Author’s response to reviews

Title: The gravitational force of mental health services: Distance decay effects in a rural Swiss service area

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Author’s response to reviews:

Dear Dr. Shidhaye,

Thank you very much for giving us the opportunity to revise our manuscript (BHSR-D-17-00617R1) and to resubmit our revision to BMC Health Services Research. We appreciate the careful reading by you and the two reviewers, and we have tried to respond to the comments in the enclosed revised version.

Below, we describe how the paper has been revised in response to the remaining points you and the two reviewers raised. Should you or the reviewers have any further suggestions that they consider would enhance the paper then, we would of course be willing to take such suggestions on board.

Guttorm Raknes (Reviewer 1)

In an ideal world I would like that some of the very good answers to my objections could have been presented in the manuscript itself (why non-parametric tests, why not effect sizes, why not Poisson).
We included some of our comments from the accompanying letter of the previous revision to the manuscript.

On p. 8 (lines 17-20) we added the following comment to the revised manuscript: “… Note that the Poisson regression models, which were used in some previous studies on distance decay effects [1], require count data (i.e., integer values equal or greater than zero) which made Poisson regression inappropriate for the continuous ratio scores in our dependent variables …”

“For subsequent analyses to examine the degree of distance decay effects and their shape within diagnostic subgroups, the n=219 communities were categorized into 9 distance ranges (based on 5 minutes intervals).” (p. 10, lines 16-18).

The reason for using non-parametric tests is provided on p. 9 (lines 10-14 “Bivariate associations between the average travel time per distance range category and the corresponding caseload per distance range category were examined using non-parametric Spearman rank correlations in order to account for the rank ordered distance range categories within diagnostic subgroups.”

Tessa Roberts (Reviewer 2)

There are one or two minor language corrections needed (e.g. line 7 on page refers to "publication transportation" rather than "public transport", line 25 on page 16 says "might be considered arbitrarily" rather than "considered arbitrary", line 9 of page 17 says "decentralize" rather than "decentralized").

Thank you very much. We made these language corrections in the revised manuscript.

In addition, we corrected some further typos, and we added a reference to a recent study showing reasonable validity of the routine clinical diagnoses in our mental hospital (p. 16, lines 23-26).
We hope that the changes we have made are satisfactory. We would of course be willing to take any further suggestions of the reviewers on board. Thanks once again for your efforts in this review process.

Sincerely,

Niklaus Stulz