Author’s response to reviews

Title: External validation of type 2 diabetes computer simulation models: definitions, approaches, implications and room for improvement—a protocol for a systematic review.

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Jean Joel R Bigna, MD, MPH
Editor
Systematic Reviews

December 5, 2017
Subject: Submission of revised paper SYSR-D-17-00250 entitled "External validation of type 2 diabetes computer simulation models: definitions, approaches, implications and room for improvement—a protocol for a systematic review"

Dear Jean Joel R Bigna,

Thank you for your email dated November 30, 2017 enclosing the reviewers’ comments. Our author team have carefully reviewed the comments and questions raised by the reviewers and have revised the manuscript accordingly. Our responses are given in a point-by-point manner below. Changes to our manuscript are shown by using the track changes mode in MS Word. We believe the reviewers’ comments substantially improved our manuscript and are deeply grateful for their feedback. Beyond this revision, we also put much effort in correcting some minor typos and grammatical errors. We hope the revised version is now suitable for publication and look forward to from you in due course.

Best regards,
Katherine Ogurtsova
on behalf of the author team

Reviewer reports:

Reviewer #1: Important area of study and much needed in this field. The review method is sound and I have no hesitation in recommending acceptance for publication.

Thank you very much for your high appraises.

Reviewer #2: This is an important review that is being conducted in a fashion building on existing knowledge (through synthesis of previous review methods)

This review is well structured, is comprehensive in construction and will be a valuable addition to the literature.
> One minor suggested amendment: Row 1 - suggest remove "nowadays"

We are grateful for this positive statement. We deleted the word “nowadays” in the first row as suggested by the reviewer.

> Reviewer #3: Sentence on line 39–40 in 'study objective and rationale section' "The scope of our upcoming review will be limited to T2DM models for human populations based on computer simulation techniques" could go at the beginning of the section as it seems a little repetitive where it is currently placed.

We totally agree with the reviewer’s comment. We critically revised the section “Study objective and rationale” to be more clear and concise on the objective and to avoid repetition as suggested by the reviewer. (see page 4-5).

> Inclusion and exclusion criteria described in 'Eligibility criteria' section would be easier to read if it was presented in a PICOS table.

We thank the reviewer for raising this point. We totally agree that the inclusion/exclusion criteria section is hard to comprehend. Since our systematic literature review is focusing on methodology in a disease modelling, the standard PICO or PICOS search tools are not applicable. They are specified for systematic reviews in evidence based health care and do not contain all fields relevant in this study. Nevertheless, in attempt of making the eligibility criteria easier to read, we have organized them in a table format as suggested (see Table 1, page 6).

> Also in 'Eligibility criteria' section; define IGT, IFG and high-HbA1c, define long or short term projections in terms of length, define or give examples of risk factors

As suggested, we have added the sentence about the disease states definition: “IGT, IFG, high-HbA1c and diabetes should be defined according to ADA[31] or WHO[32] criteria.” Moreover,
we defined long and short term projections and added a list of risk factors highly relevant to disease modelling in the context of T2DM (see Table 1, page 6).

>Table 1 could be included in the text as a preliminary search strategy example rather than in the appendix

We fully agree with this comment. Hence, we have moved the table into the text (see Table 2, page 11).

> The second and third paragraphs under 'Study selection' section begin in a similar fashion e.g. with 'second' and 'third'. This should be rewritten to reduce repetition of writing style and give more flow to the section.

Thank you for bringing this to our attention. We have rephrased the section “Study selection” in order to give more flow to the section. Introducing words were replaced to reduce the repetition of the writing style.

> Line 35-36 under 'Additional data sources selection' section "We will make a survey of completeness of identified models among experts in the field with a prefinal list of the identified models" could be rewritten to provide more clarity.

There is some truth in it. We agree that this sentence is rather vague and doesn’t provide valuable insight. We have rewritten the paragraph: “We will send a written request to experts in the field through open and private communication channels (i.e. emails, subscription newsletters, and professional boards) to check if a pre-final list of the identified models is complete and sufficient. If some undetected models are mentioned, we will include them in the study.” (see page 13).