



Public Health
England

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Evaluation of hepatitis C test and treat interventions targeted at homeless populations (outside London) in England during the COVID-19 pandemic

2020 report

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Executive summary

Hepatitis C (HCV) is a blood borne viral infection of the liver that disproportionately affects people who are homeless and, as such, they are a key target population for testing and treatment. The initiative to house homeless populations during the COVID-19 pandemic offered an opportunity to access these vulnerable individuals for HCV testing and treatment whilst they were potentially more stable and engaged. Numerous HCV care providers across England took this opportunity and this report provides an evaluation of some of their interventions with the aim of learning lessons for future service delivery.

The evaluation draws on data from 3 sources:

- a survey circulated to Hep C Trust peer support leads in July 2020 to collect information on outreach activities in the previous month
- data collected by intervention providers from 7 areas for 1,263 homeless clients tested for HCV across 63 different settings between March and September 2020
- structured conversations with 15 intervention providers from 11 areas about their experiences of conducting HCV test and treat interventions with homeless clients during the COVID-19 pandemic

The findings are reported under the Donabedian model of:

- structure
- processes
- outputs
- outcomes

A key structural finding was the importance of partnership working, particularly with peer supporters, when delivering HCV test and treat interventions with the homeless population.

From a process perspective, providers found using appropriate promotional materials to be important for reducing stigma and encouraging engagement. The use of incentives was fairly widespread but, as in the wider evidence, the benefits of these were uncertain. A variety of testing methods were used in the interventions studied. There was a general consensus that taking blood resulted in lower levels of engagement from the homeless client group and that speed of test to treatment was crucial.

In terms of outputs and outcomes, an uptake rate for testing of 63.6% was found in the 32 settings where an estimated number of homeless being housed was available. Across all 63 settings, a total of 224 (17.7%) of the 1,263 homeless clients tested were found to be HCV antibody (Ab) positive and 133 (10.5%) were HCV RNA positive, indicating current infection. Prevalence was higher amongst those recorded as a past or current injecting drug user (44.5% HCV Ab positive and 23.6% HCV RNA positive).

Overall, of the 1,263 clients tested, 92 (69.2% of those testing RNA positive) had been offered treatment and 83 (90.2% of those offered) had started on treatment by the time of the data being submitted.

The recommendations for future HCV testing and treating of homeless populations in a pandemic situation are:

- build strong partnerships
- promote testing interventions using appropriate content and language to avoid stigma
- use incentives but monitor their effectiveness
- adopt a flexible approach to the practical arrangements for testing and ideally use oral swabs, Dried Blood Spot or rapid point of care testing
- find ways to initiate treatment outside of a clinical setting
- use innovative ways to keep in contact with, and follow-up, homeless clients
- ensure a risk assessment is done and pandemic precautions are implemented
- adopt a whole health approach, such as screening for other diseases at the same time
- carry out monitoring and evaluation of the interventions

Background

Hepatitis C virus (HCV) is a blood borne viral infection of the liver which, in England, is most commonly spread through injecting drug use (1). If left untreated for long periods, chronic HCV can cause cirrhosis, liver failure and liver cancer. However, HCV often does not have any noticeable symptoms until the liver has been significantly damaged. This means many people have the infection without realising it (2). In 2019, Public Health England (PHE) estimated that 89,000 people are chronically infected with HCV in England, with many drawn from marginalised and underserved groups in society (1). HCV is an important issue for people who are homeless. Data from 2018 on people who inject drugs (PWID) suggests that chronic HCV prevalence is significantly higher among those reporting homelessness in the last year (35%) than in those never reporting homelessness (17%) (1). Analysis of the deaths of homeless people in England and Wales revealed that the mean age at death was 45 years for males and 43 years for females in 2018; which compares with 76 years for men and 81 years for women in the general population (3).

A novel coronavirus, SARS-CoV-2, which causes COVID-19 disease, was isolated in December 2019 and declared as a global pandemic by the World Health Organization (WHO) in March 2020 (4). In attempt to halt the spread of infection, England underwent 'lockdown' from 23rd March, with unprecedented social and physical distancing measures, until easing of restrictions in July. The COVID-19 pandemic, and associated restrictions, caused disruption to many healthcare services, including testing and treating for blood borne viruses (BBV) such as HCV.

However, some areas developed innovative ways to conduct outreach HCV test and treat interventions and took advantage of opportunities that arose from the pandemic situation.

One such opportunity involved homeless populations as, in March 2020, the Ministry for Housing, Communities and Local Government (MHCLG) instructed English local authorities to move everyone sleeping rough and in communal shelters into a safe, ideally self-contained, place (5). By May nearly 15,000 people who were sleeping rough, or at risk of doing so, had been assisted into self-contained emergency accommodation in commercial hotels, B&Bs, and hostels (6). This housing of the homeless gave healthcare services the chance to access this population at a time when their lives might be less chaotic, so they might find it easier to engage, and when they were less geographically dispersed.

In England, responsibility for HCV treatment lies with 22 Operational Delivery Networks (ODNs) (7) with a clinical lead whose role is to co-ordinate patient care between providers. This report provides an evaluation of interventions to test and treat homeless people, whilst they were being housed during the COVID-19 pandemic, in the ODN areas outside London. The purpose of the evaluation is to share learning and inform future initiatives in the event of further COVID-19 waves or other pandemics. A separate evaluation is being undertaken for London (which is comprised of 4 ODNs) as the population and intervention models were quite distinct there.

Aims and Objectives

The overall aim is to evaluate HCV test and treat interventions targeted at homeless populations during a global pandemic and use the lessons learnt to inform future service delivery. The evaluation addresses the following questions:

- what was the extent and nature of HCV test and treat interventions with homeless populations in England (excluding London) during the COVID-19 pandemic (March to September 2020)?
- what was the impact of the interventions, including any unintended consequences (positive or negative)?
- what are the barriers and enablers to carrying out HCV test and treat homeless interventions during a global pandemic?
- from the lessons learnt in this evaluation, what are the recommendations for HCV testing and treating of homeless populations during a pandemic situation?

This evaluation will be achieved through 6 objectives, as detailed below:

- to develop an appropriate evaluation framework of the housed homeless intervention with logical pathway

- to conduct a survey of HCV peer support leadsⁱ to ascertain the extent of homeless interventions
- to collect quantitative data relating to HCV testing and treating of homeless populations
- to collect qualitative data from clinical teams and peer supporters involved in the interventions
- to descriptively analyse and summarise the data
- to produce a report based on the findings, including recommendations for future interventions

Methods

The evaluation methodology is guided by a logical pathway ([Appendix 1](#)) which suggests what should be measured and considered at the various stages of the interventions. This approach fits with the Donabedian (8) framework of evaluating:

- structures
- processes
- outputs
- outcomes

Three methodological approaches have been used to gather data for the evaluation:

1. A survey sent to all Hepatitis C Trust peer support leads in July 2020 to ask about HCV outreach testing and treatment in their area over the past month. The survey was circulated by HCV Action (9) and included the questions detailed in [Appendix 2](#). Respondents were asked to complete the survey in a Google spreadsheet. The results were analysed descriptively in MS Excel.
2. Quantitative, monitoring data is routinely recorded by HCV test and treat providers but they were asked to collect an enhanced data set for their targeted homeless interventions. NHS England sent all ODNs a minimum dataset template (details in [Appendix 3](#)) and requested that they complete it for all individuals targeted in these interventions during the COVID-19 pandemic. The evaluation framework was also circulated with the dataset to put the request in context. ODN clinical leads, co-ordinators or clinical staff were subsequently contacted by the evaluation lead to improve response to the data request. Completed datasets were sent by secure email transfer and analysed descriptively in MS Excel.

