

**Evidence-based and Theoretically informed  
Recommendations for Scaling up HCV  
Testing and Treatment for People Who  
Inject Drugs**

EPIToPe

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## Glossary of key terms and abbreviations

### List of Abbreviations

BBV	Blood-borne virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HBV	Hepatitis B Virus
ENSP	Enhanced Needle and Syringe Programme
OST	Opiate Substitution Therapy
SOP	Standard Operating Procedure
DAA	Direct acting anti-viral
PWID	People who inject drugs
NGO	Nongovernmental organisation
DBST	Dry Blood Spot Test
NHS	National Health Service
WHO	World Health Organization
CPD	Continuing Professional Development
POC	Point of Care

### Key terms and definitions

Stakeholder	Person or organisation who have a vested interest in the guidelines are considered stakeholders.
HCV infection	Active replication of HCV in the body. The biomarker of HCV infection is the presence of HCV RNA in the blood.
Enhanced needle and syringe programmes	Sites where sterile equipment to prepare and consume drugs are provided in addition to complimentary harm reduction and recovery services such as health and wellbeing clinics, advice on safer injecting practice, avoiding and managing an overdose and referrals to drug treatment and other health care services.
HCV nurse specialist	Clinical nurse specialist for nursing care and professional expert advice in relation to the prevention, testing, and treatment of individuals with Hepatitis C.
Pathway	Treatment pathways relate to several healthcare professionals working together to provide optimal care and treatment to a target population in a particular community setting (i.e. community drugs services, needle and syringe programmes, pharmacies and in-prison).
HCV testing	This term refers to various HCV testing means, typically dry blood spot testing, venepuncture or oral swabs. While oral swabs can only be used for HCV screening (i.e. identifying the presence of HCV antibodies), the dry blood spot test can be used for HCV antibody testing and HCV PCR testing, which is valuable if access to suitable veins or access to health care professionals skilled in conducting venepuncture is not possible.
Point of care	A point of care test is a rapid testing technology that allows people to be tested and learn the results during the same visit. These tests can be

	performed where the patient is receiving care, which may be outside of a clinical setting.
HCV Antibody Test	A HCV antibody test determines the presence of antibodies to HCV generated by the immune system. It is typically the first test undertaken to examine whether a person has been exposed to HCV.
HCV Antibody positive Test Result	A positive HCV antibody test result indicates that the person has been infected with HCV at some point in time, and typically leads to the person requiring further HCV confirmatory blood tests.
HCV PCR blood test	The HCV PCR blood test determines the presence of the HCV viral load (HCV RNA) and indicates whether HCV is still present (i.e. leading to a positive HCV diagnosis). RNA is the HCV's genetic material.
Dry Blood Spot Test	This is a form of biosampling where finger prick blood samples are blotted and dry on filter paper, and thereafter tested for the presence of HCV antibodies, and/or HCV PCR test can also be completed on this blood sample.
Venepuncture	The puncture of a vein as part of a medical procedure, typically to withdraw a blood sample or for an intravenous injection.
Residential officer (prison officer – residential)	A prison officer (Scotland) who is predominantly based in the residential halls, and whose role is to support people residing in prison on a day-to-day basis to facilitate case management.
Case management	Case management is a collaborative process that assesses, plans, implements, coordinates, monitors, and evaluates the options and services required to meet the a service user's health and human service needs.
Healthcare facilitator or HCV champion	This is a person who is tasked to facilitate meeting specific objectives such as effectively promoting HCV testing and treatment, in a HCV treatment pathway. The healthcare facilitator or HCV champion may contribute to oversight, or facilitate communication and liaising between different HCV care pathways or delegated HCV staff.
Harm reduction	Harm Reduction is an evidence-based, person-centred approach that seeks to reduce the health and social harms associated drug use without requiring people stop using drugs.
Staff responsible for any part of HCV testing and/or treatment	This refers to all staff who have been upskilled or trained to deliver any part of HCV testing and/or treatment to service users.
Behavioural contract	The behavioural contract, or verbal agreement, is an established behavior change technique based on positive reinforcement. In the context of services providing HCV testing and treatment to populations at an increased risk of HCV, this could take the form of discussing treatment engagement between service user and service provider, or collaboratively planning on how, where and when the service user will take required HCV medication.
Standard Operating Procedures	Standard Operating Procedures (SOPs) are detailed written instructions to achieve uniformity and consistency of the performance of a specific function, procedure or process.

# Evidence-based and theoretically-informed recommendations for scaling up HCV testing and treatment for People Who Inject Drugs

## Introduction

Hepatitis C Virus (HCV) is a blood-borne virus that can seriously damage the liver and is spread mainly through blood-to-blood contact with an infected person. Despite effective prevention interventions such as Opioid Substitution Treatment, chronic HCV prevalence remains at around 40% among people who inject drugs (PWID) in the UK. New direct acting anti-viral therapies (DAA) are oral treatments that are safe, have little to no side effects, shorter treatment duration (8-12 weeks) and are highly effective (>90%) if adherence is adequate. Scaling-up HCV case-finding and treatment in the community in services in contact with PWID is critical to UK ambitions to contribute to the World Health Organization (WHO) ambition to eliminate HCV as a public health threat by 2030 (Harris, Edmundson, Costella et al, 2020). The WHO elimination target is to reduce the incidence of chronic HCV infection by 80% and HCV mortality by 65% by 2030. To date these biomedical developments have not been matched by equivalent developments concerning how best to design and deliver services. This guide provides evidence and practical advice and recommendations towards addressing this key gap.

Evidence from theoretical mathematical modelling suggests that eliminating HCV (i.e. reducing new cases of HCV to zero) requires a strategic combination of harm reduction programmes (e.g. needle exchange, methadone maintenance programmes or supervised injecting facilities) combined with HCV treatment. In order to deliver these population-level effects, it is vital that *every* opportunity is taken to test and treat. This demands implementing HCV testing and treatment pathways at scale in multiple settings, ideally simultaneously, to maximise population reach and radically reduce population-level viremia and incidence.

In order to investigate, and subsequently share, key lessons learned about implementing HCV testing and treatment at scale, we conducted a detailed retrospective qualitative investigation of the experiences of implementing diverse testing and treatment pathways across a range of key settings in one key UK area (NHS Tayside). These comprised four community based settings: enhanced needle and syringe programmes (ENSP), pharmacies, specialist drug treatment clinics and prison. We did not investigate any testing and treatment pathways in a hospital or General Practitioner setting. NHS Tayside was chosen as a case site because of its position within the UK as a major innovator in relation to HCV care. Critically, the analyses underpinning the current guide apply beyond Tayside. By using key tools and frameworks from behavioural and implementation science, we have systematically generated detailed recommendations for future implementation across other local and national contexts.

## Aims

- To inform decision-making concerning the implementation of community and in-prison HCV testing and treatment pathways across local and national contexts.
- To inform decision-making concerning the implementation of HCV testing and treatment pathways in specific settings namely, enhanced needle and syringe programmes (ENSP), pharmacies, drug treatment clinics in community, and prison.



## Intended audience for the guide

This guide is primarily intended for clinical leads, health practitioners, NGOs, third-sector agencies, community and patient groups, senior policy-makers and commissioners who are responsible for scaling up HCV testing and treatment in their local or national context for those who are at risk of infection through injecting drug use. In particular, we provide recommendations for the following community based settings: Enhanced needle and syringe programmes, pharmacies, drug treatment clinics in community, and prisons.

## How to use the guide

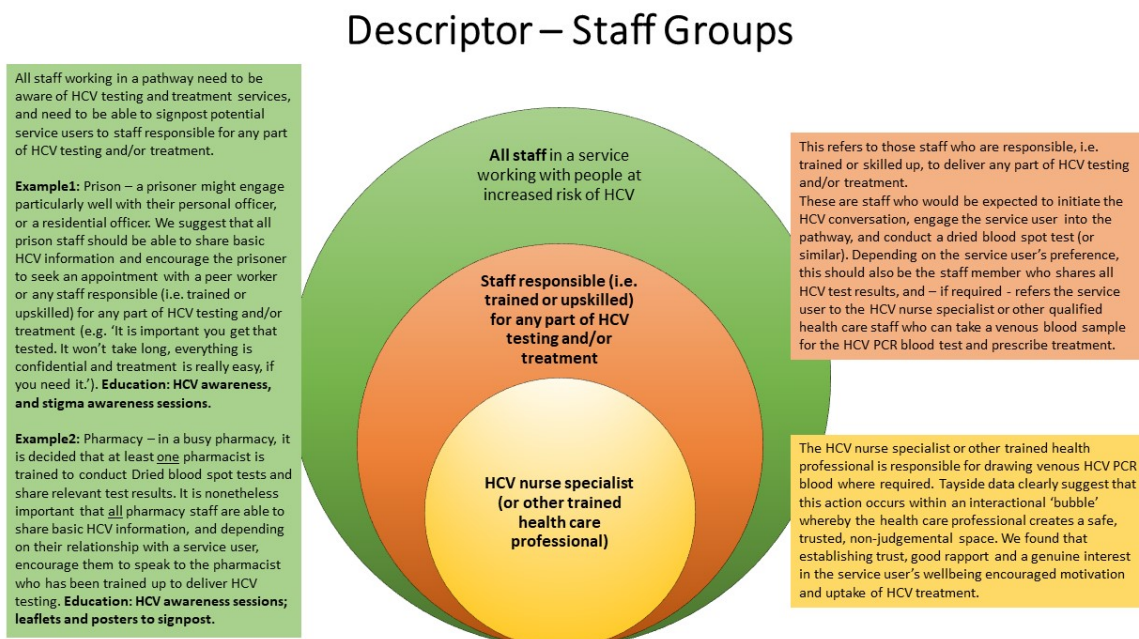
This guide has been written as a resource to support the process of implementing HCV testing and treatment at scale. It is likely to be highly relevant across the UK and relevant to other OECD countries.

The guide is structured around presenting a series of recommendations. Firstly, we present recommendations that relate to *all* the HCV treatment pathways. These are structured along the WHO key areas of delivering HCV testing and treatment (WHO, 2016); these are: 1. Access, 2. HCV Testing, 3. HCV Treatment, and 4. Support during and after HCV treatment. Secondly, we present recommendations that are pathway-specific and relate more closely, but not entirely, to what we have learned from pathway-specific insights.

Each recommendation is numbered and presented in bold. For the interested reader, we collated all recommendations accompanied by a brief rationale based on (a) existing published evidence, (b) analysis of data collected in Tayside from service providers, peer workers and service recipients and (c) feedback from expert stakeholders including service users (recruited from Tayside and wider Scotland) in appendix 1. In appendix 2, we explain our approach and method to data collection, analysis, coding and translation into recommendations.

The recommendations involve three staff groups in the HCV treatment settings (see Figure 1). We referred to specific service providers in the recommendations using these descriptors, i.e. a) all providers, b) those responsible for any part of HCV testing and/or treatment and c) HCV nurse specialist or other qualified healthcare professional.

Figure 1 Service provider descriptors



## A brief summary of where the recommendations come from

The guide is developed from three complementary analytic phases.

Phase 1: We interviewed 40 service providers including peer workers, and 31 service users across NHS Tayside. Using deductive thematic analysis, we identified the barriers and facilitators to key steps in each HCV treatment setting, i.e. we mapped out who did what to whom, when, where and in what sequence, and we considered what worked and what did not work at each of these key steps (see figure 2). This gave us detailed insights into what happened within Tayside across and within each HCV care setting. In this way the guide is *evidence-based*. Interested readers are invited to see this analysis and the key steps across all HCV treatment settings including indicative quotes describing key barriers and facilitators in upcoming peer-reviewed publications.

