



The CAM in UME Project

A Guide for the Development, Implementation, and Sustainability of Curriculum about Complementary and Alternative Medicine in Undergraduate Medical Education Programs

A synthesis of a national workshop held
November 30th and December 1st 2006
Toronto, Ontario, Canada

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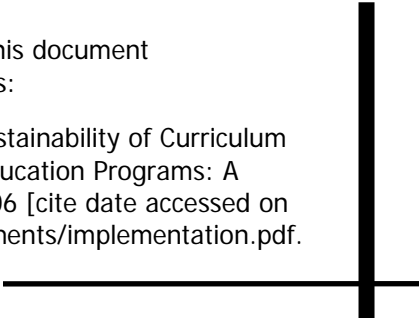
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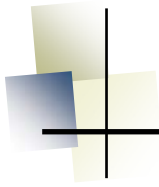
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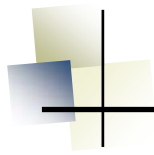


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A Guide for the Development, Implementation, and Sustainability of Complementary and Alternative Medicine Curriculum in Undergraduate Medical Education

Introduction

The rise in public interest and use of therapies and products outside of mainstream medicine has not gone unrecognized by medical educators in Canada. A number of medical schools in Canada and the United States have introduced complementary and alternative medicine (CAM) into undergraduate medical education (UME). However, many schools continue to be challenged with issues surrounding the implementation of CAM in UME. In Canada, a diverse team of health educators and CAM practitioners has worked together to develop a wide range of resources that could assist medical schools in delivering such a curriculum (the CAM in UME Project).¹ The mission of our project is to identify when and how the rise of CAM is relevant for medical practice and health care, and *not* to promote teaching a wide range of CAM therapies. Through sharing and discussion, medical school educators recognize that although their experiences in implementing CAM in UME are diverse, reflecting the different philosophies and programs in undergraduate medical education in Canada and the United States, there are some common lessons that can be drawn from these experiences.

This guide highlights a range of ideas and suggestions expressed by participants of a national workshop convened by the CAM in UME Project team on November 30th and December 1st 2006. The objectives of the workshop were:

1. To document lessons learned during the process of introducing CAM curriculum into UME.
2. To document strategies and mechanisms that have been used, or could be used to facilitate and address challenges in implementing CAM in UME.
3. To prioritize the components of the CAM in UME Project (e.g., teaching materials, databases, websites, competencies, consultation services, networking) with respect to developing and implementing CAM in UME.
4. To identify ways in which Canadian medical schools and the CAM in UME Project can collaborate, particularly to ensure sustainability of the Project's mission and goals.

The workshop deliberations have been synthesized to underscore the suggestions that participants felt were particularly useful in developing and implementing CAM curriculum in UME. Their ideas and experiences have been organized under nine key areas for effective change. Participants in the workshop stressed that several of the areas are not unique to developing or implementing CAM curricula. They are common to many processes of change, and thus, recommend that it may be useful to examine the literature on innovation² and change.³ Participants also stressed that not all strategies will work effectively in all schools; educators should adopt (and adapt) those that they feel will fit their school's pedagogy and curriculum. The nine areas outlined in this report include: Rationale, Education

1 For more background information about the development and outcomes of the CAM in UME Project, please visit our web site at URL:
<http://www.caminume.ca>.

2 Rogers E. Diffusion of innovations. 5th ed. New York: The Free Press; 2003.

3 Senge P, Roberts C, Ross R, Kleiner A, Roth G, Smith B. The dance of change: the challenges to sustaining momentum in a learning organization. New York: Doubleday & Company; 1999.

Objectives, Context for Integrating CAM in UME, Leaders and Networks, Open Communication, Educational Resources, Education Evaluation, Funding, and finally, Work Strategically. To further illustrate some of these areas, personal experiences and lessons from the workshop participants have been inserted as boxes.

Processes of Curriculum Implementation

1. Rationale

Participants in the workshop have found that a well defined and credible rationale supporting the need for CAM education in UME is essential. At the forefront is the World Health Organization's initiative *Social Accountability of Medical Schools*.⁴ Endorsed by the Association of Faculties of Medicine of Canada (AFMC) in 2002, the social accountability of medical schools is defined as:

the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public.⁵

The growth of CAM and the public's increased use of CAM treatments demand greater attention by physicians, and thus the medical education system. The AFMC is working cooperatively with the faculties of medicine in Canada to (1) develop national social accountability initiatives and (2) document local social accountability activities.⁶ The incorporation of CAM education in the training of medical students is an important area of social accountability.