ⁱ Hepatitis C Trust peer support leads run a network of peer supporters that deliver HCV messages about the importance of testing and treatment to vulnerable individuals in the community.

3. Qualitative data was collected through structured telephone conversations with ODN staff, hepatology clinicians and peer supporters who had had direct involvement in providing the homeless test and treat interventions (henceforth referred to as 'providers'). A topic guide for the conversations was used ([Appendix 4](#)). The conversations were not audio recorded but written notes were made and entered into an MS Excel spreadsheet. This data was analysed for key themes.

The time period for the evaluation was interventions conducted between March and September 2020.

Results

Responses were received from all of the 16 areas outside London that were sent the peer support leads survey by HCV Action. These correspond to 16 of the 18 ODN areas outside of London (the ODNs which are not represented are Humberside and North Yorkshire, and Greater Manchester and Eastern Cheshire as there are currently no Hepatitis C Trust peers working in equivalent areas). All 16 areas reported doing outreach work with the homeless population during the past month.

Homeless test and treat data were received from providers working in 7 ODN areas and it covered interventions carried out in 63 different settings (such as hostels, hotels and day centres). The data showed that, across all these settings, 1,263 homeless clients had been tested for HCV Antibody (Ab). However, data coverage and quality were inconsistent; some areas provided individual level data (of varying completeness) whereas others just provided totals for each setting. For instance, data on gender was available for 945 clients, of whom 75% were male.

Note that due to the on-going nature of the test and treat interventions, the data collected just represents one point in time and, therefore, in some areas HCV RNA test results were still pending and in other areas clients with positive results were yet to be offered, to start or to finish treatment.

Fifteen structured conversations were held with intervention providers from 11 different ODN areas. Attempts were made to contact all ODNs but not all responded. Note the conversations were not always with the same providers that submitted data.

The results of analyses of the 3 data sources are detailed below under the evaluation framework of:

- structure
- process
- outputs
- outcomes

Note that most impacts were not directly measurable in this evaluation.

Structure

Restrictions and regulations

Several providers described how it was difficult to get outreach interventions underway at the start of lockdown; reasons for this included organisational restrictions on face-to-face contact and staff shortages due to people being redeployed into direct COVID-19 response roles or having to shield themselves.

There were conflicting views on the impact of COVID-19 on the rules and regulations of conducting test and treat interventions; some reported that it was more challenging to get through all the 'red tape' whilst others said that they were able to do things that are not normally possible. For instance, one provider described how previously a client not attending a treatment appointment would miss out on getting their medication whereas during lockdown the appointments were by telephone, so the nurse would keep trying until contact was made and then, through another new initiative, the medications would be sent by courier.

Settings

In the peer support leads survey, 15 (out of 16) areas reported homeless hostels and/or hotels as settings for their HCV outreach work in the past month (the remaining area only reported outreach in substance misuse service settings).

From the data received for 7 ODN areas, 63 different settings were recorded for homeless outreach work and, of these, 34 were hostels, 21 were hotels and the remaining 8 were community or day centre facilities or street outreach.

Intervention providers often reported some difficulty in engaging with hotel staff and obtaining their consent for testing events to take place on site. Several mentioned that phoning/emailing did not get any response and so they found it was better to visit in person when trying to get agreement and agree on logistical arrangements. Hotel staff were often resistant to clinical procedures, such as blood being taken on site. This was particularly true as lockdown eased and hotels started to reopen to other guests. One provider reported that the local authority was resistant to testing being conducted in the hotels and B&Bs where the homeless were housed

because of the reaction from accommodation owners, local residents and paying guests. Raising awareness of HCV, and reducing associated stigma, was highlighted as important for gaining engagement from hotel staff.

Providers reported that it was, generally, logistically easier to run interventions in urban areas, where the homeless were housed in a small number of very big hotels, rather than in rural areas, where a large number of very small, geographically dispersed accommodation units were being used. Also, some providers reported that homeless clients were more likely to engage when there were lots of them together rather than when the intervention was being delivered to a very small number of individuals.

The spaces used to conduct testing varied considerably from gazebos in hotel car parks to individual bedrooms and communal spaces. Several areas had purchased gazebos specifically for these outreach interventions in order to provide a private space. In some cases, a testing van was used, and this was felt to be advantageous because it was versatile, fit for purpose and, if unmarked, did not contribute to stigmatisation.

Partnership working

The survey and the conversations with providers revealed that a wide range of organisations have collaborated to deliver the homeless interventions. These include:

- NHS
- Hepatitis C Trust
- local authorities
- homeless organisations
- substance misuse services

Most interventions were conducted in partnership with peer supporters. Reasons given for no peer supporter involvement included lack of an existing relationship or because the local peer supporter was unavailable (for example, through illness or shielding). Peer supporters were considered hugely valuable, for instance, providers felt that the peer supporters were more likely to be able to talk clients into getting tested and were able to engage with the most marginalised individuals. One provider commented that it was useful to have both male and female peer supporters available as some clients found it easier to engage with people of a particular gender.

Many providers commented on how important pre-existing partnerships were in getting the interventions going, even if these were just personal relationships rather than formal collaborations.

In some cases, the HCV test and treat interventions were offered alongside other services such as sexual health, TB screening, smoking cessation or housing assessments. Several benefits to this were identified; for instance, other services sometimes contributed to the cost of the

interventions or had useful links to community partners who were instrumental in getting the interventions going. However, in other areas, trying to work with a several partners meant the interventions were not as streamlined and took longer to get going.

Some providers reported that, through partnership working with Local Authority housing teams, lists of the names of those being housed could be shared. This was considered very beneficial as the HCV services could cross check with their own lists to see whether any clients were already known to them. This allowed a more targeted approach for some clients who were already known to be HCV positive but had previously been difficult to engage.

In some areas the COVID-19 situation had provided an opportunity to strengthen relationships with partners, including non-health organisations, and to raise awareness about HCV amongst their staff. Several mentioned the importance of educating community partners on HCV in order to ensure they feel confident in talking about the virus with clients and to reduce stigma. Additionally, providers commented that, because of COVID-19, clients had more access to key workers who HCV services could work with to maintain contact with the client for further testing and treatment.

The raised awareness of HCV amongst partner organisation also presented new opportunities for future collaborative initiatives (such as regular clinics in homeless hostels and outreach work with other vulnerable groups such as asylum seekers).

Process

Promotional activities

Most providers reported using some sort of promotional materials to advertise that the testing would be taking place. Often this was posters put up in the setting. Fliers were also used in many areas and these were frequently put under clients' bedroom doors or in their breakfast boxes.

Providers generally reported that they developed the promotional materials themselves and included specifics such as dates and times that testing would take place. Several mentioned the importance of highlighting different routes of transmission of HCV to destigmatise and make it clear that testing is not only relevant to people who inject drugs.

One provider mentioned using posters to explain to clients what oral swab testing involved as this gave the opportunity to highlight that the result is available within 30 minutes and that no blood needs to be taken which they felt would increase uptake.

Using non-healthcare community partners and housing setting staff to promote the testing was seen as valuable but providers recognised that this relied on goodwill. In one area hostel staff

were able to increase uptake of testing by sending a text message to individual clients encouraging them to come along.

