

2006

Evidence-based medicine and naturopathy

Tom Jagtenberg
Southern Cross University

Sue Evans
Southern Cross University

Airdre Grant
Southern Cross University

Ian Howden
Southern Cross University

Monique Lewis
Southern Cross University

See next page for additional authors

Publication details

Jagtenberg, T, Evans, S, Grant, A, Howden, I, Lewis, M & Singer, J, 2006, 'Evidence-based medicine and naturopathy', *Journal of Alternative and Complementary Medicine*, vol. 12, no. 3, pp. 323-328.

Published version available from:

<http://doi.org/10.1089/acm.2006.12.323>

Authors

Tom Jagtenberg, Sue Evans, Airdre Grant, Ian Howden, Monique Lewis, and Judy Singer

PERSPECTIVES

Evidence-Based Medicine and Naturopathy

TOM JAGTENBERG, Ph.D., M.Sc., B.E. (Hons.), SUE EVANS, B.A., Dip. Ed., M.N.I.M.H.,
AIRDRE GRANT, B.A. Dip. Ed. M.Ed., IAN HOWDEN, B. Com., A.R.O.H.,
MONIQUE LEWIS, B.A. (Hons.), and JUDY SINGER, Dip. Applied Science (Naturopathy)

ABSTRACT

Evidence-based medicine (EBM) has been advocated as a new paradigm in orthodox medicine and as a methodology for natural medicines, which are often accused of lacking an adequate scientific basis. This paper presents the voices of tradition-sensitive naturopathic practitioners in response to what they perceive as an ideologic assault by EBM advocates on the validity and integrity of natural medicine practice. Those natural medicine practices, which have tradition-based paradigms articulating vitalistic and holistic principles, may have significant problems in relating to the idea of EBM as developed in biomedical contexts. The paper questions the appropriateness of imposing a methodology that appears to minimize or bypass the philosophic and methodological foundations of natural medicine, and that itself seems primarily driven by political considerations.

INTRODUCTION

This paper has developed as a response to the emergence of evidence-based medicine (EBM) as a “new paradigm” in orthodox medicine¹ and a “new” rationale for health policy workers.² The authors’ position is intended to reflect the logic of different naturopathic modalities in showing how the idea of EBM is problematic for naturopathy and other disciplines and practices that deploy “evidence” in their texts and professional lives. EBM assumes a hierarchy of knowledge and method, and is an implicit, if not explicit, critique of nonorthodox systems of health and healing. For instance from a pro-EBM position, it has been suggested that the evidence accepted by naturopathic practitioners is less valid and less reliable than

“science-based” evidence.*³ This is the kind of unresearched dogma that has stimulated the writing of this paper.

Evidence and evidence-based practice needs to be understood as context dependent, and bounded by philosophic assumptions. The authors argue that the premises of EBM as developed by Sackett and his medical fellows are often inapplicable to these other modalities. EBM does have a role to play in complementary and alternative medicine (CAM), for example, but, as part of the mix of evidence, and not as a gold standard of clinical practice and research.[†] That is, natural scientific and medical reasoning are relevant and sometimes part of CAM and allied modalities, but they do not necessarily represent the dominant or preferred logic of these practitioners.

School of Natural and Complementary Medicine, Southern Cross University, Lismore, Australia.

*Rhetoric about the dangers of nonorthodox medicine has been so abundant in scientific medical journals, the media, and science-dominated tertiary institutions, such that bashing the nonorthodox has virtually become common sense for medical doctors and professional scientists. See, for example, Sackett et al., and Ernst.³

†As Singer and others have pointed out, CAM is a biomedical construction that tends to presuppose and validate the idea that CAM should converge toward the logic of biomedical and scientific orthodoxy. (Singer J, Fisher K. Appropriateness and resistance: The impact of the mainstreaming of traditional herbalism, forthcoming.)

The authors argue that a hierarchy of knowledge that privileges the randomized controlled trial (RCT), “scientific objectivity,” statistically based “truths,” and other canards, runs counter to most naturopathic ideologies and practice; and that demands from doctors, scientists, and policy makers for more hard evidence in the mix will contribute only tangentially to a further understanding of these medicines.

