# Medication Safety in LTC

## Part 1: The Changing Culture in Healthcare

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## Objectives

Participants will become familiar with:

1. The current healthcare environment:
   - Public Expectations
   - Legislative Expectations
   - Accreditation Expectations
2. The "systems" approach in healthcare
3. Incident reporting and its benefits

# About ISMP Canada

ISMP Canada is an independent not-for-profit organization dedicated to reducing preventable harm from medications.

Our aim is to heighten awareness of system vulnerabilities and facilitate system improvements.

**www.ismp-canada.org**




# Canadian Medication Incident Reporting and Prevention System (CMIRPS)

**ISMP Canada is a key partner in CMIRPS** with Health Canada, the Canadian Institute for Health Information (CIHI), with support from the Canadian Patient Safety Institute (CPSI)

## Goals of CMIRPS:

- Collect data on medication incidents;
- Facilitate the implementation of reporting of medication incidents;
- Facilitate the development and dissemination of timely, targeted information designed to reduce the risk of medication incidents (*e.g.* **ISMP Canada Safety Bulletins**); and
- Facilitate the development and dissemination of information on best practices in safe medication use systems.

# We encourage you to report medication incidents

REPORT a Medication Incident

Practitioner Reporting
https://www.ismp-canada.org/err_report.htm

SafeMedicationUse.ca
Supported by Health Canada

Consumer Reporting
www.safemedicationuse.ca/




# Story

An elderly resident living in a LTC home was receiving palliative care. To help manage her pain, she was ordered: Morphine 1 to 2 mg subcutaneously q3-4h prn for

- Morphine 10 mg was administered instead of morphine 1 mg (a ten-fold error).
- When the error was identified, the attending physician and the resident's family notified of the incident. The resident subsequently died.



# Incident Analysis

Morphine available through drug formulary as:

**Morphine 15 mg/mL**

Correct calculation:

1 mg = 0.07 mL


Incorrect calculation:

10 mg = 0.7 mL

# Syringe availability?

Morphine 1 mg = 0.07 mL



# Observations

- Issues are similar across the spectrum of care and from country to country
- We know why errors/incidents are happening
- We know a lot about what to do to improve systems
- We are starting to change –
  - It is difficult
  - It is worth it!

# Current Healthcare Environment



## The OPRAH Magazine - May 2005

"When Bad Medicine
Happens to Good People"

By Mary A. Fischer

THE OPRAH MAGAZINE

Retrieved Sep 21, 2011
http://www.maryafischer.com/oprahmagazine3.html

One specialist says:
'The pen and prescription pad are killing people'

Maclean's

THE TORONTO STAR

People weekly

**THE BOTTOM LINE**

*Besides their harmful effects on patient health, medical errors are expensive. While Canadian data are hard to come by, U.S. studies from the late 1990s calculate costs (in Canadian dollars) to that health system:*

- Patients suffering adverse reactions to drugs stayed an additional 2.2 days in hospital with an increased cost of $4,866 per patient
- Total annual health-care costs for preventable adverse effects: $31 billion


NATIONAL POST

This package of lethal potassium chloride is almost identical to vials of harmless saline and water

**STORING MEDICINE THAT KILLS**

Mistakes with potassium chloride like the kind that killed Jeffrey Brown have happened elsewhere and could happen again, unless steps are taken to reduce the risk. In six of eight cases reviewed from 1996 to 1998 by the U.S. Joint Commission on Accreditation of Healthcare Organizations, concentrated potassium chloride was mistaken for some other medication, primarily due to similarities in packaging and labelling. The most effective way to prevent errors, the commission found, is simply to remove concentrated potassium chloride from patient-care areas.

Like many other institutions, Toronto Western Hospital has done just that. Nursing units now stock only diluted solutions, which are used to treat potassium deficiency. Physicians wanting to have potassium chloride administered to a patient have to write their orders on standardized forms specifying the pre-mixed solutions. Meanwhile, the hospital's frontline medical, nursing and pharmacy staff have been re-educated about the causes of medication mistakes. The hospital made the changes not only to protect patients from risk of error, but to help staff avoid circumstances in which they could commit an error. "Good people can make mistakes," says Sylvia Hyland, the hospital's manager of pharmacy operations. "Words cannot express the devastation they can feel."