Incentives

According to the data submitted, monetary incentives were offered at the majority of settings (48 out of 63). A further 9 settings gave non-monetary incentives such as food or toiletries. At 6 settings no incentives were given.

The conversations with providers revealed that most monetary incentives were vouchers to the value of £5 for supermarkets or the high street. Some providers reported that further vouchers were on offer for Ab positive individuals who consented to have blood taken for RNA testing and/or on treatment completion.

At some interventions HCV testing was combined with asking those clients who inject drugs to complete the UAM surveyⁱⁱ, the providers commented that these individuals were getting double incentives as the UAM survey also offers a voucher on completion.

In one setting, where non-monetary 'goodie bags' were given, these comprised of slightly different items for men and women. In another area, smoking cessation services were being offered alongside the HCV testing so clients were given free vapes. This was reportedly a good incentive for younger people to engage in the testing but, anecdotally, appeared to be less effective amongst the older homeless clients.

Some providers reported difficulty in getting the necessary funding in a timely way to purchase incentives. To get around this, a couple of providers purchased incentives themselves then sought reimbursement.

There were conflicting views amongst providers about the use of incentives. Some felt that they increased engagement and that clients would encourage others to come along because of the incentives on offer. Others felt that, although incentives might increase the numbers getting tested, clients need to be self-motivated in order to complete treatment. One provider, in an area where incentives were not used, felt that the uptake rate was good anyway. It was not possible to explore this further with the data available.

Testing

A variety of different testing methods were used in the homeless interventions. One area took venous blood samples as HCV testing was done at the same time as TB testing. Many areas used Dried Blood Spot (DBS) testing (which enabled the clients to be tested for other infections,

ii Unlinked Anonymous Monitoring (UAM) Survey of people who inject drugs is an annual cross-sectional survey, co-ordinated by Public Health England, to monitor the prevalence and incidence of HIV, hepatitis B and hepatitis C infection, and associated injecting risk behaviour in people who inject psychoactive drugs, such as heroin, crack cocaine and amphetamines

such as HIV, at the same time) and several used oral swabs for the initial Ab test. Many providers mentioned that oral swabs and DBS are preferable to venous testing because they understood that clients might feel embarrassed or stigmatised by their vein health, which is often poor in PWID.

Another stated benefit of oral swabs is that they are easy to do so can be administered by non-clinical staff. Several mentioned that community partners were provided with swab kits to test people who were missed on the day that the intervention was carried out. Another benefit is that clients carry out the swab themselves which enables social distancing; for instance, in some cases the clients were given the swabs to do in their own rooms.

Speed of obtaining test results was also felt to be important by most providers and was another reason for favouring DBS or Ab testing via oral swabs. Some areas were able to take a rapid point of care test machine (10) with them which enabled them to also obtain RNA results at the setting (noting RNA cannot be tested for with oral swabs). Providers considered this to be very beneficial in keeping clients engaged and several of those providers without access to these machines mentioned that it is a method they would like to employ in the future.

Treatment models

Various models of treatment initiation were reported including:

- same-day initiation
- referral to clinic
- repeat visits to venue
- visits to alternative venues (such as community day facilities and pharmacies)

As previously mentioned, most providers emphasised the importance of speed in getting clients with positive results onto treatment. Several described how using the rapid point of care (10) machines meant only a 90-minute wait between testing and treatment initiation. This avoided losing contact with people or losing their engagement in getting treated.

Another approach to getting people quickly onto treatment was to use pan-genotypic drugs rather than wait for a genotype result. Several providers said they did this at the start of lock down but have moved back to getting genotype results since COVID-19 restrictions have eased because this determines the most appropriate treatment. Although NHSE had recommended the use of pan-genotypic drugs during the early months of the pandemic to facilitate treatment uptake, some providers appeared unclear on this guidance.

A variety of methods were mentioned for keeping in contact with clients with positive results, or with those who have started treatment. These included obtaining mobile phone numbers or room numbers, giving clients inexpensive mobile phones with pre-paid credit, liaising with client's key workers and utilising peer supporter local knowledge on where clients are likely to be.

Many providers stated that they were giving clients the full course of medication at treatment initiation because this would make it easier for them to comply with COVID-19 restrictions. However, some said that this approach had stopped since the restrictions had been eased. In most areas, on-going engagement with clients during their treatment was being done by the peer supporters.

COVID-19 precautions

Providers were asked how they had taken precautions against the spread of COVID-19 during the interventions. Several had visited the settings in advance and conducted a risk assessment which often included checking for outbreaks or symptoms of COVID-19 amongst the clients. One mentioned that the peer supporter, who they worked with, also conducted a risk assessment which had to be approved by the Hepatitis C Trust.

A few providers referred to having a written protocol on COVID-19 which they used to plan the interventions. Several mentioned that adapting an existing protocol meant they were able to get going more quickly with the interventions.

Providers were generally confident that appropriate precautions for themselves and other partners had been taken (including PPE). However, many mentioned that clients did not maintain social distancing even when the layout of the setting had been specifically altered to facilitate this. A solution mentioned by some was to only see one client at a time by having them wait in their rooms until called or providing clients with oral swabs which they could do without leaving their rooms.

