Evidence Based Medicine

One of our newsletter readers wrote to us this week about the term 'evidence-based medicine.' "I am hearing this phrase more and more often," he wrote, "and typically I'm seeing it used as a means of putting down alternative medicine, as though only conventional medicine has the right to a place at the table, and anything else lacks legitimacy."

Certainly 'evidence-based medicine' (EBM) is an interesting and somewhat loaded phrase, the unambiguous implication of which is that medicine comes in two varieties - the kind that is based on a solid foundation of objective evidence, and the kind that is not. Because of the apparently stark good-versus-bad division it suggests, the phrase lends itself well to being used as a pejorative by those who are outspokenly opposed to complementary and alternative medicine (CAM). To such people, anything other than standard conventional medicine is by definition unproven, speculative, founded on dubious premises and inherently inferior. As our perceptive reader pointed out, the term 'evidence-based medicine' is often used by such people as a rhetorical weapon, a means of devaluing anything that cannot be clearly identified as mainstream conventional medicine.

Yet this was not at all the intended meaning of the term as it was originally conceived. The Evidence-Based Medicine Working Group (EBMWG), a research collaborative of clinicians and epidemiologists from Ontario's McMaster University, who first coined the phrase in 1992, were not attempting to draw a contrast between orthodox and unconventional medicine; far from it. They were in fact trying to change the medical profession's entrenched tendency to cling, mainly out of habit, to procedures and treatments for which there was little if any solid evidence of effectiveness (EBMWG 1992).

According to David L. Sackett, MD, one of the original McMaster group, and author of numerous subsequent papers on the concept of evidence-based medicine, EBM is intended to be "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical experience with the best available external clinical evidence from systematic research" (Sackett, 1996).

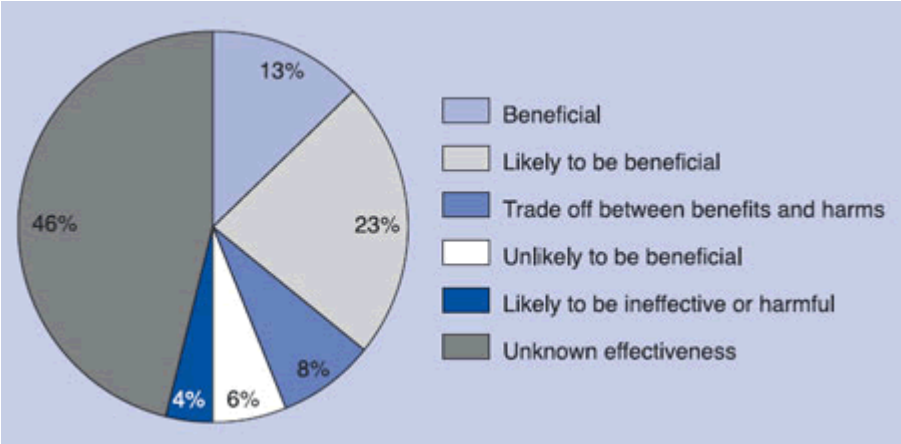
These are laudable aims, to be sure. We all want medical care that is based on the best available evidence rather than on unyielding habit or diehard medical tradition. But exactly how far has medicine come towards that goal in the decade and a half since the McMaster University team first advocated the adoption of EBM? Are most current medical treatments backed by solid evidence of effectiveness?

Very Few Treatments Are Effective

The venerable *British Medical Journal* has an offshoot publication, *BMJ Clinical Evidence*, whose mission is to provide physicians and patients with the best available evidence, garnered wherever possible from randomized, controlled clinical trials (RCTs), which are considered to be the most reliable and rigorous standard for measuring treatment effectiveness. The journal describes itself as "the international source of the best available evidence for effective health care."

"What proportion of commonly used treatments are supported by good evidence, what proportion should not be used or used only with caution, and how big are the gaps in our knowledge?" asks the publication's Web site (BMJ 2007).

Of around 2500 treatments so far reviewed by the journal's distinguished team of advisors, peer reviewers, experts, information specialists and statisticians, only 13 percent have been found definitely beneficial. A further 23 percent are rated as likely to be beneficial; 8 percent can be classified as a trade off between benefits and harms; 6 percent as clearly unlikely to be beneficial; 4 percent are likely to be ineffective or harmful, and a whopping 46 percent - almost half of all treatments reviewed - are rated as being of unknown effectiveness.



