Grade B) "calculative" categories.

In 2020, the incidents were "generative" by a large margin, while in 2022 the frequency of reactive, calculative and generative are more evenly distributed.

The reports with Grade D (pathological) rating still compose a minority.

Culture of Safety Trend Analysis from 2019 to 2022



The pie charts above show there was significant improvement in the green portion (positive safety culture) from 2019 to 2020. However, there has since been a decrease in the green portion from 2020 to 2022, and an increase in the yellow portion, which indicates a move to a more neutral culture.

Conclusions

The overall conclusion from the third review of medication incidents causing patient harm was that COMPASS pharmacies continue to demonstrate several areas of strength with respect to their patient safety culture.

Most incidents from the 2022 assessment were classified under a positive safety culture suggesting that pharmacies are submitting detailed reports that use a system-based approach to address possible causes of incidents. The majority of patient harm incidents were reported with a sufficient level of detail to describe what medication incident occurred and also specified potential contributing factors to the incidents.

It should be noted that reports assessed in the pathological domain are in the minority – so pharmacies have moved away from shame and blame culture.

However, when compared to the 2020 assessment, the 2022 results show that COMPASS pharmacies submitted significantly fewer reports that consider system-based solutions to the identified problems. Therefore, the number of reports that indicate a "generative" approach has decreased significantly.

An explanation for this is likely due to the reporting period for this analysis was during the peak of the COVID-19 pandemic, when pharmacies were under significant stress.

For the full report, please click here.

Heightened Risk of Methotrexate Toxicity in End-Stage Renal Disease

Many medications should be avoided by or prescribed at a lower dose for patients with impaired renal function to prevent toxicity. The bulletin describes findings from two harmful incidents involving patients for whom methotrexate was prescribed while they were receiving dialysis.

Some of the key recommendations based on learning from these incidents are shared here.

All health care providers

For a patient with end-stage renal disease:

- regularly review their medications, particularly when a new medication is initiated;
- document all medication changes in the patient's medical/pharmacy record and EMR; and
- confirm the appropriateness of any new medications with a nephrologist or renal pharmacist.

Community pharmacists and pharmacy staff

- Standardize processes for entering new prescriptions to ensure that patients are asked about changes in their health, including changes in renal function.
- For any patient whose medication profile suggests kidney disease, ask about renal function whenever prescriptions are filled. Typically, patients with end-stage renal disease are taking supplements such as vitamin D analogues (e.g., calcitriol, alphacalcidol), iron, phosphate binders (e.g., calcium, sevelamer), erythropoietin, and vitamins (e.g., Replavite).13
- Identify patients at risk of kidney disease (e.g., those with hypertension or diabetes mellitus) and periodically ask about their renal function.

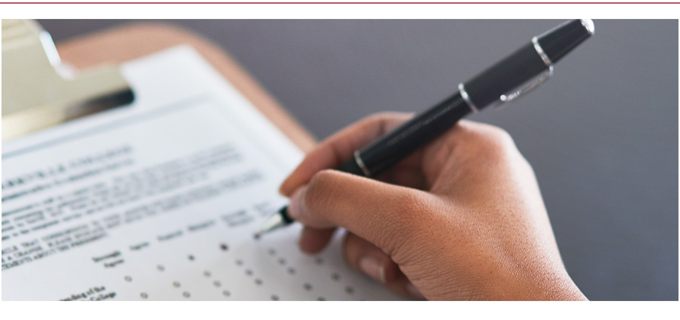
Pharmacy/EMR software vendors

- Incorporate comprehensive lists of medical diagnoses and treatment modalities (e.g., "chronic kidney disease" and "dialysis") in drop-down selection lists for medical conditions.

Drug information providers

- To support health care providers, optimize the information presented in drug information resources (e.g., product monographs, specialty renal dosing references) for safe medication use in renal impairment.

Read the full bulletin for more details, available here.



Coming Soon: Safety Attitudes Questionnaire

Pharmacy staff have been asked to complete a Safety Attitudes Questionnaire (SAQ) in the past, in order to evaluate the advancement in the culture of safety within community pharmacies. The information that is collected during the SAQ is invaluable in both identifying trends within pharmacies and providing useful information on ways that SCPP can assist pharmacies to advance their culture of safety.

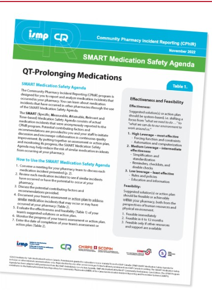
The SAQ has been administered in 2019 and 2021. The link to the results of these previous administrations of the SAQ can be found here.

The new questionnaire will be provided to all community pharmacists and pharmacy technicians for completion within the next month (February/March 2023).

The Safety Attitudes Questionnaire (SAQ) is a validated tool for assessing safety culture. It assesses six main factors (teamwork climate, job satisfaction, perceptions of management, safety climate, working conditions, and stress recognition) with approximately 40 questions.

