Reviewer’s report

Title: The Low Indexes of Metabolism Intervention Trial (LIMIT): Design and baseline data of a randomized controlled clinical trial to evaluate how alerting primary care teams to low metabolic values, could affect the health of patients aged 75 or older

Version: 1 Date: 18 Oct 2016

Reviewer: Maya Vadiveloo

Reviewer's report:

The design of the LIMIT trial is interesting and may provide evidence supporting the use of email alerts to identify high-risk patients. However, there are some issues that would be useful to address, which I have highlighted below.

1. The discussion on BMI and unintentional weight loss could be more thorough. For example, some research in large populations questions the "BMI paradox" and this could be better flushed out in the introduction. Similarly, the question about whether older adults should receive nutritional counseling to increase their body weight should be supported by evidence, as it is not clear that weight gain is recommended, and if it is recommended, what the target should be.

2. The link between the background and the gap that the LIMIT study is trying to fill could be made more clearly. For example, is the purpose of the trial to more consistently intervene in these identified "high risk" groups- this is not clear from lines 111-114 and the subsequent objectives.

3. I think it would be more valid to use a time-to-event survival analysis than a t-test for the primary outcome. Additionally, do the researchers plan to examine whether the intervention effectiveness is mediated by changes in the secondary outcomes?

4. I had difficulty following the randomization process. Are there 7 subgroups where within each subgroup some participants are randomized to receive the intervention and others are randomized to receive usual care? If so, is the study powered based on these 7 groups? Similarly, now that emails are no longer being sent to the Southern district nurses, how does that affect the randomization scheme and study power?

5. BMI, HbA1c, and cholesterol have different effects on overall mortality- how will the authors address this in their analysis?

6. It would be useful if the authors could touch on the clinical significance in addition to the statistical significance of the intervention.
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

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