



Advancing Safe Medication Practices



Reporting Canadian Medication Incidents: What Can We Learn?

E-Medication Management Conference
May 2015

Overview

- Distinctions
- Drivers
- Barriers and Facilitators
- Available Reporting Mechanisms
- What's Next?



Distinctions

Medication Incident/Error

- Preventable
- May cause inappropriate medication use or patient harm
- While medication is in the control of the healthcare professional, patient, or consumer
- May be related to:
 - professional practice, drug products, procedures, and systems
- May occur at any point along the drug use continuum

Adverse Drug Event:

- Injury from a medicine or lack of an intended medicine.
- Includes adverse drug reactions and harm from medication incidents.

Adapted From: CMIRPS Collaborating Parties
<http://www.ismp-canada.org/definitions.htm>

Adverse Reactions

- Undesirable effects of health products
- May occur under normal use conditions of the product.
- Within minutes or years after exposure to the product
- Range from minor reactions to serious and life-threatening events
- Not preventable or ameliorable

May initially be considered unexpected when the effects of medication are incompletely known

Often can be prevented once increased knowledge is obtained:

Thus, reporting and information sharing on ADRs are important to medication safety.

Adapted from: Health Canada Website

<http://www.hc-sc.gc.ca/dhp-mps/medeff/advers-react-eng/index-eng.php#a1>

MEDICATION INCIDENT REPORTING DRIVERS

CSHP Standards of Practice

OFFICIAL PUBLICATIONS

Professional Hospital Pharmacy Practice: Standards (2003)

*STANDARD 1 - Professional
Accountability and Continued
Competence*

1.8 Responds to and reports
situations which may be
adverse for the client and/or
health care providers

*From: Professional Hospital Pharmacy Practice:
Standards (2003)*

<http://www.cshp.ca/members/dmsgetfile.asp?file=%7B1E12CF6F-FE2C-4BD3-9309-9A8124B2A353%7D>

Model Standards of Practice



National Association of Pharmacy Regulatory Authorities
Association nationale des organismes de réglementation de la pharmacie



Pharmacists respond to safety risks.

Pharmacists regardless of the role they are fulfilling:

10. manage errors, incidents and unsafe practices (2.6)
11. promptly disclose alleged or actual errors, incidents and unsafe practices to those affected and in accordance with legal and professional requirements (2.6)
12. record and report alleged and actual errors, incidents and unsafe practices in accordance with legal and professional requirements (2.6)
13. adhere to applicable laws, regulations and policies applicable to pharmacy practice (3.1)

Pharmacists, when providing patient care:

14. report the occurrence of adverse events and close-calls*** (2.6)

Pharmacists, when managing a pharmacy:

15. review errors and incidents to determine patterns and causal factors that contribute to patient risk (2.6)
16. develop and implement policies and procedures that minimize errors, incidents and unsafe practices, including supporting staff in their obligation to report adverse events and close-calls (2.6)

From Model Standards of Practice for Canadian Pharmacists
http://napra.ca/Content_Files/Files/Model_Standards_of_Prac_for_Cdn_Pharm_March09_Final_b.pdf

Practice Standards for Nurses

Safety

Nurses promote safe care, and contribute to a culture of safety within their practice environments, when involved in medication practices.

Nurses:

- seek information from the client about their medication, as needed
- provide education to the client regarding their medication
- collaborate with the client in making decisions about the plan of care in relation to medication practices
- promote and/or implement the secure and appropriate storage, transportation and disposal of medication
- promote and/or implement strategies to minimize the risk of misuse and **drug diversion**
- take appropriate action to resolve or minimize the risk of harm to a client from a **medication error** or **adverse reaction**
- report medication errors, **near misses** or adverse reactions in a timely manner, and
- collaborate in the development, implementation and evaluation of system approaches that support safe medication practices within the health care team.

PRACTICE STANDARD

Medication

Revised 2015

Required Organizational Practice



ACCREDITATION
CANADA
Better Quality. Better Health.

ADVERSE EVENTS REPORTING

The organization establishes a reporting system for **adverse events, sentinel events, and near misses**, including appropriate follow-up. The reporting system is in compliance with any applicable legislation, and within any protection afforded by legislation.

From: 2015 ROP handbook <http://www.accreditation.ca/rop-handbooks>

Legislated/Mandatory Reporting

Alberta Health Services

- Reporting of Clinical Adverse Events, Close Calls, and Hazards

Saskatchewan

- SK Critical Incident Guidelines

Manitoba

- The Regional Health Authorities Amendment and Amendments to the Manitoba Evidence Act

Ontario

- Excellent Care for All Act

Quebec

- Registre national des incidents et accidents survenus lors de la prestation de soins de santé et de services sociaux (RNIASSSS)

Nova Scotia

- Department of Health Serious Reportable Event Policy

Health PEI

- Patient Safety Incident Reporting Policy

Public Focus on Adverse Events

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Inside Canada's secret world of medical error: 'There is a lot of lying, there's a lot of cover-up'



TOM BLACKWELL | January 16, 2015 | Last Updated: Mar 2 5:31 PM ET
[More from Tom Blackwell](#) | [@tomblackwellNP](#)

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ISMP Canada is an independent Canadian nonprofit agency established for the collection and analysis of medication error reports and the development of recommendations for the enhancement of patient safety.



The Healthcare Insurance Reciprocal of Canada (HIROC) is a member-owned expert provider of professional and general liability coverage and risk management support.

ISMP Canada Safety Bulletin

October 3, 2001

Published Data Supports Dispensing Vincristine in Minibags as a System Safeguard



Institute for Safe Medication Practices Canada
REPORT MEDICATION INCIDENTS
Online: www.ismp-canada.org/err_index.htm
Phone: 1-866-544-7672

A KEY PARTNER IN

CMIRPS **SCDPIM**
Canadian Medication Incident Reporting and Prevention System
Système canadien de déclaration et de prévention des incidents médicamenteux

ISMP Canada Safety Bulletin

Volume 13 - Issue 6 - July 23, 2013

Table 1: Results for Core Characteristic 8 (WHO Recommendations on vinCRISTine)

Core Characteristic 8 : *Your organization/practice setting follows the safety strategies recommended by the World Health Organization (WHO) for vinCRISTine (and other vinca alkaloids as applicable).*

Item No.	Assessment Item	% OF RESPONDENTS WHO HAVE FULLY IMPLEMENTED THE ASSESSMENT ITEM*			
		2005 ISMP Survey Results (n = 409) ⁷	All Countries (n = 352)	United States (n = 271)	Canada (n = 18)
76	VinCRISTine is dispensed in a minibag of a compatible solution (e.g., 25 mL for pediatric patients and 50 mL for adults). VinCRISTine doses are <u>never</u> dispensed and/or administered using a syringe.	23%	61% (215/352)	54% (147/271)	83% (15/18)
77	VinCRISTine is dispensed with a prominent warning label that reads: FOR INTRAVENOUS USE ONLY-FATAL IF GIVEN BY OTHER ROUTES.	93%	89% (315/352)	92% (249/271)	61% (11/18)
78	The presence of vinCRISTine is prohibited in areas where intrathecal medications are administered and/or stored.	38%	65% (175/270)	64% (136/213)	58% (7/12)
79	Confirmation that the administration of any prescribed intrathecal medications has been completed is required before dispensing vinCRISTine.	42%	54% (140/260)	54% (112/207)	45% (5/11)

