Author’s response to reviews

Title: Assessing the maturity of the healthcare system for integrated care: testing measurement properties of the SCIROCCO tool

Authors:

Liset Grooten (fennechien.grooten@vub.be)
Hubertus Vrijhoef (bert.vrijhoef@panaxea.eu)
Stefano Calciolari (stefano.calciolari@usi.ch)
Laura Ortiz (laura.guadalupe.gonzalez.ortiz@usi.ch)
Marcela Janečková (marcela.janeckova@gmail.com)
Mirella Minkman (M.Minkman@tias.edu)
Dirk Devroey (Dirk.Devroey@vub.be)

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Author’s response to reviews:

Dear Reviewer 1(R1),

First of all, we would like to thank you for your time reviewing the manuscript and for providing the constructive feedback. Please find below a table including your comments and suggestions on the left and our response on the right. The revisions we made in the manuscript are included as track changes, please see the revised manuscript. We have tried to address all your concerns in a proper way and believe that our paper has improved considerably. We would be happy to make further corrections if necessary and look forward to hear from you soon.

(The responses follow the structure of the Custom Review Question(s), followed by our response, which is then followed by the Comments to Author from the reviewers, with our response)

Custom Review Question: Are the methods appropriate and well described? If not, please specify what is required in your comments to the authors.
R1: Yes

Response from the authors: Thank you, no further comments.

Custom Review Question: Does the work include the necessary controls? If not, please specify which controls are required in your comments to the authors.
R1: Unable to assess

Response from the authors: Not applicable to this study.

Custom Review Question: Are the conclusions drawn adequately supported by the data shown? If not, please explain in your comments to the authors.
R1: Yes

Response from the authors: Thank you, no further comments.

Custom Review Question: 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.
R1: I am able to assess the statistics

Response from the authors: Thank you, no further comments.

Custom Review Question: Quality of written English Please indicate the quality of language in the manuscript:
R1: Needs some language corrections before being published
Response from the authors: Point well taken. We did revise some parts in the manuscript, please see the track changes in the manuscript:

Page 4, line number: 165,167,173,177,180,181.
Page 5, line number: 201,204,205,211,212,216,218,222,235.
Page 7, line number: 298,299,343.
Page 9, line number: 403,404,409,410,413,422,423,426,427,430,432,433.
Page 10, line number: 464,465,475.

Comments to Author from reviewer 1:
R1: I keep seeing anonymous references. This confuses me, why is that?

Response from the authors: These references refer to the previous work of some of the authors. Since this is an open review process, we now included the names to the references. We included those references on page 3, line numbers: 95,105,127. And on page 4, line numbers: 188,191,199,200,202,203,207.

R1: I am unable to access the Appendices and thus cannot comment on them

Response from the authors: Apologies for this inconvenience. We have no idea why you are not able to access these documents. We did include the two Appendices to the Editorial Manager website. If we download our submission and scroll down to the end of the document, we are able to click on the supplementary material and access the Appendices.
R1: FA revealed a one-factor model to measure maturity. Could the authors comment a little more on this outcome variable, and additionally, if a one-factor model was anticipated when the original SCIROCCO tool was developed?

Response from the authors: Point well taken. We included a description to the text at the Results section, on page 7, line number 341, saying: ‘‘The revealed single factor is in line with the initial structure of the SCIROCCO tool, where the 12 items together were conceived to assess the one ‘underlying’ concept of maturity for integrated care.’’

R1: Could the authors comment a little more about how they chose their analysis strategy, in particular why on an EFA was conducted and not additionally a CFA?

Response from the authors: Since the SCIROCCO tool was newly developed there were no explicit ideas about the number of dimensions, since the tool and its dimensions were derived from the information retrieved from semi-structured interviews (which is described in our previous article on the content-validity). There were no previous quantitative analyses of this initial structure. Therefore, we choice to start with undertaking an EFA, ‘‘ in the development phase of the instrument.’’ Which is recommended by De Vet et al. (Vet de HCW, Terwee CB, Mokkink LB, Knol DJ. Measurement in Medicine: A Practical Guide. Cambridge Univ. Press. Cambridge University Press; 2011.).

In addition, the reason why we did not perform a CFA after the EFA is that we aimed to explore the factor structure of the SCIROCCO tool (by using EFA). If we would verify the factor by using the same dataset by using CFA, the result will most likely give good fit indices. To undertake an CFA for the SCIROCCO tool, a different dataset needs to be obtained from a similar sample. This should be scheduled for further research. Which we recommend in the Discussion section, page 8 line number 387.

R1: The authors make several choices based on seemingly arbitrary criteria (e.g. written in the data analysis paragraph - line 47 and further to the bottom). Please include a reference for these criteria as I would expect that would be relevant for this journal in particular.
Response from the authors: Point well taken. We included references to the text under the Methods section, on page 5 line 248 and page 5 line 254.

