

# Complementary and Alternative Medicine: A Rising Healthcare Issue

Médecines alternatives et complémentaires :  
une question de plus en plus importante  
dans les soins de santé



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## Abstract

More than half of all Canadians use some form of complementary and alternative medicine (CAM) every year. The way CAM is being used, the magnitude of its use and the lack of clarity on standards of evidence make CAM a rising healthcare issue.

A recent research priority-setting exercise by the Canadian Interdisciplinary Network for CAM Research (IN-CAM) identified three research priority areas: (1) health-care delivery and policy research, including (a) exploring if and how CAM should be regulated, (b) defining what constitutes acceptable evidence of safety and efficacy, (c) investigating the organization and delivery of integrative healthcare; (2) methodological research, including exploring how best to assess whole systems of care and how to choose patient-, practitioner- and policy-relevant outcome measures; and (3) knowledge transfer, including formal education strategies, the provision of information and dialogue with those who use information in decision-making. The high use of CAM products and therapies leads to many questions from patients, practitioners and policy makers. The research agenda presented here provides a guide to begin programs of research that will answer these questions.

## Résumé

Plus de la moitié des Canadiens utilisent une forme quelconque de médecine alternative ou complémentaire (MAC) chaque année. La façon dont les MAC sont utilisées, l'ampleur de leur utilisation et le manque de clarté quant aux normes de preuve font qu'elles deviennent une question de plus en plus importante dans le domaine des soins de santé. Un récent exercice d'établissement de priorités effectué par le Réseau interdisciplinaire canadien de recherche sur les médecines alternatives et complémentaires (IN-CAM) a permis de cerner trois domaines de recherche prioritaires : (1) la recherche sur la prestation des soins de santé et les politiques connexes, notamment, (a) examiner si les MAC devraient être réglementées et comment, (b) définir ce qui constitue des preuves acceptables d'innocuité et d'efficacité, (c) mener des enquêtes sur l'organisation et la prestation de soins de santé intégrés; (2) la recherche méthodologique, notamment, déterminer quelle est la meilleure façon d'évaluer des systèmes tout entiers de soins, et comment choisir des mesures d'impact pertinentes pour les patients, les praticiens et les politiques; et (3) le transfert des connaissances, y compris des stratégies de formation, la communication de renseignements et le dialogue avec ceux qui utilisent ces renseignements. La grande popularité des produits et des traitements alternatifs et complémentaires soulève beaucoup de questions chez les patients, les praticiens et les décideurs. Les suggestions présentées ici offrent un guide pour la mise en place de programmes de recherche qui permettront de répondre à ces questions.



COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) IS OFTEN DESCRIBED as a group of diverse medical and healthcare systems, practices and products that are *not* presently considered part of conventional medicine (National Center for Complementary and Alternative Medicine [NCCAM] 2005). CAM therapies can be classified into five categories or domains: (1) alternative medical systems (e.g., homeopathy, naturopathy and traditional Chinese medicine), (2) mind–body interventions, (3) biologically based therapies (e.g., foods, vitamins, herbs), (4) manipulative and body-based methods (e.g., chiropractic, massage) and (5) energy therapies (e.g., Therapeutic Touch, Qigong) (NCCAM 2005). According to Health Canada (2005), more than 70% of Canadians use natural health products (including vitamins, herbal medicines, homeopathic medicines and others) each year, and Park (2005) reports that 20% of Canadians visited CAM providers (e.g., chiropractors, acupuncturists, naturopathic practitioners) in 2003. Estimates vary widely, but Canadians appear to be spending more than \$1 billion annually on CAM-related products and therapies (Ramsay et al. 1999). CAM is clearly more than a fringe phenomenon, and this dramatic increase in its use over the past 10 years cannot be overlooked by conventional healthcare practitioners, researchers and decision-makers.

There is evidence that CAM is increasingly being seen as an important issue for healthcare systems. For example, a recent health research priority-setting exercise (Canadian Health Services Research Foundation [CHSRF] 2004) identified CAM as a rising health issue. Similarly, Trachtenberg (2002: 1566) argues that the “imperative for the study of these health practices [CAM] is their sheer prevalence ...”

