Reviewer's report

Title: Finnish physicians' stress related to information systems keeps increasing: A longitudinal three-wave survey study

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Reviewer: Huibert Tange

Reviewer's report:

This paper addresses user stress with information systems, a very important subject in such demanding environment as health care. The authors have measured self-reported stress and person/work related factors at three points of time to examine possible trends. The conclude that stress due to information system use has increased over time and suggest further study to the properties of information systems that cause this stress.

My main concerns about the quality of this paper are the narrow basis of the primary outcome measure (only 2 self-reporting questions) and the statistical methods used. The authors use GLM, which assumes a continuous response variable with normal distribution and fixed predictor variables. However, the response variable is the mean of two Likert-scales (which cannot be averaged straightforwardly) and the predictor variables are not fixed (at least, not all). An additional clustering procedure was needed to fix them artificially (e.g., specialization status was only considered as (a) always specialized (b) always ongoing (c) other). An alternative statistical approach GLMM (using mixed models) would perhaps suit better, since it needs less assumptions.

Some minor comments:

- A substantial number of literature references is in Finnish, which makes it unaccessible for a broader audience.

- The background chapter spends several paragraphs on properties of specific information systems (usability, reliability, etc.) that are not part of the study. It would be better to leave them for the discussion chapter.

- The Finnish context is not clearly described. What is the value of private healthcare if public healthcare covers everything? Do all physicians in Finland use the same EHR (Kanta)? If Kanta mainly includes medication data, is it a complete EHR?
- In the discussion chapter, correlations are made between separate predictors (high time pressure, on-call burden, specialist status) which have not been tested in the study.

- Table 1 presents demographic data that are not aligned with the way these data are clustered and according to the method section. In this they differ are over the points of time, while for the analysis they are fixed.

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

No

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

Unable to assess

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

No

**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.

I recommend additional statistical review

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