Reviewer's report

Title: Prospective cohort study of HIV incidence and molecular characteristics of HIV among men who have sex with men (MSM) in Yunnan Province, China

Version: 2 Date: 30 October 2012

Reviewer: Na He

Reviewer's report:

This was a well-designed and nicely conducted cohort study to examine HIV incidence among a MSM group in the capital city of Yunnan province, which was one of the epicenters of HIV/AIDS in China. The work upon which the authors were building was clearly acknowledged. The title and abstract accurately convey what has been found. The manuscript was generally well written although it might be further improved by editorial assistance in English.

Major Compulsory Revisions:

A. Methods

1. It would be helpful to clearly state in “Methods” the length of the follow-up period that was originally designed. From the authors’ description I may guess that the follow-up period seemed to be one year between June 2009 to March 2011, as long as the participants were not seroconverted or withdraw from the study.

2. Given the dynamic nature of the cohort study design and an HIV testing every three months during the follow-up period, a Cox proportional hazard regression model, instead of a logistic regression model, should be used to determine risk factors for HIV seroconversion among this MSM group.

B. Results

1. For table 1, it might also be helpful to present and compare characteristics of those (about 30% of the total cohort) lost to follow-up and those retained.

2. For table 2, it was “incidence” not “prevalence” should be reported, with a unit of person time. If the authors will use a Cox regression model instead of a logistic model, then HRs (hazard ratios) instead of ORs should be reported.

3. The authors reported HIV-related risky behaviors such as sexual behaviors and illicit drug use among the study participants at the baseline survey, they should also reported occurrence of these behaviors during the follow-up period through the follow-up surveys since it were these behaviors that put the participants at risks of HIV seroconversion. There risky behaviors or exposures should be considered in an appropriate and pragmatic way in the multivariate analysis examining risk factors for HIV seroconversion during the follow-up period.

Minor Essential Revisions
1. In Table 2, the % for each characteristic was redundant since it was already given in the overhead of the table.

2. The authors affirmed that they identified two HIV transmission pairs based on phylogenetic analysis and a later epidemiological survey. Although this conclusion sounds acceptable, a sexual network (if available from the study) in which the two members of a transmission pair were involved would provide more robust evidence.

3. There are some typos or grammatical errors in the text, e.g., “By phylogenetic comparison of virus sequence, we found two pair our HIV transmission pairs were found,” on line 352-353.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests