
Welcome to the electronic bulletin for the National System for Incident Reporting (NSIR). In our efforts to keep you informed, we highlight recent program developments, preview ongoing projects and feature key topics to support data quality and continuous learning from incident data.

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### Highlights

**NSIR-RT update**

**Priority NSIR-RT system changes:** Priority system changes based on pilot feedback were released the first week of July. New to the system are updated values for the following data elements: Process Step Where Incident Occurred, Process Step Where Incident Was Detected, Problem Type and Contributing Factors. You will see these changes in the data entry screens and also in the analytical tool. Additional system changes are required and will be announced as they are completed.

**The NSIR-RT minimum data set:** The NSIR-RT minimum data set, which includes all of the recommendations from the pilot, was recently released. All NSIR users were sent a copy by email.
NSIR-RT pilot evaluation report: The report provides a summary of the purpose, methodology, results and recommendations from the 15-month NSIR-RT pilot. It will be distributed to NSIR-RT pilot participants soon. Stay tuned!

RT incident investigation and learning course: The Canadian Partnership for Quality Radiotherapy (CPQR) has announced details on Radiation Treatment Incident Investigation and Learning With the CPQR/CIHI National System for Incident Reporting in Radiation Treatment (NSIR-RT). For more information about the course, please email administrator@cpqr.ca.

Updated service agreement for NSIR-RT participating facilities: As announced in the last NSIR-RT eBulletin, updated service agreements and schedules have been sent to sites.

- For sites outside of Quebec, the agreements are unchanged so no action is required, unless the organizational contacts for the NSIR-RT module (and medication module, if applicable) have changed.
- In Quebec, updated agreements require re-signing. These documents were sent from CIHI’s Central Client Services to the named organizational contact at your facility. If you have any questions, please contact CIHI’s Client Services (help@cihi.ca).

NSIR medication incident reporting update

Update to the NSIR Minimum Data Set: The minimum data set (MDS) for medication incident reporting was last updated in 2012. Although the changes that have been introduced over the years have been implemented in the system, they have not been made in the document. With this update, the document will reflect the current content of the system. To obtain a copy of the MDS, email nsir@cihi.ca.

Reporting and learning

Medication reconciliation*

The goal of medication reconciliation is to prevent adverse drug events by implementing a medication reconciliation process upon admission, transfer and discharge.

— Safer Healthcare Now!

What is medication reconciliation?

According to the Institute for Safe Medication Practices (ISMP) Canada, it is a formal process in which health care providers work together with patients and families to ensure that accurate and comprehensive medication information is communicated consistently across transitions of care. Medication reconciliation (MedRec) requires a systematic and comprehensive review of all the medications a patient is taking — known as a Best Possible Medication History (BPMH) — to ensure that medications being added, changed or discontinued are carefully evaluated. It is a component of medication management and will inform and enable prescribers to make the most appropriate decisions for the patient.
What is a Best Possible Medication History?
The BPMH is a snapshot of the patient’s actual medication use, which may be different from what is contained in the patient’s records. It is more comprehensive than a routine primary medication history, which is often a quick preliminary medication history that may not include multiple sources of information.²

A BPMH is created using

- A systematic process of interviewing the patient/family; and
- A review of at least one other reliable source of information to obtain and verify all of a patient’s medication use (prescribed and non-prescribed).

Complete documentation includes drug name, dosage, route and frequency.²

Medication reconciliation: A 3-step process¹

Create

a complete and accurate BPMH

Reconcile differences

Use the BPMH to create admission orders or compare the BPMH against admission, transfer or discharge medication orders; identify and resolve all discrepancies

Document and communicate

any resulting changes in medication orders to the patient and family/caregiver, and to the next provider of care

Note
* Information in this section appears with permission from the Canadian Patient Safety Institute and ISMP Canada.

Sources

MedRec in NSIR
To date, a total of 322 medication incidents have been reported to NSIR, with MedRec identified as a contributing factor.

