REPORT TO THE
College of Pharmacy of Newfoundland and Labrador (CPNL)
Medication Safety through Error Prevention (MedSTEP NL)

Analysis of Medication Incidents using the Medication Safety Culture Indicator Matrix (MedSCIM)

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Prepared by

Roddy Luu, BSc, PharmD Candidate
Medication Safety Analyst, ISMP Canada

Stephanie Weisgerber, RPh, BSP, MBA
Medication Safety Specialist, ISMP Canada

Contributors

Enna Aujla, RPh, BScPhm, CAPP
Director of Community Pharmacy Reporting and Learning, ISMP Canada

Michael Hamilton, BSc, BEd, MD, MPH
Medical Director, ISMP Canada

Sylvia Hyland, RPh, BScPhm, ACPR, MHSc (Bioethics)
Vice President, Operations and Privacy Officer, ISMP Canada

Carol Lee, C.H.I.M.
Informatics Analyst, ISMP Canada

Rajiv Rampersaud, RPh, PharmD, HBSc
Senior Medication Safety Specialist, ISMP Canada

Ambika Sharma, RPh, PharmD, BScPhm, HBSc
Senior Medication Safety Specialist, ISMP Canada

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Institute for Safe Medication Practices Canada
4711 Yonge Street
Suite 706
Toronto ON
M2N 6K8

Telephone: 416-733-3131 or toll free 1-866-544-7672
Fax: 416-733-1146
www.ismpcanada.ca
info@ismpcanada.ca

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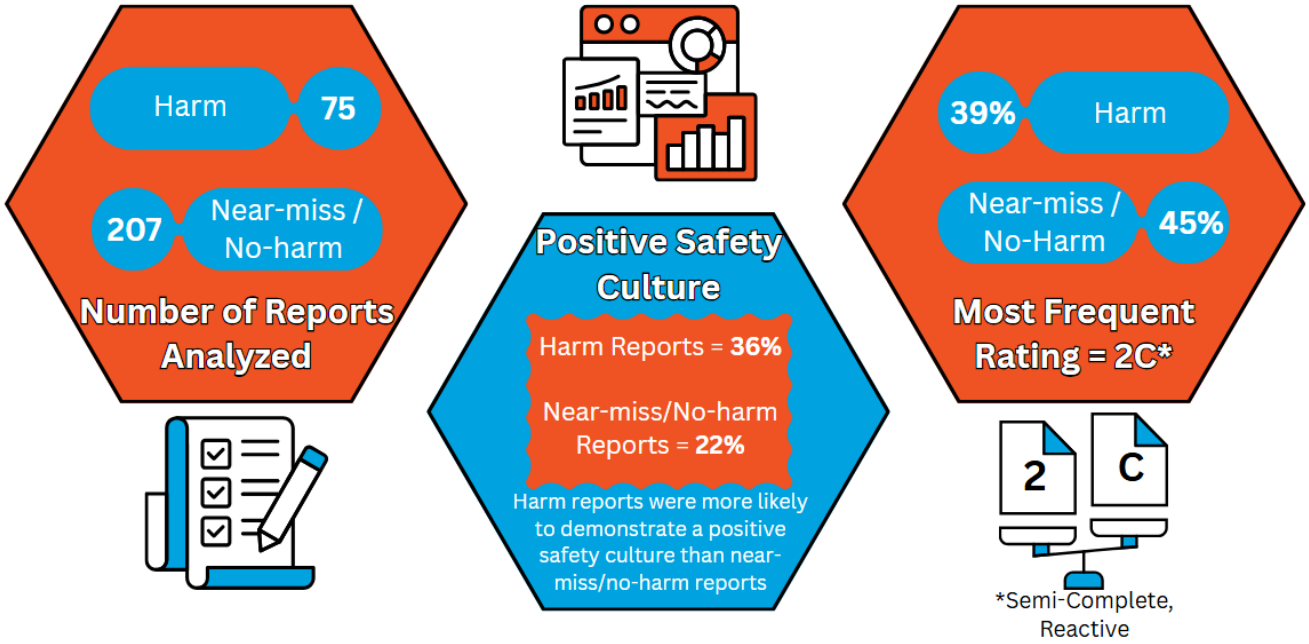
Executive Summary



The purpose of this analysis was to assess the medication safety culture of pharmacy professionals in Newfoundland and Labrador by using ISMP Canada's Medication Safety Culture Indicator Matrix (MedSCIM). This tool helped evaluate medication incidents reported by community pharmacies across the province in terms of degree of documentation and maturity of culture to medication safety. More than 1,100 medication incidents, including near misses, were reported to the National Incident Data Repository for Community Pharmacies (NIDR) by community pharmacies in Newfoundland and Labrador between July 1, 2024, and June 30, 2025. A total of 282 incidents (75 harm incidents and 207 near-miss or no-harm incidents) were analyzed.

This MedSCIM assessment highlights the differences in the reporting culture for harm incidents compared to near-miss or no-harm incidents. In particular, a positive safety culture was demonstrated in 36% of harm incidents and 22% of near-miss/no-harm incidents. The majority of analyzed incidents were rated 2C (39% of harm incidents and 45% of near-miss/no-harm incidents), reflecting a more reactive approach, with semi-complete documentation. Interestingly, more than half (52%) of harm reports had complete documentation, as compared to approximately one-third (35%) of near-miss/non-harm incidents. The assessment also found that 27% of harm reports were rated as Grade A "Generative", while 12% of near-miss/no-harm reports were rated the same. This difference highlights opportunities to improve the quality of reporting for near-miss/no-harm incidents in Newfoundland and Labrador. Pharmacy professionals can help improve safety culture by fostering a just culture that encourages medication incident reporting and facilitates learning from medication incidents, including near misses, for system improvements.

Background

Mandatory continuous quality improvement (CQI) initiatives have been implemented in several provinces to promote a culture of safety. A key component shared by these initiatives is community pharmacy involvement in the anonymous reporting of medication incidents and the subsequent analysis for shared learning within the healthcare system. Pharmacies that foster a just culture emphasize system improvements rather than assigning blame to individuals. When working in such a culture, pharmacy staff are encouraged to create comprehensive and generative reports of incidents that detail potential contributing factors that allow for learning and possible solutions to optimize the shared learning.[1]

On July 1, 2024, the College of Pharmacy of Newfoundland and Labrador (CPNL) implemented the Medication Safety through Error Prevention (MedSTEP NL) standardized continuous quality improvement (CQI) and medication incident reporting (MIR) program for community pharmacies.[2] The CPNL's Standards of Practice for Continuous Quality Improvement (CQI) and Medication Incident Reporting, which are based on the National Association of Pharmacy Regulatory Authorities' (NAPRA) Model Standards of Practice for Continuous Quality Improvement and Medication Incident Reporting by Pharmacy Professionals,[3] describe the minimum acceptable standards for CQI and medication incident reporting for registered pharmacy professionals in Newfoundland and Labrador. [3] As of January 1, 2025 there are a total of 201 community pharmacies registered in Newfoundland and Labrador, and all pharmacists-in-charge must ensure pharmacy professionals anonymously report medication errors (medication incidents that reach the patient) to an external, central Canadian database.[4] Near misses do not need to be reported to the national database, but each pharmacy must establish policies and procedures related to the documentation and reporting of near misses to the pharmacy's reporting platform, and when a near-miss must be submitted to the national database.[5] The NAPRA model standards includes sample criteria to reporting near misses: near misses should be reported if the incident may have caused harm should it reach the patient, if the incident had been a recurrent issue in the pharmacy, or if the incident provides a learning opportunity for the pharmacy or pharmacy practice in general.[5] The collection and analysis of medication incident reports allows for the identification of potential contributing factors, and subsequently informs learning for system improvements.

The Medication Safety Culture Indicator Matrix (MedSCIM) is a tool designed by ISMP Canada to be used in all healthcare settings to assess medication incident reports for their completeness and the degree to which a culture of safety is implemented.[6] The objective of this analysis was to apply the MedSCIM tool to examine the medication safety culture among pharmacy professionals in Newfoundland and Labrador. The analysis reviewed harm and near-miss/no-harm incidents reported by community pharmacies over a 1-year period from July 1, 2024, to June 30, 2025.

The MedSCIM analysis was conducted in two parts: (i) an assessment focused on harm reports (i.e., incidents where the degree of patient harm was reported as mild, moderate, severe, or involving death), and (ii) an assessment focused on near-miss (i.e., circumstances or events that have the capacity to cause harm and did not reach the patient (i.e., medication was not dispensed)) and no-harm reports (i.e., medication was dispensed, but no symptoms detected and no treatment required). The definitions of the various NIDR harm levels are

explained in Table 1. Findings from the assessment of harm reports were compared with results from the assessment of near-miss and no-harm reports.

Table 1 – NIDR Outcome Levels

Outcome Level	*Definition*
Near Miss (No Error)	Circumstances or events that have the capacity to cause harm
No Harm	No symptoms detected; no treatment required (medication was dispensed).
Mild Harm	Symptoms were mild, temporary and short term; no treatment or minor treatment was required
Moderate Harm	Symptoms required additional treatment or an operation; the incident kept the patient in hospital longer than expected; or caused permanent harm or loss of function
Severe Harm	Symptoms required major treatment to save the patient's life; the incident shortened life expectancy; or caused major permanent or long-term harm
Death	There is reason to believe that the incident caused the patient's death or hastened the patient's death

Methods

Over 1,100 medication incidents from community pharmacies in Newfoundland and Labrador were submitted to the National Incident Data Repository for Community Pharmacies (NIDR) between July 1, 2024, to June 30, 2025. This period corresponds with the first year of mandatory incident reporting for the province. The NIDR is a national database managed by ISMP Canada which accepts reports of medication incidents from multiple reporting platforms using a common set of standards. When reporting incidents, certain mandatory fields must be completed to submit a report, however the specific fields required differ by province. In Newfoundland and Labrador, mandatory fields when submitting incidents include: the date of the incident/near-miss, the type of incident, who discovered the incident, the medication system stages involved, the medication(s) involved, the degree of harm to the patient, and an incident description of the events or how it was discovered.[5] The information from these mandatory fields is then complemented by information from additional optional fields such as contributing factors that may have led to the incident and actions at the pharmacy level to prevent further medication incidents. Shared learning from this incident may also be included in the optional fields for ISMP Canada to disseminate and prevent a similar occurrence in the future.

Inclusion/Exclusion Criteria

In total, all 1,114 total medication incidents submitted by Newfoundland and Labrador community pharmacies to the NIDR during the one-year period were considered for this MedSCIM analysis. All medication incidents that resulted in any level of harm (75 reports) were included in the analysis, namely reports of mild, moderate, severe harm and death reports. For near-miss/no-harm incidents, all incidents that listed the degree of harm as

near-miss or a level of no-harm were considered, totaling 1,039 incidents in the data-pull. However, to analyze a reasonable number of incidents, a randomly generated sample representing exactly 20% of the total (208 reports) were included in the analysis.

Harm Reports

During the one-year reporting period from July 1, 2024, to June 30, 2025 (inclusive), 75 incidents associated with patient harm were reported by Newfoundland and Labrador pharmacies, and all reports were included in this analysis.