The high rates of CAM use have led to growing health services and policy concerns, including (1) how to regulate CAM professions and natural health products, (2) how to incorporate safe CAM treatments into mainstream care plans and (3) how best to protect the public from a wide range of possible CAM–conventional medicine interactions (Ernst 2000; Fugh-Berman 2000; Fugh-Berman and Ernst 2001; Miller 1998). The last point is important, given consumers’ widespread perception that CAM is safe because it is “natural.”

The healthcare system is slowly responding to the increase in CAM use. Many physicians are referring to CAM practitioners or are practising forms of CAM themselves (Hirschhorn and Bourgeault 2005; Kaczorowski et al. 2002; Silversides 2002; Verhoef et al. 2002; Verhoef et al. 2004; Wong and Neill 2001), and new models of integrative healthcare that combine CAM and conventional medicine are developing (Boon et al. 2004; Coates and Jobst 1998; Schroeder 1999; Tataryn and Verhoef 2001). However, it is necessary to investigate whether these changes are safe and effective and how they will affect Canadian healthcare. The purpose of this commentary is to present a relevant, practical research agenda that will answer the most pressing questions currently facing healthcare policy makers.

## The Canadian Interdisciplinary Network for CAM Research (IN-CAM)

One of the contexts in which the need for a focused CAM research agenda has been extensively discussed is IN-CAM (Canadian Interdisciplinary Network for CAM Research 2003). IN-CAM is an interdisciplinary research network of over 1,000 members, funded by the Canadian Institutes of Health Research (CIHR) and the Natural Health Products Directorate of Health Canada (Health Canada 2005), with the mission to create a sustainable, well-connected, highly trained Canadian CAM research community. It has two primary objectives: to build research capacity and to facilitate high-quality CAM health services and policy research in Canada. In order to provide direction for the development of high-quality CAM research, IN-CAM has engaged in a strategic planning process to (1) identify unanswered questions, (2) identify the most important/relevant questions and (3) develop a plan of action to answer those questions. This strategic planning process consisted of three stages:

1. Modified Delphi Process to obtain consensus from those interested and involved in CAM research across Canada regarding priority research areas. The more than 400 individuals who were IN-CAM members at the time were asked for their input.
2. Consultations with Advisory Board<sup>1</sup> members to determine which topics identified through the Delphi Process should become IN-CAM priorities, based on perceived importance to Canadian health services and policy.
3. Strategic planning sessions: two one-day meetings of established researchers, practitioners, policy makers and funders to identify and prioritize specific research questions and projects within the identified priority research areas and to develop a plan to begin answering those questions based on the interest and expertise available in the Network.

Three priority research areas were identified: CAM healthcare delivery and policy; the development of methods to study the safety, efficacy and effectiveness of CAM; and knowledge transfer/translation as it relates to these two areas. (See Table 1.) A research agenda within each of these areas is described in more detail below.

### CAM healthcare delivery and policy

Canada has new natural health product regulations, and several provinces are currently debating the possible regulation of CAM practitioner groups. Thus, research in the area of CAM regulation is needed immediately to help guide new policy development. Most CAM practices are not currently regulated in Canada, a situation that has led to a proliferation of practitioners – only some of whom have extensive knowledge

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TABLE 1. CAM research priority areas identified in IN-CAM Delphi Consultation