Phase 2: To overcome the context-specific nature of our Tayside data we drew upon decades of behavioural and implementation science research to *theorise* our findings and identify a more generalisable way of understanding the Tayside experience. We coded each distinct barrier and facilitator, to each key step of each care pathway, with the Theoretical Domains Framework (Atkins et al, 2017). This enabled us to *theorise* the causal mechanisms that were important for implementing specific steps within the specific care pathways.

Phase 3. To make *future facing recommendations* for other regions considering the implementation of HCV care pathways, we used the Behaviour Change Wheel (Michie, van Stralen & West, 2011). Again, this approach draws on decades of previous research and enables the precise specification of intervention functions, and behaviour change techniques that match the theorised causal mechanism identified in phase 2. In this way we were able to specify precise and detailed recommendations shared across all treatment settings as well as specific to some settings. The use of this approach

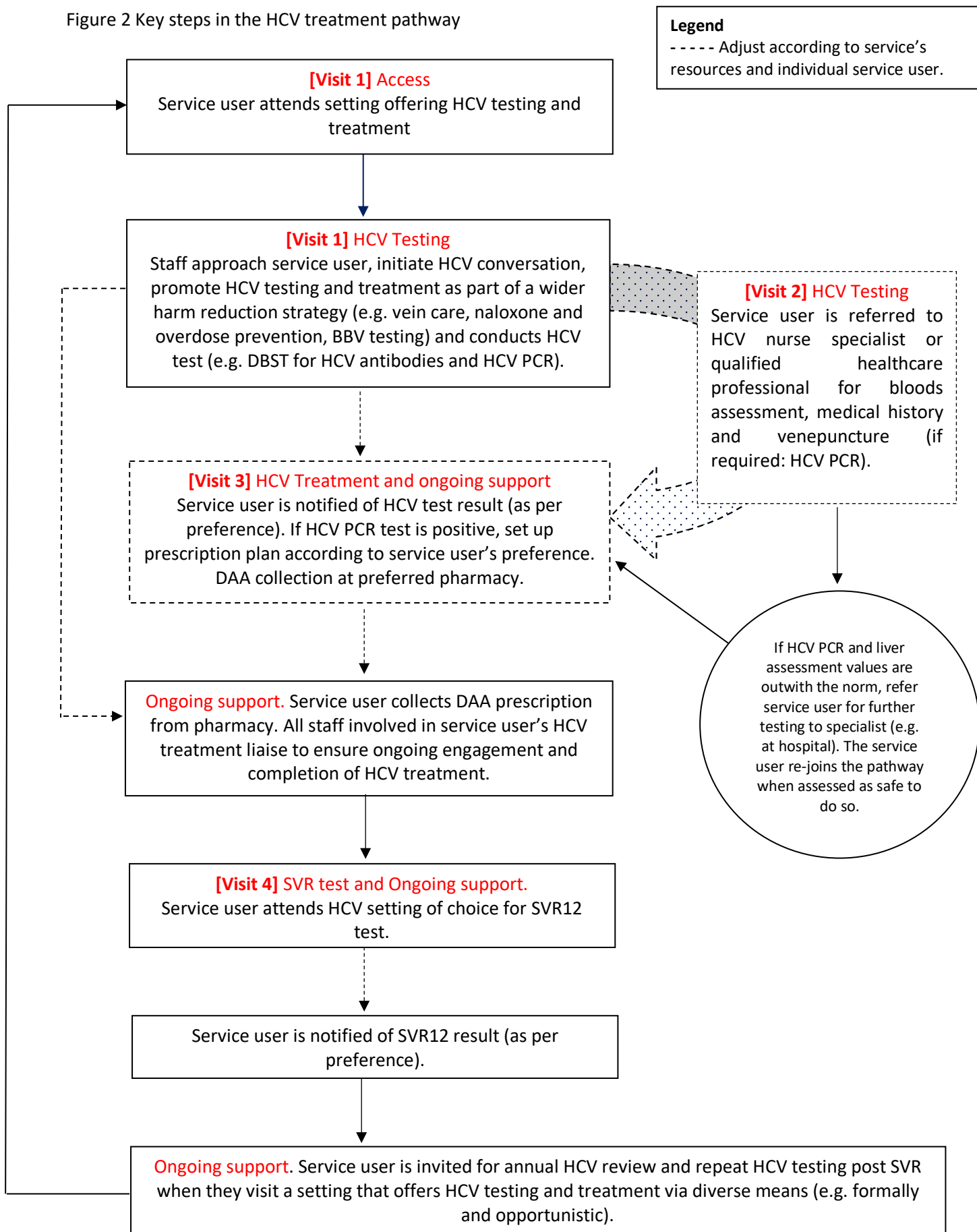
enables a granular, highly specific means to generate evidence-based and theoretically informed recommendations.

Phase 4. To *validate* our recommendations, we sense-checked the recommendations for each setting, and those across all settings, via stakeholder events in Tayside, and across Scotland. Stakeholders included service providers from the third sector (including peer workers), the NHS, pharmacies at frontline, clinical lead, manager and commissioner level, and service users. All stakeholders were asked to apply the APEASE criteria (Affordability, Practicability, Effectiveness, Acceptability, Side effects and Safety, and Equity) to recommendations (Michie, Atkins & West, 2014). In this way, we co-produced pathway recommendations to ensure applicability and implementability to context-specific settings and pathways. We also engaged with previous research evidence to cross-reference our recommendations.

Figure 2 shows the key steps in the HCV treatment pathway that were common to all treatment settings. This pathway is an idealised journey through HCV testing and treatment, and should be considered as flexible and adaptable to local resources and needs. For example, where Point of Care testing and qualified healthcare staff are available, several key steps (e.g. testing, medical history taking, notification of test result and setting up of treatment plan can happen during one visit).

Our recommendations provide detail and guidance concerning how to implement the key steps within and across diverse settings. It is worth highlighting that implementing HCV testing and treatment across multiple settings is highly likely to have reinforcing effects across the whole health care system (e.g. Zelenev, Mazhnaya, Basu & Altice, 2018).

Figure 2 Key steps in the HCV treatment pathway



## Structure of the guide

The guide is organised into the following sections:

### **Section 1 Recommendations for all settings (i.e. services dealing with people at an increased risk of HCV when scaling up HCV testing and treatment)**

It is imperative that this section is read and understood in conjunction with the individual pathway recommendations. It contains all the shared recommendations that apply to each and every setting. Sections 2-5 can be read in any order.

### **Section 2. Key recommendations ENSP services**

This section describes key recommendations for optimal implementation of HCV testing and treatment in ENSP settings.

### **Section 3. Key recommendations Pharmacies**

This section describes key recommendations for optimal implementation of HCV testing and treatment in pharmacies who offer opiate substitution therapy.

### **Section 4. Key recommendations community Drug treatment clinics**

This section describes key recommendations for optimal implementation of HCV testing and treatment for drug treatment clinics.

### **Section 5. Key recommendations Prisons**

This section discusses the key recommendations for optimal implementation of HCV testing and treatment in prisons.

### **Appendix 1. Recommendations with Rationales**

This section lists all recommendations with a supporting rationale, utilising evidence from the literature (where available), our research findings from NHS Tayside and feedback from experts at our stakeholder events in Tayside and across Scotland.

### **Appendix 2. Methods**

This section provides a detailed summary of the qualitative research methods used to generate the recommendations listed in this implementation guide.

### **Appendix 3. Example/ Template**

This section contains an example or template of a standard operating procedure or guideline on supporting the implementation of HCV testing into patient pathways.

### **Appendix 4. Acknowledgements**

This section acknowledges the contribution, input and feedback from various stakeholders into the fine tuning of the recommendations.

## Section 1: Recommendations for all settings (i.e. services dealing with people at an increased risk of HCV) when scaling up HCV testing and treatment

Recommendations relevant to all services where HCV testing and treatment may be offered. These are essential elements of implementing HCV testing and treatment in any service.

### Access

**Recommendation 1.1: Implement a nurse-led community service model in HCV testing and treatment.** This facilitates the coordination of HCV testing and treatment across community settings, while providing active support for services users requiring more specialist care, e.g. liver assessment and harm reduction services.

**Recommendation 1.2: Establish and maintain a non-judgemental, non-stigmatising, open and inclusive positive service culture** through good management, annual appraisals and regular reflective practice. Consider the selective recruitment and retention of key staff. Integrate cultural aspects regarding working with people at an increased risk of HCV into staff supervision and consider addressing these in your organisational values and mission statement. New staff (including peer workers) should have specific and dedicated training on these aspects and should shadow existing staff where possible.

**Recommendation 1.3: It is imperative to recruit peer workers, with lived experience of substance misuse, recovery and – if possible – HCV treatment to facilitate service users' engagement with HCV testing and treatment.** Peer workers are core to initiating contact (including outreach), maintaining engagement with service users, and developing a positive organisational culture. Support this through training, regular supervision, appraisals and continuous professional development. Consider upskilling ex-service users, with local knowledge of the drug culture, from initially unpaid volunteers to paid staff (without impacting on peer workers' welfare benefit income).

**Recommendation 1.4: Depending on local resources, consider co-locating the HCV treatment setting (i.e. needle and syringe, drug treatment, pharmacy, prison) with a HCV nurse specialist or other qualified HCV health care provider, if possible in the same building or within proximity.** This needs to be facilitated by clear communication lines that support signposting and collaborative care across co-located services to enable HCV testing and treatment.

**Recommendation 1.5: Provide education for all staff on the benefits and value of HCV testing and treatment** to the NHS, the local setting and the individual service user. Ensure that all staff are aware of the long term consequences of undiagnosed and untreated HCV, and are able to signpost service users to HCV service providers. This can be achieved by providing a succinct online awareness training package, as part of staff's ongoing Continuing Professional Development (CPD). The aim is to facilitate engagement with HCV and wider BBV testing and treatment among service users, but also among service providers in the setting and elsewhere relevant, e.g. the third sector, Prison services, the Police Force.

**Recommendation 1.6:** In addition to recommendation 1.5, **enhance education for all staff (i.e. in direct contact with service users) on service users' experience and fear of stigma, including self-stigmatisation, of HCV in diverse treatment settings.** This can be achieved by providing a succinct online awareness training package, as part of staff's ongoing CPD. The aim is to facilitate ownership in addressing stigma associated with HCV, and to understand variations of stigma, e.g. anticipated or feared stigma vs actual experienced stigma vs self-stigmatisation.

**Recommendation 1.7:** **Implement a drop-in service model to provide opportunistic HCV testing and treatment in line with the availability and the needs of service users.** Where co-located with other services, this needs to be achieved by restructuring the provision of services to maximise service users' visits via simultaneous opening hours of clinics and by training staff who can effectively role-share to reduce service users' waiting times.

**Recommendation 1.8:** In addition to recommendation 1.7, **utilise a diverse range of (assertive) outreach or homecare arrangements to enable access and facilitate HCV testing and treatment.** For example, consider digital or telephone HCV consultations, home visits and mobile van(s) offering HCV testing and treatment delivery. This (together with peer work) may be particularly valuable in the promotion of HCV testing and treatment, facilitating continuity of HCV care and ongoing harm reduction for service users who are unable to attend other community based pathways and also those who have yet to come into contact with services.

