



National System for Incident Reporting

Introduction to Ontario Hospitals



Canadian Institute
for Health Information

Institut canadien
d'information sur la santé

Presentation Outline

- > Patient Safety at CIHI
- > NSIR Development
- > Key Features of NSIR
- > Critical Incident Reporting in Ontario
- > Learning and Sharing
- > Next Steps

NSIR at a Glance

- > A new patient safety initiative launched by CIHI in April 2010
- > Reporting system designed to facilitate sharing and learning from medication incidents
- > NSIR Program Objectives:
 - To enable system-wide and local solutions to medication errors
 - To give risk managers on the front-lines the tools, access and knowledge to implement local solutions
 - To develop partnerships that create and disseminate strategies, recommendations and solutions

Patient Safety Activities at CIHI

> Performance Measures and Indicators

- Hospital Standardized Mortality Ratio (HSMR)
- Health Indicators work
- Provincial Wait Times Tables
- Canadian Hospital Reporting Project (CHRP)

> Methodology and Data Development

- Classifications work for drug-resistant microorganism infections (DRMO) and for adverse effects of drugs in therapeutic use
- Development and launch of pan-Canadian incident reporting system (NSIR)

> Analyses

- Potentially inappropriate drug use in seniors (Beers list drugs)
- Hospital-acquired infection control practices

NSIR Development

- > **Concept emerged from Health Canada/CSHP workshop (2000)**
 - Initial focus was on medication incidents in hospitals
 - Drug-related events are the second largest category of adverse events and have the potential to be catastrophic
 - Workshop led to the creation of a business plan

- > **Canadian Medication Incident Reporting and Prevention System**
 - Collaboration of Health Canada, CIHI, ISMP Canada and CPSI aimed at improving the safety of the medication-use system
 - Each organization offers unique expertise in data collection, the development and dissemination of actionable analyses, and feedback to drug manufacturers
 - CIHI asked to develop an incident reporting system for Canadian hospitals (NSIR)
 - Health Canada funded the initial system development (from 2003-2008); CIHI assumed on-going funding and maintenance responsibilities for NSIR in 2008

Collaborative Approach

> Collaborative approach to development

- Information needs workshop with pan-Canadian stakeholders shaped the system attributes, functionality and data set
- Environmental scan of similar reporting systems provided *lessons learned*
- Attributes and data set vetted through national Advisory Committee

> National Pilot Test and feedback

- 18 hospitals fully implemented NSIR for a five-month pilot test in 2008/09
- 55 organizations completed an external field review to validate the data set and overall approach
- Data set modified to align with WHO Framework following national pilot test



Key Features of NSIR

> **Web-based application**

- Requires only internet access; no software to purchase or install

> **User access to all incident records**

- Facilities have identifiable access to their own data and de-identified access to other data

> **Integrated Tools**

- Standardized drug list with more than 6,000 products by brand and generic names
- MicroStrategy™ query tool supports learning and analysis
- Communication Tool facilitates anonymous discussion within the application

> **Complements risk management systems**

- Vendors can build submission specifications into risk management software to support the upload of data into NSIR

Critical Incident Reporting in Ontario

> **Effective Date for Reporting to NSIR**

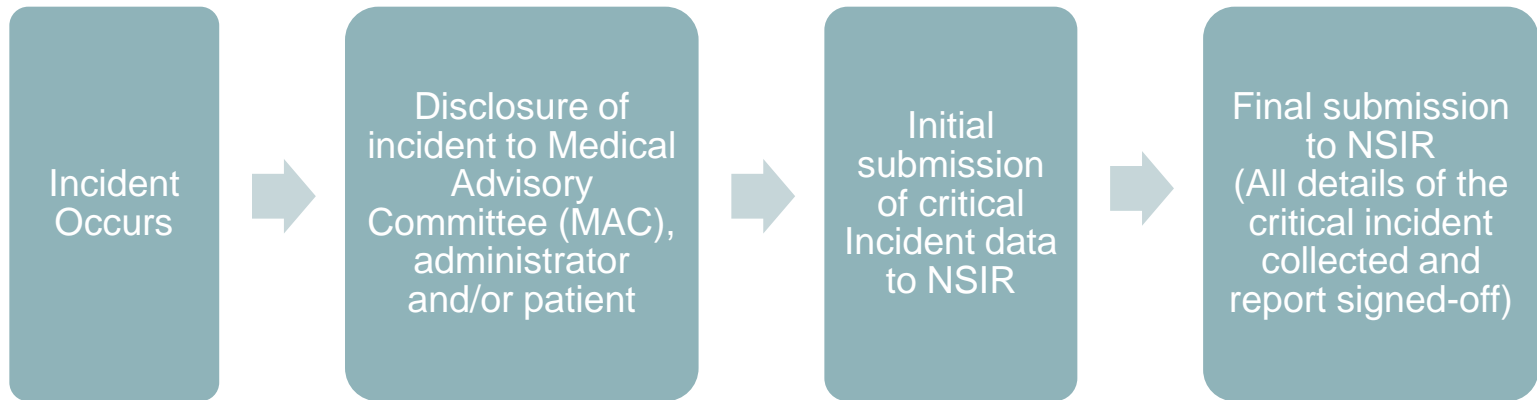
- All critical incidents related to medication/IV fluid that occur as of October 1, 2011

