Author’s response to reviews

Title: Evaluation of the Mortality Registry in Ecuador (2001 - 2013) - Social and Geographical Inequalities in Completeness and Quality

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We thank the editor for her comments. We have made a great effort to address the issues mentioned by you in the last review.

As requested, we have estimated national and subnational completeness estimates using the method proposed by Adair and López (2018), compared them to our results, and discussed the differences. A table with the new results was added as supplementary table 5. In the discussion section, we added the following paragraphs to explain this:
“To further compare our results to the ones obtained using different methods, we obtained national and provincial completeness estimates for 2010, applying the empirical method described by Adair and López (2018). This method uses crude death rates, the population age structure, and the under-five mortality rate and registration completeness as predictors of random-effects models that estimate mortality completeness (1). The method makes two fairly strong assumptions, namely that deaths occur in the sub-national areas of residence and that the estimates of populations are accurate. Moreover, authors state that the models used could perform poorly in countries experiencing high HIV prevalence or high number of violent or alcohol related deaths. This method estimates (for all Ecuador) a completeness over 90% for both sexes; a result that seems unusually high if compared to the rest of estimates of the country (ranging from 60% to 80%).

Moreover, when we estimated the provincial results (see supplementary table 5), we could observe that some of the most rural provinces (in the Amazonic region), with lowest data quality, and less deaths certified by a medical doctor have high completeness estimates. For example, Amazonic provinces like Napo, Zamora Chinchipe and Sucumbíos have higher completeness estimates than Pichincha (province with mostly urban population and much more accessibility to health services). These results are in concordance to what was found when obtaining sub-national completeness estimates in Brazilian states, where concordance was lower when comparing GGB and the new method. These abnormal results could be explained by: 1) unreliable under-five mortality estimates; 2) unreliable population estimates; 3) poor performance of the method in subnational settings, especially when data quality is low. Certainly, much work is still needed to improve completeness estimation methods worldwide, especially in sub-national contexts.”

We would like to thank for your and all the reviewers (that have reviewed and approved the manuscript) for you contributions to the paper. Hope to hear from you soon.