

To err is human, to cover up is unforgivable, and to fail to learn is inexcusable.

Sir Liam Donaldson, former chief medical officer, Department of Health, United Kingdom, and chair of the World Health Organization World Alliance for Patient Safety. Keynote address at the launch of the alliance in Washington, D.C., on October 27, 2004.

National
System
for Incident
Reporting

NSIR



Canadian Institute
for Health Information
Institut canadien
d'information sur la santé

Collect. Analyze. Share. Learn.



Welcome to the quarterly National System for Incident Reporting (NSIR) electronic bulletin. This is where you can find information on medication and radiation treatment incident reporting and analysis for sharing and learning across Canada.

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Highlights

Mission critical: Critical incidents

NSIR quiz

A patient was transported by ambulance from a hospital to an acute care facility for a procedure. After the procedure, the patient became unresponsive. The acute care facility staff were unsure what medications had been administered to the patient because ambulance employees did not leave a patient care report. Later, after receiving the ambulance notes, acute care facility staff discovered that 10 milligrams of morphine had been given to the patient while en route to the facility. This was in addition to an opioid administered for the procedure. Naloxone was ordered and the patient made a full recovery.

What degree of harm would you say took place during this case scenario if you were submitting this incident to NSIR?

- a) No harm
- b) Mild harm
- c) Moderate harm
- d) Severe harm

Based on conversations with users, we know that some would select “no harm” while others would select “severe harm.” Here is why impressions differ:

- No harm: Although the patient was unresponsive, the incident did not result in a serious disability, injury or harm to the patient. This perspective focuses exclusively on the patient outcome.
- Severe harm: Although the patient did make a full recovery, the patient required a life-saving intervention (naloxone) to overcome the harm from the incident. This perspective focuses on the evaluation of harm to the patient at any point during the incident.

The answer, according to NSIR, is d) Severe harm.

How does NSIR decide? NSIR uses the World Health Organization (WHO) International Classification for Patient Safety to evaluate degree of harm. WHO defines severe harm this way: “Outcome is symptomatic, *requiring life-saving intervention or major surgical/medical intervention*, or shortening life expectancy or causing major permanent, long-term harm or loss of function.” This definition encompasses the severity and duration of the harm, as well as any treatment implications necessary because of the incident. It focuses on incident harm at any juncture of the event, meaning during or after the incident.



Tip! Definitions for all degrees of harm can be found in the NSIR Minimum Data Set document and can be accessed in the system by clicking the question mark beside each data element. Don't have access? Email us at nsir@cihi.ca.

Sharing critical incidents for learning and prevention

In NSIR, critical incidents include those that have an outcome of severe harm, as defined previously, or death. When incidents like the aforementioned case scenario are submitted to NSIR with harm coded as none, mild or moderate, they are not identified as a critical incident.

The outcome to the patient in the case example could very well have been brain damage or even death, had it not been for the life-saving intervention. Using NSIR's definitions, a critical incident occurred. The basis of our work at NSIR is to analyze these kinds of incidents, understand trends and patterns, and provide information to NSIR users and partners about these incidents.

Critical incidents submitted to NSIR

Between 2008 and early 2019, 207 critical incidents were reported to NSIR from 87 facilities across Canada. Examining these incidents reveals some interesting patterns and gaps in the data.

What the data reveals to us

Which drugs?

Anticoagulants and opioids are the 2 most common groups of drugs involved in critical incidents reported to NSIR.

Opioids account for a third of critical incidents, compared with only 16% of all other types of incidents. Common opioids include hydromorphone hydrochloride, morphine sulfate and fentanyl. (See also "The problem with opioids," January 2017 eBulletin. Email nsir@cihi.ca for previous issues.)

Anticoagulants are prevalent in critical incidents where there is a patient death. Almost one-third of all deaths reported to NSIR involve an anticoagulant. (See also "Investigating high-alert drugs: A look at anticoagulants," July 2016 eBulletin. Email nsir@cihi.ca for previous issues).

Where do incidents occur?

Critical incidents report 41 distinct functional areas where the incident occurred. This indicates that incidents happen in many different areas in hospitals and not only in, for example, emergency or critical care departments.

Was the patient informed of the incident?

Disclosing information about the incident to the patient/family is much more likely when the incident involves serious harm or death. 92% of critical incidents reported that the patient/resident or family were informed of the incident (see "[Disclosure of incidents: Informing patients and families](#)," April 2017 eBulletin).

What we hope to learn more about in future

All incident details are informative and useful when reporting critical incidents as they inform recommendations and help to develop preventive actions. Unfortunately, there are gaps in information currently being reported to NSIR for critical incidents.

What was the root of the problem?

Of all critical incidents reported to date, 24% of critical incidents did not report a problem type and were coded as “other” compared with only 15% of non-critical incidents. Problem type is a core data element that is often used as a filter to explore NSIR data.

Other problem types for critical incidents include wrong quantity (24%), wrong product (12%), wrong rate/frequency (11%) and omitted dose (9%).

Tip! Some users find it challenging to select a single problem type and feel that more than one may have contributed to the incident. In these cases, we ask that users select the problem type most responsible for the harm instead of selecting the value “other.” If you need assistance with any coding issue, please contact us at nsir@cihi.ca.

What happened?

The incident description text field provides reporters the opportunity to share a brief narrative of the events surrounding the incident. On average, the text fields for critical incidents (which get texts averaging 81 words) are longer than those for fields for lesser levels of harm (texts for those average 33 words).

However, in 35 critical incidents (17%), the incident description text field was left blank. Without information in this text field, it is virtually impossible for other facilities to learn from these incidents or attempt to prevent them from occurring.