The first time we launched into the topic of CAM, many of our students were unclear about why we were even discussing the topic in medical school because they did not see the relevance. We have since found it useful at the outset to provide a strong and defensible rationale for including CAM in the curriculum. We do this by underscoring: (1) the fact that CAM is widely used by the Canadian public; (2) most CAM users do not disclose their use of CAM to their family physician which can, in turn create many potential problems including safety issues due to potential side-effects, contrary indications, and interactions; and (3) the importance of having physicians who are willing and able to discuss the topic of CAM with patients in an informed and non-judgmental manner.

2. Education Objectives

Participants in the workshop recognized that curriculum development in undergraduate medical education is not simply the addition of new activities into the curriculum. Given the lack of available curriculum time, they stressed that any introduction of CAM education should help enhance, rather than add to existing UME goals and objectives (i.e., the desired outcomes of the educational activities in ways that can be measured). Thus, the overriding question for participants in the workshop was how will CAM education contribute to preparing students to become compassionate, competent, and well-rounded physicians? In doing so, participants found that it was very useful to define specific CAM curriculum objectives and to do so in a format that adheres to the UME structure. For example, some participants have found it constructive to map CAM curriculum objectives according to the CanMEDS Physician

4 Boelen C, Heck JE. Defining and measuring the social accountability of medical schools. Geneva: Division of Development of Human Resources for Health, World Health Organization; 1995. Document WHO/HRH/95.5.

5 Health Canada. Social accountability: A vision for Canadian medical schools. 2001. Available from: http://www.hc-sc.gc.ca/hcs-sss/alt_formats/hpb-dgps/pdf/pubs/2001-social-vision-med/2001-social-vision-med_e.pdf.

6 A list of these social accountability initiatives is available through the AFMC website at http://www.afmc.ca/search_tool/index.html.

Competency Framework.⁷

To facilitate CAM curriculum implementation in UME, lists of core competencies for medical students have been developed in Canada by the CAM in UME Project members (see Appendix A) and in the US by the Education Working Group of the Consortium of Academic Health Centers for Integrative Medicine.⁸ While these competencies are CAM specific, they reaffirm the core physician roles addressed in medical education in areas such as professionalism, advocate, communicator, and scholar.

Understanding the concept of placebo, its role in trials and in clinical practice was an important interface between the realms of complementary and conventional medicines. It has increased understanding of important non-specific effects in healing and treating and stimulated discussion on the role of knowing as well as allowed exploration of a concept that has become a chameleon with distinct presentations in different contexts of medical education.

3. Context for Integrating CAM in UME

It is important to recognize that each medical school may have different points of integration for CAM curriculum. Looking back over their experience, workshop participants suggest that it is important to understand the institutional context and organizational structure, and assess the potential readiness for CAM curriculum. In doing so, it may be useful to ask the following types of questions:

- * At what stage is the overall cycle of curriculum development, implementation, and review in the medical school (e.g., are there courses that are currently being revised which could allow the integration of CAM content)?
- * What are the most important CAM-related outcomes to be achieved at the undergraduate level in your school?
- * What would be the most efficient or effective ways to deliver CAM education given the limited time of the curriculum and the limited resources of the faculty?
- * What aspects of CAM are medical students most interested in? The CAM in UME Project plans to post a short survey by August 2007 that may help educators assess student interest in CAM.
- * Where is material related to CAM currently taught in the curriculum (e.g., patient-physician relationships; evidence-based medicine; patients' practices in relation to clinical conditions; drug-herb interactions; etc.)? And/or, where could CAM curricula easily and logically be integrated?
- * Who is currently teaching material related to CAM and/or who may be interested in teaching such material? Potential instructors both inside and outside the medical school should be considered.
- * Who needs to be persuaded as to the need for, viability of, and credibility of education about CAM?
- * Are there opportunities for inter-professional education about CAM, or opportunities for linkages outside the medical school? It may be helpful to contact colleagues in the Faculties of Nursing,

⁷ The CanMEDS Physician Competency Framework (available at <http://rcpsc.medical.org/canmeds/index.php>) was developed by the Royal College of Physicians and Surgeons of Canada to define and evaluate graduate medical education. It is increasingly being adopted by Undergraduate Medical Education programs in Canada.

