

# Commentary

## The majority view of ethics and professionalism in alternative medicine

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The National Center for Complementary and Alternative Medicine defines **complementary and alternative medicine (CAM)** as “a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.”<sup>1</sup> The eclectic group of therapies under this catchall phrase includes systems that offer potential benefits as complements or alternatives to conventional treatments. Despite the paucity of clinical research studies on many CAM modalities in animal subjects, the popularity of **complementary and alternative veterinary medicine (CAVM)** has grown among the public and veterinarians and veterinary schools have increased their offerings, especially in acupuncture and herbal medicine. Even as the role of therapies known as complementary or alternative has grown in veterinary practice, a small but vocal group of skeptics has increasingly criticized the ethical basis on which CAVM is practiced. However, the reality about CAVM is more complex than these skeptics allow. In this article, we address a number of the objections and misconceptions about CAVM.

### The Attack on CAVM

What is CAVM?—Many critics write as if the term CAVM encompasses a set of therapies with some unifying trait. In fact, the term CAM encompasses various modalities that have no historical, theoretical, technical, or scientific unity.<sup>2</sup> Complementary and alternative medicine is a political term signifying diverse modalities that have traditionally been rejected by orthodox biomedicine and thus are unified only by their exclusion. Much of the literature critical of CAVM misunderstands the nature and diversity of CAVM. Ramey,<sup>3</sup> for example, writes that “notions of standardization, appropriateness, and standard of care, which are inherent in developing and applying professional regulations, are antithetical to CAVM, which considers many different and unrelated practices as appropriate and encourages different belief systems and divergent theories about the nature of health and disease.” Such statements are wrong on a

number of counts. First, they treat CAVM as if it is a single entity that can be characterized. Second, there is nothing about standardization, appropriateness, or standard of care that is antithetical to CAVM systems, many of which do have clearly developed standards of care. Finally, the claim that encouraging different belief systems and divergent theories about the nature of health and disease is undesirable fundamentally misunderstands the nature of scientific progress and the crucial role of challenging scientific precepts. Some of our most important scientific advances began with thinkers who challenged basic scientific assumptions only to be labeled charlatans and to be dismissed by colleagues. Complacency is the death knell of science.

Acupuncture, for instance, has been practiced and refined in Asia for over 2,000 years, and on animals for over 1,500 years,<sup>4</sup> and has a complex and internally consistent set of techniques and understandings of the body. In human medicine, it requires six years of training and an apprenticeship to become an acupuncturist in China. Massage, spinal manipulation, and skeletal adjustment also have evolving theoretical and technical bodies of knowledge based on observation, empirical evidence, clinical case studies, and conventional scientific research. Complementary and alternative medicine includes complex and sophisticated modalities that rest on years of empirical science, even if many come late in their development to the double-blind controlled studies favored by modern medicine.

**Criticisms of CAVM**—Complementary and alternative medicine has generally been criticized in the past for things such as poor quality research, reliance on the placebo effect, misdiagnoses, and the fact that many of the conditions studied are self-limiting. The main political and ethical arguments against the use of CAVM by veterinarians are as follows<sup>3</sup>:

- CAVM challenges the concept of standards of care.
- CAVM challenges the notion that the health care of animals is the sole purview of veterinarians.
- CAVM may not be veterinary medicine and, as such, may be outside the regulatory domain of veterinary state boards (leaving herbal medicine, for instance, to be practiced by lay and certified human herbalists).
- Veterinarians have an obligation to provide effective treatments; therefore, it is unethical to provide treatments that lack systematic research studies published in the orthodox literature.

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- It is insufficient for veterinarians to claim knowledge of effect or a therapeutic mechanism only on personal experience.
- It is unethical to charge for any service or product beyond that which has been proven, and prescribing unproven treatments is purely monetary in motivation.