> **Resource Requirements**

- No fee for facilities to register, no software to install
- No fee for training or client support for data submission and analysis
- Staff time to learn coding requirements for incident reports
- Staff time to review, sign-off incident reports
- Staff time to enter incident details into NSIR's web-based data entry screens
- Staff time to learn and use the MicroStrategy[®] query tool
- IT/vendor costs to integrate NSIR submission specifications into existing risk management system (OPTIONAL)

Critical Incident Reporting in Ontario

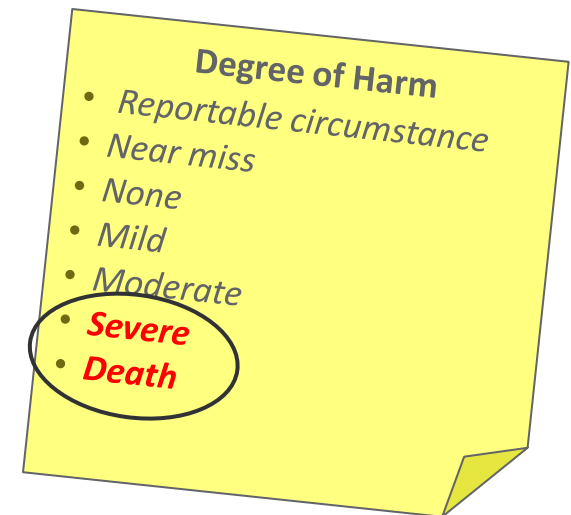
> Reporting Process and Timeline



- 30 days from Disclosure to enter/save mandatory data elements
- Up to 30 more days to finish investigation, complete data entry and submit record
- Once record is submitted to NSIR, will be available for analysis within 1 hour
- Automatic notification sent to ISMP Canada
- Record recall available beyond 60 days (if necessary)

NSIR Data Set

- > Most data elements coded to facilitate analysis; text fields provided for event description and preventative strategies
- > Critical incidents have only 11 mandatory data elements (18 optional)
- > Six data domains:
 - **Incident Impact:** degree of harm to the patient
 - **Incident Discovery:** who, when and where
 - **Patient Characteristics:** age and sex
 - **Medication Incident Details:** medication/IV fluid problem and process, contributing factors
 - **Drug Product Information:** drug name, strength, dosage form
 - **Investigation and Findings:** results of the investigation, lessons learned



Key Partners in Ontario

- > Ministry of Health and Long-Term Care
- > Health Quality Ontario
- > Ontario Hospital Association (OHA)
- > Institute for Safe Medication Practices Canada (ISMP Canada)
- > Health Canada
- > Canadian Patient Safety Institute (CPSI)
- > Ontario facilities

Current Status

> **Web-based data entry launched April 1, 2010**

- More than 40 facilities currently submitting
- 3,500+ incidents submitted since launch

> **Long-term care pilot project**

- 23 long-term care facilities in 3 provinces participated in a pilot project from March to June 2011
- Official launch to long-term care sector in Autumn 2011

> **Batch upload functionality**

- To enable submissions directly from risk management systems
- CIHI completing final testing of functionality
- Submission specifications to be available to vendors in Autumn 2011

Learning/Sharing



The real value of NSIR is the data



Learning/Sharing

- > Specialize reports – developed based on direct user input
 - Ward/Unit report – local analysis

NSIR Case ID	Ward/ Unit	Degree of Harm	Incident Description	Medication/IV Fluid Problem
149789630	ICU	Mild	Resident rec'd morphine IR instead of morphine SR product.	Wrong formulation
258741369	ICU	Moderate	Rate of IV difficult to read on chart and transcribed incorrectly.	Wrong rate/frequency
201453692	Ward 1	None	Patient received acetaminophen for headache without an order.	No order
785412034	Ward 1	Severe	Patient in Bed 1 received insulin intended for patient in Bed 2	Wrong patient
487963258	Ward 2	Moderate	Patient given drug via intravenous instead of IM	Wrong route/technique
145871023	Ward 2	None	drug came up from pharmacy mixed in wrong diluent	Wrong formulation

Learning/Sharing

- > Aggregate reports of pan-Canadian data
 - Example – number of reports by degree of harm involving heparin

Degree of Harm	All NSIR Frequency
Reportable circumstances	24
Near Miss	83
None	572
Mild	158
Moderate	22
Severe	2
Death	0
Total	861

Learning/Sharing

> Drill down to list cases

NSIR Case ID	Detected Date	Degree of Harm	Functional Areas	Medication/IV Fluid Process	Medication/IV Fluid Problem	Generic Drug Name
524896743	8/19/2010	Severe	Ward 1	Administration	Wrong patient	heparin
127898324	9/22/2010	Severe	ICU	Preparing/dispensing	Wrong quantity	heparin

