Reviewer's report

Title: Use of Common LRs: A Useful Tool for Taking Evidence Based Clinical History

Version: 1 Date: 2 February 2010

Reviewer: Chris Del Mar

Reviewer's report:

BMC – Medical Education

Use of common LRs...

This paper addresses a very important and challenging area: diagnostics and EBM. It attempts to set out how Likelihood Ratios (LRs) can help doctors (primary care especially) with diagnostic uncertainty.

However it is a very hard paper to read, and some of the argument is opaque.

All these suggestions are Major Compulsory Revisions:

1 It is not clear to whom the paper is being addressed. Since it has been submitted to the medical education journal of BMC, medical teachers might be thought to be the target. If it is to the teachers of EBM, then there is nothing about how to actually get across these concepts that are very difficult for most students of EBM (for example, explaining how to use LRs in clinical practice). But this is not apparent at all. Nor is it clear if is addressed to (primary care) clinicians, who would have trouble digesting this. Instead this is a discursive series of thoughts about LRs and other aspects of diagnosis, with no very clear conclusions.

2 The main problem is the format of the paper, which has a series of apparently disconnected statements without explanation or exploration, even if attached to a citation. For example, bottom of p10 we have "However EBM is often taught as an independent topic and is poorly integrated into the clinical teaching of trainees [31]". This is true. But what do we do now? Similarly "However, despite emphasis on the use of LRs and an increasing awareness and tendency towards the use of evidence based practice among physicians, research has consistently shown that evidence based information is rarely used for making clinical diagnosis [17, 18] " is true, but what now?

3 Really this Title does not declare the contents faithfully. It is more than LRs, and more than just the history (both examination and tests are discussed). This is more about clinical diagnostic thinking. And to that end there are some things missing. Hypothetico-deductive reasoning, Murtagh's Law [1]; the heuristics section needs much more amplification to be useful. It might be useful for the Authors to look at the BMJ diagnostics series currently being published as a
4 There are some things that are wrong. P7 the section about ruling out meningitis is not acceptable (stiff neck does not rule it out! This is the same problem as the example lower on the page – rebound tenderness does not rule out appendicitis).

5 The argument on lumping classifications together by etiology or somesuch is impenetrable, as are the accompanying Figures. I could not understand them, and I think most other folk would not either.

What can be done? Suggestions:

It might be good to re-write the ideas in here in a different format:

1 decide who it is for (EBM teachers of GPs?)

2 perhaps put in some 'worked examples', starting with the presentation ("a XX year old patient came in with a fever...")

3 get some LRs and show how the probability of prior probabilities changes with the application of the LR – (and perhaps also explain what they are for un-initiated!)

4 Better explain the notion of classification helping with the diagnostic process (perhaps with concrete rather than theoretic examples).

5 explain how to obtain the LRs from the literature

6 show how they might be applied in the clinical examples

That would be a useful contribution.

Refs

Chris Del Mar
Professor of Primary Care Research
Bond University, Australia

**Level of interest:** An article whose findings are important to those with closely related research interests
Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: