Reviewer's report

Title: How do World and European Standard Populations impact Burden of Disease studies? A case study of Disability-Adjusted Life Years in Scotland

Version: 0 Date: 11 Nov 2019
Reviewer: Elena von der Lippe

Reviewer's report:

The study makes a comparison of the estimated DALYs when different standard populations for the age standardisation are used. It shows that when performing an age standardisation, researchers must usually compare the estimates with the crude rates in order to understand better the results. The paper arises the awareness that the usage of standard reference populations can significantly affect the estimates and in case of the DALYS, their ranking.

The paper is well written and presents interesting results.

Comments and suggestions are listed below:

General: I would advise to change the abbreviation of BOD to BoD

Page 2, line 41: As expected, all-cause DALY rates (...) -> here it is not clear why it was expected.

Page 4, line 74: morbidity or mortality -> is here meant morbidity AND mortality?

Page 4, lines 93-94: "achieve" used twice here. For better readability, may be use a synonym (eg accomplish).

Page 5, line 103: The primary aim of a BoD study is to identify the impact of health problems in a consistent (...) -> I would change to: the impact of health problems and causes of death

Page 5, line 105: (...) what is currently causing health loss -> I would change to (...) what is currently causing death and health loss.

Page 6, lines 130, 133 and 139: all-causes and 68 causes of disease/injury -> Is here meant all-cause mortality (all causes of death)? Please, clarify in text.

Page 6, lines 134-135: under 1 years -> Change to: under 1 year.

Page 7, line 164: The number of DALYs lost over the (...) -> Please, delete "lost".

Page 7, lines 172-173: at the end of the first sentence, please insert a reference to Figure 2.
Page 10, lines 237-238: the sentence "The ranking of conditions also changed (…)" does not make any sense.

Page 10, line 239: (…), such as neonatal disorders, congenital birth defects and sudden infant death syndrome, where the burden is experienced early in the life course, saw slight increases in rate. This is contradictory to the results, where it is mentioned that these causes have the largest gains in ASR of DALYs (page 9, lines 218-219).

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An article of importance in its field

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