The present concern is with the potential for EBM rhetoric and institutional pressures to make naturopathy more submissive to medical dominance and widely coerce nonorthodox systems of health and healing to the mainstream, and to some extent to be co-opted by biomedical orthodoxy.^{4,5}

The authors do not claim to represent all CAM and naturopathic practitioners, because this is a paradigmatically diverse group, but to the extent that these practitioners embrace holism and vitalism as core beliefs and practices, these views may be seen to resonate with what the authors contend is a more traditional standpoint. This perspective does not reject science, evidence, or empirical research, which will become more apparent in the following. Rather, the authors simply contend that these more traditionally based beliefs and practices are often marginalized and excluded by opponents and fellow practitioners keen to mainstream and/or scientize.[‡]

CLASSICAL EBM

The ideas of William Sackett are considered seminal in the current literature dedicated to EBM, as any web search will show. Sackett et al.¹ have defined EBM at some length, which is reproduced below for the insights this definition brings to the understanding of the epistemologic and institutional power relations presupposed as “normal.”

The practice of EBM means integrating clinical expertise with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patient’s predicaments, rights and preferences in making clinical decisions about their care. By best available clinical evidence we mean clinically relevant research often from the basic sciences of medicine but especially from patient centred clinical research into the accuracy and precision of diagnostic tests (including the clinical examination) the power of prognostic markers, and

the efficacy and safety of therapeutic rehabilitative regimens. External clinical evidence both invalidates previously accepted diagnostic tests and treatments and replaces them with new ones that are more powerful, more accurate, more efficacious and safer. (pp. 71–72)

Closer reading of this text reveals a number of dualisms/dichotomies in the reasoning. These dualisms line up under the difference between clinical expertise and clinical evidence, and reveal something of the institutional basis and power relations expressed in the idea of EBM. “External,” “basic” scientific research, “tests,” “markers” and the logic of the laboratory are contrasted with the “internal,” subjective, individualistic practices and diagnoses of clinicians in the privacy of the clinic. This kind of dualistic logic is problematic for naturopaths, namely herbalists and hom[oe]opaths, in this study. It also reifies a public/private dichotomy that subtly reinforces the legitimacy and logic of state-controlled bureaucracy.

This kind of dichotomizing logic also buttresses the idea that there is a legitimate hierarchy of knowledge and method with the RCT as the gold standard and the clinician’s notes, observations, and judgments right down there in status with ethnography, sociology, and anecdote.⁶ As shown in this paper, there are practitioners of naturopathic modalities who do not subscribe to this hierarchy at all; they tend to see this as a form of nonholistic reductionism. The more insidious effect of this scientific approach to evidence is that other naturopathic (and alternative) practitioners may simply assume that their craft is actually incompatible with “legitimate” science and medicine, and that they are just silly or nonscientific. Rather, this paper suggests that the general incompatibility results not from a failure of reason or logic, but to differences in cosmology and methodology that stem from the naturopath’s genuine commitment to holistic health and the idea of participation in complex systems. This line of analysis speaks to the idea of paradigmatic difference and the logical inability of orthodox medicine or science in correcting, or coopting, healing modalities that are based in traditional approaches to health and healing.

EBM AS A HEGEMONIC CULTURAL MOVEMENT

Given that EBM involves elites, institutions, notions of progress, and much funding, it might be considered a hegemonic cultural movement generated as a continuation of the ascendancy of medical dominance.[§] In the United Kingdom, EBM has been identified by medical powerbrokers as a paradigm shift in medicine, and applied as a rationale for pub-

[‡]As discussed in Evans’ forthcoming Ph.D. dissertation (Southern Cross University, 2006).

