Reviewer's report

Title: Evaluation of QUADAS, a tool for the quality assessment of diagnostic accuracy studies

Version: 1 Date: 17 October 2005

Reviewer: Jørgen Hilden

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J Hilden, comments on ms
Evaluation of QUADAS, a tool for the quality assessment of diagnostic accuracy studies by
Whiting et al.

General

Until recently there existed no formal tool for measuring the quality of diagnostic evaluation studies in medicine and hence for judging how suitable they are for inclusion in a systematic review or meta-analysis. The present evaluation of QUADAS was undertaken by the authoritative international group who designed QUADAS as the first ever tool for that purpose. As such, and because it is very clearly written, this evaluation is hard NOT to recommend for publication.

I also find the conclusions and the amendments to the QUADAS manual very sound. It remains only to discuss a few matters of presentation:

Discretionary Revisions (which the authors can choose to ignore)

A] Strict adherence to the format “Abstract – … – Results (with separate sections for substudies) – Discussion (with standard subsections like Principal Findings … Future Research) – Conclusion” has led to some repetition that begins to feel boring and unnecessary. The text is otherwise well dimensioned.

B] The text is on the dry side with too little clinical flesh and blood, in my opinion. Two examples: (1) The first substudy is built over an ongoing systematic review in the field of peripheral arterial disease (no details given). In the Methods section, paragraph 3, 1st line, and again in Table 1 we are told that the assessors were given some “review specific” information. Why not write “information specific to suspected stenosis of peripheral arteries”? (There may have been additional review-specific instructions of a non-clinical kind, but anyhow …) (2) In the Conclusion, advice is given on the future use of QUADAS: “all reviewers [should] carefully consider how each individual QUADAS item should be applied to their review … …” I would have loved to see phrases like “in accordance with the clinician’s task” or “up-to-date clinical insight being brought to bear on how the item is …”

C] The same group of authors are writing the QUADAS chapter of the Cochrane Collaboration handbook for systematic reviews and meta-analysis of diagnostic accuracy. In my August 2005 comments on the draft handbook I have tried to convince them that some of the bias terminology is neither standard nor self-evident. As an example, the Discussion, 2nd paragraph, mentions “problems with the item on the availability of clinical information” but the unprepared reader will not know that this is a reference to the table item carrying the purely mnemonic label “Clinical review bias.” Why not repeat the actual QUADAS questions in connection with Table 1?
I see other trouble spots here. First, whether access to or absence of clinical information does or does not bias the interpretation of an imaging test depends on how the purposes of the test (and those of the meta-analysis of its performance) were defined. One man’s bias is another man’s truth. Second, it is confusing to have the word “review” used within a review instruction but designating something else (just a summary of a patient’s pre-test data). A better label might be “Problematic access to clinical [case] data.”

D) In the Results section two respondents who found the QUADAS explanations hard to follow were said “in addition” not to be native English speakers. This, of course, is meant as a partial explanation, not as a partial excuse. However, the wording could be changed to make it clear that the QUADAS group is committed to international applicability. Or this commission can be mentioned in the Conclusions.

E) As to the shortcomings of Cohen’s kappa, there no need in my opinion to be polite to its creator. Why not simply state that the kappas were retained in the table just to demonstrate how useless they tend to be? (The 7 lines of apology for not relying solely on kappa can then be deleted: “This relates to how … relatively low kappa.”)

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**What next?:** Accept after discretionary revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.