



Medication Safety Panel Discussion: Oncology Medication Safety

**National Oncology Pharmacy Symposium
New Frontiers in Oncology Pharmacy
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**Sylvia Hyland
Institute for Safe Medication Practices Canada**

Presentation Outline

1. Planned international initiative for development of a Medication Safety Self-Assessment[®] (MSSA) program for Oncology, promoted by the International Society of Oncology Pharmacy Practitioners (ISOPP)
2. Findings of interest from analyses of oncology medication incidents, reported to ISMP Canada.
3. Update on National Collaborative Bar Coding Initiative

ISMP Canada

Independent, not-for-profit, national organization

Purpose: To identify risks in medication use systems, recommend optimal system safeguards and advance safe medication practices.

Team includes nurses, pharmacists, physicians, engineers and technicians trained in medication incident analyses, human factors engineering (HFE), failure mode and effects analysis (FMEA) and root cause analysis (RCA).

Fluorouracil Incident Root Cause Analysis report

- ISMP Canada was contracted to conduct a root cause analysis of the incident
 - 16 causal factors identified
 - 40 recommended actions
- Full copy of the report is available at:
<http://www.cancerboard.ab.ca/NR/rdonlyres/2FB61BC4-70CA-4E58-BDE1-1E54797BA47D/0/FluorouracilIncidentMay2007.pdf>

Oncology Medication Safety Self-assessment program

- One of the recommendations includes: 'Develop a program specific to systemic therapy to assist oncology practitioners in identifying areas of risk particular to this specialized field”.
- Request for proposal by ISOPP
- MSSA Product development by ISMP (US) and ISMP Canada with input from ISOPP members

Oncology Medication Safety Self-assessment program

- heighten awareness of the characteristics of safe medication practices for oncology, for example:
 - the WHO World Alliance for Patient Safety has consulted expert opinion widely and made recommendations for vincristine labelling and dispensing
 - recommendations from professional associations (ASHP, CSHP etc)
 - processes to ensure use of correct elastomeric pump infusors
 - processes for independent checks
- obtain a baseline of current practices, and
- evaluate these efforts over time.

Oncology Medication Safety Self-assessment program

- allow for entering data results through an encrypted secure web program so that facilities can evaluate their own findings, as well as compare them to aggregate regional (e.g. provincial) and national data.
- results can assist in identification of areas for improvement and help to guide selection of future collaborative projects.

Oncology MSSA Program Development

1. Review of the current literature on safe practices
 - Identify current best practices, medication delivery challenges, and opportunities to develop and implement evidence-based leading practice(s) in a consistent manner.
2. Environmental scan to include:
 - Analysis of reported medication incidents in a variety of databases;
 - Review of existing data from published surveys;
3. Develop a draft assessment
 - Identify key practitioners and stakeholders
 - Formation of an expert panel
 - Host a roundtable meeting to review and refine the assessment
4. Develop a pilot version of the assessment and create the technical support for secure and encrypted de-identified data collection

Oncology MSSA Program Development

5. Pilot test the assessment to a select number of participants
 - Work together with the International Society of Oncology Pharmacy Practitioners (ISOPP) to develop a communication strategy for the pilot
6. Prepare a final version of the oncology medication assessment
 - Communicate with testing sites for assessment refinement
 - Develop and post frequently asked questions (FAQ's) to help guide participants
 - Design the assessment for a print version
7. Refine the final online portal for downloading and submitting assessment results
8. Collect data from participating oncology centers
 - Maintain web portal
 - Answer questions from participants
 - Aggregate the data



**Findings of interest from analyses
of oncology medication incidents,
reported to ISMP Canada.**

Canadian Medication Incident Reporting and Prevention System

- Canadian Institute for Health Information
- Health Canada
- ISMP Canada responsibilities include interdisciplinary analysis that considers practice concerns, clinical significance, systems issues, and potential preventive measures.
 - Individual Practitioner Reporting Program (https://www.ismp-canada.org/err_report.htm)
 - Develop a national strategy for consumer reporting

