Reviewer’s report

Title: Age-related frailty and its association with biological markers of ageing

Version: 3  Date: 10 June 2015

Reviewer: Jeremy Walston

Reviewer’s report:

Reviewer’s comments: The authors have, as requested, re-run the analysis for AUC for FI-B and FI-CD using the same population that was utilized to calculate the AUC for Fried tool. They have presented these results in supplemental table 3. However, these revised results are still not presented in the abstract or in the results section in a way that allows readers to make a valid comparison of analyses conducted on equivalent data. The re-analysis shows that the AUC for FI-B was revised downward from 0.66 to 0.61, and that for the FI-CD was revised downward from 0.71 to 0.64. These two revised numbers are much closer to the Fried phenotype AUC of 0.58 than the data presented in the manuscript. They should be presented in the abstract text and in the main text of the manuscript if a valid comparison between the tools is to be made for the readers. In order to accomplish this, the following minor revisions are suggested.

For the abstract revision, either of the following suggestions would suffice. Either 1) the AUCs generated for FI-B and FI-CD in the revised analysis should be presented alongside the Fried AUC in the abstract (ie 0.61, 0.64, and 0.58 respectively) or 2) mention of the comparison of the Fried tool AUC should be removed from the abstract altogether as it presently stands.

For the results revision, either of the following minor revisions would suffice. Either 1) the AUCs generated in the revised analyses should be presented directly in the text alongside the Fried AUC, or 2) present supplemental table 3 should become part of the main document as table 3, so that the readers can more readily make a valid comparison between the two methodologies.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.