The Role of Pharmacy Technicians in Learning, Sharing, and Acting After a Medication Error

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September 13/14, 2024

ZERO Preventable Harm From Medications

Institute for Safe Medication Practices Canada

Land Acknowledgement

We acknowledge we are hosted on the lands of the Mississaugas of the Anishinaabe, the Haudenosaunee Confederacy and the Wendat. We also recognize the enduring presence of all First Nations, Métis and the Inuit peoples.[1] We are grateful to live, work and play on this land and we want to contribute to the implementation of the Truth and Reconciliation Commission's eight health-related Calls to Action.

Nous tenons à souligner que nous sommes accueillis sur le territoire traditionel des Mississaugas, des Anichinabés, des Haudenosaunees et des Wendats. Nous voulons également reconnaître la pérennité de la présence des Premières Nations, des Métis et des Inuits. Nous sommes reconnaissants de vivre, de travailler et de jouer sur ce territoire et nous voulons contribuer à la mise en œuvre des huit appels à l'action de la Commission de vérité et de réconciliation en matière de santé.

Find your land acknowledgement at https://native-land.ca/

1. https://www.tdsb.on.ca/Community/Indigenous-Education/Resources/Land-Acknowledgement

Personal Disclosure

Carolyn Hoffman, CEO, ISMP Canada
I have no current or past personal relationships with commercial entities.

I have received travel costs for this learning activity.

Enna Aujla, Director Community Pharmacy Reporting & Learning, ISMP Canada
Former Regional Director Operations, Neighbourly Pharmacy
(ended May, 2023)

We have received no speaker's fee for this learning activity.

Session Description

Increasing workload, and complex medication preparation and packaging processes, are just a few of the many contributing factors increasing the risk of errors in pharmacies.

Join this session to learn about how ISMP Canada is working with Pharmacy Technicians, Pharmacists, and so many others, to receive medication incident reports for analysis, learning, and sharing.

Participants will also engage in a discussion about the types of medication errors they are identifying and how meaningful safety improvements can be made.

Learning Objectives

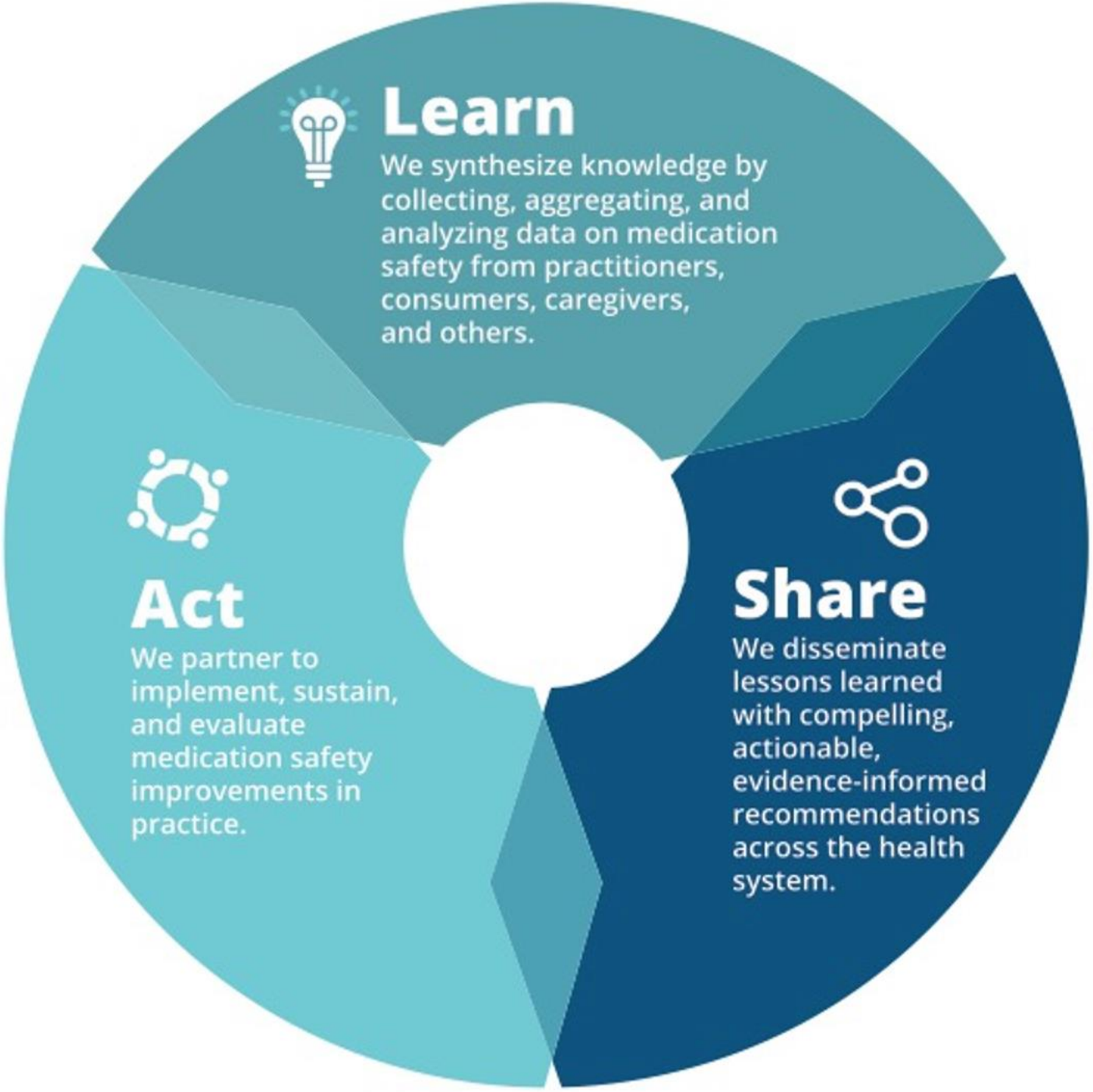
At the conclusion of this session, participants will be able to:

- Describe the mandate of the Institute for Safe Medication Practices Canada (ISMP Canada) and two ways that pharmacy technicians can collaborate with the organization to improve medication safety for patients and families in Alberta.
- Describe a Systems Approach to medication safety and three types of system issues that occur in Canadian pharmacies.
- Apply the ISMP Canada Hierarchy of Effectiveness in their workplace to take effective action after a medication error.

A Trusted Partner

Strengthening medication safety through timely learning, sharing, and acting to improve health care.

ISMP Canada is a national, independent, and not-for-profit organization that purposefully partners with organizations, practitioners, consumers, and caregivers to advance medication safety in all healthcare settings.



What is a medication incident?

A medication incident is a mistake with medicine, or a problem that could cause a mistake with medicine.