TOPIC	SUB-TOPICS	EXAMPLE RESEARCH QUESTIONS	RELEVANCE TO POLICY MAKERS
CAM Healthcare Delivery and Policy	<ul style="list-style-type: none"> <li>• Regulation</li> <li>• Organization/Delivery</li> <li>• Risk/Safety</li> <li>• Self-care/Wellness</li> </ul>	<ul style="list-style-type: none"> <li>• Which (if any) CAM practitioners should be regulated?</li> <li>• What is integrative healthcare and how is it related to primary healthcare reform?</li> <li>• Who is practising CAM?</li> <li>• Who has access to CAM?</li> <li>• Is CAM cost-effective?</li> <li>• What is the relationship between CAM and public health?</li> <li>• Should provincial health-care plans pay for CAM products and therapies?</li> </ul>	<p>Several Canadian provinces are currently making decisions about whether (and how) to regulate traditional Chinese medicine, naturopathic medicine and homeopathic medicine. Research is needed to guide these decisions.</p>
Developing Methods to Study Safety, Efficacy and Effectiveness of CAM	<ul style="list-style-type: none"> <li>• Outcomes</li> <li>• Healing environment</li> <li>• Whole systems</li> <li>• Effectiveness</li> <li>• Safety</li> </ul>	<ul style="list-style-type: none"> <li>• How should complex CAM interventions (e.g., traditional Chinese medicine) be assessed?</li> <li>• Can acupuncture trials be blinded?</li> <li>• Is it possible to randomize patients with strong beliefs in specific CAM therapies?</li> <li>• How does belief affect trial outcomes?</li> </ul>	<p>Accurate knowledge of the safety, efficacy and effectiveness of CAM should form the basis for decisions about whether CAM products and services should be funded under provincial health insurance plans. Safety issues are also the basis for decisions about the need for regulation to protect the public from harm.</p>
Knowledge Transfer	<ul style="list-style-type: none"> <li>• Education</li> <li>• Information provision</li> <li>• Dialogue</li> </ul>	<ul style="list-style-type: none"> <li>• What should physicians, pharmacists and other conventional healthcare practitioners know about CAM?</li> <li>• Where can consumers go to find accurate information about the risks and benefits of CAM?</li> </ul>	<p>The health of Canadians depends on policies and practices that are based on the best information available.</p>

and expertise – who offer a variety of services, including acupuncture,<sup>2</sup> advice about the medicinal use of herbs and homeopathy.<sup>3</sup> It appears that many practitioners offer advice with little or no training, raising concerns about potential interactions between these therapies and conventional treatments and delays in individuals' seeking appropriate medical care for serious conditions. Regulation changes being undertaken by individual jurisdictions can serve as case studies that provide a unique opportunity for Canadian researchers to address CAM policy questions. For example, British Columbia is in the process of implementing regulation for traditional Chinese medicine (TCM) and acupuncture (the first Canadian province to do so). Lessons learned from this experience would be very instructive for the rest of the country (especially Ontario, where the Ministry of Health has pledged to regulate TCM and acupuncture as early as 2006), yet little research appears to be under way.

While evidence is a very complex concept, there is no doubt that healthcare decisions should be based on evidence of some sort. Determining what constitutes acceptable evidence of safety, efficacy and quality of CAM practice, and establishing that evidence base, are crucial for rational policy development. For example, Health Canada (2005) has developed "standards of evidence" for deciding which health claims (e.g., "product X treats symptom Y") will be accepted on labels of licensed natural health products. Although these standards were developed as part of a national consultation process, they remain controversial. For example, there is ongoing debate about the role of historical "evidence" and the need for randomized controlled trials. Healthy debate in this area should be encouraged; as new standards of evidence are implemented, their impact needs to be assessed to inform future policy development.

With the large number of innovative healthcare initiatives that are emerging, process and outcome evaluation of the organization and delivery of "integrative"<sup>4</sup> healthcare is essential. As provinces increasingly move to more interdisciplinary models of care, especially in the field of primary care, questions are being asked about who should be part of the care team. Canadians are increasingly seeking the services of chiropractors, massage therapists, naturopaths and others who are primary-contact healthcare practitioners. Whether CAM providers should be integrated into emerging models of team-based primary care, and the impact such integration would have on insurers and the health of Canadians, are just two issues that need to be addressed. At least three different demonstration projects funded by the Primary Healthcare Transition Fund<sup>5</sup> are beginning to provide preliminary answers to some of these questions using chiropractic care as an example service, but much more work is needed in other disciplines. The new natural health product regulations and the expanding regulation of CAM practices in some provinces are likely to spark renewed efforts by users to have these products and services declared "medical expenses" and to seek compensation from public and private insurers. Proponents of such coverage argue that CAM, with its

minimally invasive focus on preventive care, is a cost-effective option, yet little research has been done in this area to inform policy decisions.