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As the journal acknowledges, these figures suggest that most treatment decisions rest not on solid evidence obtained through properly conducted clinical trials, but on the individual preferences of clinicians, unsupported in the majority of cases by any concrete evidence of benefit.

So, given that very few of conventional medicine's standard treatments have been demonstrated to have any clear benefit whatever - and conversely, that a substantial proportion have been shown to be potentially harmful - it is somewhat ironic to see the term 'evidence-based medicine' used as a war cry by those who are virulently opposed to CAM.

Is EBM Compatible with Individualized Patient Care?

Another aspect of the EBM debate that bears close scrutiny is the question of whether it is always in the patient's best interests to be treated according to standardized EBM protocols. On the surface, it seems obvious that patients will benefit when physicians prescribe only those treatments that have been proven through clinical trials to be effective. However, there are those, like Erich Loewy, MD, a bioethicist and professor of medicine at the University of California, Davis, who argue very persuasively that things are not nearly as black and white as they seem, and that EBM, as it is currently practiced, may actually not serve patients well.

In a thought-provoking article for the online medical forum *Medscape*, Dr. Loewy cites the danger of using EBM as a standard protocol into which any patient with a given disease can simply be plugged. He writes: "To me, as a bioethicist and…a physician who has observed the evolution of EBM, I am impressed with the danger to physicians, patients, the educative process, and, ultimately, to the behavior it encourages. Mindless reliance on EBM does exactly what we do not want our students to do: convert what is a suffering human being, with a unique personal life-history, into a specimen of pathophysiology or a heart murmur" (Loewy, 2007).

Dr. Loewy lists a number of ways in which EBM may ultimately result in decisions that are not in the best interests of patients. For example, he writes, "EBM protocols start out being considered as guideposts and end up being considered as straightjackets - and straightjackets that are welcomed by many physicians." One physician actually went so far as to tell Dr. Loewy that he was enthusiastic about EBM guidelines precisely because they saved time and did not require him to think.

Dr. Loewy points out that EBM, as practiced in large institutions, can have the highly undesirable effect of stifling thought and constraining good diagnostic and clinical judgment. Doctors who 'think outside the box' and who feel that a particular patient is uniquely suited for a treatment option that is currently not listed as standard EBM, risk being disciplined by their institution. "EBM is basically anti-intellectual," Loewy writes. Thinking, he reminds us, is among the physician's most important tasks, and EBM protocols, which often consist of nothing more than standard check sheets, actively discourage thinking. Worse, because of the potential for EBM to result in mechanistic treatment decisions that take no account of individual variation, this method "threatens to separate the patient's uniqueness further from the physician and would support looking at the disease instead of at the patient who happens to have that disease."

The essence of CAM is its focus on the individual and its insistence on the rationality and centrality of individualized treatment. Of course it is extremely important to establish treatment guidelines, and to conduct rigorous research into the effectiveness of currently accepted standards of treatment. Teaching physicians to evaluate available treatment options according to whether or not such therapies actually result in measurable benefit to patients might go a long way towards improving care (and reducing costs). But when evidence-based medicine becomes a

means of strangling diagnostic skill and reducing patients to algorithms or numbers on a checklist, medicine can no longer call itself the art of healing.

--Ralph W. Moss, Ph.D.

References:

How Much Do We Know? *BMJ Clinical Evidence*. Accessed May 9 2008: **http://clinicalevidence.bmj.com/ceweb/about/knowledge.jsp**

Evidence-Based Medicine Working Group. Evidence-based medicine: A new approach to teaching the practice of medicine. *JAMA*. 1992;268(17):2420-2425.

Loewy EH. Ethics and Evidence-Based Medicine: Is There A Conflict? Medscape General Medicine 2007;9(3):30. Accessed May 9 2008: **http://www.medscape.com/viewarticle/559977**

Sackett DL, Rosenberg WM, Gray JA, et al. Evidence based medicine: what it is and what it isn't. *BMJ*. 1996;312:71-72.