

Incorporating Complementary and Alternative Medicine into Canadian Undergraduate Medical Education

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Citation info: UBCMJ, 2015; 7.1 (4-6)

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With the increasing interest among Canadians in complementary and alternative medicine (CAM), it has become paramount for Canadian physicians to be educated about the various modalities of CAM and their interplay with conventional medicine.¹ Regardless of physicians' stances on the utility of CAM in the context of conventional Western medicine, they must be aware of the prevalence of CAM use among their patient population and the issues related to this use. A study conducted on patients presenting to the Canadian College of Naturopathic Medicine clinic in 2005 found that 41.5 % of patients who use natural health products did not disclose this use to their family physicians, and 69.9 % of respondents indicated that their physicians did not ask about natural product use.² Even more disappointing is that physicians have the least positive attitude toward patients' use of CAM compared to all other health professionals.³ These negative attitudes might lead to poor communication between physicians and patients about CAM-associated risks, including adverse drug interactions, patient noncompliance with prescription medications, and uncertainty about the true effects of interventions.¹ A baseline level of knowledge on the subject of CAM empowers physicians to be comfortable asking patients about their engagement with non-conventional medical services.¹ Open communication between patient and provider regarding current treatment options is an important step in ensuring optimal patient safety and satisfaction. Furthermore, it facilitates dialogue between physicians and other health care providers, paving the way toward collaborative care.¹

One solution to the need for increased physician competence in CAM is integrating

CAM training into undergraduate medical education. Research shows that a startling 84 % of physicians feel that increased CAM education was needed during their training in order to adequately address patients' concerns.⁶ Similarly, a California study showed that 61 % of physicians do not believe that they have adequate knowledge about CAM, while 81 % report a desire for more education about CAM safety and efficacy.⁷ The Canadian undergraduate medical education system is focused on seven key competencies, as outlined in the CanMEDS Physician Competency Framework: Professional, Communicator, Collaborator, Manager, Health Advocate, Scholar, and Medical Expert.⁴ Physicians who are CAM-literate might be better suited to excel in each of these areas by having the knowledge needed to communicate effectively with patients regarding their CAM use. This enhanced knowledge and communication will enable physicians to better support their patients, potentially leading to improved patient outcomes. Furthermore, due to the cultural and personal aspects of many of these therapies, training physicians to be sensitive and accepting toward CAM use among their patient population can improve cultural sensitivity and appreciation for patient-centred care.¹ The focus of these diverse medical practices on total-body wellness and on self-care might also encourage medical students to embrace concepts of wellness and disease prevention, which are proven to improve patient health outcomes and to reduce healthcare costs.^{1,5} Exposing students to fundamental aspects of CAM early in their medical career will allow them to build on this basic knowledge throughout their training and to ensure that they are well-equipped to speak with

patients and other healthcare providers about this important topic.

Currently, no national guidelines exist for the incorporation of CAM teaching into Canadian undergraduate medical education. The only study ever published on this topic found that 13 of the 16 medical schools across the country in 1999 incorporated CAM education as a required component of their curriculum, while the remaining 3 were planning to do so in the future.⁸ To explore the current status of CAM education among future healthcare professionals, the Complementary and Alternative Medicine in Undergraduate Medical Education (CAM in UME) project was founded in 2006 with a total budget of \$ 77,750.⁹ In 2013, the National Advisory

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Committee for the CAM in UME project compiled a list of CAM curricula across Canadian medical schools.⁹ The approach taken by different schools was found to vary widely from small group discussions to lecture-based instruction to student-directed projects.⁹ On one hand, this lack of a unified approach to CAM education reflects an inability of Canadian medical schools to come to a consensus on the most salient aspects of CAM or the method to transmit these aspects to students; on the other hand, there is value in generating a cohort of future physicians with different areas of expertise in CAM. Furthermore, the heterogeneity of CAM education reflects the diversity of teaching approaches and learning needs of students across the individualized curriculum of each medical school. Given this diversity, it might prove difficult to enforce standardized methods of CAM teaching; however, at the very minimum, there should be a set of core CAM competencies that all Canadian medical graduates must master, similar to the CanMED roles.

