

## Chapter 98

# Open Source Approach for Mitigating Misinformation Risk in Complementary and Alternative Medicine Practices

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### ABSTRACT

*Patients and health maintenance organizations are spending approximately \$47 billion annually on innovative alternative medical techniques such as aromatherapy, biofeedback, chiropractic manipulation, homeopathy and others. Health insurance companies, drug regulation agencies, medical practitioners and educated patients are demanding more reliable information concerning these alternative medicines and complementary processes. While these approaches have been successful, the community of stakeholders is demanding scientifically proven, evidence-based validation of the materials and practices. Validation is essential to formalize the use of alternative medicines and complementary treatments. However there are very few peer reviewed journal articles and a lack of approval methodologies in this field, which may be related symptoms. Another key problem is the lack of accurate knowledge about the proper diagnosis-treatment match. This may result in negligence risk for practitioners or opportunity lost risk for patients who miss access to a potential remedy. The open source approach evolved in the information technology field out of the free public software movement, which has been effective for knowledge creation, collaboration and sharing across disciplines and cultures. For example, the authors all have free Internet browsers and utility software. Therefore, the authors investigated applying the 'open source' ideology as a potential methodology for solving these problems. They developed an alternative medicine knowledge development framework to facilitate creating, collaborating on, and sharing innovations in the field.*

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## INTRODUCTION

Complementary and alternative medical treatments are a poorly understood and often overlooked resource for challenging health problems. There have been many attempts at defining complementary and alternative medicine and we think the following definitions are relevant to our discussion.

The National Center for Complementary and Alternative Medicine (NCCAM) defines complementary and alternative medicine as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine” (“Complementary, Alternative, or,” 2012). Conventional medicine (also called Western or allopathic medicine) refers to medicine that is practiced by medical professionals like an M.D. (medical doctor), a D.O. (doctor of osteopathic medicine), and allied health professionals such as physical therapists, psychologists, and registered nurses.

The definition by NCAAM also talks about the boundary between complementary and alternative medicine (CAM) and conventional medicine as “not absolute and specific CAM practices may, over time, become widely accepted.” (“Complementary, Alternative, or,” 2012). Complementary and alternative medicine is also defined, based on the traditional framework of medicine, as “diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine” (Ernst et al., 1997).

Because physicians and nurses are often not well informed about CAM, they may be hesitant to recommend it. In addition, there is need for more scientific evidence about many popular CAM treatments and the available evidence may not be published in respected medical journals.

As more and more individuals are utilizing both traditional (conventional) medicine and some combination of alternative treatments, it is certainly a

growing influence in health care today. Americans spend heavily on alternative medicine according to the first national estimate (“Americans spend \$34,” 2009), and spending continues to increase. According to recent information, “estimates of the costs of CAM to Americans range from \$34 to \$47 billion every year” (Allen, 2012). Unfortunately, many practicing physicians have minimal knowledge or experience with the existing forms of alternative medicine that are practiced today (Ernst et al., 2001).

Alternative medicines (e.g., chiropractic manipulation, relaxation training, aromatherapy, homeopathy, biofeedback) must be understood properly in terms of the types of disorders that are commonly treated with CAM, the clinical evidence for and against effectiveness, the course of treatment, risks, adverse effects, etc. (Ernst et al., 2001).

One of the common assumptions among the many consumers of alternative medical treatments is that such interventions are inherently safe (Balneaves, Truant, Kelly, Verhoef, & Davison, 2007). Though this assumption has been proven to be false, the absence of collective or substantial evidence and false claims by third parties has actually made some consumers believe otherwise (Ernst et al., 2001).

A study by MacLennan, Wilson & Taylor (2002) noted that many claims or testimonies made by third parties, who are apparently unassociated with the manufacturer, on the efficacy of alternative medicines help them to bypass ‘false advertising laws’. MacLennan also noted that these claims for efficacy and safety may be based on some short-term uncontrolled and unblinded studies and are not a match to the thorough double-blind randomized placebo-controlled trials (MacLennan, Wilson & Taylor, 2002). The false claims on safety and efficacy are mainly attributed to the unsupervised or unregulated status of the alternative medicines in countries including the U.S. (Kennedy, 2002).

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