Reporting, Learning and Acting

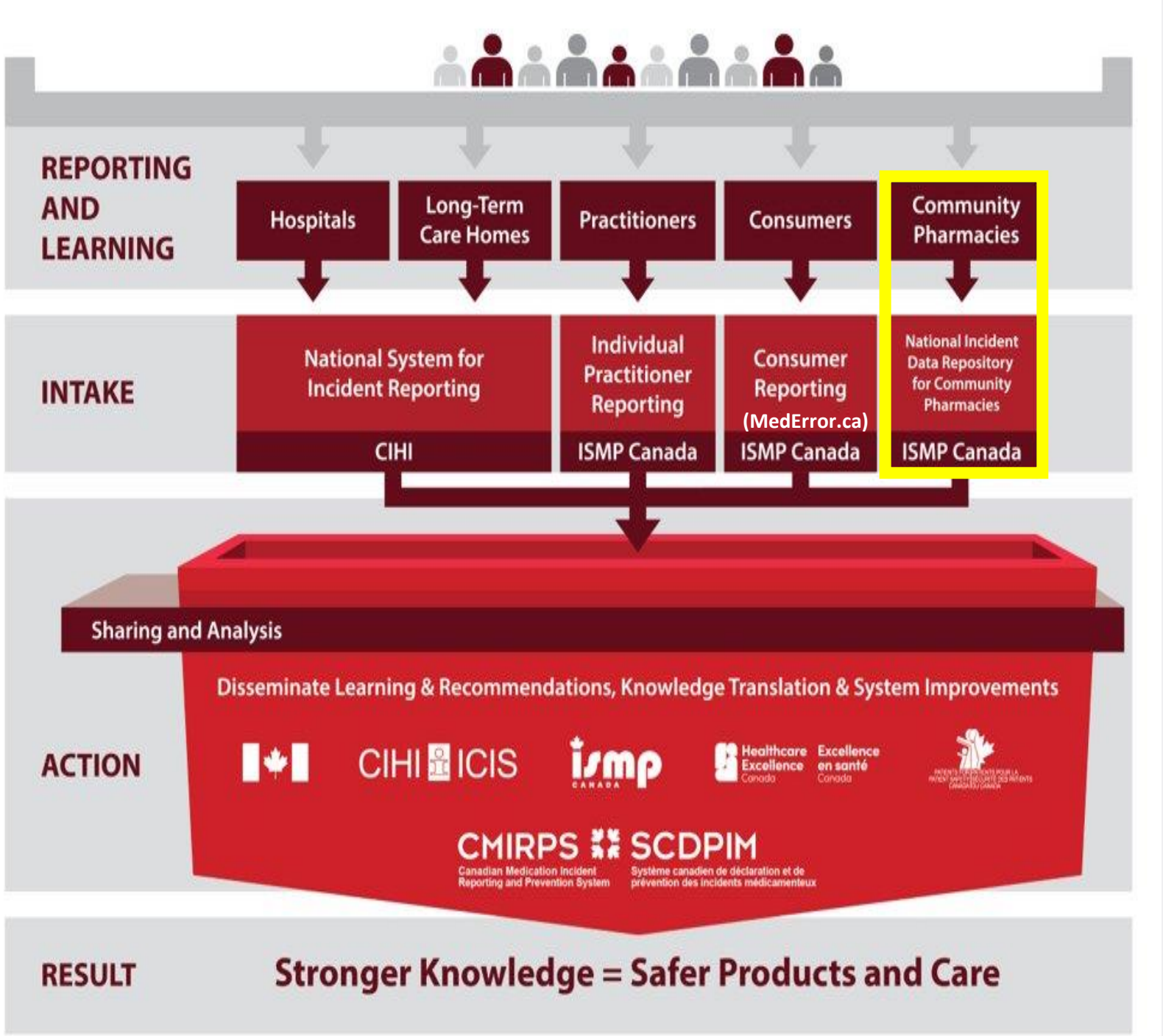
ISMP Canada is a lead partner in the Canadian Medication Incident Reporting and Prevention Program(CMIRPS)

CMIRPS SCDPIM

Canadian Medication Incident Reporting and Prevention System

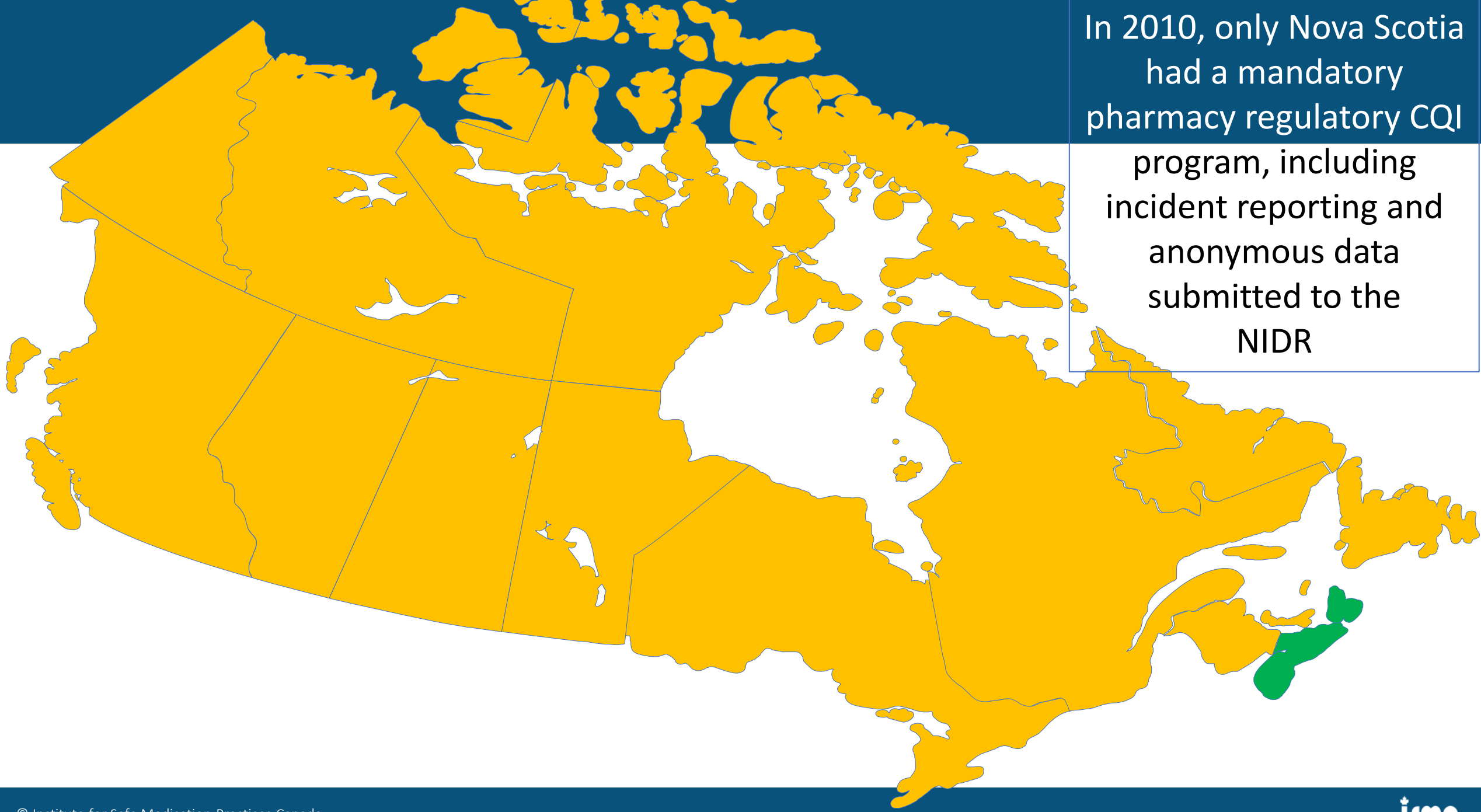
Système canadien de déclaration et de prévention des incidents médicamenteux