A number of unexamined assumptions, misunderstandings of the nature of CAVM, and generalizations characterize this list of criticisms. Although there is also truth in some of these points (CAVM does have some challenges that differentiate it from conventional medicine), a similar list of criticisms of conventional medicine could also be made from which one would not conclude that conventional medicine should be avoided. Before systematically examining the criticisms, it is important to understand why the attack on CAVM is happening now. The increased interest in CAVM among clients has brought CAVM treatments into public and scientific scrutiny, and at times, conventional treatment suffers in comparison. For instance, veterinary clients may have a different relationship with a holistic veterinarian,<sup>a</sup> compared with a traditional veterinarian who may offer quality conventional medicine but whose short appointment times or lack of training in additional therapies limit the depth of the medical assessment and personal interaction. The strong relationship that is often forged by holistic veterinarians and their clients should not be a source of criticism; rather, it should serve as a model for the importance of delivering the kinds of care veterinarians should provide.

### Proof and Shifting Goal Posts

**(Double) standard of care**—Although veterinarians tend to believe that most of their therapeutic interventions are proven, evidence-based assessments of typical veterinary practices suggest otherwise. Only about 37% of medical interventions are supported by randomized controlled trials.<sup>5</sup> That is just over a third of all treatments, yet critics persist in describing CAVM as unproven, whereas the rest of veterinary practice is characterized as proven. In addition, studies show a mean of 76% of interventions are supported by some form of compelling evidence. However, the nature of that compelling evidence could just as easily apply to various CAVM modalities. Although a dispassionate examination might find a greater number of modalities in conventional care fitting an ideal standard of scientific evidence, the difference is one of degree not kind.

**Interpreting studies**—Historically, it was difficult for researchers wanting to do traditional scientific studies on CAM to get funding and their articles were often rejected from traditional journals even when fulfilling the criteria for scientific rigor.<sup>26</sup> However, hundreds of studies of CAM and CAVM have already been published. A search of MEDLINE reveals over 5,600 articles on acupuncture (over 1,000 on animals), thousands of which are controlled trials. Clearly, the claim that those interested in CAM are not interested in scientific scrutiny is untenable. As with many other fields of medicine where practitioners have entrenched ideas about cause

and treatment, the results are often controversial and are open to interpretation. In a 1998 review of studies<sup>7</sup> of homeopathy in animals, for example, three studies indicated some improvement had been observed; seven studies were not interpretable; and in six studies, the animals' condition worsened or had not changed. A meta-analysis of homeopathic studies of human subjects,<sup>8</sup> which looked at over 100 reports, concluded that homeopathic remedies may have efficacy beyond that of placebo but more high quality trials are needed. The Cochrane Collaboration database of rigorous reviews for selected therapies tends to provide equitable assessments. For instance, the conclusion regarding homeopathic treatment of asthma states that there is insufficient evidence to "reliably assess the role of homeopathy in the treatment of asthma."<sup>9</sup> Skeptics, however, still commonly claim that homeopathy has been disproved, ignoring the controversy and selectively citing the articles with less favorable findings.

At the same time that critics claim there is no research and that advocates do not want research, they also claim that there is plenty of research that has shown that alternative modalities do not work. "Thirty years of active acupuncture research have failed to unequivocally demonstrate its clinical efficacy in human medicine," write Ramey and Rollin.<sup>10</sup> A carefully selected panel of nonfederal, nonadvocate researchers and acupuncture experts appointed by the **National Institutes of Health (NIH)** apparently disagree, as the NIH released a consensus statement<sup>11</sup> that reviewed the voluminous literature on acupuncture and concluded unequivocally that acupuncture worked for a variety of conditions including adult postoperative and chemotherapy nausea and vomiting, postoperative dental pain, addiction, stroke rehabilitation, headache, menstrual cramps, tennis elbow, fibromyalgia, myofascial pain, osteoarthritis, low back pain, and carpal tunnel syndrome. Well-designed clinical trials in animals appear in the veterinary literature, and some show clear evidence of the antinociceptive effect of acupuncture and suggest mechanisms by which it occurs.<sup>12-16</sup> Reviewers who are true experts in the field of pain control continue to study acupuncture in an open-minded manner.<sup>17,18</sup> Critics tend to dismiss the NIH consensus report as opinions of acupuncture advocates, which is somewhat like claiming that a panel that examines voluminous evidence and concludes that morphine works are morphine advocates.

