Reviewer's report

Title: Infant mortality rate in Brazil, 2000-10: correction of vital statistics based on a proactive search of deaths and live births

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Reviewer: Elisabeth França

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This study presents a simple and innovative approach in generating estimates of infant mortality in Brazil in 2000-2010. The most important contribution is that it utilizes the vital registration (VR) system instead of census-based indirect methods. So, it has an important noble use in this field of study and provides, from a national perspective, much insight to improve the routine health information system.

I compliment the authors for their investigation which is a useful contribution to this field due to three important features. First of all, the traditional use of crude death rates as an indicator of possible problems with the completeness of mortality data was considered here in a wider approach, classifying the adequacy of the VR system at the municipality level according to the values of age-standardized death rates. Second, the proposal of the proactive search of vital events as an alternative way of estimating the completeness using all possible sources of information on the number of deaths and live births. And third, but not least important, the adoption of a methodology which is related to the vital registration system itself could create sufficient municipality capacity to take on knowledge and responsibility for the estimates.

Minor Essential Revisions

1. As pointed out by the authors, the major contribution of this study was estimating the completeness of death and live birth registration in all Brazilian municipalities using the proactive search of deaths and LB method. On page 14, first paragraph, this method was compared to traditional estimation demographic methods, but this should perhaps receive more attention. In fact, I was curious about the application of these indirect techniques to the municipality level and if they can provide findings that lack face validity on the basis of practical experience. Besides, it is not made clear in the introduction, or in the discussion, how the study proposal is an advance in comparison to those other methods.

2. I consider that home investigation is an important procedure designed to deal with data errors resulting from the presence of infant deaths and live births (LB) in the proactive search that are “out of scope”, i.e., which refer to periods other than 2008, the period to which registered deaths and LB pertain. However, it was not adequately highlighted in the Methods section. Besides, in the case of birth, usually two people who experienced the event (the child and the mother) will be
present at the time of the survey to serve as additional evidence of the event.

3. On the Methods section, I would appreciate a more specific and detailed description of the criteria used to capture all possible matches between cases among the VR system and the active surveillance of deaths and LB.

Discretionary Revisions

1. Page 7, 4th paragraph: please mention the year considered for the standard population.

2. The format of the tables should be changed according to the Journal standards.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.