

## PERSPECTIVES ON K-12 AND POSTSECONDARY PARTNERSHIPS TO SUPPORT UNDERREPRESENTED STUDENTS IN HEALTH SCIENCES

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### Abstract

To realize diversity across health care professions, we must attract and support students who have typically been underrepresented within the health sciences. A potential lever for change is partnerships between K-12 and postsecondary educators who can collaborate to engage and support students early in their academic decision making and through their journey into the health professions. Over the course of three initiatives (Pharmacy Experiential Days, educator working groups, and a scoping review), the research team has gained perspectives from students, educators, and the literature related to barriers and supports in pursuing health sciences and health professions careers. Insights include challenges and successes related to hosting individual programs, views into local (e.g., school, school board, governmental) constraints and supports, and universal barriers which continue to persist. A theme across the work is that addressing systemic oppression is being tackled at local and regional levels, despite constraints, and there does not appear to be a singular approach that will mitigate hundreds of years of organized discrimination. Despite that, educators across the world continue to partner, deploying often limited resources and amid shifting local, regional, national, and global priorities, to support students in learning about health sciences and achieving academic and career goals.

**Keywords:** Health sciences, health professions, pharmacy, diversity, collaboration.

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### 1. Introduction

Across Canada, pharmacists' scopes of practice have broadened considerably and, depending on jurisdiction, they are able to diagnose and prescribe for minor ailments, administer certain injection drugs and vaccines, and order and interpret laboratory tests (Canadian Pharmacists Association (CPhA), 2025). Pharmacies are often the first (sometimes only) option for health care for a great number of Canadians (University of Waterloo, 2023) and those seeking care come from a diverse array of backgrounds. Evidence suggests that health outcomes are better when care teams are diverse (Gomez & Bernet, 2019; LaVeist & Pierre, 2014; Cohen, Gabriel, & Terrell, 2002; Smedley, Stith, Colburn, & Evans, 2001) yet the diversity of healthcare teams, including pharmacy, is not reflective of the diversity of patients (Association of Faculties of Pharmacy of Canada, 2023; Gomez & Bernet, 2019; LaVeist & Pierre, 2014; Cohen, Gabriel, & Terrell, 2002; Smedley, et al., 2001).

There are many ways to approach diversifying the healthcare workforce. Based on its expertise and positioning, this research team chose to focus on ways in which kindergarten to grade 12 (K-12) and postsecondary educators can partner to support students, especially underrepresented students, in their awareness of and access to careers in health sciences and pharmacy. Of particular interest to the team were the partnerships themselves - the facilitators, barriers, and supports which exist (or could/should) in order to bridge gaps in educators' and students' knowledge of healthcare professions.

### 2. Objectives

This grant-funded project was conceived to understand more about how K-12 and postsecondary partnerships can support students in exploring and entering health sciences and, more specifically, pharmacy. Additionally, while conducting research related to partnerships, the team also wanted to engage K-12 students so a multi-faceted approach was taken:

1. Host an annual in-person, on-campus Experiential Day for high school students to hear from a keynote speaker, engage in pharmacy lab activities, and tour faculty and university campus facilities.
2. Engage Ontario K-12 and postsecondary educators to:
  - a. understand their points of view related to teaching and encouraging students in science, technology, engineering, and math (STEM), and
  - b. generate ideas for actionable initiatives, involving partnerships between K-12 and postsecondary, that could directly affect students' knowledge of healthcare careers and pharmacy *early enough in students' academic careers* to make postsecondary STEM education a possibility.
3. Conduct a scoping review to understand the literature related to K-12 and postsecondary partnerships to support traditionally underrepresented students' access to and success in STEM subjects.

### 3. Program design

This paper focuses on three initiatives that spanned the length of the grant: Experiential Day, educator working groups, and a scoping review. Each year, from 2024-2026, the team hosted PharmPath Experiential Day for high school students. The event is supported through the research grant and, in part, through in-kind support from the Leslie Dan Faculty of Pharmacy. Attendance is limited to 60-70 students annually given laboratory capacity and recruitment is directed at those who have typically been underrepresented in pharmacy (e.g., Black students, Indigenous students). Attendees had the option of participating in post-event focus groups in years one and two. In the first year, we solicited feedback about Experiential Day for process improvement purposes. In the second year, we asked students about their experiences of the high school curriculum related to STEM *and* health, what health/health science-related activities, streams, or extracurricular activities were available to them, and what barriers and supports they experienced in participating.

The team also engaged educators in working groups who were charged with generating actionable ideas for partnerships between K-12 and postsecondary institutions to support students' awareness of and access to health sciences. Twenty-four educators from southern Ontario high schools and the University of Toronto were split into small groups which met monthly from January to April 2025. Through the discussions, they heard from other educators and across the groups, generated nine potential program ideas (e.g., mentorship programs, Grade 10 careers course materials, "day in the life of a pharmacist" video series). The team is now working with another department at the University of Toronto to determine how best to initiate some of the ideas and/or to create small courses (e.g., microcredential) to offer to educators which can help support them to connect students with health sciences.

The scoping review launched using the following research questions:

1. What does a win-win partnership between educational levels look like to promote health sciences across education settings while reducing barriers?
2. How can educators work collaboratively to spark interest in the health sciences?
3. What practices are teachers employing to reduce barriers, and promote and address EDI in the classroom (specifically in health sciences classrooms)?

The review focused on regions with similar education systems and underlying issues (i.e., Canada, USA, United Kingdom, Australia, New Zealand, and South Africa). Over 4000 articles were retrieved, were winnowed down to 685, and the team is now engaged in full text review.

### 4. Discussion

Through focus groups with Experiential Day student participants, the research team learned about the variability of offerings across and within schoolboards. For example, not all students, even within the same region, have access to similar extracurricular STEM programs or specialized health science courses. Similarly, though this finding comes from preliminary reading of scoping review abstracts, the availability of programs to support access to STEM/health sciences varies. Further, programs that do exist (e.g., Experiential Day), are vulnerable to external forces such as funding continuity, personnel changes, and shifting government priorities. Alarming, in the United States, "scientists engaged in work to make research fields more inclusive face canceled contracts and expired grants" (Gewin, 2025, p. 1) and many federal departments related to diversity, equity, and inclusion have been shuttered (Gewin, 2025). In Canada, fortunately, investment in expanding access continues. Recently, the province of Ontario announced \$57 million in funding for Indigenous Institutes to "to ensure students have access to the education they need to launch in-demand careers" (Province of Ontario, 2026, p. 1).

## 5. Conclusions

A theme across this work is that addressing systemic oppression is being tackled at local and regional levels, despite constraints. There does not appear to be a singular approach that will mitigate hundreds of years of organized discrimination and easily diversify all aspects of the healthcare workforce. Despite that, educators (K-12 to postsecondary) continue to partner, deploying limited resources amid shifting local, regional, national, and global priorities, to support students in learning about health sciences and achieving academic and career goals.

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