SMART Medication Safety Agenda

Methotrexate

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The Community Pharmacy Incident Reporting (CPhIR) program is designed for you to report and analyze medication incidents that occurred in your pharmacy. You can learn about medication incidents that have occurred in other pharmacies through the use of the SMART Medication Safety Agenda.

The **SMART** (**S**pecific, **M**easurable, **A**ttainable, **R**elevant and **T**ime-based) Medication Safety Agenda consists of actual medication incidents that were anonymously reported to the CPhIR program. Potential contributing factors and recommendations are provided to you and your staff to initiate discussion and encourage collaboration in continuous quality improvement. By putting together an assessment or action plan, and monitoring its progress, the SMART Medication Safety Agenda may help reduce the risk of similar medication incidents from occurring at your pharmacy.

How to Use the SMART Medication Safety Agenda

1. Convene a meeting for your pharmacy team to discuss each medication incident presented (p. 2).
2. Review each medication incident to see if similar incidents have occurred or have the potential to occur at your pharmacy.
3. Discuss the potential contributing factors and recommendations provided.
4. Document your team's assessment or action plan to address similar medication incidents that may occur or may have occurred at your pharmacy (Table 2).
5. Evaluate the effectiveness and feasibility (Table 1) of your team's suggested solutions or action plan.
6. Monitor the progress of your team's assessment or action plan.
7. Enter the date of completion of your team's assessment or action plan (Table 2).

Table 1.

Effectiveness and Feasibility

Effectiveness:

Suggested solution(s) or action plan should be system-based, i.e. shifting a focus from "*what we need to do …*" to "*what we can do to our environment to work around us.*"

1. **High Leverage – most effective**
   - Forcing function and constraints
   - Automation and computerization
2. **Medium Leverage – intermediate effectiveness**
   - Simplification and standardization
   - Reminders, checklists, and double checks
3. **Low leverage – least effective**
   - Rules and policies
   - Education and information

Feasibility:

Suggested solution(s) or action plan should be feasible or achievable within your pharmacy, both from the perspectives of human resources and physical environment.

1. Feasible immediately
2. Feasible in 6 to 12 months
3. Feasible only if other resources and support are available

Institute for Safe Medication Practices Canada
Institut pour la sécurité des médicaments aux patients du Canada

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

COMPASS Community Pharmacy Professionals Advancing Safety in Saskatchewan

Si Safety. Improvement. Quality.

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Table 2.

Drug Interactions

INCIDENT EXAMPLE:
A patient using methotrexate was prescribed amoxicillin for an infection. The drug interaction was caught by the pharmacist, and the antibiotic was changed to cefprozil.

POTENTIAL CONTRIBUTING FACTOR:

- Drug-drug interaction alert was overlooked during prescribing and order entry steps

RECOMMENDATIONS:

- Configure drug interaction detection systems to ignore low risk interactions and focus on clinically relevant ones.[1]
- Ensure that pharmacists are notified of all drug interaction alerts.[2]

Calculation Error

INCIDENT EXAMPLE:
A patient received a prescription for methotrexate injection with instructions to inject 25 mg weekly. The 25 mg/mL product was labelled with instructions to inject 2 mL weekly (twice the intended dose).

POTENTIAL CONTRIBUTING FACTOR:

- Lack of independent double check in the order entry and dispensing steps

RECOMMENDATION:

- Develop a policy that requires calculations to be documented on the prescription hardcopy and doubled checked against the original prescription.

Frequency Error

INCIDENT EXAMPLE:
Methotrexate was prescribed once weekly but was inadvertently dispensed in blister packs as once daily. The error was found after the patient had taken two extra doses.

POTENTIAL CONTRIBUTING FACTORS:

- Methotrexate's nonstandard dosing schedule
- Lack of independent double check of the filled blister prior to release

RECOMMENDATIONS:

- Configure pharmacy software to default methotrexate dosing to weekly, with an alert when it is entered as daily. The alert can only be bypassed when a reason is entered.[1]
- Encourage prescribers to specify on the prescription which day(s) of the week patients should take methotrexate to minimize the risk of inadvertent daily dosing.

Assessment / Action Plan

Effectiveness:

- ☐ Forcing function and constraints
- ☐ Automation and computerization
- ☐ Simplification and standardization
- ☐ Reminders, checklists and double checks
- ☐ Rules and policies
- ☐ Education and information

Feasibility:

- ☐ Feasible immediately
- ☐ Feasible in 6 to 12 months
- ☐ Feasible only if other resources and support are available

Progress Notes

Date of Completion:

References
1. ISMP Canada. Methotrexate Medication Incidents in Community Pharmacies. TransPhIR from CPhIR Newsletter. 2015;6(1):1-7
2. ISMP Canada. Severe Harm and Deaths Associates with Incidents Involving Low-Dose Methotrexate. ISMP Canada Safety Bulletin. 2015;15(9): 1-5