Author's response to reviews

Title: PHSkb: A Knowledgebase to Support Notifiable Disease Surveillance

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Editor
BMC Medical Informatics and Decision Making
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Re: MS: 4551797358246130 – PHSkb: A Knowledgebase to Support Notifiable Disease Surveillance

Dear Editor;

On behalf of my co-authors and I, thank you for additional review of this manuscript. We are assuming that our previous revisions satisfied the concerns of reviewer #1, whose initial recommendation was to “accept after minor essential revisions.” Below please find a point-by-point reply to the comments of reviewer #2. Please consider the revised manuscript for publication in BMC Medical Informatics and Decision Making.

Reviewer: I still believe that the figure 2 to 6 are not the kind of information expected in a scientific paper.
Reply: In our previous reply, we changed tables 2-6 to supplemental tables not in the body of the text and stated that we leave it to the editor’s discretion as to whether or not these supplemental tables should be included. To restate the rationale for these tables, they allow the reader to quickly view the scope of the domain, without needing to download the Protégé software and view the knowledgebase itself. Epidemiologists and surveillance system developers working on surveillance system integration issues in the United States, who have reviewed draft versions of the manuscript, have found these tables useful. Therefore, we have kept the manuscript and tables unchanged regarding this point and continue to leave it to the editor’s discretion as to whether or not this information should be included as supplemental tables.

Reviewer: …the connexion to their ftp site is most painful. …there is absolutely no friendly user interface… To what categories of users do they offer this ftp connexion? Absolutely no field epidemiologist will be able to benefit from this ftp.
Reply: The ftp connection allows readers to download the 3 knowledgebase files and to open the knowledgebase using Protégé software as described in the Availability and requirements section of the manuscript. A web interface to the knowledgebase content has not yet been developed. Future plans, including development of the web interface,
are outlined in the final paragraph of the discussion section. However, lack of a web interface does not prevent readers from downloading the files via the ftp connection, and viewing the content in Protege. The ftp connection is offered to all categories of users. Readers can be expected to come with a wide array of informatics skills. We do not dispute the reviewer’s contention that field epidemiologists with less developed informatics skills may have difficulty viewing the knowledgebase content without the benefit of a web interface. This is why a web interface is planned in a later phase of the project. However, one of the primary benefits the knowledgebase can be expected to achieve is directed not at field epidemiologist, who already posses the domain knowledge contained in the knowledgebase, but rather for surveillance information system developers who lack this domain knowledge. The knowledgebase has been requested by numerous information system developers for precisely this reason: to provide unambiguous, machine-readable, domain knowledge for technical staff developing surveillance information systems, who do not posses domain knowledge of notifiable disease surveillance. This category of users can more reasonably be expected to successfully download the files from the ftp site and view the knowledgebase content using Protégé.

Reviewer: I made criticisms on Fig 1 which is the heart of the article…I am convinced that this figure could be improved (maybe 2 figures are needed, one showing the general organization, and another one zooming on a specific part).
Reply: We have substantially revised Figure 1 and changed the figure legend listed on the final page. In addition, we have revised and added text describing the figure in the second subsection of the “Construction and content” section of the manuscript.

Reviewer: I said that their paper deals only (presently) with infectious disease (obvious from fig 1), but the authors reply that ultimately their approach could cover any surveillance. True. But not done presently.
Reply: The knowledgebase presently includes diseases (infectious and non-infectious) reportable in one or more jurisdictions. In the former Figure 1, both the infectious agent class and the substance class link to the disease class. Therefore, for instances of the disease class that represent infectious diseases, the associated infectious agent would be specified. Alternatively, for instances of the disease class caused by toxic substances (e.g. lead poisoning) the associated substance (i.e. lead) would be specified. Furthermore, as stated in our previous letter, a careful review of supplemental table 2 reveals many non-infectious conditions currently listed as instances of reportable disease (e.g. lead poisoning). This supports our belief that supplemental tables 2-6 are useful to the reader by providing a broad overview of the domain without the need to download the knowledgebase files or Protégé software.
The revised Figure 1 now shows the 18 major subcategories of reportable disease, 17 of which are non-infectious. The reviewer is referred to supplemental table 2 for more detailed information on the non-infectious diseases that are reportable within these subcategories. This should leave no doubt that non-infectious diseases are presently represented in the knowledgebase.
Reviewer: The authors agree with me (the knowledge representation is their major goal) but did not change their ms accordingly as they feel that they cope with the authors instructions for database articles. I stand on my position, but the editor may agree with them.

Reply: We maintain our position that the manuscript, in its original and revised form, conforms substantially to the instructions for authors for database article types, provided by the journal. Additional text describing the knowledge representation in the revised Figure 1 has been added, as previously described, to the “Construction and content” section of the manuscript.

Reviewer: I think the authors must –and can- substantially improve the paper (eg fig 1) and their ftp site...

Reply: Figure 1 has been substantially revised and additional text has been added to address the reviewer’s concerns. Developing a web interface to the knowledgebase is planned for a later phase of the project, but is impossible to achieve in the short term for the purposes of this manuscript. To our knowledge, a web interface is not a requirement of database articles published in BMC. The only requirement for database articles we are aware of is that the database be made available. We have provided instructions on how to obtain the database in the “Availability and requirements” section of the manuscript.

Finally, due to a new agency policy that applies broadly to published research within our host institution, the following disclaimer has been added to the title page: “The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the funding agency.”

Thank you for your consideration of this revised manuscript.

Sincerely your,

Timothy Doyle, MPH