**Reviewer’s report**

**Title:** On the plausibility of socioeconomic mortality estimates derived from linked data: a demographic approach

**Version:** 0 **Date:** 28 Nov 2016

**Reviewer:** Mika Gissler

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Mathias Lerch; Adrian Spoerri; Domantas Jasilionis; Francisco Viciana Fernandez: On the plausibility of socioeconomic mortality estimates derived from linked data: a demographic approach

Linking population and mortality data is frequently used as a golden standard for monitoring socioeconomic differentials in mortality and in survival. These kinds of linkages can be done by using deterministic or probabilistic matching depending on the existence of unique personal identity code. The authors evaluated the proportion of misclassified or misestimated at-risk populations and estimated education-specific linkage rates for deaths in three national and one regional datasets.

A good linkage of death records within different educational strata was shown, also after probabilistic matching. The main observed biases in mortality estimates were related to the classification and estimation of the person-years of exposure according to educational attainment.

The article gives a good description of linkage possibilities with their pros and cons. The background is very informative and useful for the readers. The theory behind the analyses is clear and well-described. The used data are presented shortly. I wondered if it is the case that education completed elsewhere is not covered in those national education registers, which are not based on self-reports. The results are given comprehensive, and the discussion is thorough.

I assumed the statistical offices required the researchers to apply for the data, and the data were given after a permission to use the sensitive register/census data was given. This could be mentioned in Methods or in Acknowledgements.

I would use the terms misclassification and misestimation.

The names of national statistical offices are given in several ways, e.g. Statistics Finland, Finland Statistics, and National Statistical Office. It would be good to use only the official name.
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An article of importance in its field

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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