On average, people should be more skeptical when they see numbers. They should be more willing to play around with the data themselves.

Nate Silver, founder and editor-in-chief of FiveThirtyEight

Winter 2020

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.

If you are having difficulty viewing this email, please see the attached PDF version.

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Highlights

Analyze with care: Dos and don’ts with NSIR data

Incident data should be used to inform decision-making. With this type of data, some analytical summaries can be very informative, while others may lead to misinterpretation.

DO use broad search criteria when analyzing NSIR data for specific system issues.

Incident data provides valuable information to identify weaknesses in the medication use system. However, this information may be found in various parts of the incident report. The details you are looking for may not be where you think they are, and sometimes key incident details will be enumerated in different parts of a report.

For example, system weaknesses related to storage are found in 3 data elements: as a medication use stage in Process, as an incident type in Problem and as potential causes in Contributing factors (e.g., storage conditions, drug delivery, inventory). Incident reporters may also provide additional information in the text field narrative. A narrow search for storage issues in Process alone yields 740 incidents, but a wider search of all 3 fields will provide almost 400 more incidents for review.

We recommend you take a thorough approach to reviewing cases when conducting analysis.

DO use time series analyses to review reporting frequency and explore your facility data.

Monitoring the total number of reported incidents at your facility over time is an invaluable method of summarizing the data for local risk-management activities.

Summaries of incident data over time may be particularly helpful for your facility to measure the impact of a policy changes, a procedural change or a newly implemented patient safety initiative (e.g., implementation of new technology such as barcoding, addition of an automated dispensing system at a facility).

Changes in reporting over time may help to identify where improvements in the medication use system have been made or where issues in the system have been detected/reported. However, it is important to consider whether the trend reflects changes in incident occurrence or in reporting. For example, an increase in reported incidents may simply reflect an increase in awareness for a specific system issue or education/promotional activities that encourage more reporting.

DO use NSIR comparative reports to better understand your data relative to what the rest of NSIR is reporting.

A comparative report helps you to validate observations in your data or to identify potential gaps in your data. Looking at your data in comparison with the totality of Canadian data helps you to interpret those patterns.

A review of your facility's data compared with "all NSIR" data may identify issues that had been considered rare but may actually be more common when aggregated across the country. For example, an issue with a smart pump initially was considered an isolated technical issue until a comparison was made across all participating facilities in NSIR.

Comparative reports may also help to prioritize incidents requiring more investigation. For example, an "all NSIR" comparison of the top 10 drug products may validate issues with drug products/drug classes that are reported within your facility, like opioids, or it may highlight significant differences in commonly reported drug products that could benefit from further investigation.

Always remember to select an appropriate comparator group when engaging in these types of comparisons. For example, long-term care facilities are likely to have a different set of top 10 incidents than a pediatric hospital.

DO share observed patterns and trends in your data with other staff.

To truly validate and understand patterns in your facility's data, it is important to complete the feedback loop with other staff. This will help develop internal action plans to improve patient safety.

DON'T use NSIR data to assess incident rates or establish patient safety metrics.

NSIR's system is predicated on voluntary anonymous reporting. This is done to promote a patient safety culture and to help move us past a blame-and-shame approach to addressing medical incidents. However, the data that comes from voluntary anonymous reporting is not well suited to measuring error rates over time because, within a facility, not all incidents are discovered and not all discovered incidents are reported. With a voluntary system, the question "how often do medication errors occur in my facility?" cannot definitively be answered.

Ultimately, all facilities strive for continuous improvement of their medication use systems to prevent incidents.[1] It may be better to assess the patient safety of facilities based on their ability to implement changes for a safer system.[2]

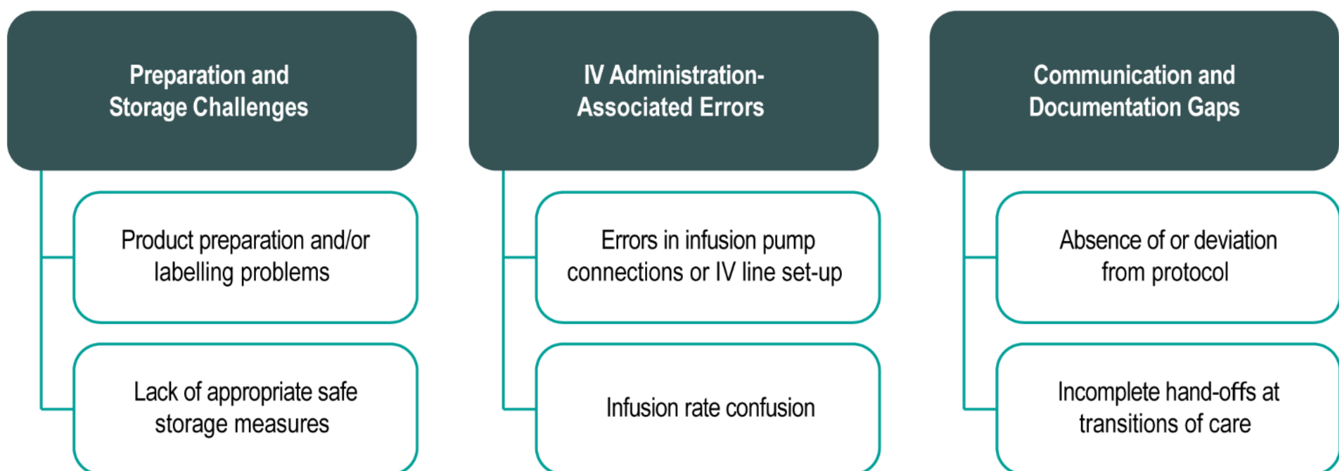
If you would like more information on how to analyze and interpret incident data, please contact us at nsir@cihi.ca.