[§]Evan Willis and other sociologists of medicine have defined medical dominance to be constituted through hegemonic cultural practices.⁷

lic policy making, or in effect, the further marginalization of competing approaches to health. This cultural movement has registered as an explosion of institutions dedicated to the teaching, researching, and proselytizing of EBM.^{||} There are dedicated journals, postgraduate courses and conferences, databases, and Web resources hosted by a plethora of centers and groups.[¶]

In the United Kingdom, EBM has been an integral part of the process of changing the organization of the health system. EBM prioritizes quantifiable data and quantitative research. This evidence, in conjunction with the statistical deployment of databases, has been able to provide meta levels of analysis and has particularly empowered statisticians, epidemiologists, and other quantitative analysts in the determination of health policy and infrastructure, as Charlton and Miles point out.² The impact of EBM in Australia and the United States does not appear so overwhelming, but there is one major institutional driver that has been identified as controlling in these countries, the insurance industry.⁴ Although the detailed process may vary from country to country, the broad project is the same as it has been for centuries: Attack the medical competition; show no intellectual tolerance; and only take those prisoners who can be converted.

Of course, the general idea of evidence in medicine does not automatically entail the RCT, but it should be noted that alternative or traditional views that are not grounded in evidence from RCTs tend to be dismissed or marginalized as less valid. Sometimes this may be legitimate, but the purpose of this paper is to challenge the idea that the RCT is, or should be, the gold standard for CAM and naturopathy. One can only hope to begin this discussion in a short paper, but the general position is, nonetheless, that naturopathic research can proceed using evidence that is scientifically valid (i.e., empirically testable) without necessarily negating assumptions of holism or vitalism. This philosophical view cannot be argued in this short paper beyond asserting that naturopathy needs to continue to legitimize a variety of methodologies and epistemologies as part of its eclectic nature. Empiric evidence remains critically important, but science and the proponents of EBM need to be further educated about the wisdom of tradition. Of course, this does not exclude the converse either. The authors seek to promote discourse, not dogma.

^{||}In 2003 a Web site in the UK was found to list the following indicators: seven postgraduate courses, 33 journals with an EBM focus, 12 databases with an EBM focus, and a whopping 77 EBM "health web resorts which are Centres, Units and Collaborations" (e.g., The Cochrane Collaboration), among other activities and organizations. Accessed December 8, 2005: <http://www.herts.ac.uk/lis/subjects/health/ebm.htm>

[¶]Charlton and Miles provide more detail about conditions arising in the United Kingdom.

TYPIFYING THE PROBLEMS NATUROPATHIC PRACTITIONERS CONFRONT

The contributing authors of this paper and other colleagues constituted themselves as a small focus group that might explore the philosophic, methodologic, and professional dilemmas that EBM raises for naturopathic modalities.[#]

Members of the working group were asked to consider what problems EBM raised for them as naturopathic professionals. The individual responses, as presented in the following, are most revealing. In the responses of the homeopath and two herbalists, the extent of the paradigm divide between EBM and their concerns is profound. Both modalities use evidence but in a holistic and vitalistic context.

The reflections of these naturopaths on the working logic of their modalities (their clinical logic) appears more complex than that of the RCT (the gold standard in EBM) and a generally reductive approach to the question of evidence. The authors suspect that most clinicians, both medically orthodox and naturopathic, would share misgivings about the possible "tyranny of EBM." This is actually Sackett's own phrase for the overenthusiasm for EBM. Although the individual responses presented in the following do not constitute a survey of practitioners as one might perform in a more extended analysis of these fields, they are typical, based on the authors' professional experience, related research, and the existing curricula of college and university courses. As the summary-analyses that which accompany each statement attempt to show, there is a strong consensus that EBM is antithetical to holistic and vitalistic philosophies of health.^{**} Other shared concerns also arise.

AN HERBALIST'S RESPONSE TO EBM

My concerns regarding the adoption of EBM as a basis for medical decision making relate (a) to the underlying aims of, and values reflected within, our medical system, and (b) its applicability to CAM.

Values. EBM is held to contribute to "better" health outcomes and "more effective" medicine. However

[#]In Australia, naturopaths are typically trained in a number of modalities, usually herbal medicine, nutrition, homeopathy and tactile therapies (massage). Within clinical practice, practitioners may specialize in area(s) of interest. Practitioners may vary in the extent to which they embrace science and medicine as fundamental in their beliefs and practices.