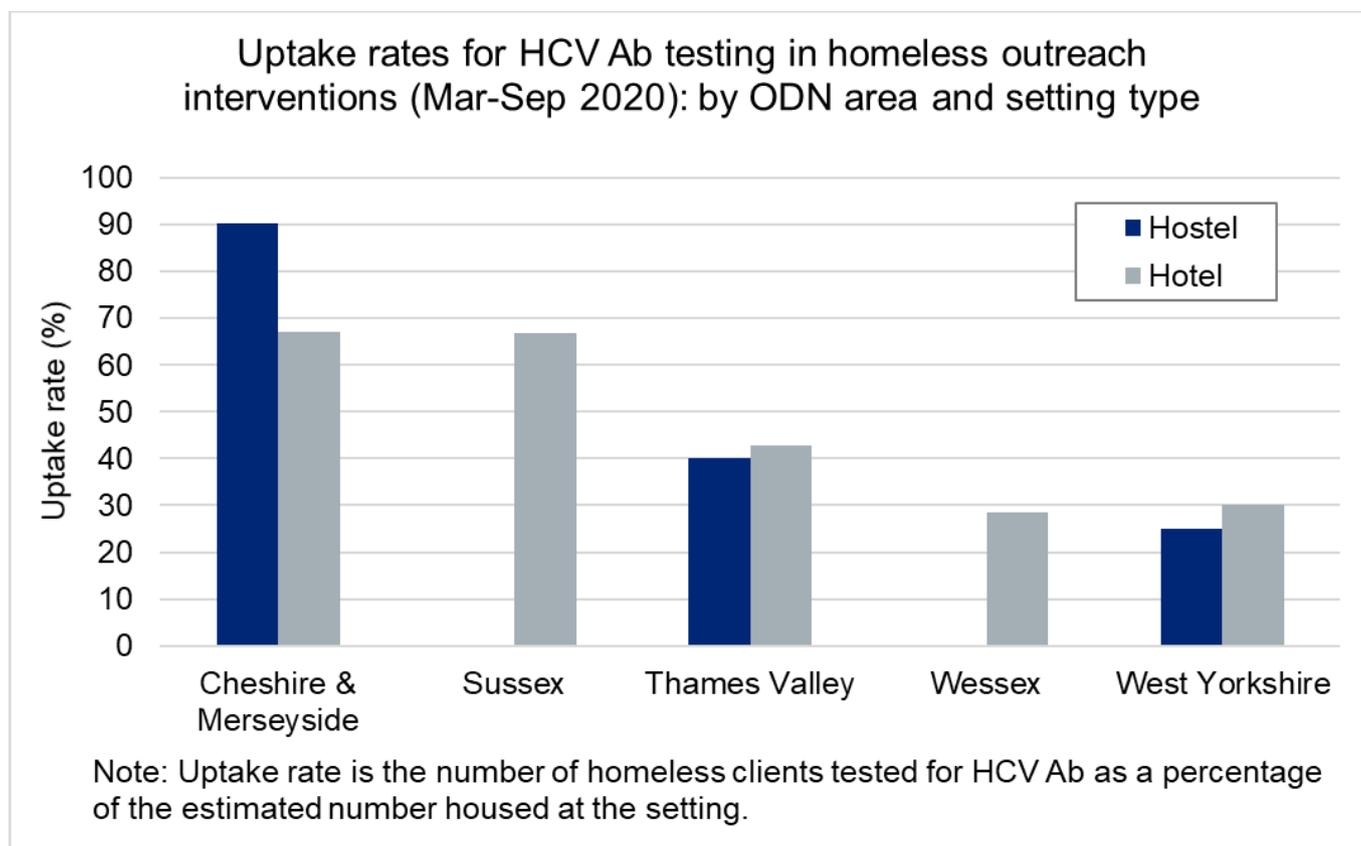
Outputs

Uptake of testing

Across the 7 ODN areas and 63 settings, for which data was submitted, a total of 1,263 homeless clients were tested for HCV Ab in outreach interventions during the COVID-19 pandemic. Uptake rates can only be calculated for those residential settings where estimates of the number of homeless people being housed were available. Of the 55 residential settings, estimates of numbers housed were only available for 32 and the accuracy of these estimates is unknown.

In these 32 settings, an estimated 1,175 homeless people were being housed at the time of the testing interventions and 747 of these people were tested for HCV Ab giving an uptake rate of 63.6%. The uptake rate varied setting type and ODN area, as shown in Figure 1.

Figure 1: Uptake rates for HCV Ab testing by ODN area and setting type (in settings with an estimated number of housed homeless)



It was not possible to look at the impact of offering incentives on uptake rates because incentives were offered in all 32 of the settings where there was an estimate of the number housed.

Outcomes

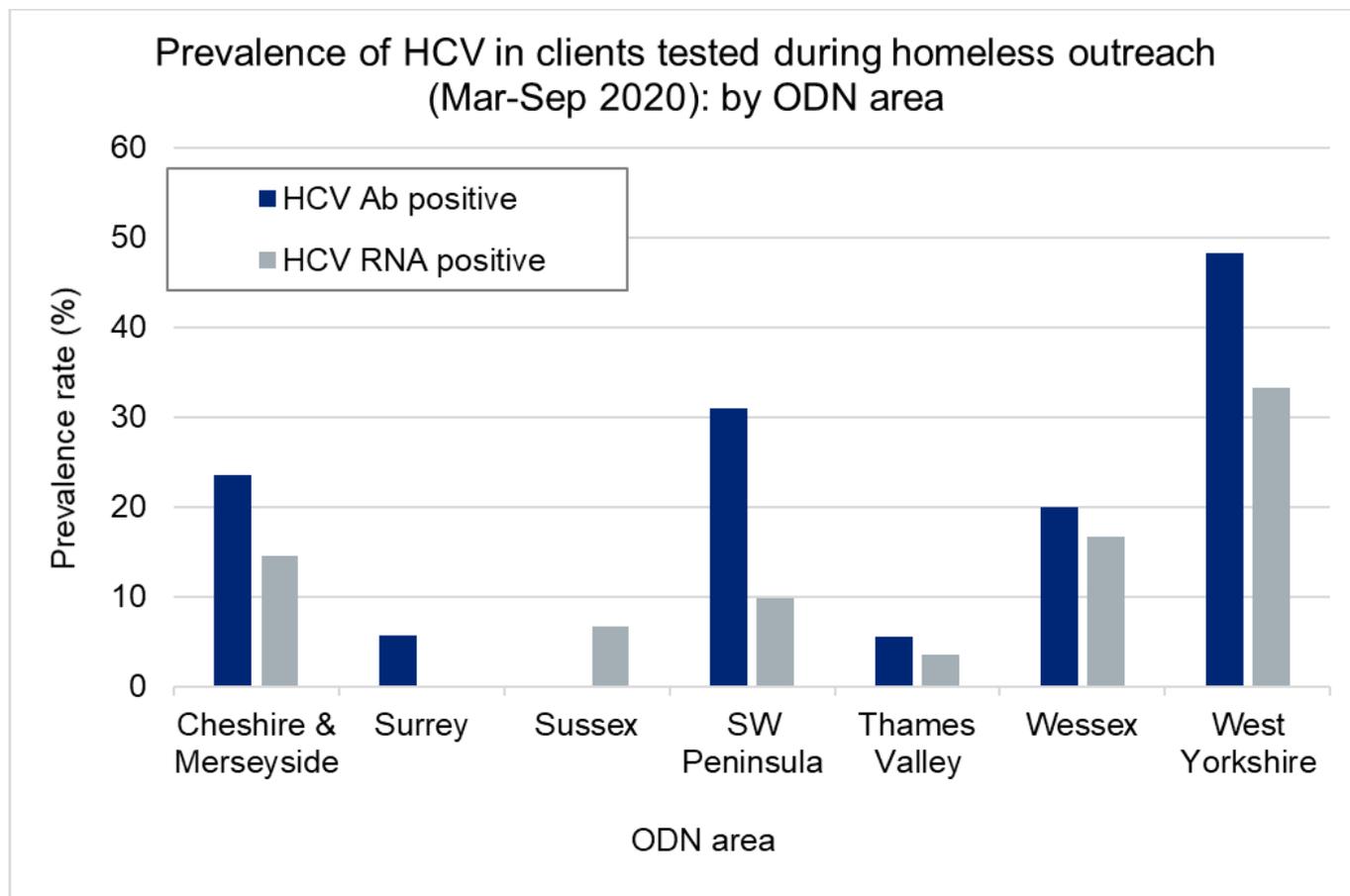
Prevalence and treatment of HCV

Across all 63 settings, a total of 224 of the 1,263 homeless clients tested were found to be HCV Ab positive (17.7%). Of these, 133 (10.7% of those tested) were HCV RNA positive indicating current infection. This is a very similar prevalence rate to that found in cross-sectional survey testing of London homeless hostels residents in 2011-13 where 13% were Ab positive and 10.4% were RNA positive (11). Table 1 and Figure 2, show differences by ODN area. The highest HCV RNA positive prevalence rates were found in Cheshire and Merseyside, Wessex and West Yorkshire.

