SMART Medication Safety Agenda

Levothyroxine

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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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Levothyroxine

Strength Selection

INCIDENT EXAMPLE: A prescription was written for Synthroid® (levothyroxine) 0.25 mg. The 25 mcg strength was inadvertently dispensed.

POTENTIAL CONTRIBUTING FACTORS:

- Inconsistent use of milligrams (mg) and micrograms (mcg) to express strength
- Confirmation bias due to similarity of multiple available strengths

RECOMMENDATION:

- Standardize the expressions of strength for levothyroxine in prescribing and dispensing systems with micrograms (mcg) not milligrams (mg), to align with manufacturer labels.[1]

Frequency of Dose Changes

INCIDENT EXAMPLE: A patient's levothyroxine dose was changed from 100 mcg to 125 mcg, then back to 100 mcg. After the series of changes, the pharmacy staff inadvertently dispensed the 125 mcg strength instead of the 100 mcg.

POTENTIAL CONTRIBUTING FACTORS:

- Levothyroxine regimens require dosing changes to target optimal hormone levels
- Lack of standardized process to inactivate discontinued medication dose from patient's profile

RECOMMENDATION:

- Implement a policy for systematically inactivating discontinued medications on a patient's profile to ensure only the most updated prescription is active.

Combining / Alternating Doses

INCIDENT EXAMPLE: A patient taking levothyroxine 75 mcg daily came to pick up a new prescription for 25 mcg daily. When counselling the patient on the decreased dose, the patient stated that it was to be increased. The pharmacist verified with the doctor that the patient was to add 25 mcg for a total daily dose of 100 mcg.

POTENTIAL CONTRIBUTING FACTORS:

- Levothyroxine regimens often require combining and/or alternating different strengths to achieve optimal hormone levels
- Inadequate communication with the prescriber regarding the current dose (and to confirm dose changes)

RECOMMENDATIONS:

- Develop a template for communication with the prescriber regarding dose changes for levothyroxine, including clarification of the previous and current doses.
- Offer patient education and counselling for all prescriptions at pick-up to serve as a final check for correct product selection and therapeutic appropriateness.[2]

Table 2.

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. Express levothyroxine doses in micrograms not milligrams. ISMP Canada Safety Bulletin. 2017;17(3) 1-4. Available from: https://www.ismp-canada.org/download/safety Bulletins/2017/ ISMPCSB2017-03-LevothyroxineDoses.pdf
2. ISMP Canada. Patient counselling: an overarching method to mitigate medication errors and ensure continuity of care. May 2016. Available from: https://www.ismp-canada.org/download/posters/ Poster27- PatientCounselling.pdf