Medication Incident Database

- Capturing medication incident reports since 2000
- 30,612 voluntarily reported medication incidents (as of April 30, 2008)
- 1169 medication incidents (3.81%) with an outcome of “Harm” or “Death”

Top 5 Medications Reported as Causing Harm or Death through medication error

| Medications | No. of Incidents | Percentage (n = 1169) |
|---------------|------------------|-----------------------|
| Insulin | 115 | 9.84 |
| Morphine | 103 | 8.81 |
| Hydromorphone | 89 | 7.61 |
| Heparin | 55 | 4.70 |
| Fentanyl | 46 | 3.93 |

Medication Incident Database

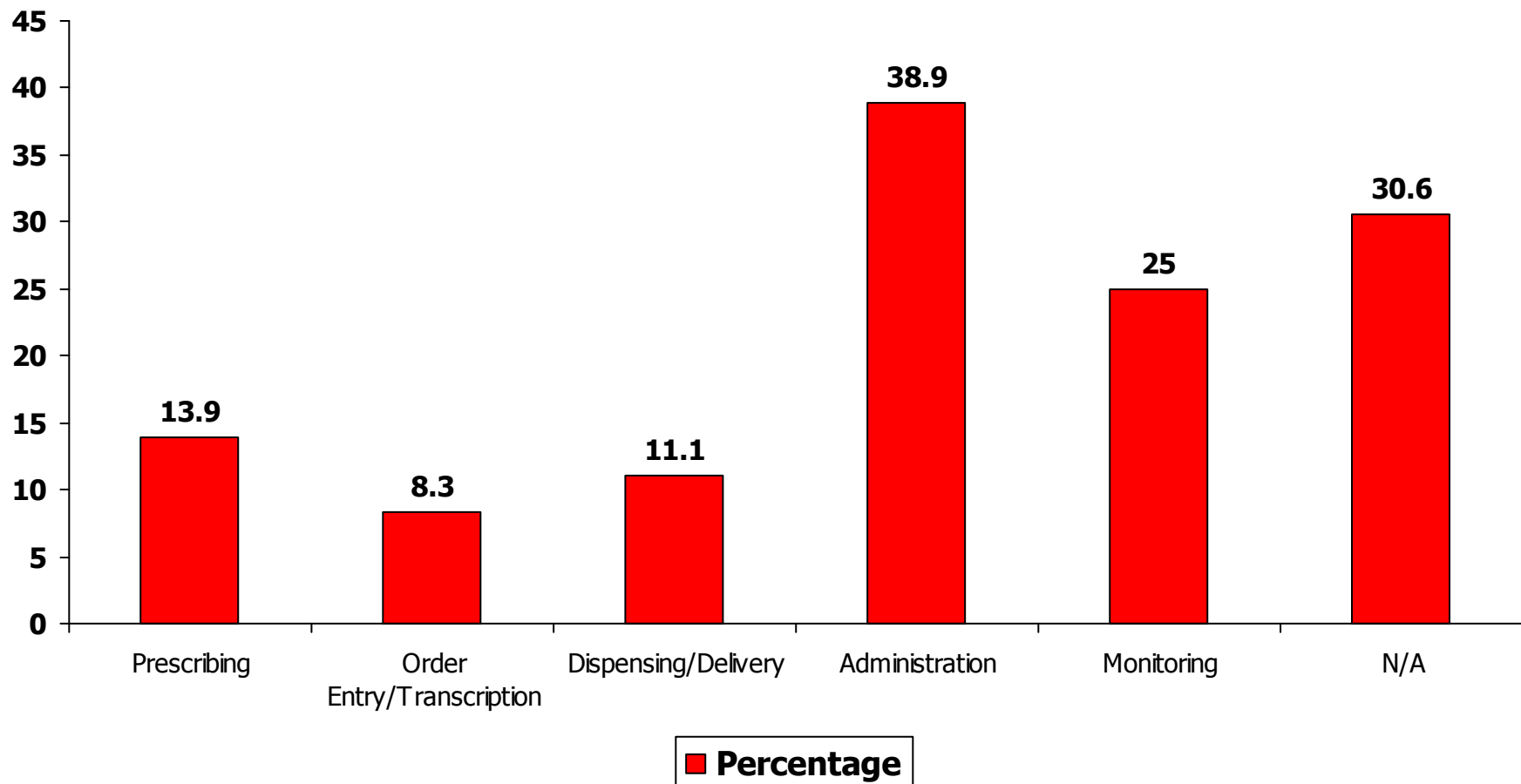
Antineoplastic Agents - AHFS Category: Antineoplastic Agents

