SMART Medication Safety Agenda

Preventable Drug-Drug Interactions

SMART Medication Safety Agenda

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
Safety. Improvement. Quality.

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Preventable Drug-Drug Interactions

Table 2.

Missed Alerts

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

POTENTIAL CONTRIBUTING FACTOR:
- Alert fatigue; drug-drug interaction alert during order entry was overridden

RECOMMENDATIONS:
- Implement a robust drug-drug interaction-checking system that focuses on clinically relevant interactions.[1]
- Ensure that pharmacists are notified of any drug interaction alerts raised during order entry.[2]

Inadequate Checking

INCIDENT EXAMPLE:
A patient taking both Eliquis© (apixaban) and ASA 81 mg was prescribed naproxen for 2 weeks. The patient experienced an incessant nosebleed, requiring hospital treatment.

POTENTIAL CONTRIBUTING FACTORS:
- Lack of clinical assessment for therapeutic appropriateness, including safety
- Lack of appropriate drug-drug interaction-checking software

RECOMMENDATIONS:
- Require a clinical assessment by the pharmacist for every new medication received, including consideration of potential drug-drug interactions.
- Regularly update drug-drug interaction-checking systems in pharmacy dispensing software.

Unfamiliarity

INCIDENT EXAMPLE:
A patient taking amitriptyline and sotalol was prescribed ciprofloxacin in case of infection. The pharmacist informed the patient that the combination of these drugs increases the risk of QT prolongation. The patient returned to the physician for a change in therapy.

POTENTIAL CONTRIBUTING FACTORS:
- Prescriber's unfamiliarity with QT-prolonging medications
- Limited ability for computerized prescribing systems and/or pharmacy dispensing systems to recognize drug-drug interactions that increase the risk of QT prolongation

RECOMMENDATIONS:
- Develop a standardized system in the pharmacy to efficiently communicate drug interaction information to prescribers.
- Enhance pharmacy systems to facilitate detection of drug-drug interactions and to provide clinical decision support.

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.