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ISMP Canada Safety Bulletin

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Analysis of Medication Incident Data across Care Settings Informs Quality Improvement in Cancer Care

Use standardized order sets for oral anti-cancer treatment.
- A new provincial NSH policy was developed to support the use of standardized order sets.

Provide oncology pharmacist support for patients receiving oral anti-cancer treatment.
- Integration of oncology pharmacists strengthens oral anti-cancer treatment assessment, verification, coordination, and education.

Mitigate potential risks with clinical information systems and associated new workflows.
- Safety steps for prescriptions going to the community pharmacy need to be incorporated into the clinical information system and workflow.

Ensure educational resources on oral anti-cancer treatment are readily available to community pharmacy teams.
- Materials include province-specific resources (including protocols) and updated point-of-care resources.

Delivery of cancer care involves coordination among multiple health care providers and services. Patients receiving anti-cancer treatment, which involves high-alert medications,[1] frequently transition between acute and ambulatory care settings. This bulletin describes an initiative led by the Nova Scotia Health (NSH) Cancer Care Program to identify vulnerabilities and inform quality improvement in the delivery of oral anti-cancer treatment.

ANALYSIS OF DATA ACROSS CARE SETTINGS

Through its continuous quality improvement program, the NSH Cancer Care Program delivering treatment in both acute and ambulatory care settings sought to identify and implement system improvements informed by available medication incident data. Through review of their hospital-based data, oral anti-cancer treatment was identified as an area of focus.

The NSH Cancer Care Program recognized that care for patients receiving oral anti-cancer treatment extends into the community. To better understand safety issues related to medication care plans in the community, the organization contacted ISMP Canada. In follow-up, ISMP Canada conducted a multi-incident analysis of community-based

incident reports from Nova Scotia for a recent 5-year period. Data were extracted from relevant Canadian Medication Incident Reporting and Prevention System (CMIRPS) databases,[†] and the analysis findings were shared with the organization.

KEY RECOMMENDATIONS

Analysis of data across acute and ambulatory care settings identified several factors contributing to incidents and informed development of the recommendations presented below.

Use standardized order sets for oral anti-cancer treatment.



The NSH Cancer Care Program now requires the **use of standardized order sets** (preprinted or as part of computerized prescriber order entry [CPOE]) for oral anti-cancer treatment, a requirement that is supported by a new provincial NSH policy. Implementation of standardized order sets can help to improve prescribing practices and reduce variability in medication orders.

- Incomplete, incorrect, or illegible medication orders (often associated with incorrect dose/frequency) were identified as contributing factors in reported incidents.

Mitigate potential risks with clinical information systems and associated new workflows.



The NSH Cancer Care Program is ensuring that the **safety steps** undertaken by an oncology pharmacist for oral anti-cancer treatment prescriptions are continued as workflow incorporates the electronic clinical information system. These safety steps can help in the recognition and resolution of prescribing errors before they reach the community pharmacy team and the patient/caregiver.

- The lack of a quality check was identified as a contributing factor in reported incidents.

Provide oncology pharmacist support for patients receiving oral anti-cancer treatment.



The NSH Cancer Care Program advocated for **the integration of oncology pharmacists** in the care for all patients across the province using anti-cancer treatment. When fully implemented, the oncology pharmacist would be responsible for assessing, verifying, coordinating, and providing education on oral anti-cancer treatment. A parallel process had already been established to integrate similar safety checks for parenteral anti-cancer treatment.

- Patient communication factors and staff lacking oncology expertise were identified as contributing factors in reported incidents. Engaging the patient/caregiver as an integral part of the circle of care can help them to optimize information-sharing with health care providers across care settings.

Ensure educational resources on oral anti-cancer treatment are readily available to community pharmacy teams.



The NSH Cancer Care Program recommended sharing **specialized knowledge and resources** related to oral anti-cancer treatment with community pharmacy teams through the provincial pharmacy association.[‡] Materials include province-specific resources (including protocols) and updated point-of-care resources on oral anti-cancer treatment and other oncology topics.

- Insufficient knowledge (specifically, lack of recognition of clinically relevant drug interactions) was identified as a contributing factor in reported incidents.

CALL TO ACTION

This provincial NSH quality improvement initiative identified opportunities to strengthen the safety of oral anti-cancer treatment through the use of standardized order sets, risk mitigation with clinical information systems, integration of oncology pharmacists in care for patients across the province, and resource sharing with community pharmacy teams.

[†] The National Incident Data Repository for Community Pharmacies, the Individual Practitioner Reporting database, and the Consumer Reporting program are components of the Canadian Medication Incident Reporting and Prevention System (CMIRPS). More information about CMIRPS and the databases is available from: http://www.cmirps-scdpim.ca.

[‡] Access to resources from the provincial pharmacy association may require paid membership.

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REFERENCE

1. A new Canadian approach to high-alert medications. ISMP Can Saf Bull. 2024 [cited 2026 Jul 2];24(1):1-5. Available from: https://ismpcanada.ca/bulletin/a-new-canadian-approach-to-high-alert-medications

CMIRPS SCDPIM

Canadian Medication Incident Reporting and Prevention System

Système canadien de déclaration et de prévention des incidents médicamenteux

The Canadian Medication Incident Reporting and Prevention System (CMIRPS) is a collaborative pan-Canadian program of Health Canada, the Canadian Institute for Health Information (CIHI), the Institute for Safe Medication Practices Canada (ISMP Canada) and Healthcare Excellence Canada (HEC). The goal of CMIRPS is to reduce and prevent harmful medication incidents in Canada.

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