Sample of reports (n=36) with an outcome of "Harm" (n=34) or "Death" (n=2)

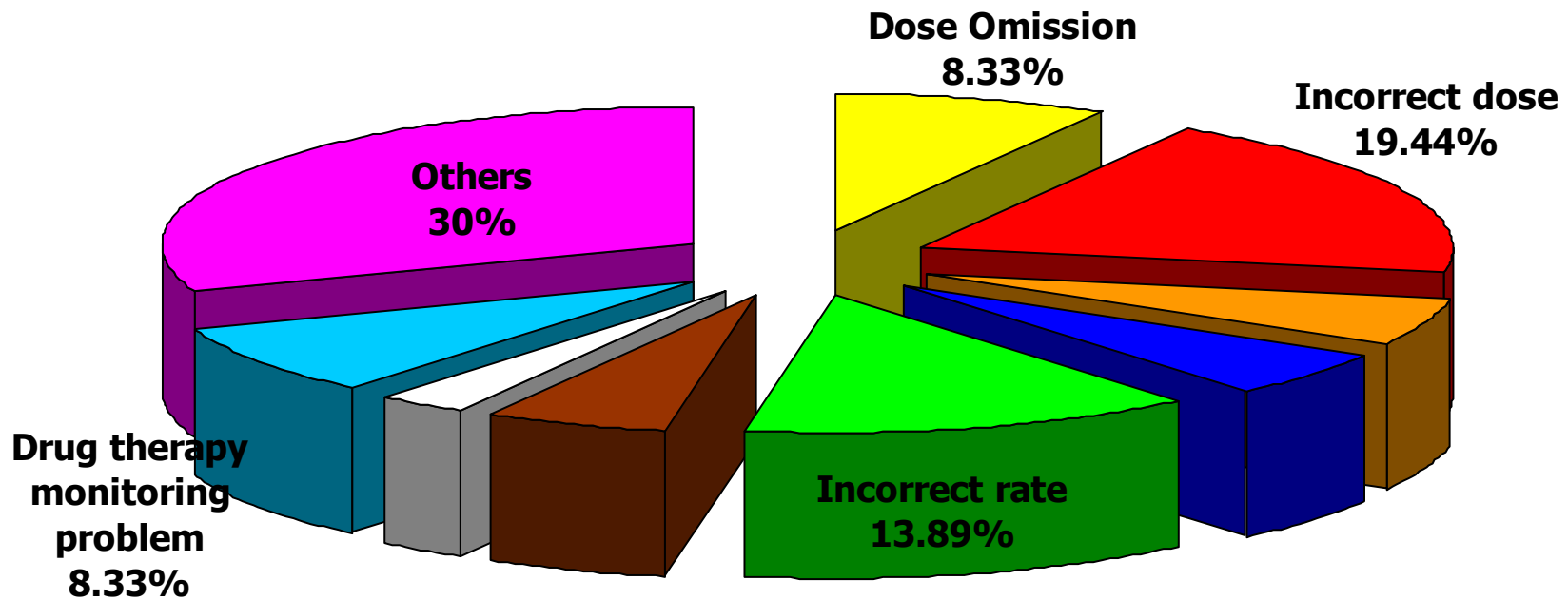
Sources:

- Community Hospitals
- Specialty hospitals
- Teaching Hospitals

Stages of Medication Use



Types of Medication Incidents



- | | |
|--|---|
| ■ Dose Omission | ■ Incorrect dose |
| ■ Incorrect strength / concentration | ■ Incorrect route of administration |
| ■ Incorrect rate | ■ Incorrect time |
| ■ Incorrect patient | ■ Drug therapy monitoring problem |
| ■ Others | |

Example findings of interest:

| Type of Incident | Reported Contributing Factors |
|-------------------------------------|---|
| Incorrect dose/frequency | <ul style="list-style-type: none">• Transcription errors<ul style="list-style-type: none">➤ e.g. transcription by ward clerk➤ e.g. misread iOD as TID• Incorrect BSA calculation |
| Incorrect rate/dose omission | <ul style="list-style-type: none">• Complexity of protocols and variety of administration sets/devices<ul style="list-style-type: none">➤ e.g. line remained clamped |
| Drug monitoring | <ul style="list-style-type: none">• Chemo administered although blood work indicated to "hold"• Complicated treatment protocols (variation in treatment schedules)• Interstitial /extravasation risks for harm |



Update on National Collaborative Bar Coding Initiative

National Collaborative Bar Coding Project

- Co-led by ISMP Canada and the Canadian Patient Safety Institute
- Advisory Committee includes Health Canada, PHAC, Rx&D, BioTECH, and CGPA
- Support from Healthpro and Medbuy Buying Groups
- Support from Pharmaceutical manufacturers including:
(alphabetically) Apotex Inc., Pfizer, Pharmaceutical Partners of Canada, Sandoz and Teva Novopharm

Discussion Paper

- *Pharmaceutical Bar Coding to Improve Patient Safety: Options for Technical Standards in Canada* - includes review of national and international initiatives
- Disseminated across Canada for stakeholder input
- Available at www.ismp-canada.org

Stakeholder Roundtable

January 2008

Objectives:

- acknowledge the scope and repercussions of medication errors in Canada, and how bar coding can reduce errors;
- review options for technical standards related to the use of bar codes for labelling medications at the unit-dose (or unit-of-use) packaging level;
- reach consensus on aspects of pharmaceutical label bar coding including products to be bar coded, packaging and placement, content, format and symbology at the unit-dose (or unit-of-use) packaging level

40 representative stakeholders

Roundtable Proceedings

- There was overall agreement that a standard is urgently needed for bar coding of pharmaceutical products in Canada. It was noted that in the absence of national standards, manufacturers will move forward on their own, which could result in disparate systems
- Consensus was reached on key aspects of pharmaceutical bar coding
- Proceedings of the Stakeholder Invitational Roundtable: Available at www.ismp-canada.org

Envisioned Next Steps

1. To reach agreement on the technical standards for a national bar-code identification system, including both fixed and variable data elements.
2. To promote the development and use of a Canadian pharmaceutical database for the housing of pharmaceutical information related to individual current and future Canadian pharmaceutical products.
3. To contract with an international bar-code standards organization, for both assignment of trade numbers and contribution to a Canadian national pharmaceutical database.

Envisioned Next Steps

4. To provide a timeframe within which all Canadian pharmaceutical manufacturers will be asked to comply with the voluntary Canadian bar-code standards and database submission.
5. To develop a sustainability strategy to help ensure compliance with voluntary standards, and support manufacturers who do comply.
6. To facilitate the expanded use of pharmaceutical bar-codes within both institutional and retail healthcare settings for safety checks.

Contact Information

Website: www.ismp-canada.org

Email: info@ismp-canada.org

Telephone: 416-733-3131 or toll free: 1-866-544-7672