The intent for administering the SAQ is to obtain updated data regarding the attitudes of pharmacists and pharmacy technicians to inform work SCPP will be doing, including around work environments and how it relates to patient safety.

Watch for the email with the link to the questionnaire. We encourage all pharmacists and pharmacy technicians to participate.



SMART Medication Safety Agenda

The SMART (Specific, Measurable, Attainable, Relevant, and Time-based) Medication Safety Agenda was introduced by the Institute of Safety Medication Practices Canada (ISMP Canada) to increase shared learning amongst pharmacies.

The topic of the latest edition of the SMART Medication Agenda is QT-Prolonging Medications. All previous editions of the SMART Medication Safety Agenda can be found under the COMPASS link on the SCPP website under COMPASS Newsletters.

Shared Learning Opportunity

Incorrect Dose Due to Tapering/Titration Error and Lack of Patient Education

A patient was discharged from the hospital with a prescription for mirtazapine 45mg daily. Previous to the hospital stay, the patient had been having their mirtazapine dose titrated up and had been taking the medication in the morning.

While in hospital, the mirtazapine had been administered at bedtime. Nine days after the hospital discharge, the patient brought in a prescription for mirtazapine 60mg to be taken at bedtime. The pharmacy staff member discontinued the mirtazapine 45mg prescription on the patient profile and filled the 60mg prescription.

A note was put on the outside of the medication bag to discuss the increase with the patient; however, the patient declined counselling. The patient continued to take the 45mg dose in the morning and the 60 mg dose at bedtime for approximately a month.

When the patient requested a refill for the mirtazapine 45 mg prescription, the incident was discovered. The patient was instructed to stop the 45mg dose in the morning, which they did; however, they ended up at the emergency room three days later due to complaints of lethargy and withdrawal symptoms.

The patient was subsequently prescribed a tapering morning mirtazapine dose for six days.

Upon review of the incident by the pharmacy staff, it was determined that the error occurred at the administration stage (patient error) due to a lack of patient education. The main contributing factors that led to the incident occurring were identified as (1) a miscommunication of the drug order, due to misunderstood order (intentional change of dose not indicated on prescription), and (2) patient education issue, specifically the lack of patient counselling on the dose increase and discontinuation of previous prescription.

The system-based solutions that were recommended were:

1. To share the details of the incident with all pharmacy staff, so they are all aware.
2. To confirm any dose changes with the prescriber if the information is not indicated on the prescription.
3. To ensure that any changes in therapy, e.g., dose changes, discontinuation of medication, etc. is clearly communicated to patients, even when counselling is declined. A second method of providing the information could be implemented, e.g., note included inside the prescription bag.

For more information on errors that can occur when doses are being titrated (increased) or tapered (decreased) see the following link to a short presentation on the CPhIR website titled Medication Incidents Involving Drug Tapering: A Multi-Incident Analysis.

This incident was reported here with the involvement and permission of the Saskatchewan community pharmacy.

We want to hear from you!

One of the goals of COMPASS is to promote shared learning between Saskatchewan pharmacies regarding incidents, unsafe practices, and other important issues to improve pharmacy care in Saskatchewan.

One way to promote shared learning would be to report a noteworthy incident/error that occurred within your pharmacy. If your pharmacy has had an incident that would be a good learning opportunity for other Saskatchewan pharmacies, please forward it to SCPP Medication Safety at info@saskpharm.ca.

Any information regarding the pharmacy and the person who provided the details of the incidents/errors will be kept anonymous. The College encourages open sharing of incidents/errors so everyone can learn from them.

Statistics

Statistical reports are provided to bring awareness of the importance of identifying, reporting, and discussing medication incidents. A total of 41,148 incidents have been reported to the Community Pharmacy Incident Reporting (CPhIR) database between Sept. 1, 2013, and Dec. 31, 2022. The statistics below relate to this time period.

Outcomes

- **22,870** reported incidents had an outcome of NO ERROR/NEAR MISS, which means the incidents were intercepted BEFORE they reached the patient.
- **16,962** reported NO HARM incidents, which means the incidents reached the patient but did not cause harm.
- **1,293** reported incidents did result in HARM, with most of these in the category of MILD or MODERATE HARM. There have been 4 incidents reported with an outcome of DEATH.

Incident Types – Top Three

- Incorrect Dose/Frequency – **9,510**
- Incorrect Drug – **7,062**
- Incorrect Quantity – **6,694**

421 pharmacies have either started or completed their Medication Safety Self-Assessment (MSSA) online data entries.

1,534 Continuous Quality Improvement (CQI) meetings have been held.

Contributing Factors – Top Four

- Interruptions – 5,191
- Workload – 4,013
- Look / Sound Alike Names – 2,162
- Staffing Deficiencies – 2,058

Contact

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