Table 1: HCV prevalence and treatment data for homeless clients by ODN area

ODN Area	No. tested	HCV Ab positive		HCV RNA positive		Offered treatment		Started treatment	
		No.	% of those tested	No.	% of those tested	No.	% of those RNA +ve	No.	% of those offered
All recorded	1263	224	17.7	133	10.5	92	69.2	83	90.2
Cheshire & Merseyside	447	105	23.5	65	14.5	64	98.5	64	100.0
Surrey	123	7	5.7	0	0.0	N/A		N/A	
Sussex	180	N/A		12	6.7	3	25.0	3	100.0
South West Peninsula	194	60	30.9	19	9.8	0	0.0	0	0.0
Thames Valley	199	11	5.5	7	3.5	6	85.7	1	16.7
Wessex	60	12	20.0	10	16.7	6	60.0	5	83.3
West Yorkshire	60	29	48.3	20	33.3	16	80.0	10	62.5

Figure 2: HCV prevalence rates in clients tested during homeless outreach interventions, by ODN area



Overall, of the 1,263 clients tested, at the time of data submission 92 (69.2% of those testing RNA positive) had been offered treatment and 83 (90.2% of those offered) had started on treatment. Treatment initiation rate was highest in Cheshire and Merseyside where 98.5% of those tested as RNA positive had been offered treatment (Table 1 and Figure 3). However, as previously mentioned, data for other areas (such as the South West Peninsula) may still be pending.

The data on number finishing treatment and being tested for SVR was too incomplete (either because not enough time had passed, or the data had not been submitted) to be used in this evaluation.

Figure 3: Percentage of homeless clients offered and started on HCV treatment, by ODN area

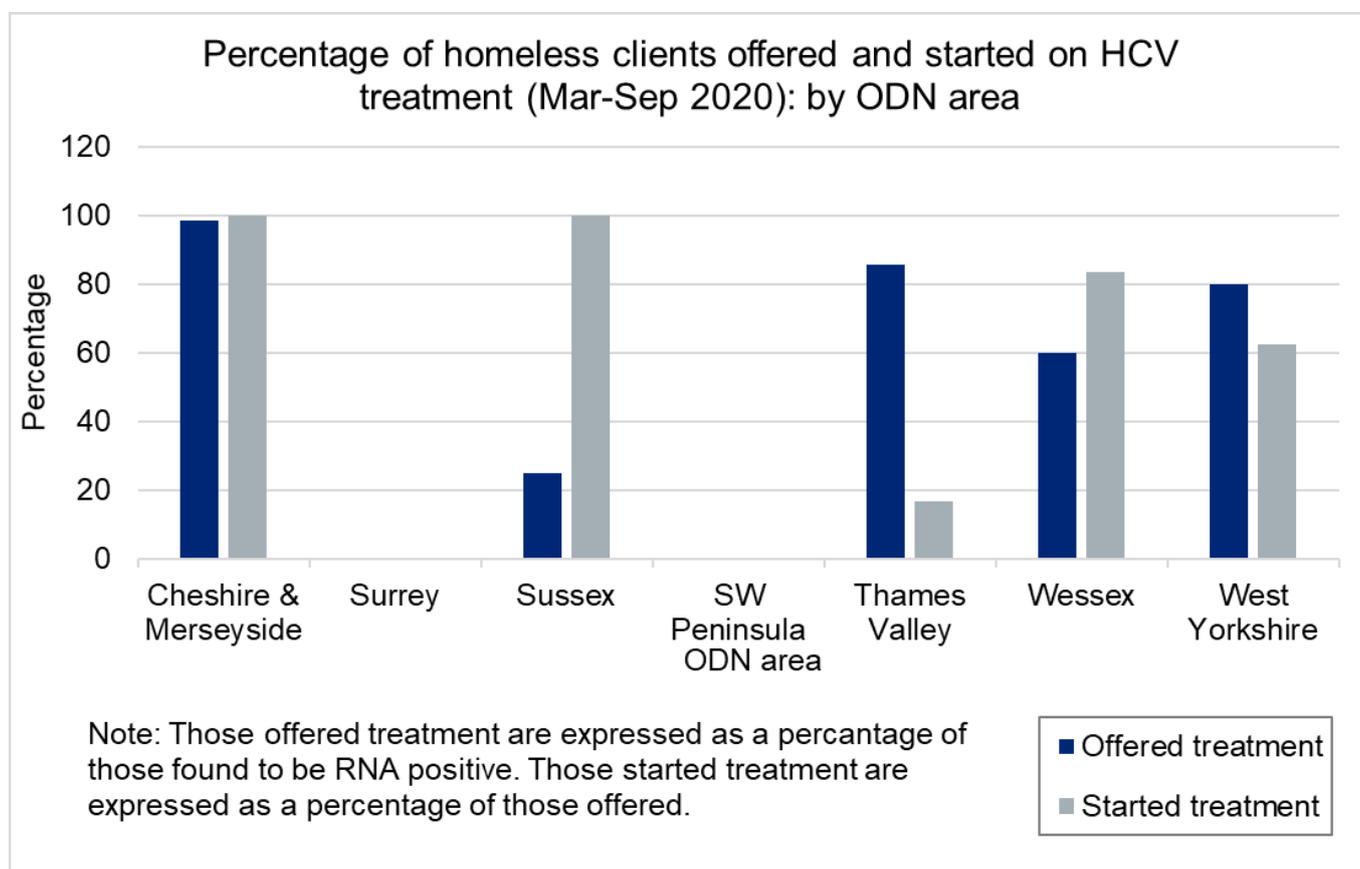


Table 2 provides a breakdown of prevalence and treatment by gender, ethnicity and other characteristics. This data was very incomplete, as indicated by the substantial number of ‘unknowns’ so limited inferences can be made. Prevalence was highest amongst those who were recorded as past or current drug injectors, where 44.5% of those tested were HCV Ab positive and 23.6% were HCV RNA positive (compared with 15.2% and 9.5% respectively for those whose injecting status was unknown).

Prevalence was also slightly higher in males (10.5% RNA positive) compared to females (9.2%), where sex known, and in those identified as White British (11.3%) compared to other recorded ethnicities (2.5%), where ethnicity known.

Clients who were recorded as having spent time in prison had higher recorded prevalence than those who reported not having been in prison (16.8% RNA positive compared with 7.3%) and those who were already engaged with drug services also had higher prevalence rates (21.1% compared with 10.3% where engagement with drug services was unknown).

The proportion of those offered treatment who had started was lower for those recorded as past or current drug injectors (63.3%) compared with those whose status was unknown (100%).

Where sex known, a lower proportion of males who had been offered treatment had started (90.6%) compared to females (100%).