^{**}The authors know of no reliable quantitative data about these differences, but the forthcoming theses of Evans and Howden (Southern Cross University, 2006) do begin to quantify these matters.

discussion is curiously absent regarding the values behind such statements, and questions such as “how should better health outcomes be measured?” and “what would a better health system look like?” have not been part of this debate.

For example to what extent are longevity, or the “saving of lives” markers of medical “success”? Given finite resources, is a society “healthier” when the bulk of its population is over 50, or over 80? Is it a sign of health when 90% of very premature babies survive but require more medical interventions for the rest of their lives?

Equations between “better medicine” and “more EBM” do not include the environmental impact of particular interventions. If such considerations were included in discussions of “best practice,” a preferred treatment may be a medicinal plant that is 30% less effective but 90% less environmentally demanding than a pharmaceutical. However if these considerations are not included, the preferred treatment may be a drug which is 30% more effective and 90% more environmentally demanding.

CAM. Concern from herbalists and naturopaths in Australia (and elsewhere) regarding the application of EBM to CAM has focussed primarily on methodological issues, especially hierarchies of evidence, and the difficulties of applying of RCTs within disciplines where a multi-interventionist and individualistic approach to patient treatment is the norm. It is not only that treatment within the naturopathic disciplines involves multiple interventions, but also that practitioners consider multiple indicators of patient distress and improvement.

These treatments are complex, and the systems they seek to change are similarly complex. RCTs are a valuable source of information: it is their preferencing over other types of evidence which is problematic. The practical reality is that most RCT’s are carried out by companies attempting to amass sufficient data to fulfil regulatory requirements for introducing a new product onto the market. Such trials aim to assess the safety and efficacy of particular products to alleviate particular symptoms or diseases. They contribute only marginally to the individualised prescriptions and advice which makes up the bulk of clinical herbal practice.

Summary

This account argues that:

1. EBM lacks concern for community health.
2. EBM does not account for ecologic considerations; and
3. Because herbal medicine is holistic and health oriented, it opposes complex interventions and interactions in

naturopathic practice to the reductive process of isolating single factors and simple cause–effect relationships.

A HOMEOPATH’S RESPONSE TO EBM

The meaning of the word “evidence” changes according to who is allowed to define it.

The “evidence” of EBM is largely that which arises from the Random Controlled Trial (RCT). It involves levels of significance of the chance of removal of individual symptoms (in past cases) and bears no relevance to future cases except in terms of the “probability” of “success” or “failure.” It is incapable of predicting “success” (or failure) in any one individual case.

The “evidence” of homeopathy is twofold and is specific to the individual case.

- On the one hand we have the “evidence” of the remedy as collected in “provings”—the symptoms produced by feeding carefully controlled doses of a substance to “healthy” human beings
- On the other hand we have the “evidence” collected from the patient—an holistic picture of the totality of symptoms being experienced by the patient, constructed in a way that is readily comparable with the evidence of the provings.

It is the philosophy of homeopathy—that “like cures like” (*similia similibus curentur*)—which links these two pieces of evidence. This philosophy states that a match of the “major” symptoms of the remedy with the “major” symptoms of the patient will assist in the movement toward “cure.”

Disease, according to EBM, is characterized by a collection of (largely unrelated) symptoms, the mere removal of which is then said to constitute “cure” (or at least “success” in an RCT).

Homeopathy, on the other hand, is based on an Hippocratic, humorally based model of the human being—consisting of earth, water, air and fire (body, mind, soul, and spirit). The homeopath is therefore interested in all aspects of the human being in-so-far as they “point” to the nature of the *dis*-ease.

In homeopathy “success” is the improvement of “well-being” and “quality of life” resulting from the matching of the totality of symptoms of the patient with the totality of symptoms of the remedy. This will normally (although not necessarily) also involve the removal (or at least the easing) of the symptom picture. The symptoms are not the disease—they point to the nature of the disease. *Dis*-ease, within this model, is a necessary means to growth and human evolution, and longevity is a possible consequence rather than an aim.

