Reviewer's report

Title: Drug-related admissions and hospital-acquired adverse drug events in Germany: a longitudinal analysis from 2003 to 2007 of ICD-10-coded routine data

Version: 1 Date: 20 November 2010

Reviewer: Shanil Ebrahim

Reviewer's report:

Category 1 - Major Compulsory Revisions:
The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

Category 2 - Minor Essential Revisions:
The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

Category 3 - Discretionary Revisions:
These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential.

Abstract (Revisions fall into category 2)

• Incomplete sentence – “five percent of all hospital admissions are at least possibly…”
• Omit “very likely” from the first sentence of the conclusion in the abstract.
• Add “ly” to statistical significant increase in the second sentence to the conclusion of the abstract.
• Omit “a” from “a further tailoring of the ICD-10” in conclusion of the abstract.

Background – (Revisions fall into category 1)

• Replace all the semi-colons with commas in the third sentence.
• Be consistent with referencing at the end of a sentence or in the middle of the sentence.
• The authors mention that a variety of monitoring systems have been developed and the oldest and most common one is the spontaneous reporting system. Reference this.
• The authors should reference the use of databases from health insurers in the countries they listed.
• What projects are the authors referring to for “the epidemiological projects” and what “well-defined research questions” are the authors talking about?
• The background is incomplete. The authors did not give an adequate
justification of why they are carrying out the study. Exploring evidence in previous literature would support this purpose.

Methods – (Revisions falls into category 1)
• Incorrect use of quotations in the identification of relevant ICD-10-codes section
• If using primary diagnosis and secondary diagnosis as proxies for drug-related hospital admissions and hospital acquired adverse drug events, the authors should either cite evidence that this is sufficient or provide justification.
• The content from the methods section is sufficient. An elaboration of statistics is required as the readers are not able to comprehend of what exactly was analyzed.
• There are several grammatical errors in this section that requires attention.

Results – (Revisions falls into category 1)
• There are no axes for figure 1.
• In the drug-related hospital admissions, the authors write that “one can very likely assume a drug related hospital admission” based on the primary diagnosis episodes in table 2. Assumptions are based on belief with no valid proof. In a scientific paper, one should stay away from making assumptions. If the authors have justified the use of primary diagnosis to be a proxy for drug-related hospital admissions, the authors can say it represents drug-related hospital admissions (based on the definitions provided)
• The words “at least possibly related” are written in a passive tone, much like the rest of the paragraph.
• In the sentence where the authors say the diagnoses are ranked in the top 20 in the other years, they should provide a reference.
• Words such as “by far and away” should be omitted.
• “very likely assume” is once again used in the hospital-acquired ADE section.
• The authors can omit “is obvious” and “apparent” if variables are statistically significant.
• The results section requires additional formatting and correction of grammar.

Discussion – (Revisions falls into category 1)
• The authors sufficiently provided previous literature to support their findings. However, the authors need to wrap up the findings from the previous literature with the study results in the drug-related hospital admissions section and hospital-acquired ADEs. This was not done. Another paragraph after those two sections or a paragraph after each of these sections would suffice.
• The authors provided some good limitations such as contamination with other categories. The authors should provide limitations on the way they performed the study (the design) and limitations of using proxies. Can we use some other variable besides proxies? If so, should future research implement it? Are there drawbacks to this?
• Considering future initiatives is important.
• The discussion requires correction of grammatical mistakes and should address
  the points made above to future research initiatives, wrapping up findings with
  previous evidence and elaborating on limitations.

Conclusions – (Revisions falls into category 1)
• Examples should not be given in the conclusion. Leave that to the discussion.
• Much of the points stated in the conclusions should be in discussion. The
  conclusion should be succinct of what the final message was. The readers obtain
  that information in bits and pieces in the conclusion.
• Revision of this section is necessary.

Final thoughts
There are many elements missing from this manuscript [mentioned above]. Many
items are not clearly stated throughout the sections in this manuscript and the
writing is not acceptable; the authors must attend to these compulsory revisions.
Currently, it is not acceptable for publication in BMC Health Services Research.

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

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’