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Hepatitis C: new models of care for drugs services

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Contents

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The project was coordinated by Dagmar Hedrich, Public Health Unit, EMCDDA.

Abbreviations

AERLI	Accompagnement et Education aux Risques Liés à l'Injection
ASPCAT	Public Health Agency of Catalonia
CEEISCAT	Centre for Epidemiological Studies on Sexually Transmitted Infections and HIV/AIDS of Catalonia
DAA	direct-acting antiviral
DBS	dried blood spot
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
HBV	hepatitis B virus
HCV	hepatitis C virus
HCV-Ab	hepatitis C virus antibody
HepCATT	Hepatitis C: Awareness Through to Treatment
HIV	human immunodeficiency virus
IGTP	Germans Trias i Pujol Research Institute
INSERM	Institut National de la Santé et de la Recherche Médicale
LJWG	London Joint Working Group
NGO	non-governmental organisation
NSP	needle and syringe programme
ODN	operational delivery network
OFT	oral fluid test
OST	opioid substitution treatment
PWID	people who inject drugs
PWUD	people who use drugs
SACC	Shared Addiction Care Copenhagen
SNMI	Service National des Maladies Infectieuses
SVR	sustained virological response
TB	tuberculosis
WHO	World Health Organization
ZNA	Ziekenhuis Netwerk Antwerpen

Abstract

Hepatitis C virus (HCV) infection has a high prevalence in people who inject drugs (PWID) in Europe, although HCV infection is both preventable and curable. Effective interventions that target the prevention of HCV transmission and the treatment of hepatitis C are needed, particularly for so-called 'hard to reach' and vulnerable populations. European clinical guidelines recommend that all patients with chronic liver disease as a result of HCV infection should be considered for therapy, regardless of disease stage. Furthermore, they recommend that treatment be provided to individuals at risk of transmitting the disease, including people currently injecting drugs. The beneficial impact of hepatitis C treatment on the infected individual, and its indirect impact on reducing onward transmission in the community, make 'testing and linkage to treatment' a core component of the hepatitis C elimination strategy. The importance of targeting PWID as a key population for the elimination of hepatitis C in Europe and of promoting PWID's access to testing and all other elements of the cascade of care is highlighted in European and national hepatitis C policies. The 11 case studies in this collection document how drug treatment and harm reduction service providers in eight countries are supporting PWID's access to testing and treatment, using innovative and creative implementation practices and developing new models of care for this important target group. This publication provides key insights into the results, impact, sustainability and transferability of each practice to guide the implementation of these new models of care in other countries and settings.

Keywords: PWID; HCV; hepatitis C; model of care

Introduction

Hepatitis C virus (HCV) infection is very common among people who inject drugs (PWID) in Europe, with the prevalence of antibodies ranging from 18 % to 80 % in this population. Transmission usually occurs through the sharing of injection equipment, such as needles, syringes and other equipment.[1] As infection is often asymptomatic for decades and becomes chronic in many cases, those with hepatitis C can be unaware of their status and so contribute to a hidden epidemic.

Chronic HCV infection can lead to serious liver disease: the risk of developing cirrhosis increases after 15 to 25 years of infection. As PWID in Europe are also an ageing population, it is expected that the burden of advanced liver disease will further increase in the near future, given the natural history of the disease.

HCV infection is both preventable and curable; therefore, interventions that both target prevention and treat the disease are increasingly needed. European clinical guidelines recommend that all patients with chronic liver disease as a result of HCV infection should be considered for therapy, regardless of disease stage.[2] They recommend, furthermore, that treatment be provided to individuals at risk of transmitting the disease, including people currently injecting drugs.

The European Union (EU) drugs strategy (2013-20) calls on Member States to invest in research to achieve a substantial reduction in viral hepatitis, and the current EU action plan on drugs (2017-20) includes an objective to improve PWID's coverage and access to relevant harm reduction and treatment services.[3,4] Based on goal 3.3 of the 2030 agenda for sustainable development, the World Health Organization (WHO)'s global health sector strategy on viral hepatitis sets the elimination of hepatitis C, as a public health threat, as a goal for 2030.[5]

Evidence shows that retention in opioid substitution treatment reduces the frequency of use of injections and can reduce HCV transmission if combined with interventions on safer injection practices.[6,7] Studies have shown that the combination of needle and syringe programmes with opioid substitution treatment reduces HCV transmission, and modelling studies show that treating HCV in PWID can slow down the epidemic and prevent further cases of infection.[8-10] The beneficial impact of treatment on the infected individual, as well as its indirect effects on reducing transmission in the community, make testing and linkage to treatment a core component of the hepatitis C elimination strategy.

While extensive evidence exists on the importance of HCV testing in the field of harm reduction, fewer examples of concrete models of care exist. A model of care

can be defined as the way in which health services are delivered. A model outlines how to ensure that specific individuals and populations can access the right care, provided by the right team, when and where they need it.[11]

This publication includes 11 case studies that document new models of care for implementing HCV testing, referral to care and hepatitis C treatment among PWID, integrated in or in close coordination with drugs services, in particular low-threshold harm reduction agencies. Each case study provides key insights into the results, impact, sustainability and transferability of the practice, which can guide the implementation of these new models of care in other countries and settings.

While contact persons from the projects provided feedback on the descriptions, the responsibility for any errors lies with the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA).

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Methodology

A template was designed to collect information and standardise the presentation of the case studies.

The case study template included the following core information elements:

- background (epidemiology, setting)
- goal of the intervention and model of care
- description of the intervention (objectives, actors, process)
- results and evidence of impact
- sustainability of the practice
- partnerships and community participation
- transferability

The full template can be found in Annex 1.

A pre-selection process of case studies involved screening the published literature, relevant conference proceedings and presentations given by members of the EMCDDA expert network on drug-related infectious diseases during their 2017 and 2018 network meetings. To be included in the selection of case studies, projects needed to be based in 1 of 30 EMCDDA member countries, highlight innovative approaches to HCV testing and have documented positive outcomes in supporting the access of PWID to HCV care. An important selection criterion was the availability of implementation results, which ideally were documented in one or more peer-reviewed publications. However, as another objective of this collection was to illustrate new and emerging practices, grey literature sources, such as project reports and process data provided by the projects, were included to document some of these innovative models of care. Quality flags in the case studies indicate if a project was developed with funding from the EU Health Programme or was awarded a ‘best practice’ label in collections by the European Centre for Disease Prevention and Control or the WHO. Furthermore, the sustainability of the model of care and its potential to be transferred to other settings and countries is described. A total of 11 case studies were selected for this publication.

Models of care

A 'Model of Care' broadly defines the way health services are delivered. It outlines best practice care and services for a person, population group or patient cohort as they progress through the stages of a condition … Models of care aim to ensure people get the right care, at the right time, by the right team and in the right place.
(ACI, 2013).

Inspired by the literature on models of care (see 'Further reading on models of care' below), we use the dimensions 'what', 'where', 'who' and 'how' in this collection of case studies in the following ways:

WHAT: The type of service delivered
The service is **HCV testing** and/or **HCV linkage to care** and/or **hepatitis C treatment**. In the case of testing, the type of test or diagnostic platform used may be further specified in the case study.

WHERE: The setting where the service is delivered
Types of settings documented in this collection are **outreach**, **low-threshold agencies**, **drug treatment centres** and **pharmacies**. Future collections may include prisons and other criminal justice settings.

WHO: The target population receiving the service
The general target group in this collection of case studies is **PWID**. However, if the model of care addresses only a **subgroup** (e.g. homeless PWID) or a **wider group** (e.g. 'all clients of a low-threshold agency' or 'marginalised communities in a specific geographical area'), this is specified in the case study.

HOW: The organisation and actors required for delivering the service
Beyond the drug-related service providers, this includes, for example, **peer support workers** or **nurses**. The service can be delivered under a **shared care** arrangement (e.g. with a tertiary care institution, such as the gastroenterology unit of a local hospital, from where the treatment is prescribed and supervised) or under integrated, **multidisciplinary teams** that include drugs, social and medical workers who deliver the full continuum of HCV care at one location.

Figure 1: Schematic presentation of the models of care dimensions used in this collection (and related tags)

<table>
<tr><td rowspan="3">(WHAT)
Service</td><td>HCV testing
(TEST)</td><td rowspan="3">(WHO)
Target group</td><td>Service targeting people who inject drugs (PWID)</td></tr>
<tr><td>Linkage to HCV care (LINK)</td><td>A defined subgroup of PWID
(PWID–)</td></tr>
<tr><td>Hepatitis C treatment
(TREAT)</td><td>A wider group of people, including PWID (PWID+)</td></tr>
<tr><td rowspan="4">(WHERE)
Setting</td><td>Drug treatment centre
(DTC)</td><td rowspan="4">(HOW)
Actors or approach</td><td>Peer support workers
(PEER)</td></tr>
<tr><td>Low-threshold agency (LTA)</td><td>Nurse-led
(NURSE)</td></tr>
<tr><td>Outreach
(OUT)</td><td>Shared care model (SHARED)</td></tr>
<tr><td>Pharmacy
(PHA)</td><td>Multidisciplinary team (MULTI)</td></tr>
</table>

Further reading on models of care

ACI (Agency for Clinical Innovation) (2013), *Understanding the process to develop a model of care. An ACI framework*. Agency for Clinical Innovation, Sydney.

Bajis, S., Dore, G. J., Hajarizadeh, B., Cunningham, E. B., Maher, L. and Grebely, J. (2017), 'Interventions to enhance testing, linkage to care and treatment uptake for hepatitis C virus infection among people who inject drugs: a systematic review', *International Journal of Drug Policy* 47, pp. 34-46.

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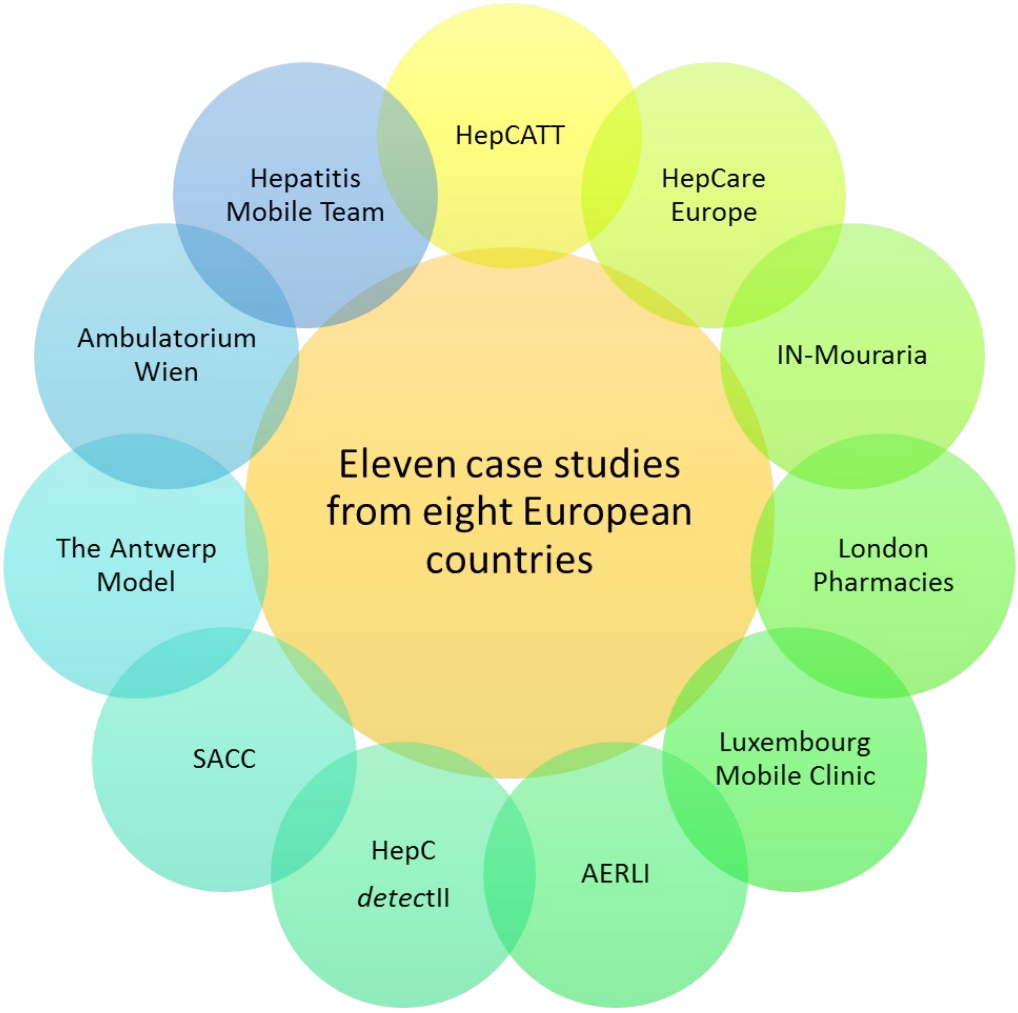
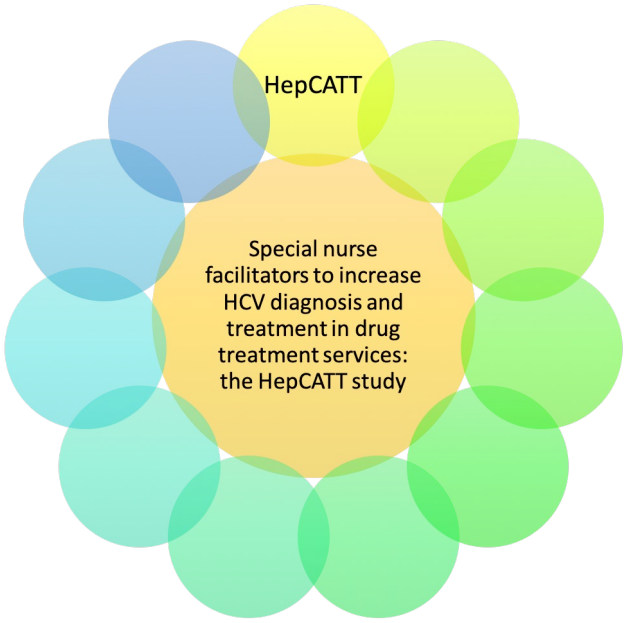
Case studies





Case study 1 — Special nurse facilitators to increase HCV diagnosis and treatment in drug treatment services: the HepCATT study

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	Linkage to HCV care (LINK)	✔		A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	✔
WHERE (Setting)	Drug treatment center (DTC)	✔	HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)			Nurse-led (NURSE)	✔
	Outreach (OUT)			Shared care model (SHARED)	
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 1

Location: England, UK
Keywords: HCV testing; HCV treatment; PWID; nurse facilitators; outpatient drug treatment centre; peer support; drug treatment setting
Quality level: Peer-reviewed publication

Short summary: The Hepatitis C: Awareness Through to Treatment (HepCATT) study was implemented within eight drug treatment centres in England and ran for 12 months (2015-16). It was designed to determine the effect of integrating a part-time

facilitator (a nurse) whose responsibility was to encourage PWID, who are traditionally regarded as a 'difficult to reach' patient group, to access HCV diagnosis, onward referral and engagement with local care pathways. The results showed a 3- to 20-fold increase in the number of PWID engaging with HCV treatment in the three intervention sites compared with the five control sites. The results of this prospective pilot study support the conclusion that the introduction of nurse facilitators in drug treatment settings can help to increase HCV testing and patient referrals and can lead to significant increases in engagement and HCV treatment among PWID within routine clinical care pathways.