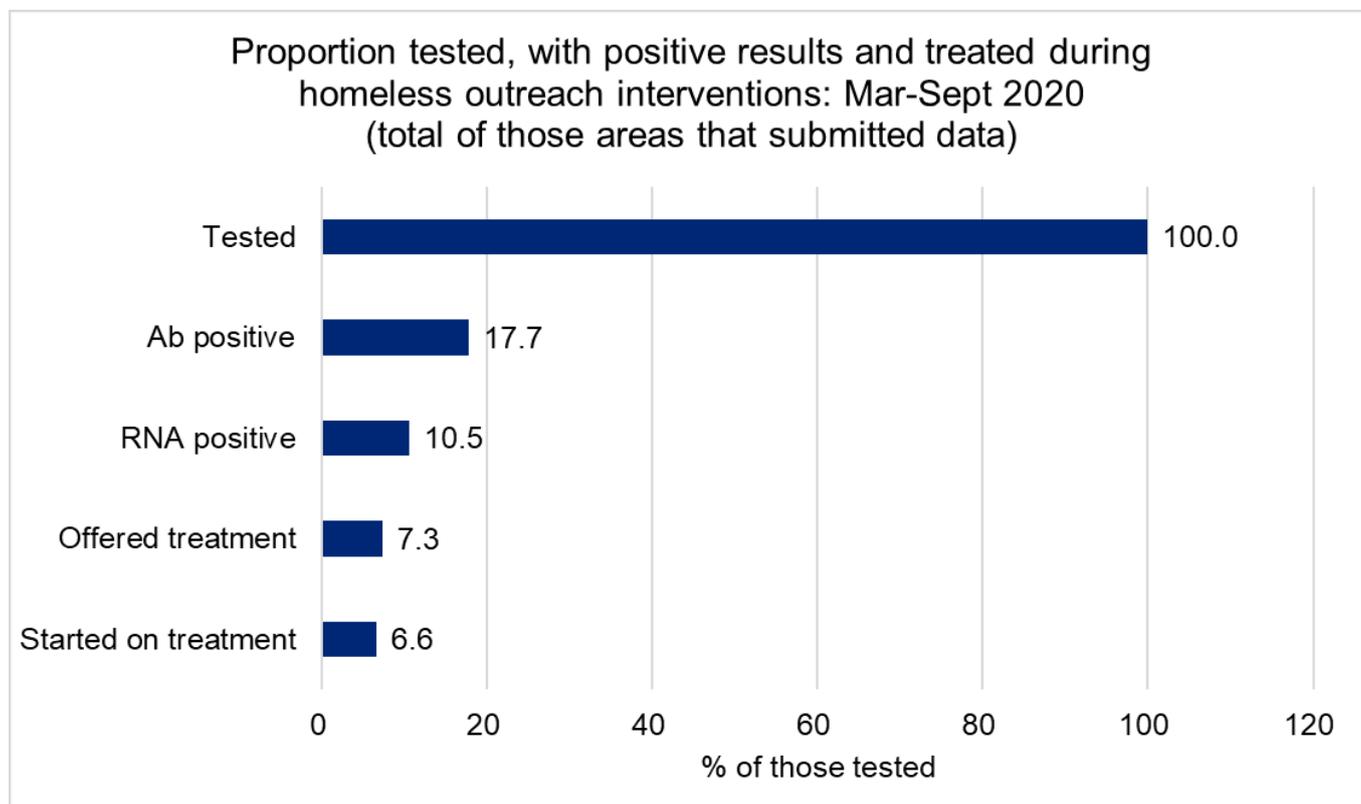
Table 2 also shows outcomes by whether or not incentives were given but these should be interpreted with extreme caution given the quality of the data and the fact that confounding factors have not been taken into account. HCV prevalence was higher in those settings where non-monetary or no incentives were given. Treatment initiation rates were highest when monetary incentives were given but data on this is still pending for some areas.

Table 2: HCV prevalence and treatment data for homeless clients by key characteristics

		No. tested	HCV Ab positive		HCV RNA positive		Offered treatment		Started treatment	
			No.	% of those tested	No.	% of those tested	No.	% of those RNA +ve	No.	% of those offered
	Total	1263	224	17.7	133	10.5	92	69.2	83	90.2
Gender	Male	705	140	19.9	74	10.5	64	86.5	58	90.6
	Female	240	44	18.3	22	9.2	17	77.3	17	100.0
	Unknown	318	40	12.6	37	11.6	11	29.7	8	72.7
Ethnicity	White British	204	36	17.6	23	11.3	19	82.6	19	100.0
	Other	40	2	5.0	1	2.5	1	100.0	1	100.0
	Unknown	1019	186	18.3	109	10.7	72	66.1	63	87.5
Past/current drug injector	Yes	182	81	44.5	43	23.6	30	69.8	19	63.3
	No	148	1	0.7	1	0.7	0	0.0	0	0.0
	Unknown	933	142	15.2	89	9.5	64	69.7	64	100.0
Past time in prison	Yes	107	33	30.8	18	16.8	12	66.7	9	75.0
	No	151	17	11.3	11	7.3	9	81.8	6	66.7
	Unknown	1005	174	17.3	104	10.3	71	68.3	68	95.8
Engaged with drug services	Yes	95	26	27.4	20	21.1	15	75.0	9	60.0
	No	130	16	12.3	6	4.6	3	50.0	3	100.0
	Unknown	1038	182	17.5	107	10.3	74	69.2	71	95.9
Incentives	None	103	33	32.0	13	12.6	0	0	0	0
	Non-monetary	148	44	29.7	30	20.3	22	73.3	15	68.2
	Monetary	1012	147	14.5	90	8.9	70	77.8	68	97.1

Figure 4 shows that between March and September 2020, 1,263 homeless clients were tested in the 7 ODN areas that submitted data, resulting in 83 clients starting on treatment.

Figure 4: Proportion of homeless clients tested, with positive results and treated, March to September 2020



Feedback from clients via providers

Although no formal consultation with clients was conducted for this evaluation, providers were asked what feedback they received from clients during the interventions. Generally, they felt that the clients were happy to engage with the testing and, in fact, one provider said clients had been asking for it because they had engaged in risky behaviours during lockdown.

Another provider reported that clients were often very relieved, and sometimes proud, of a negative result. In fact, some clients asked for a record of the result as this was part of their treatment recovery plan and demonstrated their abstinence from risky behaviours.

Some providers felt that COVID-19, with the associated lockdown and temporary housing, had given their clients a time to reflect and re-engage with their own health.

Providers felt that using settings such as the hotels and hostels for testing meant the barrier of having to travel to a healthcare facility was removed for the clients. Some also reported that the interventions were positively received because clients felt less abandoned.

Some clients had expressed a desire to be tested for COVID-19 but none of the HCV testing providers reported that they were also able to offer this.

One provider reported that clients particularly liked being tested with the Fibroscan (12) because it provides a visual representation of their liver health.

Some negative feedback from clients was also reported. For instance, in one setting they did not like being targeted with fliers under their doors. Another provider said that initial resistance to be tested was overcome once HCV was explained to them, stigma was reduced and the non-invasive nature of the Ab testing was made clear.

Other outcomes and impacts

In many settings other health and wellbeing interventions were carried out at the same time as the HCV testing. These included screening for other diseases (such as HIV, Hepatitis B and TB), smoking cessation advice and health checks. Very limited data was submitted on these other interventions and their outcomes so it has not been possible to include it in this evaluation. A few providers commented that referring clients to other services (for example, re-engagement with substance misuse services) is another successful outcome from the interventions.

In some areas, conducting the interventions has raised awareness of HCV amongst partner organisations which the providers hope may lead to other collaborations in the future. One also mentioned that the interventions had provided an opportunity to recruit new peer supporters.

While some of the longer-term or downstream outcomes are not directly measured in this evaluation, it is reasonable to assume that reductions in risk of onward HCV transmission, admissions for HCV-related severe liver disease, and progression of disease will occur among those homeless persons newly diagnosed through this intervention. In turn these may contribute to broader impacts on strategic goals to reduce morbidity, premature mortality and inequalities.

Discussion

HCV test and treat interventions with the homeless population during COVID-19 were widespread and had substantial impact

The July survey of Hep C Trust peer support leads revealed that, despite a national lockdown, HCV test and treat interventions with the temporarily housed homeless population were widespread during the COVID-19 pandemic with all respondents reporting some such activity over the past month.

Without these interventions, it is unlikely that this level of testing and treatment in the homeless population would have been achieved because most regular HCV services were disrupted

during lockdown and, even if they were operating, may not have achieved the engagement that was possible through this outreach work.