**Recommendation 1.9:** **For all services, ensure commissioning processes detail service level agreements including standard operating procedures (SOPs) or guidelines that facilitate HCV testing and treatment.** All staff need to understand their roles and responsibilities within harm reduction approaches.

### **HCV testing**

**Recommendation 1.10:** **Implement a multiple testing strategy (HCV, HBV, HIV) as part of a wider harm reduction package.** Delivering HCV testing to service users in settings where they also have access to other BBV testing and treatment (HIV and HBV) is likely to be an effective way to improve wider BBV testing uptake. This can be achieved by training up all staff responsible for any part in HCV testing (DBST and venepuncture) to maximise opportunities for testing (including via peer outreach). If HCV testing is offered as part of a wider BBV testing strategy, then ensure staff are able to inform and discuss all test results, and are trained up to understand the sensitivities of informing on a positive diagnosis (e.g. HIV) (see recommendation 1.18).

**Recommendation 1.11:** **Minimise the steps in the HCV treatment pathway via the co-ordination of key tasks.** For example, consider initiating the HCV testing conversation with the aim of conducting HCV testing immediately. Depending on local resources and flexibility with the individual service user, consider requesting two dry blood spot tests during the first visit to assess for a) HCV antibodies (as part of a BBV testing package), and b) HCV PCR. If venepuncture is deemed essential, arrange an additional visit for the service user to the HCV nurse specialist or other qualified healthcare professional.

**Recommendation 1.12:** In addition to recommendation 1.11, **consider offering (postal) HCV self-testing kits (e.g. dry blood spot tests) to service users.** By offering a choice to the service user, and handing over autonomy, engagement with HCV testing and treatment may increase, especially for those service users who are unable to attend outreach clinics. Consider utilising designs (format, written and pictorial instructions) of existing effective self-testing kits (e.g. sexual health). **Caution is required as there are currently no peer-reviewed published studies on the feasibility, acceptability and efficiency of HCV self-testing kits among people who inject drugs.**

**Recommendation 1.13:** [refer to visit 1] **When convenience and speed of HCV testing and treatment are vital, consider implementing point of care (POC) testing to enable rapid HCV PCR testing, result notification and treatment initiation, particularly for high risk service user populations.** This means that HCV testing and diagnosis could be delivered on the same day, thereby enabling timely HCV treatment. While some training is required to operate, maintain and utilize outputs from relevant POC test machines (such as GeneXpert), this does not necessarily require specialist qualifications.

**Recommendation 1.14:** Depending on local agreements and resources, **ensure that staff responsible for any part of HCV testing and/or treatment in each setting are able to role-share to ensure timely and consistent HCV testing and treatment.** Where possible, consider utilising local knowledge and involve existing services where people who inject drugs attend or reside, for example probation, social work, third sector organisation, homeless hostels and health services. Consider the impact of individual relationships between staff and service users, and assign those staff with existing relationships to initiate the HCV conversation, promote HCV testing and treatment and support the service user to ensure HCV engagement. [Refer to recommendations 1.26 and 1.27 with regards to information sharing to facilitate HCV testing and treatment across settings (e.g. NHS and other agencies).]

**Recommendation 1.15:** [refer to visit 1] **Ensure staff responsible for any part of HCV testing and/or treatment are able to initiate and conduct an HCV testing conversation at every opportunity.** This can be achieved through a package of training, appraisal, CPD and refresher training. Ensure that all staff responsible for any part of HCV testing and/or treatment are aware of the value of and consequences of not doing HCV testing within the service. The content of training should include working with experienced staff to co-produce examples of good and poor timing of initiating the HCV conversation, and good and poor examples of a tailored, normalised HCV conversations.

**Recommendation 1.16:** [refer to visit 1] **Ensure staff responsible for any part of HCV testing and/or treatment are able to conduct dry blood spot tests (DBST) or alternative biosampling HCV tests** through a package of hands-on practical training, opportunities to practice, appraisals and regular refresher training. Ensure all staff responsible for any part of HCV testing and/or treatment understand their role in doing DBSTs (or alternative HCV test), and provide opportunities to interdisciplinary groups where good techniques are modelled across roles.

**Recommendation 1.17:** [refer to visit 1] **Ensure staff responsible for any part of HCV testing and/or treatment respect the service user's preferences in communicating with the HCV nurse specialist or any member of staff working in the HCV service.** This needs to be facilitated by all staff responsible



for any part of HCV testing and/or treatment providing support to the service user in the decision making process of *how* (e.g. in a letter, over the phone) and *by whom* they would like to be notified of their HCV test results (i.e. potential positive HCV diagnosis). Ensure that service users are aware that all staff responsible for any part of HCV testing and/or treatment and the HCV nurse specialists are colleagues in a multi-disciplinary team.

**Recommendation 1.18:** [refer to visit 2] **Ensure staff responsible for any part of HCV testing and/or treatment are able to inform and discuss any HCV test results (both, HCV antibodies and HCV PCR) through a package of dedicated training, appraisals and ongoing CPD.** All staff responsible for any part of HCV testing and/or treatment should be encouraged to reflect on their skills in normalising HCV test results, including aspects of regular HCV testing, the importance of harm reduction and – where appropriate – the need for further HCV testing and/or HCV treatment. The content of training should be based on working with experienced HCV specialist nurses (or other qualified health professional) to co-produce examples of good and poor conversations about any HCV test result, in relation to emotional and social consequences.

**Recommendation 1.19** [refer to visit 2] **Ensure staff responsible for any part of HCV testing and/or treatment prioritise referral of the service user to the HCV nurse specialist or other qualified health care professional if further HCV PCR testing or HCV assessment via venepuncture is required.** This needs to be achieved via training (e.g. brief intervention) to optimise the service user's engagement with further HCV testing. Training should include co-producing successful approaches and 'good' conversations helping the service user to prioritise attending the HCV clinic or other qualified health care professional, i.e. staff need to reassure the service user, normalise the HCV test result and emphasise the urgency of further HCV blood tests.

**Recommendation 1.20:** [refer to visit 2] In order to maximise all opportunities to obtain required blood samples, **train other qualified health care professional (such as community-based practitioners) to initiate the conversation about finding suitable veins and then to conduct venepuncture on the service user for the HCV PCR blood test.** This needs to be achieved by providing a comprehensive and hands-on training package to other qualified health care staff and new HCV nurse specialists, including peer-led learning on the sensitivities when drawing bloods from people who inject drugs. Consider specific online learning materials, fact sheets or visual illustrations regarding the 'best' and alternative sites on the body to draw bloods from in people who inject drugs.

**Recommendation 1.21:** **Promote the benefits of HCV testing and treatment to service users.** This could include the provision of posters, leaflets, short films, social media posts and visual materials providing personal testimonies of service users who completed the HCV treatment. Consider providing information on the number of service users successfully tested and treated locally or regionally to encourage uptake of HCV testing and treatment. The aim is to normalise HCV testing and treatment, as well as reiterate the benefits associated with testing and treatment.

## HCV treatment

**Recommendation 1.22:** [refer to visit 3] **Provide training on core aspects and the sequence of core aspects in setting up the HCV treatment plan for (new) HCV nurse specialists or other qualified health care professional.** This can be achieved by co-producing successful treatment plan conversations via peer learning and ongoing CPD. As part of the treatment plan conversation, enhance HCV nurse specialists' skills of motivational interviewing to promote the treatment and its benefits. This is to facilitate the service user's engagement.

## Support during and after HCV treatment

**Recommendation 1.23:** [refer to visit 3] **Co-produce verbal agreements (e.g. behavioural contracts) with service users to assist adherence to HCV treatment, depending on the relationship between service provider and service user.** This should be achieved by providing a training package aimed at developing agreements and behavioural contracts between staff responsible for any part of HCV testing and/or treatment and service users. For example, scripts of 'good' behavioural contract conversations could be included, informed by experienced HCV nurse specialists or other key staff (e.g. pharmacists) who use behavioural contracts as part of concurrent OST treatment. The aim is to facilitate engagement, HCV treatment completion and therapeutic collaboration in a culturally sensitive and constructive manner.

**Recommendation 1.24:** [refer to visit 3] **Train staff responsible for any part of HCV testing and/or treatment to motivate, support and review the service user during HCV treatment to facilitate treatment adherence.** Staff training can be achieved by co-producing 'good' review and support conversations with experienced staff or HCV nurse specialists, and may be particularly relevant for HCV services that do not routinely offer new interventions. These conversations should include aspects of brief interventions such as motivational interviewing, and verbal reinforcements for the service user's continued adherence to the HCV treatment plan.

**Recommendation 1.25:** [refer to visit 4] **View SVR12 testing as an opportunity to promote harm reduction services and thereafter adopt a proactive approach to regular follow-up testing and continuous harm reduction support.** This needs to be achieved via training of all staff responsible for any aspect of HCV testing or treatment to be flexible and opportunistic in their approach to obtaining DBSTs (or alternative biosampling HCV test) post HCV treatment, and thereafter as part of ongoing harm reduction and recovery. This should include training and assessment of cultural and clinical competencies to maintain and utilise the therapeutic relationship with the aim of normalising harm reduction, HCV testing and treatment (e.g. as part of the verbal agreement, see recommendation 1.23).

**Recommendation 1.26:** **Implement an HCV Testing and treatment administrative data system.** This could be achieved through a live HCV database to record service users with an antibody test, and to track those with chronic HCV infection (e.g. all HCV PCR positives). This database can further be used to facilitate routine audits of HCV testing and treatment as part of caseload management and care planning. In addition, consider nominating a 'HCV facilitator' or 'HCV champion' in each treatment setting as the main liaison contact between HCV nurse specialists and staff, as well as facilitating effective HCV case management and monitoring. This needs to be supported by agreeing on national/

regional/ local targets, which are endorsed by senior management and upheld by managers in local HCV services.

**Recommendation 1.27:** In addition to recommendations 1.25 and 1.26, **ensure a responsive system is in place to share information across HCV services and patient pathways, for example when a service user disengages from any HCV service.** Clearly define the processes and procedures involved in HCV care transition when a service user diverts from the HCV service, or chooses to disengage from the HCV nurse specialist or other qualified health professional. This can be facilitated through national data sharing agreements across NHS and non-NHS service providers who are involved in the patient pathway for the purpose of HCV testing and treatment. Maintain awareness of these protocols through supervision, appraisals and CPD.

## **Section 2: Recommendations for Enhanced Needle Syringe Programme delivering testing and treatment for HCV**

**Key Recommendations for the successful implementation of HCV testing and treatment in Enhanced Needle Syringe Programme (ENSP) services.**

**These complement the recommendations already outlined in Section 1 ‘Shared Recommendations (pp. 14-19)’ and are additional setting-specific recommendations.**

**Recommendation 2.1:** Implement an enhanced needle and syringe programme service as part of a community ‘hub’ model to providing and promoting HCV testing and treatment, and harm reduction. This can be achieved by establishing a network of community services and multi-disciplinary agency workers (e.g. comprising NHS and third sector such as harm reduction and social services) to co-ordinate care, treatment and recovery, to involve peer workers as part of the service and to enable co-location of services to maximise reaching service users.

**Recommendation 2.2:** Establish and share a range of successful communication methods with the service user that facilitate follow up for HCV tests, results, and HCV treatment, especially to promote regular HCV testing post treatment to detect reinfections early for further HCV treatment. Consideration should be given to the frequency of reminders and range of viable communication methods.