Preliminary Self Assess

Medication INCIDENT REPORTING:

SELECTED LITERATURE/PUBLICATIONS

Research

Recherche

The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada

G. Ross Baker, Peter G. Norton, Virginia Flintoft, Régis Blais, Adalsteinn Brown, Jafna Cox, Ed Etchells, William A. Ghali, Philip Hébert, Sumit R. Majumdar, Maeve O'Beirne, Luz Palacios-Derflinger, Robert J. Reid, Sam Sheps, Robyn Tamblyn

CMAJ • MAY 25, 2004; 170 (11)

1679

Hospital Pharmacy in Canada

Table G-1. Reporting System for Medication Incidents 2007/08

	—	Bed Size			Teaching Status	
		50 - 200	201- 500	>500	Teaching	Non-Teaching
Hospitals (n=)	All (161)	(34)	(88)	(39)	(38)	(123)
A medication incident reporting system is in use	100%	100%	100%	100%	100%	100%
Medication incidents <u>are reported</u> to an external reporting program (n=159)	74 47%	13 38%	48 55%	13 34%	20 53%	54 45%
Medication incident reports <u>can be used</u> during an individual healthcare provider's performance assessment (n=160)	18 11%	7 21%	11 13%	0 0%	2 5%	16 13%
Information regarding <u>the institution's medication incidents</u> is broadly communicated to hospital staff and physicians (n=158)	61 39%	16 48%	29 33%	16 42%	16 42%	45 38%
Information regarding <u>published medication incidents</u> is broadly communicated to hospital staff and physicians (n=160)	95 59%	23 68%	47 54%	25 64%	24 63%	71 58%

54% report to a health region program
 40% report to ISMP Canada
 34% to a provincial program
 7% to "other" program

From: Lilly Survey 2007-2008
<http://www.lillyhospitalsurvey.ca/hpc2/content/Reports3.asp>

Reporting captures the tip of the iceberg

- 2007 study at large UK National Health Service hospital
- Examined 1006 admissions
- 110 admissions had at least one patient safety incident resulting in harm

Case Review

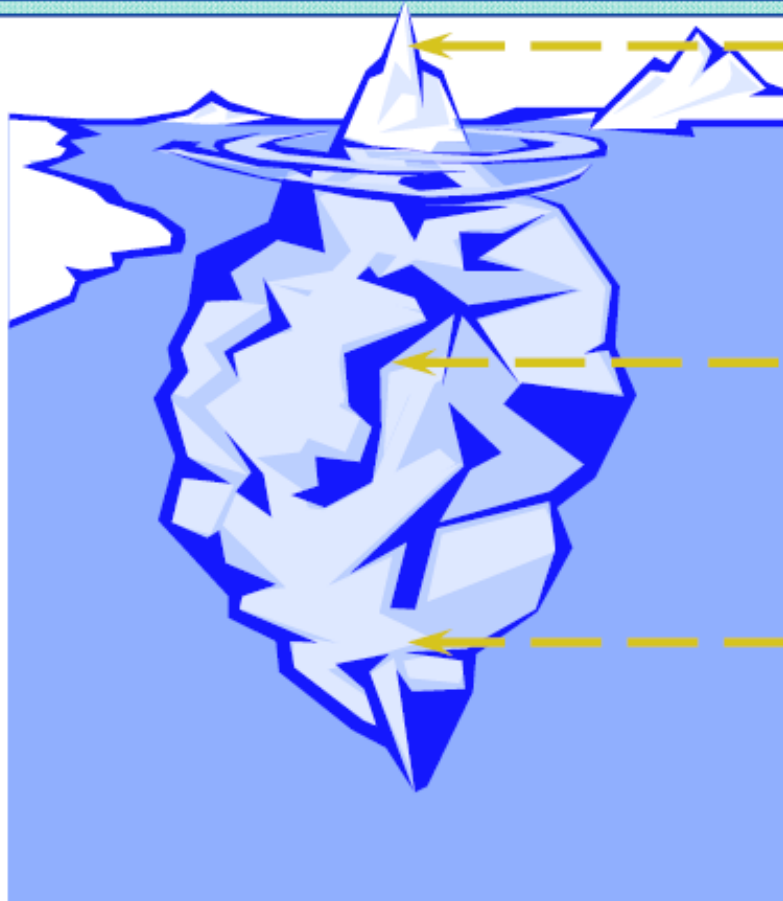
- Case review detected all 110 admissions in which patient suffered harm

Incident Reporting System

- Detected only 5% of 110 admissions in which patient suffered harm

Sari et al, 2007: <http://www.bmj.com/content/334/7584/79>

The Tip of the Iceberg



Incident reports
0.01-0.05%

Prescription order
review 0.3%

Observation
15-20%

Original Research

Understanding the attitudes of hospital pharmacists to reporting medication incidents: A qualitative study

Steven D. Williams, M.Phil.^{a,b,*}, Denham L. Phipps, Ph.D.^b,
Darren M. Ashcroft, Ph.D.^{a,b}

Focus groups involving 17 pharmacists from 4 hospital sites in Northwest England

Williams SD, Res Soc Admin Pharm, 2013

Focus group findings

Barriers

- The high prevalence of medication errors
- Impact on inter-professional working relationships with doctors and nurses
- Reporting forms considered too cumbersome and time consuming to complete

Facilitators

- Severity of any patient harm was the primary reporting driver
- More confident to report if there had been previously witnessed positive feedback and system change following an error

Reporting, Learning and the Culture of Safety

TABLE 1.

Important success factors for effective reporting systems

Organizational

- Generative approach toward information processing (Westrum 2004)
- Just culture (not a blame-free culture) (Reason 1997)

Design of the system

- Voluntary and confidential
- Easy to use
- Focus on the story (Morath and Turnbull 2005)
- Emphasis on close calls (near misses) (Morath and Turnbull 2005)
- Acknowledgement and feedback given to reporter
- Analysis by clinicians and someone able to analyze human factors and organizational issues (Vincent 2007)
- Visible action taken to mitigate important risks identified in reports

From: Flemons WW et al., Healthcare Quarterly 2012

What are barriers or facilitators to incident reporting in your/your organizations experience?



MEDICATION INCIDENT REPORTING MECHANISMS



NATIONAL REPORTING MECHANISMS

What is CMIRPS?

How does it work?

How do I report?

Benefits & Resources

The Canadian Medication Incident Reporting and Prevention System

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 the Canadian Patient Safety Institute (CPSI). The goal of CMIRPS is to reduce and prevent harmful medication incidents in Canada.

