Reviewer's report

Title: Prevalence of human immunodeficiency virus 1 infection in the last decade among cross-border travelers who entered major land ports in the Yunnan Province, China

Version: 4 Date: 30 December 2014

Reviewer: Wei Ma

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Major Compulsory Revisions

1. Under study population and data collection of methods paragraph 1, kindly state the estimated average total number of cross-border travelers that enter the province through the selected ports annually. Also, what percentage of the total annual cross-border travelers' population does the sample size represent??

2. By what criteria did you define a “major land port”? Were the 7 land ports chosen specifically out of the rest purposively for any specific reasons or randomly?

3. What were the inclusion and exclusion criteria applied to the random recruitment of potential participants? This information should be stated in your manuscript.

4. Under study population and data collection of methods paragraph 1 line 100 “Routine physical examinations were conducted” by the Entry-Exit Inspection and Quarantine personnel at each port, indicate examples of what types of medical tests were including in this physical examination.

5. Methods: study population and data collection: ‘Data on the social-demographic characteristics and risk behaviors for HIV infection were obtained from the enrolled participants via face-to-face interviews with trained staff by administering a structured questionnaire’. Please outline some examples of the questionnaire details to give readers an exact idea of what kind of questions were asked.

6. Results: paragraph 1 “ Of the 23 entry ports in the Yunnan Province, 19 land ports communicate via rail or road with Myanmar, Laos, and Vietnam. Between 2002 and 2012, we recruited 280,961 cross-border travelers from the major land ports of the Yunnan Province”; Are all 19 land ports also major land ports? If not, what is the difference between the major land ports and the other land ports?

7. Under results paragraph 1, why were only cross-order travelers from major land ports recruited? Doesn’t the exemption of non-major land port cross-border travelers impact the study's findings?

8. Results: under Annual human immunodeficiency virus-1 infection rates among
entry travelers in Yunnan. It’s better to show the trends of prevalence among different populations rather than proportions, because the readers do not know total numbers tested for each population. Same suggestion applies to figure 3.

9. Results: last paragraph lines 175& 176 “However, the proportion of those aged 40–50 years showed an increasing trend, from 38.32% in 2003 to 27.21% in 2012” doesn’t sound correct since the data seems to be indicating a decrease rather than increase. In addition, it would be better if you have statistics to approve all trends you claimed.

10. Discussion: paragraph 4 “In view of the age-specific HIV-1 prevalence, the major age group of HIV-1 infected travelers was 21–40 years (76.2%). The proportion of individuals aged 21–30 years increased annually. Although Jia et al. reported a decreasing tendency in the HIV-1 infection rate among those aged 31–40 years in the general population of Yunnan in 2010 [12], this was not observed in the current study population. However, the proportion of those aged 21–30 years declined from 38.32% in 2003 to 27.21% in 2012. In contrast, the proportion of those aged 41–50 years increased from 9.35% in 2003 to 27.21% in 2012. According to the results of the sampled population, driving was the major occupation of the cross-border population, with drivers accounting for 42.38% of the HIV-1 infected population” seems to be a restatement of the previously stated results. Please review and discuss this findings and also indicate potential reasons for the difference in observations from your results compared to similar works done.

11. Discussion final paragraph ‘ The epidemic of a variety of blood-borne viruses such as the hepatitis C and B viruses is well documented to be very specific in Yunnan compared to other regions of China [28-30]. …… further understand cross-border HIV-1 transmission’. This paragraph doesn’t seem to have any bearing on the study topic whatsoever and hence should be exempted.

12. Kindly include a paragraph on the various limitations observed during the study in the discussion section. For example, only a very small part of HIV-infected travelers had information on route of transmission, education, etc.

13. In Table 1 Occupation total was reported for 2447, however, your total number of infected persons was 2380, so why the difference in totals? In addition, please use another word for “worker” as an occupation.

14. Reference 8: please indicate date you accessed because it is not available now.

Minor Essential Revisions

1. Background: paragraph 3 line 77 “Yunnan has the largest population of cross-border travelers after the Xinjiang Province, with most of these being from Southeast Asia” should rather be “Yunnan has the largest population of cross-border travelers after Xinjiang Province, with most of these travelers originating from Southeast Asia”. In addition, Xinjiang is not a “Province” in China.
2. Results: paragraph 1 line 134 “The annual recruited population (range, 31,749–45,495)did not differ significant between the sampling years” should be “The annual recruited population (range, 31,749–45,495)did not differ significantly between the sampling years”

3. Discussion: paragraph 5 lines 236 ‘The population of cross-border travelers at the Dehong port is larger than that at all other ports of the Yunnan Province’ should be “The population of cross-border travelers at the Dehong port is larger than that of at all other ports of the Yunnan Province.”

Discretionary Revisions
1. Can the phrase ‘iatrogenic infection’ be replaced by any other synonym that is easy to comprehend?

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.