

Letters to the Editor

Pragmatic versus philosophical evaluation of complementary and alternative medicine

We read with interest Dr. Brennen McKenzie's¹ careful exposition of the contrasts between the philosophical features of complementary and alternative medicine (CAM) and those of evidence-based medicine. However, we worry that given the complexity of such discussions, it may be too easy to miss the central and rather simple point: practitioners of CAM claim that the therapies they use have specific effects in the real world. As such, the validity of these claims can be tested by comparing the effects in the real world of applying the chosen CAM therapy with the consequences of not applying it. Stripped to its bones, this is the controlled trial. For practical purposes, the CAM therapy can be considered to be a black box, and we do not need to know or care what is inside it. We know its inputs and are interested in discovering its outputs. Regardless of whether a therapist claims to manipulate unseen life-force energies, correct undetectable imbalances in the flow of qi, or realign theoretical vertebral luxations, if the therapy cannot be shown to have an effect in the real world, we can lay that therapy aside without needing to decide further as to the validity of the postulated mechanism of action. In particular, we do not need to determine whether the postulated mechanism simply does not exist or exists but is ineffectual; instead, we can simply decide to ignore it.

In our opinion, appeals to the philosophical basis of CAM can too often be used to obscure the simple and reproducible fact that such therapies do not work. The single most important outcome of the billions of dollars of research funded by the National Institutes of Health National Center for Complementary and Alternative Medicine is the revelation that almost nothing that

has been studied had any reproducible effects on patients.

It also bears repeating that holism is not a special feature of CAM. Any good medicine is holistic medicine because good medicine takes into account all aspects of a patient's life. In fact, in our experience, some of the least holistic practitioners we have come across are adherents of particular CAM therapies who seem to apply their chosen modality regardless of the particulars of a case and often in the face of an ongoing failure to achieve any benefits. This was highlighted in a 2006 undercover investigation² in the United Kingdom during which an individual posing as a student about to travel to West Africa contacted 10 homeopaths in and around London to ask about homeopathic alternatives to conventional antimalaria tablets. According to the report, 7 of the homeopaths not only failed to ask about the patient's medical background but even failed to offer general advice about preventing mosquito bites.

We agree with Dr. McKenzie that there cannot be two types of medicine: conventional and alternative. As we see it, there is medicine that has been proven to work, medicine that has not yet been tested, and medicine that has been proven to not work. In our opinion, CAM consists mostly of the last and some of the middle category.

Finally, it appears to us that there has been a concerted ef-

fort to bring CAM into the fold of conventional medicine through the use of the term integrative medicine. In our opinion, this will not make medicine better. As Dr. Mark Crislip wrote in a blog post, "If you integrate fantasy with reality, you do not instantiate reality. If you mix cow pie with apple pie, it does not make the cow pie taste better; it makes the apple pie worse."³

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1. McKenzie BA. Is complementary and alternative medicine compatible with evidence-based medicine? *J Am Vet Med Assoc* 2012;241:421-426.
2. Singh SL. Homeopathy; what's the harm? Available at: www.1023.org.uk/whats-the-harm-in-homeopathy.php. Accessed Sep 20, 2012.
3. Crislip M. Perpetual motion: more on the Bravewell report. Available at: www.sciencebasedmedicine.org/index.php/perpetual-motion-more-on-the-bravewell-report/. Accessed Sep 20, 2012.

The author responds:

I certainly agree that holism is a feature of all good medicine, not a unique attribute of complementary and alternative veterinary medicine. And, clearly, efficacy

Instructions for Writing a Letter to the Editor

Readers are invited to submit letters to the editor. Letters may not exceed 500 words and 6 references. Letters to the Editor must be original and cannot have been published or submitted for publication elsewhere. Not all letters are published; all letters accepted for publication are subject to editing. Those pertaining to anything published in the *JAVMA* should be received within one month of the date of publication. Submission via e-mail (JournalLetters@avma.org) or fax (847-925-9329) is encouraged; authors should give their full contact information, including address, daytime telephone number, fax number, and e-mail address.

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demonstrated in controlled clinical trials is the best and most important test of a therapeutic approach. Most complementary and alternative veterinary medical practices either have not undergone this testing or have failed to convincingly demonstrate meaningful benefits when they have. To be fair, the clinical trial evidence base is less than ideal for many conventional practices as well.

On the other hand, I do believe that the theoretical foundations for a proposed intervention are relevant to how we approach investigating it. If what is inside the so-called black box turns out to be an extension of well-established scientific principles, there is good justification for putting the treatment to the test of clinical research, although of course, it still might fail.

But if the black box for a particular practice contains a proposed mechanism that is incompatible with well-established scientific principles and if the theoretical mechanism can be true only if we drastically revise or completely overturn our current understanding of physics, chemistry, and biology, then subjecting the practice to clinical testing seems unlikely to provide any useful information. Given the limitations in funding and other resources for clinical trials in veterinary medicine, it seems irresponsible to spend very much of our research capital on such approaches, especially in light of the poor return associated with the billions in research dollars the National Center for Complementary and Alternative Medicine has spent on complementary and alternative medicine research.

Importantly, if the theoretical foundations of a particular approach to medicine are incompatible with the epistemology of

science, the results of any scientific study of that approach will simply be ignored or used to obfuscate the evaluation of that practice. This will not lead to better understanding or more effective treatments.

Individuals and groups committed to complementary and alternative veterinary medicine are free, of course, to test them scientifically. And if they turn up robust evidence for meaningful benefits, then independent investigators certainly should take notice and try to replicate these results. But as a profession, I think we best serve our clients and patients by putting our energies into new and reasonably plausible ideas rather than vitalist theories that are not falsifiable or that have already failed to develop supporting evidence despite a long history of use and study. And clearly, as Drs. Baker and Baker point out, integrating such treatments with scientific medicine in the absence of strong supporting clinical trial evidence seems at least as likely to diminish the quality of care we provide as to enhance it.

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Animal welfare and business interests are not incompatible

I am responding to the recent letter to the editor by Drs. Teachout and Schrader concerning legislative efforts to prohibit undercover or unauthorized videotaping of private businesses.¹ As a food animal veterinarian, I am a strong advocate for animal welfare and do not condone the abuse of any animal.

I firmly believe that it is possible to support legislative efforts to protect businesses while still advocating for the well-being and humane treatment of food animals

and would argue that the acts of violence toward and abuse of animals seen on previous undercover videos are not in fact representative of the food animal industry in the United States. I would also agree that the food animal industry has a problem because even a single act of violence or abuse is one too many. The question is how best to solve this problem.

Unauthorized undercover videos are made in a deceitful manner. I wonder how many small animal veterinarians would find it acceptable to have an animal rights activist lie on an employment application, accept a position in the practice, secretly videotape everything that was done in the practice, and then edit the video to produce the most visceral responses from the viewers. The only thing the Iowa legislation does is restrict deceitful, unauthorized videotaping by such activists.

There are other means of preventing abuse of farm animals besides undercover videos. Educating producers, promoting veterinary oversight on farms, and vigorously prosecuting individuals found to be abusing any animal are some of the paths we can take to improve farm animal welfare.

I am a food animal veterinarian because I love cows and I enjoy working with farmers. It is a fact that my patients all die so that I can consume the products they produce. I consider this a noble cause, to provide safe and nutritious food for those who desire it.

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1. Teachout D, Schrader L. Veterinarians should stand against legislation that protects animal abusers in agriculture industry (lett). *J Am Vet Med Assoc* 2012;241:690.