Reviewer's report

Title: National mortality burden due to communicable, non-communicable, and other diseases in Ethiopia, 1990-2015: findings from the Global Burden of Disease Study 2015

Version: 0 Date: 18 Oct 2016

Reviewer: Peter Byass

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This paper sets out to describe the mortality burden in Ethiopia, using estimates from GBD 2013. There are some minor points that need tidying up before it can be accepted for publication.

In several places the GBD 2013 outputs are described as "data" or "results", which are misleading as they are in fact estimates coming out of the GBD 2013 model on the basis of a range of source data and should be described as such.

The basic methods used are those already used for the worldwide GBD 2013 exercise, which are generally satisfactory. Unfortunately, as with much GBD work, the globally recognised International Classification of Diseases (ICD) coding system is not used to characterise disease entities, and this is a weakness of the paper, making direct comparisons with other material difficult.

Here the GBD 2013 estimates for Ethiopia are taken in isolation, but there is no discussion of possible problems associated with this approach. You mention "make use of sophisticated modeling techniques to borrow strength across geography", and I see this is a potential concern for Ethiopia, which happens to be surrounded by a number of territories with poorly-performing health systems. Is it possible to quantify - or exclude - any such effects? Is it possible to re-run the GBD 2013 model for Ethiopia only (i.e. using only in-country source data)?

I would challenge the statement in line 53 about being "critically important to track progress in the HSTP" - that can only be properly be done using in-country data, not externally derived estimates - although GBD estimates may offer some clues.

I don't understand "achieve 509 age-standardized mortality rate" in line 41

Line 144 - age-standardized against what standard? This is very important to understand in the Ethiopian context of increasing life expectancy over the period of observation.
There is confusion in the text about the increasing proportion of NCD mortality versus the decreasing NCD mortality rate as shown in Figure 1. In fact Figure 1 shows a very healthy development over time, with all three categories and total mortality decreasing. Should we worry about the proportion of NCD increasing, particularly alongside increasing life expectancy and the implication that more people are surviving into the age groups where NCD mortality naturally increases?

The legends for Figs 2 and 3 are unclear.

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