

Reviewing the Evidence: Why Chiropractors Must Perform Systematic Reviews

David J. Brunarski, DC, MSc, FCCS(C)

In the age of evidence-informed patient choice, the patient has access to research-based information about the effectiveness of health care options and is encouraged to use this information in treatment decisions. However, [a majority of patients do not trust new research evidence](#) due to a lack of familiarity with the researchers, the media's presentation of controversy in research and a lack of trust of the health care establishment in general.¹ [Sekimoto, et al.](#), found that many health care providers are not easily persuaded by new scientific evidence, either, particularly when it suggests that their current clinical practices may lack effectiveness. The reasons for resistance to change include economic incentives, a desire to be appreciated by their patients, the difficulty in measuring placebo or psychological benefits, and a low incidence of significant side effects for most of the "ineffective" interventions.²

Studies regarding physicians' perceptions of patient expectations are the strongest predictors of treatment decisions, even when the health care provider feels that the intervention is not required. For example, [Scott, et al.](#), reported that 22 percent of prescriptions were not strictly indicated on medical grounds and approximately 80 percent of prescriptions for acute respiratory infections were influenced by patient pressure and considered to be clinically unnecessary.³

[Evidence-based practice is defined by four considerations](#): recognition of the patient's problem and construction of a structured clinical question; a thorough search of the scientific literature to retrieve the best available evidence to answer the question; critical appraisal of all available evidence; and integration of the evidence with all aspects and contexts of the clinical circumstances.⁴

However, given that there are more than 12,000 clinically relevant articles and more than 300 randomized controlled trials indexed in Medline every week, the sheer volume of evidence discourages most clinicians from even trying to ["keep up with the literature."](#)⁵

Most clinicians should appreciate by now that expert opinion, case reports, case control studies, cohort studies and non-systematic reviews rank lowest in terms of reliability, whereas systematic reviews of randomized trials and meta-analyses rank at the highest level of evidence. Systematic reviews and meta-analyses also [score the highest citation impact in the peer-reviewed literature.](#)⁶ Straus suggests [seven steps to utilizing knowledge effectively and efficiently](#) in health care settings:⁷

1. identifying the problem;
2. identifying, reviewing and selecting the knowledge to implement;
3. adapting or customizing the knowledge to the local context;

4. assessing the determinants of knowledge use;
5. selecting, tailoring, implementing and monitoring interventions related to knowledge translation;
6. evaluating outcomes or impacts of using knowledge; and
7. determining strategies for ensuring sustained use of knowledge.

Confronting this issue has increased interest in knowledge translation (Canada); implementation and science/research utilization (United Kingdom and Europe); and dissemination and diffusion (United States). Although the descriptors seem different, the commonalities have been clearly defined by the Canadian Institutes of Health Research (CIHR) and include "the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products and strengthen the health care system." The World Health Organization (WHO) and the United States National Center for Dissemination of Disability Research have embraced the Canadian definition.

Josephine P. Briggs, MD, director of the National Center for Complementary and Alternative Medicine, National Institutes of Health, reports: "Chronic pain, especially back pain, is by far the biggest reason that people turn to alternative treatments ... of the top 20 conditions for which CAM treatments are used, nine involve chronic pain ... and assessing the safety and effectiveness of these and other alternative therapies used to treat chronic pain is a major focus of NCCAM's research efforts."⁸

Knowledge may be dissected into three phases: creative (primary research), dissemination (published in peer-reviewed journals) and distillation (systematic reviews/guidelines). Systematic reviews follow a standardized protocol with pre-specified eligibility criteria that identify relevant literature through comprehensive search strategies of multiple databases to answer a specific research question. Then, at least two independent reviewers abstract the data and critically appraise each study for compliance with an explicit list of previously determined inclusion/exclusion criteria that score each study in terms of methodological quality, control of bias, interventions, outcome measures, and validity of the results.

[PRISMA \(Preferred Reporting Items for Systematic reviews and Meta-Analyses\)](#) is the recently proposed protocol for reporting systematic reviews, which has evolved from the QUOROM guideline. The 27-item checklist clarifies what is essential for transparent, unbiased reporting of systematic reviews and offers an excellent guide to doctors of chiropractic who wish to pursue this most urgent path to accurately and reliably summarize the chiropractic evidence regarding efficacy and safety of chiropractic interventions.⁹

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