⁸ Kligler, B et al. Core Competencies in Integrative Medicine for Medical School Curricula: A Proposal. *Academic Med* 79:521-531, 2004. The competencies are also available at URL: http://www.imconsortium.org/img/assets/20825/CURRICULUM_final.pdf.

Pharmacy, Dentistry, for example to find out if there is CAM teaching and possibilities for collaboration. Likewise, it may be helpful to contact local CAM or integrative medicine clinics and/or schools to explore the possibilities of shared learning.

Be very careful in choosing CAM practitioners to invite as guest speakers. While it can be a powerful force for helping medical students to understand and respect a particular CAM approach, it can be disastrous if the speaker is not adequately prepared. Use guests sparingly. Make sure the guest speakers understand what it is like to speak to a large class of medical students, including the types of questions they will likely have and the kind of "world view" that medical students are socialized into. A skillful discussion moderator is needed to ensure a productive discussion with a CAM practitioner guest. A guest speaker is not a good way to fill a class for which the instructor must be absent.

We have a group assignment in which the students visit and interview a CAM practitioner in the practitioner's clinic or office. We also have each student contact a CAM practitioner of their choice and "shadow" the practitioner for several hours to observe a typical day at the clinic.

Meeting a well-educated patient who was very articulate about the reasons for CAM use in a lecture stimulated an active discussion amongst students about the importance of CAM as part of a general treatment plan as well as about important concepts such as hope, healing and being empowered to be part of cancer care.

Plans to revise the family medicine clerkship rotation at our school presented a unique opportunity to integrate a mandatory four part section on Introduction to Complementary and Alternative Medicine.

4. Leaders and networks

Of the many principles that contribute to successful curriculum change, participants in the project have found that leadership is key. They describe a local leader as someone who is:

- * a credible member of the institution;
- * a visionary and a risk-taker;
- * an energetic and persuasive collaborator;
- * a focused and effective communicator;
- * an open-minded conflict manager.

While leadership is central to change, a network of collaborators is central to sustainability. Workshop participants have found that a network of collaborators contributes to the immediate and long-term viability of the curriculum by:

- * spreading the workload among faculty;
- * integrating educational activities, where relevant, across the curriculum;
- * establishing the credibility of educational activities within the different subject areas of the curriculum;
- * broadening the research and clinical base for the curriculum;
- * sharing administrative responsibilities associated with the curriculum;
- * managing transitions between instructors over time.

According to participants, a local network might begin with physicians and medical faculty who are knowledgeable about aspects of medical education related to CAM. Other members of the network could

be drawn from members of curriculum committees, researchers with an interest in CAM, instructors in other health sciences, experts in medical education, collection specialists in libraries, and medical students. Ample time and opportunity should be given for faculty to learn about the innovation, greater inclusiveness will encourage ownership. The network could also include CAM practitioners, preferably those who are familiar with conventional medical education and research and who are accustomed to the roles of educator and researcher.

I found it effective to volunteer on curriculum committees at my school, including the professional competencies planning committee, the general curriculum development committee, and the Family Medicine planning committee. I was upfront that I was passionate about CAM in UME. As an informed advocate, I built relationships on these committees and won the confidence and authorization to make significant changes to mandatory curriculum.

5. Open communication

Effective curriculum change requires clear, open, two-way communication. This is probably all the more important when the change is controversial, unfamiliar, or misunderstood, as may be the case with education about CAM.

In order to maintain open communication throughout a process of developing and implementing curriculum about CAM, participants suggested that educators:

- * state and re-state the goals of their educational proposals;
- * explain the theoretical and evidentiary bases for their proposals;
- * create room for skepticism and dissent;
- * provide opportunities for exchange;
- * allow for experiential as well as didactic learning;
- * look for common ground while acknowledging disagreement.

In response to feedback from faculty and students, we have found it useful to develop our curriculum in a manner which balances and integrates three perspectives: that of the patient (experiential perspective), that of the physician (clinical perspective), and that of the researcher (scientific perspective). So, for example, in our module addressing the topic of "Stress, Health and Illness", we first ask students to identify sources and symptoms of stress in their own lives (experiential perspective), then provide a didactic overview of the physiology of the stress response (scientific perspective). We then finish with a discussion of the clinical implications for the practicing physician (clinical perspective).

