

Education Section

Finding the Evidence in CAM: a Student's Perspective

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This commentary offers a future health care provider's perspective on the role of complementary and alternative medicine (CAM) in Western (namely, in US) medical education and practice. As a student of both public health and medicine in the United States, Jeffrey Ghassemi is interested in CAM's contribution to improving medical practice and teaching. The commentary highlights the ambiguous definitions of CAM to Westerners despite the rising popularity of and expenditures for alternative modalities of care. It then argues for collaboration between alternative and established medical communities to ascertain the scientific merits of CAM. It concludes by calling for a new medical paradigm that embraces the philosophies of both communities to advance education and patient care.

Keywords: CAM use – Evidence Based Medicine – Complementary medicine – Integrative Medicine – East-West Medicine – Traditional Chinese Medicine – Herbal Medicine – Mind/Body Medicine – Meditation

Evidence and CAM

Evidence—in medicine, as in life—is essential for guiding decisions. Complementary and alternative medicine (CAM) should not be exempt from this rule. Just as the biomedical model (i.e. 'conventional' or 'allopathic') necessitates experimentation and data evaluation in determining effectiveness, so too should CAM modalities undergo the rigors of Western scientific testing.

As a student of both public health and medicine in the United States, I am interested in what works and what does not in medical practice. Through this paper I discuss CAM as a serious practice having much to offer the biomedical approach to patient care. After evaluating CAM's diffusion and status, specifically in the United States, I then advocate for improved cooperation between alternative and biomedical camps to enhance medical education, research and, of course, practice. Ultimately, I believe that the practice of medicine will benefit from an integrative system, whereby evidence-based CAM (*eCAM*) and biomedical therapies work in concert to improve the quality of patient care.

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Finding Meaning for 'CAM'

'Alternative' and 'complementary' in the context of medicine are tricky words meaning something different to different people (1). To the lay public, CAM may be an esoteric body of healing methods taught in some far-off 'Eastern' land. To health care organizations and professionals, it is typically perceived as a practice neither widely taught at US medical schools nor generally available at US hospitals (2). And to insurers, CAM may be quickly reduced to a set of services that are not reimbursed by a health plan.

Still, defining such simply as Eastern medicine (despite its predominant origins in Asia) or by what it is not is incomplete. Whether truly 'alternative', CAM is best characterized by its core philosophy: a steadfast belief in holism and the interpenetration of mind, body and spirit. Such infuses itself into the many practices deemed alternative today, including acupuncture, chiropractic, herbal healing, traditional Chinese medicine and meditation (3).

Popularity and Concern for CAM

CAM is not a recent invention, but has been used and practiced among Eastern cultures for hundreds if not thousands of years. Even though, it appears that only since the last decade CAM has steadily evolved as a serious practice in Western countries,

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including France, Great Britain, Australia and Canada (4). Diffusion of CAM has also reached the United States; according to data from the National Health Interview Survey and Eisenberg *et al.* (5,6), ~36% of the US public use some form of CAM and spend an estimated \$36–47 billion, respectively, on such treatments each year. Many observers link this impressive growth to a climate of high costs, unreasonable expectations, patient–doctor distance and distrust in the established medical community.

This rising popularity of CAM in the West is the cause for celebration and concern. Many who embrace its philosophy see it as a response to the inadequacies of Western conventional medicine. The holistic, mind–body approach is comforting to those who view scientific rigidity and managed care as removing the person from the health care process. Critics, however, fear it as an invasion of bad science. On one extreme, opponents see CAM as medical quackery, science run amok and a deceptive exploitation of the placebo effect. On the other, healthy skeptics are intrigued by CAM's potential but wish to see its practices endure the same rigors of Western scientific testing. This polarization of alternative and conventional practices has created an environment where seemingly two types of medicine exist with no vision of a middle ground. But if both camps claim to offer something that the other does not, the interest of better health care would suggest some form of collaboration.

The Best of Both Worlds

Ascertaining the merits of CAM will require cooperation from both alternative and conventional medical communities. The proceedings of the 2002 International Symposium on Complementary and Alternative Medicine in Kanazawa, Japan, served as an initial step towards such cooperation (7). Kanazawa brought together scholars from India, China and Japan with Western medical experts from the United States, France, England and Germany to collectively discuss the evidence base for CAM (7). In addition to this international biomedical-alternative dialog, both communities must design clinical trials—preferably randomized—to test the scientific validity of CAM practices while at the same time respecting its inherent traditions. The results of this research will benefit medical practice, regardless of the outcome. If certain alternative practices show scientific merit, then we can expand our medical resources. If they do not, then we can dismiss unreliable techniques or even stem the threat of medical faddism or fraud.