Background

In the UK, as in other high-income countries, more than 90 % of incident HCV cases are among PWID. Modelling studies indicate that scaling up HCV treatment among PWID reduces transmission opportunity and thereby enables hepatitis C elimination. HCV case finding in drug treatment services is projected to be cost-effective, particularly when associated with increased treatment uptake.[1] However, HCV testing and treatment barriers for PWID have been extensively reported. Some, such as concerns about the side-effects of interferon, have been removed by increased access to and awareness of interferon-free direct-acting antiviral therapies. Other barriers are more difficult to overcome. These include injecting and HCV-related stigma, mistrust between PWID and healthcare providers, material deprivation and competing priorities, rigid tertiary care requirements, and difficulties accessing and navigating care provided in hospital settings.[1]

HCV testing and treatment interventions in drug treatment services are not necessarily straightforward, particularly when associated with rigid and/or punitive opioid substitution treatment (OST) provision. Meaningful peer involvement can facilitate engagement, as can HCV training for drug service providers, community nurse placements, contingency management and dried blood spot (DBS) testing. Qualitative studies suggest that cultural and management changes in drug treatment services are also needed to support HCV case finding. These include changing performance targets, changing workloads and prioritisation, reconfiguring client assessment forms and databases, and enhancing community partnerships and involvement.[1]

Together, the evidence indicates that increasing HCV testing and treatment uptake among PWID requires a range of interventions. In the UK context, effective collaboration between the affected community and their organisations, local drug treatment services, commissioners (responsible for planning and commissioning

healthcare services in each locality), drug strategy teams and specialist hepatitis services are vital for intervention success. The Hepatitis C: Awareness Through to Treatment (HepCATT) study, an evaluation of interventions designed to increase diagnosis and treatment among patients with HCV infection in drug treatment settings, involved the above-mentioned stakeholders to implement and evaluate a complex intervention.[1]

Goal of the intervention — model of care

The aim of the HepCATT study was to explore the effectiveness and cost-effectiveness of a multifaceted complex intervention, namely the introduction of nurse facilitators in drug treatment centres in England, on increasing HCV diagnosis, referral, assessment, engagement and treatment of PWID via routine clinical pathways.[2]

Description of the intervention

The intervention, which ran for 12 months in 2015-16, included the placement of a nurse facilitator in three drug treatment services to facilitate and coordinate a range of activities aimed at increasing diagnosis of HCV infection within clients at those services and enhancing patient referral. In two of the three intervention sites, the facilitator was a specialist hepatitis nurse, and in the third site the facilitator was a health and well-being nurse. Five drug treatment centres not chosen as intervention sites acted as control sites.[3]

The means to achieve an increase in diagnosis of HCV infection and the engagement of those diagnosed with HCV with an appropriate care pathway were not specified in advance. This was because the baseline characteristics, in terms of the capacity to diagnose and treat HCV infection, were expected to vary between the three intervention drug treatment services. However, suggested facilitator activities included:

- training of key workers with direct contact with PWID in relation to the natural history of and treatment options for HCV infection, and how to engage clients in pre- and post-test discussion;
- directly interacting with clients attending the service to encourage testing, referral, attendance at appointments and engagement with therapy;
- streamlining and simplification of referral pathways, including immediate arrangement of clinic appointments, considering client preferences for timing and integration of HCV appointments with clients' commitments to OST;

- establishing local peer champion and buddy support systems to assist in the education of clients and improve attendance at clinic appointments;
- introducing DBS testing;
- actively managing client referrals with a systematic approach to reminding clients of dates/times using client-specified means of communication, and to retrieving and rebooking clients who fail to attend.[3]

A national HCV charity (Hepatitis C Trust: http://www.hepctrust.org.uk/) facilitated the peer and buddy system, defining distinct roles for each. Peers, who were required to have experience of living with HCV, were primarily responsible for providing education and training. Buddies, who were not required to have experience of living with HCV, took a supportive role by accompanying clients to hospital appointments, for example.[1]

The primary intervention outcome was defined as engagement with an HCV treatment service. Engagement comprised testing (HCV RNA, genotype, viral load), liver disease assessment and attendance at a consultation appointment. The outcome of engagement, rather than treatment uptake, reflects the uncertain UK treatment landscape at the time of the study, where direct-acting antiviral treatments were not available to all, with eligibility dependent on disease severity (people with cirrhosis given priority) and genotype. Quantitative baseline data for 2014 were collected retrospectively from the intervention and control sites.

The primary outcome measure was the number of PWID engaging with therapy, with engagement defined as the client having completed all clinical and laboratory assessments and undertaken a face-to-face discussion regarding options for therapy. The secondary outcomes were the number of people tested, referred for assessment and starting anti-HCV therapy.[3]

Results and evidence of impact

The results of this prospective pilot study, with three intervention and five control sites at specialist drug treatment clinics, showed a 3- to 20-fold increase in the number of PWID engaging with HCV treatment at the intervention sites, compared with control sites. Across the three intervention sites at baseline (2014), only 16 clients were engaged with an HCV treatment service. This increased to 147 during the intervention year. Equivalent data for the five control sites showed no evidence of an increase from baseline in rates of referral, attendance, engagement or treatment. The HepCATT intervention was purposefully multifaceted and baseline characteristics of the three intervention sites differed considerably. Thus, it is not possible to state which of the many facilitator activities had the most impact. The

results of this prospective pilot study support the conclusion that the introduction of nurse facilitators within drug treatment settings can help to increase testing and patient referrals and can lead to significant increases in engagement and treatment among PWID within routine clinical care pathways.[1,3]

A qualitative study of the success of the intervention was conducted pre and post intervention with 48 clients and 48 drug service and intervention providers at two of the three intervention sites. To aid project manageability, two drug treatment services (one rural and one urban) were chosen, with no qualitative data collected at the third site, where a change in drug service management necessitated a later intervention start date.[1] The aim of the study was to contextualise the pre-intervention setting, explore patient and provider intervention perceptions and needs, and unpack existing barriers to and facilitators of HCV testing and treatment engagement. Intervention topic guides, employed 6-8 months after baseline, explored the perceived impact and efficacy of intervention components, with a focus on peer support acceptability and fit.

Barriers to baseline testing and treatment that were encountered by clients included limited HCV knowledge, a fear of diagnosis and treatment, precarious living circumstances and service-specific obstacles. Treatment engagement was aided by intervention timeliness, improved communication structures, personalised care, streamlined testing and treatment pathways, and peer support. Multiple interrelated components influenced the increased levels of treatment engagement documented in the HepCATT intervention. The nurse facilitator, involved in implementation and innovation, was key to intervention success. Control data indicate that biomedical innovation alone is not sufficient to increase engagement among the most marginalised. Sustainable resourcing of community services is crucial to effect change.[1]

Sustainability of the practice

At one of the intervention sites, the impact of the facilitator was deemed to be of such importance that the local NHS Trust has funded the facilitator to continue working half-time within the local drug treatment service. Preliminary results of the health economic analysis of HepCATT suggest that the intervention is highly cost-effective and potentially cost-saving, as the costs of HCV treatment fall.

Partnerships and community participation

The three intervention drug treatment services of the HepCATT study were selected in discussion with the national HCV charity, Hepatitis C Trust, and with Public Health

England. Among other selection criteria, the intervention sites needed to have support available from the local drug treatment centre management team, the hepatology lead/local NHS Trust, the public health and clinical commissioning group, and the diagnostic virology laboratory.[3]

Members of the Hepatitis C Trust were co-applicants on the grant application, members of the trial steering committee and participated in all aspects of the HepCATT study. The Trust also facilitated the peer and buddy system by leading the establishment and training of peer support groups at the intervention clinics.[1,3]

Transferability

The baseline barriers identified in the qualitative study of the intervention correspond with international literature, indicating potential transferability for the HepCATT intervention and model of care.[1,3]

The three intervention sites had quite distinct characteristics; most notably, one was in a large inner city, one was in a rural area and one in a smaller inner-city environment. Performance, measured against all endpoints, improved at all three intervention sites, suggesting that the intervention will be generalisable across all drug treatment services in England.

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For more information

https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/hepcatt-dtc-v2/

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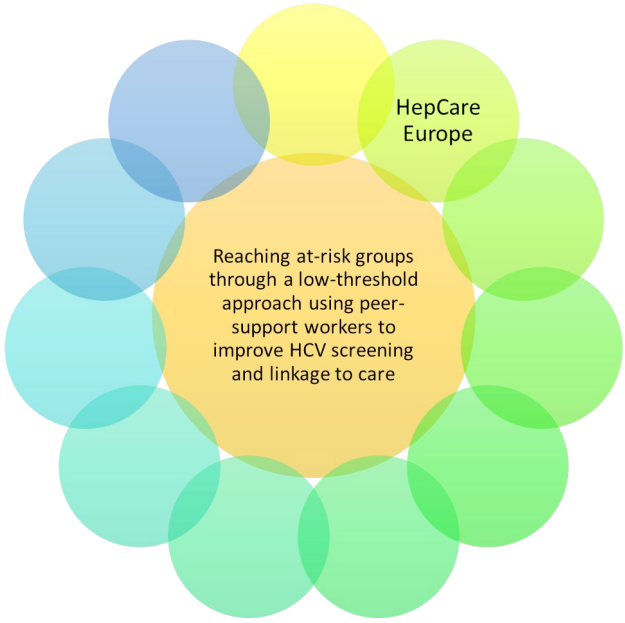

Case study 2 — HepCare Europe: London — reaching at-risk groups through a low-threshold approach using peer support workers to improve HCV screening and linkage to care