Tip! The narrative does not need to be lengthy to be relevant and useful to other users and NSIR partners. Sometimes just briefly sharing the who, what, where, when, why and how can provide more than enough information for others to better understand the incident and learn how to prevent it from happening again.

Circling back to you: Stakeholder feedback loops

Incident analysis is essential to understanding systemic weaknesses in the medication system.¹ Such analysis relies on the expertise of various health care providers and patient safety experts to identify the issue(s) and develop recommendations/preventive strategies.² Once an investigation is complete, closing the feedback loop to the front-line staff is crucial. This step helps with the implementation of recommendations and ensures that staff continue their engagement with incident reporting and learning.²

NSIR expands the feedback loop nationally to share local lessons learned across the country with acute care and long-term care facilities that may experience similar systemic issues in the medication system.

More information on provincial critical incident reporting

[Ontario — Critical incident reporting](#) (including [guidelines](#))

[Manitoba — Critical incident reporting and investigation](#)

[Saskatchewan — Critical incidents](#)

[Alberta — Critical incident reporting](#)

[British Columbia — Critical and non-critical patient safety event management and review policy](#)

Sharing and learning

ISMP Canada's recent alerts and safety bulletins

[Gaps in interconnectivity of a hospital's electronic systems create vulnerabilities at transitions of care](#)

[Medication safety in long-term care: Measuring quality improvement over 12 years](#)

NSIR's family tree is growing!

Radiation treatment incident reporting through NSIR — Radiation Treatment (RT) just keeps growing! There are now 24 cancer centres sharing and learning through NSIR-RT. To accommodate this growth, we have made a small change to the online data entry for selected sites only.

This may apply to your health care facility if it is part of a group of organizations (e.g., a corporation) and includes a cancer centre participating in NSIR.

We have added the cancer centre to your list of facilities under the "Submit" tab when entering online NSIR incidents.

Just select the appropriate facility when entering each new incident. That's it!

If you have any questions or comments about this change, email us at nsir@cihi.ca.

Does this change who can see my data?

No. Facilities may see each other's data only if they inform NSIR that they grant permission for another facility to have "read" access to their incidents. Permissions are initially set up when facilities join NSIR and can be changed upon request.

If you would like more information about how your facility is set up in NSIR and/or would like to learn more about permissions, please contact us at nsir@cihi.ca!

NSIR-RT

NSIR-RT incidents with problem type "other"

The [Canadian Partnership for Quality Radiotherapy](#) publishes a quarterly bulletin. The spring 2019 issue includes information about coding problem type "other," a case study entitled "Appropriate policies and procedures can help mitigate incident occurrence" and much more!

The bulletins support continuous learning from incident data through the presentation of data trends and case studies. They also provide NSIR-RT system users with information on program developments and enhancements.

Additional information

Upcoming conferences and learning



[Public Health 2019](#)

April 30 to May 2, Ottawa

Public Health 2019 is the national forum where public health professionals, researchers, policy-makers, academics, students and trainees come together to strengthen efforts to improve health and well-being, to share the latest research and information, to promote best practices and to advocate for public health issues and policies grounded in research.

[2019 CAHSPR Scientific Conference](#)

May 29 to 31, Halifax

What really happens when research meets policy? Get the inside scoop at the 2019 CAHSPR Scientific Conference from May 29 to 31 in Halifax. Health care leaders from Nova Scotia and across Canada will talk openly about what they value in health services research and hear noted researchers explain how they make their findings helpful to decision-makers.

[e-Health 2019 Conference and Tradeshow](#)

May 26 to 29, Toronto

The annual e-Health Conference and Tradeshow is the biggest event to bring Canadian digital health professionals together to network, connect and learn from one another. The Canadian Institute for Health Information (CIHI) is excited to co-host this event, and we're planning multiple presentations that you'll definitely want to see.

[RTi3: Radiation Therapy Conference](#)

May 31 to June 1, Toronto

RTi3 is Canada's premier annual meeting for the radiation therapy community. RTi3 is committed to advancing the science and practice of radiation therapy, showcasing the latest research and clinical innovations.

[PxP2019 Conference](#)

June 3 to 5, Toronto

The Canadian Pharmacists Association (CPhA) and the Ontario Pharmacists Association (OPA) announce Pharmacy Experience Pharmacie (PxP).

The inaugural PxP2019 replaces CPhA's and OPA's individual conferences. At this national gathering, the entire pharmacy community can come together to learn, connect and be inspired about pharmacy as a profession, a practice and a calling.

[ISMP Canada Med Safety Exchange webinar series](#)

May 15, 2019 and July 17, 2019

Join your colleagues across Canada for ISMP Canada's complimentary bimonthly 50-minute webinars, where professionals share, learn and discuss incident reports, as well as trends and emerging issues in medication safety.

To register and for more information on this series, please visit [ISMP Canada — Med Safety Exchange](#).

Recent CIHI releases

[Patient Experience in Canadian Hospitals](#)

April 17, 2019

Starting this spring, CIHI will begin publicly reporting on patient experiences collected through the Canadian Patient Experiences Reporting System.

Contact us



Thank you for taking the time to read the NSIR eBulletin. Unless otherwise stated, the reported NSIR findings are based on the voluntary reporting of incidents at participating health care facilities across Canada. If there is anything you would like to see featured in an upcoming edition, please email us at nsir@cihi.ca.

The NSIR eBulletin is distributed on a quarterly basis. Previous editions can be found at [NSIR](#).

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References

1. ISMP Canada. [Summary of 2015 critical incident reporting analysis](#). *Ontario Critical Incident Learning*. July 2016.
2. Mahajan RP. [Critical incident reporting and learning](#). *British Journal of Anaesthesia*. July 2010.