Reviewer's report

Title: Predictors of working beyond retirement in older workers with and without a chronic disease - Results from data linkage of Dutch questionnaire and registry data

Version: 0 Date: 07 Jun 2017

Reviewer: Constanze Leineweber

Reviewer's report:

The aim of the study was to investigate whether demographic, socioeconomic and work characteristics, health and social factors predict retirement in workers with and without chronic disease. It is a explorative study and no clear hypotheses are formulated about which factors might contribute more or less on working beyond retirement in those with and without chronic disease.

The introduction gives a good overview over the area, but I would suggest the authors to broaden it by including literature from other countries than the Netherlands, if so possible.

In the section describing the study population, you could be clearer that also the maximum age of inclusion in STREAM is 64, people are followed after this age. Please give also the number of persons who were excluded due to missing registration (GBA) or social security number.

Regarding the definition of working beyond retirement, it is defined as receiving pension. There is some lack of clarity here: first, how is 'being working' defined, is it that people report that they are in work or is it that they receive an income? Second, would it be possible that people are on part-time disability pension and are the remaining time in ordinary employment? In that case, does this really mean working beyond retirement?

Also the authors include a number of work characteristics, some important work characteristics are missing. If possible, please provide information about the weekly working hours, as the number of part time workers might be much higher among those with chronic disease. Also the amount of control might be an important contributing factor. Please motivate your chose of inclusion or exclusion of work characteristics.

One contributing factor studies is having a partner and his/her health and work status as well as attitudes regarding quitting and/or continuing work. I think these are partly different things, having a partner or not might be a contributing factor to stop or continue working. So, I would suggest to make one variable: having a partner. Then, among those with a partner, this partners attitudes etc. might be important for the decision for or against continued work. Thus, I would
suggest to calculate this only among those who actual have a partner. I find it difficult to using 'having no partner' as a reference when calculating the contribution of the partner's opinion in the multivariate logistic regression models.

Why are the response options for 'attitude of the partner' and 'attitude of the partner with regard to continued employment not identical?

Accuracy of the prediction model is given by area under the curve (AUC). Please provide some cut-off values or similar. Commonly used are 90-1 = excellent; .80-.90 = good; .70-.80 = fair; .60-.70 = poor; and .50-.60 = fail. I also would like the authors to consider to calculate the population attributable fraction (PAF) of the variables included, as this could give some additional information about the actual importance of different factors contributing to continue work beyond retirement in the two different groups.

In regard to table 1, those with chronic disease feel less worn out and less fatigue. This is an interesting finding which should be discussed, especially as it contradicts the finding that those with chronic disease feel less full of life. Also, in table 1, numbers for those with (very) good health for those without chronic disease are missing due to too low numbers. However, this seems strange as a considerable amount should have (very) good health.

The authors chose to give 85% confidence intervals (at least according to the tables) instead of the commonly used 95% confident intervals. What is the reason for this?

Generally, the findings are rather weak and the AUCs rather low. This is acknowledged by the authors, but should be discussed more in detail.

The authors suggest that there might be additional factors among chronically ill employees which were not included in the study. What could these factors be? In general, the discussion would gain by discussion finding in relation to previous findings.

Also the study use prospective data, one limitation which is not discussed is the possibility that work and other characteristics could have changed under the time of follow-up. This possible is not taken into consideration. Also the definition of working beyond retirement has some weaknesses which should be discussed in the discussion section.
Minor comments:

Page numbers are missing.

On the pare starting with 'working beyond retirement', line 49/50: i.e. should be e.g. (as there are more than three professions included).

Please check language, there are some typos e.g. area under de curve instead of the curve.

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

Yes

**Does the work include the necessary controls?**
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