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	linkage to HCV care (LINK)	✔		A defined subgroup of PWID (PWID-)	
	hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	✔
WHERE (Setting)	drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	✔
	low-threshold agency (LTA)	✔		Nurse-led (NURSE)	✔
	outreach (OUT)	✔		Shared care model (SHARED)	
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 2

Location: London, UK

Keywords: HCV testing; point-of-care diagnostics; HCV treatment; low-threshold agency; mobile unit; street outreach; community based; PWID; homeless; nurse outreach; GPs; peer support

Quality level: Peer-reviewed publication; EU Health Programme

Short summary: HepCare Europe is a project co-funded by the Third Health Programme of the EU, implemented between 2016 and 2019, carried out in four European cities (Dublin, Ireland; London, UK; Seville, Spain; and Bucharest, Romania) and based at University College Dublin (Coordinators: Prof Lambert and Prof Cullen). As part of this larger EU-funded project, HepCare London focuses on providing an 'integrated care' model for HCV treatment based on the joint participation of primary and speciality care practitioners to facilitate more efficient use of limited specialist resources. The project aims to (a) identify those not accessing care by using rapid HCV testing, (b) provide peer support (using community-based organisations) to assist those identified with HCV to access care and (c) develop nurse liaison links so that secondary caregivers go to the patient, rather than patients going to secondary caregivers. This is achieved by utilising a mobile health unit with a community-based outreach model targeting underserved populations such as homeless people and PWID. Early results of the project show a high burden of disease in the population and that peer advocacy can improve the engagement of patients with chronic HCV with healthcare services across the cascade of care and that the intervention is cost-effective.

Background

HepCare Europe is a 3-year, EU co-funded project involving collaboration among centres of expertise in four EU Member States implemented between 2016 and 2019. The vision for the project is to create an innovative, integrated system for HCV screening and treatment among key 'at-risk' groups, including PWID and homeless people, through outreach to the community and integration of primary and secondary care services. The ambition is to develop outreach and integrated models of HCV care in the participating sites that are tailored to the health service infrastructure of the sites and to population needs, and to improve PWID engagement and retention along the cascade of HCV care. Interventions include point-of-care diagnostics, nurse outreach, community-based evaluation of HCV disease, patient and healthcare professional education, and peer support.

In the UK, it is estimated that approximately 214 000 people are living with chronic HCV, with injecting drug use being a risk factor in 90 % of HCV cases. A Public Health England report on HCV in London found that over 60 000 people have been infected with HCV and are positive for the HCV antibody, of whom 69 % are HCV ribonucleic acid (RNA)-positive. A way to reach PWID at risk of HCV is through opioid substitution treatment (OST) services. Options for pharmacologically assisted treatment of opioid dependence include methadone, buprenorphine and, rarely,

diamorphine. OST is delivered through specialist outpatient drug treatment services and shared care arrangements with general practitioners. Needle and syringe programmes are provided mainly through pharmacies and drug treatment services, but also via street-outreach workers and mobile units.[1]

Goal of the intervention — model of care

The goal of HepCare Europe is to create an innovative, integrated model of care for HCV screening and treatment among key 'at-risk' groups, including PWID and homeless people, through outreach to the community and integration of primary and secondary care services.[2] The project aims to identify those not accessing care, using rapid HCV testing in outreach settings. It provides peer support through community-based organisations to assist those identified as infected with HCV to access further care. Finally, the project develops nurse liaison links so that secondary caregivers go to the patient, rather than patients going to secondary caregivers.[3]

Description of intervention

The HepCare London project is divided into five work packages:

- *HepCheck* focuses on enhancing the screening of vulnerable populations for HCV.
- *HepLink* aims to improve the linkages between primary and secondary care with an integrated model of care.
- *HepEd* aims to develop a multidisciplinary interprofessional education in HCV.
- *HepFriend* consists of peer interventions provided through assertive community outreach and integration of primary and secondary care services to increase awareness, testing and linkage to care.
- *HepCost* evaluates the cost-effectiveness of the various HepCare interventions in different countries/settings and uses the results to help guide decision criteria for when specific case-finding and care strategies should be used.[1,4]

HepCare London uses an outreach service approach to reach its target population. A key component in this approach is a mobile health unit (the Find & Treat Service of the University College London Hospitals (UCLH) NHS Trust) that reaches more than 350 different venues across London annually, including homeless residential hostels, day centres and drug services.[4] Through this mobile unit, healthcare services are offered to homeless populations, including PWID. In addition to HCV testing and treatment, the mobile health unit offers vaccination services (seasonal influenza, pneumococcal disease and hepatitis B virus), X-ray for active tuberculosis (TB), peer-

led accompanied referral for abnormal chest X-rays with specialist nurse support, social work support for patients with TB and video-observed therapy for patients with TB.[5,6] In addition to the mobile health unit, general practitioners prescribing OST also participate in the HepCare project.[2]

The primary recipient and target group of the HepCare intervention is PWID who are at risk of or already infected with HCV. HepCare also targets people at risk of disease transmission and linked groups, such as people who are homeless, sex workers and others.[1]

The main focus of the intervention is on using highly trained peer support workers, who are central components of clinical teams. HCV point-of-care testing and training in transient elastography (FibroScan, Echosens, Paris, France) is given to senior peer support workers who also support individuals throughout the cascade of care. This gives individuals a continuity of care, from testing to adherence support, as well as harm minimisation advice and post-treatment liver disease monitoring.

Results and evidence of impact

The HepCare project in London has screened over 600 hard-to-reach individuals for HCV, identifying nearly 200 people as infected. In addition, the project has successfully supported nearly half of those people into treatment using peer support. The project continues to build on links with homeless service providers across London and has ongoing contact with over 30 different providers.[4]

The effect of the HepFriend peer advocacy intervention component of the HepCare London project was assessed in a randomised controlled trial.[7] Individuals testing positive for HCV were randomised to receive either intervention or standard care. Individuals allocated to the intervention were assigned a peer advocate to help them navigate the chronic HCV healthcare pathway. The primary outcome of interest was successful engagement with clinical services, defined as three engagements within 6 months of the first appointment booked. Overall, 364 individuals consented to participate in the study. Of these, 136 had a positive point-of-care test for HCV and 101 individuals had chronic hepatitis C. Of those with chronic hepatitis C, 63 individuals were randomised to receive the intervention. For patients participating in the peer intervention, there was an 18 % increase in the likelihood of a successful outcome compared with patients receiving standard care. The results of the trial show that peer advocacy can improve the engagement of patients with chronic HCV with healthcare services.[8]

Initial data generated on the cascade of care show high rates of infection in the population (43 % were HCV RNA positive) and of liver disease (22 % had cirrhosis). Linkage to care was shown to be high, with more than half (53 %) approved for treatment. Of these, 86 % had started treatment, with 85 % receiving a favourable outcome, such as treatment completion and sustained virological response. Factors associated with not being approved for treatment were recent homelessness, younger age and recent injecting of crack cocaine.

A cost-effectiveness evaluation undertaken by the University of Bristol has shown that the intervention is cost-effective at full list price for direct-acting antivirals and is cost-saving at half list price.[9]

A qualitative evaluation is under way, which is initially looking at the peer support worker journey from peer to professional. Service user and provider interviews are being conducted across the EU sites to further the understanding of the intervention and to improve its implementability and generalisability across other partner sites in the EU.

Sustainability of the practice

Based on the data generated by the work, the team will now start treating their patients in collaboration with one of the largest referral hospitals in the UK, thus removing one barrier to accessing care. This will make it the only multidisciplinary team that is testing and treating homeless individuals for HCV in the UK. In addition, a new diagnostic platform can be used, which makes diagnosis and treatment initiation possible on the same day, removing another barrier within the pathway to diagnosis and treatment.

Partnerships and community participation

HepCare London is based on strong community involvement and collaboration with homeless residential hostels, day centres, drug services, etc. It involves a range of different stakeholders including general practitioners, practice nurses, counsellors, social workers and outreach workers, including a peer support service.

The team has a long-standing collaboration with Groundswell ([a]), a registered charity that exists to enable those experiencing homelessness to take more control of their lives, have a greater influence on services and play a full role in the community. The model of care applied in the HepCare intervention borrows elements from the

([a]) http://groundswell.org.uk/what-we-do/health/homeless-health-peer-advocacy/

successful Homeless Health Peer Advocacy Service of Groundswell, which supports those experiencing homelessness in addressing physical and mental health issues, using peers with lived experience of homelessness.

