Author's response to reviews

Title: Unintentional injury mortality in India, 2005: nationally representative mortality survey of 1.1 million homes

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Version: 3 Date: 10 May 2012

Author's response to reviews: see over
Dear Dr. Keall

Thank you for allowing us the opportunity to revise our manuscript. Our response and revised manuscript are attached.

Many thanks and best regards

Jagnoor

Reviewer - Major compulsory revisions:

R1C1) Although the SRS may be well-known and respected, a large proportion of readers will not be familiar with it and need some basic details without having to look at other publications. Please provide these.

R1R1) Further to the previous revision where a paragraph was added on conduct and sampling of SRS (page 4), details of the survey have also been added now to say “The selected households are continuously monitored for vital events by two independent surveyors. The first is a part-time enumerator (commonly a resident of the village/area or a local school teacher familiar with the area/village) who visits the households every month. The second is a full-time (nonmedical) Registrar General of India’s surveyor who visits the households every 6 months. Another staff member from the office of Registrar General of India does the reconciliation of vital events reported by the part-time enumerator and the full-time surveyor, arriving at a final list of births and deaths for each household, at the completion each half-yearly survey.”

R1C2) You need to provide details of the UN death estimates for India. How are these produced? Why are they preferable to your estimates? (I would have thought that the survey-based estimates were the ideal ones to use) How is it “known” that the SRS undercounts adult mortality? (Provide justification)

R1R2) Last indirect methods suggest that SRS under-reports vital events.[1]The technical report by the Population Commission of India, 2006 suggests adopting UN based models for projecting population mortality.[2] Though the UN estimates also relies on the SRS data but uses Preston and Coale method for most accurate appraisal of vital events.[3] We calculated the total mortality rate for India based on SRS is 7.71 while using UN statistics is 9.15 for the year 2005.

The following text has been added on page - “UN estimates were used for more accurate calculation of deaths and mortality rates
(using Preston and Coale method)[17] because the SRS undercounts mortality by approximately 10%. [18]

R1C3) Page 4: Some of your new text is perplexing: “The sample size is selected based on the total fertility rate” Are you selecting a sample SIZE? .... Do you mean that the sampling units are selected according to some size measure? “...the sample design....is updated every 10 years” Are you sure that the survey is redesigned every 10 years? Why is this important? “Subsequently...” Do you mean in between?

R1R3). The text has been revised as “The fertility rate was the decisive indicator for estimating the sample size of the SRS. Census of India data is used to prepare sampling frame and sample units are randomly selected to be representative of the population at the state level. The sample design is a uni-stage stratified simple random sample without replacement. The SRS sampling frame is changed every ten years based on the results of the census which is conducted every ten years in India.”

R1C4) Some of the explanation provided to me, the reviewer, should be in the text. In the end, I am representing a potential (perhaps typical) reader of the article, so the aim of me making comments is to seek a more coherent presentation of the material for the reader in general. Expand on your assertion that the 2005 demographic estimates were most accurate - why is this?

R1R4) In the year 2004, SRS sample frame was changed and the baseline survey was conducted. The SRS is a very large survey and implemented in stages over the whole country. Report was released in May 2006 for population estimates from the year 2001-2026.[2]

The study group was uncertain of when the SRS results will be available. Hence the analysis was initiated with UN estimates with the perspective of analysing and comparing both SRS based estimates as well as UN estimates will for the year 2005; SRS estimates closest to the study year. However after the release of the SRS report the Registrar General of India and the MDS study group collaboratively decided that in view of the limitations of SRS data (like underestimation, varying underestimation by states and age –sex stratification) and for comparison with other global cause specific death estimates it will be best to analyse and report only UN based estimates. Hence analysis was conducted for 2005.
We have not included this explanation in the manuscript as the primary rationale in reference to this manuscript is drawing comparative data for cause specific mortality, and hence have revised the text to say “All major cause of death like malaria, HIV and child mortality has been estimated for the year 2005 from the Million Death Study making cause specific mortality comparable for policy implications.”

R1C5) Just because death rates may not have shown any trend over the period surveyed does not mean that you can extrapolate two years hence. At the very least, this needs to be mentioned as a limitation to your analysis.

R1R5) The text has been added on page 14, first paragraph, last line. “We estimate the injury deaths for year 2005 using proportionate injury mortality recorded during 2001-03. We did not observe any change in proportionate mortality from 2001 to 2003, hence, assumed that proportionate mortality would not have changed in next two year also, however, that may not be the case.”

R1C6) Table 1. Were the UN estimates provided in the form of low, middle and high scenarios? (the link in your references is not valid). If so, you should present the range of these estimates as part of your table at least for the totals (perhaps as another two rows – one for the low estimate, the other for the high).

R1R6) We have used median estimates for UN population and deaths to calculate the death rates. The lower and upper bounds of the study estimates are calculated considering the variation of the death in the study sample. We do not think that additional rows for higher and lower bounds will add to the results. We have added the upper and lower bounds in text on page 6.

The website is temporarily unavailable, perhaps as projections are being updated for 2010 and hence link has been updated to link to UN data page.

The Associate Editor wishes to pass on the following comments:

E1C1) The authors say they have compared their estimates with other countries in South Asia, China, Thailand, but I can't find where this is discussed.

E1R1) Most of these have been referred as region along with the relevant reference. We have now edited the text as following:
a) Similar discrepancies between police data, vital registration data and verbal autopsy based nationally representative studies have been reported in other Asian countries like China and Thailand. [26,27] Page 11, last paragraph.

b) As noted in earlier studies in the South Asia region including Bangladesh, [28,29] drowning was the leading cause of unintentional death at ages 0-4 years, causing 22 000 deaths every year with higher rates in rural than in urban areas. Page 12, last paragraph.

c) While paediatric falls and related traumatic brain injuries have been studied somewhat in the South Asia Region,[28] there is little literature on falls in older people.[32] Page 13, second paragraph.

E1C2) In Table 1, what does the dagger (marking the footnote) corresponds to in the table? Also, in this footnote, what do you mean by the term "total"?

E1R2) The footnote referred to estimates and the UN based population numbers. It is perhaps not clear as a footnote (deleted). In reference to R1C2, it has now been discussed in length in text and the UN estimates added on page 6, last paragraph.

E1C3) Figure S3 has no caption I can find

E1R3) Sorry, there is no Figure S3. Figure 1, 2 and 3 legends are on page 21. If referring to Figure S1 or S2, the legends are on page 25.

References