Reviewer’s report

Title: Cause-specific mortality for 249 causes in Brazil and states during 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015

Version: 0 Date: 23 Mar 2017

Reviewer: Hebe Gouda

Reviewer's report:

Thank you for the opportunity to review this article. This is the first systematic analysis of the cause-specific mortality trends in Brazil over the period 1990-2015 and as such is a critical contribution to the literature and to policy. The paper is well-written and well-presented, using accepted and standardized GBD methods. The following is a list of corrections and recommendations for the authors:

1- The authors interchangeably use the terms chronic diseases and non-communicable diseases (NCDs). Given that both communicable and non-communicable diseases can be chronic by nature and previous GBD papers have indeed analysed the burden by acute versus chronic conditions I would recommend that the NCD term be used consistently throughout (it is also the term used for the GBD Group 2 diseases which is referred to in this manuscript).

2- The introduction would benefit from a deeper engagement with existing literature on cause of death in Brazil. It is acknowledged that this may be the most comprehensive analysis to date but a brief paragraph on the work in this area to date in Brazil would provide the reader some context. Also the authors open with a statement about the size of the population being the fifth largest in the world. It would be useful to provide the number here as the next sentence states that 27 million were lifted out of poverty and the reader has no sense of the significance of this.

3- Line 154-155 is written like the ‘worst information quality’ is part of a causative association with high burden of disease....I would caution the authors from making such a claim

4- Line 175 'best independent (out-of-sample) performance': I believe the reader would benefit from a more explicit (but brief) explanation of these terms and methodology.

5- The authors note the variability in death registration completeness across the country. Could a table of the data completeness across states be provided?

6- Line 565 the authors refer to SDI as socioeconomic indicator though I believe it is intended to read 'socio-demographic indicator'.
7- The authors have not discussed Brazil's achievements in the context of the MDGs or Brazil's prospects for achieving the SDGs. Given the importance of this contribution it may worth noting Brazil's position with respect to the global goals.

8- Why are COPD rates higher in the Southern States? Limited discussion is provided.

9- Apart from considering Group 1 diseases as a whole - there is also a notable lack of discussion about maternal mortality.

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