Reviewer's report

Title: Profiling of individuals responsible for local HIV-1 transmission

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Reviewer: Robert Kalayjian

Reviewer's report:

In this study, the authors explored the phylogenetic trees of HIV- pol sequences to identify transmission clusters and to examine associations within these clusters with demographic, immune characteristics and co infection with other STIs, among a large number of newly diagnosed patients who presented for care at the ARC over 9 yrs (2001-2009). Uniquely, they compared clustering between clade B and non clade B isolates and were able to examine associations with co infections by using serologic evidence of HBV, HCV, syphilis, & Chlamydia infections in addition to patient histories. The manuscript is well written, the research question and the context within which the study was initiated is clearly stated and well referenced. The statistical analysis is consistent with previous studies that have used this method to evaluate transmission clusters, and the analysis of characteristics between clusters and within transmission categories is appropriate. This study identifies many important associations among clustered infections including transmission categories, race, and associations with syphilis & Chlamydia, which are adequately supported by the data which they present.

Additional comments:

1) The title ‘Profiling of individuals responsible for local HIV-1 transmission’ denotes a negative connotation to the US reader. A title that indicates the unique contribution of non clade B isolates in this analysis also may be more informative.

2) Table 1: results of the multivariate analysis for syphilis and HCV are incorrectly summarized.

3) Clustering was defined by the inclusion of at least 3 subjects in this study. Other studies (Kaye, JAIDS, 2008; Brenner JID, 2007) defined clusters with as few as 2 subjects. Please comment as to whether this may have contributed to the inability to demonstrate associations between PHI and clustering by multivariable analysis in this study.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I declare that I have no competing interests.