Near-Miss and No-Harm Reports

In the same one-year reporting period, a total of 1,039 near-miss, or no-harm incidents were reported by Newfoundland and Labrador pharmacies. Due to the high volume, exactly 20% of the incidents were randomly selected for this analysis, for a total of 208 near-miss/no-harm incidents. One was omitted as a duplicate report, therefore a total of 207 near-miss/no-harm incidents were analyzed.

MedSCIM Analysis

Analysis of the dataset was conducted by two independent analysts using the MedSCIM tool. This tool aids in aggregating the data into relevant categories regarding report completeness and grade of pharmacy safety culture. The MedSCIM tool also allows the medication incident report to be qualitatively assessed by following the criteria indicated under the scoring for "Core Event: Degree of Documentation" and grading under "Maturity of Culture to Medication Safety".

1. **Core Event: Degree of Documentation.** This dimension evaluates incident reports based on their clarity and completeness. This includes an assessment of whether readers can understand what the medication incident was, and why the incident may have occurred (i.e., underlying contributing factors). Ratings on the "Core Event" domain can range from 1 (Report fully complete) to 3 (Report not complete) (Table 2).[6]

2. **Maturity of Culture to Medication Safety.** This dimension evaluates the safety culture of the pharmacy. This includes an assessment of the reporter's ability to view medication incidents from a system-based perspective, rather than one focused on individual fault. Ratings on the "Maturity Culture to Medication Safety" domain can range from A (Generative) to D (Blame and Shame) (Table 2).[6]

When assigning the MedSCIM ratings, the information provided in the following optional reporting fields were considered along with the information from mandatory reporting fields:

1. "Contributing Factors of This Incident";
2. "Actions at Pharmacy Level"; and
3. "Shared Learning".

Assessment of the **Core Event: Degree of Documentation** for a medication incident report included all three optional fields when assigning ratings for this dimension (i.e., the optional fields pertain to both contributing factors and risk reduction strategies).

Assessment of the **Maturity of Culture to Medication Safety** for a medication incident report included the optional fields "Actions at Pharmacy Level" and "Shared Learning for Community Pharmacy" when assigning ratings for this dimension.

For each medication incident, the level of documentation and the maturity of the safety culture were combined into a single rating and plotted on the matrix. These ratings correspond to a positive (denoted by the colour green in the matrix), neutral (yellow), or negative (red) safety culture. A higher level of documentation and a higher maturity of safety culture rating are indicators of a positive safety culture.[6]

The MedSCIM Assessment Classification is provided in Table 3.

Table 2 – Definition of MedSCIM dimensions and outcomes

MedSCIM INDEX	OUTCOME	DEFINITION
Core Event	**Level 1: Report fully complete**	The medication incident report provides sufficient information to describe the medication incident and contributing factors.
	Level 2: Report semi-complete	The medication incident report provides sufficient information to describe the medication incident. No information is provided about contributing factors.
	Level 3: Report not complete	The medication incident report provides insufficient information to allow meaningful qualitative analysis.
Maturity of Culture to Medication Safety	**Grade A: Generative**	The medication incident report uses a systems-based approach to describe the contributing factors and develop possible solutions to prevent future recurrence.
	Grade B: Calculative	The medication incident report uses a systems-based approach to describe the contributing factors. No solutions are offered to prevent future recurrence.
	Grade C: Reactive	The medication incident report is treated as an isolated incident. No solutions are offered to prevent future recurrence.
	Grade D*: Blame and Shame	The medication incident report focuses only on human behaviours and does not consider a systems-based approach.

**Note: Grade D has also been referred to as "pathological" in previous literature.*

Table 3 – Medication safety culture matrix
Medication safety culture is identified by colours with red as a negative, yellow as a neutral, and green as a positive safety culture.

		Maturity of Culture to Medication Safety			
		Grade D: Blame and Shame	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

Results

Degree of Documentation: Comparison of Medication Incidents Associated with Patient Harm and Near-Miss/No-Harm

Incidents Associated with Patient Harm

The incident reports associated with patient harm had varying degrees of documentation, ranging from fully complete to not complete (Figure 1). The degree of documentation results demonstrated in Figure 1 are further summarized in Table 4.

Figure 1 – Degree of documentation for medication incidents associated with harm (*n* = 75) and near-miss/no-harm (*n* = 207)