The team also works alongside the Hepatitis C Trust, a patient-led and patient-run advocacy organisation, which now also provides outreach screening in parts of London and south-east England.

Transferability

HepCare Europe is the first multicountry European feasibility study examining interventions targeting all points in the HCV cascade of care, from case finding to treatment, in diverse populations of PWID in a range of settings and countries.[1] The general results from the study will be useful in assessing the transferability of the model of care to other European sites.

The HepFriend model of utilising peer support has been adopted across the consortium, with peers initially having been used in HCV awareness and testing. It is expected that the lessons learnt and the data generated from the London site will enable the other teams to develop a cadre of highly trained peer support workers, who will then be central to the activities of outreach teams. This will provide another effective, and proven, tool in reaching the goal of HCV elimination.

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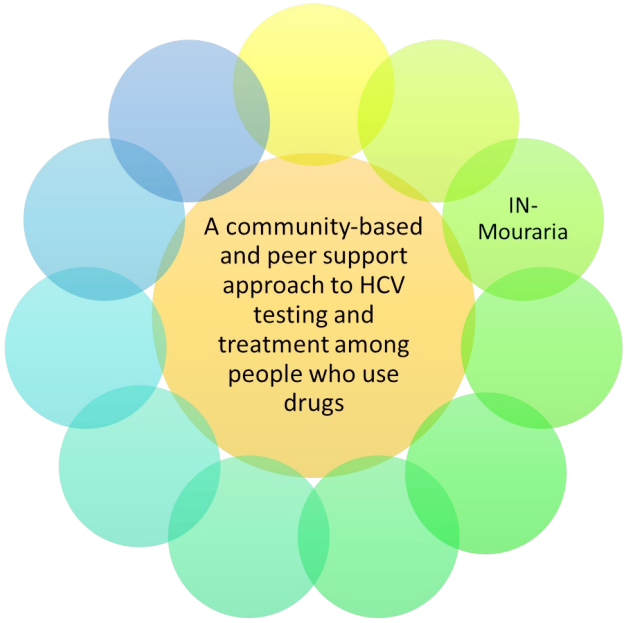

Case study 3 — IN-Mouraria: a community-based and peer support approach to HCV testing and treatment among people who use drugs

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	Linkage to HCV care (LINK)	✔		A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	✔
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	✔
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	
	Outreach (OUT)			Shared care model (SHARED)	
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 3

Location: Lisbon, Portugal

Keywords: HCV testing; point-of-care diagnostics; HCV treatment; drop-in centre; low-threshold agency; peer intervention; community-based; migrant populations; PWUD; social support; peer support; harm reduction centre

Quality level: World Health Organization case study

Short summary: IN-Mouraria, a community-based drugs service run by the non-governmental association Grupo de Ativistas em Tratamentos (Treatment Activist

Group), is based in an urban quarter of Lisbon, Portugal. It provides an integrated response, offering social and health responses to people who use drugs (PWUD) to reduce the risks and harms associated with drug use. Its particular focus is on preventing infection, identifying people with human immunodeficiency virus (HIV) and/or HCV infections and linking them to treatment, and promoting their access to health and fundamental rights. In addition to providing services, IN-Mouraria's mission is to advocate and produce knowledge, and the service is strongly committed to defending the rights of and ensuring meaningful participation among PWUD, particularly those living with or vulnerable to HIV and HCV infections. Strategies used to reach PWUD and migrant populations using drugs include peer-based outreach and referral to IN-Mouraria from other drug users and migrant associations. Services are provided to clients without an appointment, free of charge, without the need for personal identification and are combined with an extensive peer support programme.

Background

IN-Mouraria is part of the non-governmental organisation (NGO) Grupo de Ativistas em Tratamentos (Treatment Activist Group; GAT), a community-based organisation and member of the international NGO umbrella Coalition Plus, which advocates for the participation, rights and access to the best prevention, early diagnosis, treatment and care services for people living with human immunodeficiency virus (HIV), viral hepatitis and tuberculosis. The focus of the centre's work is on the communities most affected by these infections. IN-Mouraria also forms part of a broader network of organisations established and led by the local government to promote the rehabilitation of the local neighbourhood.[1]

There are no recent estimates of HCV prevalence in Portugal, but it is thought that approximately 50 000 people live with an active HCV infection. The prevalence of anti-HCV antibody (HCV-Ab) among PWID is estimated to be between 53 % and 82 %; however, many PWID are as yet undiagnosed or, as with HIV, have been tested but are lost to follow-up.

In 2015, prior to the introduction of universal HCV treatment with direct-acting antivirals in Portugal, the national health system had around 14 000 registered patients who were being monitored for hepatitis C, which represents just a small proportion of the estimated number of people in need of treatment.

As in most other European countries, where HIV (and HCV) infections are geographically concentrated in urban areas, more than 60 % of the total HIV cases in

the country are found in the Lisbon metropolitan area. The information systems for HCV are of a lower quality than those for HIV, but, with PWID largely concentrated in the Lisbon area, a similar epidemiological distribution is expected for HCV as for HIV. Rapid testing data from community centres in Portugal show that, among those who report injecting drug use and who have not previously been diagnosed, HCV-Ab prevalence is 60 % (the Community Based Screening Network and the European Centre for Disease Prevention and Control, ad-hoc scientific panel consultation*;* unpublished data).

Goal of the intervention — model of care

The overall goal of IN-Mouraria is to provide harm reduction interventions and screening services, primarily for PWID and migrant populations — although the centre is open to all persons — through a low-threshold and peer-led model. Target groups include, in particular, PWID not reached by other existing services and other at-risk populations, including migrant populations, homeless people and sex workers. Services are provided to clients without an appointment, free of charge, and without the need for personal identification.[1]

Description of the intervention

The IN-Mouraria project offers a range of services and interventions to its users that promote:

- safer drug use by reducing risks and harms;
- access to health and social services for people who use drugs (PWUD) and/or alcohol, including access to testing and treatment of infectious diseases;
- greater participation of PWUD in the sharing of knowledge, discussions and decisions regarding programmes and policies that affect their lives;
- the rights of people who use or have used drugs, tackling stigma and discrimination;
- research to improve evidence- and rights-based practices.[2]

HIV, HCV, hepatitis B virus (HBV) and syphilis rapid testing is performed by health professionals and by trained lay and peer workers. Healthcare services are also offered in the form of nursing and medical appointments, medication support and referral to the national health service, including specialty consultations. In addition, peer counsellors in the centre provide information and active referrals; for example, trained peers accompany clients to their first medical appointment at an infectious disease clinic.[2]

An important component of the work of IN-Mouraria is the drop-in approach, which invites clients to visit the service without an appointment. The centre offers a safe and welcoming space with peer support and access to basic services (food supplements, clothes and hygiene products), distributes injection and smoking materials for safer consumption and provides access *in situ* to a nurse service daily and medical appoints twice a week. The centre also offers social support, information and referral in areas related to health, treatment, documentation, social benefits, legal issues, employment/training, housing and other services. Strategies to reach PWID and migrant populations include peer-based outreach and referral to IN-Mouraria services from affiliated drug user and migrant associations.[2]

The majority of the centre's clients are men, with an average age of 43 years. Most clients have unstable living conditions, for example living on the street, in shelters or in occupied houses. More than two thirds of the centre's clients (69 %) report being current or former users of drugs. The main substances consumed are cocaine, heroin, cannabis and alcohol. In addition, 41 % of current users reported injecting.[3]

The centre's offer of peer-led interventions is based on peer workers who use or have used drugs and who have been trained to perform harm reduction interventions. Peers are trained to perform rapid tests and to provide information and support to PWUD. An important part of their work is creating links between PWUD and social and health services by taking care of practical arrangements, such as booking appointments, escorting clients to the hospital and being present during conversations with doctors or staff from other support services. Through their knowledge and experience they are able to create a strong and close connection with PWUD and serve as positive role models, which can empower PWUD to take informed decisions about their drug use or treatments.[2] IN-Mouraria's close partnership with stakeholders and individuals across the local community is considered a key component in its achievement of good results.[1]

Results and evidence of impact

Testing data were analysed in the context of the Community Screening Network project (also run by GAT) by the number of people tested, key population, reactive results, linkage to care and other variables (see data in Table 1).