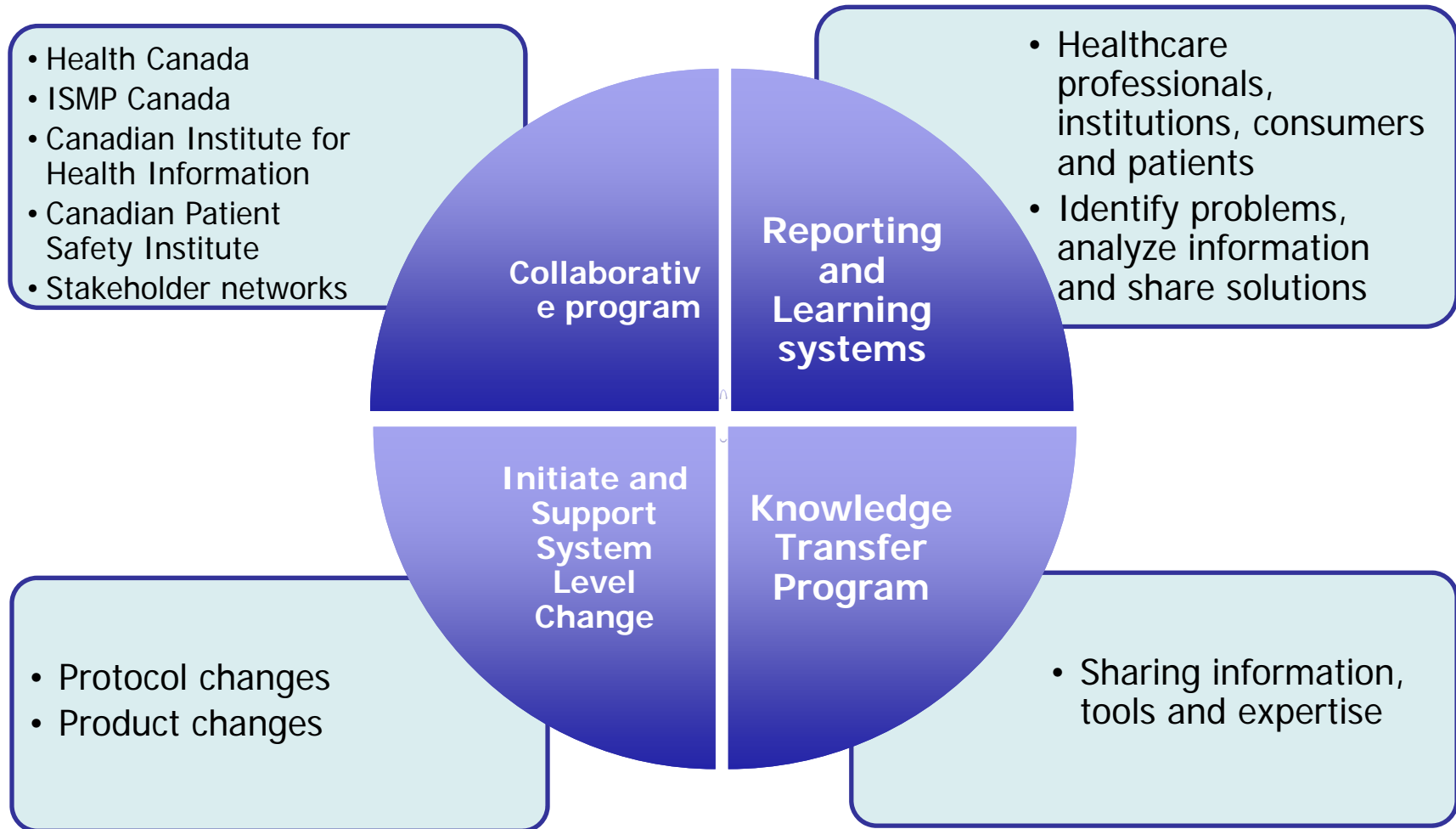
Reporting, sharing and learning about medication incidents will help to reduce their reoccurrence and help create a safer healthcare system. Find out **how you can report** and share learning about medication incidents.

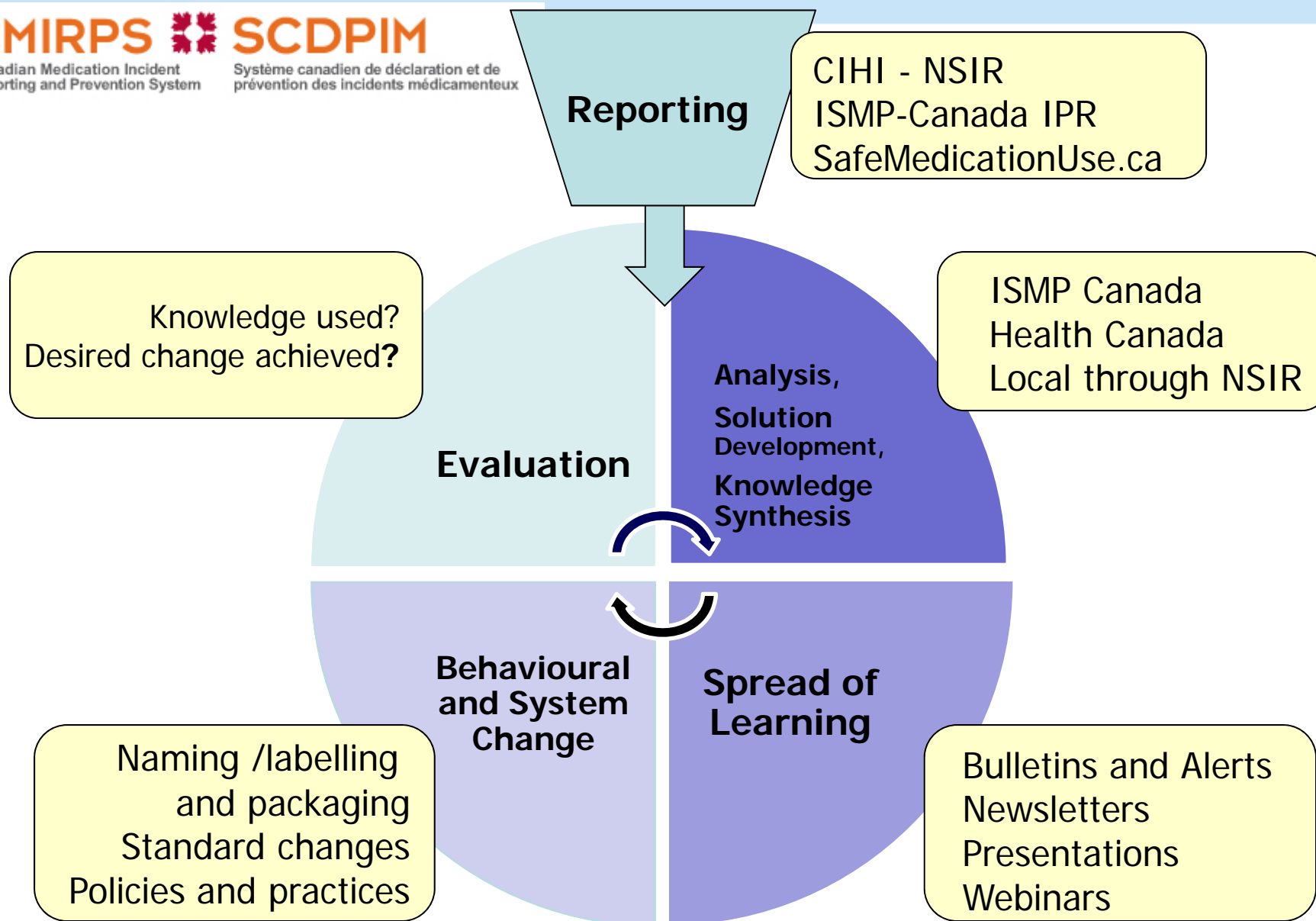
Featured resources:

- Reporting is everyone's responsibility



CMIRPS Characteristics





CIHI data...

