Reviewer’s report

Title: Social factors associated with centenarian rate in 32 OECD countries

Version: 4 Date: 7 November 2012

Reviewer: Malgorzata Mossakowska

Reviewer’s report:

General:
It is an interesting concept, but the paper has very serious shortcomings.

The parameters used for the regression analysis were not presented in the paper (table 1), but they most surely were not in agreement with those published on the UN website. Below, I listed 29 countries (no data for Sweden, Ireland and New Zealand are available on the website) and their HPB. For example the data for Poland (19 HPB regarding to the number named in the discussion) radically differs from that published by the UN (52 HBP). In the plot (fig 2HBP) there are only 2 countries with HBP above 80 (Japan and probably Germany), while on the list there are 2 more countries: the Czech Republic and, nomen omen, the Republic of Korea. At the base of the attached scatter plot (my calculations) you can clearly see, that the correlation is much weaker (r=0,2822) than presented in the paper, and statistically not important (p=0,1381). When we remove Japan from the list (outlier) the tendency is opposite, but also statistically not important.

Considering the above, the data should be studiously gathered again, and the statistics should be compiled once more as well. The lack of data for some countries can be supplemented from other sources.

The variables were freely chosen without adequate justification and inappropriate interpretation was given. For example the decrease in HPB in the highly developed countries during the last 50 years has been observed (e.g. Sweden 5 fold, GB 2 fold), which questions the Authors’ interpretation that higher HPB means higher care quality http://www.nationmaster.com/graph/hea_hos_bed-health-hospital-beds . What’s more, in-depth discussion of the results is needed

CR calculation source of data should be clearly described in table 1. It appears as though the authors don’t understand the difference between CR, CR[0] and CR[50].

None of the presented models include all of the 4 variables

Major Compulsory Revisions:

Parameters included in the regression analysis should be presented in table 1. The expression “physical state” has a completely different meaning than that defined in the paper. There is no need to introduce new terminology for well defined variables.

The description of table 1 (page 8) duplicates the data presented in table 1.
Figure 2 is not discussed or even mentioned in the text.

Minor Essential Revisions: (such as missing labels on figures, or the wrong use of a term, which the author)

References are not always properly chosen (e.g. nr 7)

The introduction is poorly organized. For example sentence 1 on page 4 should appear earlier.

Table 1. The results CR (50??) should have the same arithmetic precision

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.