Reviewer's report

Title: The Cedar Project: Rapid increase of HCV infection in a longitudinal study study of young Aboriginal people who use drugs in two Canadian cities

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Reviewer: Meghan Morris

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Title: The Cedar Project: Rapid increase of HCV infection in a longitudinal study study of young Aboriginal people who use drugs in two Canadian cities

The current paper addresses the important area of research of HCV infection among Aboriginal people in two Canadian cities. As stated by the authors, the aim of the study was to estimate time to HCV infection and the relative hazard of risk factors associated with HCV infection among young Aboriginal people who inject drugs. As it stands, the manuscript is well written and contributes valuable findings to the field. However, there are a few areas that could benefit from further clarification. Specific comments and suggestions are provided below:

Summary of major concerns:

1. The authors provide a clear description as to where the sub-sample used for the analysis come from. However, they do not provide any information about how this subsample compares to the larger population in which it was drawn. If significant differences are present they should be recorded in the results paragraph and discussed within the limitations section.

2. Reuse of own rig, rig sharing, and difficulty finding new rig are likely highly correlated. More details as to the rational for leaving all variables in the multivariate model is needed. Additionally, a comment regarding how multicollinearity of independent variables were assessed is needed.

3. For variables: frequency of injection of opiates, methamphetamine, and cocaine in the past 6 months the authors collapsed the continuous variable into a binary variable (<daily vs. #daily). However, they do not specify how individuals who do not inject cocaine are categorized. For example, do these variables only include individuals who reported any [opiate, meth, cocaine] injection in the past 6 months? If so, the difference in sample size for these variables should be noted.

4. Discussion is well written and notes the important contributions of findings. The manuscript could benefit for further expansion of the discussion points within the “sex work and HCV seroconversion” paragraph (starting on pg. 11). It is agreed that this finding suggest a need to scale up services aimed at reducing drug or sex related harm for young Aboriginal women. But are the authors suggesting that these women are in fact getting HCV through the sexual behaviors encountered during sex work? Traditionally HCV is transmitted through
intravenous rather than sexual behaviors. Additional discussion/interpretation of this finding is needed. For example, is it possibly that these women are injecting with clients? Or they are conducting more risky sexual behaviors with clients that are exposing them to HCV?

Summary of minor changes/suggestions:

1. Page 3: Sentence starting “In British Columbia, it is estimated that over half the population of people living…” It is unclear if “and that incidence for HCV infection is twice as high among Aboriginal people compared to non-Aboriginal people…” refers to HCV among HIV positive or not. Please clarify.

2. Page 5. How long were participants followed within the cohort? Also, what type of diagnostic tests were used to determine HCV and HIV serostatus? At minimum the authors should refer to another paper for this information.

3. Page 6. During the description of covariates, it is difficult to assess which are time dependent and which are not. Specifically, “history of sexually transmitted infection” is listed under the time depended covariates, but it “history” typically refers to “ever” tested positive. This same issue is present for “ever having been incarcerated”. Additionally, Table 3 could benefit from a clear denotation of which variables are time dependent and which only appear at baseline.

4. Table 2: consider changing “ever/recent involved in sex work” to “ever/recently traded sex for money, shelter, food, or drugs” as defined in the covariate section of methods. Engaging in sex work means something slightly different.

5. Possible typo on page 12: Predation.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I do not have any conflicts of interests to disclose.