Reviewer's report

Title: HIV Epidemic in Far-Western Nepal: Effect of Seasonal Labor Migration to India

Version: 1 Date: 31 January 2011

Reviewer: Chris Archibald

Reviewer's report:

Major compulsory revisions
None

Minor essential revisions

The grammar and syntax of the writing style need to be improved for clarity. For example, in line 74-75, the phrase “...among returning male migrants in Doti...” should be changed to ”...among male migrant workers returning to Doti...”.

Line 89 also needs further clarification: are there references to support the statements about unsafe sexual activities in India and the high HIV prevalence in this migrant group?

Line 167-168 also needs clarification: I think the authors mean to say: “..., 65% of which have one family member working in India (i.e. 218,310 persons).” If so, they should be noted here; if not, then this sentence needs to be more speculative.

Conceptually, I think the model would be clearer if the M group (migrants in India) were separated into S and I components. This would also allow more precise, separate modelling of the effects of specific interventions in India, such as increasing condom use or decreasing number of sexual partners. Also, a term involving # needs to be added to Figure 1 (and equations 3 and 6) to account for disease mortality of the infected persons in the M group. As it stands now, I group members only have disease mortality while they are in Nepal.

I don’t think the estimation of the natural death rate μ in lines 172-175 is correct. The life expectancy of 60.56 years is the life expectancy at birth, not the life expectancy at 15 years of age. This is especially true in a country like Nepal where there is a high death rate in infancy and in childhood; once a person reaches 15 years of age, the life expectancy is much greater than 60.56 years. Thus μ is over-estimated in this paper.

Discretionary revisions

In line 315, it says “The model predicts a high mobility rate of seasonal labour migrants...”, but isn’t this a known fact and therefore is an input to the model and
not an output of the model?

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.