

Short communication

A model of iterative outcome-based curriculum design and assessment for strategic pharmacy education in Canada[☆]

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Abstract

Introduction: The changing demographics of Canada and the imminent rise in health care costs have led to significant recent developments in the legislative environment surrounding the pharmacy profession in Canada. Practicing pharmacists may not be adequately equipped to rise to the challenges associated with their expanding professional roles. As such, we endeavor to construct and implement a model of curricular design and assessment that allows for fast and effective detection and response to changing needs.

Methods and Results: The model builds on the pioneering outcome-based education lobbied by accreditation and regulatory bodies in North America, and introduces a nationwide collaborative effort in the assessment and revision of pharmacy programs. The model is initiated by a local stakeholder focus group for identification of gaps in pharmacy education. It then flows through the next two phases that comprise the “demand pull” approach to strategic education. The model also takes into consideration its downstream applications.

Discussion and Conclusion: This short communication serves to introduce and present an overview of our on-going study, as a prelude to further in-depth analyses and discussions of specific components. The study will provide insights into the capacity of the iterative, outcome-based, and multi-institutional model in supplying information towards pharmacy curricular design and continuous program advancement in Canada. We are also investigating the efficacies of alternative teaching methods in facilitating active and deeper learning. We believe that this “demand pull” approach to strategic education will ensure the continual relevancy of Canadian pharmacy programs.

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Introduction

The past decade has seen significant widespread changes across the field of pharmacy in Canada. Driven by the shifting of demographics toward an aging population, and together with the impending rise in costs of health care, the nation is

introducing reforms that impact the professional roles of pharmacists, the industry of pharmacy services, and ultimately, pharmacy education. In 2007, the Blueprint Task Force was assembled by the Canadian Pharmacists Association (CPhA) to define a vision for the future of pharmacy in Canada. Consisting of broad representatives from pharmacy stakeholders across the country, the Task Force launched a national consultation process that led to the development of implementation plans to realize the “Vision for Pharmacy: Optimal drug therapy outcomes for Canadians through patient-centered care.”¹ In achieving such vision, there needs to be increased communication and collaboration with patients, support personnel, and other health care professionals.²

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In recent years, the provincial government of Ontario has introduced legislative amendments, as detailed within Bills 102, 179, and 16, that reform the provincial drug system and compensation models, and expand the scope of practice for pharmacists within the province.^{3–5} The key changes include the following: (1) the swift removal of “rebates” offered to pharmacies by generic drug manufacturers to exclusively stock their products, (2) the removal of pharmacists’ professional allowances that do not pertain exclusively to patient-care initiatives, and (3) an increase on dispensing fees to eight percent in urban settings and a “cap” on mark-up at \$125.⁶ In exchange, and in a push to drive pharmacists away from a distribution model and toward a clinical consultative model, at least \$50 million per year has been allocated toward a MedsCheck consultation program that rewards the cognitive skills of pharmacists in a clinical setting.⁷ One aim is to lay the foundation for increased inter-professional collaboration in delivering patient-centered care, so as to improve health care access. These legislative changes, however, have been widely viewed by pharmacists in Ontario as crippling to the profession’s sustainability in Ontario, and eventually, the nation.⁸

In contrast, we perceive this “calamity” as a golden opportunity to redefine the profession and, in parallel, evolve pharmacy education in Canada. As such, we re-evaluated existing pharmacy programs and education models in Canada, and realized the urgency for expansion and improvement in light of these evolved demands. The need for education programs that act and adapt faster to changes in the environment is also especially critical at this time. It is with this incentive in mind that we endeavor to construct and implement a model of curricular design and assessment that allows for fast and effective detection and response to changing needs and demands. The ultimate goal is to maintain relevant and strategic pharmacy education in Canada.

We observe that many current education systems are still too reliant on didactic methods. In a typical class setting, teachers instruct students by covering materials required for written examinations, that serve as the primary means of assessing transferred knowledge.⁹ While such a teaching approach may seem efficient for delivering a large volume of information, it frequently results in rote memorization as the default “learning” outcome.¹⁰ In recognizing and overcoming such shortcomings, many institutions have pushed for teaching toward desired outcomes as a standard practice in their curricula. Outcome-based education is primarily concerned with demonstrated student learning (outcome) rather than what students are taught (input).¹¹ An increasing number of educators have begun to rethink the delivery of professional education by starting at the end and working backward. Instead of starting the process of curricular design by listing the materials that need to be covered, it begins with determining the desired results on students following completion of the curriculum.¹²

In the United States, the American Association of Colleges of Pharmacy (AACP) and the Accreditation Council for Pharmacy Education (ACPE) have set a standard requirement

for American pharmacy curricula to facilitate learning and achievement of ability-based outcomes.¹³ This began when AACP launched the Commission to Implement Change in Pharmaceutical Education in 1989, and the Focus Group on Liberalization of the Professional Curriculum in 1990, to review the state of pharmacy education across the nation and to develop a series of recommendations for renewal.^{14–16} Further initiatives led to the eventual development of the current Center for Advancement of Pharmaceutical Education (CAPE) Educational Outcomes 2004,¹⁷ that serves to provide structured guidance for curricular development in pharmacy. This reference standard defines the ability-based outcomes that represent the knowledge and skills a practicing pharmacist should have, and that pharmacy students are expected to develop through a curriculum. The primary goal is to shift the focus from teacher-centered to student-centered instruction.¹³ There has been considerable evidence supporting the efficacy of curricula based on ability-based outcomes. Milwaukee-based Alverno College was amongst the earliest to embrace the approach, and it introduced the use of formative assessment and feedback to improve student performance in their ability-based education (ABE).^{10,18}

In Canada, all pharmacy programs are subject to regular accreditation reviews by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP). At present, the CCAPP expects all Canadian pharmacy programs to establish an academic environment that delivers the professional competencies set by the National Association of Pharmacy Regulatory Authorities (NAPRA)¹⁹ and the role-based educational outcomes set by the Association of Faculties of Pharmacy of Canada (AFPC).²⁰ The AFPC has also recently released a rubric of performance indicators for assessment of success in achieving the desired outcomes.²¹

Through our model of curriculum design and assessment, we endeavor to explore and demonstrate a unique approach to effective and strategic outcome-based education. We study and embrace the pioneering strategies and methods in outcome-based education, and seek to propel it further by adopting measures that facilitate active learning across all aspects of the curriculum and introducing a nationwide collaborative effort in assessment and revision of curricula. We believe that these components will synergistically and swiftly act to detect the changing needs or demands of the profession, and provide training that will effectively adapt highly skilled graduates across the nation. In this way, the continual relevancy of Canadian pharmacy programs or curricular is ensured.

In a preliminary study under the first trial of our model, we received feedback from pharmacy practitioners and other pharmacy stakeholders that highlighted a gap in pharmacy education in developing strategic management and leadership skills. Such attributes are essential for pharmacists to function as successful managers that adapt to a rapidly changing environment or to innovate as successful entrepreneurs. Following on such finding, *strategic management/leadership* has been chosen as the context to apply the first trial of our proposed model.

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