6. Educational resources

It is not necessary to create all educational materials from scratch. Resources for education about CAM in medical schools are currently under development or in place in Canada and the USA. Participants in the project would encourage educators to investigate and evaluate materials currently in use or in development.

The CAM in UME Project team has developed peer-reviewed summaries on a number of CAM topics (www.caminume.ca/drr/campods.html) and will be development more materials in the near future. Particular emphasis is on foundational issues that will assist faculty to develop with students a basic understanding of CAM in modern societies. These include topics such as beliefs, culture, evidence, CAM

use, and regulation. Summaries on CAM products and practices and on CAM issues in clinical practice are also being developed. In addition, the CAM in UME Project team is creating a searchable digital repository of teaching and learning resources (TLRs). The TLRs are PowerPoint slides, teaching notes, case scenarios, etc contributed by educators; they are not peer-reviewed.⁹

The US Consortium of Academic Health Centers for Integrative Medicine (www.imconsortium.org/cahcim/home.html) also has published samples of educational material from a number of US medical schools to illustrate approaches to introducing topics regarding CAM into medical education.¹⁰ In addition, several schools in the US that received an educational grant from the National Center for Complementary and Alternative Medicine have made their educational resources publicly available.¹¹

7. Education Evaluation

Closely related to defining educational objectives is to establish a means to evaluate whether the objectives are being achieved. Workshop participants found that evaluation of both educational processes (e.g., students' evaluation of educational materials and activities) and educational outcomes (e.g., assessment of students' knowledge, attitudes, and skills – i.e., what they actually learned) was necessary and fundamental to optimizing successful implementation of CAM in UME.

The RCPSC's CanMEDS Best Practices is a clearinghouse for medical education initiatives for teaching, learning and assessing the CanMEDS competencies.¹² In terms of CAM-focused assessment, the proceedings of a 2002 working conference on the evaluation of CAM curricula provides a nice guide to curricular evaluation, including a sample of instruments.¹³

In the first two years of our CAM program, we found it useful to solicit feedback at the end of every class. This took the form of a simple, five-minute activity, in which students were asked to make three lists: aspects of the class they thought we should KEEP, those they thought we should DROP, and those they thought we should ADD. This feedback, especially in the early stages of our curriculum design was invaluable in providing us with a timely indication of the perceived usefulness of the CAM content in the curriculum.

8. Funding

Funding is usually necessary to sustain an educational program over time. Participants in the workshop noted that there are different ways to secure funds. It may be possible to obtain seed-funding for curriculum development from the medical school or an educational foundation. Grants for research in areas associated with the educational activities can contribute indirectly to educational activities by establishing credibility, drawing students, and supporting assistantships, equipment, networking, and similar resources. Educational materials used in undergraduate medical education may be adapted for continuing medical education in a revenue-generating format.

⁹The CAM in UME Digital Resource Repository will be officially launched in May 2007 (<http://www.caminume.ca/drr>).

¹⁰ Consortium of Academic Health Centers for Integrative Medicine. Curriculum in Integrative Medicine: A Guide for Medical Educators. May 2004. www.imconsortium.org/img/assets/20825/CURRICULUM_final.pdf

¹¹ A list of these grant recipients is provided in the CAM in UME Project web site at: http://www.caminume.ca/nccam_r25.html

¹² The CanMEDS Best Practices is available at <http://rcpsc.medical.org/canmeds/bestpractices/index.php>.

¹³ University of Michigan Integrative Medicine. Proceedings of a Working Conference on Evaluation of CAM Curricula. June 2002. www.med.umich.edu/umim/education/materials.htm#evaluation

9. In Sum: Work Strategically

There is no single approach to developing and implementing education about CAM in medical schools. But participants in the workshop offered some advice, based on their experience of what worked well in their school:

- * Start small and build on your successes.
- * Solicit feedback and plan for a steep learning curve in the early stages.
- * Focus on required, rather than optional, components of the curriculum.
- * Begin introducing educational material about CAM as early as possible in the curriculum.
- * With regard to introducing information about complementary practices, begin with common, well-known, safe practices.
- * Build a research component around your educational activities.
- * Involve students in all aspects of your program.
- * Support faculty development.
- * Engage selected, qualified CAM practitioners in community-based learning activities
- * Create opportunities for inter-professional activities involving conventional and CAM practitioners or schools.
- * Relate education about CAM to core aspects of medicine, such as: patient-centred or relationship-centred health care; rules of evidence; recognizing and reporting adverse events; stress; wellness; chronic disease; etc.
- * Demonstrate how education about CAM will improve the quality of physicians and the quality of health care.
- * Cultivate open-minded skepticism about CAM.

Conclusion

The participants in the workshop are working in many areas of medical education: deans of undergraduate medical education, chairs of curriculum committees, faculty with an interest in CAM, colleagues in many medical disciplines, physicians, CAM practitioners or educators, and medical students. While the participants differ in their view and assessment of individual CAM therapies, they are agreed that physicians must have the sort of relationship with their patients that enable them to speak with their patients considerately, knowledgeably, objectively, and non-judgmentally about the CAM therapies that their patient may be using or considering. The suggestions in this guide are drawn from their collective experience with the expectation that there is sufficient breadth to facilitate the development, implementation, and sustainability of CAM in UME in all Canadian medical schools.

Appendix A

Core CAM Competencies for Undergraduate Medical Education Programs¹⁴

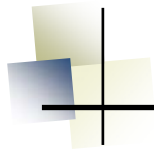
Knowledge

1. Define CAM and describe how CAM can be classified. Provide definitions of prominent CAM therapies (to be identified by each school to ensure locally relevant CAM therapies are included).
2. Define Integrative Medicine (IM) and discuss the benefits and challenges of integrating CAM and conventional medicine.
3. List CAM therapies that are commonly used by patients with the following illnesses, conditions, or health concerns (list to be determined locally). Identify patterns of CAM use with reference to culture, values, socioeconomic status, and demographics.
4. Describe the potential impact of selected CAM practices (list to be determined locally) on self care, stress reduction, illness prevention, and the determinants of health.
5. Identify potential safety issues associated with the following CAM therapies (list to be determined locally), including *side effects*, *contra-indications*, *potential interactions with other CAM therapies*, *potential interactions with conventional medicine*.
6. Identify reliable sources to establish the current state of evidence for the following CAM therapies (list to be determined locally).
7. Describe, in general terms, the current CAM-related policies, standards and regulations that may affect the practice of medicine by physicians in a given province. Include discussion of the following:
 - 7.1 Natural Health Product regulations
 - 7.2 Regulation and credentialing of common CAM practices and practitioners in the students' province.
 - 7.3 Medical licensing and regulation of physicians practicing CAM in the students' province.
 - 7.4 Medical licensing and regulation of physicians referring patients to CAM practitioners in the students' province.
8. Define, compare and contrast the conventional/ biomedical paradigm with various complementary paradigms with reference to terms such as reductionism, holism, experimental efficacy, clinical effectiveness, appropriate research methods, standards of evidence, clinical trials, whole systems research, patient satisfaction, wellness, healing and placebo response
9. Identify the major professional, intellectual, emotional, managerial and ethical issues that arise in the establishment of collaborative relationships between physicians and CAM practitioners and identify strategies for addressing these issues.
10. Describe the major historical events that have shaped and influenced CAM use.

Skills

1. Critically appraise the evidence pertaining to selected CAM therapies for the prevention and treatment of specific conditions (list to be determined locally).
2. Discuss the subject of CAM with patients in a respectful, non-judgmental, and professional manner, including:
 - Taking patient history of CAM use
 - Responding to patients in a manner which reflects some minimal knowledge of CAM, as well as cultural sensitivity, and appreciation for the values and beliefs of the patient.
 - Informing and advising patients regarding CAM; and
 - Acknowledging the limitations of one's own knowledge regarding CAM

¹⁴ An online survey of the list of CAM competencies was recently conducted. The content of the above list may change based on the survey results.



3. Communicate effectively with CAM practitioners with regard to assessment, treatment, decision-making, referrals, and patient safety.

Attitudes

1. Describe one's own culturally based values and belief systems, attitudes, personality traits, and CAM-related knowledge, and describe how these may affect one's approach to self-care, health, wellness, healing, and the practice of medicine.
2. Demonstrate respect for the beliefs and choices of patients who use CAM.