#### PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<u>http://bmjopen.bmj.com/site/about/resources/checklist.pdf</u>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

#### **ARTICLE DETAILS**

TITLE (PROVISIONAL)	Age and sex pattern of premature mortality in India
AUTHORS	Dubey, Manisha; MOHANTY, SANAJY

#### **VERSION 1 - REVIEW**

REVIEWER	Venkata Raghava Mohan Christian Medical College
	India
REVIEW RETURNED	06-May-2014

GENERAL COMMENTS	This paper estimates the premature mortality using the publicly available reports from India and has made efforts to quantify the YPLL lost among different age groups. This information would prove to be valuable for policy makers in the country. Some of my comments and suggestions are outlined below:
	General The quality of writing could be improved throughout the manuscript, and the authors need to correct many grammatical, punctuations and spellings with greater scrutiny. Abstract
	The abstract is concise, needs to mention significance levels for some of their estimates in the results. The authors have stated that the data on cause of death is available only at the National level, which is not correct. The data is available at the State levels also; however may be difficult to obtain. This needs to be added.
	<ul> <li>Introduction</li> <li>The opening sentence has to be reframed.</li> <li>In the second paragraph, there is a mix of present and past tenses which has to be corrected. Spell check needed.</li> </ul>
	• Lines 17 to 27 on page 4 have to be reframed as they confuse the readers.
	<ul> <li>Last sentence on page 4: is it 'Public Health System' or 'Primary Health Center' or 'Public Health Center'? Use the correct term. Methods</li> </ul>
	• The section 'Data' can be moved to 'Methods'.
	<ul> <li>Formatting issues on page 6 in places where formulae are inserted.</li> </ul>
	• On page 7, under section on 'Cause specific indices of premature mortality'; need to mention the process of allocating weights to different ages in detail. Grammatical error in first line.
	Results • Duplication of findings in all the Tables and text. Minimise this and present only salient findings in the text. If you have looked for statistical significance then it has to be clearly mentioned with appropriate measures and p values. Present 95% CI for all your

<ul> <li>rates.</li> <li>Add a table with the numbers of deaths and population for each group and sex.</li> <li>Table 2; not mentioned in the text/ methods which age groups were excluded when the data was analysed for adults.</li> </ul>
<ul> <li>Conclusions</li> <li>Discuss in detail with respect to the reduction in absolute numbers and increase in rates of PYLL.</li> <li>There are existing National Programmes for NCDs in India, what do the authors mean by stating " it is time to invest and device strategies' On page 12.</li> <li>Discuss the strengths and limitations of existing programmes and suggest recommendations towords the same.</li> <li>Also briefly discuss the 'Vital events registration' in India, the lacunae, Medical certification of cause of Deaths and how they could have affected your estimates.</li> </ul>

REVIEWER	Rajesh K Chauhan
	Population Research Center, Department of Economics, University
	of Lucknow
REVIEW RETURNED	17-May-2014

GENERAL COMMENTS	The paper "Age and sex pattern of premature mortality in India" brings a new set of information in Indian context. The paper have been conceptualized well and concept of YPLL provides a new understanding in the field of Indian mortality studies. Paper has merit of assimilating multiple data sources in the analysis. Paper clearly provokes need for data gathering on causes of death which has been desirable for long for the reason of lower level (state and below) estimation of various parameters especially mortality indices. In the era of decentralized planning it is highly desirable that such work may be undertaken for the states as well. Appropriate demographic techniques have been applied in the paper technical issues along with standardization of age and choice of age bounds. Paper highlights policies related to increased burden non- communicable diseases and calls for the nation's preparedness in handling it.