**Recommendation 2.3:** Ensure flexibility in the delivery of the ENSP service model of HCV care by upskilling staff responsible for any part of HCV testing and/or treatment to engage in an outreach service model under Covid-19 (or similar future) restrictions.

## Section 3: Recommendations for Pharmacies delivering testing and treatment for HCV

### Key Recommendations for the successful implementation of HCV testing and treatment in Pharmacies

These complement the recommendations already outlined in Section 1 'Shared Recommendations (pp. 14-19)' and are additional setting-specific recommendations.

**Recommendation 3.1:** Ensure processes such as contractual frameworks, quality standards and financial processes for the implementation of HCV testing and treatment are in place in pharmacies. This needs to be achieved through the use of established procurement systems.

**Recommendation 3.2:** Enhance training packages on interpersonal skills to include aspects of active listening, rapport building and cultural competence for staff responsible for any part of HCV testing and/or treatment. Staff should be skilled to move between a commercially based relationship (customer and supplier) to one that effectively promotes culturally sensitive and wider holistic approaches to health and wellbeing including HCV care provision.

**Recommendation 3.3:** Train and upskill a sufficient number of pharmacy staff to deliver both, HCV testing (DBST) and treatment. This can be achieved via two models, dependent on local preference: either train up all staff to be able to conduct HCV testing (DBST) and HCV treatment, or at a minimum train a small group of key staff who are primarily responsible for conducting HCV testing and treatment (including HCV prescribing). Liaise with HCV nurse specialist or other qualified healthcare professional if specialist skills for venepuncture are required. Training should include regular appraisals of competencies and consistency in the delivery of HCV testing and treatment.

**Recommendation 3.4:** Enhance staff training to include behaviour change competencies to facilitate the service user's HCV treatment completion for staff responsible for any part of HCV testing and/or treatment. Training packages should include issues such as using behavioural contracts with service users (e.g. requesting a verbal commitment to treatment completion) because most service users collect their HCV prescriptions from pharmacies, and are therefore in regular contact with pharmacy staff. For example, training scripts of effective conversations could be included, informed by prior experience of HCV nurse specialists or pharmacy staff. The aim is to facilitate engagement, HCV treatment completion and therapeutic collaboration in a culturally sensitive and constructive manner.

**Recommendation 3.5:** To maximise the uptake of HCV testing and treatment, HCV nurse specialists should develop and share an accessible list of potential HCV service users who receive opiate substitution therapy. This needs to be achieved by pharmacies collaborating closely with the HCV nurse specialist(s) to identify and track eligible OST service users.

## **Section 4: Recommendations for community Drug Treatment Teams delivering testing and treatment for HCV**

### **Key Recommendations for the successful implementation of HCV testing and treatment in Drug Treatment**

These complement the recommendations already outlined in Section 1 'Shared Recommendations (pp. 14-19)' and are additional setting-specific recommendations.

**Recommendation 4.1:** Implement a standardised opt-out HCV testing model in all community drug treatment services. Support drug treatment staff to prioritise the promotion of HCV testing and treatment to the service user. This needs to be achieved by enabling drug treatment staff to provide person-centred care while helping the service user to (re-) prioritise HCV engagement among competing needs.

**Recommendation 4.2:** Co-ordinate drug treatment and the HCV care pathway to facilitate service user engagement, timely HCV testing and treatment and regular contact via shared outreach appointments and home visits. This includes physically collecting service users for their HCV appointments, utilising digital technologies as part of HCV consultations, as well as providing HCV testing and treatment within the service user's home. This needs to be achieved by formally setting up a service agreement on utilising existing outreach structures in the drug treatment service.

## **Section 5: Recommendations for staff working in prisons delivering testing and treatment for HCV**

### **Key Recommendations for the successful implementation of HCV testing and treatment in Prisons**

**These complement the recommendations already outlined in Section 1 ‘Shared Recommendations (pp. 14-19)’ and are additional setting-specific recommendations.**

**Recommendation 5.1: Implement a standardised opt-out HCV testing model in all prison services.**

As a routine part of admission procedures and processes to prison, offer BBV testing (including HCV testing) to all individuals entering custody regardless of their legal status (i.e. remand, sentenced or those awaiting sentencing). Support prison staff at admission to promote and prioritise HCV testing as part of the admission procedure.

**Recommendation 5.2: Ensure effective and formalised protocols are in place for sharing clinical information among those staff responsible for any part of HCV testing and/or treatment inside prison, between prisons, between the prison and specialist HCV services.** This is to ensure HCV continuity of care for service users including those transferring between prisons and transitioning to the community.

**Recommendation 5.3: Promote HCV testing and treatment via a dedicated prison-based healthcare facilitator.** This needs to be an individual with excellent interpersonal skills to establish relationships, and with privileged access to residential officers, (eligible) service users in prison and delegated healthcare and HCV staff. For example, this could be a health care worker or a residential officer. Consider recruiting more than one healthcare facilitator to cover potential staff absence. Provide essential training to the health facilitator(s) on HCV engagement, HCV testing and treatment.

**Recommendation 5.4: Ensure all HCV testing methods are available including oral swabs, which could be utilised in private areas in the residential prison halls.** Oral swabs are less expensive, almost as accurate as DBST and more convenient to conduct for both, service users and those staff that use oral swabs. While oral swabs can only be used to test for the presence of HCV antibodies, they are suitable with HCV low risk populations and when testing occurs outside clinic environments such as in residential prison halls. This needs to be achieved by restructuring HCV service provision to maximise contact at times when people residing in prison are available.

**Recommendation 5.5:** In addition to recommendation 5.2, **provide training on how to preserve confidentiality when communicating with people residing in prison about HCV and thus avoiding possible stigmatisation.** Consider liaising with the service user via the HCV facilitator, peer workers, or residential officers (provided the service user gave consent).

## References

Ashford, R.D., Curtis, B. & Brown, A.M. (2018). Peer-delivered harm reduction and recovery support services: initial evaluation from a hybrid recovery community drop-in centre and syringe exchange program. *Harm Reduction Journal*, 15: 52.

Atkins, L., Francis, J., Islam, R., O'Connor, D., Patey, A., Ivers, N., Foy, R., Duncan E.M., Colquhoun, H., Grimshaw, J.M., Lawton, R. & Michie, S. (2017). A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Science*, 12, Article Number: 77.

Guise, A., Witzel, T.C., Mandal, S., Sabin, C., Rhodes, T., Nardone, A. & Harris, M. (2018). A qualitative assessment of the acceptability of hepatitis C remote self-testing and self-sampling amongst people who use drugs in London, UK. *BMC Infectious Diseases*, 18: 281. [Doi.org/10.1186/s12879-018-3185-7](https://doi.org/10.1186/s12879-018-3185-7)

Harris, H.E., Edmundson, C., Costella, A., Harris, R., Mandal, S. and contributors (2020). Hepatitis C in England, 2020 report: Working to eliminate hepatitis C as a major public health threat. Public Health England, London.

Madden, A., Hopwood, M., Neale, J. & Treloar, C. (2018). Beyond interferon side effects: What residual barriers exist to DAA hepatitis C treatment for people who inject drugs? *PLoS One*, 13 (11): e0207226. doi: 10.1371/journal.pone.0207226.

Michie, S., Atkins, L. & West, R. (2014). *The Behaviour Change Wheel: A Guide to Designing interventions*. London: Silverback Publishing.

Michie, S., van Stralen, M.M. & West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, 6: 42.

Noller, G. & Bourke, J. (2020). Point-of-care rapid testing for hepatitis C antibodies at New Zealand needle exchanges. *New Zealand Medical Journal*, 133 (1525): 84 - 95.

Patel, K., Zickmund, S.L., Jones, H., Reid, A., Calgaro, L., Otero, A., Coppler, T. & Rogal, S.S. (2019). Determinants of Hepatitis C Treatment Adherence and Treatment Completion among Veterans in the Direct Acting Antiviral Era. *Digestive Diseases and Sciences*, 64 (10): 3001 – 3012. doi: 10.1007/s10620-019-05590-x

Ramachandran, J., Kaambwa, B., Muller, K., Haridy, J., Tse, E., Tilley, E., Altus, R., Waddell, V., Gordon, D., Shaw, D., Huynh, D., Stewart, J., Nelson, R., Warner, M., Boyd, Mark A., Chinnaratha, M.A., Harding, D., Ralton, L., Colman, A., Woodman, R. & Wigg, A.J. (2020). Cost effectiveness of treatment models of care for hepatitis C: the South Australian state-wide experience. *European Journal of Gastroenterology & Hepatology*, 32 (10): 1381 – 1389. doi:10.1097/MEG.0000000000001659.

Reipold, E.I., Nguyen, T.T., Shiha, G., Stvilla, K., Monroe-Wise, A., Wang, C., Jamil, M., Johnson, C.P. & Easterbrook, P. (2021). Self-testing for HCV: Multicountry evidence on usability and acceptability. Conference on Retroviruses and Opportunistic Infections: Boston, USA (6-10 March 2021).



Scottish Government (2015). Sexual Health and Blood-Borne Virus Framework 2015-2020 Update. Health and Social care, Scottish Government.

Solomon, S.S., Quinn, T.C., Solomon, S., McFall, A.M., Srikrishnan, A.K., Verma, V., Kumar, M.S., Laeyendecker, O., Celentano, D.D., Iqbal, S., Anand, S., Vasudevan, C.K., Saravan, S., Thomas, D.L., Sachdeva, K.S., Lucas, G.M. & Mehta, S.H. (2020). Integrating HCV testing with HIV programs improves hepatitis C outcomes in people who inject drugs: A cluster-randomised trial. *Journal of Hepatology*, 72 (1): 67 – 74. doi.org/10.1016/j.jhep.2019.09.022

Tonen-Wolyec, S., Djang'eing'a, R.M., Batina-Agasa, S., Kayembe Tshilumba, C., Muwonga Masidi, J., Hayette, M-P. & Belec, L. (2021). Self-testing for HIV, HBV, and HCV using finger-stick whole-blood multiplex immunochromatographic rapid test: A pilot feasibility study in sub-Saharan Africa. *PLoS ONE* 16 (4): e0249701. <https://doi.org/10.1371/journal.pone.0249701>.

Treloar, C., Rance, J. & Backmund, M. (2013). Understanding barriers to hepatitis C virus care and stigmatisation from a social perspective. *Clinical Infectious Diseases*, 57 (Suppl 2): S51 – S55. doi: 10.1093/cid/cit263.

Treloar, C., Rance, J., Yates, K. & Mao, L. (2016). Trust and people who inject drugs: The perspectives of clients and staff of Needle Syringe Programs. *International Journal on Drug Policy*, 27: 138 – 145. doi: 10.1016/j.drugpo.2015.08.018.

World Health Organisation (2012). Social contexts of access to treatment and care for HIV, hepatitis C and tuberculosis among people who inject drugs in European cities. World Health Organisation.

World Health Organisation (2016). Combating Hepatitis B and C to reach elimination by 2030. World Health Organisation.

World Health Organisation (2021). WHO announces development of new guidance on Hepatitis C self-testing. <https://www.who.int/news/item/25-01-2021-who-announces-development-of-new-guidance-on-hepatitis-c-self-testing>. World Health Organisation.

