

Capturing Medication Safety Culture in Saskatchewan Community Pharmacies using the Medication Safety Culture Indicator Matrix (MedSCIM)

E. CHIU^{1,4}, J. SANDIFORD², A. SHYSHLOVA³, L. POSTNIKOFF², and C. HO^{1,4}

- 1) Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario
- 2) Saskatchewan College of Pharmacy Professionals, Regina, Saskatchewan
- 3) School of Pharmacy, University of Waterloo, Kitchener, Ontario
- 4) Institute for Safe Medication Practices Canada, Toronto, Ontario



CONGRÈS DES PHARMACIENS DU CANADA

INTRODUCTION

Standardized continuous quality improvement (CQI) programs are employed to assist pharmacies in recognizing medication incidents and developing solutions to prevent them.

It is important to understand where practice culture surrounding medication safety stands to better support this endeavour.

OBJECTIVES

The objectives of this study were to explore the medication safety culture in Saskatchewan community pharmacies and identify whether pharmacies currently held a “blame-and-shame” (i.e. pathological) or “systems-oriented” (i.e. generative) attitude towards safety.

MEDICATION SAFETY CULTURE INDICATOR MATRIX (MedSCIM)

MedSCIM is an approach to qualifying safety culture using medication incidents.¹ There are two key parameters:

Core Event Completeness evaluates whether key pieces of information relevant to a medication safety analyst was included in the incident report. This is graded discretely from not complete to fully complete (Figures 1 and 2).

Maturity of Culture to Medication Safety evaluates the attitudes of medication safety contained in the incident report. This is graded discretely from pathological to generative (Figures 1 and 2).

METHODS

The MedSCIM tool, developed by the Institute for Safe Medication Practices Canada (ISMP Canada), was used to analyze two sets of medication incidents reported by community pharmacies in Saskatchewan to the ISMP Canada Community Pharmacy Incident Reporting (CPhIR) program from October 2013 to October 2017: one set was associated with patient harm, while another set contained randomly selected incidents from the top three types of medication incidents.²

An independent analyst was assigned to analyze each set using MedSCIM. The analyses were recorded into a Microsoft Excel spreadsheet and subsequently summarized as quantitative data.

Core Event	Top 3 Types of Incidents	Maturity of Culture to Medication Safety				Total
		Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative	
Level 1: Report Fully Complete		0	5	3	1	9
Level 2: Report Semi-Complete		12 (7.6%)	96 (60.8%)	2	1	111
Level 3: Report Not Complete		3 (1.9%)	34 (21.5%)	1	0	38
	Total	15	135	6	2	158

Figure 1. Summary of MedSCIM analysis for randomly selected top three types of incidents. Red areas represent incidents that fall into categories that demonstrate pathological level of maturity to medication safety culture and report insufficient information to learn from. Yellow areas represent incidents where useful information was reported, but the medication safety attitudes could be improved. Green areas represent the ideal level of detail contained within an incident report and demonstrate acceptable medication safety culture that is productive in preventing future errors. The bolded results show how 92% of the incidents are characterized for this dataset: Pathological/Reactive and Report Semi or Not Complete.

Core Event Completeness:

For randomly selected top three types of incidents (incorrect dose/frequency, incorrect quantity, incorrect drug) from October 2013 to October 2017:

Level 1 (Report Fully Complete): 5.7%

Level 2 (Report Semi-Complete): 70.3%

Level 3 (Report Not Complete): 24.0%

The majority of the Core Event Completeness for this set of medication incidents demonstrated that reports identified the error that occurred but lacked any insight as for how the incident may have occurred.

Maturity of Culture to Medication Safety:

For randomly selected top three types of incidents (incorrect dose/frequency, incorrect quantity, incorrect drug) from October 2013 to October 2017:

Grade A (Generative): 1.3% Grade C (Reactive): 85.4%

Grade B (Calculative): 3.8% Grade D (Pathological): 9.5%

Most incidents analyzed in this set indicated that staff carried a “reactive” culture to medication safety. This means that the reports have highlighted action by staff to correct the error but showed no evidence of any consideration for preventing similar errors in the future. The “pathological” reports identified show that some “blame-and-shame” culture still exists.