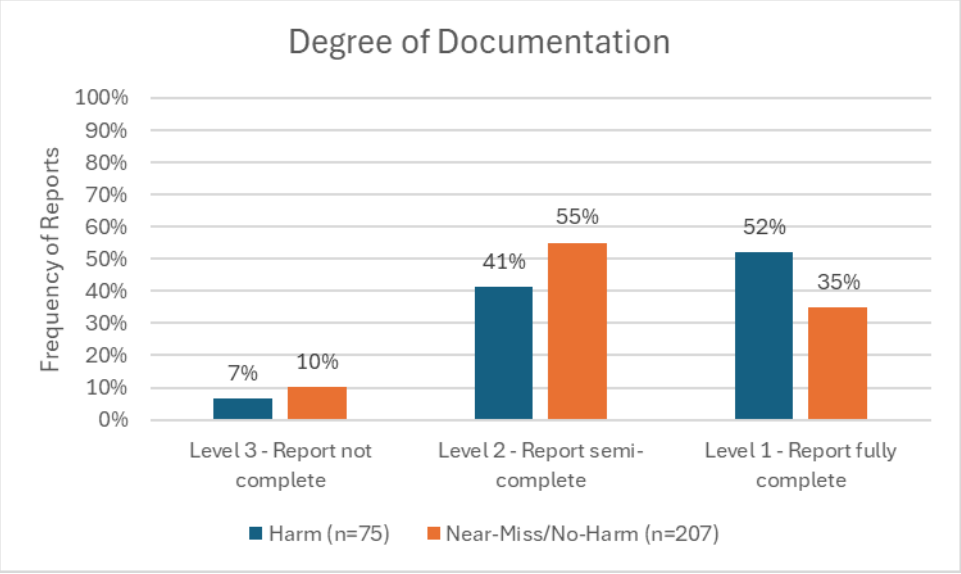


Table 4 – Degree of documentation for medication incidents associated with harm

Outcome	Number of Reports	Frequency of Reports
Level 1: Report fully complete	39/75	52%
Level 2: Report semi-complete	31/75	41%
Level 3: Report not complete	5/75	7%

Near-Miss and No-Harm Reports

The degree of documentation also varied among the sample of 207 near-miss/no-harm reports (Figure 1). The near-miss/no-harm incidents included in this analysis are further summarized with respect to degree of documentation in Table 5.

Table 5 – Degree of documentation for medication incidents associated with near-miss/no-harm

Outcome	Number of Reports	Frequency of Reports
Level 1: Report fully complete	72/207	35%
Level 2: Report semi-complete	114/207	55%
Level 3: Report not complete	21/207	10%

Maturity of Culture to Medication Safety: Comparison of Medication Incidents Associated with Patient Harm and Near-Miss/No-Harm

Incidents Associated with Harm

Variation was observed in the harm-related incident reports with respect to their maturity of culture to medication safety (Figure 2). As defined in Figure 1, a range of outcomes were demonstrated of the 75 harm incident reports examined, ranging from Generative (Grade A) to Reactive (Grade C). There were no incidents that fell into the final category, Grade D (Blame & Shame). The harm incidents included in this analysis are further summarized with respect to maturity of culture to medication safety in Table 6.

Figure 2 – Maturity of safety culture for medication incidents associated with harm (*n* = 75) and near-miss/no-harm (*n* = 207)

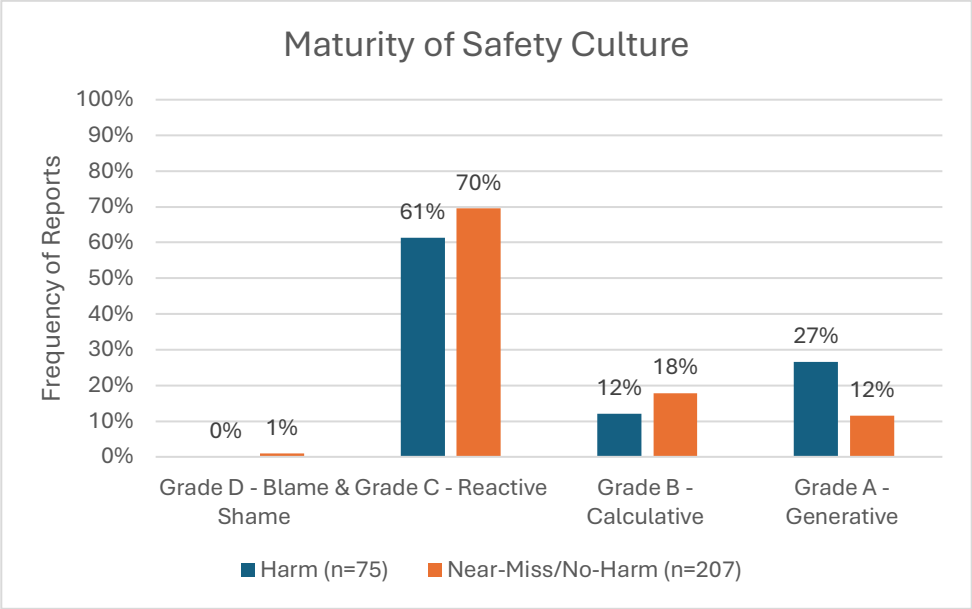


Table 6 – Maturity of safety culture for medication incidents associated with harm

Outcome	Number of Reports	Frequency of Reports
Grade A: Generative	20/75	27%
Grade B: Calculative	9/75	12%
Grade C: Reactive	46/75	61%
Grade D: Blame & Shame	0/75	0%

Near-Miss and No-Harm Reports

In terms of maturity of culture to medication safety, the near-miss and no-harm reports included in this analysis demonstrated a range of outcomes, ranging from Grade A (Generative) to Grade D (Blame & Shame), as demonstrated in Figure 2. A further summary of these maturity of culture to medication safety results are provided in Table 7.

Table 7 – Maturity of safety culture for near-miss/no-harm medication incidents

Outcome	Number of Reports	Frequency of Reports*
Grade A: Generative	24/207	12%
Grade B: Calculative	37/207	18%
Grade C: Reactive	144/207	70%
Grade D: Blame & Shame	2/207	1%

* Percentages may not sum to 100% due to rounding.

MedSCIM Assessment Classification for Medication Incidents Associated with Patient Harm and Near-Miss/No-Harm

The MedSCIM Assessment Classification for incidents associated with harm is provided in Table 8, and the MedSCIM Assessment Classification for near-miss and no-harm reports is provided in Table 9. To provide further clarification on MedSCIM ratings, examples of incident reports associated with the assessment scores are displayed in Table 10 (positive MedSCIM ratings) and Table 11 (neutral and negative MedSCIM ratings).