Table 1: HCV testing data (August 2015-August 2018)

Variable	People tested (n = 1 428)		Reactive results (n = 136)		Accepted referral (n = 85)	
	n	%	n	%	n	%
Gender: men	940	65.8	114	12.1	71	62.3
Age: over 40 years	522	36.6	85	16.3	54	63.5
PWUD*	611	42.8	124	20.3	79	63.7
PWID**	167	11.7	108	64.7	68	63.0
Migrants	739	51.8	41	5.5	26	63.4
Sex workers	107	7.5	18	16.8	15	83.3
Men who have sex with men	140	9.8	3	2.1	0	0.0
Prison history	201	14.1	57	28.4	36	63.2
Informal piercing or tattoo	207	14.5	36	17.4	24	66.7

*PWUD: ever used drugs.

**PWID: ever injected drugs.

The categories are not mutually exclusive.

In 2018, 450 registered clients used the centre regularly, with an average of 61 client visits per day. A total of 727 people were tested, 318 peer accompaniments to services were carried out and 288 referrals to further health services were given. Overall, clients received 3 761 health interventions and attended 1 504 appointments with social workers.[4]

Beyond the provision of health services, appointments and referrals, the work of the centre has various other impacts — of a qualitative nature — which are related to its various other activities. These include debates on drug policy, community research, national and international visits (journalists, researchers, politicians, decision-makers), awareness-raising activities or events and participation of its peer workers in research and scientific events.

Sustainability of the practice

IN-Mouraria is part of an NGO and has received strong political and community support. However, funding challenges remain. While the project has, in the past, received partial funding from the municipality and the local government (Junta de Freguesia) and, currently, the testing offer is funded by the regional health administration, the project was never funded by the national HIV programme or by the national drug response coordination *(Serviço de Intervenção nos*

Comportamentos Aditivos e nas Dependências) and relies on private funding to maintain its activities.

Partnerships and community participation

As part of GAT, IN-Mouraria is linked to a broad network of organisations, which was established and is led by the local government to promote the rehabilitation of the neighbourhood. IN-Mouraria's links and close partnership with stakeholders and individuals across the local community are considered a key component in its successful operation. The project depends on strong community participation and the active involvement of former or current PWUD who are willing to engage in peer support.

Transferability

The integrated service model is easily transferable to other European urban contexts, with the appropriate funding. Setting up multidisciplinary teams with a strong peer component should be possible in the majority of Member States. The interventions/services provided in this project are simple enough to be implemented by a relatively small team, given that staff with the appropriate qualifications and technical expertise (at least one nurse and one social worker for the technical interventions, as well as peer workers) are available.

The mixed model, including peer workers and staff with more traditional qualifications, allows the project to be quickly integrated in areas where drug use is a reality, with peers playing a crucial role in reducing the time for PWUD to become familiar with the service and to decide to take part.

Partnerships with local law enforcement and local government, as well as dialogue with residents and local businesses, can ensure that potential barriers are quickly overcome, and that implementation is supported by the general population, as well as by local authorities. A good network for referrals to health and support services is also essential for the success of the intervention. In addition, partnerships with social support structures and with complementary responses such as training, employment and housing can be decisive for successful results. A good connection with health services, ensuring short referral pathways and flexibility in scheduling appointments (and rescheduling when necessary), allows good results to be achieved quickly, which is beneficial to the health of clients.

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For more information

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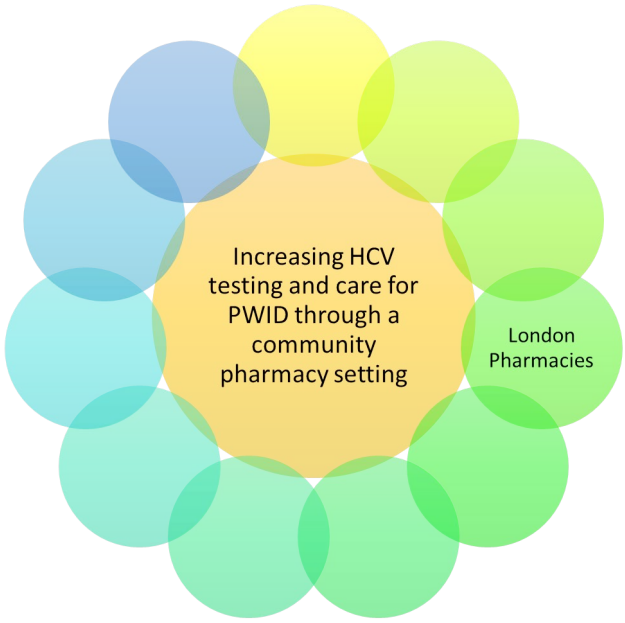

Case study 4 — Increasing HCV testing and care for PWID through a community pharmacy setting

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	Linkage to HCV care (LINK)			A defined subgroup of PWID (PWID-)	✔
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)			Peer support workers (PEER)	
	Low-threshold agency (LTA)			Nurse-led (NURSE)	
	Outreach (OUT)			Shared care model (SHARED)	✔
	Pharmacy (PHA)	✔		Multidisciplinary team (MULTI)	

Case study 4

Location: London, UK
Keywords: HCV testing; HVC treatment; PWID; pharmacies; needle and syringe programme; opioid substitution therapy; peer support
Quality level: Peer-reviewed publication

Short summary: A Public Health England report on HCV in London identified that over 60 000 people have been infected with HCV and are HCV antibody positive and that 69 % are HCV RNA positive. PWID are by far the most at-risk group, and national data show that PWID account for 90 % of all new HCV diagnoses. For those not

currently engaging in community drug treatment services but actively injecting drugs, HCV testing and referrals to treatment are non-existent, and engagement with healthcare services by these socially isolated patients is sporadic. A pilot intervention including seven community pharmacies in London in 2017-18 piloted HCV testing to people who currently inject drugs and are accessing the pharmacies' needle and syringe programmes (NSPs). The goal of the intervention was to offer HCV testing and referrals to treatment to socially isolated patients who are not currently engaging in community drug treatment services but are actively injecting drugs. Results from the intervention show that NSPs in community pharmacies provide an opportunistic point of contact for HCV testing, education and referral into treatment.

Background

A Public Health England report on HCV in London identified that over 60 000 people have been infected with HCV and are HCV antibody positive and that 69 % are HCV RNA positive. PWID are by far the most at-risk group and national data show that PWID account for 90 % of all new HCV diagnoses. PWID are a heterogeneous population that includes those engaged fully in community drug services, those actively injecting but intermittently engaged into community drug services and those actively injecting but not engaging in any community drug services. Comprehensive testing and referral routes for HCV already exist within community drug treatment services in England. However, for those not currently engaging in community drug treatment services but actively injecting drugs, HCV testing and referrals to treatment are non-existent. Furthermore, engagement with healthcare services by these socially isolated patients is sporadic. Needle and syringe programmes (NSPs) in community pharmacies, however, are a regular point of contact and provide the potential for opportunistic HCV testing and education on safer injecting methods and on the current all-oral antiviral treatments, as well as referrals into treatment.[1]

A pilot intervention to provide point-of-care HCV testing to PWID accessing NSPs at community pharmacies in London was initiated by the London Joint Working Group (LJWG), which was established in 2009 as a collaboration of individuals and organisations spanning the healthcare network to drive improvement in the prevention, diagnosis and treatment of HCV in vulnerable, socially isolated PWID.[2]

Goal of the intervention — model of care

The goal of this pharmacy-based model of HCV testing for PWID is to provide point-of-care HCV testing for PWID accessing NSPs at community pharmacies in London. More specifically, the pilot intervention aims to:

- develop effective point-of-care patient-centred HCV testing and support pathways into treatment for patients actively injecting drugs;
- determine the prevalence of HCV within this population (for which data are sparse);
- provide information and education to this population regarding HCV, antiviral therapy and safe injecting practices.[1]

Description of the intervention

The project was carried out in seven community pharmacies in London, north and south of the River Thames, from October 2017 to March 2018. The participating pharmacies were identified by local pharmacy committees; to participate, pharmacies had to:

- have a designated area/consulting room for pre- and post-counselling discussions and test procedures;
- be committed to attending evening training sessions and evening post-project meetings;
- be committed to completing the Royal College of General Practitioners online module;
- have experience of communicating health education messages to a variety of customer types and engaging them;
- have a needle exchange provision;
- have appropriate systems in place to capture data, share data with the LJWG clinical lead and public health lead, and follow up on positive results;
- be committed to referring those with positive test results directly into treatment services via clear referral pathways;
- in the case of the area of Haringey, be accredited Healthy Living Pharmacies.[1]

The target group of the intervention, people who currently inject drugs and who collect needles and syringes as part of an NSP, were provided with information on HCV, current HCV treatment and safer injecting practices and offered point-of-care HCV antibody testing using the OraQuick (OraSure Technologies, Inc., Bethlehem, Pennsylvania) HCV oral fluid test (OFT). All of those who accepted a test were provided with pre-test counselling and literature on HCV. Additionally, all of those who were tested were provided with a GBP 5 contingency voucher for a high-street supermarket upon receipt of their result. This was done in an attempt to encourage

return to the pharmacy for the test results. On receiving test results, those who tested positive were provided with literature on HCV treatment and referred to a local service for further HCV RNA testing and treatment, if required. Those who tested negative were advised to be tested again in 3-6 months and to continue regular testing while engaged in high-risk activities such as intravenous drug use. For those requiring onward referral, the option of a peer supporter was offered to assist them in accessing secondary services.[1] During phase 1 of the intervention, various peer support agencies were engaged, with the offer of a peer supporter part of the testing process. However, the peer offer was rarely accepted, as the process for contacting peers needed improvement. Therefore, in phase 2, an enhanced peer programme was implemented.