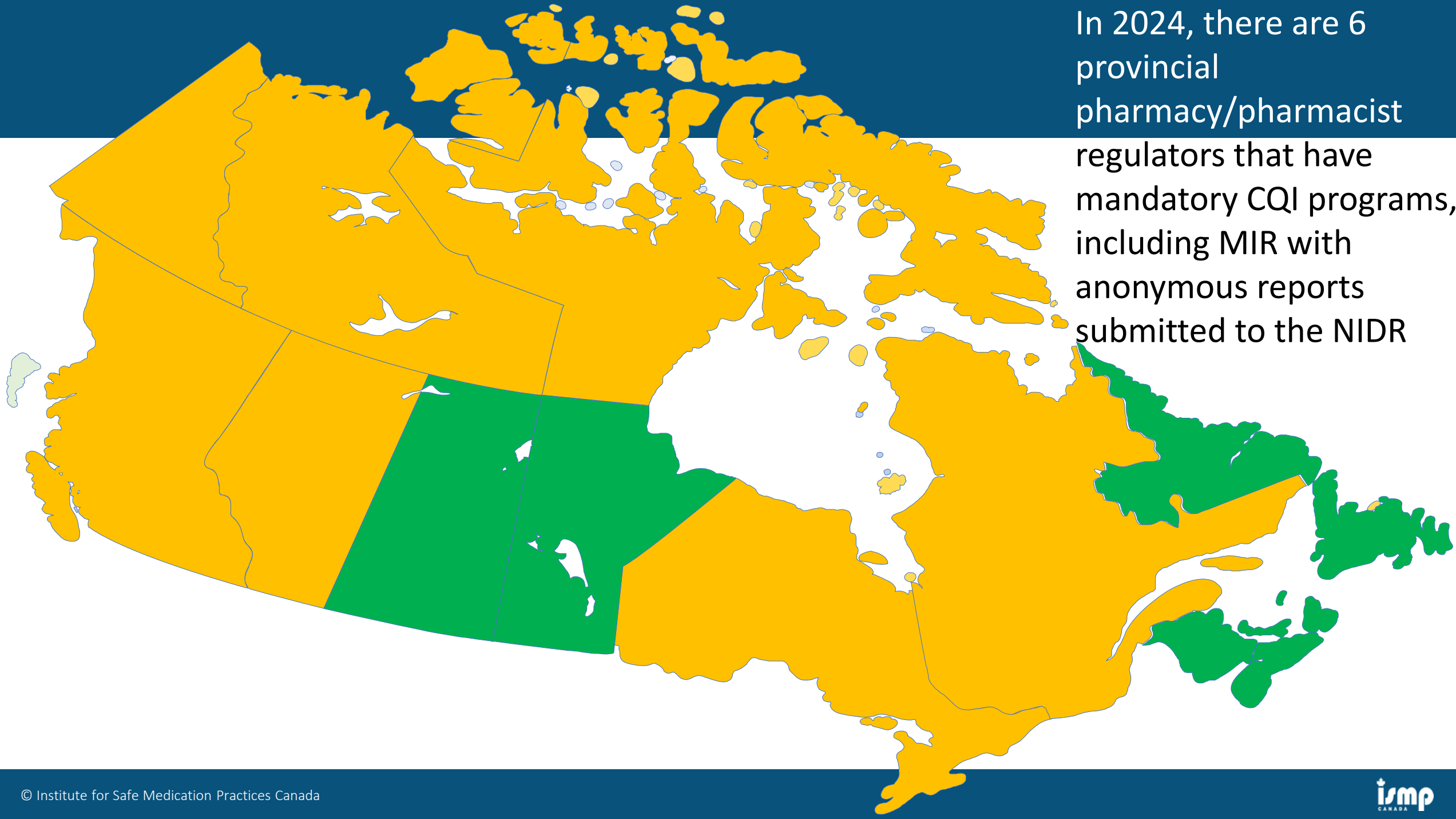
Learn


REPORTING AND LEARNING
Hospitals
Long-Term Care Homes
Practitioners
Consumers
Community Pharmacies
INTAKE
National System for Incident Reporting
CIHI
Individual Practitioner Reporting
ISMP Canada
Consumer Reporting
(MedError.ca)
ISMP Canada
National Incident Data Repository for Community Pharmacies
ISMP Canada
Sharing and Analysis
ACTION
Disseminate Learning & Recommendations, Knowledge Translation & System Improvements
CIHI ICIS
ismp CANADA
Healthcare Excellence Canada
Excellence en santé Canada
CMIRPS
Canadian Medication Incident Reporting and Prevention System
SCDPIM
Système canadien de déclaration et de prévention des incidents médicamenteux
RESULT
Stronger Knowledge = Safer Products and Care

National Incident Data Repository for Community Pharmacies (NIDR)

In 2010, only Nova Scotia had a mandatory pharmacy regulatory CQI program, including incident reporting and anonymous data submitted to the NIDR





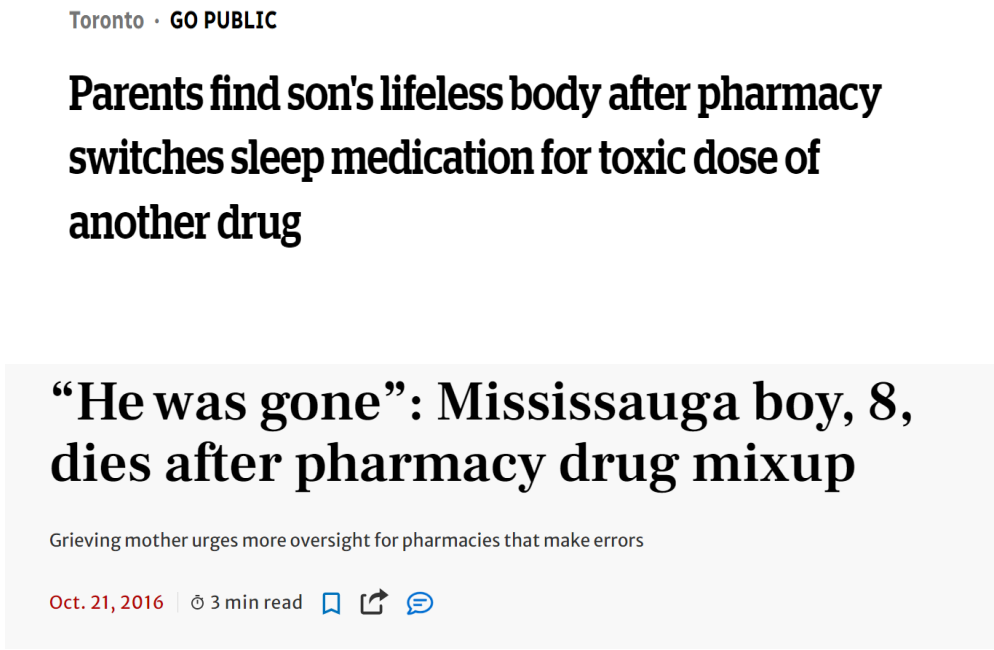
In 2024, there are 6 provincial pharmacy/pharmacist regulators that have mandatory CQI programs, including MIR with anonymous reports submitted to the NIDR

Why is incident reporting important?

In 2016, 8-year-old Andrew Sheldrick died because of a preventable error made during the compounding of his medication in a community pharmacy in Ontario.

For 18 months, he received a 3-gram (20 mL) dose of tryptophan 150 mg/mL suspension at bedtime to treat a complex sleep disorder.

Why is incident reporting important?



Toronto · GO PUBLIC

Parents find son's lifeless body after pharmacy switches sleep medication for toxic dose of another drug

"He was gone": Mississauga boy, 8, dies after pharmacy drug mixup

Grieving mother urges more oversight for pharmacies that make errors

Oct. 21, 2016 | 3 min read

A refill of the prescription was ordered and picked up from the compounding pharmacy that had prepared the suspension in the past.

That night, the usual dose was given and the next morning the child was found deceased in bed.

Toxicology testing later revealed that **baclofen was present at 30 times the maximum recommended dose and no tryptophan was present.**

Why is incident reporting important?

What happened at the pharmacy?

Why did this happen on that day?

