Institute for Safe Medication Practices Canada
REPORT MEDICATION INCIDENTS
Online: www.ismpcanada.ca/report/
Phone: 1-866-544-7672

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

ISMP Canada Safety Bulletin Supplement

Volume 26 • Issue 1 • Supplement 1 • January 22, 2026

Standardize Units of Measure in the Expression of Levothyroxine Strength Across All Sources of Drug Information

ISMP Canada recently received a near-miss report involving a discrepancy between different units of measure for expressing the strength of levothyroxine. A key contributing factor was the difference in how levothyroxine strength was presented in the local electronic health record (in micrograms) and in the patient profile within the provincial repository linked to the provincial formulary (in milligrams). This mismatch contributed to a conversion error and the subsequent preparation of a prescription containing tablets with 10 times greater than the intended strength.

Figure 1 illustrates the difference in how levothyroxine tablet strength is expressed in provincial/territorial drug formularies across Canada. Opportunities exist for harmonization among sources of drug information, which would reduce the risk of dosing errors associated with miscalculation or conversion.[1,2]

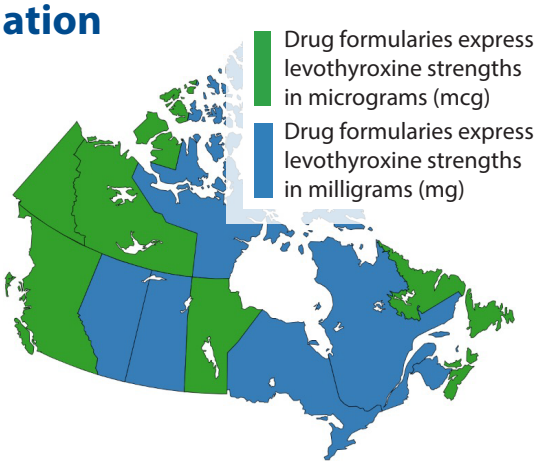

FIGURE 1. Distribution of provincial/territorial drug formularies that express levothyroxine strength in micrograms (mcg; green) and milligrams (mg; blue).

KEY RECOMMENDATION

Always display levothyroxine strengths and doses in micrograms (mcg), NOT in milligrams (mg).[1]

- This recommendation applies to all sources, including (but not limited to) provincial/territorial drug formularies, prescriptions, patient health records, pharmacy systems, group purchasing organizations'/wholesalers' systems, medication administration records, and patient materials.[1]
- An important consideration and/or check is the display of medication information in the Canadian health product monograph. For example, the unit of measure is micrograms (mcg) in [human] levothyroxine product monographs from Health Canada's Drug Product Database.[3]

REFERENCES

1. Express levothyroxine doses in micrograms not milligrams. ISMP Can Saf Bull. 2017 [cited 2025 Aug 8];17(3):1-2. Available from: https://ismpcanada.ca/bulletin/express-levothyroxine-doses-in-micrograms-not-milligrams/
2. Clemens K, Van Uum S. A pituitary mass as consequence of a decimal error in levothyroxine dose. CMAJ. 2012;184(2):210.
3. Search results summary [status: marketed; active ingredient: levothyroxine]. In: Drug Product Database online query. Ottawa (ON): Health Canada; 2024 Aug 14 [cited 2025 Oct 8]. Available from: https://health-products.canada.ca/dpd-bdpp/dispatch-repartition

© 2026 ISMP Canada