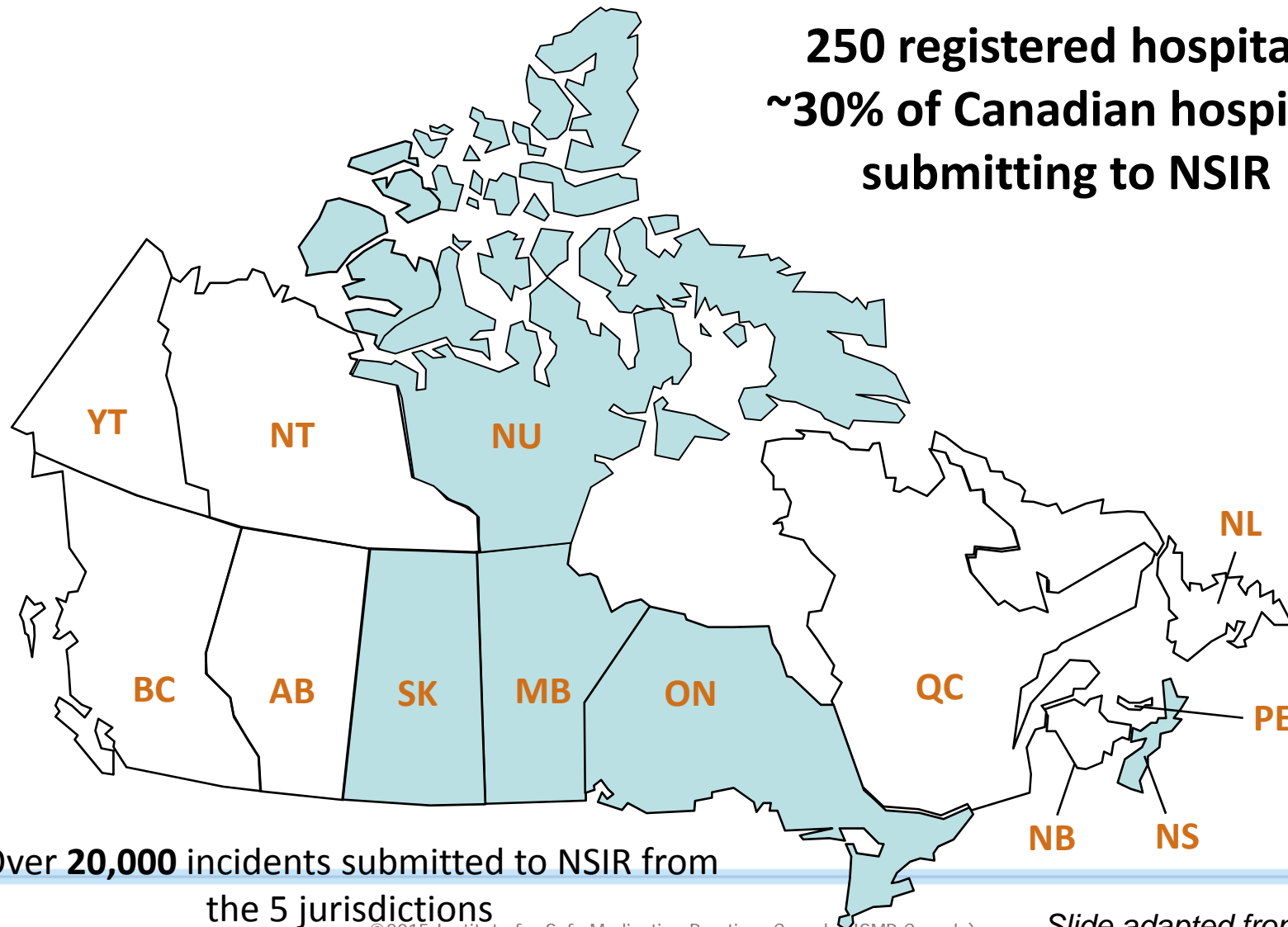
Working to prevent
medication incidents



http://www.cihi.ca/cihi-ext-portal/internet/en/document/health+system+performance/quality+of+care+and+outcomes/patient+safety/services_cmirps

NSIR Registered Facilities

250 registered hospitals
~30% of Canadian hospitals
submitting to NSIR



Over **20,000** incidents submitted to NSIR from
the 5 jurisdictions

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Slide adapted from CIHI slide 29

How Data Providers are Using NSIR

Saskatoon RHA

Land

www.cihi.ca | [français](#)

[Home](#) > [Data in Action](#) - March 2012


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CIHI Data: Working to Prevent Medication Incidents

CIHI data: working to prevent medication incidents

Saskatoon nurses use reporting system to make change on front lines

Angela Butuk
Medication Safety Officer, Saskatoon Health Region



Medication incidents are among the most common adverse events in acute care. They can range from a near miss to those that cause harm: wrong dose, drug, time, route or patient, as well as failure to administer at all. Like many of their peers, nurses at the Saskatoon Health Region are determined to minimize the occurrence of medication incidents as much as possible. But pinpointing causes can be a challenge.

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Has CIHI's data made a difference in your work? [Tell us](#) what data or information you've used and how it's made a difference, and we'll profile your story in an upcoming issue.

<http://www.cihi.ca/land/Article/Data+In+Action/cihi010203>

Reporting to ISMP Canada - Individual Practitioners

ISMP Canada Individual Re... x

www.ismp-canada.org/err_index.htm

Individual Practitioner Reporting

Medication Incidents Including Near Misses

Reporting by individual practitioners is an important component in identifying early opportunities for enhancing medication safety. ISMP Canada sincerely appreciates your willingness to share information about medication incidents and related findings. Please include as much information about the incident as possible. **INFORMATION SUBMITTED WILL BE KEPT STRICTLY CONFIDENTIAL AND PROTECTED. Please do not supply identifying information (e.g., patient name or date of birth, hospital name, or healthcare provider names).**

1*	2*	3*	4	5	6	7
Incident	Outcome	Medication(s)	Follow Up	Patient	Reporter	Contributing Factors

*Indicates Required Fields (Total of eight required fields.)

Date of Incident:

Time of Incident:

Incident Description / How Discovered:*

Stages Involved:*

<input type="checkbox"/> Prescribing	<input type="checkbox"/> Order Entry/Transcription
<input type="checkbox"/> Dispensing/Delivery	<input type="checkbox"/> Administration
<input type="checkbox"/> Monitoring	<input type="checkbox"/> Other