The interventions appear to have had other positive consequences such as providing additional services, including giving harm reduction advice. They also provided an opportunity for raising awareness of HCV and reducing stigma amongst partner organisations and homeless clients; this may lead to new collaborations and initiatives in the future.

An adverse consequence identified is that some clients felt negatively targeted by the intervention and associated promotional materials.

In terms of the approaches used for the interventions, data collected from providers reveals the majority (87%) used hostels and hotels, where the homeless were being temporarily housed, as the settings for HCV testing.

All the interventions involved some sort of collaboration between organisations. Some of the main differences between the interventions were a consequence of the varied range of organisations and individuals involved in these partnerships. For instance, collaboration with TB services meant that venous bloods were taken for testing whereas a partnership with smoking cessation meant vapes were available as an incentive.

There are important barriers and enablers to carrying out HCV test and treat homeless interventions during a global pandemic

The barriers to carrying out interventions that have been identified in this evaluation included resistance from partner organisations, particularly hotel staff but also, in one case, the local authority.

Other barriers included the impacts of COVID-19; for instance, staff redeployment and restrictions on service delivery, such as a ban on face-to-face contact. In some cases, the 'red tape' of the COVID-19 restrictions presented a real challenge to providers who found it difficult to get approval for outreach interventions.

Conversely, in other areas, the COVID-19 situation was an enabler, apparently reducing bureaucracy and galvanising partners into action.

Structural enablers included having existing collaborations in place so that interventions could get going more quickly. Speed was also increased when providers were able to adapt existing resources such as risk assessments, protocols and promotional materials rather than starting from scratch.

Working with peer supporters appears to be a key process enabler whereas the effectiveness of using incentives is less certain. Providing clients with a record of their negative result to

complement their treatment recovery plan may have some benefit and warrants further evaluation. Having some sort of informal engagement with staff from the settings and with clients, prior to intervention delivery, appeared to build relationships and reduce the stigma associated with HCV.

Rapid testing and treatment initiation are important and can be achieved through use of a rapid point of care (10) machine and pan-genotypic drugs.

Various enablers to sustaining engagement with treatment have been found. These include providing mobile phones to clients and linking with key workers. The effectiveness of incentives, however, remains uncertain.

Recommendations

Build strong partnerships

Collaboration with other local organisations (including homeless healthcare, drug and alcohol teams, sexual health services and housing) improves access to this client group and provides vital local intelligence. The homeless population are not a homogenous group, but local partners will help intervention providers to understand their needs and what will work best (for example, in terms of promotional materials, settings and incentives). Having pre-existing partnerships will make it easier to quickly instigate such interventions and increase the likelihood of success. There are numerous sources of guidance on establishing partnerships which may be of use to providers (13,14). Additionally, NHS England should continue to be actively engaged with local initiatives and support interested stakeholders to link up with other relevant partners in the local health economy.

This evaluation found that peer supporters are particularly important in increasing people's engagement with HCV testing and treatment and, crucially, can be instrumental in engaging the most marginalised individuals with care.

Promote testing interventions using appropriate content and language to avoid stigma

In this evaluation, providers found that promotional messaging was helpful and that it should include:

- practical information, such as dates and times of testing
- information on the range of HCV risk factors - to reduce stigma by making it clear that HCV is not just relevant to PWID
- explanation of the type of testing that will take place as engagement tends to be better if clients know that blood does not need to be taken

Existing promotional resources and templates, produced by PHE and other bodies, should be made more explicitly available to local providers.

Promoting interventions with partners who are already working with homeless clients (such as hostel staff, peer supporters or housing key workers) should increase engagement.

In addition to promoting specific initiatives, providers in this evaluation reported that general HCV awareness raising, such as explaining the different risk factors, helped to reduce stigma and subsequently improved engagement with both partner organisations and clients; both local and national bodies have a role to play in this.

Use incentives, but monitor their effectiveness

Most interventions with the homeless made use of incentives but many providers are unsure of their effectiveness. NICE recommends considering incentives for HCV testing for users of drug services (15). Several studies suggest the use of incentives is effective (16–19) but others have found that the evidence is inconclusive (20, 21). Therefore, further monitoring and evaluation of the use of incentives for homeless HCV test and treat interventions is required and subsequent evidence-based guidance needs to be made very accessible to providers.

Adopt a flexible approach to the practical arrangements for testing and ideally use oral swabs, DBS or rapid point of care testing

There are a range of options for testing of homeless clients in a pandemic situation; these include outreach in hotels and hostels, mobile units and temporary shelters in outdoor spaces such as car parks. Providers need the flexibility to be innovative, such as purchasing gazebos or collaborating with partners who already have a mobile unit. Using oral swabs or DBS may be more appropriate in these non-clinical spaces than taking blood; especially as these are more acceptable methods for the target population. Use of a rapid point of care HCV RNA testing (10) machine is ideal because it allows testing and treatment initiation on the same day.

Find ways to initiate treatment outside of a clinical setting

In a pandemic situation, ways to initiate treatment outside of a clinic could include a follow-up session at the hotel or hostel, phone appointments with delivery by courier or treatment collection from a pharmacy. Clients should be assessed for suitability to receive full course of medication at treatment initiation and pan-genotypic treatments should be used to reduce the time between testing and treatment initiation if rapid genotyping is not possible. During pandemic type scenarios, NHSE should clearly communicate guidance for providers on available flexible treatment options.

Use innovative ways to keep in contact with, and follow-up, homeless clients

Services should be prepared for homeless clients to move around a lot and, therefore, be difficult to follow-up. Approaches to maintaining contact could include liaising with key workers, providing mobile phones or using peer supporters.

Ensure a risk assessment is done and pandemic precautions are implemented

Conducting a risk assessment before any intervention takes place would ideally involve a visit to the setting. Templates are available for providers to use in conducting risk assessments and developing standard operating protocols (22, 23).

Adopt a whole health approach

HCV interventions with the homeless should be expanded into a whole health approach by offering other services such as screening for COVID-19 infection or other diseases. However, providers need to balance the benefits of this approach with possible disadvantages such as time delays and over-burdening clients; having existing partnerships in place would help to mitigate these potential problems.

Carry out monitoring and evaluation of interventions

It is vital that interventions are monitored and evaluated in order to ascertain impacts – both intended and unintended – and learn lessons for the future. In order to do this, providers should ensure that the data set out in the logic model ([Appendix 1](#)) and associated dataset ([Appendix 3](#)) is available for purposes of monitoring and evaluation. Demographic details should be collected so that the effectiveness of interventions by sub-group can be determined.

Providers should also record data on testing delivered by community partners on other services offered alongside HCV testing so that these can be evaluated too. Providers can use the metrics in this evaluation report as a template for evaluating their own data and can link with their local PHE Centre colleagues for further support (24).

Limitations

A major limitation of this evaluation was that data was not available for all the areas that had been doing homeless outreach HCV testing and linkage to care. Furthermore, the quality and completeness of the available quantitative data was poor. For instance, it was difficult to calculate uptake of testing as the number of homeless housed in a setting was often unknown or had been estimated with uncertain accuracy.

Much of the data on individuals was anonymised and, therefore, further analysis of outcomes via linkage to other databases, such as the treatment registry, was not possible.

The qualitative analysis would have been more robust if interviews with providers had been audio-recorded, transcribed and analysed thematically.

Analysis of outcomes could have been improved by consulting directly with the homeless clients in order to understand how acceptable they found the interventions.