### Developing methods to study the safety, efficacy and effectiveness of CAM

Evidence of the safety and efficacy of CAM is needed to underpin policy and treatment decisions. Yet, the complexity and individualized nature of many CAM interventions make obtaining this evidence challenging. For example, the patient–practitioner relationship and the healing environment are often integral components of the healing process; the patient is usually an active participant in the treatment and treatment decision-making; treatments are individualized; and expected and intended outcomes extend beyond the relief of disease-based symptoms. This complexity has led to the need to develop and study methods to assess complex interventions or “whole systems”<sup>6</sup> of healthcare. Assessment methods used in biomedicine may be useful but do not always transfer easily to the study of CAM products and therapies. It is generally agreed that no single method will suffice and that interdisciplinary teams employing multi-method programs of research (including both qualitative and quantitative methods) are needed (Verhoef et al. 2005). The same applies to the evaluation of new models of delivering care in both CAM and conventional medicine. Interdisciplinary stroke units, diabetes clinics and integrative medicine clinics, where CAM and conventional practitioners work together in teams, present the same methodological challenges.

One of the most important issues when designing methods of evaluation is choosing outcomes that are relevant to patients, practitioners and policy makers. Capturing patients’ experiences means not only assessing disease-specific signs and symptoms such as blood pressure, tumour growth, perceptions of pain and range of motion, but also information about the severity of the disease condition, overall mental, emotional and spiritual well-being and treatment experiences. In most cases, traditional quality-of-life measures do not capture the wide range of changes and experiences that patients report in qualitative interviews. Practitioners need to know how the CAM intervention affects traditional disease markers, but also the ways in which it changes how people feel and cope with their disease process. A given intervention may not decrease the size of a tumour or increase survival rates, but it may decrease feelings of depression or the amount of sleeping medication a patient needs and may enhance patients’ abilities to interact and connect with family and friends. Appropriate outcome measures will capture this wide range of patient-driven outcomes so that the full potential of CAM may be realized, while at the same time recognizing the need for objective endpoints to underpin policy decisions. Finally, policy makers need to weigh the wide range of potential benefits of CAM interventions against their costs, a task that can be challenging when dealing with intangible benefits such as personal transformation (Mulkins and Verhoef 2004) compared to, say, reduced need for pain medication.

## Knowledge transfer

The transfer of CAM research knowledge to key stakeholders, including CAM and conventional practitioners, consumers and decision-makers, is of paramount importance for evidence-based practice, informed decision-making and rational policy development. In order to encourage evidence-based CAM practice, education and training of CAM practitioners is of paramount importance. CAM practitioners must understand how to appraise CAM research and how to apply that knowledge effectively in their practice. Further, because CAM practitioners may be the most appropriate individuals to conduct culturally appropriate CAM research, research is required to understand how best to teach busy practitioners the necessary research skills.

At the same time, conventional practitioners need to be educated about CAM: many patients ask them about CAM alternatives, and these practitioners may recognize potential CAM–conventional medicine interactions. Research is needed to evaluate different models of integrating CAM education into already-packed conventional medical training programs.

Last, the provision of research-based information to the public, practitioners and policy makers must be a priority. Research is needed to understand the types and formats of information that each group prefers and to develop and evaluate information provision strategies.

However, knowledge transfer is more than simply the dissemination of research findings. It should also include dialogue with the users of knowledge (i.e., patients, practitioners and policy makers) to ensure that the questions researchers ask are relevant to real-world problems and that programs of research are designed to provide the information needed for decision-making. For example, information from research projects designed to assess the rate and types of adverse events associated with acupuncture in an unregulated jurisdiction, compared to those in a jurisdiction where acupuncture practice is regulated, would be very useful to policy makers trying to decide whether to regulate acupuncture. IN-CAM provides a forum for policy makers, decision-makers and practitioners to share research questions and results. It is the opportunity for dialogue, and for connecting people asking questions to people who may have answers (or at least the skills to find answers), that makes a research network so important.

