# CONTINUOUS QUALITY IMPROVEMENT (CQI):

## *An Essential Constituent of Patient/Medication Safety*

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## INTRODUCTION:

### CURRENT LANDSCAPE OF CQI IN ONTARIO

In 2015, the Ontario College of Pharmacists (OCP) published an article entitled "CQI Benefits Patients in Community Pharmacies" in *Pharmacy Connection*,[1] highlighting the need for continuous quality improvement (CQI) and expecting CQI program adoption by community pharmacies in Ontario.[1] Furthermore, as per the standards of practice for the pharmacy profession, all pharmacists and pharmacy technicians have the responsibility and obligation to manage medication incidents and address unsafe practices.[1] Despite the potential significant benefits associated with CQI programs, to-date, the only Canadian province that has successfully implemented a mandatory standardized community pharmacy CQI program and reporting of medication errors is Nova Scotia.

In September 2016, the Institute for Safe Medication Practices Canada (ISMP Canada) and the Leslie Dan Faculty of Pharmacy at the University of Toronto collaboratively conducted a research survey, in an effort to explore and gain better insight into the current perceptions and implementation of CQI programs in Ontario community pharmacies. A 28-item online questionnaire was sent to Ontario community pharmacists and pharmacy technicians who provided consent to OCP to be contacted for research purposes during their annual registration. The questionnaire aimed to identify pharmacy professionals' perceptions about CQI and the current extent of CQI implementation, as well as perceived enablers and barriers to implementing a CQI program.

A total of 299 responses were collected and analyzed. Overall, pharmacy professionals have positive perceptions of CQI programs and the associated benefits to patient care and safety. However, the dominant concern with discussing and reporting medication incidents is associated with a perceived blame-and-shame culture in community pharmacy. With respect to CQI program implementation, time is considered to be the greatest challenge. In

addition, responses suggested that there is currently a large variance in the stage of implementation of CQI programs across community pharmacies. For pharmacies that have not implemented a CQI program, or have partially implemented one, the barriers to implementation cited included challenges in allocating adequate human resources to facilitate a CQI program and incorporation of CQI requirements into daily operations. The great variation in these responses implied that community pharmacies are currently at different stages with respect to implementation of a CQI program, which may be interpreted as a lack of standardization in CQI implementation and processes.

## WHY DO WE NEED CQI? WHAT IS A STANDARDIZED CQI PROGRAM?

Continuous quality improvement (CQI) involves an ongoing and systematic examination of an organization's work processes and the employment of scientific methods to identify and address the root causes of quality issues and implement corresponding changes.[2] The benefits of CQI can be enormous – from an organizational management point of view, by regularly and systemically examining, monitoring, and improving core pharmacy workflow and processes, we can potentially eliminate sources of inefficiencies, suboptimal quality of care and services to patients, and enhance the overall system performance.[2]

We learned from responses to our recently administered CQI questionnaire (see above) that Ontario community pharmacies do not currently seem to have a standardized CQI approach or program in place. Compared to informal structures, standardized CQI programs offer unique advantages, such as:[2]

- Prompt communication and sharing of medication incident details (including contributing factors and immediate action plan towards the incident) among pharmacy team members;
- Trending and/or identification of common medication incidents occurring in pharmacy practice and corresponding recommendations of changes for prevention of incident reoccurrence; and
- Potential increase in staff engagement with a no-blame-no-shame culture of patient safety.

The typical components of a standardized or formal CQI program include (but are not limited to) the following:[3]

- Anonymous reporting of medication incidents to an independent, objective third-party organization that has the relevant expertise in medication incident analyses and commitment to sharing learning that is derived from trends and patterns of medication incidents reported by pharmacy professionals. An example of this resource is the ISMP Canada Community Pharmacy Incident Reporting (CPhIR) program, available at http://www.cphir.ca.[4]
- An open discussion on medication incidents and their associated root causes among pharmacy team members, followed by formal documentation of quality improvements made as a result of regular incident reviews during CQI or staff meetings at the pharmacy.
- Completion of a medication safety self® assessment on a regular basis (e.g. annually) for proactively identifying areas of improvement and monitoring progress of the resulting enhancement or action plans at regular CQI or staff meetings at the pharmacy. An example of this resource is the ISMP Canada Medication Safety Self-Assessment® for Community/Ambulatory Pharmacy™, available at https://www.ismp-canada.org/amssa/.[5]

## WHAT IS A MEDICATION INCIDENT?

A medication incident is "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient or consumer."[6] Medication incidents can occur at any stage of the medication-use process (e.g. prescribing, order entry, prescription preparation / dispensing, administration, and monitoring). Common types of medication incidents include incorrect drug, incorrect dose, incorrect frequency of administration, improper storage of medication, incorrect quantity, etc. These also include near misses (i.e. "an event that could have resulted in unwanted consequences, but did not because either by chance or through timely intervention [that] the event did not reach the patient")[6] and no harm events (i.e. an incident occurs and reaches the patient, but results in no harm to the patient, for example, events where the medication has been dispensed and may have been consumed by the patient, but the patient presents no symptoms or does not require treatment).[6]

On the other hand, an adverse drug event includes adverse drug reactions and harm from medication incidents.[6] According to the Canadian Adverse


Events Study, 7.5% of patients admitted to acute care hospitals in Canada experienced one or more adverse events, of which 36.9% were deemed to be preventable.[7] Therefore, sharing the learning from medication incidents (including near misses and no harm events) and having an ongoing strategy to review or prevent medication incidents can have significant implications and contribution to advancing patient/medication safety.