It was important to produce the evaluation in a timely fashion so lessons learnt could inform the ongoing COVID-19 response. However, this meant that some areas were yet to start clients on treatment and very few were able to report treatment outcomes.

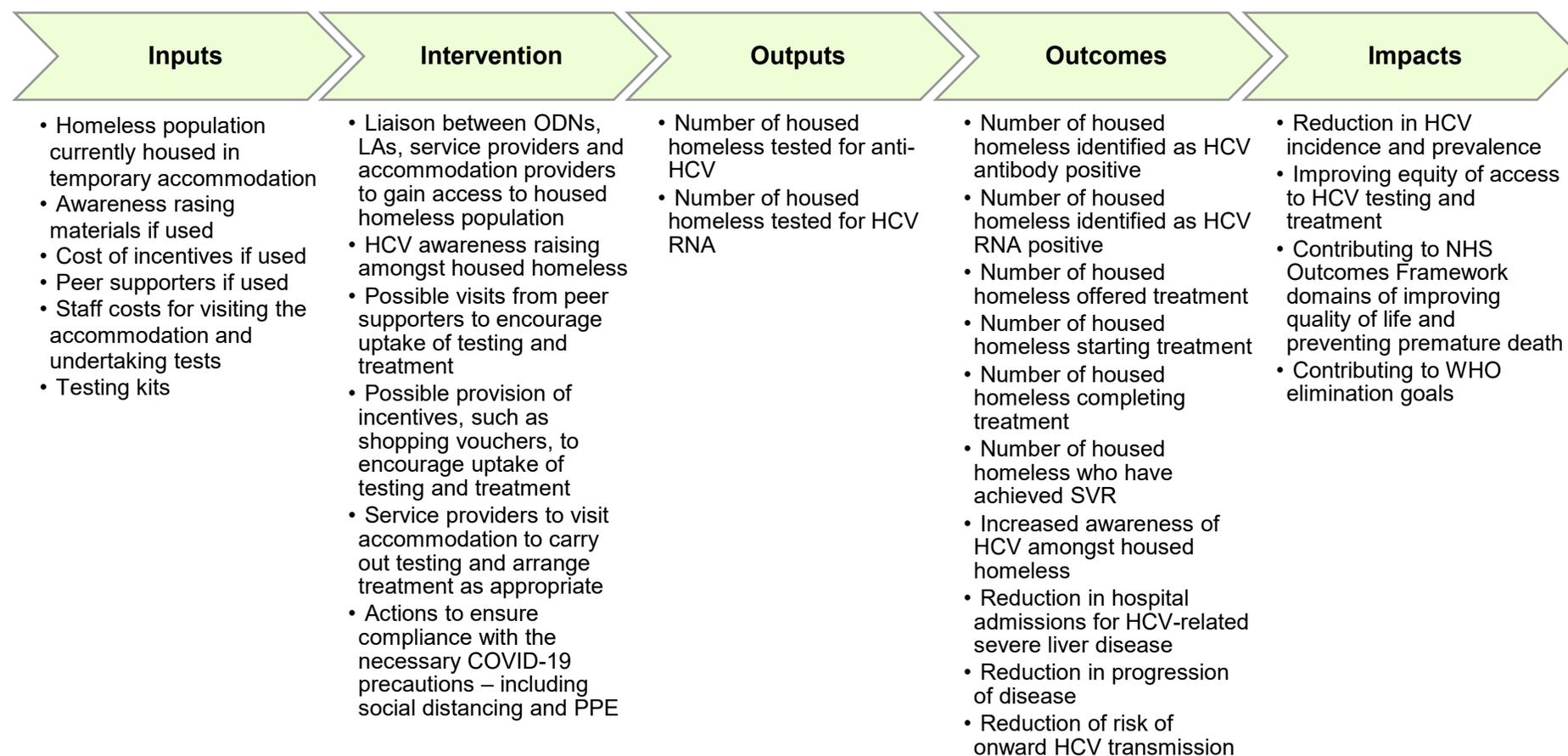
Conclusions

This evaluation provides further evidence of the high prevalence of HCV in the homeless population. It also demonstrates how the initiative and resourcefulness shown by providers across England in testing homeless clients during the COVID-19 pandemic has resulted in levels of HCV diagnosis, with 10.5% having active infection, and high rates of treatment initiation, 90.2% amongst those offered, that would not otherwise have been achieved. In terms of the HCV elimination goal, these interventions have contributed to reducing transmission of HCV in this vulnerable group at a time when transmission risk was likely to be very high due to service disruptions and an increase in risk-taking behaviours.

The lessons learnt through this evaluation are applicable not only to testing and treating the homeless during the on-going pandemic response but also more generally for serving this socially excluded population group. Therefore, providers are strongly encouraged to develop and enhance these types of interventions by making use of the recommendations in this report, particularly by adopting a holistic approach to care which addresses social and economic issues alongside health.

Appendices

Appendix 1: Logical pathway of what to consider and measure at each stage of HCV test and treat homeless initiatives



Appendix 2: Questionnaire circulated to Hepatitis C Trust Peer Support Programme Leads (July 2020)

What ODN area do you work in?

Has any outreach testing been conducted during the past month?

If yes, in which setting(s)?

In which population group(s) (for example, homeless or injecting drug users)?

Which organisation(s) were involved?

Are new patients being started on treatment?

Is treatment being provided as full course at start or incrementally?

Have there been any changes to the way treatment is being delivered to patients?

Please give further details of delivery method

How are treatment outcomes being measured?

Please give further details

Have you been involved in any work on harm reduction?

If yes, what activities? Please give further details

Have there been any other changes or new initiatives not already described which are relevant to highlight?

Appendix 3: Minimum data fields for HCV test and treat initiatives with homeless populations

Date of Birth

Unique number for patient (Hospital Number, Sexual health identifier)

NHS number

Gender you were born with

Surname and first name born with

Ethnic group

Country of birth

PWID?

Engaged with drug services?

Past time in prison?

Past HCV antibody test (self-report)

Previous HCV treatment? (self-report)

Tested for anti-HCV?

Tested for RNA?

Test results

Genotype result (if applicable)

Offered treatment?

If offered treatment, what delivery model? (Face-to-face, telemed etc)

Started treatment?

Completed treatment?

Tested for SVR?

SVR result

ODN

Setting type (Hotel/Hostel/B&B/Community facility/Private residence)

Setting Name (if group accommodation)

Approximate number of homeless housed in setting

Incentive offered?

Peer led intervention?

Other screening offered in setting (for example TB or other BBV)?

Alcohol felt to be a contributing factor to liver disease?

Appendix 4: Topic guide for structured conversations with ODN staff, hepatology clinicians and peer supporters

Inputs/Intervention

How did you access the Homeless population? Which partners did you work with? Was other screening being offered at the same time?

Did you use any awareness raising materials? What did you use? How did you distribute?

Did you use vouchers or other incentives?

Were peer supporters involved?

Which staff visited and undertook the tests? Where was testing done?

What was the procedure for arranging treatment?

How did you ensure compliance with COVID restrictions?

Outputs/Outcomes/Impacts

Are you able to provide the suggested dataset for this work?

If not, can you supply number tested, number positive, number treated etc?

How was the testing received by the homeless population?

How did you find working with the other partners?

Other

Do you have any more outreach of this type planned?

Any other comments/experiences that you would like to share that may be useful for other areas?

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