Reviewer's report

Title: Acceptability and implications of the rapid hepatitis C screening test among high-risk young people who inject drugs

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Reviewer: Daniel Church

Reviewer's report:

Overall, this is a well-written and interesting report. While the findings are modest, they provide useful evidence for people engaged in this work and working on HCV prevention and care for people who use drugs.

Major Compulsory Revisions:

One major issue is regarding test results and RNA testing. It is not clear from the methods what happened to those that were found to be HCV ab+. The article states that RNA testing was "perfunctory" but I am not sure that is the right word. This is confusing and an important component to clarify. Not only access to RNA testing, but then what was the timeline with results? While the focus in this paper is not on the results of the testing given the primary interest in acceptability, it may be relevant to explore if those testing positive felt different about the testing than those who were negative. For example, if a participant testing HCV ab+ by rapid test, they then would need to have a blood draw as well (and therefore a fingerstick and blood draw). If the testing was all standard serology, only one blood draw is needed with reflex to RNA testing for those that are ab+. In order to fully capture the response to the test methodology, it would be helpful to explore this.

Minor Essential Revisions:

Estimates on HCV prevalence included in the Background have recently been updated from NHANES data and those updated results should be used.

The authors mention the importance of testing for and identifying acute HCV infections, however, that can not be accomplished with the rapid HCV antibody test so it does not seem a directly relevant point. Since acute HCV infection is more of a clinical diagnosis with NAT testing it would be very unlikely to occur in the settings targeted for rapid HCV antibody testing with non-clinical staff.

There is no mention in the background of greatly improved HCV treatments that can cure HCV infection. It seems that this is a critical point to address given that access to care and treatment are one of the primary reasons for conducting HCV testing.

The authors compare rapid HIV testing to rapid HCV testing in the background but do not mention the difference between these tests in that an HCV+ test result does not always equate to current infection status as it does with HIV.

In the methods, the authors indicate that the participants all self-report being
negative for HCV RNA. This suggests that the study population have all been previously tested for HCV RNA and likely HCV antibody. While it is fine to assess this group for the acceptability of this test, and they may have useful insights, it should be stated that this is a limitation of the research in terms of applicability to other populations.

A minor point, but it would be good for the authors to use decimals consistently - most of the results only go out to one decimal point, and that should be done throughout the paper, especially given the limited number of participants.

In the Discussion, the authors mention that there is a "high" preference for the fast results - since it was only 60%, I think removing the work "high" from that sentence would be appropriate.

At the end of the first paragraph of the Results, the authors use the percentage of the standard test takers - it would be useful to include the number here too since it was a limited number of participants.

At the end of the second paragraph there is reference to the "inconvenience of a painful finger-prick" although this appears to be in relation to RNA testing, so isn't it a standard blood draw that they are comparing the possibility of blood spot testing to?

The discussion has excellent discussion on how HCV testing is an important component of HCV prevention among PWID. The detail included here was thoughtful and important. However, the authors should strengthen the text regarding that testing is also a key way to engage people in HCV medical care. "Linkage to care" is mentioned, but access to medical care is one of the primary reasons that HCV testing can be useful. While there is no evidence currently for how well the rapid test performs as a means of getting people into HCV medical care, this issue should be discussed in more detail in this section.

The final paragraph of the discussion states that rapid HCV antibody testing does not require phlebotomy or accessible veins - clearly two important qualities of this test with this population. However, while the rapid HCV ab test does not require phlebotomy, if someone tests ab+, phlebotomy is currently required so it is more that such skills, and accessible veins, are not initially required. I would also recommend saying that "...and MAY streamline access to care and treatment..." as it is not know how well this test succeeds at engaging young PWID in care.

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

**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