PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	ESTIMATE OF HIV PREVALENCE AND NUMBER OF PEOPLE LIVING WITH HIV IN INDIA 2008-09
AUTHORS	Pandey, Arvind ; Sahu, Damodar; Bakkali, TaoufiK; Reddy, DCS; Venkatesh, S; Kant, Shashi; Bhattacharya, M.; Raj, Yujwal; Haldar, Partha; Bhardwaj, Deepak; Chandra, Nalini

VERSION 1 - REVIEW

REVIEWER	John Stover President Futures Institute I declare that I have no competing interests.
REVIEW RETURNED	24-Feb-2012

THE STUDY	Written English - could use good editing, the style of Indian English will not be familiar to most readers.
RESULTS & CONCLUSIONS	While the methods are clear enough the assumptions and data used in this application are not presented in any detail. The authors state that a task force estimated the number of sex workers, men who have sex with men and injecting drug users, but the actual estimates are not provided. On page 8 they mention that a constant calibration factor was applied in states without survey data, but do not give the calibration factor. There are many places where references are missing. I woudl be nice to see more desription of the surveillance system: how many sites of each type, how many years of data, etc. Figure 1 seems to me missing. There are two copies of Map 1.
GENERAL COMMENTS	There will be wide interest in this article since the national HIV estimate for India is an important part of the global total and also affects the global trends substantially. The results of the estimation process are interesting and well presented. However, there is a need for more explanation of the inputs and assumptions. In particular, 1. How many surveillance sites are there, by type? 2. How many years of surveillance are available? 3. Please show the population size estimates for key populations. 4. What was the calibration factor used for all states except the size high prevalence states? 5. There is a reference on page 11 to an attached technical report. Perhaps you shoudl just provide a reference.

	6. On page 4, it is EPP and AEM or EPP and AIM that were used? 7. Is Figure 1 missing. I see two copies of Map 1 but no Figure 1.

REVIEWER	Dr. S.K.Singh Faculty member, International Institute for Population Sciences, Deonar, Mumbai-88, India
REVIEW RETURNED	29-Apr-2012

GENERAL COMMENTS	The paper entitled "Estimate of HIV prevalence and number of people living with HIV in India 2008-09", provides the most recent evidence base required for advocacy, programme planning, interventions as well as estimation and projection for the future. The study uses the most recent data from the sentinel surveillance sites, which includes representation from general population i.e. ANC attendees as well as from HRGs groups from the sites under targeted intervention. The paper provides the estimates for high prevalence states along with the low prevalence states. One of the very important contributions of this paper is in bringing out the current scenario of HIV epidemic in low prevalence states where the prevalence has risen considerably. This finding is very important in terms of shifting of programme concentration form high prevalence states to low prevalence states especially in terms of strengthening the prevention practices, treatment care and support programmes, capacity building of service providers and strategic information management. Therefore, I strongly recommend to publish the paper in its current form.

REVIEWER	Lalit Dandona, MD, MPH Distinguished Research Professor Director, Wellcome Trust Capacity Building Programme Public Health Foundation of India ISID Campus, 4 Institutional Area, Vasant Kunj, New Delhi – 110070, India. No competing interests.
REVIEW RETURNED	20-May-2012

THE STUDY	This paper can be potentially useful as it provides data from the last round of HIV sentinel surveillance done in India. However, in the current version it has several methodological issues that need to be clarified or addressed: 1. The authors published a paper in 2009 (ref 3 in this paper) which estimated the HIV prevalence in India in 2006 as 0.36% (0.29-0.46%) in adults. In that paper they also estimated HIV prevalence for the earlier years and reported 0.45% for 2002. In this paper, the method used reports a prevalence of 0.41% for 2000, lower than reported previously for 2002. As the figures for all years 2000 onwards are not presented in this paper, it is not clear if they are suggesting that the prevalence rose between 2000 and 2002 or their method of estimation has changed since their 2009 paper. If the later, it would be very important for the authors to explain how their current method is different from the one that they reported earlier so that the prevalence figures in the two papers can be reconciled.

	2. Separate HIV prevalence figures for 2008 and 2009 are presented in Table 1 and Figure 2. As there was only one sentinel surveillance round conducted in India during 2008-2009, it would be useful to explain how separate figures for these two years were arrived at. In addition, with relatively wide confidence intervals, how can the small change of 0.02% over two years reported on page 9 be inferred as a real decline? 3. There has been discussion in India that the 2008/09 sentinel surveillance in Andhra Pradesh and Karnataka showed higher HIV prevalence in ANC clinics than in the 2007 round. It would be useful for the authors to explain what data modeling they have done as this upward swing does not show in Figure 4. Also, it is essential to show confidence intervals around the estimates presented in Figure 2 for the reader to interpret the confidence level in the estimates presented. Another issue that the authors could address in this paper is that while they cite three of their papers regarding HIV decline in India reported in 2006-2007, they do not cite the published research done in Andhra Pradesh that started the discussion of revision of the HIV prevalence in India, which preceded their papers. It is generally preferred that the primary work that contributed to the development of a scientific topic be cited.