Referral pathways into secondary care for further assessment and treatment were established, together with an education programme and assessment for participating pharmacies. Referral pro formas and patient questionnaires were created to ensure that all pharmacies were equipped with an adequate knowledge of HCV to approach and counsel patients for opportunistic HCV testing; they also ensured patient confidentiality and that pharmacies were aware of points of contact in and the newly established referral pathways into secondary care.[1]

Once community NSP pharmacies were identified and agreed to take part in the pilot, all pharmacy staff engaging in the pilot were required to undertake online training on HCV and treatment provided by the Royal College of General Practitioners and to attend a face-to-face training session. This training session ensured that all of the staff involved had sufficient knowledge of HCV, the need for testing, how to approach clients, how to discuss safer injecting practices, how to deliver pre- and post-test discussions dependent on HCV testing outcome, how to complete the diagnostic test and the referral routes into treatment in secondary care for positive tests, as well as the recommendation of retesting in 6 months for negative tests.[1]

Results and evidence of impact

A total of 216 tests were completed from 18 October 2017 to 20 March 2018. Of these, 38 tests were excluded from the analysis for the following reasons:

- 10 were from the wrong cohort and did not use the pharmacy for needle exchange;
- 28 tests undertaken at one pharmacy were excluded owing to concerns about data validity.

Of the 178 tests available for analysis, 95 (53 %) were positive for HCV antibodies: 85 individuals were referred on for further testing and treatment, while nine declined a referral and one did not return to collect their results. Of those engaging with further assessment in secondary care, 78 % had chronic HCV and were HCV RNA positive (18 service users).[1]

Of those tested, 70 % reported having a previous test and 120 of these service users knew the result of that test. Of those who had had a previous test and could remember the result, half (60 service users) had previously tested positive; 16 service users who had previously tested negative had a positive OFT and six service users who had previously tested positive (three of whom reported having previous HCV treatment) had a negative OFT. Of those who had previously not been tested or could not remember being tested previously, 25 tested positive. Therefore, this pilot advised 41 people that they were HCV antibody positive for the first time.[1]

All service users were asked to rate their experience of receiving the test within the pharmacy and also if they were aware that current HCV treatment does not require interferon injections. Of those who responded, 94 % (160 service users) rated the service as 9 or 10 out of 10 and the lowest score received was a 6. Only 70 out of 161 (43 %) respondents were aware that current treatment does not require interferon injections. Furthermore, 84 % of those tested expressed that they would prefer to receive HCV antiviral therapy in their NSP community pharmacy.[1]

The pilot intervention has demonstrated that providing opportunistic HCV tests within NSP community pharmacies can be an effective tool in identifying PWID with HCV with high risks of transmission and in referring these clients for further testing and treatment in secondary care. The intervention also shows that there is potential for pharmacies that have been successful in recruiting and testing patients who have HCV to start offering treatment in the pharmacy itself. This option, to enable service users to access treatment closer to home from a pharmacist with whom have built a relationship (sometimes over many years), warrants further exploration as it would provide a more patient-centred approach for this vulnerable population.[1]

There were, however, a number of operational challenges encountered in setting up and running the pilot. No referral pathways into secondary care from NSP pharmacies existed, and these needed to be established. Significant stakeholder commitment from a number of organisations was necessary for this, and this was challenging to achieve within the timeframe for pilot completion. To be successfully implemented, the pilot needed to be supported by commissioners, public health departments, operational delivery networks, secondary care and pharmacists. Gaining acceptance for the pilot among all of these stakeholders, as well as agreeing

aims, establishing operational pathways and ensuring appropriate evaluation, caused delays at the beginning of the pilot and resulted in fewer than the original target of 400 tests being completed. An additional learning point is that pharmacy training is essential before HCV testing goes live in order to maintain momentum and confidence in conducting the test.[1]

Sustainability of the practice

The findings from the pilot intervention will be used to inform operational delivery networks (ODNs) and commissioners in London and nationally, providing a template for effective HCV case finding and onward referral and treatment.[3]

The LJWG worked in partnership, both before and during the project, with commissioners in south and north London to understand the needs for future sustainability of HCV testing in pharmacies. Since that time, West London Bi-borough has engaged with the LJWG to understand how to implement a similar service and is exploring the commissioning of two pharmacies to test for HCV in their blood-borne virus strategy. The clinical commissioning group and local authority of Lambeth engaged with the LJWG to produce a sustainability plan, which is still under review. The ODNs of Birmingham, Manchester and Leicester implemented the LJWG standard operating procedure in 2018. Onward referral pathways after testing were developed and agreed with the ODNs of West London, South Thames Hepatitis Network and Central North London, which are being further developed in phase 2.

The Minister for Primary Care and Public Health, Steve Brine MP, visited the LJWG flagship pharmacy in April 2018. As a follow-up to this visit, in a parliamentary debate on HCV, he gave his support to HCV pharmacy testing, citing the LJWG project.

Partnerships and community participation

The intervention is one activity undertaken by the LJWG, which was established in 2009 as a collaboration of individuals and organisations spanning the healthcare network to drive improvement in the prevention, diagnosis and treatment of HCV in vulnerable, socially isolated patients engaging in injecting drug use.[1]

The project involved partnering with the ODNs in different London boroughs to identify novel pathways for both identification of the viral burden and development of strategies to best target resources. It also aimed to identify, in each pilot, pathways for and barriers to testing in the needle exchange and to accessing assessments and treatment through the ODNs.[3] In addition to the London ODN, the

project involved several partners, including local pharmaceutical committees, community pharmacies, Public Health England, commissioners, Invitec (OraQuick swabs), the Hepatitis C Trust, the Aurora Project, Groundswell, Sonar and PharmaOutcomes.[2]

Transferability

The ODNs of Manchester and Birmingham are currently initiating testing in pharmacies for HCV, utilising the standard operational procedure for pharmacy testing established by the LJWG pilot to determine the transferability of this model to other cities, but as regards the provision of in-pharmacy point-of-care HCV RNA testing. The LJWG will be writing up the report on the work across the three major cities (London, Birmingham and Manchester) mid-2019.