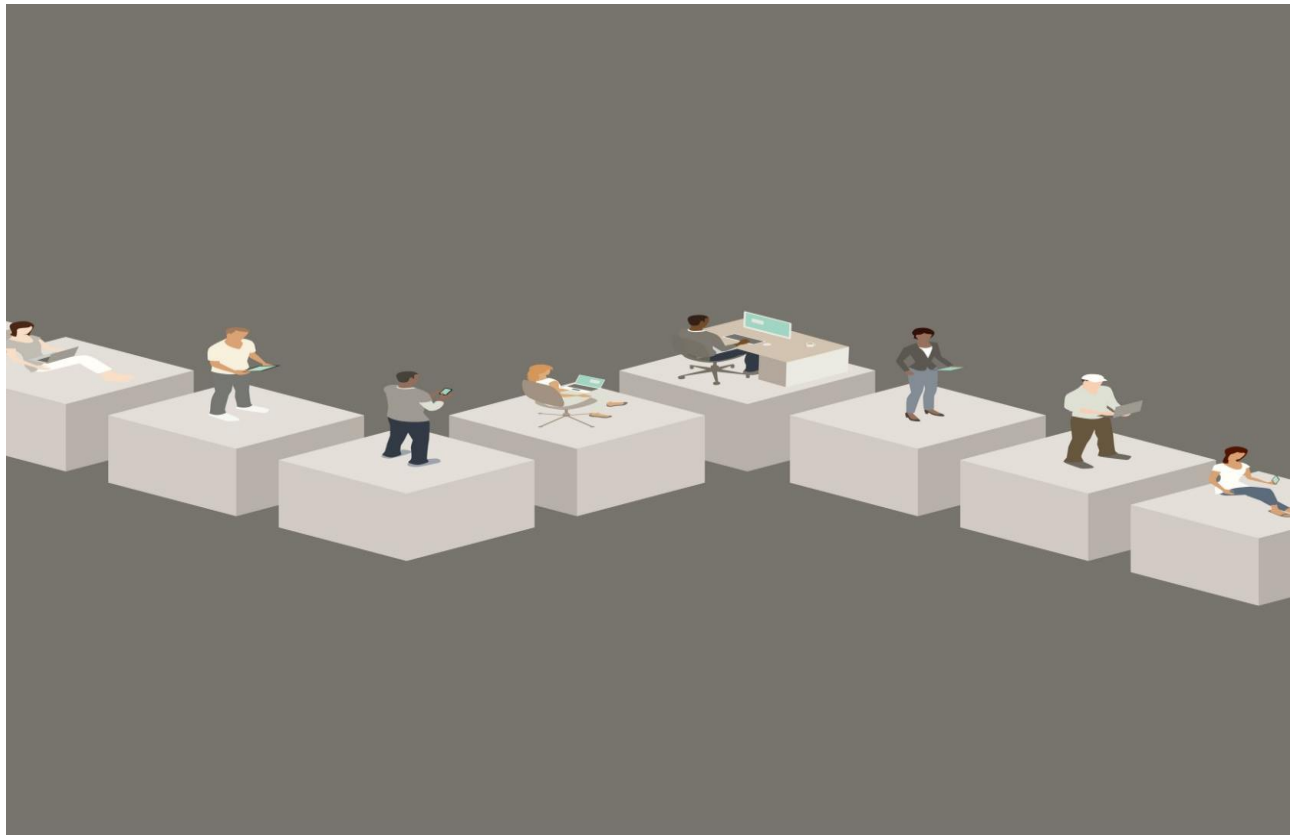
What could be done to prevent, or reduce the likelihood, that the same or similar error(s) happen to another child?

Would these important questions ever be answered about Andrew's death?

Why is incident reporting important?

- Pharmacy technicians are key staff members in the safe delivery of pharmacy services
- Learning from errors, and implementing quality improvement actions, are critical to preventing such tragedies in the future!
- It can all start with a medication incident report…

A complex health system



What we think happens and how we design our health care systems

A complex health system

What actually happens!

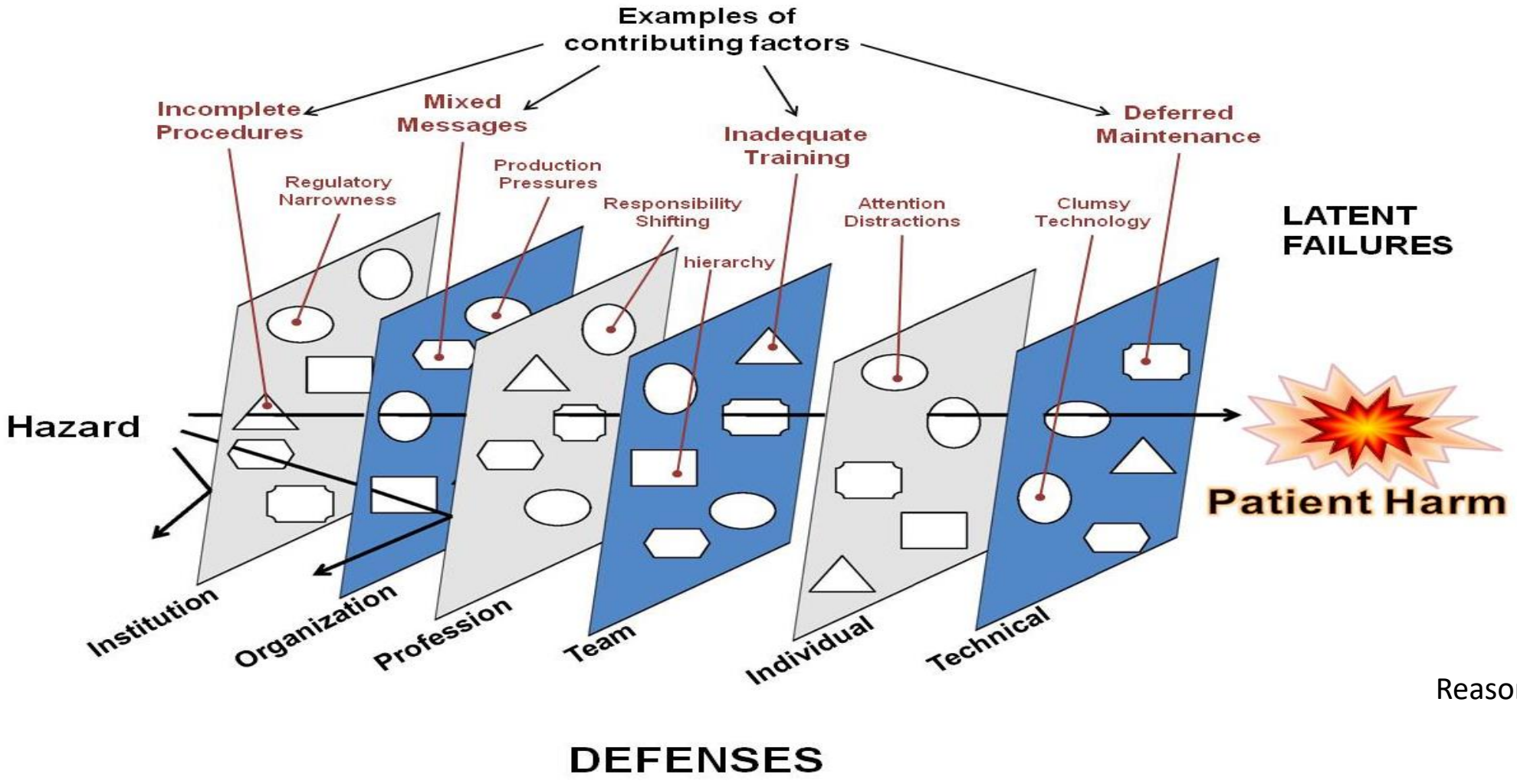
The 60:30:10 Challenge

- 60% of care delivered is adherent to consensus-based guidelines
- 30% of care is waste
- 10% results in direct harm to the patient, with these numbers remaining static for over three decades despite efforts to improve them

Braithwaite, J., Glasziou, P. & Westbrook, J. The three numbers you need to know about healthcare: the 60-30-10 Challenge. *BMC Med* **18**, 102 (2020). https://doi.org/10.1186/s12916-020-01563-4