VERSION 1 – AUTHOR RESPONSE

Reviewer #1
Q1:- Added Table 1providing such information
Q2: - 1998-2009
Q3:- Added reference No. 13
Q4:- It is 0.69 and it is added in the text on page 10 (paragraph 1)
Q5:-Added
Q6: Corrected
Q7:-Added Figure 1 & Map 2

Reviewer #3
Q1:-As suggested, the estimate for 2000 has been replaced by the estimate for the year 2006 in the text.

Q2:-We have mentioned in the background section that the estimation of 2008-09 has utilized EPP against UNAIDS/WHO workbook in 2006. Therefore the results from the 2008/09 estimate replace the previously announced numbers and have been addressed in conclusion section of the paper.

The EPP provides best fit over the HSS site specific prevalence data (1998-2009) as described in the method section. The surveillance of 2008-09 was largely in 2009, so it was considered for 2009 as input. The model outcome provided estimate for the year 2008.

Q3:-As described above the curve fitting considered all sites for the year 1998-2009 in every State and provided estimate of HIV prevalence from the start of the epidemic to current year (see detail in method section).

Q4:- Yes, agree with the suggestion and cited two important papers in the background section.

VERSION 2 – REVIEW

REVIEWER	John Stover President Futures Institute USA I declare that I have no competing interests.
REVIEW RETURNED	27-Jul-2012

THE STUDY	Standard of English: some phrases use Indian English which may seem usual to non-Indian readers of English. The editors may prefer a to modify these phrases to more standard international English.
GENERAL COMMENTS	This is an important article that will be of interest to many readers since India accounts for a large share of the global HIV estimate. This paper clearly describes the methods and assumptions used to produce the HIV estimates for India. This is particularly helpful since the approach in India is more detailed than in most other countries as it produces state level estimates that are aggregated to the national level. I have a few suggestions for additional information to make the assumptions more understandable. 1. Page 5, line 37. In the sentence '...(2) AIDS mortality was assumed to be higher by as much as 7% for injecting drug users vis-a-vis non-injecting users.' I believe the authors meant to refer to 'Non-AIDS' mortality not 'AIDS mortality' as that 7% increase is meant to account for the higher risk of mortality experienced by all IDU regardless of HIV status. 2. Page 7, line 54. The sentence 'Assumptions over other state-specific HIV characteristics included age and sex distributions of new infections, proportion of those newly infected, progressing to need for treatment...' The second comma should be removed, the assumption is about the 'proportion of those newly infected progressing to need for treatment...'. They are not two separate concepts. 3. Page 7, last paragraph. The final sentence of this paragraph provides a long list of assumptions. Readers will want to know the values for these assumptions. The paper could simply reference the pubished papers on Spectrum that describe these assumptions (Stover et al, Sex Trans Infec, 2010; Stover et al. Sex Trans Infec, 2008) or provide the information as a table like the one attached. 4. Page 9. Some values in Table 2 are expressed in Lakh. Most non-Indian readers will not be familiar with this unit. It would be better to express these values in thousands or millions. 5. The paper references the 2006 Spectrum methods paper (reference 8) but not the 2008 paper which provides more up-to-date detail. I suggest the additional of this reference: Stover J, Johnson P, Zaba B, Zwhalen M, Dabis F, Ekpini R. The Spectrum projection package: improvements in estimating mortality, ART needs, PMTCT impact and uncertainty bounds. Sex. Transm. Inf. 2008;84:i24-i30.

REVIEWER	Lalit Dandona, MD, MPH Distinguished Research Professor Director, Wellcome Trust Capacity Building Programme Public Health Foundation of India ISID Campus, 4 Institutional Area, Vasant Kunj, New Delhi – 110070, India. No competing interests.
REVIEW RETURNED	07-Aug-2012

- The reviewer completed the checklist but made no further comments.

VERSION 2 – AUTHOR RESPONSE

We gratefully acknowledge the suggestions given by the reviewers. We have dully revised the paper in the light of comments of the reviewers and added clarifications and new references which are highlighted in yellow colour.

We thank you for considering findings from the India 2008-2009 HIV estimates for publishing in the BMJ.