Reviewer’s report

Title: Evaluation of data availability on population health indicators at the regional level across the European Union

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Reviewer: Nino Kunzli

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The aim of this project is to assess data availability for indicators relevant to evaluate and monitor population health on the regional level within the European Union. The manuscripts presents in particular the methods of the EURO-HEALTHY PHI. The study concludes that, despite several constraints on compiling data the construction of a multidimensional database of population health is viable for the EU28 regions. 269 statistical regions (NUTS) were defined across 28 countries and indicators across 10 domains were assessed (i) Economic conditions, social protection and security; ii) Education; iii) Demographic change; iv) Lifestyle and health behaviours; v) Physical environment; vi) Built environment; vii) Road safety; viii) Healthcare resources and expenditure; ix) Healthcare performance and x) Health outcomes).

Though certainly a relevant project, the manuscript has some weaknesses to be addressed.

1. The Information provided in the article reads somewhat like a general methods report of the Horizon2020 project and some information is included in reports on the web site, e.g. http://www.euro-healthy.eu/euro-healthy-resources/Indicators_and_areas_of_concern_and_policies The added value of the manuscript itself (beyond the project deliverables) should be described.

2. The project has many dimensions which calls for a strong structure in the presentation and discussion of the data. I found it rather cumbersome to grasp and synthesize along the current version of the manuscript. It could e.g. provide some appealing visualizations of the main concepts and results and some stronger structure of the Discussion section.

3. The Introduction provides a lot of background information. The ultimate purpose of the manuscript is though not explicitly stated at the end, thus, remains to be figured out by the reader (unless one reads the abstract). In fact, it is only in the Methods section that objectives get disclosed.

4. Though the methods are ultimately a key part of the manuscript, the underlying methods are not equally clear (e.g. the role and methods of the Delphi process).

5. Table 2 lists 14 indicators with Reliability issues. In the text, 15 were mentioned to be excluded due to reliability issues.
6. Lack of analytical soundness was mentioned as exclusion criterion. However, the meaning of it was not explained at all. It is, e.g. listed that Long-term care beds in nursing and residential care facilities, per 100,000 inhabitants and Curative care beds, per 100,000 inhabitants lacked soundness as did the Sex ratio of life expectancy at birth. The definition of “soundness” needs some specification in the Methods.

7. Results 3.4. section repeats again the Methods of the availability score. This is redundant.

8. The structure of Tables 3,4,5 should be describe in a more comprehensive self-explanatory legend. E.g. HEALTH DETERMINANTS COMPONENT is listed vertically, though additional sub-sections are provided.

9. The Discussion, though rich of useful information, is not well structured, thus, hard to follow and read.

10. Though the conclusions make clear what is needed in the EU, it remains unclear whether and how EURO-HEALTHY PHI will contribute to this given that this is a H2020 project, thus updating the data will not happen unless the authorities take up the lead to improve the data. Will the EURO-HEALTHY PHI data base be made available or where does this lead to?

11. The map shows also the various countries in Europe that are not included in the EU28. What is the state of collaborations with those countries to achieve a complete view on all indicators for the entire region of Europe? This is of particular interest in all sub-regions shared across borders within and outside EU28 where health is co-determined by factors relevant across the borders.

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