Reviewer’s report

Title: Replicating Medication Trend Studies Using Ad Hoc Information Extraction in a Clinical Data Warehouse

Version: 0 Date: 18 Sep 2018

Reviewer: Mathias Brochhausen

Reviewer's report:

I think this is a very interesting paper of high relevance to the journal.

The reviewer assumes that the topic of the paper is the medication that the patient received during a hospital stay, not prescriptions that the patient received. If that is incorrect, this should be made more clear.

p.2: The following sentence seems a little imprecise from the perspective of knowledge representation: "Ad hoc IE is described as extracting the existence of any concepts (e.g. chronic kidney disease) or any numbers (e.g. the LVEF value) from textual sources in real-time." Is only existence extracted (so, yes no to the mentioning of that concept in the free text) or is actual text extracted? The reviewer assumes that the numbers are actually extracted, not only assessed of whether they are present. Also, the phrasing is a great example of the deviousness of the term "concept". The reviewer assumes that if anything is extracted it is the name or the label of a concept, but it would be neat to clarify that.

p.3: the following phrasing "Not every piece of information belongs to the patient" doesn't ring right in English. I assume that the intended meaning is that not all information is about the patient? (but the negated statements are about the patient...). I think the authors need to differentiated between statements about other persons (medical family history, if applicable) and negated statements. The statement "John Doe does not suffer from lung cancer" is about the patient, but doesn't ascribe the property of having lung cancer to the patient, it specifically states that the patient does not bear that property.

It seems the paper uses "University Hospital of Würzburg" and "University Clinic of Würzburg". If those two expression are referring to the same entity, I'd suggest sticking to one label (I would suggest "Hospital" over "Clinic". In some healthcare systems clinics are places that provide ambulatory care.)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes
Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English  
Please indicate the quality of language in the manuscript:

Acceptable

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