Learning/Sharing

- > Link to complete record

View Record

[Send a message to the submitting HCF regarding this incident](#)

NSIR Medication Incident Record

NSIR Case ID 105548440

Submission Date 2010/11/04

Status Released

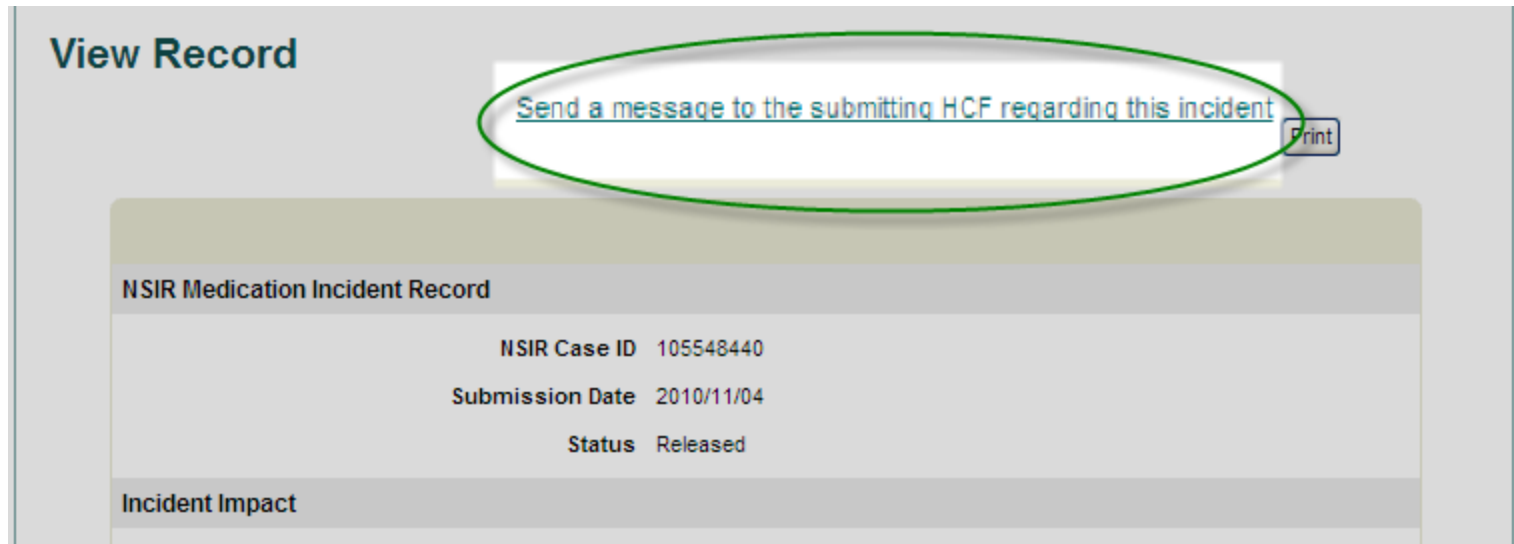
Incident Impact

Description of the Medication Incident Incorrect medication administered to patient.

Degree of Harm of the Medication Incident None

Learning/Sharing

- > Learn more – start a conversation using the communication tool

A screenshot of a web application interface titled "View Record". At the top right, there is a blue link that says "Send a message to the submitting HCF regarding this incident" with a "Print" button next to it. This link and button are circled in green. Below this is a section titled "NSIR Medication Incident Record" which contains the following information: "NSIR Case ID 105548440", "Submission Date 2010/11/04", and "Status Released". At the bottom of the screenshot, the text "Incident Impact" is visible.

View Record

[Send a message to the submitting HCF regarding this incident](#)

NSIR Medication Incident Record

NSIR Case ID 105548440
Submission Date 2010/11/04
Status Released

Incident Impact

Next Steps for Implementation

> Education Registration

- Registration now open
- Courses on coding and submitting NSIR data scheduled into October
- Courses on querying NSIR data scheduled for October/November

> Introductory Package

- Distributed to all facilities to introduce NSIR and the education process
- Contact information for 'site expert' must be returned to CIHI

> Facility Registration Package

- To be distributed upon completion of the coding and submitting education courses
- Outlines the process for creating the facility profile and registering users
- This must be completed before incidents can be submitted

“The NSIR database has been really, really helpful for us. It gives us tons of information and has been a very empowering tool. People love to see where they’re making good things happen. They want to know the good, the bad and the ugly. This gives us a chance to provide data anonymously, but because it’s posted, it’s really relevant for staff.”

Norma Noesgaard
Facilitator, Releasing Time to Care
Saskatoon Health Region



Michael Hunt

Director, Pharmaceuticals
and Health Workforce
Information Services

<http://www.cihi.ca/nsir>