Reviewer's report

Title: Criteria for assessing High-priority Drug-Drug Interactions for Clinical Decision Support in Electronic Health Records

Version: 2 Date: 19 January 2013

Reviewer: Margaret Williamson

Reviewer's report:

General
Assessing high priority drug-drug interactions is a very important topic in the current climate where more physicians around the world are depending on their clinical software to reliably inform them of potential drug-drug interactions as they prescribe medicines.

Minor Essential Revisions
1. Methods Section: It would benefit readers to better understand the two key aspects of the methods:
   1.1. What were the key concepts or criteria used by the authors to select the articles and? The search strategy itself seems broad and unstructured with overlap between the two concepts (A and B). It would be helpful for readers to have a clearer understanding of the search strategy explained in the text. Authors should also note when I conducted a simple search in Medline with the same restrictions only on using ‘drug interaction’ (part of Concept B) as text and a Mesh term which resulted in > 15,000 articles.
   1.2. How were panel discussions structured and how was consensus on the 5 criteria and their priority achieved? If this is documented elsewhere, it should be briefly stated with a reference otherwise it would be helpful to include a paragraph on this process.
2. Results section:
   2.1. Figure 1 What happened to the 23 articles that were removed before final review – was there a relevance problem?? Perhaps there is some additional information missing from the diagram about how results were reviewed??
   2.2. Systematic Review results: It is difficult to assess whether the authors have captured all relevant articles as part of their systematic review. It is best practice when reporting reviews to provide the relevant articles as an appendix and to quote significant articles to support the findings of the review in this case the five criteria for identifying clinically important drug-drug interactions. I would recommend that the authors comply with this practice by including an appendix with the 44 relevant articles and annotating the Table 1 with relevant references to support their results. A very important reference article would be ‘van Roon EN. Et al. 2005 Clinical relevance of drug-drug interactions : a structured assessment procedure. Drug Safety. 28(12):1131-9, which describes the
development of the drug interaction knowledgebase developed in the Netherlands – referred to in the Discussion.

2.3. Please clarify Headings in Table 1: The second column is headed definitions as posted in online discussion but it is difficult to understand what the dot points in this column contribute – rather than quoting ad hoc postings, it would be benefit the readers’ understanding and ensure that these criteria were applied in the future, if this information was brought together as a coherent summary for each criteria.

2.4. It may be difficult for readers to understand the precedence of the items referred to in Table 2 barriers and considerations – I wonder if the reader may find it easy to understand if they were presented as two different tables ‘barriers’ and ‘considerations’.

2.5 Word missing - "Specificity of alerting can by improved by developing ......that take into account (assume the word is methods??)

Discretionary Revisions

3. Background section: Reference 11 Page 4 Line 7 – does not appear to be correct??

4. Discussion – reference 6 P17 Line 7 – is this correct?

5. The results and discussion would benefit from some abbreviation by limiting some of the examples and anecdotes and improving the paragraph structures.

6. The conclusion seems to miss out on bringing out the importance of national and interactional initiatives to assist with evaluating evidence for drug-drug interactions – as it had been mentioned in the discussion and maybe the only way we can ensure consistency across vendor in the future.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

'I declare that I have no competing interests’