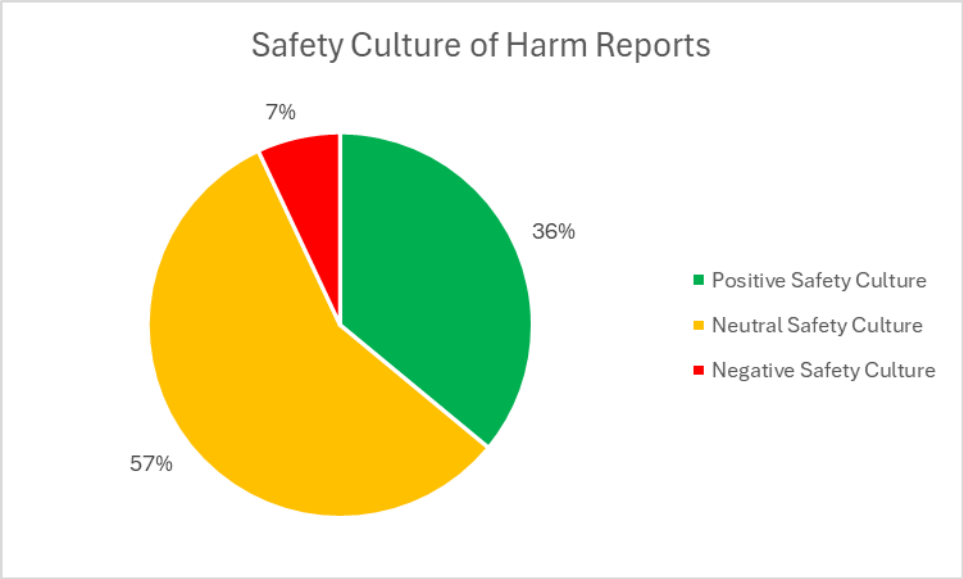
Table 8 – Medication safety culture indicator matrix assessment for harm reports (*n = 75*).

		Maturity of Culture to Medication Safety				
		Grade D: Blame and Shame	Grade C: Reactive	Grade B: Calculative	Grade A: Generative	Total
Core Event	Level 1: Report fully complete	0	12	7	20	39
	Level 2: Report semi-complete	0	29	2	0	31
	Level 3: Report not complete	0	5	0	0	5
	Total	0	46	9	20	75

Table 9 – Medication safety culture indicator matrix assessment for near-miss/no-harm reports (*n* = 207).

		Maturity of Culture to Medication Safety				
		Grade D: Blame and Shame	Grade C: Reactive	Grade B: Calculative	Grade A: Generative	Total
Core Event	Level 1: Report fully complete	1	30	21	20	72
	Level 2: Report semi-complete	1	94	15	4	114
	Level 3: Report not complete	0	20	1	0	21
	Total	2	144	37	24	207

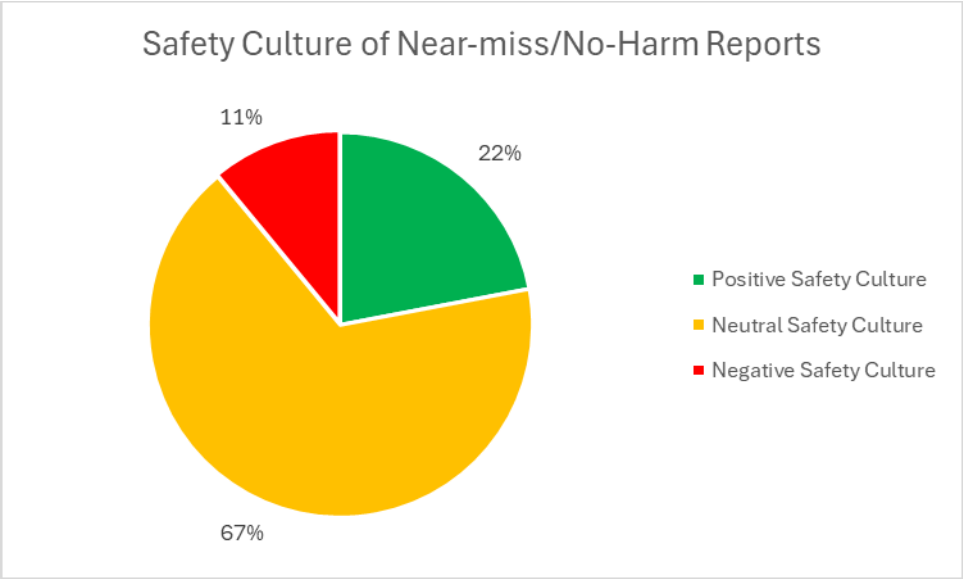
Figure 3 – Overall MedSCIM analysis assessment for incidents associated with harm (*n* = 75)



As shown in Figure 3, the safety culture level among harm reports had the following distribution:

- 36% (27 of 75) were assessed as having a positive culture.
- 57% (43 of 75) were assessed as having a neutral culture.
- 7% (5 of 75) were assessed as having a negative culture.

Figure 4 – Overall MedSCIM analysis assessment for incidents associated with near-miss/no-harm (*n* = 207)



As shown in Figure 4, the safety culture level among near miss and no harm reports had the following distribution:

- 22% (45 of 207) were assessed as having a positive culture.

- 67% (139 of 207) were assessed as having a neutral culture.
- 11% (23 of 207) were assessed as having a negative culture.

Table 10 – Examples of incidents demonstrating positive medication safety culture

	Incident Examples	Core Event: Degree of Documentation	Maturity of Culture to Medication Safety
#1	A prescription for methadone oral liquid was provided and dispensed using the pharmacy's liquid pump dispenser. However, it was discovered after an unknown amount of dispenses that the pump was incorrectly calibrated and dispensed less than any dialed amount. Since there was a lack of a calibration record, it was unknown how many doses were dispensed incorrectly. The pharmacy notified the physician, who helped manage all affected patient's doses. ***Actions at Pharmacy Level:*** Pharmacy implemented a calibration check record, with a weekly check requirement alongside a check at each stock bottle refill. Additional cleaning of the pump was also regularly scheduled to prevent buildup of residue. ***Shared Learning:*** Implementing a record of checks for all pharmacy dispensing devices and tools is crucial to help maintain correct dosages and fills. By knowing when the last check was performed, it can be deduced how many of the previous fills (since last check) were incorrect, which patients were affected, and for how long. Maintaining this record would greatly help improve patient safety and follow-up.	1	A
#2	A prescription for an oral chemotherapy agent was written as "one capsule oral daily on every other day for 21 days". The intention was for the patient to take one capsule every other day for 21 days, however this prescription was instead dispensed as once daily for 21 days. A contributing factor identified was that the prescription was written ambiguously. ***Actions at Pharmacy Level:*** *none* ***Shared Learning:*** *none*	1	B

Table 11 – Examples of incidents demonstrating neutral or negative medication safety culture

Incident Examples	Core Event: Degree of Documentation	Maturity of Culture to Medication

			Safety
#1	A prescription for allopurinol was sent in by the doctor for a patient, written as allopurinol 100 mg: take 2 tablets once daily. This medication is a long-term medication for this patient and has always been dispensed as 200 mg: take 1 tablet once daily. The prescription was changed and dispensed incorrectly as 200 mg tablets: take 2 tablets daily for 1 month. Patient received double their intended dose for 1 month. ***Actions at Pharmacy Level:*** *none* ***Shared Learning:*** *none*	2	B
#2	A prescription for methadone oral liquid was dispensed as 65 mg (6.5 mL), however the correct dose was intended to be 6.5 mg (0.65 mL). The patient received the incorrect dose. ***Actions at Pharmacy Level:*** *none* ***Shared Learning:*** *none*	2	C
#3	A prescription was logged but the directions were incorrect. ***Actions at Pharmacy Level:*** *none* ***Shared Learning:*** *none*	3	C

Comparison of Harm and Near-Miss/No-Harm Report Assessments with Respect to Optional Reporting Fields

In Table 8, of the 39 harm-associated reports that were assessed to have fully complete documentation (Level 1), 33 out of 39 (85%) of reports had one or more optional fields completed (Table 12). A similar trend was observed in Table 9 among the 72 near-miss or no-harm reports that were assessed to have fully complete documentation (Level 1); 59 out of 72 (82%) of reports had one of more optional fields completed (Table 13).

Table 12 – "Level 1" documentation with optional reporting fields entered for harm reports (*n* = 39)

Degree of Documentation	Number of "Level 1" Harm Reports with Optional Fields Entered
1 optional field	
Contributing Factors Only	11
Actions at Pharmacy Level Only	0
Shared Learning Only	0
2 optional fields	
Contributing Factors & Actions at Pharmacy Level	2
Contributing Factors & Shared Learning	0
Actions at Pharmacy Level & Shared Learning	0

3 optional fields	
All 3 Optional Fields	20
Total	**39**

Note: 6 out of the 39 Level 1 reports did not include any of the 3 optional fields.

Table 13 – "Level 1" documentation with optional reporting fields entered for near-miss/no-harm reports (*n* = 72)

Degree of Documentation	Number of "Level 1" Near-Miss/No-Harm Reports with Optional Fields Entered
1 optional field	
Contributing Factors Only	31
Actions at Pharmacy Level Only	0
Shared Learning Only	0
2 optional fields	
Contributing Factors & Actions at Pharmacy Level	16
Contributing Factors & Shared Learning	0
Actions at Pharmacy Level & Shared Learning	1
3 optional fields	
All 3 Optional Fields	11
Total	**72**

Note: 13 out of 72 Level 1 reports did not include any of the 3 optional fields.

The relationship between the maturity of culture to medication safety and the completion of optional reporting fields was assessed in this analysis. Among the harm reports in Table 8, it was found that 10% (2 out of 20) of the Grade A reports included details in either the "Actions at Pharmacy Level" or "Shared Learning" optional fields, while 90% (18 out of 20) of the reports included details for both optional fields (Table 14).

Among the near-miss/no-harm reports, it was found that 11 out of 24 (46%) of Grade A reports in Table 9 included details in either the "Actions at Pharmacy Level" or "Shared Learning" fields, with 12 out of 24 (50%) of Grade A reports including details in both of these fields (Table 15).

Table 14 – "Grade A" safety culture ratings with optional fields entered for harm reports (*n* = 20)

Maturity of Culture to Medication Safety	Number of "Grade A" Harm Reports with Optional Fields Entered
1 optional field	
Actions at Pharmacy Level Only	2
Shared Learning Only	0
2 optional fields	
Actions at Pharmacy Level & Shared Learning	18
Total	**20**

Table 15 – "Grade A" safety culture ratings with optional fields for near-miss/no-harm reports (*n* =24)

Maturity of Culture to Medication Safety	Number of "Grade A" Near-Miss/No-Harm with Optional Fields Entered
1 optional field	
Actions at Pharmacy Level Only	11
Shared Learning Only	0
2 optional fields	
Actions at Pharmacy Level & Shared Learning	12
Total	**24**

Note: 1 out of the 24 Grade A reports did not include any of the 2 optional fields.

Discussion

Overall Assessment

This MedSCIM analysis compares medication safety culture assessments for harm and near-miss/no-harm incidents reported by Newfoundland and Labrador pharmacies. For both harm and near-miss/no-harm datasets, most incident reports were assessed to fall in the middle in terms of completeness of documentation and maturity of safety culture.