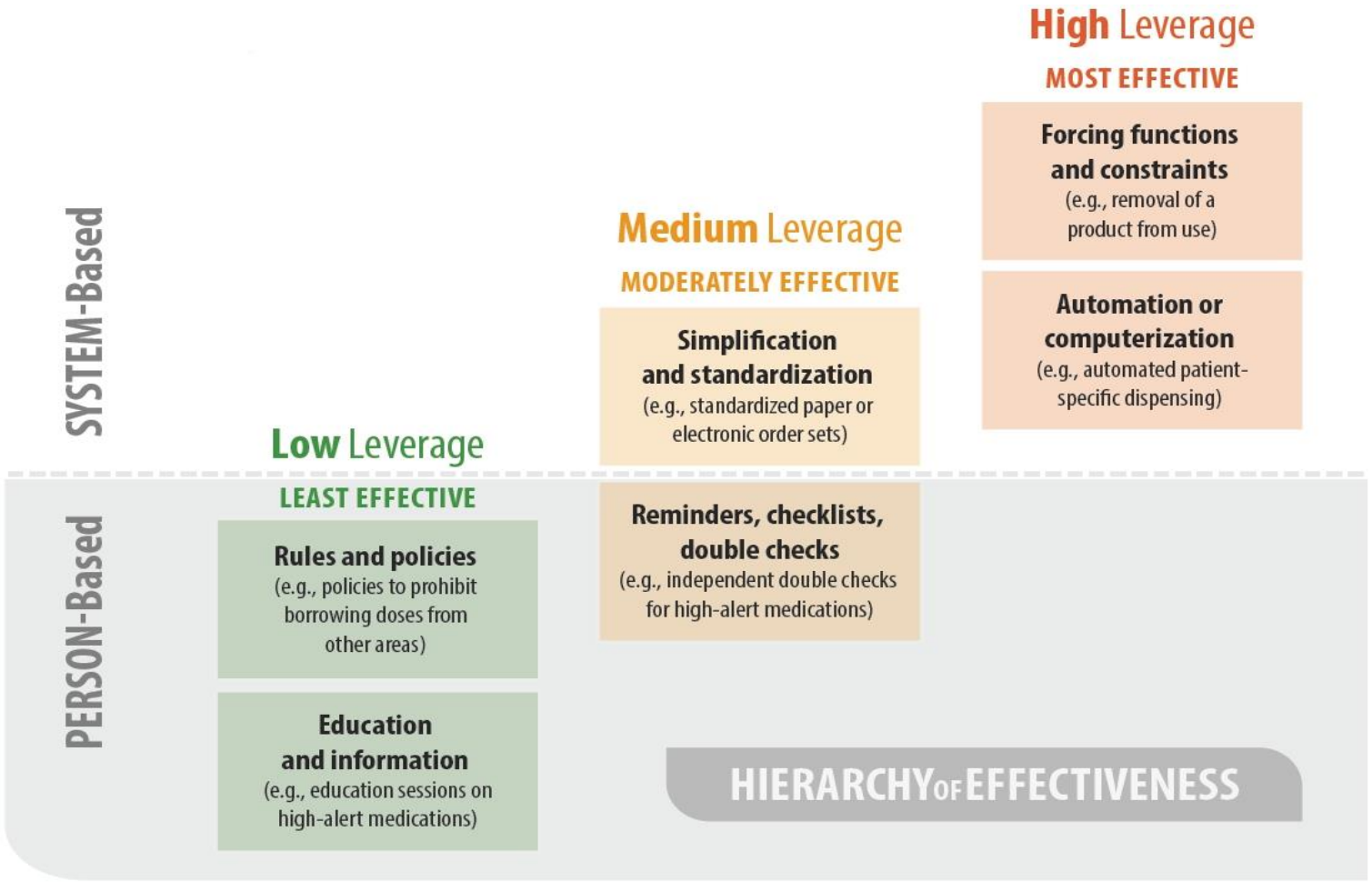
A systems approach to med safety

Human Error



Reason, 2000,

The Hierarchy of Intervention Effectiveness



- From: Designing Effective Recommendations.
- Ontario Critical Incident Learning Bulletin, Issue 4, 2013

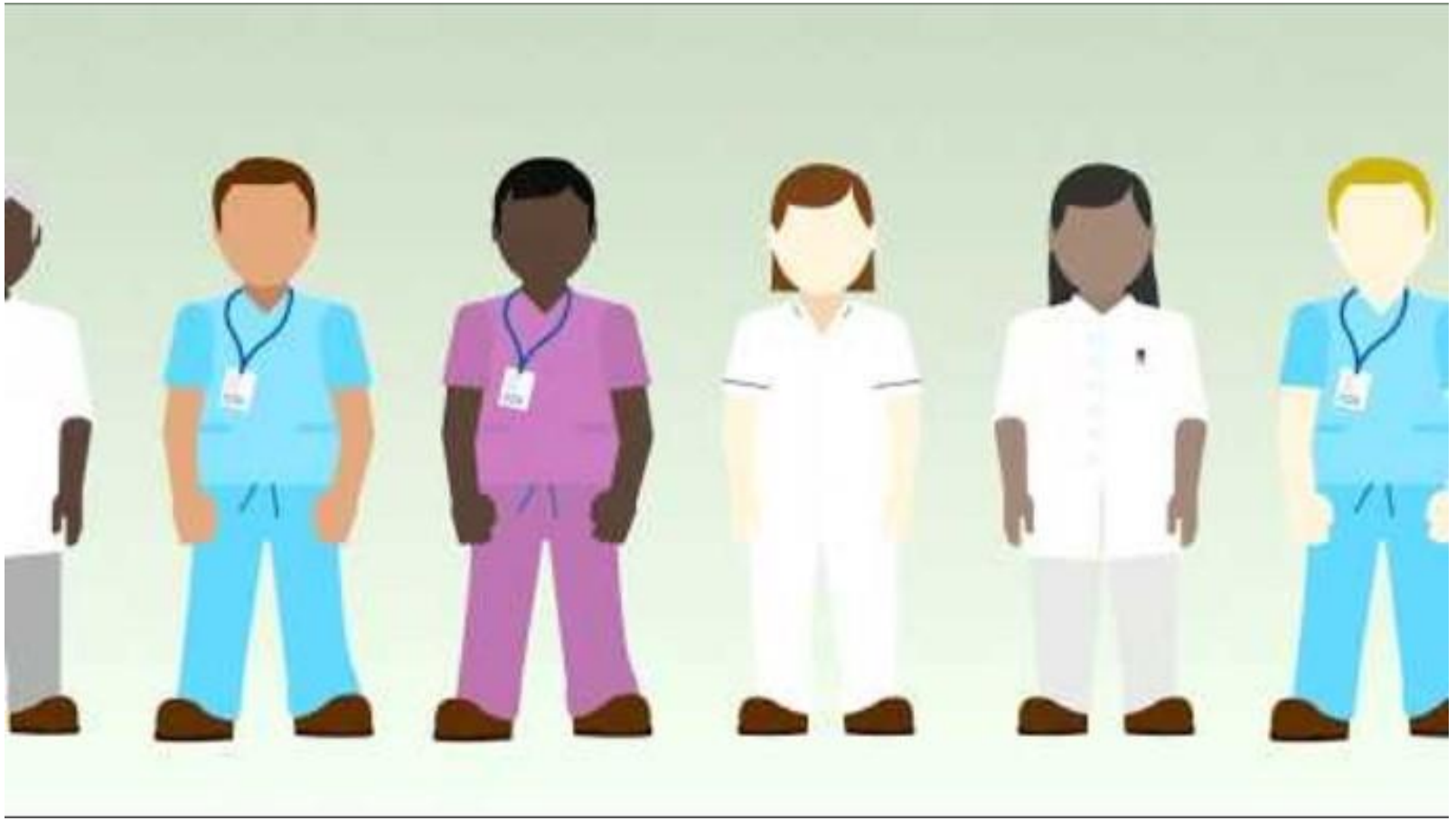
A Learning Health System

- Science and informatics
- Patient – Provider partnerships
- Incentives
- Transparency
- Continuous learning culture
- Structure and governance

It's a marathon, not a sprint!

Dammery, G., Ellis, L.A., Churruca, K. *et al.* The journey to a learning health system in primary care: a qualitative case study utilising an embedded research approach. *BMC Prim. Care* **24**, 22 (2023). https://doi.org/10.1186/s12875-022-01955-w

A Just Culture is essential for sharing, learning & acting



NHS video on Just Culture: https://www.youtube.com/watch?v=zje765OEggs
Just Culture Guide: https://www.england.nhs.uk/wp-content/uploads/2021/02/NHS_0932_JC_Poster_A3.pdf

The Role of ISMP Canada Team

Outcome

Reducing or preventing harm from medication use in Canada

- ✓ More than 400,000 reports of medication incidents have been received from practitioners, consumers, and community pharmacies, to inform learning, sharing and acting
- ✓ Over **200 standards, guidelines, and best practices** have been influenced by (e.g., reference) ISMP Canada incident analysis recommendations.

Purpose of the Interview Guide

The guide is intended to help the health care provider (HCP) complete a Best Possible Medication History (BPMH), in collaboration with the client and/or designated support person.

HCPs may adapt the questions for the populations they serve, in accordance with their organizational procedures.

The client and/or designated support person are an important source of information for the BPMH. Where possible, they should be offered the opportunity to review the questions, and prepare their responses, before the BPMH interview.

How Was This Guide Developed?