Type of Incident:*

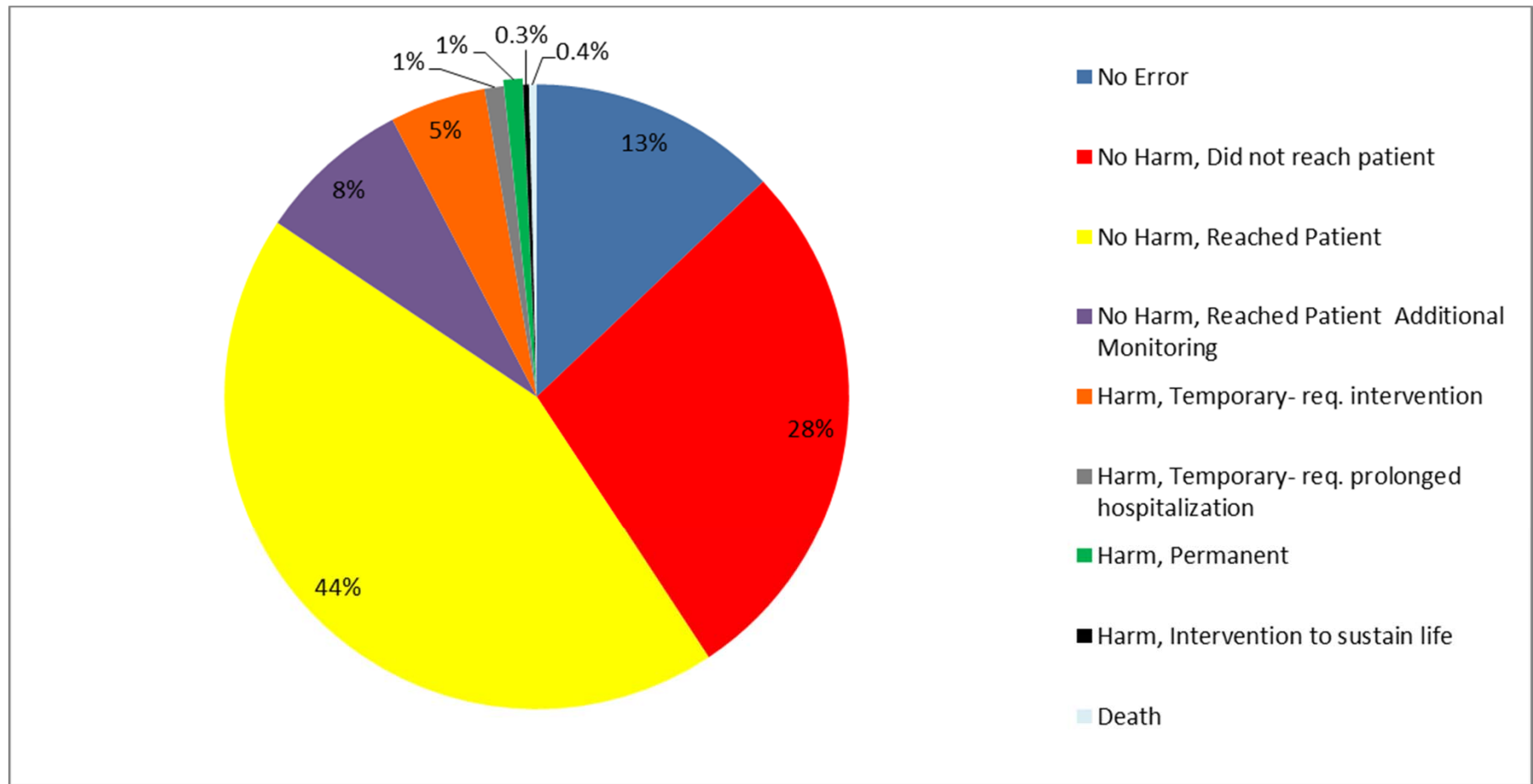
Discovered By:*

Care Area Type:*

Submit

Copyright © 2000

ISMP Canada Individual Practitioner Reports – By harm/error classification



Based on reports received since January 2013

Examples of Sharing and Learning from CMIRPS

WHAT HAVE WE LEARNED?

Outputs

ISMP Canada Safety Bulletin

Volume 13 • Issue 12 • December 5, 2013

ALERT: Look-Alike Labelling and Packaging for Diphenhydramine and Phenylephrine



Institute for
REPORT MED
Online: [www](http://www.ismp-canada.org)
Phone: 1-866

A facility reported concerns regarding the look-alike labelling and packaging of parenteral diphenhydramine and phenylephrine products



Institute for Safe Medication Practices Canada
REPORT MEDICATION INCIDENTS
Online: www.ismp-canada.org/err_index.htm
Phone: 1-866-544-7672

A KEY PARTNER IN

CMIRPS  **SCDPIM**
Canadian Medication Incident Reporting and Prevention System Système canadien de déclaration et de prévention des incidents médicamenteux

Preventable Death Highlights Management of Known Drug-Drug Interactions

Medication regimens are becoming increasingly complex, with many patients taking several medications concurrently to treat multiple conditions. With this increase in the number of medications by individual patients has come an increase in the potential for drug-drug interactions. Drug-drug interactions can result in preventable adverse events due to changes in the pharmacologic or clinical response to one or both of the drugs involved (e.g., a reduction in efficacy or an increase in toxicity).

<http://www.ismp-canada.org/ISMPSafetyBulletins.htm>

ISMP Canada Safety Bulletin

Volume 13 • Issue 9 • October 2, 2013

Labelling and Packaging: An Aggregate Analysis of Medication Incident Reports

The information presented on the inner and outer labels of health products and the design and layout of this information constitute an important mechanism of communication to end users, both healthcare practitioners and consumers. Since ISMP Canada began accepting voluntary incident reports in 2000, reporters have repeatedly identified issues related to labelling and packaging of health products as a concern. Some of these incidents have been described

Canada, began developing a guide outlining principles for the design of health product labels* and packages, with patient safety in mind. Its scope is intended to encompass all health products for human use: prescription and nonprescription pharmaceuticals, biologics, and natural health products. The guide is also intended to align with and support Health Canada's Plain Language Labelling Initiative.⁵ The content of the guide will

Collaboration to Sustain Practice Improvements

- More than 50 recommendations adopted by Accreditation Canada into Standards and Required Organizational Practices (ROPs)

Reported incidents inform Labelling and Packaging Improvements



Before



After

PATIENT REPORTED MEDICATION INCIDENTS

Consumer/Patient Reporting

SafeMedicationUse.ca
SUPPORTED BY HEALTH CANADA



Help Prevent Harmful Medication Incidents

[Contact Us](#) | [Français](#)

A pilot project of the Canadian Medication Incident Reporting and Prevention System (CMIRPS).

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Incident Report:

NOTE: Red Asterisks * indicate which fields are REQUIRED.

1. Date the incident occurred

month ▼ year ▼

2. Province or Territory

▼

3. What type of medication incident
are you reporting? *

▼

4. Where did the incident happen? *

▼

5. At what stage(s) of the medication
system did the incident occur?
(Choose all that apply.) *

- ☐ Prescribing
- ☐ Documentation/computer entry
- ☐ Preparation/dispensing
- ☐ Administration
- ☐ Monitoring
- ☐ Other
- ☐ I don't know



Learning can be shared with Patients



Global Patient Safety Alerts

- Database for sharing evidence informed alerts, advisories and recommendations.
 - 26 contributing organizations
 - Hundreds of searches every month
 - Supported by the World Health Organization
- Includes:
 - CMIRPS bulletins and alerts for practitioners
 - CMIRPS newsletters and alerts for consumers
 - Alberta....
 - Manitoba....
 - Ontario Critical Incident Learning Bulletins





PROVINCIAL/TERRITORIAL REPORTING AND COLLABORATION

British Columbia



- Web-based patient safety event reporting, learning and management tool used by care providers across all healthcare organizations in BC.
- Rollout began in 2008 (first system of its kind in Canada)

Collaborative projects to transfer learning into practice



medication ordering practices and their recommended alternatives will be available in spring 2008.

Two other provincial practices established for 2008-2009 include:

- Developing and circulating an opioid checklist to help network members assess programs with recommendations from the 2005 opioid safety initiative conducted by the

Case Background

2. Identify effective practices and make recommendations for the improvement of patient safety and health service quality.

HEALTH REPORT TO A LITERATURE

In 2006, 2007, and 2008, the HQCA collaborated with various health professions to create a publication that focused on how *Albertain* can ensure the safety of the medication they take or give to family members. More than 300,000 copies of *Playing It Safe: Live and Live Well: Medication use distributed across the provinces in 2007* and the first part of 2008. Topics included how to read labels, store and dispose of medications, get help to use medications correctly or deal with side effects, use non-prescription medications appropriately and avoid the dangers of medication interactions.