Another basis for dismissing unproven therapies is the plausibility theory. Homeopathy, for instance, is claimed to work via subtle energies; indeed, the production of certain homeopathic remedies renders them empty of any of the original solute for which they are named. Skeptics claim that since we do not understand how this might work, it does not work. This theoretical plausibility criterion is deeply flawed. Assuming a prior probability of zero does not evaluate the evidence on its merits. Predicting plausibility on the assumption of scientific coherence is theory-based, and our present knowledge may not be sufficient to judge which claims may turn out to be true.<sup>19</sup> Medical history is replete with therapies that were thought to be ineffective because of skepticism about the mechanism; in fact, research offers

a strategy (outcome studies) so that a therapy can be tested independent of its means of action. Despite all attempts to discredit homeopathy, a number of well-designed outcomes studies have found improvement induced by homeopathic remedies over placebos.<sup>20</sup>

The American Veterinary Medical Association recommends producing scientific knowledge to support the efficacy of these newly adopted therapeutic systems. However, practitioners of these treatments generally are not researchers; few research institutions have encouraged research into CAVM; and until recently, funding for research in veterinary acupuncture, herbal medicine, homeopathy, chiropractic, and other alternatives has been scarce. Recent interest in CAVM has inspired research initiatives, but to expect the relative paucity of published studies to have reversed in three years, or even ten years, is overly optimistic.

Philosophers of science, spearheaded by innovators such as Kuhn and Feyerabend,<sup>21,22</sup> have recognized that the unity of science espoused by those trying to defend scientific dogma is an illusion. They conclude that, despite the myth that many scientists hold, there is no common methodology in science and that diversity makes science progress more quickly.

### **Ethics of Using Unproven Methods and Products**

Ramey and Rollin<sup>23</sup> have stated that veterinarians are expected by society and have a moral and ethical obligation to provide therapies with proven efficacy. They claim that veterinarians who defend or advocate unproven therapies undercut scientific authority and embrace a free market model of medicine and that public trust granted on the promise of scientific knowledge is undeserved. They also claim that society “expects medical professionals to be science-based and has been willing to surrender its personal autonomy to medical authority as a result of such expectation.”<sup>23</sup>

The claim that the public “surrenders its personal autonomy to medical authority” is shocking in 2005. The progression of modern medical care has been away from this paternalistic model toward one that sees practitioners, patients, and clients as partners in care and rejects the deified role of the medical practitioner that such a statement implies. People do not surrender judgment but turn to their practitioner as a trusted consultant because of perceived expertise in medicine based on clinical experience and an empirical knowledge base as well as scientific training. The human medical profession has clearly recognized the obligation to respect the patient’s wishes and beliefs and be a partner in delivering care.<sup>24</sup> The assumption that the public is not educated or sophisticated enough to make judgments about what is best for themselves or the animals in their care is no longer tenable in the age of the Web and access to instant information.

The population of people seeking alternative therapies is different from those attending general practices. They know that CAM has been marginalized by the profession, and they seek it anyway (and even sign informed consent forms). Second, many explore CAVM options because conventional medicine has failed to

improve the health of their animals. Conventionally trained veterinarians who provide alternative practices believe we have an ethical obligation to present every safe and potentially effective option to help these clients decide on the practices most likely to help their animals.

The American Medical Association adopted a new “Declaration of Professional Responsibility: Medicine’s Social Contract with Humanity”<sup>25</sup> in 2001 to reaffirm the covenant medicine has with society. It states, “Work freely with colleagues to discover, develop, and promote advances in medicine and public health that ameliorate suffering and contribute to human well-being.” There are many ways to alleviate suffering, and they are not defined by any particular number of peer-reviewed articles nor do they conform to some majority scientific opinion about etiology or treatment philosophy. Medical knowledge derived through scientific methods must be combined with the art of alleviating suffering to bring the most comprehensive treatment to those in our care.

