Exploring Medication Safety Culture in New Brunswick Pharmacies using the Medication Safety Culture Indicator Matrix

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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 explore the medication safety culture in New Brunswick pharmacies by applying MedSCIM to assess medication incidents that reached patients.

Methodology

- We reviewed 146 incidents involving patients anonymously reported by community pharmacy professionals in New Brunswick from January to June 2019.
- We conducted a MedSCIM assessment and performed descriptive statistics on the incidents.

Results

- MedSCIM assessment (Table 3): The most common alphanumeric score was 2C (48/146 = 32.9%). Many of the reports were assigned a level 1 rating (55/146 = 37.7%). The majority were semi-complete and were given a level 2 rating (84/146 = 57.5%), but few were deemed incomplete and assigned a level 3 rating (7/146 = 4.8%). Many earned either a Grade B ("Calculative") (34/146 = 23.3%) or Grade C ("Reactive") (77/146 = 52.7%) rating, indicating that either a system-based or individual-based solution was included in the reports.
- Incident examples were provided in Table 4.

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

| Pathological | Reactive | Calculative | Generative |
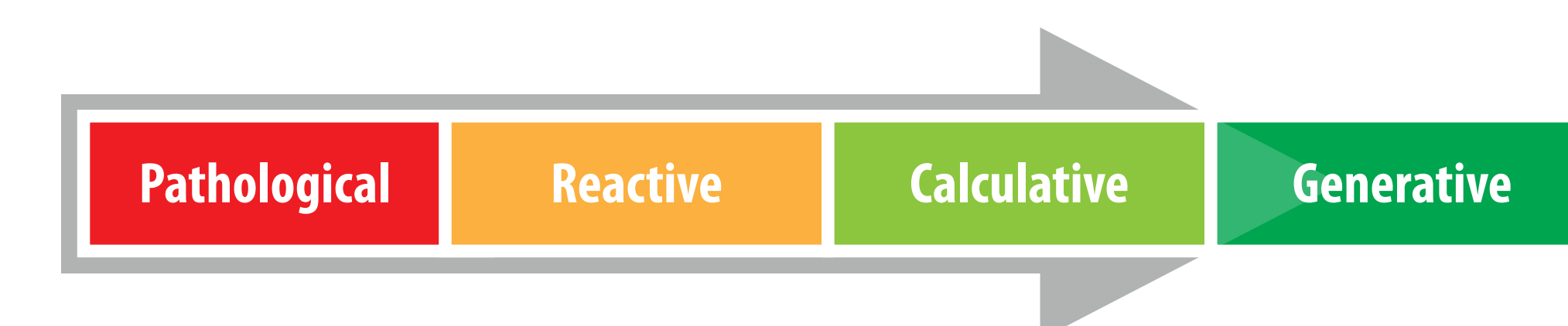
Conclusion

- By completing optional reporting fields within an incident reporting program, the reporter explains not only what happened but can ascertain why an incident occurred and develop solutions to prevent it in the future. Reports that earned a Level 1 (Report fully complete) or a Grade A (Generative) often have the optional reporting fields completed.
- Pharmacy practitioners should strive to submit Pcomplete medication incident reports with detailed event descriptions that include contributing factors. Accounting for contributing factors allows staff to develop effective solutions to prevent incidents from recurring.
- 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.

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

Maturity of Culture to Medication Safety

Core Event	Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative
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.
Core Event	Level 2: Report semi-complete	The medication incident provides sufficient information to describe the medication incident. No information is provided about contributing factors.
Core Event	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., 2005)	Grade A: Generative	The medication incident uses a systems-based approach to describe the root cause and develop possible solutions to prevent future recurrence.
Maturity of Culture to Medication Safety (Modification of Ashcroft et al., 2005)	Grade B: Calculative	The medication incident uses a systems-based approach to describe the root cause. No solutions are offered to prevent future recurrence.
Maturity of Culture to Medication Safety (Modification of Ashcroft et al., 2005)	Grade C: Reactive	The medication incident is treated as an isolated incident. No solutions are offered to prevent future recurrence.
Maturity of Culture to Medication Safety (Modification of Ashcroft et al., 2005)	Grade D: Pathological	The medication incident focuses on human behaviours instead of a systems-based approach.

TABLE 3.
MedSCIM Assessment of Incidents (n = 146)

Maturity of Culture to Medication Safety

Core Event	Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative
Level 1: Report fully complete	7	23	16	9
Level 2: Report semi-complete	13	48	18	5
Level 3: Report not complete	1	6	0	0

TABLE 4.
Incident Examples

Incident Description	Core Event: Degree of Documentation	Maturity of Culture to Medication Safety
Patient was admitted to a local rehabilitation facility and presented to the facility with their own medication vials, which included 2 strengths of phenytoin. Reporter's pharmacy supplies weekly blister packs for this patient. Due to a miscommunication the patient had been administered both strengths since admission and has been taking an extremely high phenytoin dose. Patient has been experiencing effects such as dizziness since this time. It was discovered that one strength was discontinued four months prior. **Action at Pharmacy Level:** When receiving new patients at rehabilitation facility, attention must be paid to the patient's medication vials, the intake sheet, and the transfer report from the home pharmacy. Note and clarify any discrepancies. Do not put prescriptions "on hold" on a patient's profile until they bring an actual prescription.	1	A
Patient called to question the quantity of pills in bottle, concerned she may not have enough for treatment. Patient was correct. Rx was entered as Pen V 300 mg 2 tabs BID for 10 days but only 20 tabs were dispensed. We corrected the mistake and the patient didn't miss any doses and was able to finish treatment.	2	C
Patient brought in a prescription for Rosuvastatin 10 mg. The assistant manually filled the prescription instead of using the machine that is part of our process and chose donepezil 10 mg in error. The pharmacist checking the prescription didn't catch the error. The staff involved were spoken to and made aware of the error.	2	D

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: Kendra Carroll – Nothing to disclose; Grant Fuller – Nothing to disclose; Certina Ho – Nothing to disclose