## Appendix 1 Recommendations with Rationale

Recommendation		Rationale
1.1	<b>Implement a nurse-led community service model in HCV testing and treatment.</b> This facilitates the coordination of HCV testing and treatment across community settings, while providing active support for services users requiring more specialist care, e.g. liver assessment and harm reduction services.	Decentralised HCV testing and treatment have been proved to be more cost-effective than HCV consultant, HCV nurse specialist or primary practitioner (GP) only models (e.g. Ramachandran et al, 2020). Our analysis from NHS Tayside suggests that HCV nurse-led community services are powerful and successful in providing patient-centred HCV care. Experts in our stakeholder groups emphasised the value and benefits of decentralising HCV testing and treatment led by HCV nurse specialists in outreach pathways (i.e. needle and syringe programmes, drug treatment, pharmacy and prison).
1.2	<b>Establish and maintain a non-judgemental, non-stigmatising, open and inclusive positive service culture</b> through good management, annual appraisals and regular reflective practice. Consider the selective recruitment and retention of key staff. Integrate cultural aspects regarding working with people at an increased risk of HCV into staff supervision and consider addressing these in your organisational values and mission statement. New staff (including peer workers) should have specific and dedicated training on these aspects and should shadow existing staff where possible.	The experience of stigma, or the fear of stigma from health care professionals is a known commonly reported barrier to engaging with HCV services by people who inject drugs (Treloar et al, 2013; Madden et al, 2018). Our analysis from NHS Tayside indicates that service users prefer and attend those services where they do not feel judged, and/or have established long lasting trusting relationships with service providers. Experts in our stakeholder events also reinforced the importance and impact of mindfully establishing and maintaining a safe, non-judgemental and stigma-free organisational culture to facilitate HCV testing and treatment.
1.3	<b>It is imperative to recruit peer workers, with lived experience of substance misuse, recovery and – if possible – HCV treatment to facilitate service users’ engagement with HCV testing and treatment.</b> Peer workers are core to initiating contact (including outreach), maintaining engagement with service users, and developing a positive organisational culture. Support this through training, regular supervision, appraisals and continuous professional development. Consider upskilling ex-service users, with local knowledge of the drug culture, from initially unpaid volunteers to paid staff (without impacting on peer workers’ welfare benefit income).	The recruitment of peer workers as volunteers, and subsequently employees facilitates HCV testing and treatment because service users tend to engage particularly well and fully with peers (e.g. Ashford et al, 2018). Evidence from NHS Tayside, in particular in enhanced needle and syringe programmes, highlights the benefits of including peer workers as part of the HCV service model. Experts in our stakeholder group confirmed the importance of peer workers in enhanced needle and syringe programmes, and strongly endorsed recruiting peer workers in community drug treatment and in prison, with employment and range of responsibilities depending on the relevant pathway.
1.4	Depending on local resources, <b>consider co-locating the HCV treatment setting (i.e. needle and syringe, drug treatment, pharmacy, prison) with a HCV nurse specialist or other qualified HCV health care provider, if</b>	The co-location of harm reduction, recovery and HCV services in a ‘one-stop shop’ (WHO, 2012) maximises on all opportunities to engage a service user attending a HCV service. Our analysis from NHS Tayside demonstrates that

	<b>Recommendation</b>	<b>Rationale</b>
	<p><b>possible in the same building or within proximity.</b> This needs to be facilitated by clear communication lines that support signposting and collaborative care across co-located services to enable HCV testing and treatment.</p>	<p>merging HCV nurse specialists into the work spaces and environments where service users at risk of HCV attend creates a coherent, supportive and task-sharing HCV service. Experts in our stakeholder group emphasised that co-location of HCV services was essential in promoting and providing HCV testing and treatment to people who inject drugs.</p>
<p><b>1.5</b></p>	<p><b>Provide education for all staff on the benefits and value of HCV testing and treatment</b> to the NHS, the local setting and the individual service user. Ensure that all staff are aware of the long term consequences of undiagnosed and untreated HCV, and are able to signpost service users to HCV service providers. This can be achieved by providing a succinct online awareness training package, as part of staff’s ongoing Continuing Professional Development (CPD). The aim is to facilitate engagement with HCV and wider BBV testing and treatment among service users, but also among service providers in the setting and elsewhere relevant, e.g. the third sector, Prison services, the Police Force.</p>	<p>In order to effectively facilitate uptake of HCV testing and treatment, it is essential that all engagement opportunities with service users are utilised, and therefore all staff should have sufficient knowledge to promote and signpost service users towards HCV testing and treatment. Evidence from NHS Tayside suggests that service users are likely to engage with those staff they have existing relationships with first, and these staff may not necessarily be directly involved in HCV testing (e.g. social worker, or residential officer in prison settings). Experts at our stakeholder events emphasised the need for HCV and wider BBV education and awareness sessions delivered as part of mandatory staff training.</p>
<p><b>1.6</b></p>	<p>In addition to recommendation 1.5, <b>enhance education for all staff (i.e. in direct contact with service users) on service users’ experience and fear of stigma, including self-stigmatisation, of HCV in diverse treatment settings.</b> This can be achieved by providing a succinct online awareness training package, as part of staff’s ongoing CPD. The aim is to facilitate ownership in addressing stigma associated with HCV, and to understand variations of stigma, e.g. anticipated or feared stigma vs actual experienced stigma vs self-stigmatisation.</p>	<p>Anticipated and experienced stigma is a known barrier to engaging with HCV services among people who inject drugs. Evidence (service users) from NHS Tayside strongly suggests that some staff (for example, residential officers in prison) may be unaware of HCV stigma while service users experience a range of negative emotions (e.g. shame, guilt, disgust) which they feel unable to address out of fear of being stigmatised. Experts in our stakeholder groups stressed the importance of staff understanding stigma, and understanding how to alleviate this, e.g. by providing reassurance and establishing that the service user’s consent to all procedures is fundamental (i.e. giving control to the service user).</p>
<p><b>1.7</b></p>	<p><b>Implement a drop-in service model to provide opportunistic HCV testing and treatment in line with the availability and the needs of service users.</b> Where co-located with other services, this needs to be achieved by restructuring the provision of services to maximise service users’ visits via simultaneous opening hours of clinics and by training staff who can effectively role-share to reduce service users’ waiting times.</p>	<p>Successful HCV testing and treatment among people who inject drugs is dependent on a flexible, opportunity-driven and culturally sensitive service model. Our analysis from NHS Tayside strongly suggests that a drop-in service model facilitates HCV testing and treatment to an otherwise under-served population. Experts in our stakeholder group supported the importance and value of a drop-in service when providing HCV testing and treatment.</p>

Recommendation	Rationale
<p><b>1.8</b> In addition to recommendation 1.7, <b>utilise a diverse range of (assertive) outreach or homecare arrangements to enable access and facilitate HCV testing and treatment.</b> For example, consider digital or telephone HCV consultations, home visits and mobile van(s) offering HCV testing and treatment delivery. This (together with peer work) may be particularly valuable in the promotion of HCV testing and treatment, facilitating continuity of HCV care and ongoing harm reduction for service users who are unable to attend other community based pathways and also those who have yet to come into contact with services.</p>	<p>Maximising on opportunities to engage with service users beyond clinic environments or settings is a successful method to provide collaborative care. Our analysis from NHS Tayside indicates that assertive outreach, i.e. delivering HCV testing and treatment services to the patient at their location, allows HCV testing and referral for treatment in addition to (re)-establishing contact with those who have not contemplated or dropped out of HCV treatment. Experts at our stakeholder events summarised successful assertive outreach models, for example offering HCV treatment delivery to the home, or combining delivering needle and syringe equipment and conducting HCV testing during the same visit (subject to restrictions set out under Covid-19).</p>
<p><b>1.9</b> <b>For all services, ensure commissioning processes detail service level agreements including standard operating procedures (SOPs) or guidelines that facilitate HCV testing and treatment.</b> All staff need to understand their roles and responsibilities within harm reduction approaches.</p>	<p>The integration of HCV testing and treatment as part of core and routine work within each service supports consistent and ongoing harm reduction for people who inject drugs. Our evidence from NHS Tayside suggests that implementing clearly defined service level agreements, standard operating procedures (SOPs) or guidelines are valuable in helping staff to embed HCV services within their existing work roles. Experts in our stakeholder group supported setting up standard operating procedures or guidelines to ensure clarity and expectations of staff's roles and responsibilities. [An example of such guidelines for HCV testing from NHS Tayside is available in Appendix 3].</p>
<p><b>1.10</b> <b>Implement a multiple testing strategy (HCV, HBV, HIV) as part of a wider harm reduction package.</b> Delivering HCV testing to service users in settings where they also have access to other BBV testing and treatment (HIV and HBV) is likely to be an effective way to improve wider BBV testing uptake. This can be achieved by training up all staff responsible for any part in HCV testing (DBST and venepuncture) to maximise opportunities for testing (including via peer outreach). If HCV testing is offered as part of a wider BBV testing strategy, then ensure staff are able to inform and discuss all test results, and are trained up to understand the sensitivities of informing on a positive diagnosis (e.g. HIV) (see recommendation 1.18).</p>	<p>While HCV is the most prevalent blood borne virus infection among people who inject drugs, research evinces to maximise opportunities with service users to test for all BBVs (e.g. Solomon et al, 2020). Evidence from NHS Tayside clearly confirms the clinical value and benefit of providing a harm reduction service that includes HCV, HBV and HIV testing, thereby encouraging engagement with multiple treatments. Expert stakeholders strongly stressed the need, and the inherent duty of care, to provide HCV, HBV and HIV testing as part of a comprehensive harm reduction strategy.</p>
<p><b>1.11</b> <b>Minimise the steps in the HCV treatment pathway via the co-ordination of key tasks.</b> For example, consider initiating the HCV testing conversation with the aim of conducting HCV testing immediately. Depending on local</p>	<p>Maximising on a service user's visit to a treatment pathway is a valuable and effective way of ensuring HCV care can be provided in focussed 'HCV task clusters' and may increase the uptake of treatment. Evidence from NHS Tayside</p>

