Reviewer's report

Title: The impact of drug use patterns on mortality among polysubstance users in a Canadian setting: a prospective cohort study

Version: 2
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Reviewer: anne C spaulding

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This is a very interesting study on outcomes of injection drug users because of the study setting--a city that has an injection center. Unsurprisingly, the number of fatal opiate overdoses is lower than would occur in a setting without such an effective harm reduction intervention. In contrast, the number of deaths due to cocaine overdose is high, presumably because intravenous cocaine users typically inject many more times per day.

Overall the article is extremely well-written. From the title to the conclusion, it is clear. I have no criticism of the study's methods or the analysis. Both are sound. The paper is properly structured and conforms to standard reporting guidelines. The one suggestion I have for improvement is more commentary on the uniqueness of Vancouver. The experience of the only North American city with an injection center does limit generalizability.

ESSENTIAL REVISIONS--none

DISCRETIONARY REVISIONS

1. How much of the unusual pattern of mortality can be explained by an injection center initially established to address mortality from opiate overdose?

2. If cocaine users typically inject several times the day, should an injection center extend its hours in order to address the health effects of cocaine use? What other measures would the authors suggest to lower cocaine mortality in their city? The discussion of treatment of cocaine abuse is not very specific.

3. What lessons can other localities learn from this study? Would areas where stimulant use vastly exceeds opiate abuse have similar mortality patterns?

Level of interest: An article of outstanding merit and interest 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 declare that I have no competing interests in relation to this paper.