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**Media Reporting Affects Public Trust!**

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# Ontario Legislation

- Long-Term Care Homes Act, 2007 (LTCHA or the Act), effective on July 1, 2010.
  - Medication management system
  - Responsibilities of pharmacy service provider
  - Medication incident and adverse drug reactions
  - Continuous quality improvement
  - Residents' Bill of Rights

*Plus: Health Care Consent Act; Substitute Decisions Act; Personal Health Information and Protection Act; Fire Code;* and *Occupational Health and Safety Act.*

- Excellent Care for All Act (ECFAA), 2010



# Excellent Care for All Act, 2010

Effective January 1, 2011

- The legislation requires health care organizations, starting with hospitals, to:
- Develop and make public annual quality improvement plans
- Create quality committees to report to each board on quality related issues, including the public annual quality improvement plan
- Link executive compensation to quality plan performance improvements
- Implement patient and employee satisfaction surveys and a patient complaints process

# Accreditation

- Accreditation Canada (formerly CCAC)
- Commission on Accreditation of Rehabilitation Facilities (CARF Canada)



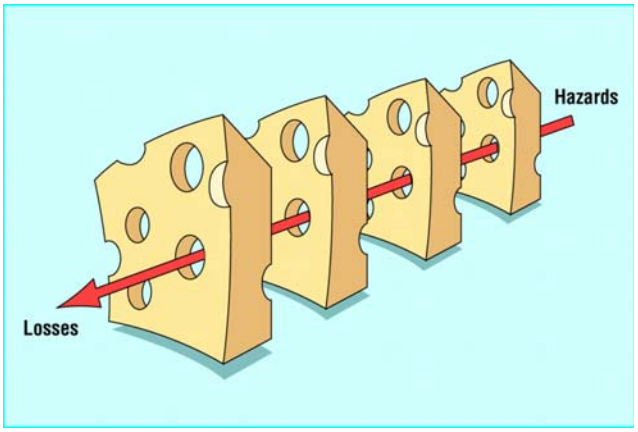
# Systems Approach

# The Systems Approach

- Preventable adverse events are caused by interaction between:
  - flaws in the working environment (system)
  - unavoidably imperfect humans
- Adverse events can be reduced by building a system that:
  - reduces error
  - prevents error from causing harm



# The Systems Approach

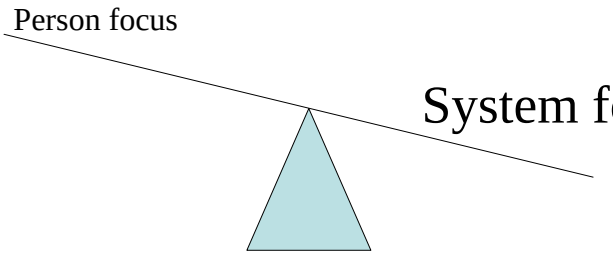



Reason, J. (2000). Human error: models and management. *BMJ*, 320(7237): 768-770. Retrieved from: http://www.bmj.com/cgi/content/full/320/7237/768

System focus

Person focus








# Accountability for Safety

- The system and person share accountability
- Accountability depends on nature of event
  - Honest mistake, flawed system (95-99%)
  - Recurrent individual problems with protocol violations despite system efforts (~?1-5%)
  - Intentional harmful act (<1%)

# Take Punishment Out of The Equation

- Exclude the bad person stuff
  - Intentional Acts
  - Substance Abuse
  - Illness
  - Actions outside scope of practice
- Manage the 'tainted image' – recurrent protocol violations



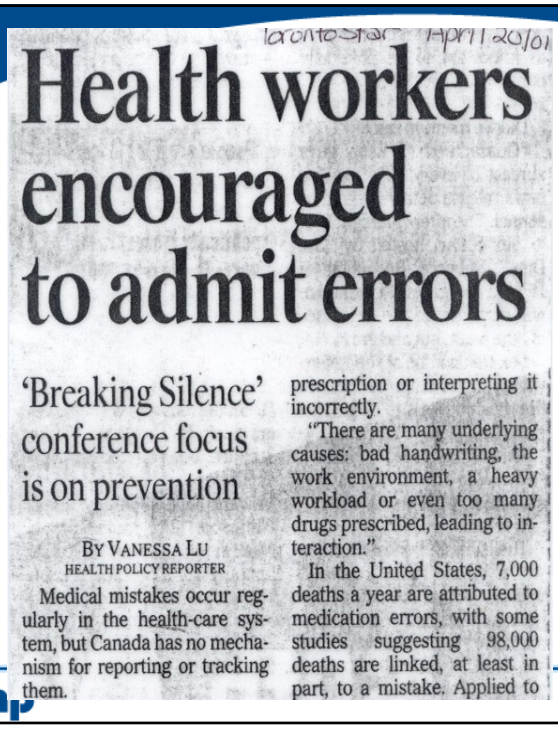
# The Systems Approach

**"...though we cannot change the human condition, we can change the conditions under which humans work"**

**Reason J. (2000). Human error: models and management.**
***BMJ*, 320(7237): 768-770. Retrieved from:**
**http://www.bmj.com/cgi/content/full/320/7237/768**

# Incident Reporting





Toronto Star April 20/01

# Health workers encouraged to admit errors

## 'Breaking Silence' conference focus is on prevention

BY VANESSA LU
HEALTH POLICY REPORTER

Medical mistakes occur regularly in the health-care system, but Canada has no mechanism for reporting or tracking them.

prescription or interpreting it incorrectly.

