Reviewer's report

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

Version: 0 Date: 16 Jul 2018

Reviewer: David Phillips

Reviewer's report:

Date: 12 July 2018

Reviewer's report:

The manuscript "Evaluation of the Mortality Registry in Ecuador" is an article of potential importance to policy-makers and researchers in this field. The authors apply best-practices methods to both estimate completeness and quantify a number of indicators of quality. Most importantly, the authors describe the results by province, sex and age to explore inequalities within Ecuador. Every section is well-organized and easy to understand.

This manuscript is of excellent quality and professionalism and I congratulate the authors. I offer some minor suggestions which I would consider important to the publication of the manuscript and some discretionary revisions which I believe would improve the interpretation of the manuscript, but are not critical. I have no major compulsory revisions.

Major Compulsory Revisions

None

Minor Essential Revisions

1. The application of SEG, GGB and hybrid SEG/GGB is the accepted approach to death distribution methods, however there is insufficient information to ensure that these methods have been applied correctly. I suggest a supplementary methodological appendix which describes the DDM approaches applied using text and figures to assure the audience of the rigor of this work.
2. The authors do an excellent job of describing the results by geography, sex and age. Some of the results could also be presented in terms of changes over time. I suggest the authors also describe the temporal trends, perhaps even the time trends by geography, in order to inform the reader of expectations for the future.

3. The authors note the use of a harmonic mean of the three DDM methods as a summary. While this is acceptable, it should be noted in the Methods section before being mentioned in the Results section.

4. As the focus of the manuscript is related to equity, it is important for the authors to provide more discussion surrounding the relationship between CRVS performance and ethnic minorities and socioeconomic indicators. The authors duly note that the patterns of poverty and marginalized ethnicities coincide with the patterns of CRVS performance, but offer no explanations or hypotheses why. Could it be access to services? Poor-functioning health systems? Differences in health-seeking behavior? Differences in epidemiology? Citations to any other studies on the subject would also be expected.

5. Because the authors intend this work to be applicable for policy makers to "focus on completeness, quality or both", more discussion is necessary on the provinces which paradoxically have the lowest completeness but also the highest quality and vice versa. Are there unique local systems in place? What conditions might explain this?

Discretionary Revisions

1. The authors note that a period of re-drawing of province borders occurred, but do not return to this topic. Is there any evidence that this administrative shift had an effect on the health system, and by extension the CRVS system? I suggest the authors note either in the Results of Discussion section whether the "new" provinces appear to be high or low in completeness or quality.

2. An additional limitation worth noting in the discussion section might be construct validity. Garbage codes, age/sex missingness and internal consistency are just proxy indicators for the overall quality of the system and should probably be acknowledged as such. Other important quality issues such as classification accuracy are near-impossible to measure without primary data collection, but are certainly other aspects of quality that are not captured here.
**Level of interest**
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An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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