

Mandatory Quality Related Events Reporting in Canada: A Province-Wide Review Over Seven Years (2010-2017)

Adrian Boucher,^{1,2} Certina Ho,^{1,2} Todd A. Boyle,³ James Barker,⁴ Bev Zwicker,⁵ Neil MacKinnon⁶

¹ Institute for Safe Medication Practices Canada, ² Leslie Dan Faculty of Pharmacy, University of Toronto, ³ Gerald Schwartz School of Business, St. Francis Xavier University, ⁴ Rowe School of Business, Dalhousie University, ⁵ Nova Scotia College of Pharmacists, ⁶ James L. Winkle College of Pharmacy, University of Cincinnati

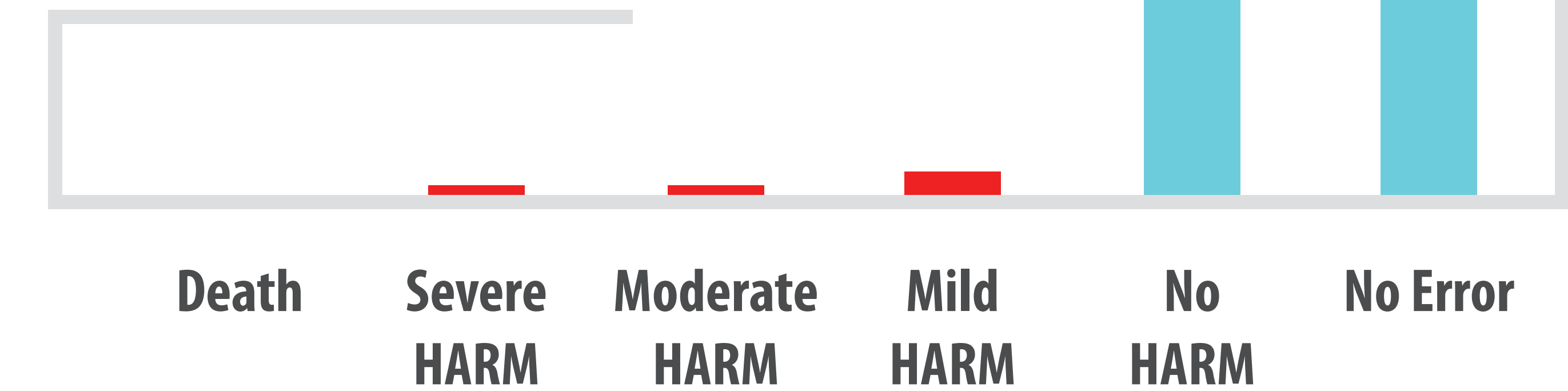
Objectives

- The Community Pharmacy Incident Reporting ([CPhIR](#)) program is designed by the Institute for Safe Medication Practices Canada (ISMP Canada), a national medication safety organization in Canada. CPhIR contributes to the Canadian Medication Incident Reporting and Prevention System ([CMIRPS](#)).
- [SafetyNET-Rx](#) is a standardized continuous quality improvement (CQI) program for community pharmacies in Nova Scotia, Canada. It encourages an open dialogue on quality related events (QREs) among pharmacy professionals who can then learn from QREs and make appropriate changes in the pharmacy to advance patient and medication safety.
- The aim of this study is to quantify and characterize medication-related QREs that were anonymously reported to [CPhIR](#) by community pharmacies in Nova Scotia over 7 years.

Methods

- A retrospective analysis was conducted on medication-related QREs from Nova Scotia community pharmacies occurring between October 1, 2010 and June 30, 2017.
- Descriptive analysis was performed on all medication-related QREs with respect to outcome, type of incident, discoverer, medication system stages, and medications involved.

FIGURE 1.
QREs REPORTED BY OUTCOME



Results

- A total of 131,031 QREs were anonymously reported by 301 community pharmacies in Nova Scotia to ISMP Canada, a third-party national medication safety organization, via the [CPhIR](#) program.
- 74.87% (98,097) was medication-related QREs. Overall, 82.05% (80,488) of reported medication-related QREs did not reach the patient (i.e. near misses) and only 0.95% (928) resulted in harm. ([Figure 1](#))
- Reports of incorrect dose/frequency (25.58%; 25,089), incorrect quantity (20.00%; 19,619), and incorrect drug (14.22%; 13,951) were most common. ([Figure 2](#))
- Pharmacists discovered the majority of medication-related QREs (75.17%; 73,739).
- The most frequently reported medication system stage was order entry, followed by prescription preparation/dispensing, and prescribing.
- The most reported medications were levothyroxine sodium, amoxicillin, and rosuvastatin. ([Table 1](#)) (Note: It is possible that the likelihood of a medication to be involved in a QRE is correlated with the frequency the medication is dispensed in community pharmacy.)
- Medications with the highest proportion of QREs reported with harm were methadone, risperidone, and warfarin. ([Table 2](#))

