Institute for Safe Medication Practices Canada
Institut pour la sécurité des médicaments aux patients du Canada
CSHP FOUNDATION QUESTION • DISCOVER • IMPROVE
FONDATION DE LA SCPH QUESTIONNEZ • DÉCOUVREZ • AMÉLIOREZ
UNIVERSITY OF WATERLOO FACULTY OF SCIENCE School of Pharmacy
UNIVERSITY OF TORONTO LESLIE DAN FACULTY OF PHARMACY

Analysis of Medication Incidents Associated with Patient Harm in New Brunswick using the Medication Safety Culture Indicator Matrix

Larry Sheng, BSc, PharmD Student; **Adrian Boucher**, BSc, PharmD; **Certina Ho**, RPh, BScPhm, MISt, MEd, PhD

Objectives

- Medication Safety Culture Indicator Matrix (MedSCIM) is a tool developed by the Institute for Safe Medication Practices Canada (ISMP Canada) to assess patient safety culture within a healthcare setting using the narrative information in medication incident reports as an indicator.
- MedSCIM is a 3x4 matrix (Table 1) that uses qualitative analysis to assess a medication incident on two dimensions:

(1) Core Event: Degree of Documentation
- Describes a medication incident based on its narrative integrity and completeness of documentation to allow sufficient interpretation and understanding of the event
- Assigns the medication incident with a numeric score of 1 to 3 (Table 2)

(2) Maturity of Culture to Medication Safety (Figure 1)
- Analyzes the medication incident report based on the reporter's view of patient safety concepts and principles, the perceived attitude towards patient safety, and understanding of system-based solutions
- Assigns the medication incident with a ranking system of A to D (Table 2)

- Each medication incident is assigned a cumulative safety culture level based on the above two indices, which reflect the overall safety culture level.
- The objective of this study was to use MedSCIM to evaluate medication safety culture in New Brunswick by assessing the overall quality of medication incident reports associated with patient harm and to describe recommendations to advance safe medication use.

TABLE 1.
Medication Safety Culture Indicator Matrix (MedSCIM): Medication safety culture defined by colours with red as a negative, yellow as neutral, and green as a positive safety culture.

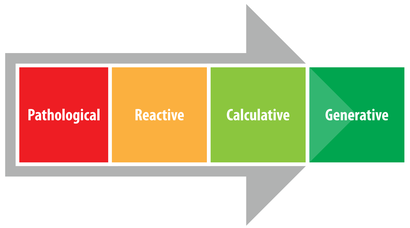
		Maturity of Culture to Medication Safety			
		Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative
Core Event	Level 1: Report fully complete	1D	1C	1B	1A
	Level 2: Report semi-complete	2D	2C	2B	2A
	Level 3: Report not complete	3D	3C	3B	3A

TABLE 2.
Definition for MedSCIM Dimensions and Outcomes

MedSCIM Index	OUTCOME	DEFINITION
Core Event	Level 1: **Report fully complete**	The medication incident provides sufficient information to describe the medication incident and contributing factors.
	Level 2: **Report semi-complete**	The medication incident provides sufficient information to describe the medication incident. No information is provided about contributing factors.
	Level 3: **Report not complete**	The medication incident provides insufficient information to allow meaningful qualitative analysis.
Maturity of Culture to Medication Safety (Modification of Ashcroft et al[2])	Grade A: **Generative**	The medication incident uses a systems-based approach to describe the root cause and develop possible solutions to prevent future recurrence.
	Grade B: **Calculative**	The medication incident uses a systems-based approach to describe the root cause. No solutions are offered to prevent future recurrence.
	Grade C: **Reactive**	The medication incident is treated as an isolated incident. No solutions are offered to prevent future recurrence.
	Grade D: **Pathological**	The medication incident focuses on human behaviours instead of a systems-based approach.

The authors would like to acknowledge support from the 2012 Education Grant of the Canadian Society of Hospital Pharmacists (CSHP) Research & Education Foundation for the development of MedSCIM.
Corresponding Author: Larry Sheng (l3sheng@edu.uwaterloo.ca)

FIGURE 1.
Maturity in Understanding Medication Safety: Increasing Level of Positive Safety Culture



Methodology

- We reviewed 69 incidents associated with patient harm anonymously reported by community pharmacy professionals in New Brunswick from July 2015 to December 2017.
- We conducted a MedSCIM assessment and performed descriptive statistics on the incidents.

Results

- Of the 69 incidents, majority (99%) were associated with mild harm.
- MedSCIM assessment (Figure 2 and Table 3): 19 (27.5% of 69) were scored as "1A" incidents (i.e. "generative" culture) and 15 (21.7% of 69) were "2C" incidents (i.e. "reactive" culture).
- Majority of the "pathological" incidents (i.e. "blame-and-shame" culture) often involved relief pharmacy professionals.
- High-alert medications (e.g. methadone and insulin) were frequently associated with harm incidents.

FIGURE 2.
MedSCIM Assessment of Incidents (n = 69)

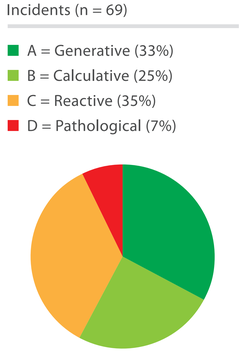


TABLE 3.
MedSCIM Assessment of Incidents (n = 69)

		Maturity of Culture to Medication Safety			
		Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative
Core Event	Level 1: Report fully complete	4	6	10	19
	Level 2: Report semi-complete	1	15	7	4
	Level 3: Report not complete	0	3	0	0

Conclusion

- Ensure relief pharmacists and new pharmacy staff members are adequately trained and equipped; provide necessary tools and support to relief pharmacists for them to integrate into existing workflow seamlessly.
- Encourage independent double check of patient information and request patients to teach-back information to assure their understanding of administration instructions, especially when high-alert medications are involved.
- Embrace an environment of open communication, mutual trust and respect among the pharmacy team and other healthcare professionals. Involving patients in safety initiatives can improve patients' understanding and awareness of their medication therapy. Learning and striving for a "generative" safety culture in a healthcare setting can ultimately lead to optimization of patient outcomes.
- To advance patient safety, more resources must be available to better understand and measure patient safety culture. MedSCIM offers an alternative approach to understand safety culture through the lens of medication incident reporting and analysis.

REFERENCES: Available upon request

DISCLOSURES: Authors of this poster have the following to disclose concerning possible personal or financial relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:
- Larry Sheng – Nothing to disclose
- Adrian Boucher – Nothing to disclose
- Certina Ho – Nothing to disclose