### **Are There Different Standards of Regulation for Alternative Therapies?**

Justification for regulatory exceptions to some CAVMs has been detailed elsewhere.<sup>26,27</sup> Manual therapies, such as chiropractic and acupuncture, cannot be patented and therefore have little funding base for research. Prejudice against them has kept them out of academia; thus, they have not all developed research cultures. For these and other reasons, provision of CAVM by lay or veterinary practitioners requires different thinking than trying to regulate or patent a new surgical technique.

Unpatentable herbs and nutraceuticals also do not have a champion in the way novel drugs do. Herbal medicine is democratic in many ways; it has been the province of wise women and folk healers for millennia. The field of ethnobotany (whose practitioners are often employed by leading pharmaceutical companies) is dedicated to exploring indigenous groups’ knowledge of herbs. Standards must be kept and efficacy eventually proven through research. However, practitioners have the right, and sometimes the obligation, to provide these time-tested treatments to our patients.

### **Nonveterinarians Practice Alternative Therapies**

It has been claimed that because CAVM therapies are unscientific, veterinary expertise is not needed to apply them. Nonveterinary CAM is not directly translatable to animals. Lay acupuncturists, chiropractors, massage therapists, herbalists, and homeopaths trained in human medicine receive no instruction in the differences in animal physiology and anatomy. Therefore, it is inappropriate to open the doors for lay practice of these veterinary treatments without veterinary supervision or extensive veterinary training. The Veterinary Botanical Medicine Association, for instance, certifies lay herbalists only as educators, acknowledging their superior knowledge of herbs as teachers for veterinarians, who should remain the gatekeepers. The veterinary profession should support trained CAVM providers to

ensure accountability in the practice of these valuable therapies.

### **The Process of Certification**

It has been claimed that certification in CAVM is meaningless because there are no objective standards to base certification on.<sup>3</sup> It has even been claimed that certification is used fraudulently simply to attract pet owner dollars. Professionalism, however, occurs when those knowledgeable in an area come together and begin to define and restrict the practice, a process that increases accountability to consumers. This process has occurred in many medical specialties (in veterinary behavior and dentistry the argument that veterinary training is not necessary might apply equally). The steps in forming a profession have been described as including agreement on the identity of the practice, establishment of training programs, codification of knowledge through special education and core curricula development, self-regulation and social closure through limiting the number of practitioners, and the alignment of the profession with the scientific paradigm.<sup>28</sup>

The certification process is rightly guarded by those in possession of special knowledge, which should not be judged by those with little knowledge of the field. The charge that certification is simply a marketing tool is disingenuous, if not dangerous, implying that special knowledge does nothing to increase efficacy or safety for animals. Certification of knowledgeable practitioners is indeed the public's best protection.

### **Standard of Care Based on Proof**

Contrary to claims of critics, many CAVM modalities have agreed-upon standards of practice. The empirical evidence base and consensus among modern practitioners are the result of centuries of practice, and although this accumulated experience is no substitute for well-designed studies, it hardly leaves room for arbitrary choices on the part of an individual practitioner. Systems of CAVM (acupuncture, herbal medicine, Ayurvedic medicine, and others) are highly evolved and technically sophisticated medical practices, and there is no more arbitrariness about them than there is in biomedicine, which itself has enormous variation in individual practice. Ultimately, educational standards and peer review help to establish how practitioners make clinical decisions.

Regulatory boards do not determine standards of practice in any aspect of veterinary medicine. Practitioners of CAVM therapies will determine standards of care that, like standards in conventional medicine, will change over time as scientific scrutiny improves our knowledge base. The standards should be developed by experts in each area on the basis of practitioner experience and, ultimately, supporting science.

Specialties have been integrated into veterinary medicine when proof and acceptance accumulate (perhaps at different times, as in behavioral medicine). Students are taught general principles of surgery, but board-certified surgeons generally are the ones who deal with very difficult surgical cases or develop new techniques. By the same token, those herbal treatments

that are simple to apply and become well accepted will be used by the profession after proof accrues, but the more difficult applications and exploration of new treatments will always rest with the recognized veterinary herbalists.