Sharing and learning

Focus on a critical incident

Recently, the Institute for Safe Medication Practices (ISMP) Canada published Errors associated with oxytocin use: A multi-incident analysis in its bulletin. This article referred to multiple data sources, including NSIR. The article presented a number of themes and sub-themes identified through systematic analysis as shown in the figure below.

Figure Main themes and sub-themes identified from oxytocin-associated medication incidents



Note
Image used with permission from ISMP Canada.
Source
Institute for Safe Medication Practices Canada. Errors associated with oxytocin use: A multi-incident analysis. October 23, 2019.

The following is a case description summary of an oxytocin incident that was reported to NSIR. The incident falls within the first main theme identified by ISMP Canada through its multi-incident analysis:

"Oxytocin 10 units was drawn up in a syringe in preparation for administration during second stage of labour. The syringe was placed on a fetal heart monitor as is the practice on the birthing unit. The oxytocin vial was taped to the syringe to assist with identification of the drug product in the syringe. The patient requested analgesia so morphine and dimenhydrinate were drawn up in a syringe. The morphine and dimenhydrinate syringe was placed on the fetal heart monitor opposite the oxytocin prepared syringe as the nurse assisted the patient to position for injection. Inadvertently the oxytocin syringe was reached for resulting in administration of oxytocin instead of the morphine and dimenhydrinate. Uterine hyperstimulation and fetal bradycardia followed. The patient required a stat cesarean section. Infant's Apgar scores 8 at 1 min and 9 at 5 mins. Mother stable."

The facility provided suggested changes in the Future Strategies and Recommendations data element. One recommendation is to delay preparation of an oxytocin syringe until needed in the second stage of labour and then to keep it in a supplied pharmacy container in a supply cabinet in the labour and delivery room. Further, pharmacy will label all oxytocin vials as a high-alert medication.

Conquering silence

The Canadian Patient Safety Institute (CPSI) launched a new website — ConquerSilence.ca — on October 21, 2019. Every year, 28,000 Canadians die from preventable harm in our health care systems. CPSI is encouraging all health care providers, patients and families to speak up and not stay silent if something looks wrong, feels wrong or is wrong. The website is a platform where health care harm stories and recommendations can be shared and learned from to reduce patient harm.

ISMP Canada's recent alerts and safety bulletins

Errors associated with oxytocin use: A multi-incident analysis

When medications are not available due to a drug shortage

Biologics and biosimilars: What you need to know

NSIR — Radiation Treatment (RT)

NSIR-RT system soon available in French

Beginning in early 2020, users will be able to interact with NSIR-RT in both English and French. Language selection will be available within the NSIR-RT application, enabling functions such as data entry or use of the communication tool in either language. Implementation of the French language within the analytical tool will follow. This means that all incidents — regardless of the language used to create the incident — will be included in an aggregate analysis in the language that the user chooses. However, text fields such as Incident Description will be available only in the language in which they were submitted.

Fall 2019 bulletin

A new edition of the NSIR-RT bulletin was published in October 2019; the feature article was "Learning from incidents in the use of MRI in the RT environment."

Additional information

Upcoming conferences and learning

ISMP Canada Med Safety Exchange webinar series

January 15, 2020

Join your colleagues across Canada for ISMP Canada's complimentary bimonthly 50-minute webinars, where they share, learn about 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.

CSHP Professional Practice Conference 2020

February 1 to 4, 2020

The Professional Practice Conference (PPC) is the Canadian Society of Hospital Pharmacists' annual national conference, which will be held at the Hilton Toronto (downtown) in Toronto, Ontario. PPC offers its attendees (both hospital and community pharmacists from coast to coast to coast and beyond) the opportunity to learn, engage and network with colleagues from varied scopes of practice.

Recent CIHI releases

Opioid Prescribing in Canada: How Are Practices Changing?

October 17, 2019

This report highlights trends in opioid prescribing and discusses findings within the context of initiatives and guidelines aimed at reducing harms associated with prescription opioid use.

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 contact us at nsir@cihi.ca.

The NSIR eBulletin is distributed on a quarterly basis. Previous editions can be found on the NSIR web page.

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References

1. National Coordinating Council for Medication Error Reporting and Prevention. Statement on medication error rates. Accessed December 9, 2019.

2. Pham JC, et al. What to do with healthcare incident reporting systems. *Journal of Public Health Research*. 2013.