This evidence-informed BPMH interview guide was co-designed through a collaborative approach involving clients, care partners, and HCPs from across Canada.

www.ismpcanada.ca/BPMHInterviewGuide

Supporting Consumer Safety

https://ismpcanada.ca/wp-content/uploads/ISMPCSB2022-i9-API-Labelling.pdf

Shared learning is disseminated to health care providers and consumers/patients from analysis of reports of incidents to the NIDR.

https://safemedicationuse.ca/newsletter/downloads/202202NewsletterV13N02-compounding.pdf

Live Virtual Workshops

Incident Analysis and Proactive Risk Assessment

▲ Overview

This virtual workshop will provide health care professionals with background theory and hands-on practice in incident analysis using Root Cause Analysis (RCA) and in proactive risk assessment using Failure Mode and Effects Analysis (FMEA).

Incident Analysis and Proactive Risk Assessment - Available in both English & French!

▼ Overview

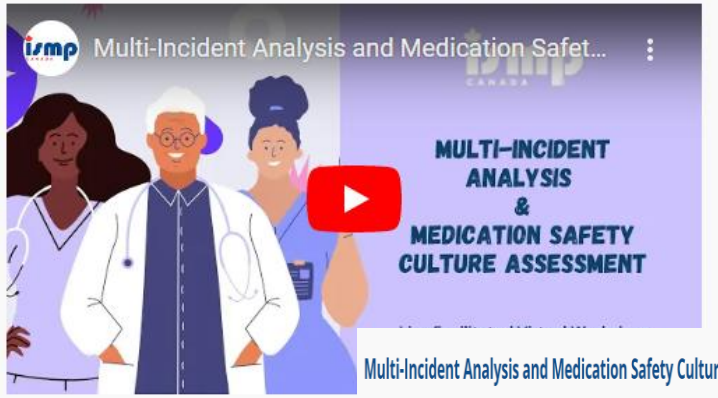
7 upcoming dates - **Register**

- September 26 & 27, 2024
- October 26 & 27, 2024
- November 28 & 29, 2024
- December 14 & 15, 2024
- January 30 & 31, 2025
- February 22 & 23, 2025
- March 27 & 28, 2025

Multi-Incident Analysis and Medication Safety Culture Assessment

▲ Overview

This virtual workshop will provide participants with background theory and hands-on practice in using a multi-incident analysis to analyze a group of medication incidents that share a common topic on day 1 and introduce a novel tool called the Medication Safety Culture Indicator Matrix (MedSCIM) on day 2.



Multi-Incident Analysis and Medication Safety Culture Assessment

▼ Overview

2 upcoming dates - **Register**

- September 28 & 29, 2024
- January 23 & 24, 2025

Medication Reconciliation and Best Possible Medication History

▲ Overview

This 1-day live facilitated virtual workshop teaches health care professionals the fundamentals of medication reconciliation (MedRec) and Best Possible Medication History (BPMH) while providing hands-on practice with case scenarios on how to conduct in-person and virtual medication history interviews.

Medication Reconciliation and Best Possible Medication History (Updated with our 2024 guide!)

▼ Overview

3 upcoming dates - **Register**

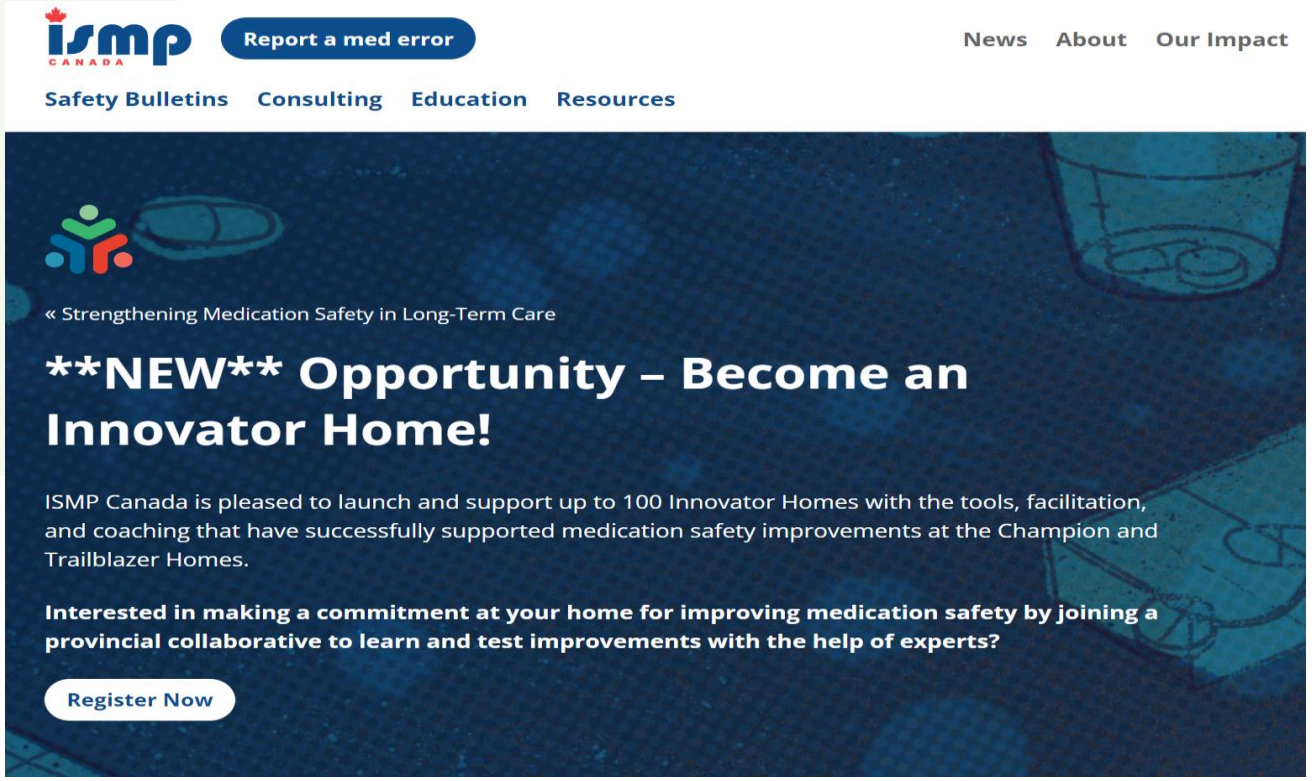
- September 21, 2024
- November 22, 2024
- March 8, 2025

Act – local, provincial & national initiatives

Community Pharmacy Medication Safety Consultation

Our team works collaboratively with your community pharmacy through a series of virtual meetings to review dispensing and related patient care processes to identify possible system-based risks. We will help your team to understand and apply the principles supporting safe medication practices, including basic human factors, systems approach and just culture.

Overview ▶



Share

A focus on Pharmacies

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Phone: 1-866-544-7672

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ISMP Canada Safety Bulletin

Volume 24 · Issue 2 · March 6, 2024

Central Fill Services for Community Pharmacies: A Multi-Incident Analysis

A central fill service is a collaborative partnership between an "originating" pharmacy and a "central fill" pharmacy, with defined accountability and responsibility between them.[1] Services provided by central fill pharmacies commonly include preparation of patient compliance packages, refill medications, and compounded prescriptions. After preparation by the central fill pharmacy, the completed prescription medications are sent to the originating pharmacy (where prescription orders are first received), where they are dispensed to patients (Figure 1).

With support from central fill services, originating pharmacies can save time, inventory costs, and staff resources, which can then be redirected to providing professional services to patients. However, without the appropriate processes and checks in place, the use of central fill services can add complexity to processes and can also blur accountability. This bulletin highlights key themes from a multi-incident analysis of incidents related to central fill services and shares error prevention strategies to address identified gaps.

METHODOLOGY

Medication incidents associated with ce
services were extracted from voluntary
submitted to 3 ISMP Canada reporting
(ISMP Canada's Individual Practitioner
National Incident Data Repository for C
Pharmacies [NIDR], and Consumer Rep
the 2-year period from July 1, 2021, to J

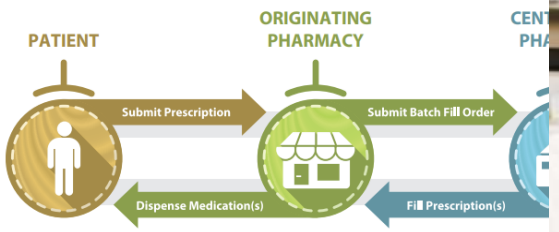

Figure 1. Flow of prescription information and medications if a central fill pharmacy is utilized.