How are MedRec-related incidents different?
The majority of NSIR incidents are reported to have occurred during administration (40%) and preparing/dispensing (17%).

MedRec-related incidents tend to occur during the order documentation stage of the medication-use process (57%). These are incidents that involved a problem with the transcription or transfer of order information. In these cases, a problem occurred while performing medication reconciliation activities, such as documentation of a patient’s medication history at admission, transfer or discharge.
Most incidents reported to NSIR have been detected by registered nurses (57%). However, in the case of MedRec-related incidents, pharmacists are more likely (44%) to have detected the incident.

The following 2 scenarios are based on cases submitted to NSIR and represent incidents that can occur when MedRec processes are not completed.

**NSIR scenario 1**

Upon the patient’s presentation to the emergency department (ED) from a retirement home, a BPMH was completed.

The ED nurse completing the BPMH initially received a barely legible copy of the medication administration record (MAR) from the patient’s retirement home. A subsequent request to resend the MAR resulted in a faxed version of the document of similarly poor quality.

Based on the illegible information, the nurse documented the dose for the drug product bisoprolol fumarate on the BPMH as 25 mg. The correct dose was 2.5 mg.
The patient was transferred to an inpatient unit at 10 p.m., at which point telephone orders to continue medications from the retirement home were obtained.

Because the pharmacy had not yet completed the overnight order review and dispensing, the nurse on duty the next morning accessed a pharmacy supply cabinet to get the patient’s medication.

The patient received the incorrect dose of bisoprolol fumarate (25 mg instead of 2.5 mg).

The patient experienced a drop in heart rate to 46 beats per minute and chest pains. An ECG showed second-degree heart block, prompting a cardiology consult and admission to the cardiology unit for telemetry and observation.

The incident resulted in moderate harm to the patient.

**NSIR scenario 2**

On admission, the patient’s home medication history noted Dilantin 100 mg 3 times per day. Throughout the patient’s stay in hospital, he remained on this dose as documented in the pharmacy information system and on the medication administration record (MAR).

At discharge, the physician wrote a prescription for Dilantin 100 mg 4 times per day. There was no documentation in the chart to indicate that a dosing change was intentional. The patient was discharged to his assisted living facility where the prescription was filled, dispensed and administered as written.

4 weeks later, the patient was readmitted to hospital after falling and fracturing a hip, at which point the incorrect dose was identified. The patient’s phenytoin level was in the toxic range and likely contributed to the patient’s fall and subsequent hip fracture.

The patient experienced serious harm.

**For more information on medication reconciliation**

- [ISMP Canada](#)
- [Canadian Patient Safety Institute](#)
- [5 questions to ask about your medications](#) (for patients and caregivers)

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**ISMP Canada’s recent alerts and safety bulletins**

- [Epinephrine Use for Anaphylaxis — A Multi-Incident Analysis](#)
- [Opioids — Be an Informed Consumer](#)
- [Do You Know Your Medication Allergies?](#)

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Conferences of interest

**Canadian Patient Safety Week** (October 30 to November 3, 2017)
National annual campaign to inspire extraordinary improvement in patient safety and quality.

**HealthAchieve 2017** (November 6 and 7, 2017)
The signature conference and exhibition of the Ontario Hospital Association for more than 90 years.

**Advancing Safety for Patients in Residency Education** (November 28 to December 1, 2017)
A 4-day comprehensive program to develop patient safety and quality improvement educators, offered by The Royal College of Physicians and Surgeons of Canada and the Canadian Patient Safety Institute.

Contact us

Unless otherwise stated, NSIR findings reported in this eBulletin are based on the voluntary reporting of medication incidents at participating health care facilities across Canada from 2008 to the present.

Thank you for taking the time to read the eBulletin for the National System for Incident Reporting (NSIR). The NSIR eBulletin is distributed quarterly. If there is anything you would like to see featured in an upcoming edition, please contact us at nsir@cihi.ca.