The next issue of *Health Report to Alberta* will come out early in 2009 with a focus on giving Albertans some tools to better:

- communicate with their health care team,
- understand their condition,
- understand what they need to do to improve their condition.

HEALTH QUALITY NETWORK

The Health Quality Network (HQN) remains an important

In January 2008, the HQCA commissioned an evaluation of the Health Quality Network to determine if it was still relevant and valuable. The result was a meaningful key conclusion: the importance our stakeholders place on the network. In 2008, the HQN will continue new priority areas for process-oriented quality and safety improvement projects.

RESEARCH/INFORMATION IN LONG TERM CARE

In 2007, the Health Quality Council of Alberta received a grant from Alberta Health Services to establish a baseline for medication management practices in long-term care and make recommendations about system improvements that will lead to better medication management practices in the province's long-term care facilities.

Less in 2007, the HQCA offered all Alberta long-term care facilities access to the Institute for Safe Medication Practices (ISMP) Canada's *Medication Safety Self-Assessment* (MSA) for Long-Term Care. Response was positive with 80 per cent of facilities submitting for the project and 88 per cent receiving the HQCA online database by the deadline.

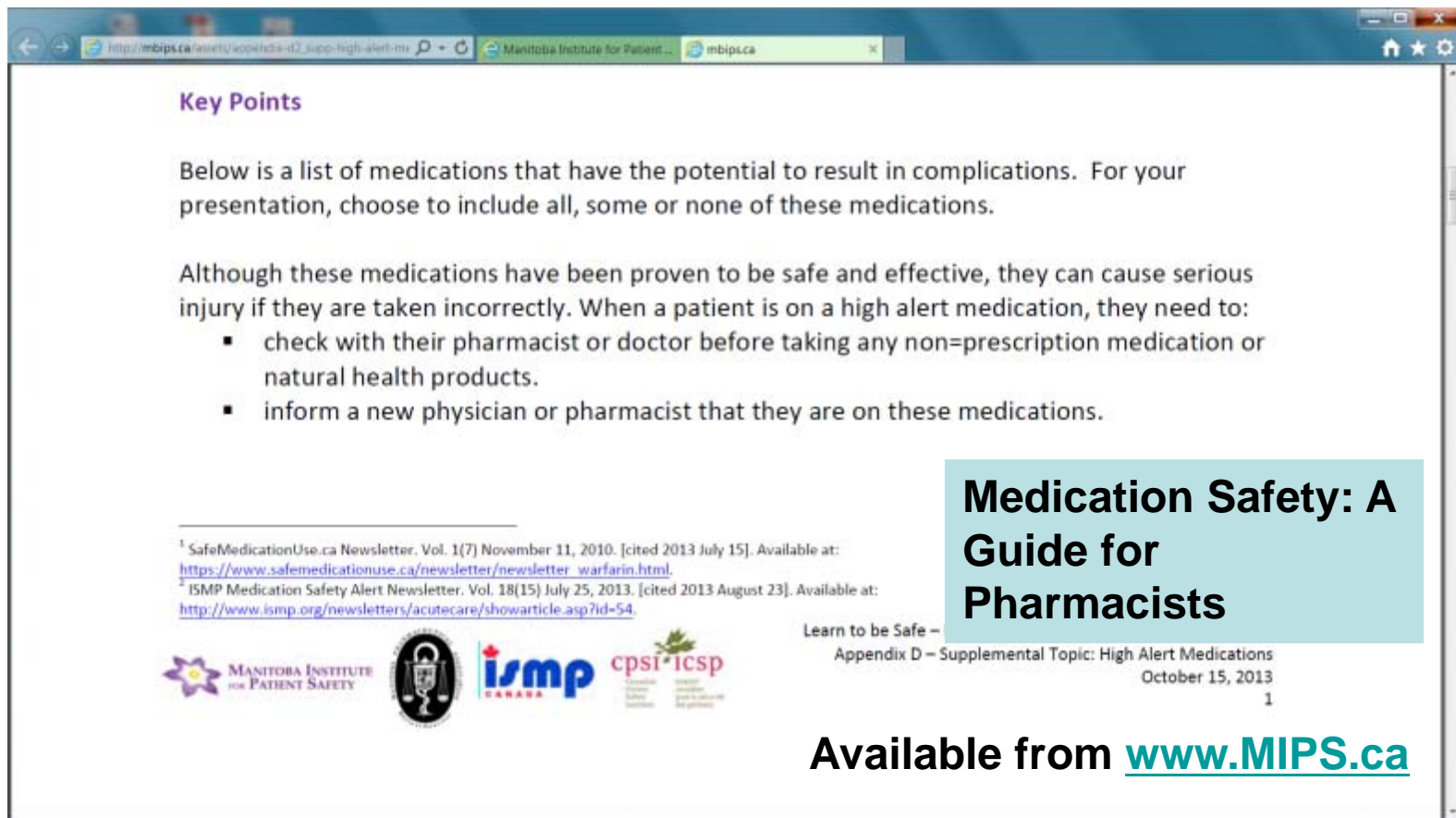
More than 125 characteristics of a safe facility based on 28 years of research into medication safety help facilities review the safety of their medication management practices, identify opportunities for improvement, and learn from the aggregate experience of similar facilities across Canada.



Available from www.HQCA.ca

Manitoba Institute for Patient Safety

Collaborative project to transfer learning into practice



Key Points

Below is a list of medications that have the potential to result in complications. For your presentation, choose to include all, some or none of these medications.

Although these medications have been proven to be safe and effective, they can cause serious injury if they are taken incorrectly. When a patient is on a high alert medication, they need to:

- check with their pharmacist or doctor before taking any non-prescription medication or natural health products.
- inform a new physician or pharmacist that they are on these medications.

Medication Safety: A Guide for Pharmacists

Learn to be Safe –
Appendix D – Supplemental Topic: High Alert Medications
October 15, 2013
1

Available from www.MIPS.ca

¹ SafeMedicationUse.ca Newsletter. Vol. 1(7) November 11, 2010. [cited 2013 July 15]. Available at: https://www.safemedicationuse.ca/newsletter/newsletter_warfarin.html.
² ISMP Medication Safety Alert Newsletter. Vol. 18(15) July 25, 2013. [cited 2013 August 23]. Available at: <http://www.ismp.org/newsletters/acutecare/showarticle.asp?id=54>.

Logos: Manitoba Institute for Patient Safety, University of Manitoba, ISMP Canada, CPSI, ICSP.



To advance the patient safety agenda, in August 2011 the Ontario Ministry of Health and Long-Term Care issued a directive that hospitals must report critical incidents involving medications and intravenous fluids to the Canadian Institute for Health Information National System for Incident Reporting (NSIR). A critical incident is an "unintended event that occurs when a patient receives treatment in the hospital that results in death, or serious disability, injury or harm, and does not result primarily from the patient's underlying medical condition or from a known risk inherent in providing treatment".

ISMP Canada has been identified as the lead organization for analysis of the reported incidents. A multidisciplinary team reviews each submitted critical incident report to ensure effective identification of the contributing factors. In addition, ISMP Canada will periodically conduct aggregate analysis of reported incidents to provide a more in-depth assessment of events involving a particular medication or care setting. On the basis of these analyses, ISMP Canada will develop and disseminate outcome-directed recommendations, with an emphasis on high-leverage actions that take into account human factors engineering principles and the need to design systems with integrated safeguards.

