Reviewer’s report

Title: 'HepCheck Dublin': An Intensified Hepatitis C Screening Programme in a Homeless Population Demonstrates the Need for Alternative Models of Care

Version: 0 Date: 13 Apr 2018

Reviewer: Phillip Read

Reviewer's report:

Thank you for asking me to review this paper describing activities to engage and understand hepatitis C treatment and testing among homeless persons in Dublin.

Overall the paper is well written and easy to understand and a pleasure to read.

The subject matter is of general importance given the prevalence of both hepatitis C, and homelessness in many larger cities across the globe, and evaluable models of care that might afford equitable, accessible and acceptable are urgently needed.

Introduction- clearly explained rationale

Methods (and comments on the model described in the methods)

1) More detail required about Hep Check and Hep Care. How was it conceived, using what methodology, crucially to what extent did involve consumer participation or codesign to ensure it met the needs of the intended client groups?

2) I am a little confused as to which component is Hep Check.. Initially the whole study is described as hepcheck, then line 31 implies only those testing positive in phase 1 were enrolled in Hep Check.

3) I appreciate there may be various restrictions on treatment access or prescriber type, but I am surprised that an initiative for homeless people started off requiring HCV+ patients to be referred to an appointment based hospital structure. Any literature review of access to healthcare for homeless would have immediately identified that this would likely be a huge barrier to care.

4) So phase 3 was follow up of those testing positive in phase 1? Please clarify.

5) Likewise, it is good that people were given up to 3 appointments, but if this was required, I am not surprised few turned up. This seems to be a case of repeating the same process (making an appointment) and expecting a different outcome (someone turning up).
If treatment was only available anyway for those found to be cirrhotic at fibroscan, and fibroscan was only available in specialist clinics, then given most with hep c are relatively asymptomatic it is not surprising that few attended such appointments… there was only a small likelihood they'd be treated anyway. What methodology was used to empower people to wish to see the specialist?

Results

1) Over 300 (53.5%) reported current IV drug use, yet only 157 were offered information about this. What was the information provided, and why were only 50% provided with this… if it was part of the study that is a low rate of protocol adherence

2) Specify that of 597 tested, 112 new diagnoses were made, undiagnosed prevalence thus being 112/597 (18.7%)

3) In phase 2 42% of participants reported seeing a GP at least once a week… this is very high for a homeless population.. that was it for? Drug treatment/OST? It shows to me that a lot were connected to healthcare in some way, and that could be leveraged in terms of upscaling treatment through existing pathways rather than tertiary referral.

4) Lines 12-18. I don't understand the data. 77% of 49 participants said they were unaware of their Hep C infection (presumably prior to the Oral test). Yet 30 (60%) had been previously referred to specialist care… how could they have been referred to care if they hadn't been diagnosed yet? Presumably of the 21/30 either didn't attend or dropped out of care this was because either they were told they didn't need treatment, or were put off by side effects of IFN?

5) Phase 3… of the 199 who tested positive in phase 1, only 46 were even referred to specialist care.. what determined this? Why was it so low? Presumably most of these didn't yet have RNA/Ag or Fibroscan information so there couldn't have been much triage occurring so why weren't all referred?. 7/199 had a fibroscan, and only 13/199 had Ag confirmation ( as per table 3 ) that they had chronic infection and weren't just Ab positive.

Discussion

1) The first paragraph talks about positivity and cascade of care for these clients… how does the cascade compare to non-homeless persons living with HCV in Ireland?

2) Mention is made of symptoms of drug and alcohol issues masking HCV symptoms… this highlights symptom based testing for Hep C is futile, and broad risk based (plus network based) testing is the best way of identifying cases.
3) There are examples of successful engagement in assessment, testing, and treatment in a community or homeless settings that might be quoted e.g. https://www.ncbi.nlm.nih.gov/pubmed/28442271

4) Limitations section… that 2/199 HCV Ab positive patients completed treatment is not a limitation of the study, but a limitation of the care model.

Tables

Table 1: I couldn't see a definition of what alcohol use means… ever/daily/how much?? Likewise "current" drug use

Table 3: I don't understand the difference between oral test/blood test/HCV Ab. There is not mention in the text of all people having simultaneous HCV Ab blood tests, if so, who had this and why. Presumably the oral test and the blood test are both Ab tests, so what does the HCV Ab (N=538) refer to? If 597 also had a blood test, but only 538 had an Ab test, what were the other 59 blood tests? It may be me, but I struggle to follow the methods, and table 3 and the flow diagram.

Is what actually happened that 597 had an oral test, but actually everyone was encouraged to have a blood test anyway of which 538 did so, and of those 199 positive on the blood test 13 were tested for Ag or RNA. Again, that doesn't explain what the 597 having a blood test in table 3 refers to. What then was the value of the oral test if everyone had a blood test anyway?

Table 4: define STD in text… which ones/ever/current?

Table 5: N=48, inclusion criteria was testing HCV positive, but the results says the N=49… why different?

Overall I think this study reads well and raises some important points.

Firstly it shows that there is likely to be an unmet diagnostic and treatment need among homeless people, and that the oral test is one way of confirming hepatitis C exposure, although the near absence of confirmation of chronic viraemia vs past exposure should be discussed, particularly as reinfection will make up an increasing proportion of new infections.

It also (although fairly predictably) identifies some barriers to care that are shared for many diseases for marginalised homeless people which relate to suitable models of care.
Most importantly, and for me the key finding of the study, is it demonstrates the requirement for a significant reorientation of delivery of healthcare to this population. I therefore think the paper has much merit but should be restructured and reframed, particularly in the discussion section to highlight this gap, and discuss a suitable way forward by considering the huge drop off at each stage of the cascade and what one might do to collapse it, or remove steps. Although in some ways it could be viewed as a negative finding, I am sure the authors conceived this study to inform better delivery of healthcare, and therefore it should be data worth disseminating to highlight how far we have to go, and how innovative we might need to be about community based, client centred, peer supported, devolved and flexible models for this group that build on established principles of access, acceptability and appropriateness.

I also think the title could also be reworked, to say that homeless people have competing priorities may be true, but it's a little victim-blaming, one also might say the model of care offered did not provide decent enough competition!

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**

If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**

If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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