## Discussion

Clearly, there is a wealth of CAM research questions waiting to be answered. Several groups of IN-CAM researchers have begun some of this much-needed work. For example, to address the methodology priority research area, one group of IN-CAM researchers is leading a team to develop an outcome measures database (funded by the Lotte and John Hecht Memorial Foundation) that may be used to identify and

assess CAM benefits reported by patients and practitioners. This database will capture conventional physical outcome measures such as pain, nausea, sweats and fatigue, but also others that appear to be more CAM intervention-specific, such as global sense of well-being (e.g., Arizona Integrated Outcomes Scale) (Bell et al. 2004), emotional well-being, personal transformation (Mulkins and Verhoef 2004) and social outcomes (i.e., feeling of connectedness). It is hoped that researchers around the world will be able to use this outcomes database to compare outcomes of CAM interventions and design more relevant ones. Then, debate on the best use of public funds for CAM can proceed in an informed manner.

Another group of Canadian researchers is involved in an ongoing CAM knowledge transfer project called the “CAM in Undergraduate Medical Education (UME) Project” (University of Calgary 2006). The broad objective of this project is to develop and maintain a curriculum addressing CAM that is appropriate for introduction into Canadian UME programs. The curriculum will address CAM-related issues of greatest relevance to physicians practising in Canada, and will be sufficiently flexible to accommodate the differing needs and circumstances of individual Canadian medical schools.

Other initiatives focusing on the transfer of (free) CAM knowledge include CAMline (2005), the Canadian Health Network (Public Health Agency of Canada 2006) and PasseportSanté.net (2006), which offer evidence-based information about CAM products and therapies to healthcare practitioners and the public in English and French, respectively. By summarizing and categorizing the evidence, these services can be used by patients and practitioners alike in decision-making about CAM.

These are just some examples of CAM research undertaken in Canada to address the most pressing and relevant research questions for policy makers. It is hoped that through targeted initiatives such as IN-CAM, more interdisciplinary research teams may be formed to address other questions outlined in the proposed research agenda.

The research agenda presented here focuses on the need to inform healthcare system development and policy issues. To fulfil this research agenda, it will be important for CAM researchers and practitioners to work together with conventional health researchers and practitioners.

## Conclusion

CAM is no longer particularly “alternative,” given that at least half of all Canadians are using it. How can CAM products and therapies, including their unique philosophical underpinnings, be harnessed to increase the health of individuals and communities? How can CAM be integrated with healthcare initiatives such as the reorganization of primary care that is ongoing in many provinces? These are questions that require our attention as researchers, clinicians, policy makers and Canadians. The Canadian CAM research community, through targeted initiatives such as IN-CAM, has developed a

socially, culturally and economically sensitive CAM research agenda that will address these and many other questions, in order to enable an accountable, integrated and sustainable healthcare system.

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#### NOTES

1. IN-CAM's Advisory Board is composed of researchers and healthcare practitioners (both CAM and conventional).
2. The practice of acupuncture is regulated only in British Columbia, Alberta and Quebec.
3. Herbal medicine and homeopathy are not currently regulated in any Canadian jurisdictions.
4. Integrative healthcare has many definitions; we define it as the combination of the "best" of both conventional and CAM care guided by a patient-centred approach.
5. See [http://www.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/index\\_e.html](http://www.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/index_e.html).
6. "Whole systems of care" have been defined as "approaches to health care in which practitioners apply bodies of knowledge and associated practices in order to maximize the patients' capacity to achieve mental and physical balance and restore their own health, using individualized, non-reductionist approaches to diagnosis and treatment. In whole systems the practitioner-patient relationship plays an important role and continues to evolve over time. Examples of whole systems of healthcare include: Traditional Oriental (or East Asian) Medicine, Naturopathic Medicine, Homeopathy, Integrative Medicine, Ayurveda, various Indigenous Health systems and many others. Biomedicine may also be considered as a whole system of care" (Ritenbaugh et al. 2003: 33).

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### Discussion and Debate

The Discussion and Debate section of *Healthcare Policy* offers a forum for essays and commentaries that address: (1) important health policy or health system management issues; or (2) critical issues in health services and policy research. Submissions should be a maximum of 2,000 words exclusive of (no more than 20) references. The main points of the paper should be highlighted in an abstract (summary) of 100 words or less.

## Appel aux auteurs

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