

Response to reviewers of

Caveats for the use of the active problem list as ground truth for decision support

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Dear Mr. Professor Ceusters

Congratulations!

Your submission Caveats for the use of the active problem list as ground truth for decision support (Id=20) was accepted as a Full paper by the SPC of EFMI STC 2018.

Please, check your submission taking into account the suggested improvements by the reviewers where relevant.

Reviewer 1:

This paper is highly relevant and addresses an important issue of secondary use of EHR data. There are two major concerns that should be addressed before acceptance:

1) The introduction and background subchapters are far too long. The space should be used to present the results.

→ We reduced both sections and added more though not all results as it would not be possible to discuss all findings within the 5-page limit. Complete results will be published in a journal paper.

2) The research questions as stated in the paper, i.e. *'adequacy of the clinical user interface (1) to capture what the clinician has in mind, and (2) to reconstruct the clinical reality of the patient, are not really answered by this approach'*. The problems found can neither be unambiguously attributed to the user interface nor to what the clinician had in mind.

→ This reviewer quotes part of a sentence from our abstract out of context by leaving an important part out. The full sentence reads: *'We analyzed in the database of an EHR system the transactions that resulted from managing the problem list **with the goal to obtain insight in the adequacy of the clinical user interface to capture what the clinician has in mind, and to reconstruct the clinical reality of the patient**'* [important omission in bold face]. It was not at all the goal of the work presented here to try to make unambiguous what is ambiguous, but rather to infer what is ambiguous so that ambiguity can be flagged. No action taken.

Review rating:

1. Topic's importance to this conference: above average (4)

2. Scientific and/or practical impact to the topic: above average (4)

Data quality is the foundation of further analysis and inferences. Thus this study points at critical issues.

3. Quality of scientific and/or technical content: average (3)

4. Originality and innovativeness: average (3)

5. Coverage of related literature: above average (4)

Relevant literature is covered.

6. Organisation and clarity of presentation: above average (4)

The paper is well written. However, the introduction and background subchapters are far too long. The space should be used to present the results.

→ We did so. See above.

Reviewer 2:

The manuscript addresses an important topic for decision support systems: whether the problem list can be taken for granted. However, the presented results are limited to the analysis of 6 examples. It is not clear whether these examples are representative of a high number of patient records, or not. This work would be more interesting if a typology of the various problems encountered was presented, with the frequency of each problem.

→ We added the statistics for the problematic patterns exemplified by the selected cases in the result section.

Minor remarks :

* The objectives of the work (last sentence in section 2) mentions the clinical user interface, but no interface is described. It is therefore difficult to assess the role of the user interface in the presented errors. Possibly the objectives could be rephrased, without referring to interface.

→ we described the relevant parts at the beginning of the methodology section.

* In results, some numbers are given as percentage and other as absolute numbers (e.g. 60K, 1500). Using only percentage would facilitate the comparison between numbers.

→ we presented now both percentages and counts for our results.

Review rating:

1. Topic's importance to this conference: above average (4)

2. Scientific and/or practical impact to the topic: (extremely) poor (1)

3. Quality of scientific and/or technical content: average (3)

4. Originality and innovativeness: average (3)

5. Coverage of related literature: average (3)

6. Organisation and clarity of presentation: average (3)

Reviewer 3:

The work of Ceusters and Blaisure adds insights on the real-world use (and related problems) of problem lists in secondary use. In the context of STC 2018, the paper is of great relevance. It is well structured and well written.

There are only some minor issues that I'd like to point out.

- It is advised to use MeSH terms for keywords.
 - Has been done, at the price of specificity loss
- Some abbreviations, e.g., IHI, are introduced but never used afterwards. One might re-consider the introduction of the abbreviation.
 - This was introduced in section 2
- 4. Results: "Only 1[,]500 changes occur..."
 - sentence has been rephrased
- 6. Conclusion: "Therefore[e,] caution is..."
 - corrected
- 6. Conclusion: "It is further to be investigated (1) whether there exist[s] automatically ..."
 - plural is acceptable here

Review rating:

1. Topic`s importance to this conference: above average (4)
2. Scientific and/or practical impact to the topic: above average (4)
3. Quality of scientific and/or technical content: average (3)
4. Originality and innovativeness: average (3)
5. Coverage of related literature: outstanding/excellent (5)
6. Organisation and clarity of presentation: outstanding/excellent (5)