Author's response to reviews

Title: The assessment of the quality of reporting of meta-analyses in diagnostic research: a systematic review.

Authors:

Brian H Willis (brian.willis@manchester.ac.uk)
Muireann Quigley (muireann.quigley@manchester.ac.uk)

Version: 4 Date: 14 May 2011

Author's response to reviews: see over
The Editor,

BMC Medical Research Methodology,

Dear Sir/Madam

**MS: 1301903416495877: The assessment of the quality of reporting of meta-analyses in diagnostic research: a systematic review.**

We have attached our response to the reviewer’s comments and are grateful to be given the opportunity to respond to them. We hope this will improve the readability and quality of the resubmitted manuscript.

Yours faithfully,

Brian H Willis  
(Corresponding author)

Muireann Quigley
Response to reviewer, Erik von Elm

1. We have removed the sentence suggesting that the eligibility criteria are tight because we consider them, for reasons set out below, to be reasonable. We have also extended the paragraph in the limitations section of the manuscript.

The essence of what the reviewer is arguing relates to the definition of a meta-analysis. The reviewer seems to have a broader perception of the definition, although he has not been explicit about the criteria he would use.

Our criteria capture many of the ‘key characteristics’ of a systematic review as stated in the Cochrane Handbook of Systematic Reviews on Interventions [ref 35 in article] and therefore represent a recognised authority. These characteristics are those which relate to **any** systematic review and are not confined to high quality reviews. On this basis our eligibility criteria are reasonable and do not restrict study selection to high quality reviews.

The point the reviewer makes about there being overlap between the eligibility criteria and certain items of PRISMA is correct, but not surprising. The PRISMA statement represents comprehensive guidance for the reporting of systematic reviews, it is inevitable that some of the PRISMA items relate to ensuring that the basic requirements of a systematic review are met.

To design criteria, which both identify relevant studies, yet do not overlap with the PRISMA statement, would mean setting broad criteria that not only capture systematic reviews but other irrelevant studies. Thus, several of the included studies would be short of some of the key characteristics which define a systematic review and obscure the contribution made by those studies which are systematic reviews.

Eligibility criteria are designed to select relevant studies and relevance has to be based on a reasonable definition of the target study. The definition used here is in line with one of the leading authorities on systematic reviews and as such, has a firm basis.

The point made by the reviewer that this review ‘leads to a substantial overestimation’ of the level of quality in published meta-analyses of diagnostic tests may hold only if this review captures high quality systematic reviews at the expense of lower quality systematic reviews. However, as has been stated the eligibility criteria are based on a reasonable definition of a systematic review and thus, lower quality systematic reviews should be included. Therefore, we strongly disagree with the point made by the reviewer.

2. The error has been corrected.

3. This has now been addressed.
The years were not pre-specified. However, the rationale for the two cohorts (2001-04 and 2005-08) used is that they represent cohorts of equal duration which assess the quality of reporting in studies published subsequent to the introduction of the reporting guidance QUOROM (November 1999). A cohort of 1999-2003 includes years both pre and post introduction of the QUOROM statement and so only some of
the studies in the cohort would benefit from its introduction. Therefore, the cohort is likely to be a heterogeneous.

Unfortunately, too few of the included studies were published prior to the introduction of the QUOROM statement to measure the direct impact of QUOROM on the quality of reporting in a before-after study.

4. This has been addressed. Unfortunately word count restrictions on the Abstract mean that explanations for periods chosen were not given in the Abstract. However, they appear later in the main article.