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## Evidence-Based Medicine these 7 years: time for the editor to go on permanent sabbatical

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Seven years seems the right term for an editorship. It is a time for the land that has been sown and reaped to remain uncultivated for a while (see *Exodus* or *Leviticus, The Bible*)—time for a sabbatical. When I came on in 2010, *Evidence-Based Medicine (EBM)* was already well established (for 15 years, its adolescence)<sup>1</sup> as was the field of EBM (>3 years earlier, its birth).<sup>2</sup> At the beginning, the journal aimed to serve this ‘emerging clinical discipline by providing easier access to high-quality evidence that is ready for prime-time clinical application’. The journal scanned a list of 29 other journals regularly, re-reported articles published in another journal as half of its content and added coverage beyond internal medicine. In the subsequent decade, it had published ‘notebook jottings’ on EBM, some of which reported on codified practices in the field.<sup>3</sup> But it was time for the journal to branch out and for EBM the field to move from its establishment and definition to its real-life translation at the bedside.<sup>4</sup> With a new editorial board, we aimed to support that transformation. We also aimed to be a home for EBMers, those who teach, study and practice EBM. To that end, we added a number of article types of relevance, beyond critically appraised articles and occasional musings.

During the past 7 years, we published ~1000 summaries and critical appraisals of original research studies selected systematically for clinical relevance and methodological strength. All were relatively brief but meaty enough at around 750 words to provide a bit of background and context, methods, main results (magnitude and precision), assessment of internal validity and applicability, and implications for research and practice, written by invited experts and edited by EBM-savvy clinician specialists in family medicine, internal medicine, obstetrics and gynaecology, and paediatrics.

EBMers, EBM aficionados—practitioners, teachers and researchers focused on EBM—needed a home for their work, and we aimed to provide it. To do so, we expanded article types to include Perspectives, Editorials, EBM Methods articles, Original EBM Research (eg, tests of the effectiveness of practicing EBM), EBM Primer, EBM Round-up, Systematic reviews, Letters and Resource reviews. Although EBM did not achieve an impact factor (a near impossible goal, given that most papers are secondary summaries of original research and used directly by clinicians all around the world (>360 000 journal website unique visitors)), papers ranging from Commentaries, Editorials and unsolicited content (eg, systematic reviews and other original research) are now downloaded full text at almost 400 000 each year with over 1 000 000 page impressions, and some articles with top *Altmetrics* scores.<sup>5</sup> A recent journal article had over 7000 downloads,<sup>6</sup> content is discussed by over 3000 Twitter followers, seen by over 25 000 mobile device users, and expanded and

related content appears frequently in an active blog (<http://blogs.bmj.com/ebm/>) that has over 10 000 readers.

My main goal, as stated in 2010, was to bring EBM through crossroads at the time, ‘a transition from searching, finding, appraising and keeping up, to translating evidence into practice’.<sup>4</sup> I wanted EBM to arrive comfortably into middle age. We provided timely validity-screened and appraised evidence (average time to first decision 8 days, from acceptance to publication 22 days, including authors’ final review and edits), continued to publish critically appraised article Commentaries, and added content relevant to implementation. EBM was the clear path to improving health-care and health. Hopefully, the journal content has supported that.

But a funny thing happened on the way to the forum...As EBM methods improved and high-quality research publication numbers skyrocketed (along with lower quality work too), rumblings of dissatisfaction with the approach grew louder and the challenges of EBM were highlighted, as if they invalidated all EBM methods. To be sure, the criticisms and limitations are substantial and relevant to practice. People reported that randomised trials should not be the only source of evidence for efficacy. They often took it a step further leading some to discount randomised trial evidence in favour of belief and lower quality designs for testing effectiveness. For example, in the USA, the practice of universal screening for illicit drug use in primary care followed by brief counselling (known as ‘Screening, Brief Intervention and Referral to Treatment’ or SBIRT) continues to be widely advocated (with over \$1 billion invested), largely based on hope, belief and some observational studies whose positive findings are almost certainly due to secular trends and regression to the mean, while more recent high-quality randomised trials consistently show lack of efficacy of the practice.<sup>7</sup> Some in EBM communications venues (eg, email lists) have raised concerns that trials and systematic reviews do not study and report on important questions for health and well-being, rather are focused on medical interventions and outcomes (such as medications and blood pressure levels). And the main complaint has been about applicability to individual patients, and guidelines applied in practice by regulatory bodies, payers and other non-clinicians. For example, the insurers, including the largest in the USA (the government), are dictating opioid prescribing limits and even their sudden discontinuation with little room for consideration of individual patient circumstances and in the face of very limited evidence from research.<sup>8</sup> Some patients have long-term improvements in physical function without the complication of addiction and there is no reason to arbitrarily discontinue a medicine that works for them in the service of a

public health goal to address an overdose epidemic resulting from misuse and addiction. All of this seems normal for (EBM) middle age, a sort of midlife crisis.

Of course, despite concerns about EBM being well founded, none of the above concerns are actually about the ideal use of EBM itself, rather they are about insufficient evidence from research and misuse of studies and the inappropriate application of EBM. EBM has persisted and will be here decades hence because of its simplicity, utility and the failure of any critic to propose a replacement that is better. As with healthcare and payment for it, there should be no repeal of EBM without a replacement that is at least as good.

In many developed nations, now we are witnessing science under assault. There is prominent discussion of 'alternative facts', fake news and room is often made for airing both sides of issues where there really are no sides—there is what is known from science, and someone else's opinion (eg, climate change). Science finds itself on equal footing as a guy with an opinion. Criticisms of EBM must be taken seriously—we need high-quality evidence to support individualised care and point-of-care shared decision-making; we need the right studies to address real clinical questions; we need tools to help us use that evidence as EBM founders have always said, the explicit conscientious use of the best evidence to make decisions in the context of patient values and preferences. This latter concern has been the most challenging for EBM—how does one weigh a large chance of reducing a myocardial infarction in 10 years against a very small chance of a disabling massive intracerebral haemorrhage for a patient with a specific constellation of values and preferences? We must move from the ideal to the real.

In the meantime, as we wait for EBM to become even more sophisticated, 'BBM' (belief-based medicine) and practice uninformed by use of evidence is clearly not an alternative. Clinicians know this to be the case—they vote with their feet, using the best evidence as digested for them in sources usable at the point of care (eg, *UpToDate*) and integrated into electronic health records.<sup>9</sup> A wise professor in 1991 told my class when we found limitations with the methods of decision analysis, that despite those limitations, 'a decision has to be made'. So what is the alternative to explicit consideration of what we know? Clinical decisions have to be made and ignoring evidence or complaining about the limitations of EBM can be paralysing and misguided in clinical circumstances. The answer is clearly for EBM to continue to be the dominant practice, while it continues to improve.

So what about *EBM* (the journal)? I expect the journal will enter late middle age and continue to serve clinicians by publishing high-quality critically appraised summaries of the latest research that is clinically relevant to generalists. I expect it will continue to serve as a

home for EBM aficionados. And I expect the new editor will shape the journal in ways I cannot predict in the next 5–7 or more years to serve the needs of those interested in EBM. Readers may not know the privilege I have had to serve as editor these years, with a superb team of associate editors I was privileged to have selected, and with top-notch colleagues at the *BMJ* and *BMJ Journals*, people and organisations that aim to disseminate top quality evidence to improve health and healthcare. I can attest to the fact that the operation has the utmost ethical and scientific standards. I will miss the collegiality and collaboration, but know that these highest quality publications will continue to serve the important role they have for educators, researchers and clinicians under a new editor.

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