FIGURE 2.
QREs REPORTED BY TYPE OF INCIDENT

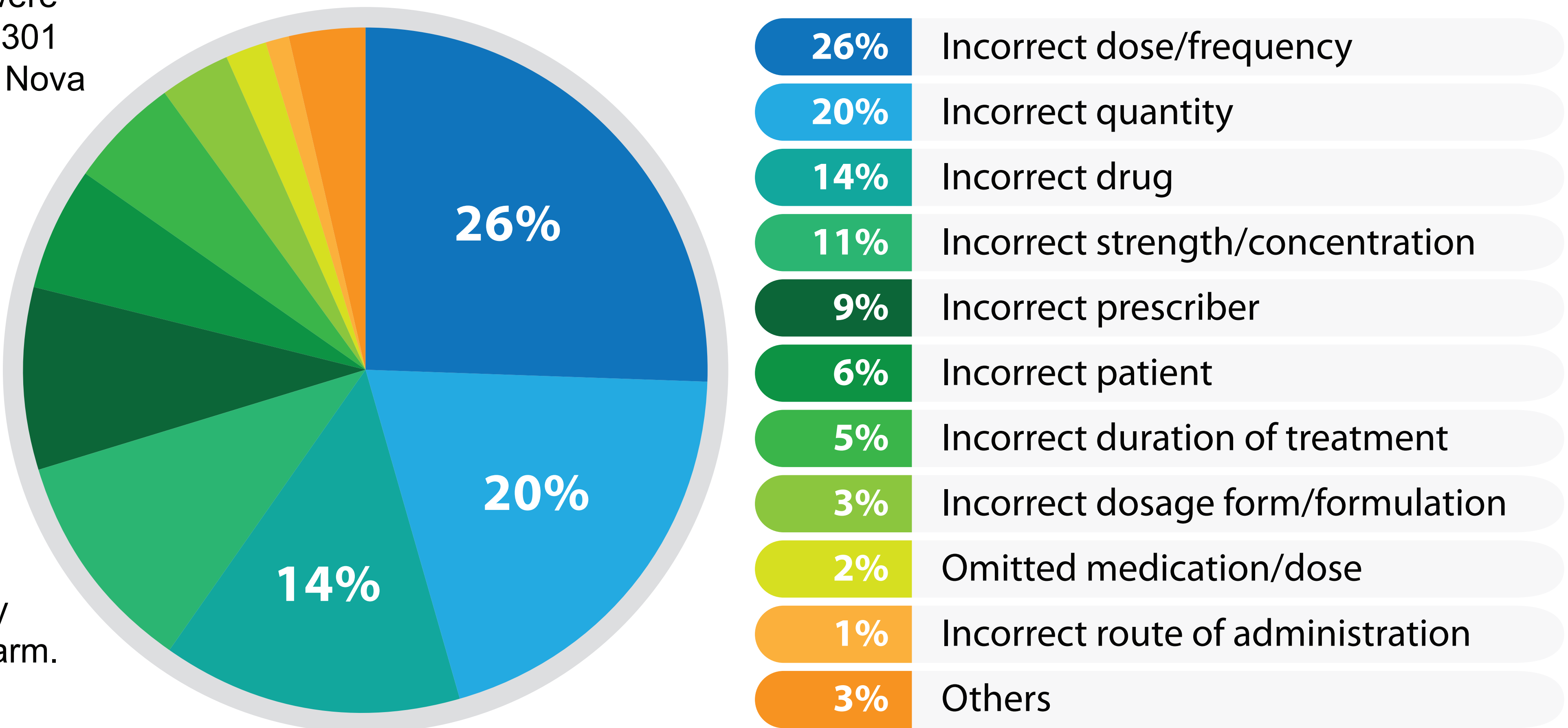


TABLE 1.
TOP 10 MEDICATIONS WITH RESPECT TO THE NUMBER OF REPORTED QREs

Medication	Number of QREs
Levothyroxine sodium	2,433 (2.34%)
Amoxicillin	2,361 (2.27%)
Rosuvastatin	1,905 (1.84%)
Lorazepam	1,840 (1.77%)
Hydromorphone	1,826 (1.76%)
Metoprolol	1,786 (1.72%)
Salbutamol	1,745 (1.68%)
Metformin	1,568 (1.51%)
Rabeprazole	1,459 (1.41%)
Zopiclone	1,374 (1.32%)

Total 103,812**
*Total of all reported medications in QREs with harm (excluding free-form entry of medication name) **Total of all reported medications in QREs (excluding free-form entry of medication name)

TABLE 2.
TOP 10 MEDICATIONS BY PROPORTION OF QREs REPORTED WITH HARM (MINIMUM OF 10 QREs REPORTED WITH HARM)

Medication	Number of QREs Reported with Harm	Number of QREs	Proportion of QREs Reported with Harm
Methadone	19 (1.79%)	184 (0.18%)	10.33%
Risperidone	11 (1.03%)	313 (0.30%)	3.51%
Warfarin	22 (2.07%)	746 (0.72%)	2.95%
Morphine	16 (1.50%)	568 (0.55%)	2.82%
Atenolol	14 (1.32%)	544 (0.52%)	2.57%
Citalopram	27 (2.54%)	1,261 (1.21%)	2.14%
Norgestimate and estrogen	10 (0.94%)	528 (0.51%)	1.89%
Levothyroxine sodium	46 (4.32%)	2,433 (2.34%)	1.89%
Gliclazide	13 (1.22%)	694 (0.67%)	1.87%
Ramipril	14 (1.32%)	778 (0.75%)	1.80%

Disclosures
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