

Letter from the editor

Updating the evidence: what difference does it make?

BMJ Clinical Evidence is committed to maintaining the robustness of our evidence base and, to achieve this, we regularly update each of our systematic reviews. We believe that this rigorous reappraisal process, together with the integration of a range of additional evidence based medicine (EBM) resources, ensures that our reviews are both comprehensive and timely, and that the efficacy of therapies is continuously reviewed.

Although, intuitively, regular review of the evidence for interventional care seems essential to ensure best clinical practice, some would question the value of trying to find new evidence for conditions for which there are longstanding, well-established therapies. After all, for some of our reviews, several years can go by without the emergence of new treatments, and sometimes even longer can pass before new findings emerge that would change our conclusions (that is, our categorisations of interventions). So, is it necessary for us to update all our reviews on an annual basis? Or is a selective updating process more practical and appropriate?

Several studies have addressed this issue, and perhaps taking a closer look at two of these will help to inform this discussion. The Cochrane Collaboration, a leading proponent of evidence-based information, aims to update its systematic reviews on a two-yearly basis.[1] French and colleagues looked at the value of updating Cochrane reviews every four years as opposed to the current two years.[2] They reasoned that failure to update reviews on a sufficiently regular basis might cause decision makers to act on out-of-date information. On the other hand, updating too frequently could result in a waste of effort and resources, or could introduce time-lag bias because trials with positive results tend to be published more quickly than ones with negative results. The authors analysed all completed systematic reviews in the Cochrane Database over a four year period — from 1998 to 2002. They found that only a small proportion of reviews updated in this period reported a change in their conclusions: of a total of 254 updated reviews, only 23 (9%) contained a changed conclusion. French et al suggested that the decision to update a review should be based on the likelihood of new evidence resulting in a major change (a changed conclusion) instead of on a predetermined timeframe. They proposed that this approach would require some reviews to be updated more frequently than two years, while others could remain untouched for much longer.

Shea et al asked whether updating Cochrane reviews improved their methods and reporting quality.[3] They identified a total of 53 updated reviews in the Cochrane Library 2002 Issue 4, and compared them with the same reviews before update using two quality assessment instruments: the Overview Quality Assessment Questionnaire (OQAQ) and the Quality of Reporting Metaanalyses (QUOROM) checklist. The average time between the original publication and the update was 2.7 years. The authors concluded that, while the quality of reporting did improve for certain sections of the reviews — such as search methods and inclusion criteria — overall methodological quality remained unchanged.

So, how do these results relate to our experience on *BMJ Clinical Evidence*? To get an idea of the usefulness of our updating process, we analysed all the updated reviews in *BMJ Clinical Evidence* Issues 14 and 15 (published in December 2005 and June 2006, respectively). We assessed the proportion of substantive changes (any new evidence, or additional data) that was added to the systematic review from our updating search, and recorded how many substantive changes led to changes in categorisation of an intervention. When we find new studies, the evidence for benefit of an

intervention can strengthen; but, on the other hand, longer term adverse effects of treatment can emerge, meaning that an intervention we previously categorised as “beneficial” may be reassessed as “trade off between benefits and harms”, or even as “likely to be ineffective or harmful”. For more about how we form our categorisations see A guide to the text.[4]

Over this 12 month period we updated 74% of our reviews (168 reviews out of a total of 226). Of these 168 updated reviews, 69% (116) contained substantive changes. However, only 45 of the 168 updated reviews (27%) contained a change in categorisation. Each *BMJ Clinical Evidence* review covers a range of interventions. Out of 1807 updated interventions 423 (23%) had a substantive change and 71/1807 (4%) interventions had a categorisation change. Thirty six [2%] of these interventions were assessed as more beneficial/less harmful, and 35 (2%) as less beneficial/more harmful.[5]

In light of these data, is it worth updating as much of the *BMJ Clinical Evidence* content as we currently do? The figures above suggest not. If most conclusions do not change as a result of a comprehensive, evidence-based literature search and appraisal over a 12 month period, then surely the most sensible approach would be the selective updating of reviews that are less static? This would free up time to research and develop new information resources which underpin and complement our core work. We have an expert panel of contributors and advisors who are well placed to comment on whether a particular review or even a specific intervention requires annual updating. Using this advice, *BMJ Clinical Evidence* could, in theory, identify conditions where the pace of new research is either particularly slow or fast, and we could adjust our search frequency accordingly.

But is new research only useful when it changes the conclusions of a review? We believe not, and assert that the commitment to systematically update our reviews (irrespective of predictions of potentially important findings) remains a fundamental part of the evidence-based process. We are of the opinion that a key strength of any review is its ability to claim that its conclusions are up to date. Even in the absence of change, the clinician can be reassured that the ‘status quo’ has been confirmed by an appraisal of the most current and pertinent literature, rather than by outdated evidence or previous consensus. We believe that an updated search date is in itself valuable information — where there is no useful recent evidence, the reader can confirm this by noting the current search date, and this information can be regarded as a strong starting point for investigating a particular intervention or medical condition. In addition, our ongoing initiatives, in particular the inclusion of clinical guides from our contributors with every update, ensure that where new evidence is lacking or inadequate, practitioners can still benefit from timely expert opinion about current practice.

BMJ Clinical Evidence is a unique EBM resource, in that its content is driven by important clinical questions, rather than by the availability of research evidence, and we remain steadfast that practitioners should be able to use our reviews to reassure themselves and their patients that their uncertainty about new treatments for a particular condition stems not from gaps in their knowledge, but from the lack of robust available evidence. Only with regular and rigorous updating driven by clinical queries can this be achieved.

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