## CONCLUSION:

### CURRENT LANDSCAPE OF CQI IN CANADA – NOVA SCOTIA AND SASKATCHEWAN

#### Nova Scotia – SafetyNET-Rx

Looking at what is happening across Canada with respect to CQI program implementation – Nova Scotia is the only province that has successfully implemented a mandatory standardized community pharmacy CQI program and medication incident reporting – SafetyNET-Rx (http://safetynetrx.ca/) – since 2011.[3,8] SafetyNET-Rx encourages an open dialogue on medication errors and near misses among pharmacy professionals within community practice settings; it offers community pharmacies (in Nova Scotia) a one-stop access for evidence-based research findings on CQI, tools and resources pertaining to reporting and learning from medication incidents with an ultimate goal to improve workflow and processes for quality patient care.[9]

#### Saskatchewan – COMPASS™

Modelled after SafetyNET-Rx, COMPASS™ (Community Pharmacists Advancing Safety in Saskatchewan - http://saskpharm.ca/site/cqa_pp?nav=03) is a provincial quality assurance program (in Saskatchewan) designed to help pharmacies recognize, resolve, and learn from medication errors; it aims to provide community pharmacy professionals with the tools needed to better report and learn from medication incidents and to implement system-based changes in order to reduce the likelihood of similar incidents from recurring.[10] COMPASS™ has undergone three phases of pilot between 2013 and 2016, involving a total of 119 community pharmacies in Saskatchewan. It has demonstrated the following benefits with respect to CQI:[11]

- Increased pharmacy staff awareness of safety issues;
- Reduction of blame-and-shame with open discussion of medication incidents and near misses;
- Perceived reduction in the number of medication incidents occurring at the pharmacy; and
- Increased scrutiny of workflow processes resulting in formal changes for quality improvement.

In conclusion, both SafetyNET-Rx and COMPASS™ are standardized CQI programs, which include the following key components:[8,11]

- Reporting of medication incidents anonymously to an independent, objective third-party organization for the purpose of generating a national aggregate incident database;
- Completion of a medication safety self-assessment (MSSA) regularly (e.g. annually or bi-annually);

- Scheduling of regular (e.g. annually or as frequent as quarterly) CQI or staff meetings in order to educate pharmacy team members on patient/medication safety, discuss medication incidents, complete the MSSA, or develop and monitor quality improvement plans, etc.;

- Development, monitoring, and documentation of quality improvement plans at regular CQI or staff meetings; and

- Designation of an individual team member to be the Quality Assurance coordinator at each pharmacy.

In Ontario, as shown by the CQI survey analysis findings (see above), although pharmacy practitioners recognize the benefits of CQI programs, there is not a standardized CQI program implemented in community pharmacies and therefore, there is marked variation in the stage of implementation of a CQI program across pharmacies surveyed. Our findings are consistent with a previous study by Boyle et al[3] in Nova Scotia where the uptake of CQI standards of practice by community pharmacies varied, depending on the pharmacy characteristics, pharmacy location, prescription volume, etc. CQI is an essential component of patient/medication safety advancement and the implementation of a standardized CQI program (as supported by evidence from SafetyNET-Rx in Nova Scotia and COMPASS™ in Saskatchewan) is a crucial step in going forward to achieve the mission of error reduction and mitigation of patient harm. At the same time, a critical yet complementary element in safe medication practices is that we should always share our learning from medication incidents and medication error reporting, and make sustainable changes in practice. Pc

## OTHER RESOURCES

For further examples of how CQI programs support medication incident learning and help improve medication safety, case studies have been documented in the following reference texts:

- Boyle TA, Ho C. Chapter 28: Medication incidents and quality improvement. In: Hindmarsh KW, ed. *Pharmacy management in Canada*. Mississauga, ON: The Canadian Foundation for Pharmacy, 2015; 249-260.

- Hincapie AL, MacKinnon NJ, Nau DP, Warholak TL. Chapter 117: Assessing pharmacy-related quality of care. In: Allen LV, Jr, ed. *Remington: The science and practice of pharmacy*, 22nd ed. Philadelphia, PA: Pharmaceutical Press, 2012; 2685-2693.

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4. Ho C, Hung P, Lee G, Kadija M. Community pharmacy incident reporting: A new tool for communicating pharmacies in Canada. *Healthcare Quarterly* 2010; 13: 16-24.

5. Tong B, Ho C. Risk management in community pharmacy. *Pharmacy Connection* 2013 Winter; 33-37.

6. Institute for Safe Medication Practices Canada (ISMP Canada). Definition of Terms. Available from: www.ismp-canada.org/definitions.htm (accessed January 5, 2017).

7. Baker GR, Norton PG, Flintoft V, Blais R, Brown A, Cox J, et al. The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada. *CMAJ* 2004 May 25; 170(11): 1678-86.

8. Nova Scotia College of Pharmacists. *Standards of Practice Continuous Quality Assurance Programs in Community Pharmacies*. 2010. Available from: http://www.nspharmacists.ca/?page=continuous-quality-assurance-cqa&showKey=Quallity%20Assurance#StandardsOfPracticeContinuousQualityAssurance (accessed January 5, 2017).

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11. Saskatchewan College of Pharmacy Professionals. COMPASS™ to become a standardized CQA program in all Saskatchewan community pharmacies. In: *SCOPe newsletter: Quality pharmacy care in Saskatchewan* 2016 December; 8(6): 5-6. Available from: http://scp.in1touch.org/uploaded/web/SCOPe_Newsletter_December2016.pdf (accessed January 5, 2017).