"There are many underlying causes: bad handwriting, the work environment, a heavy workload or even too many drugs prescribed, leading to interaction."

In the United States, 7,000 deaths a year are attributed to medication errors, with some studies suggesting 98,000 deaths are linked, at least in part, to a mistake. Applied to

**The Toronto Star**
**April 20, 2001**

"Learning from experience can prevent harmful mistakes from recurring. Safety is enhanced by learning from failure."

Hyland S. Why is Critical Incident Reporting and Shared Learning Important for Patient Safety? In Reporting on Critical Incidents Related to Medication / IV Fluid Ontario Hospital Association Video and Webcast, Toronto, Ontario

August 24, 2011 cited 19Sept2011; available from: http://www.oha.com/Education/Documents/ISMP_Canada__Presentation_for_OHA_Video_Webcast_24August2011__Final.pdf



# Analysis of Incident Reports

- Different types of analysis:
  - Individual Report Review (Individual Report)
  - Aggregate Review (A cluster of related reports)
  - Root Cause Analysis (A comprehensive, in-depth analysis conducted by a multidisciplinary team)
    - E.g., Fluorouracil Incident Root Cause Analysis, Hydromorphone Root Cause Analysis

## Medication Incident Management

How to use incident reports:

- As part of notification process for incidents that have occurred
- Trend analysis within a home or organization
  - Monitoring tool for effectiveness of interventions
- Educational tool – widely share de-identified details for learning purposes



## Medication Incident Management

How not to use incident reports:

- As an indicator of individual employee competence or for disciplinary purposes
- As part of statistical calculation of incident “rates”

## Incident Reports

- Ask for more
- Reward people for reports
- Ask for close calls
- Follow Up****



## Aggregate/Cluster Analysis

A process by which analysis is conducted on a cluster of reports involving common factors that are pre-defined for achieving a specific objective

e.g. drug or drug class, age category, care setting

# ISMP Canada LTC Incident Review

- 4740 medication incidents reviewed
- 131 (2.8%) caused harm or death
- 11.5% of the 131 caused death
- Admission of the incorrect does was the single most common type of incident (followed by dose omission, administration of incorrect drug and admin of med to wrong resident)



# ISMP Canada Analysis of LTC Incident Reports

***Opioids***

1. **Order misinterpretation**
   - Contributing factors: Dosing unit mix-ups; dangerous abbreviations
2. **Fentanyl patch errors**
   - Contributing factors: resident ordered fentanyl patches possibly not a suitable candidate; old patch not removed; every 72 hour schedule leading to dose omissions
3. **Dose omissions**
   - Contributing factors: Interruptions; order not transcribed to MAR; medications not available from pharmacy

# LTC Incident Analysis (Cont'd)

***Insulins***

1. **Mix-ups between different types of insulin**
   - Contributing factors: Look-alike / sound-alike; close proximity in storage
2. **Incorrect dose**
   - Contributing factor: Dose requirement changes depending on various resident factors (e.g. blood glucose level, dietary intake...etc.)
3. **Incorrect time of administration**
   - Contributing factors: Time dependent nature of insulin administration; resident not available at time of administration; order entry / transcription error



# Climate of Safety

- Embrace systems approach
- Staff encouraged to reporting hazards, incidents and adverse events
- Response to incidents:
  - Focus on system >>persons involved

"We don't believe that people come to work to do a bad job or make an error, but given the right set of circumstances any of us can make a mistake. We must force ourselves to look past the easy answer that it was someone's fault – to answer the tougher question as to why the error occurred. It is seldom a single reason."

*(Veterans Affairs, 2005)*



Oct 20, 2011

## Part II: Vulnerabilities in the Medication Use Process and Strategies to Enhance Medication Safety




# Additional Reading

Medication Incidents in Long-Term Care

*http://www.ismp-canada.org/download/safetyBulletins/ISMPCSB2010-09-MedIncidentsLTC.pdf*

Medication Safety in Long-Term Care

*http://www.ismp-canada.org/download/safetyBulletins/ISMPCSB2008-10MedicationSafetyinLongTermCare.pdf*

Safety in Long-Term Care Settings: Broadening the patient safety agenda to include long-term care services

http://www.patientsafetyinstitute.ca/English/research/commissionedResearch/SafetyinLongTermCareSettings/Documents/Reports/LTC%20paper%20-%20Safety%20in%20LTC%20Settings%20-%202008.pdf

# ISMP Canada Contacts

- Webinars: webinars@ismp-canada.org
- Workshops: education@ismp-canada.org
- Consultations: consults@ismp-canada.org
- CMIRPS: www.ismp-canada.org/cmirps.htm
- Medication Safety Self-Assessments: mssa@ismp-canada.org
- OR Checklist: OperatingRoomChecklist@ismp-canada.org
- **Questions: info@ismp-canada.org**