

BACKGROUND

- Quality Improvement (QI) training is critical for all healthcare professionals, including pharmacists
- The Canadian Council for Accreditation of Pharmacy Programs calls for pharmacy schools to design a curriculum that includes competency outcomes for QI
- Despite the potential and realized benefits of QI training for pharmacy students, previous studies conducted indicate that QI education in pharmacy school is inadequate

OBJECTIVES

- To evaluate a 4-hour QI workshop to introduce foundational QI concepts to pharmacy students
- To explore pharmacy students' attitudes towards QI training and its teaching-format (e.g., workshop)

METHODS

- Primary educational resource:** Evidence-based Practice for Improving Quality (EPIQ) workshop (epiq.ca)
- Participant recruitment:** an online registration form for the EPIQ workshop distributed to pharmacy students from Year 1 to Year 4
- Objective 1: Pre- and post- multiple choice questionnaires (MCQ)**
 - Assessment tool:** an existing EPIQ MCQ utilized to assess participants' knowledge of foundational improvement science concepts
 - Analysis:** MCQ results were individually scored out of 16, and analyzed using a paired t-test using Microsoft Excel Version 2013
- Objective 2: Focus group interview**
 - Participants:** pharmacy students volunteered to participate in the focus group interview after the EPIQ workshop
 - Data collection:** a semi-structured interview (conducted by DL) was digitally recorded and transcribed verbatim
 - Analysis:** Grounded theory with inductive approach used to generate themes and representative quotes

RESULTS

Figure 1: Breakdown of EPIQ workshop participants (N = 29)

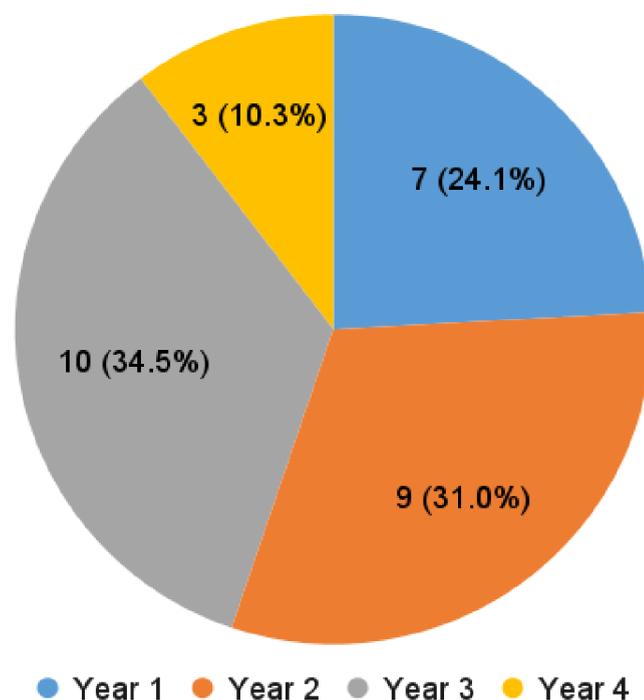


Table 1: Pre- and Post- MCQ Scores

Mean (score out of 16 in percentage)			paired t-test (two tailed)	P-value
Pre (%)	Post (%)	change (%)		
77.37	86.42	9.05		0.008

Table 2: Demographics of focus group participants (N = 8)

Year	Count
Year 1	3
Year 2	2
Year 3	2
Year 4	1

LIMITATIONS

- Potential lack of generalizability to all Canadian pharmacy students given a small sample size
- Potential selection bias given that it is possible that self-referred participants may have pre-existing attitudes towards QI or EPIQ
- Potential threats trustworthiness in the analysis of qualitative component of the study

REFERENCES

- Cooley J, Stolpe SF, Montoya A, et al. An Analysis of Quality Improvement of Education at US Colleges of Pharmacy. *Am J Pharm Educ.* 2017; 81(3):51. doi: [10.5688/ajpe81351](https://doi.org/10.5688/ajpe81351)
- Gilligan AM, Myers J, Nash JD, et al. Educating Pharmacy Students to Improve Quality (EPIQ) in Colleges and Schools of Pharmacy. *Am J Pharm Educ.* 2012; 76(6):109. doi: [10.5688/ajpe766109](https://doi.org/10.5688/ajpe766109)
- Creswell JW, Creswell JD. *Research design: Qualitative, quantitative, and mixed methods approaches.* 5th ed. Thousand Oaks, California: SAGE Publications; 2018.

IDENTIFIED THEMES AND QUOTES

Workshop formats for QI teaching

PY2: "[The quality improvement training is best delivered] as a workshop for professional development rather than doing it as a course because then it becomes more like homework than for our own professional growth."

QI education as a continuum of learning that balances undergraduate clinical pharmacy experience

PY2: "Having a QI elective would be helpful for third or fourth year students to get a foot in the door and get mentorship from [trained preceptors] to complete a [personal QI] project. They would lead and see their changes in real-life."

QI education encourages team-based and collaborative approaches to applying QI skills

PY1: "Since healthcare is multidisciplinary, it would be important for all disciplines to learn QI. It's hard to eliminate miscommunication [in practice] if future pharmacists act as change agents, but future nurses are not so receptive to that mindset."

QI education inspires leadership

PY2: "If we were to do more quality improvement in school, then maybe we could be exposed to the idea that, "Yes, we can be agents of change". Yes, pharmacy practice isn't always going to be the same," earlier on, so that people will be more receptive to implementing and practicing those changes once they actually begin [to work as pharmacists]."

Lack of clinical practice awareness as barriers to QI application

PY4: "In terms of students, the limitation in [clinical] experience makes it a little difficult to understand and apply QI concepts because you still don't quite know about pharmacy yet, especially when you're in the first or second year."

CONCLUSIONS

- The EPIQ workshop is effective at introducing foundational QI concepts to Canadian pharmacy students
- Our findings support integration of QI training into pharmacy school curricula and may be adapted to pharmacy students of any year of study