	<b>Recommendation</b>	<b>Rationale</b>
	resources and flexibility with the individual service user, consider requesting two dry blood spot tests during the first visit to assess for a) HCV antibodies (as part of a BBV testing package), and b) HCV PCR. If venepuncture is deemed essential, arrange an additional visit for the service user to the HCV nurse specialist or other qualified healthcare professional.	suggests that HCV testing and treatment can be provided across as few as two or three visits or ‘meets’ with the service user (see figure 2), however flexibility to meet the service user’s needs and preferences is important to factor in. Experts in the stakeholder groups strongly emphasised that conducting as many HCV tasks as possible during a service user’s visit ensured that HCV care could be effectively and efficiently provided whilst increasing engagement in treatment.
1.12	In addition to recommendation 1.11, <b>consider offering (postal) HCV self-testing kits (e.g. dry blood spot tests) to service users.</b> By offering a choice to the service user, and handing over autonomy, engagement with HCV testing and treatment may increase, especially for those service users who are unable to attend outreach clinics. Consider utilising designs (format, written and pictorial instructions) of existing successful self-testing kits (e.g. sexual health). <b><u>Caution is required as there are currently no peer-reviewed published studies on the feasibility, acceptability and efficiency of HCV self-testing kits among people who inject drugs.</u></b>	While the WHO is in the process of developing guidance on HCV self-testing (WHO, 2021), published evidence on the feasibility, acceptability and accuracy of HCV self-testing is limited and conflicting, in the UK (e.g. Guise et al, 2018) and elsewhere (e.g. Tonen-Wolyek et al, 2021; Reipold et al, 2021). Evidence from NHS Tayside is based on effective HCV testing and treatment within a supportive patient pathway that ensures access to healthcare staff. Experts in our stakeholder groups stressed the importance of flexibility and personal choice in HCV testing, and suggested that DBST self-testing should be an option as part of a future-facing intervention to widen access.
1.13	[refer to visit 1] <b>When convenience and speed of HCV testing and treatment are vital, consider implementing point of care (POC) testing to enable rapid HCV PCR testing, result notification and treatment initiation, particularly for high risk service user populations.</b> This means that HCV testing and diagnosis could be delivered on the same day, thereby enabling timely HCV treatment. While some training is required to operate, maintain and utilize outputs from relevant POC test machines (such as GeneXpert), this does not necessarily require specialist qualifications.	The speed of HCV test notification via POC testing can be vital in ensuring service user engagement, and can be successfully delivered by non-clinical frontline staff such as needle exchange workers (Noller & Bourke, 2020). Evidence from NHS Tayside (community and prison) confirms that HCV POC testing and result sharing help to expedite HCV treatment, and minimise HCV care visits with the healthcare professional to one visit only. Experts in our stakeholder groups highlighted the attractiveness, value and advantages of HCV POC testing but noted the financial costs associated with POC testing machines as a potential barrier for services and pathways.
1.14	Depending on local agreements and resources, <b>ensure that staff responsible for any part of HCV testing and/or treatment in each setting are able to role-share to ensure timely and consistent HCV testing and treatment.</b> Where possible, consider utilising local knowledge and involve existing services where people who inject drugs attend or reside, for example probation, social work, third sector organisation, homeless hostels and health services. Consider the impact of individual relationships	Local arrangements and knowledge of the settings where people who inject drugs attend, and utilizing existing relationships between staff and service users (Treloar, 2016) are vital to a flexible HCV testing approach ‘to reach the unreachable’ (e.g. WHO, 2016). Evidence from NHS Tayside supports maximizing all opportunities to test and treat HCV through local relationships between HCV nurse specialists (NHS) and third sector organisations in Tayside, in addition to scaling up healthcare-facilitated community pathways (i.e. needle exchange,

Recommendation	Rationale
<p>between staff and service users, and assign those staff with existing relationships to initiate the HCV conversation, promote HCV testing and treatment and support the service user to ensure HCV engagement. [Refer to recommendations 1.26 and 1.27 with regards to information sharing to facilitate HCV testing and treatment across settings (e.g. NHS and other agencies).]</p>	<p>pharmacy, drug treatment and prison). Experts in our stakeholder groups emphasised the need for HCV testing to be highly flexible and delegate staff with ‘the best relationship’ to the individual service user in order to use any opportunity to test people who inject drugs and commence treatment.</p>
<p><b>1.15 Ensure staff responsible for any part of HCV testing and/or treatment are able to initiate and conduct an HCV testing conversation at every opportunity.</b> This can be achieved through a package of training, appraisal, CPD and refresher training. Ensure that all staff responsible for any part of HCV testing and/or treatment are aware of the value of and consequences of <u>not</u> doing HCV testing within the service. The content of training should include working with experienced staff to co-produce examples of good and poor timing of initiating the HCV conversation, and good and poor examples of a tailored, normalised HCV conversations.</p>	<p>Upskilling staff to motivate service users with variable levels of readiness to change is a key output to successful HCV upscaling, and therefore timing, style and content of the initial HCV testing conversation are crucial. Evidence from NHS Tayside clearly demonstrates that staff benefit from guidance on careful timing and wording the initial HCV conversation, with the aim of promoting HCV testing and treatment to the service user. Experts in the stakeholder groups confirmed the importance of timing and the ability to effectively promote HCV testing and treatment to the service user, typically via Dry Blood Spot Tests ‘as the bread and butter’ of HCV testing methods.</p>
<p><b>1.16 Ensure staff responsible for any part of HCV testing and/or treatment are able to conduct dry blood spot tests (DBST) or alternative biosampling HCV test</b> through a package of hands-on practical training, opportunities to practice, appraisals and regular refresher training. Ensure all staff responsible for any part of HCV testing and/or treatment understand their role in doing DBSTs (or alternative HCV test), and provide opportunities to interdisciplinary groups where good techniques are modelled across roles.</p>	<p>Successful upskilling of staff to conduct DBST (or alternative biosampling HCV test) is dependent on effectively demonstrating how to complete DBSTs on or with a service user. Evidence from NHS Tayside indicates that practical hands-on DBST training is valuable and beneficial to both, experienced and inexperienced staff. Experts in the stakeholder groups affirmed that demonstrations of how to conduct a DBST are vital to successful HCV upscaling.</p>
<p><b>1.17 Ensure staff responsible for any part of HCV testing and/or treatment respect the service user’s preferences in communicating with the HCV nurse specialist or any member of staff working in the HCV service.</b> This needs to be facilitated by all staff responsible for any part of HCV testing and/or treatment providing support to the service user in the decision making process of <i>how</i> (e.g. in a letter, over the phone) and <i>by whom</i> they would like to be notified of their HCV test results (i.e. potential positive HCV diagnosis). Ensure that service users are aware that all staff responsible for any part of HCV testing and/or treatment and the HCV nurse specialists are colleagues in a multi-disciplinary team.</p>	<p>In order to support and motivate the service user to commence HCV treatment, it is important to collaborate with the service user regarding who their preferred health care professional is for further communication. Evidence from NHS Tayside indicates that service users typically report highly negative emotions (e.g. self-shaming, feeling dirty, fear of stigma by health care professional) following disclosure of a positive HCV diagnosis, which could be mitigated if the messenger was a trusted, chosen staff. Experts at the stakeholder events insisted on the importance of enabling service users to make an informed choice regarding notification preference and contact person for a possible HCV diagnosis.</p>

Recommendation	Rationale
<p><b>1.18</b> <b>Ensure staff responsible for any part of HCV testing and/or treatment are able to inform and discuss any HCV test results (both, HCV antibodies and HCV PCR) through a package of dedicated training, appraisals and ongoing CPD.</b> All staff responsible for any part of HCV testing and/or treatment should be encouraged to reflect on their skills in normalising HCV test results, including aspects of regular HCV testing, the importance of harm reduction and – where appropriate – the need for further HCV testing and/or HCV treatment. The content of training should be based on working with experienced HCV specialist nurses (or other qualified health professional) to co-produce examples of good and poor conversations about any HCV test result, in relation to emotional and social consequences.</p>	<p>It is essential that staff responsible for any part of HCV testing and/or treatment have the interpersonal skills to inform the service user of a HCV test result, especially if further HCV testing is required or the service user has a positive HCV diagnosis. Evidence from NHS Tayside strongly suggests that service users experience a wide range of negative emotions (e.g. guilt, shame, disgust, self-hatred, fear, sadness) when realising that they are HCV positive. Experts in the stakeholder groups confirmed that disclosing both, HCV antibodies and HCV PCR results should be a routine part of staff’s professional responsibilities.</p>
<p><b>1.19</b> <b>Ensure staff responsible for any part of HCV testing and/or treatment prioritise referral of the service user to the HCV nurse specialist or other qualified health care professional if further HCV PCR testing or HCV assessment via venepuncture is required.</b> This needs to be achieved via training (e.g. brief intervention) to optimise the service user’s engagement with further HCV testing. Training should include co-producing successful approaches and ‘good’ conversations helping the service user to prioritise attending the HCV clinic or other qualified health care professional, i.e. staff need to reassure the service user, normalise the HCV test result and emphasise the urgency of further HCV blood tests.</p>	<p>Prompt further HCV testing is reliant on staff responsible for any part of HCV testing and/or treatment helping the service user to prioritise attending the HCV nurse specialist or other qualified health care professional for venepuncture (if applicable). Data from NHS Tayside indicates that service users may experience emotional upset, and benefit from prompt, often guided referrals to the HCV nurse specialist or other qualified health care professional – this applies to co-located services, as well as ‘solo’ services. Experts at the stakeholder event confirmed the importance of helping the service user to prioritise further HCV testing.</p>
<p><b>1.20</b> <b>In order to maximise all opportunities to obtain required blood samples, train other qualified health care professional (such as community-based practitioners) to initiate the conversation about finding suitable veins and then to conduct venepuncture on the service user for the HCV PCR blood test.</b> This needs to be achieved by providing a comprehensive and hands-on training package to other qualified health care staff and new HCV nurse specialists, including peer-led learning on the sensitivities when drawing bloods from people who inject drugs. Consider specific online learning materials, fact sheets or visual illustrations regarding the ‘best’</p>	<p>The specific skill of successfully taking blood samples from a service user is important, but is part of a wider therapeutic harm reduction with the service user, where the main aim of practice and confidence is to make drawing bloods appear effortless. Data from NHS Tayside suggest that being skilled at venepuncture, and making it seem ‘easy’, alleviates any potentially negative emotions on blood drawing (e.g. shame, expected pain) in the service user. Experts in the stakeholder groups confirmed that while venepuncture training is essential, confidence and practice are vital for a seamless and effortless procedure, which should be imparted to other health care professionals to ensure an effective HCV testing network.</p>

	<b>Recommendation</b>	<b>Rationale</b>
	and alternative sites on the body to draw bloods from in people who inject drugs.	
1.21	<b>Promote the benefits of HCV testing and treatment to service users.</b> This could include the provision of posters, leaflets, short films, social media posts and visual materials providing personal testimonies of service users who completed the HCV treatment. Consider providing information on the number of service users successfully tested and treated locally or regionally to encourage uptake of HCV testing and treatment. The aim is to normalise HCV testing and treatment, as well as reiterate the benefits associated with testing and treatment.	To promote HCV testing and treatment, accessible dissemination of HCV information is essential to educate service users in all pathways, and normalise HCV testing and treatment among people who inject drugs. Evidence in NHS Tayside suggest that many service users were unclear about transmission risks and routes, and consequences of HCV if untreated. Experts in our stakeholder groups stressed the importance, value and ethics of providing written and verbal information about HCV, while the service user stakeholders highlighted the power and credibility of information received via peer workers.
1.22	<b>Provide training on core aspects and the sequence of core aspects in setting up the HCV treatment plan for (new) HCV nurse specialists or other qualified health care professional.</b> This can be achieved by co-producing successful treatment plan conversations via peer learning and ongoing CPD. As part of the treatment plan conversation, enhance HCV nurse specialists' skills of motivational interviewing to promote the treatment and its benefits. This is to facilitate the service user's engagement.	Consistent adherence to the HCV treatment plan is dependent on the inclusion of the service user's preference of where (e.g. pharmacy), and how they will collect their HCV medication (daily, weekly, supervised vs unsupervised). Evidence from NHS Tayside demonstrates that HCV nurse specialists ensure that the treatment plan is tailored to the service user's concurrent medications (where applicable) and in line with their pharmacy preferences, which was positively noted by service users. Experts in our stakeholder groups felt that this recommendation may be particularly relevant for other healthcare professionals such as doctors (GPs).
1.23	<b>Co-produce verbal agreements (e.g. behavioural contracts) with service users to assist adherence to HCV treatment, depending on the relationship between service provider and service user.</b> This should be achieved by providing a training package aimed at developing agreements and behavioural contracts between staff responsible for any part of HCV testing and/or treatment and service users. For example, scripts of 'good' behavioural contract conversations could be included, informed by experienced HCV nurse specialists or other key staff (e.g. pharmacists) who use behavioural contracts as part of concurrent OST treatment. The aim is to facilitate engagement, HCV treatment completion and therapeutic collaboration in a culturally sensitive and constructive manner.	Behavioural HCV contracts or verbal agreements between HCV service providers and service users facilitate action planning, collaborative problem solving and commitment to complete the HCV treatment. Our analysis from NHS Tayside supports verbal agreements or behavioural contracts as a powerful means to communicate the importance of treatment engagement and completion. Experts at the stakeholder events stressed the importance of assessing the suitability of behavioural contracts for each service user, and considering the relationship between service provider and service user, as some service users may perceive a behavioural contract as stigmatising.



