Received: 5 July 2018 | Revised: 31 October 2018 | Accepted: 24 January 2019

DOI: 10.1111/jvh.13087

SHORT COMMUNICATION

WILEY JOURNAL OF VIRAL HEPATITIS JVH

Community-based, point-of-care hepatitis C testing: perspectives and preferences of people who inject drugs

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Funding information
Gilead Sciences; National Health and Medical Research Council; St Vincent's Hospital Foundation; Cepheid; Shepherd Foundation; Australian Department of Health

Summary

A barrier to hepatitis C treatment for people who inject drugs (PWID) is needing to attend multiple appointments for diagnosis. Point-of-care hepatitis C tests provide results within 20 to 105 minutes and can be offered opportunistically in non-clinical settings such as needle syringe programmes. In this nested qualitative study, we explored the acceptability of point-of-care testing for PWID. PWID attending participating needle syringe programmes were screened using the OraQuick HCV antibody mouth swab (result in 20 minutes); those with a reactive result then underwent venepuncture for a point-of-care RNA test: the Xpert HCV Viral Load (result in 105 minutes). Convenience sampling was used to select participants for a semi-structured interview. A hybrid thematic analysis was performed, guided by Sekhon's "Theoretical Framework of Acceptability." Nineteen participants were interviewed. Three core themes emerged: "people and place," "method of specimen collection," and "rapidity of result return." It was highly acceptable to be offered testing at the needle syringe programmes by nurses and community health workers, who were described as competent and nonjudgemental. Most participants reported that even if a finger-stick point-of-care RNA test were an option in the future, they would prefer venepuncture, as the sample could be used for pre-treatment workup and bundled testing. Waiting 20 minutes to receive the antibody test result was acceptable, whereas the 105 minutes required for the RNA result was unacceptable. Offering point-of-care hepatitis C testing at needle syringe programmes is acceptable to PWID, however tests that avoid venepuncture are not necessarily the most attractive to PWID.

KEYWORDS

Community Health Services, hepatitis C, needle-exchange programs, point-of-care systems, substance abuse, intravenous

Abbreviations: NSPs, needle syringe programmes; PWID, people who inject drugs.

1 | INTRODUCTION

A targeted effort to engage people who inject drugs (PWID) in hepatitis C testing and treatment is essential to improving the health of individuals and achieving the World Health Organization elimination targets.[1] To be diagnosed with hepatitis C currently requires multiple separate visits to healthcare providers.[2] A significant proportion of PWID in whom hepatitis C antibodies are detected do not go on to have the RNA test required to begin treatment.[3] Point-of-care tests have been posited as a potential means by which to deliver a single-visit diagnosis.[2] Here, we report the findings of a nested qualitative study of community-based, point-of-care test acceptability for PWID.

2 | MATERIALS AND METHODS

The Rapid-EC pilot study offered point-of-care hepatitis C testing to people attending three needle syringe programmes (NSPs) in inner-Melbourne. NSP attendees were approached by a nurse or community health worker and offered screening using the OraQuick® HCV (OraSure Technologies Inc, Bethlehem, PA)—a mouth swab that can detect hepatitis C antibodies within 20 minutes. Those with a reactive result underwent venepuncture to obtain whole blood, which was centrifuged onsite and used for a point-of-care RNA test: the Xpert HCV Viral Load (Cepheid, Sunnyvale, CA). The result was available onsite within two hours.

For this nested qualitative study, convenience sampling was used to recruit participants for a semi-structured interview. Sekhon and colleagues' "Theoretical Framework of Acceptability,"[4] informed the development of the interview schedule. Participants were reimbursed AUD20. NL performed a thematic analysis of the interview transcripts using a hybrid inductive and deductive coding strategy.[5] To improve the validity of assigned codes, another member of the research team, BW, independently coded two of the transcripts. Selective coding was then performed to identify core categories. The Alfred Hospital Ethics Committee approved this study (527/16).

3 | RESULTS

All invited participants (n = 19) were interviewed. Demographic data, injecting practices and hepatitis C status are detailed in Table 1. Three core categories emerged from the analysis. All names have been replaced with pseudonyms.