National Incident Data Repository Safety Brief

Saskatchewan Data

from community pharmacies
Reporting period: April 1, 2023 – September 30, 2023

2,770 reports received

Types of Incidents (including near misses) **(Top 5)**	
Incorrect dose/frequency	621
Incorrect drug	515
Incorrect strength/concentration	380
Incorrect quantity	337
Incorrect patient	332
Contributing Factors Reported (Top 5)	
(Environmental, staffing, or workflow problem) **Interruptions**	
(Environmental, staffing, or workflow problem) **Workload**	
(Environmental, staffing, or workflow problem) **Noise**	
(Environmental, staffing, or workflow problem) **Staffing deficiencies**	
(Drug name, label, packaging problem) **Look-alike/sound-alike names**	

National Learning

Saskatchewan community pharmacies contribute to national learning and safety initiatives that incorporate learning from reported medication incidents and suggest system safeguards to prevent patient harm. Related information can be found in the article "Statistics" in the November 2023 issue of *Directions: COMPASS Program Newsletter* (https://saskpharm.ca/document/12227/Directions_Vol8_Issue4_202311.pdf).

The following recommendations can help reduce interruptions (a top contributing factor both in Saskatchewan and nationally) and enhance patient safety.

SAFETY TIP: Establish designated work areas that are designed to reduce the likelihood of interruptions and distractions for *high-risk activities* (e.g., compliance packaging, compounding, medication reconciliation with hospital discharge prescriptions).

SAFETY TIP: Encourage patients to use automated systems when ordering medication refills (e.g., telephone/online refill request programs) to reduce distractions and interruptions in *workflow*.

SAFETY TIP: Ensure that staff engage in a structured role-based approach to reduce distractions and interruptions in *workflow*.

SAFETY TIP: Place a checklist in applicable work areas to keep track of steps performed during lengthy safety-critical tasks (e.g., providing opioid agonist therapy). If a task is interrupted, it should be restarted, using the checklist as a guide.

A key component of ISMP Canada data analysis is a review of the incident descriptions. The efforts by reporters to provide information that helps identify emerging issues and shared learning opportunities is gratefully acknowledged.

Additional safety recommendations can be found in ISMP Canada Safety Bulletins: https://ismpcanada.ca/safety-bulletins/

REPORT ✓ LEARN ✓ ACT ✓

More than 44,000 reports of medication incidents have been submitted to the National Incident Data Repository for Community Pharmacies (NIDR) from Saskatchewan since 2013.

Types of system issues in community pharmacies

Missing critical patient information during the processes of:

- prescription order entry,
- pharmacist clinical check,
- vaccine administration, and/or
- prescription delivery

National Incident Data Repository for Community Pharmacies
National Snapshot

July 2023

From January 1 to December 31, 2022, a total of 49 650 reports of medication incidents were submitted to the National Incident Data Repository for Community Pharmacies (NIDR) from participating provinces. Most of the reports described near-miss or no-harm incidents; 1.21% (n= 603) of the incidents were associated with mild, moderate, or severe harm, or death. Analysis of incidents has informed the shared learning offered in ISMP Canada Safety Bulletins and provincial NIDR Safety Briefs.

The focus of this NIDR National Snapshot is the 2022 dataset of medication incidents for which "critical patient information missing" was specified as a contributing factor. Reports of 315 incidents with detailed descriptions were included in a multi-incident analysis using the Canadian Incident Analysis Framework.[1] The findings of this analysis (Figure 1) and strategies for improvement (Box 1) are presented here.

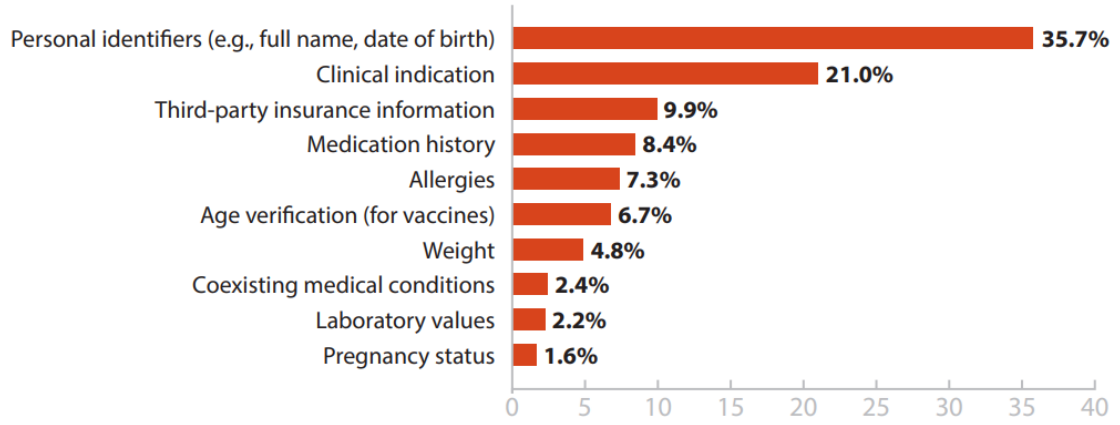

FIGURE 1. Types of critical patient information missed during the processes of prescription order entry, pharmacist clinical check, vaccine administration, and/or prescription delivery.

Types of system issues in community pharmacies

Architecture and Interoperability Challenges

- Lack of Prescription Notification Alerts
- Incompatabilities with Pharmacy Software
- Incorrect Prescription Modifications during Pharmacy Order Entry

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ISMP Canada Safety Bulletin

Volume 24 • Issue 5 • May 29, 2024

Shared Learning from Incidents Associated with Electronic Prescribing in the Community Pharmacy Setting

Electronic prescribing (e-prescribing) is defined as the secure electronic creation of a prescription and its transmission between an authorized prescriber and the patient's pharmacy of choice, using a clinical electronic medical record (EMR) and pharmacy management software (PMS).[1] Various benefits can be realized through the use of e-prescribing, including a reduction in transcription errors, improved communication between prescribers and pharmacists, support for opioid safety strategies, and support for medication management.[2] In Canada, several e-prescribing services are available reflecting a mix

chosen pharmacy, or 2) be retrieved by the pharmacy from a central or cloud-based repository.[3]

METHODOLOGY

Medication incidents associated with e-prescribing were extracted from 3 ISMP Canada databases (National Incident Data Repository for Community Pharmacies, Individual Practitioner Reporting, and Consumer Reporting*) for the 5-year period between August 1, 2018, to July 31, 2023. The search terms† "digital prescribing", "telehealth", "PrescribeIT",

Types of system issues in community pharmacies

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SCDPIM Système canadien de déclaration et de prévention des incidents médicamenteux

ISMP Canada Safety Bulletin

Volume 23 • Issue 4 • April 26, 2023

Newer Classes of Medications for Diabetes Treatment: A Multi-Incident Analysis of Reports from the Community Pharmacy Setting

Diabetes management is complex, necessitating monitoring and frequent medication changes to achieve optimal glycemic targets. Medications for diabetes treatment are estimated to comprise the fifth most commonly prescribed therapeutic class.[1] The newer agents for diabetes also account for several top classes of medications in terms of spending.[2] Safety bulletin is focused on an analysis of community pharmacy incidents involving newer classes of medications for diabetes treatment, and offers strategies to prevent errors.

