Reviewer's report

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

Version: 0 Date: 23 Jul 2018

Reviewer: Tim Adair

Reviewer's report:

This paper provides a much-needed analysis of national and subnational death registration and cause of death data in Ecuador.

A primary issue with the paper is regarding the death distribution methods used, their suitability for subnational analysis and the estimates of registration completeness produced. There should be more prominent acknowledgement of specific limitations of death distribution methods, including their lack of timeliness (an issue in Ecuador given their last 2 censuses were in 2001 and 2010) and issues with their accuracy as identified in the Murray et al 2010 paper (reference 11). In the discussion, the authors acknowledge issues regarding internal migration in Ecuador, however the reader does not get a sense of the extent of this. Can the authors include some evidence of the extent of inter-provincial migration in Ecuador?

There is also no mention of other methods to estimate completeness of registration, including capture-recapture methods and a more recently published empirical method (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0197047). These should be mentioned in the Background.

There is also no mention made of completeness of registration using estimates of total deaths according to the Global Burden of Disease and UN Population Division. Both sources estimate registration completeness of approximately 80-85% in Ecuador, significantly different to that estimated in this paper. Can the authors discuss their findings in the context of these other estimates (including the data sources the GBD and UN used), which indicate the uncertainty of completeness estimation in Ecuador.
It would be insightful if there were a description of death registration processes in Ecuador, and the implications of these findings for improving these processes. What happens when a person dies in a facility or in the community? What onus on people to register deaths? How are data transferred to the central authority? How is the cause of death ascertained? How can medical certification be improved?

The cause of death analysis should reference each of these publications on assessing registration data quality:


The garbage code categories used are different from that of Naghavi et al 2010 - what is the justification for this?

What are the specific causes of higher garbage codes in ages 80+ - is it senility for example?

Were other thresholds of garbage code acceptability considered (other than the national level), to enable international comparison? Naghavi set al 2010 states that garbage codes are 22% globally. This suggests the threshold used is too high.

Other comments:

- In the objectives there is mention of social inequalities by age and sex, however these are more appropriately described as demographic differences.

- I suggest only using one decimal place.

- Error in this sentence: "In both men and women, only one area was classified as acceptable (Pichincha/Santo Domingo for women and Azuay for women)" - last word should be "men"
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