Provincial Critical Incident Program

Bulletins:

- Fluid Management - Iss.12/2015
- Multiple IV Infusions: Risks and Recommendations - Iss.11/2014
- Naloxone Saves Lives - Iss.10/2014
- Sharing Insulin Pens is a High-Risk Practice - Iss.9/2014
- Safe Pain Control in the Emergency Department - Iss.8/2014
- Smart Pumps Need Smart Systems - Iss.7/2014
- Monitoring Processes Contribute to Safe Use of Warfarin - Iss.6/2013
- Promoting the Safe Use of Insulin in Hospitals - Iss.5/2013
- Designing Effective Recommendations - Iss.4/2013
- Quality Medication Reconciliation Processes Are Critical - Iss.3/2013
- HYDROMORPHONE remains a high-alert drug - Iss.2/2013
- Mandatory Reporting—Can We Do Better? - Iss.1/2012

Analysis Report:

- [Ontario Hospital Critical Incidents Related to Medications or IV Fluids Analysis Report - 2014](#)
- [Ontario Hospital Critical Incidents Related to Medications or IV Fluids Analysis Report - 2013](#)

Webinars:


- [Medication Safety Learning from Ontario Coroners' Cases - Focus on Opioids - 2013/03/06](#)
- [Hospital Related Deaths: The Role of the Coroner's Office in Enhancing Patient Safety - 2013/01/31](#)

Knowledge Translation Projects:

- [Insulin Use Interventions/Safeguards](#)

Available from www.ISMP-Canada.org

Outputs



Improving quality in patient safety

CRITICAL Incident Learning

Issue 7
February 2014

Distributed to:

- Chief executive officers
- Chiefs of staff
- Board chairs
- Quality/patient safety leads
- Directors of pharmacy

Suggested action items:

- Circulate bulletin to front-line staff for review and comment on pump usability and programming concerns
- Refer bulletin to interdisciplinary safety committee(s) for review of processes for updating infusion pump libraries and auditing utilization of safety features, and to investigate real-time, enterprise-wide remote updating of pumps
- Use bulletin as an educational resource in your hospital's safety huddles or rounds

Smart Pumps Need Smart Systems

The availability of programmable infusion pumps has contributed to the precision of the administration of parenteral medications. Smart infusion pumps that incorporate drug error reduction software (DERS) offer dose-limit functionality, but the specific limits must be programmed by individual facilities. "Soft" dose limits alert users when maximum dosing is inadvertently exceeded, but they can be overridden. "Hard" limits prevent the user from administering a dose that is beyond the predetermined range. Medication incidents with smart pumps can occur when the pumps are not used to their full capability or are not subjected to continuous quality improvement efforts. In particular, opportunities for errors exist when pump parameters must be input manually or when calculations must be performed before programming. Keys to the safe use of infusion pumps involve consistent use of preprogrammed drug libraries, including the use of safety limits, and availability of resources and processes to ensure that pump libraries are up to date.¹

Call to Action for Hospitals

Make medication safety a strategic priority:

- Prioritize capital purchase of infusion pumps with DERS that support simultaneous wireless updates.
- Make an organizational commitment to fully operationalize the DERS in all care areas and work toward longer-term goals of barcoding and automation so that smart pumps become part of a closed-loop medication system.

Make system-based changes to enhance safety:

- Ensure that programming of smart pumps is consistent in all areas of the hospital.
- Program drug libraries with "hard" stops for high-alert medications (i.e., whereby overrides are not allowed).
- Ensure that high-alert medications given by continuous infusion are restricted to patient care units with appropriate healthcare staff, staffing ratio, and monitoring equipment.
- For high-alert medications for which electronic drug libraries are not available or do not match the drug and concentration ordered, ensure that an independent double-check process and a review mechanism are in place for pump programming.²


Sustain high-quality practices:

- Ensure that staff have the supporting resources needed to use,³ maintain, and update pumps.
- Regularly audit infusion pump libraries and ensure compliance with alerts (by reviewing overrides).
- Actively solicit feedback from pump users as part of continuous quality assessment.
- Report incidents internally and to patient safety organizations (e.g., ISMP Canada).

ismmp
CANADA

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Ontario Hospital Critical Incidents Related to Medications or IV Fluids Analysis Report

January to December 2013

Submitted to the
Ontario Ministry of Health and Long-Term Care
and
Health Quality Ontario

Formatted for posting July 2014

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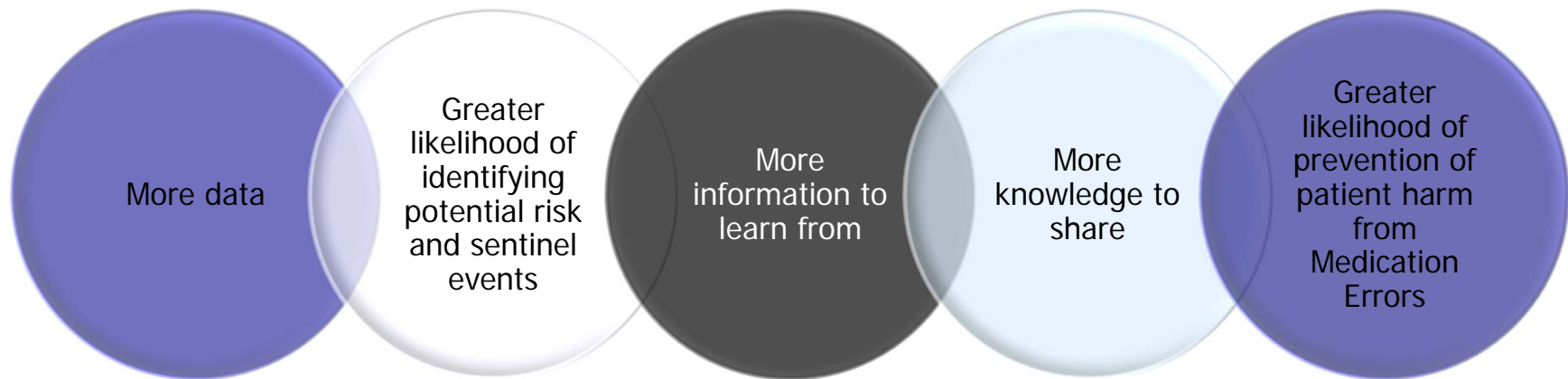
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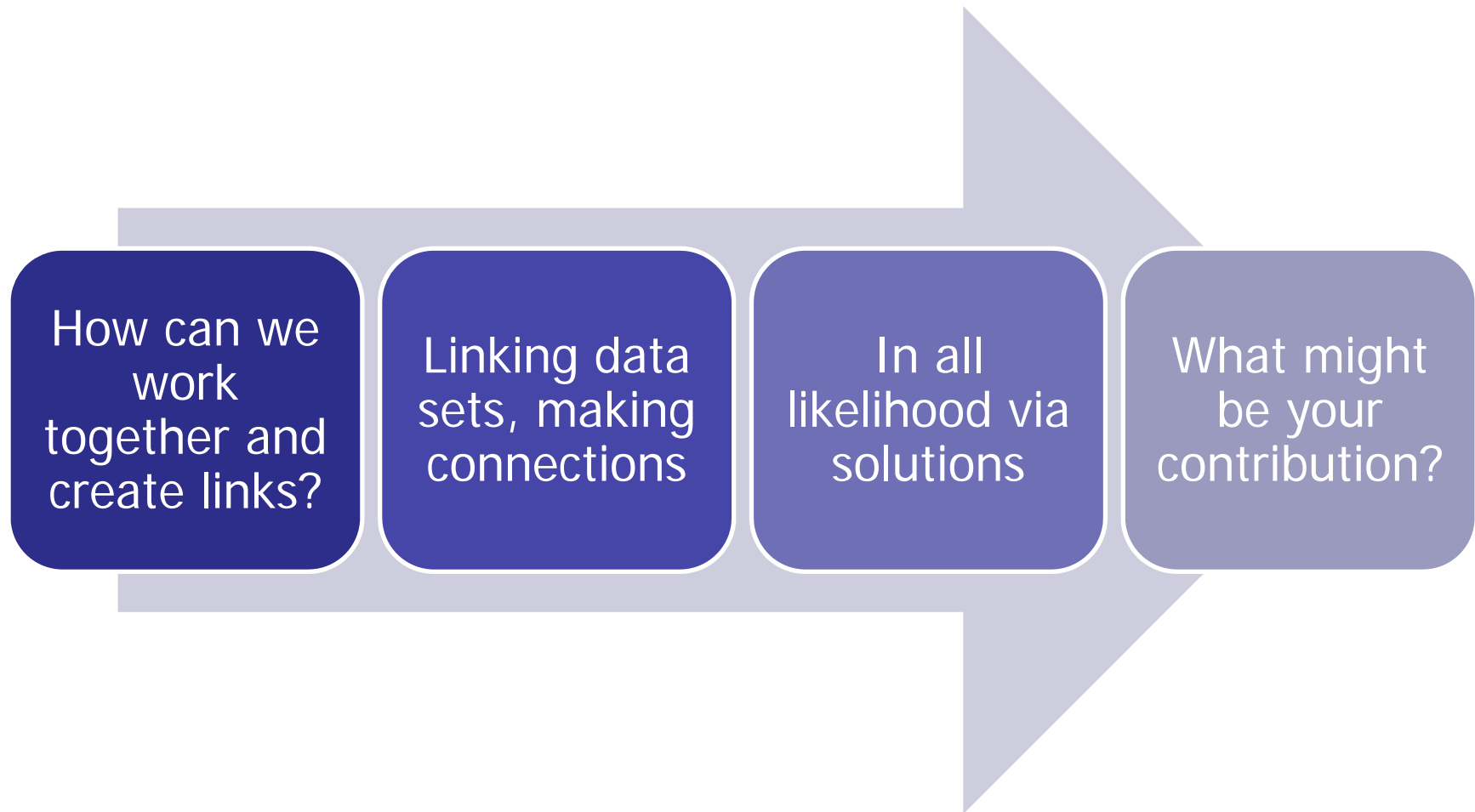
WHAT'S NEXT?