The three most assigned MedSCIM ratings observed amongst incidents associated with harm were 2C, 1A, and 1C (Table 8). These ratings are associated with a neutral (2C, 1C) and positive (1A) safety culture. The three most assigned MedSCIM ratings observed amongst near-miss/no-harm incidents were 2C, 1C and 1B (Table 9), associated with a neutral (2C, 1C) and positive (1B) safety culture. As depicted in Figure 3 and Figure 4, a positive safety culture was identified among 36% of the harm reports and 22% of the near-miss/no-harm reports.

Degree of Documentation

A direct comparison of the degrees of documentation between harm and near-miss/no-harm reports reveals that incidents that resulted in harm had higher frequencies of "complete" reports compared to near-miss/no-harm incidents (52% compared to 35%). The opposite is true when comparing "semi-complete" reports, where the near-miss/no-harm incidents had 55% of reports classified as "semi-complete" compared to 41% of harm incidents. A similar frequency of "not complete" reports was found between the two types of reports (Figure 1).

The degree of documentation was found to be highly correlated with the completion of optional fields in the report. In other words, the more optional fields that were completed, the more likely the report would provide enough details to understand the incident and the contributing factors that may have led to it. Among the 39 Level 1 reports associated with patient harm, it was observed that 33 reports (85%) had one or more optional fields completed (Table 12). Among the 72 Level 1 near-miss/no-harm reports, 59 reports (82%) had one or more optional fields completed (Table 13).

Maturity of Culture to Medication Safety

There was a similar proportion of "Reactive" (i.e., Grade C) reports between the harm and near-miss/no-harm incidents, at 61% and 70% respectively. However, there is a clear difference in the "Generative" (i.e., Grade A) safety culture; 27% of the harm incidents were classified as "Generative", compared to only 12% of near-miss/no-harm incidents (Figure 2).

Among the reports that resulted in harm, none that were analyzed portrayed a Grade D "Blame and Shame" safety culture, and only 1% (2 out of 207) of the near-miss/no-harm incidents were characterized as Grade D. The low proportion of this negative safety culture indicates that pharmacies are prioritizing a positive environment that seeks to implement systems-based improvements rather than placing blame on the individuals involved. A shift from focusing on human factors to systems-based solutions provides the greatest impact on medication safety.

Reports offering actionable steps to prevent error recurrence and shared learning are strong indicators of a generative work culture towards medication safety. It was found that of the 20 Grade A harm reports, 18 out of 20 (90%) Grade A reports included details in both the "Actions at Pharmacy Level" or "Shared Learning" optional fields (Table 14). Among the near-miss/no-harm reports, it was observed that 11 out of 24 (46%) of the Grade A reports included details in either the "Actions at Pharmacy Level" or "Shared Learning" fields, with 12 out of 24 (50%) of Grade A reports including details in both of these fields (Table 15).

Further Actions

This is the first year of incident data collection by community pharmacies in Newfoundland and Labrador, and the analysis of reported incidents reflect the culture and medication safety of the province. The aim of this newly implemented reporting program is to continuously improve quality and safety in pharmacy practice.[2] The College of Pharmacy of Newfoundland and Labrador aims to support pharmacy professionals to engage in continuous quality improvement and medication incident reporting to ultimately reduce the number of medication incidents, mitigate risks to patients, and improve the quality and safety of patient care.[2] The reporting system will be primarily used to inform key trends to communicate error prevention and safety improvement strategies.[2]

In the first year of a newly implemented mandatory reporting program, it was anticipated that a higher proportion of reports would have lower ratings of "completeness" and "maturity". For instance, the greatest proportion of incidents in both categories of reports were assigned a rating of 2C (39% of harm reports and 45% of near-miss/no-harm reports). This rating typically describes reports that treat the incidents as isolated events, rather than seeking to implement systems-based improvements to prevent further recurrence of the error. While this may be reflective of pharmacy teams being new to mandatory incident reporting, further guidance may be helpful to emphasize the importance and value of identifying contributing factors, implementing systems-based measures to prevent recurrence, and providing shared learning to advance the medication safety of other healthcare providers who may encounter the same issues.

There were relatively few Grade D "Blame and Shame" or Level 3 "not complete" ratings from the reports submitted, which is a positive finding from the analysis. While the MedSTEP NL program was formally

implemented in July of 2024, the initiative was implemented via a phased schedule that introduced the CQI and MIR initiatives in 2023, prior to full enactment.[7] This phased approach, unique to the CPNL implementation of MIR, may have primed registrants by providing adequate time and educational resources to become familiar with the Standards. It may also have allowed sufficient time for staff training to build experience with reporting through their platforms, and to increase awareness surrounding medication incident reporting and safety within their pharmacies. It is interesting to note that the Safety Attitudes Questionnaire (SAQ) conducted by ISMP Canada in 2023 highlighted the positive safety culture self-reported by staff working in pharmacies in Newfoundland and Labrador, which may imply a strong pre-existing foundation of medication safety prior to the introduction of the new Standards.[8]

Interestingly, most harm reports were classified as Level 1 "complete" (52%), although a significant portion of the reports were Level 2 "semi-complete" (41%). For near-miss/no-harm reports, only 35% of reports were Level 1 "complete", while the majority (55%) of reports fell into the Level 2 "semi-complete" category. A small number of both harm and near-miss/no-harm reports (7% and 10% respectively) were categorized as Level 3 "not complete", which identifies reports whose description does not allow for meaningful qualitative analysis. The analysis found that harm event reporting (n=75) had a greater level of maturity compared to near-miss/no-harm reports as well (36% Grade A "generative" reports vs 22% of near-miss/no-harm reports). This reflects a tendency for community pharmacies to put in additional effort in their incident reports concerning errors that have caused harm to the patient but demonstrates a lack of understanding of the value of a complete report for all outcome levels. Additional learning may be helpful for pharmacies to understand the importance of fully complete near-miss/no-harm incidents and how implementing systems-based solutions can help resolve circumstances that lead to medication incidents.