Summary

In this practitioner's view:

1. Statistically based inferences about the likelihood of outcomes for typical cases are of little use in the treatment of individual cases. The homeopath follows patient symptoms over a length of time and the analysis of patterns of change requires holistic logic and practice. That is, in individual cases it is not possible to isolate symptoms and causes from the whole person. Knowledge from RCTs would be of little use in therapeutic practice.
2. The kind of evidence involved in homeopathy derives from controlled processes that have been largely validated through continued observation and assessment and documented since the time of Samuel Hahnemann, (M.D.) at least. The kind of data generated in this historical process could not be replaced by data from RCTs.
3. The logic of the RCT is alien to homeopathy as shown by the difference in their desired outcomes.

A NATUROPATH'S RESPONSE TO EBM

Naturopathy, a Western nonbiomedical ethnomedicine is based on holistic and vitalistic principles⁸ whereas biomedicine, the prevailing ethnomedicine is based on scientific reductionist principles.^{9,10} Given such extensive difference it is inappropriate to superimpose reductionist methodologies that are paradigmatically incongruent with the holistic practice of naturopathy.

The notion of "the whole being greater than the sum of the parts" epitomises the philosophical differences between "traditional naturopathy" and scientific medicine.¹¹ Traditional naturopathy does not easily fit into a scientific research model. For example, three patients presenting with migraine as their primary health concern are likely to receive three very different herbal formulas that take into account the unique nuances of the individual. As EB methodology gives primacy to RCTs which is based on limiting as many variables as possible, application is methodologically incongruent to traditional herbal/naturopathic treatment. It is of course possible to apply EB methodology to a named active isolated plant constituent or to a specific nutrient. However, traditional naturopathy is based on the understanding that a plant's efficacy is based on the synergy of the whole plant rather than a so called "active constituent." RCTs simply cannot cope methodologically with the holistic nature of naturopathic medicine.

By imposing EBM, naturopathy is not legitimated according to its own paradigmatic definitions, but rather, is evaluated according to the parameters set by the scientific model resulting in the marginalization

and corruption of "traditional naturopathic knowledge." This is exemplified in the practice of "scientific herbal medicine" (phytomedicine) in which only herbs subjected to and validated by RCTs are legitimated as effective medicines. Such herbs are then symptomatically prescribed to treat specific disease states, rather than applying a whole person/whole plant approach. The knowledge base of traditional naturopathy is taken out of context and inappropriately manipulated to fit a scientific paradigm.⁶ As a result, traditional knowledge and practice is dismissed, devalued and in real danger of becoming extinct!

Summary

According to this practitioner:

1. Naturopathy is based on holistic and vitalistic principles.
2. Biomedicine is based on reductionism and is paradigmatically incongruent with naturopathy.
3. EBM marginalizes and corrupts traditional naturopathic knowledge.

A NATUROPATHIC EDUCATOR'S RESPONSE TO EBM

EBM represents a style of thinking that appears to exclude the possibility of a truly holistic approach to health care. The hierarchy of evidence includes, in theory, a range of approaches that encompasses different treatment strategies and types of authority. The reality is quite different, with the RCT dominating the validation of knowledge and empowering a specific branch of health care to continue its domination. The approach rests on a completely unquestioned assumption about the superiority of Western based biomedicine. The concept that there might be other ways of looking at health is not even raised it is so remote to the theoreticians who advocate the use of EBM. Vitalism lies at the heart of natural medicine, a deep respect for the body's self-healing capacity and a commitment to working with that innate force. Vital force! How does the RCT cope with that! Where does preventative medicine fit in? What about traditional practices?