3.1 | "People and place"

Common descriptors of site staff included "helpful," "genuine," and "concerned about your health." That site staff "deal with [drugs and related issues] everyday" was important as it meant that they were "not judgemental." Most participants were not concerned as to the formal training of the staff member (ie, community health worker, nurse or doctor) provided that they were technically trained to perform the test(s).

> I don't know who's who. I don't care who's who. I'm sure they've got basic hygiene education. (Ralph, 52)

Nonetheless, some participants specifically preferred being tested by a community health worker.

> They have a really good understanding of what it's like to have hep C and they don't judge us because we're users…That goes a really long way…because when you go to get test results about your blood… to see if you have hepatitis C or other things, it's already a bit degrading 'cause it makes you feel a little

TABLE 1 Characteristics of interview participants

Characteristics	Interview participants n (%)
Age, y, median (range)	44 (19-56)
Male	14 (74)
Female	3 (16)
Other	2 (10)
Ever injected drugs	
Yes	18 (95)
No	0
Prefer not to answer	1 (5)
Injected drugs in preceding month	
Yes	18 (95)
No	0
Prefer not to answer	1 (5)
Injecting episodes in last month, median (range)	28 (0-150)
Receptive needle or syringe sharing in last 6 mo[a]	0
Receptive spoon sharing in last 6 mo[a]	8 (42)
Receptive water sharing last 6 mo[a]	4 (21)
Receptive filter sharing in last 6 mo[a]	3 (16)
Distributive needle or syringe sharing in last 6 mo[b]	3 (16)
Distributive spoon sharing in last 6 mo[b]	7 (37)
Distributive water sharing last 6 mo[b]	2 (11)
Distributive filter sharing in last 6 mo[b]	3 (16)
Antibody negative on point-of-care test	4 (21)
Antibody positive on point-of-care test	15 (79)
RNA negative	9 (47)
RNA positive	6 (32)

[a]Receptive sharing = using the named piece of equipment after another person.
[b]Distributive sharing = lending the named piece of equipment to another person after use.

> bit unhealthier than the rest of society. These people [community health workers] don't make you feel that way. (Jed, 30)

3.2 | "Method of specimen collection"

All but one participant reported that the mouth swab was "easy" and "comfortable." Many preferred the mouth swab to venepuncture.

> It's like less hassle…[g]etting blood sounds really intense, but doing a mouth swab, sounds really nonchalant… I'd come every week if that's all that it was. (Sydney, 21)

For others, venepuncture was routine and was not seen as a barrier to testing.

> Getting three vials of blood taken isn't a big deal – I get at least four or five blood tests per year so it's not really a problem for me. (Alex, 23)

Venepuncture was deemed to be significantly less burdensome for some participants when they were allowed to collect the specimen themself.

> You guys let me do it. But over there [in hospital] they won't let you. And I get angry that they're poking holes in you and I think if you just gave me the fit [needle], you'd be able to get blood out of me. (Sandra, 46)

Many participants initially responded positively to the idea that finger-stick sampling for RNA testing may in the future allow venepuncture to be avoided or delayed. However, for most participants, the reduced burden of finger-stick sampling was offset by its opportunity costs, including that the sample could not be simultaneously tested for other blood-borne viruses.

> I'd rather just do the blood work [from a vein]. Cause I'm not just worried about hep C. I'm worried about the whole lot. So I'd rather do the blood 'cause then I'll know I haven't got hep C, hep B and HIV. (Marcus, 35)

The utility of a finger-stick test was also undermined by the need for pre-treatment workup bloods, which meant "you're going to wind up doing [venepuncture] if it comes up positive."

3.3 | "Rapidity of result return"

All participants received the result of their point-of-care antibody test within 20 minutes and regarded this as an acceptable amount of time to wait onsite. The two hours required to obtain a point-of-care RNA result was universally reported as too long to wait onsite for a result.

> Two hours is too long…I'm not going to wait two hours for a test when they can just ring me. (Brett, 44)

While participants were unwilling to wait onsite for the results, most did perceive rapid testing to be advantageous and expressed a preference to return later on the same day. The most common reasons for this preference were that a same-day result "saves a lot of stress" if the result is negative and "get[s] the ball rolling sooner rather than later" if the result is positive.

