

Letter from the editor

Evidence-based medicine: old school versus new school

Evidence-based medicine (EBM) is usually defined as the integration of the best available evidence with clinical expertise and our patients' unique values and circumstances. [1]

According to this premise, the skill set of evidence-based practitioners would include formulating answerable questions, searching for applicable studies in the medical literature, critically appraising these studies according to evidence-based principles, assembling the best studies and systematic reviews, and then applying clinical expertise to integrate the best current evidence in accordance with the patient's circumstances and wishes. We consider the first part of this process — searching the literature, appraising search results, and assembling the appraised results — old-school EBM. Our view is that old-school EBM is venerable, needed at times, but also increasingly redundant. Apart from asking answerable questions and applying clinical expertise, the old-school steps are no longer as necessary for physicians who practice EBM today, because of the evolution of evidence-based information services.

New-school EBM is using information resources that have EBM processes and principles built into them. Such resources include an infrastructure with expert staff who reliably search for and critically appraise new evidence from the scientific literature, assess the relevance of this evidence, and integrate the sound and relevant new information into existing evidence to provide an updated picture of the best options for patient management, including quantitative estimates of both benefits and harms for current treatment options. Better still if these resources automatically alert practitioners when new, high quality evidence becomes available concerning topics that match their clinical interests. Such resources allow a more practical definition of EBM: the adept use by practitioners of pre-appraised evidence and information tools to apply findings from highest quality research in the care of individual patients.

The holy grail of evidence-based information resources is a system of continuously updated links between the medical records of individual patients and current best evidence concerning their individual medical problems. This is technically achievable but not available at present, except on a limited basis in some academic hot-house environments. Meanwhile a new class of information resources has arrived on the scene that combines “look up” summaries of evidence for specific clinical disorders with “keep up” alerting services for new evidence pertinent to these disorders and tailored to the interests of users. *BMJ Clinical Evidence* is undergoing major upgrades to achieve this combined look-up/keep-up functionality in partnership with *bmjupdates+* (bmjupdates.com) from the BMJ Publishing Group and McMaster University, Canada.

New-school EBM vastly reduces the burden of primary evidence critical appraisal, but one key appraisal task cannot be neglected by the user: assessing the truth of an information resource's claim that it is evidence based. As with other desirable traits, it is easier to use the term 'evidence based' than it is to deserve it; and although our definition of EBM is conceptually sound, and probably defines the gold standard of evidence-based care, other definitions are commonplace and must be interpreted with caution. Consider the example of a supposedly evidenced-based statement about a treatment's effectiveness for which the supporting evidence provided is a single, relatively old clinical trial which has been superseded by more recent, larger trials demonstrating that the treatment has no useful effect. In terms of being evidence based, this example contrasts sharply with a statement supported by a formal

systematic review taking into account all of the appropriate evidence, and where this evidence is regularly updated.

Fortunately, it is usually easy to check the veracity of an evidence-based resource. All resources which claim to be evidence based should have an explicit, plain-language statement indicating how, and how often, the resource seeks and assesses evidence. Each summary of evidence within the resource should have a preparation or refurbishing date. Declarative statements about clinical interventions should be referenced (an easy way to check whether a resource actually is current), and systematic reviews should be the bulk of the references, with any individual trials cited being landmark studies or new reports published since the most recent systematic review. At present, a small but growing number of resources meet these new-school EBM standards. We are pleased that *BMJ Clinical Evidence* is one of them — but look for yourself. For more information please see our evidence-based processes and standards.

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Conflict of interest:

BH declares that he is editor and developer of *bmjupdates+*. He declares no other conflict of interest.

References

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