### **Reasons Why the Public Uses Alternative Therapies**

Critics contend that consumers use alternative therapies only in response to alluring claims, because of psychosocial distress in response to serious medical conditions for which there are no cures, out of need for a sense of control of their disease where alternative therapies give them something to do, and out of the fear of death and disease.<sup>3</sup> It should be noted that almost all of these are reasons patients seek conventional medicines as well.

Fear and hope lead clients to try new and different conventional or alternative therapies. People are empirical. They judge whether the modalities they use work on the basis of their experiences. Critics of alternative therapies frequently consider this kind of experience invalid, but empirical knowledge is critical to almost all personal and professional decision making, especially where scientific support is unavailable. Given that only a modest percentage of conventional medicine has double-blind studies to support it and that much of the time it fails to deliver the results it hopes for, it is equally valid to suggest that people try conventional medicine for the same reasons they try CAVM.

The skeptical view of CAVM is a paternal one that has contempt for lay judgment, suggesting that clients and patients choose to investigate CAVM therapies only because they are misguided or desperate. An attitude of dismissiveness or unwillingness to discuss all available alternatives with a pet owner violates the owner's right to full disclosure and encourages the owner to seek care without the veterinarian's knowledge.

### **Ethically Acceptable Practice**

Adams et al<sup>29</sup> propose a number of ethical obligations when considering alternative therapies. Adapting their model to veterinary medicine, one must first consider the severity or acuteness of the illness and its curability by evidence-based treatment. One should then look at the invasiveness and toxicity of the alternative treatment, compared with the conventional treatment, and consider the availability and quality of evidence of utility and safety of the alternative. Finally, ethical use of CAVM depends on the level of the client's understanding of risks and persistence in intention of using CAVM once the client understands and accepts the risks. Of course, when the client has financial limits, the costs of the treatments are also important in veterinary care.

Ethical veterinarians have a responsibility to understand aspects of major alternative therapies, be open to discussion, be willing to research client questions about these therapies, and be willing to refer to a knowledgeable colleague. They must not abandon care of a patient because of the owner's decision to use CAVM.<sup>29,30</sup>

## Conclusion

Complementary and alternative veterinary medicine is an eclectic group of therapies, and trying to accept or reject CAVM as a category may lump effective and better proven therapies with unvalidated, unproven, and radical therapies. In reality, there is no such thing as CAVM versus conventional veterinary medicine; there are only effective and ineffective therapies. Labeling a diverse group of therapies CAVM so that one can dismiss them wholesale does no service to veterinary medicine or the animals it treats.

Science has social and political obligations, and the apparent unwillingness of most researchers to actively investigate alternative theories speaks to a general disregard for the interests of society, considering the popularity of many alternative therapies. Even if alternative systems of thought present us with treatments that have no easily understood scientific rationale, the traditions that support these treatments lend us some basis from which to begin study, and given their popularity, outcome studies would at least show whether the claims of advocates have validity.

Clearly, those who question the ethics of using unproven therapies need to reconsider their positions. We treat individuals, not a typical patient or a population. Difficult diseases or patients with unusual conditions may be well served by therapies now considered as CAVM. It is time to stop dismissing all CAVM modalities on the basis of what the most extreme and radical practitioners recommend and practice (one could easily do the same with conventional therapy). Individual therapies should be evaluated on their merits. Practitioners of these therapies are clinical innovators who use their scientific knowledge to evaluate and bring new and old medical therapies into their practices to help relieve the suffering of animals.

- a. Holistic veterinarians are those who offer all promising therapies (both conventional and alternative) that are safe and potentially effective; assess and treat the whole patient's lifestyle, genetics, environment, and history; provide prevention and long-term relief where possible; and who spend sufficient time educating clients so that animal owners are satisfied that they understand their animal's condition, prognosis, and treatment plan.

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