Untested, blanket acceptance of EBM education has serious ramifications for CAM. When the educational direction changes, there is the potential to create a whole new style of thinking in the next generation of practitioners. If the structures of EBM are taken into the classroom and given as untested authority of the integrity of CAM, then somehow CAM has surrendered its authority to an external measure, without so much as a whimper. Upcoming practitioners will

teach, as they have been taught. If they are not given a deep understanding of what holism and vitalism means, rather only the small range of science-based versions of CAM as validated by EBM, then the profession will change and holism as a concept will become diluted.

Summary

In this educator's opinion:

1. EBM is antithetical to holistic and vitalistic approaches to health care; and
2. There is danger that EBM will be accepted uncritically in educational institutions.

CONCLUSIONS

The word "evidence" recently has gained a new weight in medical discourse and institutional life, but in Australia so far EBM has mainly impacted only rhetorically on naturopathy. EBM has been touted as a "new paradigm" and as a corrective for outdated, bad or unscientific practices. Although it may be true that some medical and health practices are not supported by a weight of evidence and that this can lead to harm, it does not follow that doctors, scientists, or any bureaucrats should have a monopoly on the meaning and deployment of evidence.

As discussed, the core assumptions and institutional focus of EBM is largely antipathetic to those naturopathic modalities that emphasize vitalism and holism in their foundations. This critical issue of course refers to the broader question of naturopathy's survival within a culture that is socially, politically, and economically dominated by biomedicine. The RCT and other empirical modes of health research are undoubtedly valuable additions to health-related stocks of knowledge, but in the context of both the institutionalization of naturopathy and the basic comprehension of naturopathic modalities, it is emphasized that naturopathy needs to be understood as having and requiring firm foundations in traditional and nonorthodox modalities of health and healing first and foremost. These philosophies are the baseline of the naturopathic approach and need to be respected and preserved when there is any

move by external forces to create an integrative shift in healthcare practice.

REFERENCES

1. Sackett DL, Rosenberg WMC, Gray JAM, et al. Evidence based medicine: What it is and what it isn't. *BMJ* 1996; 312:71–72.
2. Charlton BG, Miles A. The rise and fall of EBM. *QJM* 1998;91:371–374.
3. Ernst E. Assessing the evidence base for CAM. In: Kelner M, Wellman B, eds. *Complementary and Alternative Medicine: Challenge and Change*. Amsterdam: Harwood Academic Publishers, 2000.
4. Tovey P, Easthope G, Adams J, eds. *The Mainstreaming of Complementary and Alternative Medicine: Studies in Social Context*. London: Routledge, 2004.
5. Baer H. *Towards an Integrative Medicine: Merging Alternative Therapies with Biomedicine*. Walnut Creek, CA: Altamira Press, 2004.
6. Willis E, White K. Evidence-based medicine and CAM. In: Tovey P, Easthope G, Adams J, eds. *The Mainstreaming of Complementary and Alternative Medicine: Studies in Social Context*. London: Routledge, 2004:49–63.
7. Willis E. *Medical Dominance*. Sydney: Allen and Unwin, 1989.
8. Jagtenberg T, Evans S. Global herbal medicine: A critique. *J Altern Complement Med* 2003;2:321–329.
9. Hahn RA. *Sickness and Healing: An Anthropological Perspective*. New Haven, CT: Yale University Press, 1995.
10. Kleinman A. What is specific to biomedicine? In: *Writing at the Margin: Discourse between Anthropology and Medicine*. Berkeley, CA: University of California Press, 1995:21–40.
11. Coulter I. Integration and paradigm clash: The practical difficulties of integrative medicine. In: Tovey P, Easthope G, Adams J, eds. *The Mainstreaming of Complementary and Alternative Medicine: Studies in Social Context*. London: Routledge, 2004:103–122.

Address reprint requests to:

*Sue Evans, B.A. Dip. Ed., M.N.I.M.H.
School of Natural and Complementary Medicine
Southern Cross University
P.O. Box 157
Lismore NSW 2480
Australia*

E-mail: sue.evans@scu.edu.au

Copyright of *Journal of Alternative & Complementary Medicine* is the property of Mary Ann Liebert, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of *Journal of Alternative & Complementary Medicine* is the property of Mary Ann Liebert, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.