METHODOLOGY

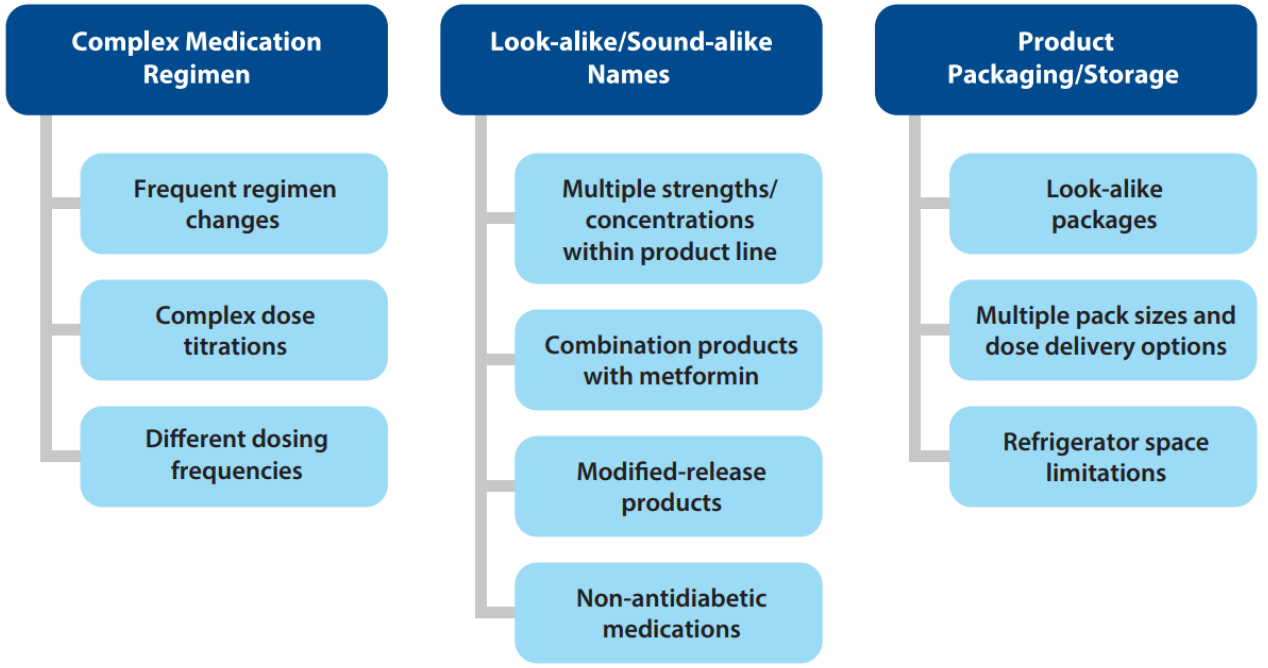


Figure 2. Themes and subthemes identified in the qualitative analysis.

Act

A focus on Pharmacies

eLearning and Online Modules

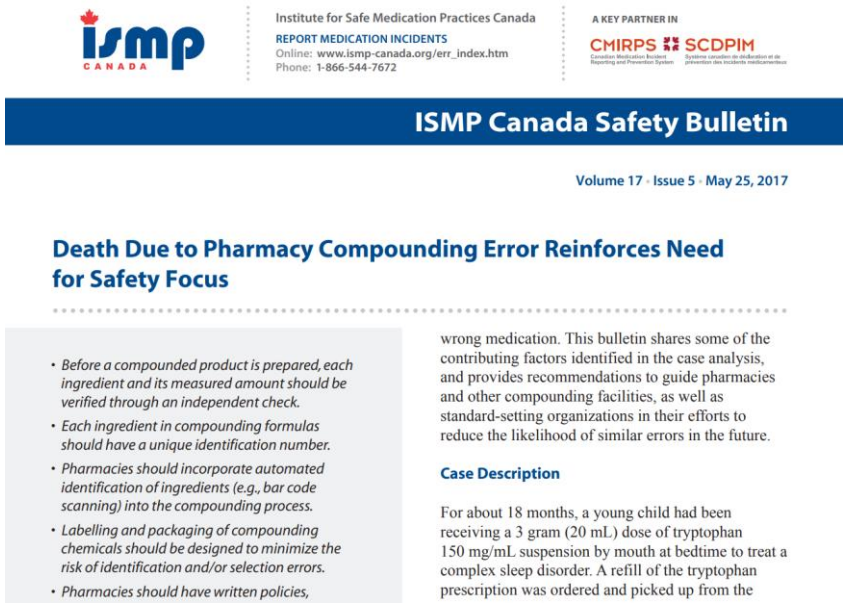
- **Keeping Pediatric Patients Safe: Pediatric Safety Considerations for Community Pharmacists**
- **Medication Safety Considerations for Compliance Packaging**
- **Preventing and Analyzing Medication Errors: A Primer for Community Pharmacies in Ontario**

Why is incident reporting important?

Were the questions of what happened, why on that day, and what can be done to prevent/reduce recurrence answered in follow up Andrew's medication incident?

Yes!

A Systems Analysis, Learning, Sharing & Action



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ISMP Canada Safety Bulletin

Volume 17 · Issue 5 · May 25, 2017

Death Due to Pharmacy Compounding Error Reinforces Need for Safety Focus

- *Before a compounded product is prepared, each ingredient and its measured amount should be verified through an independent check.*
- *Each ingredient in compounding formulas should have a unique identification number.*
- *Pharmacies should incorporate automated identification of ingredients (e.g., bar code scanning) into the compounding process.*
- *Labelling and packaging of compounding chemicals should be designed to minimize the risk of identification and/or selection errors.*
- *Pharmacies should have written policies,*

wrong medication. This bulletin shares some of the contributing factors identified in the case analysis, and provides recommendations to guide pharmacies and other compounding facilities, as well as standard-setting organizations in their efforts to reduce the likelihood of similar errors in the future.

Case Description

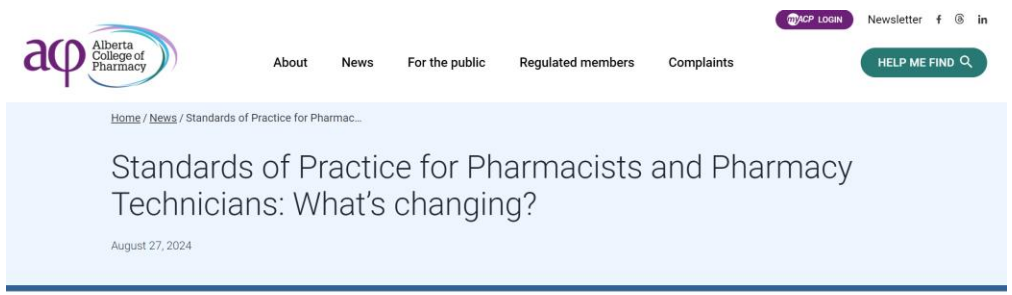
For about 18 months, a young child had been receiving a 3 gram (20 mL) dose of tryptophan 150 mg/mL suspension by mouth at bedtime to treat a complex sleep disorder. A refill of the tryptophan prescription was ordered and picked up from the

[Death Due to Pharmacy Compounding Error Reinforces Need for Safety Focus - ISMP Canada]

- Missing independent verification step
- Similar label design
- Similar physical appearance
- Confirmation bias
- Lack of use of a unique identifier
- Lack of segregated storage of oral and topic compounding chemicals

14 Recommendations for improvement for regulatory agencies, manufacturers of compounding chemicals and pharmacy managers, pharmacists and pharmacy technicians

A New CQI+ Program for Alberta Pharmacy Teams



[Standards of Practice for Pharmacists and Pharmacy Technicians: What's changing? - Alberta College of Pharmacy (abpharmacy.ca)]

What can you do tomorrow?

Share

- ✓ Submit a med incident report to your pharmacy reporting platform and to ismpcanada.ca

Learn

- ✓ Review an ISMP Canada Safety Bulletin and discuss with your team if the same system issues exist in your pharmacy
- ✓ Participate in an ISMP Canada education opportunity

Act

- ✓ Join with your team to analyze an incident and implement system solutions in your pharmacy to reduce the risk of errors

The **Canadian Medication Safety Network** provides a chance to hear from health care providers and consumers about medication safety needs and opportunities from communities across the country.

This valuable mode of communication will facilitate improved medication safety.

Register Today!

Canadian Medication Safety Network

https://ismpcanada.ca/canadian-medication-safety-network/

Stay tuned! You will also receive an invite to join a winter webinar in 2024!

References

ISMP Canada. *Best Possible Medication History Guide.* (2024). www.ismpcanada.ca/BPMHInterviewGuide

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Questions or Comments?