R1: I am puzzled by the convergent validity findings - you find only so little hypotheses that were met? I agree that this a difficult validity to get right, but I would have expected a little more results. Are you meeting again with experts from the field of healthcare maturity measuring so assess if maturity might be multi dimensional for example, or why it is that certain hypotheses did show whereas others did not?

Response from the authors: Point well taken. In our first validation study, we have consulted experts, were the results showed that consensus among them was found on the relevance of all the twelve items of the SCIROCCO tool for measuring maturity. About the convergent validity study: since, to our knowledge, there is no gold standard instrument available with respect to measuring maturity for integrated care, the DMIC Quickscan included in this study was the most appropriate choice of comparative instrument that is available. Unfortunately, we conducted the analysis for convergent validity on a relatively small sample size. Therefore, at this moment, we first recommend to perform the analysis for the convergent validity on a larger sample size to explore whether more correspondence among the items of the instruments will be found and thus support the convergent validity of the tool, or to see whether the instruments do measure different constructs. (this is stated in the Discussion section page 8 line number 364 in the manuscript). And we included a sentence on a follow-up project: ‘‘Since the SCIROCCO project has been followed-up by a new project focussing on maximising the value and impact of the tool, we recommend paying attention to this matter in the new project.’’

R1: Overall, well done on the methods, very impressive!

Response from the authors: Thank you for your kind words.

Dear reviewer 2 (R2),

First of all, we would like to thank you for your time reviewing the manuscript and for providing the constructive feedback. Please find below a table including your comments and suggestions on the left and our response on the right. The revisions we made in the manuscript are included
as track changes, please see the revised manuscript. We have tried to address all your concerns in a proper way and believe that our paper has improved considerably. We would be happy to make further corrections if necessary and look forward to hearing from you soon.

(The responses follow the structure of the Custom Review Question(s), followed by our response, which is then followed by the Comments to Author from the reviewers, with our response)

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

R2: Yes

Response from the authors: Thank you, no further comments.

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

R2: Yes

Response from the authors: Not applicable to this study.

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

R2: Unable to assess

Response from the authors: The results of our study are presented in the Results section, on page 7 in the manuscript. The tables which present the outcomes of our data analysis are displayed at the end of the manuscript, starting on page 12. We feel that this adequately supports our conclusions, as presented in the Discussion section, starting on page 7.
Custom Review Question: 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.

R2: I am able to assess the statistics

Response from the authors: Thank you, no further comments.

Custom Review Question: Quality of written English. Please indicate the quality of language in the manuscript:

R2: Acceptable

Response from the authors: Thank you, we did revise the text in some parts in the manuscript, please see the track changes on:

Page 4, line number: 165,167,173,177,180,181.
Page 5, line number: 201,204,205,211,212,216,218,222,235.
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Page 9, line number: 403,404,409,410,413,422,423,426,427,430,432,433.
Page 10, line number: 464,465,475.

Comments to Author from the reviewer 2:

R2: SCIROCCO: I think defining this in the beginning will alert the reader in addition to how you have defined on line 10.
Response from the authors: Point well taken. We have included the full name/definition of the project in the abstract, followed by the abbreviation. See page 2, line number: 46.

R2: Line 6- please define: scaling up

Response from the authors: We included the next definition on page 3, line number 100: The definition of scaling-up which is used in the context of the EIP on AHA, and the SCIROCCO project, is derived from the review of Mangham and Hanson, and is described as ‘’the ambition or process of expanding the coverage of health interventions,’’ but can also refer to ‘’increasing the financial, human and capital resources required to expand coverage [2].’’

R2: Looks like this reference has a lot of details: line 34 content validity of the SCIROCCO tool was assessed by undertaking a literature review and Delphi study (anonymous reference). I think without reading this reference a lot of detail is missing for the reader. The paper would read better had the authors included that

Response from the authors: Point well taken. We included an elaborated description to the text (see page 3, line number 125): In a first validation study, the content-validity of the B3-MM was assessed by undertaking a literature review and Delphi study [5]. In the literature review, the 12 dimensions and assessment scales of the tool were compared with corresponding measures or instruments which were found in the literature. The outcomes showed that all the dimensions in the original version of B3-MM are aligned to the items of the corresponding instruments found in the selected literature. Thereafter, the Delphi study was undertaken. The three Delphi study rounds resulted in various phrasing amendments of indicators and the assessment scales of B3-MM. In conclusion, the study showed satisfactory content-validity of the SCIROCCO tool.

R2: Line 51: in the Methods section, a comma is needed after The measurement properties,

Response from the authors: Thank you, a comma is now inserted (page 4, line number 144)