Recommendation	Rationale
<p><b>1.24</b> <b>Train staff responsible for any part of HCV testing and/or treatment to motivate, support and review the service user during HCV treatment to facilitate treatment adherence.</b> Staff training can be achieved by co-producing ‘good’ review and support conversations with experienced staff or HCV nurse specialists, and may be particularly relevant for HCV services that do not routinely offer new interventions. These conversations should include aspects of brief interventions such as motivational interviewing, and verbal reinforcements for the service user’s continued adherence to the HCV treatment plan.</p>	<p>Structured positive reinforcement is a known facilitator to motivating service user’s adherence and engagement with HCV treatment (e.g. Patel, 2019). Evidence from NHS Tayside strongly suggests that staff responsible for any part of HCV testing and/or treatment learned the value and benefits of closely engaging with the service user to monitor potential side effects and overall health and wellbeing during the HCV treatment. Experts in our stakeholder groups supported a cross-service collaborative approach in ensuring and maintaining HCV engagement and the service user’s wellbeing.</p>
<p><b>1.25</b> <b>View SVR12 testing as an opportunity to promote harm reduction services and thereafter adopt a proactive approach to regular follow-up testing and continuous harm reduction support.</b> This needs to be achieved via training of all staff responsible for any aspect of HCV testing or treatment to be flexible and opportunistic in their approach to obtaining DBSTs (or alternative biosampling HCV test) post HCV treatment, and thereafter as part of ongoing harm reduction and recovery. This should include training and assessment of cultural and clinical competencies to maintain and utilise the therapeutic relationship with the aim of normalising harm reduction, HCV testing and treatment (e.g. as part of the verbal agreement, see recommendation 1.23).</p>	<p>The aim of upscaling HCV testing and treatment across different settings is to routinely embed HCV testing (and treatment) within staff’s understandings and approaches to harm reduction and recovery. Evidence from NHS Tayside suggests that staff were aware of the value and benefits of normalising repeat HCV testing for people who inject drugs. Experts in the stakeholder groups emphasised the need to consider HCV testing as a routine, ongoing part of harm reduction, rather than a separate and conclusive one-off intervention.</p>
<p><b>1.26</b> <b>Implement an HCV Testing and treatment administrative data system.</b> This could be achieved through a live HCV database to record service users with an antibody test, and to track those with chronic HCV infection (e.g. all HCV PCR positives). This database can further be used to facilitate routine audits of HCV testing and treatment as part of caseload management and care planning. In addition, consider nominating a ‘HCV facilitator’ or ‘HCV champion’ in each treatment setting as the main liaison contact between HCV nurse specialists and staff in each setting, as well as facilitating effective HCV case management and monitoring. This needs to be supported by agreeing on national/ regional/ local targets, which are endorsed by senior management and upheld by managers in local HCV services.</p>	<p>Routine audits are a reliable method to measure, monitor and plan HCV testing and treatment as part of the pathway services. Our evidence from NHS Tayside strongly suggests that a live HCV database assists in case management, and is a valuable and effective means to identifying gaps in HCV service provision and structure. Experts at the stakeholder event noted the benefits of audits and having a HCV facilitator or champion in relation to providing general information and advice, oversight, information sharing and collating service user numbers tested and successfully treated are worthwhile.</p>

	<b>Recommendation</b>	<b>Rationale</b>
<b>1.27</b>	<p>In addition to recommendations 1.25 and 1.26, <b>ensure a responsive system is in place to share information across HCV services and patient pathways, for example when a service user disengages from any HCV service.</b> Clearly define the processes and procedures involved in HCV care transition when a service user diverts from the HCV service, or chooses to disengage from the HCV nurse specialist or other qualified health professional. This can be facilitated through national data sharing agreements across NHS and non-NHS service providers who are involved in the patient pathway for the purpose of HCV testing and treatment. Maintain awareness of these protocols through supervision, appraisals and CPD.</p>	<p>To enable successful upscaling of HCV services, HCV collaborations must be established and formalised across different health care providers. Data from NHS Tayside suggest that while different services choose different levels of informal or formal agreements, the expectations of staff’s HCV responsibilities were consistent. Experts at the stakeholder events emphasised the need to clearly determine procedures and information sharing agreements if a service user disengages from one service provider but may choose to continue engagement with another service provider.</p>
<b>2.1</b>	<p><b>Implement an enhanced needle and syringe programme service as part of a community ‘hub’ model to providing and promoting HCV testing and treatment, and harm reduction.</b> This can be achieved by establishing a network of community services and multi-disciplinary agency workers (e.g. comprising NHS and third sector such as harm reduction and social services) to co-ordinate care, treatment and recovery, to involve peer workers as part of the service and to enable co-location of services to maximise reaching service users.</p>	<p>Community pathway hub models are well established networks of focused community organisations collaborating to provide care for vulnerable and hard to reach populations such as people who inject drugs (Zeigler, Carter, Redding et al, 2014). Evidence from NHS Tayside suggests that HCV testing and treatment among ENSP service users may be a gateway to recovery and reduction in HCV risk behaviours. Experts at stakeholder events emphasised the success of the community hub model in Tayside.</p>
<b>2.2</b>	<p><b>Establish and share a range of successful communication methods with the service user that facilitate follow up for HCV tests, results, and HCV treatment, especially to promote regular HCV testing post treatment to detect reinfections early for further HCV treatment.</b> Consideration should be given to the frequency of reminders and range of viable communication methods.</p>	<p>Reliable and dependable (tried and tested) communication methods to facilitate repeat HCV testing and follow-up for HCV testing and treatment are essential, especially in ENSP who have access to people who may be actively injecting. Evidence from NHS Tayside suggests that staff developed a range of communication methods to facilitate timely HCV treatment post testing. Experts in our stakeholder group emphasised that repeat contacting via diverse channels (letters, phone calls, healthcare colleagues such as pharmacists) were helpful in motivating service users to return for their test results.</p>
<b>2.3</b>	<p><b>Ensure flexibility in the delivery of the ENSP service model of HCV care</b> by upskilling staff responsible for any part of HCV testing and/or treatment to engage in an outreach service model under Covid-19 (or similar future) restrictions.</p>	<p>The attraction of offering HCV services within an ENSP is bound to the busy service user flow, who wish to collect needle and syringe equipment, or access co-located recovery services (if available). While we have no evidence from NHS Tayside as our data collection took place pre-Covid, initial impressions suggest that ENSP staff who are responsible for any part of HCV testing and/or</p>

Recommendation	Rationale
	treatment and HCV nurse specialists (or other qualified health care staff) should consider shared outreach to test people who inject drugs for HCV, e.g. by attending people's homes, homeless hostels, and drop-in centres. Experts in our stakeholder group strongly emphasised that service delivery must be flexible, proactive and adjusted to the needs and locations of the service users.
<b>3.1</b>	<b>Ensure processes such as contractual frameworks, quality standards and financial processes for the implementation of HCV testing and treatment are in place in pharmacies.</b> This needs to be achieved through the use of established procurement systems.
<b>3.2</b>	<b>Enhance training packages on interpersonal skills to include aspects of active listening, rapport building and cultural competence for staff responsible for any part of HCV testing and/or treatment.</b> Staff should be skilled to move between a commercially based relationship (customer and supplier) to one that effectively promotes culturally sensitive and wider holistic approaches to health and wellbeing including HCV care provision.
<b>3.3</b>	<b>Train and upskill a sufficient number of pharmacy staff to deliver both, HCV testing (DBST) and treatment.</b> This can be achieved via two models, dependent on local preference: either train up all staff to be able to conduct HCV testing (DBST) and HCV treatment, or at a minimum train a small group of key staff who are primarily responsible for conducting HCV testing and treatment (including HCV prescribing). Liaise with HCV nurse specialist or other qualified healthcare professional if specialist skills for venepuncture are required. Training should include regular appraisals of competencies and consistency in the delivery of HCV testing and treatment.
<b>3.4</b>	<b>Enhance staff training to include behaviour change competencies to facilitate the service user's HCV treatment completion for staff responsible for any part of HCV testing and/or treatment.</b> Training

	<b>Recommendation</b>	<b>Rationale</b>
	<p>packages should include issues such as using behavioural contracts with service users (e.g. requesting a verbal commitment to treatment completion) because most service users collect their HCV prescriptions from pharmacies, and are therefore in regular contact with pharmacy staff. For example, training scripts of effective conversations could be included, informed by prior experience of HCV nurse specialists or pharmacy staff. The aim is to facilitate engagement, HCV treatment completion and therapeutic collaboration in a culturally sensitive and constructive manner.</p>	<p>idea of behavioural contracts or verbal agreements as a powerful means to secure treatment engagement and completion. Some experts in our stakeholder groups felt that this recommendation was unsuitable in a busy pharmacy setting, while other stakeholders confirmed that good relationships between service users and pharmacy staff could be utilized and enhanced to support HCV treatment engagement.</p>
<b>3.5</b>	<p><b>To maximise the uptake of HCV testing and treatment, HCV nurse specialists should develop and share an accessible list of potential HCV service users who receive opiate substitution therapy.</b> This needs to be achieved by pharmacies collaborating closely with the HCV nurse specialist(s) to identify and track eligible OST service users.</p>	<p>Developing, updating and sharing a list of eligible OST service users enables pharmacy staff to focus on discreet, task-based HCV activities. Evidence from NHS Tayside suggest that pharmacy staff greatly value working from a list of eligible OST service users who they specifically target to promote HCV testing and treatment. Experts at the stakeholder events emphasised that all OST service users should be offered repeat HCV testing, and that monitoring mechanisms such as a live HCV database assist.</p>
<b>4.1</b>	<p><b>Implement a standardised opt-out HCV testing model in all community drug treatment services. Support drug treatment staff to prioritise the promotion of HCV testing and treatment to the service user.</b> This needs to be achieved by enabling drug treatment staff to provide person-centred care while helping the service user to (re-) prioritise HCV engagement among competing needs.</p>	<p>The prioritisation of HCV testing and treatment is essential, considering that drug treatment services address a wide range of service users' needs and issues. Evidence from NHS Tayside highlights that drug treatment services are user-led, and operate an opt-out HCV testing model, therefore focussed efforts to prioritise and re-prioritise HCV testing and treatment for the service user are required. Experts at our stakeholder event highlighted balancing the service user's needs versus timely HCV testing and treatment.</p>
<b>4.2</b>	<p><b>Co-ordinate drug treatment and the HCV care pathway to facilitate service user engagement, timely HCV testing and treatment and regular contact via shared outreach appointments and home visits.</b> This includes physically collecting service users for their HCV appointments, utilising digital technologies as part of HCV consultations, as well as providing HCV testing and treatment within the service user's home. This needs to be achieved by formally setting up a service agreement on utilising existing outreach structures in the drug treatment service.</p>	<p>Allowing HCV nurse specialists or other qualified healthcare professionals to 'piggy-back' onto existing outreach and home visit structures in drug treatment services is an efficient and effective way of engaging with, testing and treating hard to reach people who inject drugs, who may not be able to attend HCV clinics. Evidence from NHS Tayside suggests that this is a valuable means to providing HCV care in rural areas. Experts in our stakeholder group viewed this as a viable approach, and they agreed that a formal cross-service agreement was a necessity.</p>