REVIEWER	Rohina Joshi The George Institute for Global Health, University of Sydney, Sydney, Australia
REVIEW RETURNED	05-Jun-2014

GENERAL COMMENTS	<ul> <li>Premature mortality is an important issue that has not received much attention in India. I have few comments described below:</li> <li>1. Kindly discuss the limitations of the data sources used.</li> <li>2. Cause of death information used in the study is 12 years old.</li> <li>Discuss how the results of your study may have changed over time, specially with reference to diarrhoeal diseases.</li> <li>3. Injury is a significant cause of premature death which is not highlighted in the paper. The focus is on NCD and infectious disease with no mention of injuries.</li> </ul>
	<ul> <li>4. Kerala is used as a reference population, please explain why as some readers will not be aware of this.</li> <li>5. The national program for prevention of CVD, diabetes and cancer</li> </ul>

has been rolled out to deal with non communicable diseases - it would be useful to mention that.
6. Some sentences have been repeated in the paper, please make the necessary edits.

## VERSION 1 – AUTHOR RESPONSE

Reviewer A

Comment 1: Improve the quality of writing and correct grammatical, punctuation and spelling. Response: We have thoroughly revised the manuscript; content, grammar, punctuations and spelling. We have used the Grammarly package and edited the paper thoroughly. The revised manuscript has improved in quality of presentation.

Comment 2: Mention difficult in obtaining cause of death data at state level and significance level of the estimates.

Response: We thank the reviewer for understanding the difficulty in obtaining the state level data. We have added the non-availability of the reliable state level data in the text. Since we have not estimated premature mortality at individual level, it is not possible to calculate the significance level of the estimates.

Comment 3: Reframing of the opening statement.

Response: We have revised the introduction and reframed the opening statement

Comment 4: Mix of the present and past tense in the second paragraph.

Response: Corrected.

Comment 5: Lines 17-27 in the manuscript are confusing.

Response: We have reorganised the findings that makes reading more clear and may not confuse the reader.

Comment 6: Use the correct word in the last line on page 4.

Response: Correct term is Primary Health Centre. It is replaced in the text.

Comment 7: Merge the data section into methodology section.

Response: We have named the new section as Data and Methods

Comment 8: Formatting issues on page 6.

Response: We have formatted the content

Comment 9: Discuss the process of allocating weights in cause specific indices, on page 7.

Response: We have added the weight for each of the indices

Comment 10: Duplication of the findings and significance level of the estimates.

Response: Findings in the result section are revised. It is not possible to calculate the significance level or p-value of these estimates because the analysis is not done at individual level; it is a macro level analysis.

Comment 11: Add a table with the number of deaths and population by age and sex.

Response: Done. We have added this table in the appendix.

Comment 12: Which age groups were excluded when the analysis is done for adults.

Response: Adult age group is defined as 15-65 years in this paper.

Comment 13: Discuss the reduction in absolute numbers and increase in rates of PYLL. Response: Done.

Comment 14: What do the authors mean by stating "it is time to invest and devise strategies..." on page 12.

Response: Revised.

Comment 15: Briefly discuss the "Vital events registration" in India and the Lacunae, Medical Certification of Causes of Deaths and how this could affect our results.

Response: These issues have been briefly mentioned in the "Data and Methodology" section.

¬ Reviewer B

We thank the reviewer for appreciating the work and also understanding the data constraints and

suggesting the future work which need to be done.

¬ Reviewer C

Comment 1: Discuss the limitations of the data sources used.

Response: We have mentioned in beginning and in data section

Comment 2: How the old data on cause of death may change the results of the present study,

especially for Diarrhoeal diseases?

Response: The inferences will not change as the prevalence of NCDs are increasing in recent years Comment 3: Why Kerala is used as a standard population?

Response: Mentioned in text

Comment 5: Mention the national prevention programmes of CVD, Diabetes and Cancer.

Response: Mentioned

Comment 6: Some sentences have been repeated in the paper, make the necessary edits. Response: We have deleted

# VERSION 2 – REVIEW

REVIEWER	Venkata Raghava Mohan Christian Medical College India
REVIEW RETURNED	15-Jul-2014

GENERAL COMMENTS	One more round of spell check and checking for grammatical errors
	needed.

## VERSION 2 – AUTHOR RESPONSE