# Jottings ...

Where do the articles selected for the *EBM* journal come from? We scan over 100 journals, and around 50 000 articles per year, to identify the most important and valid 120 research articles. Because of the validity filters we use (see the *Purpose & Procedure* page), therapy articles generally predominate, but this month's issue has a good range that includes diagnosis, prognosis, aetiology, clinical prediction guides, and quality improvement. We hope you enjoy this diversity.

Textbooks of medicine are gradually becoming more evidence-based, and in particular, more often cite the relevant systematic reviews or randomised trials. But diagnostic and clinical skills have lagged well behind therapy, as King *et al* document in this month's notebook, which looks at the evidence and probabilistic information in standard textbooks of clinical examination. With the possible exception of the book by McGhee (which we reviewed in the 2001 *EBM* journal), the coverage is poor. Let's hope the Cochrane interest in diagnosis will invigorate this neglected area.

Do you have comments about particular articles, or about the journal generally? We would like to hear from you. To submit an e-letter about a particular article or in response to this *Jottings*, go to www.evidence-basedmedicine.com and click on the *Read eLetters*. We'd also encourage you to sign up as a sentinel reader—it's fun, costs nothing, and you can choose your own dose of articles to read (www.evidence-basedmedicine.com/cgi/content/full/8/4/102).

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# Letter

## Meta-analysis can be statistically misleading

The double blind randomised controlled trial (RCT) is the basis of good evidence-based medicine because it eliminates problems of bias and confounding. However, systematic reviews show different RCTs arriving at diametrically opposite conclusions. The reason for this is that the samples for the RCTs are drawn from different populations and it reflects the truth in those various populations. This matter is often overlooked when meta-analysis is done. When RCTs are aggregated in a meta-analysis, we have to aggregate the populations they represent—not the sample sizes. Large samples from small populations will get undue weightage otherwise. Meta-analysis as done presently can be misleading and unreliable.

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## In response: ... but they also present an opportunity to learn more.

When RCTs are consistent across a variety of populations and settings, we should feel more secure about the applicability of the intervention. If it works in low risk and high risk, young and old, east and west, it will probably work in my patient. However, as Puliyel and Sreenivas point out, RCTs don't always agree, and sometimes diverge widely. When that happens, we would like to know why. It could be any of the PICO elements: the populations studied, the way the intervention is delivered (ie, dose, vehicle, route, timing, etc), the comparator and background treatments, or when or how the outcomes were measured.[1] Or it could be that the PICOs are the same but some of the trials are flawed (poor randomisation, poor followup, non-blinding, etc) and some are not, leading to confounding by trial quality. Systematic (and unsystematic!) reviews should look for such differences, and if they occur, use them as an opportunity to learn more about when and why a treatment works or does not. However, it requires considerable care to separate out the possible true and artefactual causes of apparent disagreement between studies.

THE EDITORS

1 Glasziou PP, Sanders SL. Investigating causes of heterogeneity in systematic reviews. *Stat Med* 2002;**21**:1503–11.