	<b>Recommendation</b>	<b>Rationale</b>
5.1	<p><b>Implement a standardised opt-out HCV testing model in all prison services.</b> As a routine part of admission procedures and processes to prison, offer BBV testing (including HCV testing) to all individuals entering custody regardless of their legal status (i.e. remand, sentenced or those awaiting sentencing). Support prison staff at admission to promote and prioritise HCV testing as part of the admission procedure.</p>	<p>Opt-out HCV testing is a routine implemented service at Scottish prisons with good uptake, with governmental endorsement and guidance (Sexual Health and Blood-Borne Virus Framework, Scottish Government, 2015). Evidence from NHS Tayside suggests that the offer and uptake of opt-out HCV testing at prison admission is good, however HCV test completion may require follow-up post a person’s admission, i.e. in residential halls. Experts at our stakeholder events confirmed the importance of opt-out HCV testing at admission to prison, with further options of HCV testing and treatment for those who declined or did not attend HCV testing in prison.</p>
5.2	<p><b>Ensure effective and formalised protocols are in place for sharing clinical information among those staff responsible for any part of HCV testing and/or treatment inside prison, between prisons, between the prison and specialist HCV services.</b> This is to ensure HCV continuity of care for service users including those transferring between prisons and transitioning to the community.</p>	<p>Effective HCV testing and treatment is dependent on providing continuity of HCV care for the service user across different settings. Evidence from NHS Tayside indicates that an effective clinical information system must be in place in each prison for staff responsible for any part of HCV testing and/or treatment. The system needs to accommodate the transfer of service users between prisons and release from prison. Close liaison between NHS staff (in Tayside: HCV specialist nurse) and prison staff was essential in particular when service users were released or transferred to another prison. Experts in our stakeholder groups suggested the need and value for national data sharing agreements across NHS and non-NHS service providers.</p>
5.3	<p><b>Promote HCV testing and treatment via a dedicated prison-based healthcare facilitator.</b> This needs to be an individual with excellent interpersonal skills to establish relationships, and with privileged access to residential officers, (eligible) service users in prison and delegated healthcare and HCV staff. For example, this could be a health care worker or a residential officer. Consider recruiting more than one healthcare facilitator to cover potential staff absence. Provide essential training to the health facilitator(s) on HCV engagement, HCV testing and treatment.</p>	<p>Upscaling HCV treatment in prisons is likely to be enhanced by a dedicated healthcare facilitator whose role includes to promote and support HCV testing and treatment among service users and prison staff. Evidence from NHS Tayside suggests that the introduction of a HCV-specific facilitator, who has good relationships with prison staff, the HCV nurse specialists and the (eligible) service users, has a positive impact on the uptake of HCV testing and treatment. Experts in our stakeholder groups confirmed the beneficial impact of a dedicated prison-based healthcare facilitator (to avoid HCV stigmatization), and they highlighted the benefits of training up several facilitators to cover for potential sickness or leave.</p>
5.4	<p><b>Ensure all HCV testing methods are available including oral swabs, which could be utilised in private areas in the residential prison halls.</b> Oral swabs are less expensive, almost as accurate as DBST and more</p>	<p>Successful promotion and engagement with HCV testing and treatment among service users is dependent on a flexible, opportunity-driven and culturally sensitive service model. Our data from NHS Tayside evidences the success of</p>

Recommendation	Rationale
<p>convenient to conduct for both, service users and those staff that use oral swabs. While oral swabs can only be used to test for the presence of HCV antibodies, they are suitable with HCV low risk populations and when testing occurs outside clinic environments such as in residential prison halls. This needs to be achieved by restructuring HCV service provision to maximise contact at times when people residing in prison are available.</p>	<p>HCV testing via oral swabs by bringing the service to people in residential halls in prison, thereby removing the challenges associated with accessing a health care centre in the prison. Some expert stakeholders questioned the efficacy of oral swabs, while others confirmed the utility of oral swabs in reaching non-attendees at clinics and as a motivating factor to engage people residing in prison in further HCV testing and treatment.</p>
<p><b>5.5</b> In addition to recommendation 5.2, <b>provide training on how to preserve confidentiality when communicating with people residing in prison about HCV and thus avoiding possible stigmatisation.</b> Consider liaising with the service user via the HCV facilitator, peer workers, or residential officers (provided the service user gave consent).</p>	<p>Service users in prison may require additional support during their HCV testing and treatment due to fear of stigma. Evidence from NHS Tayside strongly suggests that service users are distressed and worried about possible stigmatisation from others (people residing in prison and staff) when they receive letters about HCV appointments or HCV test results in prison, e.g. due to lack of privacy when sharing a cell. Experts in our stakeholder groups suggested service users should be given options of how they would like to receive information about their HCV testing and treatment outcomes.</p>

## Appendix 2 Methods

Prior to data collection, we conducted informal interviews with experts (n=4) on the background and development of the HCV treatment care pathway in each setting (enhanced needle syringe programmes, pharmacies, drug treatment clinics and prison). We identified the key steps in each pathway, and mapped out who did what to whom, when, where and in what sequence. We sense-checked these pathway maps with experts to ensure that we had an accurate understanding of all actors, activities and the sequence of actions. These pathway maps were used to guide discussions in subsequent data collection.

We conducted qualitative interviews and focus groups with 40 HCV service providers including local peer workers, and we worked with peer researchers to interview 31 service users across the four treatment pathways. We identified the facilitators and barriers to each key step in the relevant treatment pathway. All facilitators and barriers were then coded using the behaviour change wheel, including the COM-B model, the Theoretical Domains Framework and Intervention Function to determine the associated and specific behaviour change techniques to underpin specific and evidence-based recommendations for HCV upscale of services. All behaviour change coding and initial recommendations were conducted by the junior researcher and double-checked by one or both of the senior qualitative researchers, who also sense-checked the sensitivity and placement of recommendations within the wider HCV delivery landscape.

We identified the top 8-12 recommendations for each pathway and presented these for discussion to key stakeholders in each pathway. Stakeholders included frontline staff, clinical leads, managers and commissioners as well as service users. All stakeholders were invited to apply the APEASE criteria to each recommendation and then decide whether to 'keep', 'kill', 'add' or 'amend' a recommendation. The APEASE criteria are a set of criteria to guide context-specific decisions on an intervention content or delivery, and refer to acceptability, practicability, effectiveness, affordability, safety and equity (Michie, Atkins & West, 2014). In this way, stakeholder events were utilised to co-produce highly relevant, useful and pathway-specific recommendations from the qualitative data and expert input. The outputs from stakeholder events were merged with the specific pathway recommendations to generate the final set of recommendations in the manual. Where stakeholders were unable to attend a scheduled event, we invited them to provide written feedback.

**Appendix 3** DBST guidelines as a template of SOP/ guidelines

**NHS Tayside  
Tayside Substance Misuse,  
Dry Blood Spot Testing  
Standard Operating Procedure**

Procedure Name: Dry Blood Spot Testing	Procedure No: Clinical 001
Date of Issue: 11 <sup>th</sup> May 2011	Page 40 of 2 Supersedes: <b>This is a New SOP</b>

**A. Background**

Dry Blood Spot testing is a method for screening for a Blood Borne Virus. In Constitution House and the Cairn Centre this will mainly be screening for Hepatitis C. From the data gathered to date, the prevalence is 30% – 35% within TSMS population – which means 1 in 3 clients is testing positive for Hepatitis C. The value of offering this test to clients cannot be overstated.

**B. Introduction**

This procedure states the method and process for undertaking BBV testing for Hepatitis C as well as systems for monitoring frequency of testing.

**(i) Tayside Substance Misuse Service (TSMS)**

TSMS comprises the following clinical services:

- Drug Service (Angus, Dundee and Perth & Kinross)
- Alcohol Service (Angus, Dundee and Perth & Kinross)
- Transition Service (Dundee)
- & Partnership Projects:
  - Drug Treatment & Testing Order Service (DTTO)
  - Choice Project (Dundee)
  - New Beginnings (Dundee)
- Tayside Arrest Referral Service

This SOP applies only to all of TSMS services:

**(ii) Roles and Responsibilities**

- All clinical staff seeing clients for treatment need to comply with this SOP.
- All clinical staff need to read and understand this SOP
- All Clinical Leads and Clinical Team Managers need to ensure that this SOP is incorporated as part of Induction for new members of staff, who join TSMS.



### **C. Competencies Required.**

All staff will have undergone pre and post-test discussion training in relation to BBV testing as well as local training in using the dry blood spot testing technique.

### **D. Patients Covered.**

All service users presenting to TSMS will be offered testing.

### **E. A reference copy of this SOP will be kept in a designated and easily accessible file.**

#### **Procedure:**

- (1) The Staff member will explain the procedure for the test
- (2) The Staff member will ask the client to sign the consent form. Completed consent form need to be given to Brian Stephens for database purposes – Do NOT send consent form to the Laboratory
- (3) The Staff member will be expected to follow the BBV MCN Guidelines, which has been written by the Senior Virology Consultant within Appendix 1, which include the following:
  - Step-by-step guide to carrying out the test
  - Information about interpreting results
  - Making queries to the laboratory
- (4) Once the procedure has been completed, the Staff member will place the card with the dried blood spots into the request form's bag. Seal the bag with the self-adhesive strip. The sealed bag should be placed in the designated area for collection to go to Medical Microbiology.
- (5) Details on how and where the test results will be given should be arranged prior to the patient leaving the appointment.
- (6) Enter details of offer of test, client's consent or decline to test, and procedure carried out & follow-up arrangements in contemporaneous notes or in MiDIS (post implementation)

**This SOP will be monitored via Monthly reports and activity analysis.**

**This SOP will be reviewed in 2 years time – May 2013.**

Drafted by: David Gallacher, Janet Hamill

Date: 11/05/2011

Approved by: Dina Ajeda (post consultation with Specialist BBV Nurse – Brian Stephens)

Date: 11<sup>th</sup> May 2011

#### **Appendix 4 Acknowledgements**

The development of these recommendations are due to the input, patience and effort from many individuals. We would like to thank all research participants – service users and service providers in NHS Tayside – for their time and sharing their experiences with us. We would like to thank the Hepatitis C specialist nursing team for their invaluable support, guidance and assistance in recruiting service users and providing feedback on versions of the recommendations. Likewise, we would like to extend our thanks to the peer researchers at the Scottish Drugs Forum, and the multiple stakeholders (service providers, service users and peer workers) who engaged with the recommendations and helped us to make them future-facing and context sensitive. In particular, we would like to acknowledge the contributions from Clodhna Lane, Billy Hamilton, Wendy Mitchell, Claire Kofman, Fiona Raeburn, Mina O'hara, Erica Peters, Lisa Allerton, Lindsey Stronach, Hilda Stiven, Petra Wright, Julie Craik, Peter Bramley, Lynn Cooper, Ewen Stewart, Lisa Turnbull, Pauline Dundas, Kim MacBeth, Leon Wylie, Gillian Baillie-Smith, Fiona Cowden and Danny Kelly.