A goal of the CAM in UME project is to encourage undergraduate medical educators to develop and expand the CAM aspect of their curricula.⁹ The project's website provides CAM-related learning

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objectives and resources to facilitate knowledge translation about patient use of CAM.⁹ Because there is no national policy on CAM education among healthcare providers, this project provides a hopeful avenue for expanding the knowledge base and communicative abilities of future physicians regarding non-conventional medical therapies. In 2006, the project published a comprehensive overview of the rationale for integrating CAM education into undergraduate medical training along with a list of competencies that students should master;¹⁰ however, it is unclear how much influence this resource has had on medical educators or on improving CAM knowledge among medical students. The project's limited role to medical schools as a guiding hand rather than as a mandated program suggests that the project needs greater momentum and more promotion to medical educators in order to enact meaningful change.¹¹

While the incorporation of CAM into undergraduate medical education certainly has its benefits, it is not without challenges. For one, it is difficult to provide a comprehensive overview of the subject due to the extensive scope of CAM and the variability of its usage across different geographical regions, age groups, and cultures.¹² Variability also exists in the extent to which schools might educate students about CAM. On one extreme, schools can settle for the bare minimum by teaching students how to communicate effectively with patients who use CAM and how to seek out resources on the safety and efficacy of different practices.¹³ Alternatively, schools can delve deeper by preparing students to understand the different types of CAM practiced (along with their associated benefits and limitations, interactions with conventional medical therapies, and harm reduction), to advise patients about CAM therapy, to refer patients to alternative practitioners, and to even practice CAM therapy as an adjunct to their medical practice.¹⁴ No matter which option schools choose, they must apply the same rigour they would use to select other curriculum material in deciding what to teach and what level of evidence is sufficient to teach a type of CAM therapy to student doctors.¹³ In fact,

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a correspondence letter published in the Canadian Family Physician journal raises the concern that including CAM therapy in undergraduate medical education may be perceived as wrongly advocating for therapies which lack sufficient evidence.¹⁴ Furthermore, as medical schools face limited funding and curriculum time, increasing the time spent on CAM education has the trade-off of limiting curriculum focus on other important topics.¹⁵ Schools must also find well-trained educators who have extensive knowledge of CAM and its relation to conventional Western medicine. While there are benefits to involving CAM practitioners in the design and teaching of these modules,¹⁵ it is important to ensure that all those involved in developing and delivering the curriculum remain impartial regarding the benefits and drawbacks of CAM. Another important issue is the fundamental difference between the evidence-based, biological understanding of the human body and disease in conventional medical education compared to the holistic approach to patient care adopted by CAM.¹⁵ This distinction leads to one of the most important and challenging barriers—that of resistance on the part of medical school program leaders due to their personal biases against CAM and their inability to fully appreciate the differences in scope and value of the two approaches.¹³

Just as challenges exist with facilitating incorporation of CAM into medical curricula, there is also difficulty in assessing the outcomes of these initiatives. Options for evaluating student acquisition of knowledge can range from subjective self-assessments to objective standardized tests to practical examinations in which faculty members observe students' behaviour and approach.⁵ With the wide range of options available, it is important that evaluation is consistent with the nature of the material taught and the manner in which it is taught. Assessment of CAM education must ultimately determine whether there is any positive change in physicians' behaviour and patient outcomes; unfortunately, accurate assessment requires long-term monitoring and complex measurement strategies.⁵

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Looking across the border to CAM education in the U.S., it is not surprising to see similar measures being undertaken. In 1999, the National Centre for Complementary and Alternative Medicine at the National Institute of Health invested \$ 22.5 million in funding 15 grants to medical schools, nursing schools, and to the American Medical Student Association with the goal of encouraging the incorporation of CAM education into their curricula.¹³ Evaluation of these projects revealed that CAM training increased students' self-awareness and self-care,

suggesting that the study of CAM can enhance overall physician performance, not only in the domain of CAM therapies, but also in the practice of conventional medicine.¹⁶ Another study conducted in a California medical school showed that students valued an experiential and hands-on delivery of CAM material over a didactic-focused curriculum.¹⁷ By drawing from the innovative approaches to CAM education arising from the U.S. and the rich volume of evaluative studies, Canadian medical schools can benefit from the expertise of American schools in shaping and evaluating their own CAM modules.

Overall, there is a growing trend toward incorporating elements of CAM into conventional undergraduate medical education in Canada. The focus of discussion should now shift away from whether there is a need to educate medical students about CAM toward developing methods, assessing integration, and identifying and overcoming barriers related to incorporating CAM into the medical curricula. One approach to facilitating this integration is the development and enforcement of national competencies for Canadian undergraduate medical students. Furthermore, while most curricula currently focus exclusively on making students more aware of the different varieties of CAM and their prevalence, schools might consider adding well-evidenced CAM to the body of medical therapies taught to students and practiced by physicians. This endorsement of CAMs by the medical profession will lead the way toward integrative care.

disclosures

The authors do not have any conflicts of interest.

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