White Paper Project

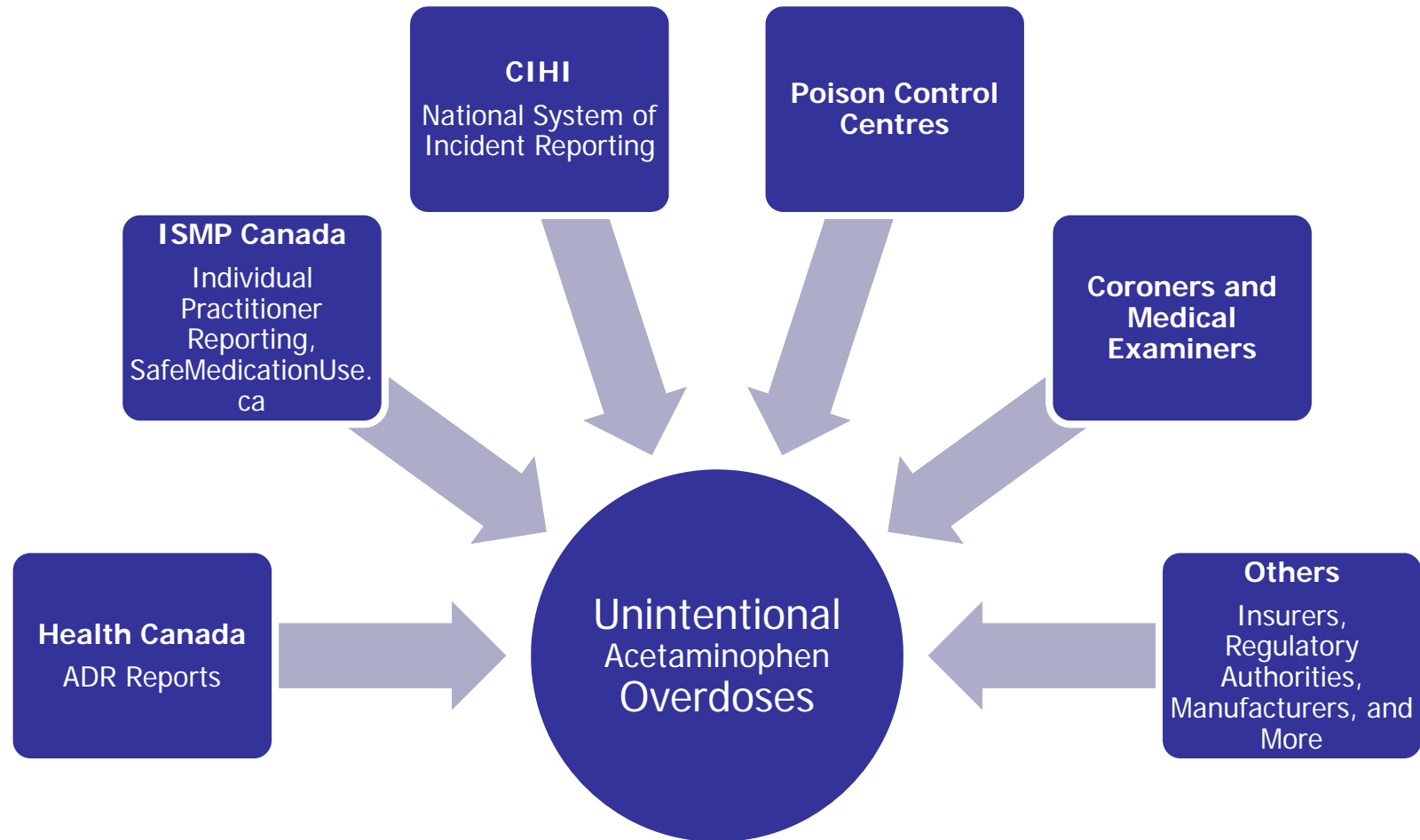
- Environment Scan to identify all types of reporting systems that could provide medication incident data to contribute to sharing and learning
 - Identify Gaps and Overlaps



Linkages Across Data Sources



Unintentional Acetaminophen Overdoses



Other sources?

- What other potential sources exist?
- Please e-mail me if you have information or ideas to support this project:

kgraham@ismp-canada.org

In Summary...

Levers

- Regulation and Practice Standards encourage medication incident reporting

Barriers

- Cultural and Structural barriers still persist

Reporting Systems

- CMIRPS offers several reporting systems in Canada: Practitioners, Institutions, Consumers

Knowledge Translation

- Many provincial examples of how the outputs are used to enhance safety and quality of care

What's next?

- Linking many data sets across silos to better identify potential risks and prevent patient harm from medication incidents