Major Compulsory Revisions

#1. It was clearly stated in the limitations section that the researchers were unable to evaluate health behaviors, only demographic and serologic predictors. However, this is not clear in the introduction and especially the first sentence of the conclusion.

#2. Once participants developed syphilis, did the researchers continue to follow them? This is unclear in the manuscript.

#3. Who were the 292 who did not take the syphilis test? Was this because they refused blood testing for syphilis or were they not tested as a result of a health systems error? Does this include patients who did not give informed consent?

#4. How did the researchers obtain adjusted odds ratios? There is no mention of what was controlled for in the multivariate logistic regression. This should be clearly explained.

#5. Receiving ART appears to be associated with lower rates of syphilis at time of enrollment but higher risk of developing syphilis during study period. This is not adequately discussed or explained. Why would it be both a protective but also a risk factor?

#6. Not only was the syphilis prevalence high, but also the incidence was also incredibly high. This should be discussed in greater detail. I would have liked to see some more references comparing both the prevalence and incidence to other studies, either inside or outside of China. Why do the author’s think that incidence rate was so high (>20% seroconversion during a median follow up of 9.4 months)? This is probably one of the strongest findings of the paper and should be expanded upon.

#7. In what ways did participants self report that they were homosexuals and/or MSM? These terms should not be used interchangeably. Was this self-report of sexuality or was this a self-report of sexual behaviors? If it was based on behaviors, then homosexual and heterosexual should be changed to men who have sex with men and men who have sex with women.

#8. The first sentence of the conclusion claims that they have the first study reporting upon syphilis and risky behaviors. Is this in reference to syphilis
incidence being a surrogate for risky sexual behavior? This paper did not investigate risky behaviors. The first sentence of the conclusion cannot make claims about things the study did not investigate.

#9. Figure 1 is unclear.

Why were 376 excluded? Only 200 were syphilis positive at the beginning of the study. Also, the formatting could be improved; part of the text is cut-off in the figure.

Minor Essential Revisions

#10. What are the syphilis rates of other low and middle-income countries as well as other East or Southeast Asian countries? More comparison is needed than just United States and United Kingdom.

#11. The introduction could have a stronger description on the role of treatment as prevention. This is a very innovative idea and could have more emphasis. There has been much literature in recent years and a few seminal studies that the authors could refer to.

#12. Is the use of hazard ratio appropriate in this case? Hazard ratios tend to be used with survival data for clinical trials. They are associated with time to event, but the authors seem as if they are presenting hazard ratio as a relative risk ratio. Were participants removed from the analysis after syphilis seroconversion?

#13. The paper could also benefit from another English-language edit. There are a number of minor errors still in the paper. For example

Page 4 Line 22 “in” replace with “at”
Page 5 Line 2-3 Sentence is unclear
Page 10 Line 11 “we first evaluated” replace with “we report on the first evaluation of”
Page 12 Line 7 “convenient” replace with “convenience”
Page 12 line 15: “RAT” replace with “ART”

Discretionary Revisions

#14. Some readers will not know what the criteria are for ART eligibility in China. It might be good to explain why individuals in China would not be eligible for ART.

#15. Page 11 line 4: There should be a reference supporting the role that safe sex counseling would play in this population. There has been conflicting evidence throughout the years about the role of safe sex counseling and this paper would benefit from a reference showing the role of safe sex counseling to prevent STD acquisition in HIV+ individuals.

#16. The nearly 40% loss to follow up should be discussed in the limitations.
Level of interest: An article of importance in its field

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.