Despite this expressed preference for same-day results, the majority (n = 10) of the 15 participants that underwent point-of-care RNA testing did not receive the result on the same day. Those that did receive a same-day result all did so via phone. Some participants described practical barriers to same-day result return including having the specimen collected within two hours of the service closing or not having access to a mobile phone. Other participants felt that a same-day result was unnecessary.

> I don't do things like share with other people, give my blood to other people, make other people vulnerable to it, so I don't have to worry…That's why it doesn't matter to me if they give me the result today or next week, whatever. (Ross, 48)

Some participants also highlighted that the chronic, often asymptomatic nature of hepatitis C—that "[you're] not going to die straight away"—meant there was no imperative for a result to be provided more quickly than is possible with conventional testing.

4 | DISCUSSION

Our study is the first to evaluate the acceptability of a point-of-care RNA test for hepatitis C in PWID who had been offered the opportunity to receive the result on the same day. As in previous studies of point-of-care antibody testing, participants in our study reported that 20 minutes was an acceptable amount of time to wait for a result.[6,7] By contrast, none of our study's participants waited onsite to receive the result of their point-of-care RNA test. This somewhat differs from the results of a recently published study of the hypothetical acceptability of rapid point-of-care RNA testing in PWID, which found that 16 per cent of participants reported being willing to wait for up to two hours to receive a result.[8] Notably, participants in that study were only asked about their willingness to wait for a result and not given the opportunity to do so.

As reported in an earlier study of point-of-care testing in PWID, the invasiveness of venepuncture rarely had the greatest bearing on acceptability for our participants.[6] Overall, venepuncture was relatively more acceptable than other methods of specimen collection as it afforded two important advantages: the specimen could be tested

for other blood-borne viruses (namely HIV) and, if needed, could also be used for pre-treatment workup tests (genotype, full blood examination, liver function tests). This finding is in contrast to that of a recent study, where despite most participants reporting that finger-stick and venepuncture testing were both "very acceptable," the majority (65 per cent) ultimately preferred finger-stick testing.[8] A possible explanation is that participants in the previous study recorded their preferences through a questionnaire, which may not have conveyed the same amount of context regarding the opportunity costs of finger-stick sampling as our semi-structured interview format. It is also possible that our study is missing the perspectives of some subgroups of PWID in whom finger-stick testing may be most highly valued. By only interviewing participants that had completed the Rapid-EC study, our study excludes the perspectives of people who declined to participate in point-of-care testing, including those that may have declined because of the requirement for venepuncture.

Currently available point-of-care RNA testing technology was not perceived as rapid and did not facilitate a single-visit diagnosis. Importantly, point-of-care tests that avoid venepuncture are not necessarily the most attractive to PWID, given that venepuncture is still required for pre-treatment workup and other blood-borne virus testing.

ACKNOWLEDGEMENTS

The authors wish to acknowledge the participants of this study and the staff at the study sites. The authors acknowledge the contribution of the Shepherd Foundation, St Vincent's Hospital Foundation, Gilead Sciences and Cepheid for supporting this study. Funders had no role in the design or evaluation of this research project. The authors also acknowledge the contribution to this work of the Victorian Operational Infrastructure Support Program received by the Burnet Institute. Alisa Pedrana, Joseph Doyle, Jessica Howell, Alexander Thompson and Margaret Hellard all receive Australian National Health and Medical Research Council research grant support. Bridget Williams receives funding from the Australian Department of Health via the Specialist Training Program.

CONFLICT OF INTEREST

The Burnet Institute, Margaret Hellard and Joseph Doyle receive funding support from Gilead Sciences, Abbvie, Merck and Bristol Myers-Squibb for investigator-initiated research. Jessica Howell receives research funding from Gilead Sciences. Alexander Thompson serves as an advisory board member for Gilead Sciences, Abbvie, Bristol Myers-Squibb, Merck, Eisai and Bayer; has served as a speaker for Gilead Sciences, Merck, Bristol Myers-Squibb and Abbvie; and has received research funding from Gilead Sciences, Merck and Abbvie.

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How to cite this article: Latham NH, Pedrana A, Doyle JS, et al. Community-based, point-of-care hepatitis C testing: perspectives and preferences of people who inject drugs. *J Viral Hepat*. 2019;26:919–922. https://doi.org/10.1111/jvh.13087