The latest National Incident Data Repository Safety Brief from the time period October 1, 2024 – March 31, 2025 in Newfoundland and Labrador shows that most incidents reported to the database had outcomes of "no-harm" (n=350) or "near-miss" (n=125), while a smaller proportion of incidents resulted in any degree of harm (n=55).[9] The difference in reports emphasizes that community pharmacies should be encouraged to create a complete and full analysis of the incidents that do not result in harm, as these incidents are the most likely to occur and improvements to patient safety can be made applicable to a large number of incidents.

Pharmacists-in-Charge (PICs) are responsible for implementing continuous quality improvement (CQI) and medication incident reporting (MIR) measures in their pharmacies in accordance with the CPNL's Standards of Practice for Continuous Quality Improvement and Medication Incident Reporting and the MedSTEP NL requirements. In addition to developing policies and procedures relating to reporting medication incidents, PICs have an opportunity to address patient safety culture by identifying potential safety concerns and providing systems-based solutions to minimize risk of error. Additionally, while it is the PICs responsibility to ensure the pharmacy complies with the MedSTEP NL program requirements, PICs should consider appointment of a CQI Coordinator (in addition to themselves) to help ensure that the policy and procedures are up-to-date, training is on-going for all pharmacy staff, and that all medication incidents or near-misses are reported in a timely manner[2]. The CQI coordinator can focus their efforts on reports, promoting a just culture, and organizing CQI meetings for all staff to participate in to discuss events and share learnings. As more data is aggregated by the

MedSTEP NL program, community pharmacies in Newfoundland and Labrador will be better positioned to implement changes necessary to alleviate recurrent medication incidents and improve overall patient safety.

Limitations

A MedSCIM assessment relies on the qualitative interpretation and analysis of narrative data within incident reports. The different categories within the Core Event: Degree of Documentation and Maturity of Culture to Medication Safety domains are not mutually exclusive to one another. It is possible that some incidents may fall between two or more alphanumeric categories in the MedSCIM framework. The assessment presented in this report were derived from the individual interpretations and subsequent consensus generated between the two independent analysts at ISMP Canada.

This analysis relied on a randomized sample of near-miss/no-harm incidents so that a manageable number of near-miss/no-harm incidents could be examined. The results may have varied if a different sample of near-miss/no-harm incidents was selected.

Additionally, this analysis was constrained by information shared with the NIDR. Information provided in optional fields, such as actions at the pharmacy level and shared learning, may not have been shared by the reporting platform submitting data into the NIDR. As a result, a review of the complete set of details provided in such reports may yield different results.

Conclusion

This MedSCIM analysis highlights the reporting quality and efforts from community pharmacies in Newfoundland and Labrador within the first year of the mandatory incident reporting program, MedSTEP NL. A commitment to patient safety was demonstrated in the positive medication safety culture of reported incidents (Table 8 and Table 9). These reports exemplify the pharmacies' commitment to reducing harm through systems-based analysis and offers actionable solutions to prevent recurrent errors. Newfoundland and Labrador pharmacies are encouraged to continue to focus on fostering an environment where incident reporting, regardless of outcome, is valued and promoted to prevent patient harm.

However, it is important to note that not all Newfoundland and Labrador pharmacies demonstrate a positive safety culture in their medication incident reporting. The majority of incidents were assessed to be "reactive" in nature (Figure 2), rather than generative. Pharmacies in the province can improve in this aspect of reporting by focusing efforts on identifying the contributing factors that may have led to the error occurring, as well as developing systems-based solutions to prevent recurrence. However, a lack of blame-and-shame or "Grade D" ratings indicate that pharmacies are aware of the nature of medication incidents as originating from circumstances and the systems surrounding them. A just culture in the pharmacy can help provide psychological safety to staff in the reporting of all incidents, including near-miss/no-harm events.

As mentioned in the background, not all near-miss incidents are required to be reported to the national database. Instead, the Pharmacist-in-Charge is responsible for reporting the near miss using the pharmacy's reporting platform, determining if the near miss must be reported to the national database (per the pharmacy's policies and procedures), and when required submitted a report of the near miss to the national database. Pharmacies in the province are also encouraged to report near-miss incidents that do not fit the criteria to the national database if feasible. More complete reports are also encouraged, particularly by completing the optional fields in the pharmacy's reporting platform, such as the contributing factors, actions taken, and shared learnings sections. By identifying contributing factors and sharing learning that resulted from an incident, pharmacies are better positioned to improve patient safety not just in their pharmacy, but also across the profession (e.g., through local, provincial and national analyses). Pharmacies in Newfoundland and Labrador may benefit from appointing a CQI coordinator in directly managing reports to promote detailed and mature incident reporting. A comprehensive report demonstrates a pharmacy's commitment to systemic improvements while also promoting a positive medication safety culture and a just culture.

The results of this MedSCIM serve as a vital developmental tool for pharmacies to identify potential deficiencies in their own practice and provides a platform for shared learning to mitigate the potential risks via systems-based improvements. Future MedSCIM analyses can provide a continuous benchmark in which pharmacies in Newfoundland and Labrador may observe the improvements made over time and provide a foundation for continuous quality improvement processes to enhance patient safety.

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