Core Event	Incidents Associated with Harm	Maturity of Culture to Medication Safety				Total
		Grade D: Pathological	Grade C: Reactive	Grade B: Calculative	Grade A: Generative	
Level 1: Report Fully Complete		11	15 (10.7%)	15 (10.7%)	19	60
Level 2: Report Semi-Complete		6	37 (26.4%)	25 (17.8%)	4	72
Level 3: Report Not Complete		2	4	2	0	8
	Total	19	56	42	23	140

Figure 2. Summary of MedSCIM analysis for incidents associated with harm. See Figure 1 for explanation of coloured areas. The bolded results show how 66% of the incidents are characterized: Reactive/Calculative and Report Semi or Fully Complete. Since this analysis was conducted on incidents associated with patient harm, it appears a more favourable medication safety culture is present when patient harm occurs during an incident. In addition, 19/140 (13.6%) incidents were found to be generative (systems-oriented) and fully complete reports.

Core Event Completeness:

For incidents associated with harm from October 2013 to October 2017:

Level 1 (Report Fully Complete): 42.9%

Level 2 (Report Semi-Complete): 51.4%

Level 3 (Report Not Complete): 5.7%

Most incidents associated with harm were fully complete or semi-complete reports. It appears that when a patient was harmed, pharmacy staff more often considered what the error was and how it occurred.

Maturity of Culture to Medication Safety:

For incidents associated with harm from October 2013 to October 2017:

Grade A (Generative): 16.4% Grade C (Reactive): 40.0%

Grade B (Calculative): 30.0% Grade D (Pathological): 13.6%

Most incident reports analyzed were found to indicate “calculative” and “reactive” attitudes towards medication safety, which represents a mix of identifying the error and also identifying the contributing factors of the error.

We continue to see “pathological” attitudes being identified in this set of incident reports, which reinforces the need for education about this kind of attitude and its inappropriateness, especially when patient harm is involved.

CONCLUSIONS

By using medication safety incidents submitted by front-line pharmacy professionals, we were able to more objectively capture the medication safety culture in pharmacies. Such analyses provided an opportunity for pharmacy regulatory authorities to educate and reinforce proper attitudes towards medication incident reporting.

In Saskatchewan, our sample of incidents suggested that “pathological” (blame-and-shame) medication safety attitudes still exist in community pharmacies. Fortunately, we identified that in the context of patient harm, the attitude shifts to a more “generative” (systems-oriented) one.

Altogether, this work supported an alternative method of measuring medication safety culture, which can be insightful for pharmacy regulatory authorities and front-line pharmacy professionals.

ACKNOWLEDGEMENTS

- We would like to acknowledge the following for their support in this project:
- COMPASS pilot pharmacies in Saskatchewan;
 - Saskatchewan College of Pharmacy Professionals;
 - Institute for Safe Medication Practices Canada;
 - Ontario Ministry of Health and Long-Term Care for the development of the Community Pharmacy Incident Reporting (CPhIR) Program; and
 - Leslie Dan Faculty of Pharmacy, University of Toronto for the Enhancing the Student Experience Fund.

REFERENCES

1. Poon C, Kawano A, Yoo L, Cheng R, Ho C. Medication Safety Culture Indicator Matrix (MedSCIM): Going Beyond the Numbers and Using Incident Reports to Assess Medication Safety Culture [Poster]. Available from: https://www.ismp-canada.org/download/posters/PPC2016Poster_MedSCIM.pdf
2. Ho C, Hung P, Lee G, Kadija M. Community Pharmacy Incident Reporting: A New Tool for Community Pharmacies in Canada. *Healthcare Quarterly* 2010;13:20-24.

CONTACT INFORMATION

Edmond Chiu – EChiu@ismc-canada.org
 Jeannette Sandiford – Jeannette.Sandiford@saskpharm.ca
 Certina Ho - Certina.Ho@ismcpanada.ca