Reviewer’s report

Title: Predictive performances of four frailty screening tools for community-dwelling older people

Version: 1 Date: 20 Apr 2017

Reviewer: Joanna Blodgett

Reviewer's report:

The authors added the recommended changes, but kept the same basic manuscript outline as previously as a result, the manuscript is not easy to read. It is disjointed throughout and requires careful consideration. I have tried to highlight several issues that need to be addressed. Many of the grammatical errors are gone, but there remain a few; the manuscript needs to be careful read and edited.

Introduction:

The argument flow is disjointed in the introduction and the discussion. For example, the introduction content is ordered as follows: definition and mention of one tool --- prevalence --- definition and mention of a second tool --- mention of predictive ability of tools. The frailty phenotype and frailty index are the two major models and measures of frailty; the authors fail to address this in summarizing the literature and do not clearly explain why the frailty index is not included in this paper.

Methods

- aCGA: where did these cut-off values come from: provide reference or justification. All other measures have a frailty cut-point, it is unclear here.

- Not sure what: "in this study, the a CGA was only one of the other measures" means

- There is no explanation of mortality or hospitalization in the manuscript. How was hospitalization defined? Was mortality status obtained with public records, hospital records, follow-up with patient's families?
Results:

- There is still uncertainty about the sample size. Of the 419 excluded from analysis: how many died? how many lost to follow up? how many excluded due to missing data?

- Table 1 gives information on those excluded but is unclear. Is Table 1 baseline data only? Some of the title headings may be misleading. Providing comparisons between those included in the study (1224) and those who were excluded from analyses (419) is helpful but there is no need to present the original sample amount. The Non-responders (419) label is confusing; the text states that some were lost to follow-up, some died but this contradicts it.

- Why does the test highlight demographic differences between the groups only? Would be useful to see if there are baseline differences in frailty/disability within text as this is of interest.

- The summary of disability prevalence is confusing and not easy for the audience to understand. It is good to see comment on transitional states but still not clear- can these numbers be presented in a table or a figure?

- Why weren't Cox regressions used for mortality analysis? The reviewer's comments fairly queried why Cox regression was used for disability and was fair but mortality should be done with Cox regression.

- In the final paragraph, negative statements are reported such as "the aCGA and the Fried's scale were not significant predictors of institutionalization "... are readers expected to interpolate that the other scales therefore were significant? Although it can be seen from the tables, it is important to report what was significant.

- Authors claim that Fried's tool was the most specific in terms of predicting institutionalization but this was not found to be significant in regression analysis… this needs to be tied together and comment on

- The emphasis on the results is on AUC rather than ORs… would reconsider this.

Discussion:

- There are physical items that appear in both disability and some of frailty measures, authors should comment on potential issues with this.

- "However, if we want to interpret these data loosely," not appropriate for a discussion... .what does this add?
- The authors correctly compare frailty prevalence and disability from other studies. In many cases, the disability comparisons have no reference to age so it is unclear if the population was also 65+ or if they are comparing a younger/older sample.

- "The variations in prevalence that were found in this study according to the tool used suggest that these instruments measure different dimensions of frailty." This sentence is very interesting and needs to be expanded upon.

- "Few comparisons of the accuracy of frailty screening tools has been described in the literature (14, 26). Frailty screening tools have mainly been studied in older patients with cancer; thus, generating comparisons with other geriatric population has been difficult (27-29)." … again this statement is not reflective of the literature and I suggest that the authors read further to understand what has previously been compared. Both reviewers suggested several papers that compared frailty measures and there are many many more available. It is also untrue that frailty screening tools have mainly been studied in older patients with cancer.

- "Another limitation is methodological. From a statistical point of view, the ideal strategy would have been to perform multi-state analyses (33). We could have obtained estimates of the probabilities of being in each of the four states (fully independent, mildly disabled, moderately disabled and severely disabled) at a given time. However, we did not give preference to this methodological approach, albeit valuable, as it made the analyses laborious for little added benefit (34)." …. this statement needs to be reconsidered. If the ideal strategy was to do multi-state analyses, this should have been done regardless of how "laborious" this would be. If the authors do not want to do this analysis, adding this sentence only raises a concern; it should be removed.

- Pg 10, first paragraph. This information should be provided earlier and could add value to the current opening paragraph of the discussion

- Discussion doesn't mention the odds ratio results at all… see point in methods about more emphasis being given to ORs over AUC.

- Pg 10, last paragraph of discussions… this reads more like a conclusion. The authors say that their study has "several findings of interest" yet these findings have already been well established in other studies/samples. The authors need to pay careful attention to what their study adds to the literature.

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

Yes
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If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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