Finding the evidence in alternative medicine may also change the way we teach and practice medicine in the US. The Flexnarian era of science-based medicine, while still a crucial approach to medical education, has failed to keep pace with developments in psychology that have emphasized the important connection of mind and body. If new discoveries in alternative medical research should bear fruit, a revised report reflecting a new mind–body paradigm in medical education will be necessary.

CAM in US Medical Schools

With reports highlighting the need for all physicians to have a basic knowledge of the complementary and alternative modalities of care, CAM instruction has increasingly—albeit slowly—entered the curricula of US medical schools. Survey data from 1998 report that 75 of 125 medical schools offered CAM electives or included CAM topics in required courses (8). This is a sign of progress, but further efforts for CAM inclusion are stymied by lack of money, lack of time and, in some cases, faculty opposition (8).

As for general student perceptions of CAM, the results are mixed. Student curiosity—expressed through student interest groups, individual efforts and student-led conferences—has surely contributed to the impetus for developing CAM in curricula (8). At the same time, inclusion of simple elective courses risks marginalizing CAM as a ‘frill’ discipline in the minds of students (8). Work presented at the 3rd Asia Pacific Conference on Evidence-based Medicine in Hong Kong indicates that biomedical training increases skepticism towards CAM among students (9). Notwithstanding this evidence, the overall picture is still unclear. Obtaining a more comprehensive understanding of the medical student perspective, therefore, will require further research.

Challenges to eCAM

This paper has so far presented optimism for cooperation between alternative and biomedical communities to advance CAM. Such, however, is checked by the inherent challenges of shaping such a paradigm. Pressure from the pharmaceutical industry, resistance from the medical establishment and scarce financial resources could all act independently or in concert to thwart CAM inroads in medical education and practice. At the research level, subjecting Eastern practices to Western scientific experimentation runs the risk of losing something—perhaps the curative elements—in translation. Overcoming these barriers will take time, careful planning and respect.

Even so, I suppose there will always remain those naysayers of CAM, who balk at the seemingly unscientific notion of mind–body medicine. However, this view of CAM as a threat to rational medicine is itself quite irrational. Those who call themselves students of science should not betray their own principles of rationality by casting judgment on a practice before considering all the evidence. In other words, they should wait to criticize CAM until it undergoes the appropriate research and testing.

Future Strategies

The emergence and diffusion of CAM will have implications for medical education, research and practice. Accordingly, future steps towards a cooperative biomedical-alternative paradigm must address these areas. For medical education, the growing patient base for CAM will require students to be versed in various alternative approaches. Wetzel *et al.* (8)

propose practical steps for inclusion of CAM in medical education, including the establishment of a core CAM curriculum. While deciding how to best fit CAM in classroom though schools must commit to teaching a 'single' medicine (8). Medical education should incorporate the most evidence-based information and therapies irrespective of their origins in biomedicine or CAM. Institutional and student support will push forward this agenda. In the end, the goal of education is to produce doctors who are informed of the wide gamut of CAM and allopathic treatments and may help their patients through a more open-minded practice of medicine (8).

Advancing CAM through education should also produce improvements in medical practice. While waiting for a broader evidence base for CAM to surface, the allopathic medical community could stand to gain by incorporating some of the philosophical aspects of alternative medicine, such as holism, in everyday practice. The importance of bedside manner, for instance, is a small but effective way to treat the patient as a whole being. In addition, allopathic medicine's increased focus on matters of diet, stress and other factors beyond the physical realm go to show that CAM-based approaches are not incompatible with conventional medicine (10). Thus, conventional medicine can be practiced in a holistic way (10).

Above all, further effectiveness research is imperative to achieving *eCAM*. As previously mentioned, randomized controlled trials of CAM modalities conducted by both allopathic and alternative scholars is the crux of this goal. Scientific studies of CAM will be of benefit to CAM and conventional believers alike, and generate the evidence necessary to persuade skeptics of its potential value. Without such testing, neither the allopathic doctor nor the CAM practitioner will know for sure whether an untested and unproven therapy works (10).

Final Thoughts

As a student of the medical sciences in the US, I would like to acquire the tools for effective patient care. I am not concerned

with the divisive labels of 'alternative' or 'conventional', but I am concerned with what the available evidence shows to work. An evidence-based approach would offer the critical thought needed to advance CAM in the West, if not the world (11). *eCAM* has the potential to change biomedical education, research and practice for the better. Therefore, finding and publicizing evidence on the merits of CAM should be a priority regardless of one's stance on the issue.

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