Author's response to reviews

Title: An iconic language for the graphical representation of medical concepts

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Author's response to reviews: see over
Dear Sir / Madam,

We thank the reviewers for their comments and questions on our article submitted to BMC. We revised our article and tried to answer all the reviewers’ questions. Here is a point-by-point response to the reviewers concerns:

Questions from Hans Åhlfeldt

Question : The title is very long, containing a long list of information types; thus a suggestion to shorten the title where the last part is condensed into a more generic expression

Our response : The title has been modified as suggested.

Question : Although the VCM language is not fixed, information about how many icons that currently are available in the language should be added.

Our response : More precise information on this topic have been added in the “Results - Current version of VCM” section, including the number of icons that we individualized when mapping medical classifications such as ICD10 and ATC to VCM.

Question : Extended discussion 1: the forth aspect of searching through "is-a-kind-of" need to be extended with description/discussion of how many levels of "is-a-kind-of" that can be handled, and whether a "part-of" relation would be a candidate.

Our response : We have extended the discussion on this topic. 2 paragraphs about "is-a-kind-of" and "part-of" relations have been added to the “Discussion - VCM design” section (5th and 6th paragraphs).

Question : Extended discussion 2: report of any mapping problems when transforming the drug monographs into the VCM language?

Our response : The mapping of drug monographs to VCM icons has been performed automatically, using a manual mapping of the Theriaque thesaurus to VCM icons. A paragraph has been added in the new “Discussion - Toward the use of VCM in real life” section, which reports the difficulties encountered when manually mapping the Theriaque thesaurus to VCM icons.

Question : Extended discussion 3: "The icons and sentences in the comprehensibility evaluation were chosen by us because we wanted to verify whether some potentially problematic icons were easy to learn and to understand ..." The result of this analysis is not sufficiently reported in the paper.

Our response : The “Results of the comprehensibility evaluation” section has been extended with qualitative results issued from the evaluation. In addition, we extended the “Methods - Design of the comprehensibility evaluation” and the “Results of the comprehensibility evaluation” sections with an additional analysis about the impact on the comprehensibility of the icons complexity, in term of number of attributes and use of analogy.

Questions from Stefan Darmoni

Question : In the Results section, percentages should be followed by the standard deviation.

Our response : We have added 95% confidence interval to the percentages.
Question : At this end of the first sentence of page 11, please repeat what statistical test was used.

Our response : It has been done.

Question : I suggest to the authors to discuss more in detail the fact that the training to learn VCM is quite long (2-7h) and not at all intuitive. Therefore, I suggest to modify the first sentence of the Discussion section, which states that the language is easy to use. According to me, it is clearly the opposite. Finally, the time spent to learn the VCM language is the main drawback of this study. The authors should be clearly mention how they imagine a broad utilisation of this language if it is freely available on the Internet.

Our response : The various assertions stating that VCM was "easy to learn" have been replaced by "learnable in a few hours". A paragraph has been added in the new "Discussion - Toward the use of VCM in real life" section, which discusses the learning phase and gives clues for facilitating VCM learning.

Question : The authors should also mention that the evaluators are not randomly chosen GPs but trainers of GP students. Then, the results of the evaluation may under estimate the time to learn VCM and also generate bias to the main results of this study.

Our response : None of the evaluators was trainer of GP students. Evaluators were GPs belonging to the SFTG, an association that provides continuous education for physicians; their status at the SFTG was "students", but not teachers. Continuous medical education is mandatory for GPs in France, from the SFTG or other organisms. We have modified the "Method - Evaluator recruitment" section to clarify this point.

Question : I will also attend that the authors develop in the discussion section the granularity of the VCM classification vs several thesauri or classification (e.g. MeSH, ICD10) which contains from 10,000 terms to several hundred thousand terms which can not be represented by VCM.

Our response : The last paragraph of the new "Discussion - Toward the use of VCM in real life" section addresses this point.

We hope that these revisions improve the clarity and quality of the article.

Sincerely,

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