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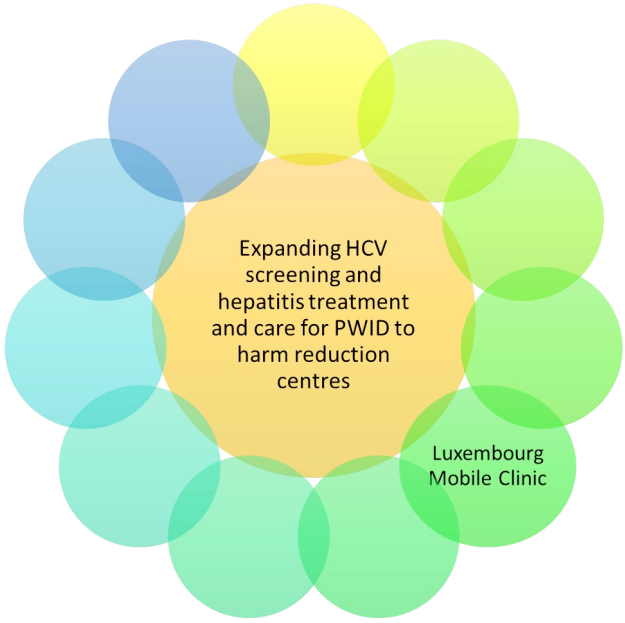

Case study 5 — Expanding HCV screening and hepatitis treatment and care for PWID to harm reduction centres

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	✔
	Linkage to HCV care (LINK)			A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)	✔		A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	
	Outreach (OUT)			Shared care model (SHARED)	✔
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 5

Location: Luxembourg

Keywords: HCV testing; point-of-care diagnostics; HCV treatment; community based; outpatient drug treatment; OST; PWID; harm reduction sites; low-threshold agency; nurses

Quality level: Peer-reviewed publication

Short summary: The aim of this project was to expand screening and treatment for HCV among PWID in Luxembourg. An intervention research project was

implemented at three harm reduction sites and at the national supervised drug consumption facility in the city of Luxembourg, offering HCV, human immunodeficiency virus (HIV), hepatitis B virus (HBV) and syphilis serologies and viral load, liver biomarkers, and a transient elastography (non-invasive assessment of liver stiffness) for people currently injecting drugs. To accelerate access to treatment and limit HCV transmission among this key risk group, the provision of direct-acting antiviral treatment and virological follow-up for PWID with HCV infection was subsequently initiated at the harm reduction centres and the national drug consumption facility. The study demonstrated the feasibility of offering comprehensive HCV care at these low-threshold agencies for PWID, including proactive screening for a wider range of infectious diseases among this population.

Background

In 2015, there were an estimated 2 300 high-risk drug users (5.79 per 1 000 inhabitants aged 15-64 years) in Luxembourg, among whom were 1 500 PWID.[1] PWID account for the majority of newly notified cases of HCV infection in Luxembourg.[2] Nevertheless, little is known about the infection risk profiles and practices of active PWID. Moreover, to date, no systematic approach to testing for infectious diseases among persons accessing drug treatment services and no formal system for active linkage to care have been implemented in Luxembourg.[3] To respond to this, a programme of interventions was established in three different low-threshold harm reduction sites and in the national supervised drug consumption facility, offering screening and medical care to PWID infected with HCV and to improve current prevention initiatives.[4-7]

Goal of the intervention — model of care

The goal of the study was to analyse whether or not offering comprehensive HCV care at harm reduction centres and treatment services, provided by staff of the National Infectious Diseases Service (Service National des Maladies Infectieuses; SNMI) via a mobile clinic, is feasible and accepted by the users of these services.

Description of the intervention

From October 2015 to December 2018, a cross-sectional study was conducted at three harm reduction sites offering opioid substitution treatment (OST) and at the national supervised drug consumption facility in the city of Luxembourg. The study examined whether or not an additional offer of comprehensive HCV services can lead to increased uptake of HCV testing, successful linkage to care and improved

treatment outcomes. HCV services were provided by dedicated nurses and one infectious diseases specialist who visited these four sites using a mobile outreach unit. The medical doctor visited the four sites once every 2 weeks to include patients newly infected with HCV in treatment or to follow up with those already in treatment. Participants were included in the study if they were currently visiting one of the four harm reduction sites, had a history of injecting drug use — regardless of whether the person was currently using drugs or was a former drug user — and were 18 years of age or older. All study participants provided written informed consent. In the framework of the study, diagnostic tests (a blood draw) were offered, including HCV (both antibodies and active infection by HCV RNA measurement), human immunodeficiency virus (HIV), hepatitis B virus (HBV) and syphilis serologies, liver biomarkers and a liver stiffness examination (non-invasive assessment of fibrosis of the liver). Interviews were conducted using a standardised questionnaire, including demographic and social characteristics, drug use patterns, and risk and harm reduction behaviours.[4]

All of the participants in treatment received virological follow-up, consisting of HCV viral load testing, as recommended by the European Association for the Study of the Liver (including liver markers and stiffness), to determine if there was a sustained virological response (SVR). Those who initially refused or were not eligible for treatment were nevertheless offered additional viral load testing, markers of the liver and the liver stiffness examination.

In Luxembourg, many PWID come from France, Germany or Belgium to visit the national drug consumption facility or to use the OST services. Consequently, these PWID from other countries also benefit from the interventions that are offered at these sites. The intervention can thus be considered as part of a trans-border approach, which allows PWID from other countries to obtain HCV treatment. Those who have health insurance can start directly, and PWID without health insurance are required to complete a 3-month social survey before they are authorised by the Luxembourg Ministry of Health to receive direct-acting antiviral (DAA) treatment.

Results and evidence of impact

Between October 2015 and December 2018, a total of 368 PWID participated in the cross-sectional study conducted at three harm reduction centres and at the national supervised drug consumption facility. Among the participants, 267 (71.2 %) were male, 180 (49.2 %) were born in Luxembourg, 105 (28.6 %) originated from Western Europe and 99 (26.8 %) did not have any social security rights. About two-thirds (n = 238; 65 %) of the participants were HCV positive and, of these, 38 (15.9 %) discovered their seropositivity through participation in the study. In total, 153

participants had an active HCV infection (viral load detectable) and 101 had a fibrosis state above F2.

It is estimated that between 30 % and 50 % of those who were invited to participate in the study refused — with variations between recruitment sites. In addition to those invited at the four harm reduction centres, other participants joined the study after hearing about the testing and FibroScan option from their peers.

During the first 26 months of the study (October 2015 to December 2017), 22 active drug users attended a consultation at the national centre for infectious diseases (SNMI) as a result of the project, and benefited from hepatitis C treatment with DAAs: 18 of these achieved an SVR.

From January 2018 onwards, DAAs were directly provided at the harm reduction centres to improve treatment uptake. Over the subsequent 18 months, a further 48 drug users received DAA treatment in the context of the study and a total of 55 drug users were medically followed for their HCV infection.

The study demonstrated the feasibility and acceptability of HCV testing for PWID implemented at harm reduction centres (OST programmes and supervised drug consumption) — including the proactive screening of this population. Based on the results of the study, the provision of DAA treatment and the virological follow-up of PWID are now being implemented at the harm reduction enrolment sites to accelerate access to treatment, reduce loss to follow-up and limit HCV transmission among this key risk group in Luxembourg.[2]

Sustainability of the practice

The intervention was expanded in 2018 to various institutions, including an organisation taking care of homeless people and the medical offices of five general practitioners providing methadone substitution. Moreover, the intervention will also be implemented at a second drug consumption facility, which is expected to open in September 2019.

During 2019, the study will train nurses working in drug treatment services in the use of the transient elastography (liver stiffness) machine and in conducting rapid tests. New regulations, in place since 2019, allow rapid diagnostic tests to be performed by any personnel trained in an organisation that has the approval of the Ministry of Health. If the rapid test is positive, a blood draw will be performed for confirmation of viral load and liver markers and an examination of liver stiffness by the nurses of the drug treatment services or the HIV Berodung (a non-governmental organisation

part of Red Cross Luxembourg, which also runs the DIMPS, the mobile testing unit). If the results are positive, treatment will be offered.

To collect epidemiological data, a research nurse will be present to complete the questionnaire with those drug users who agree to participate. The aim is that, by 2020, all national drug treatment services will provide testing, linkage to care and treatment with DAA. The piloting of the EMCDDA HCV testing initiative was very beneficial regarding the national context. Under the guidance of the EMCDDA, a roundtable was implemented in January 2019 attended by 21 experts from different treatment institutes in order to reach consensus regarding the main barriers to testing and to linkage to care. The roundtable resulted in a list of facilitators who will be considered in the framework of the new national drug plan 2020-25. Moreover, the roundtable discussions resulted in a report outlining the facilitators and making recommendations regarding the improvement of HCV testing and access to treatment. The report will be disseminated among policymakers and at the provider level.

A few actions have already been initiated. First and foremost, additional personnel have been recruited in the framework of the national HIV[8] and hepatitis[9] plans: two nurses, one psychologist and one educator will work in the drug treatment services to implement testing for infectious diseases and formalise the linkage to care. Moreover, one machine to conduct transient elastography is now available at the national drug consumption facility on a permanent basis. In addition, funding has been obtained to support, in 2019, a respondent-driven approach to screening active drug users who do not attend the treatment service facilities more proactively and to propose treatment to those infected. Treatment is equally regarded as prevention, as it contributes to decreasing ongoing transmission within targeted social drug-using networks. Finally, the project team is working with the city of Luxembourg to open, in 2020, a novel ‘Housing First’ low-threshold structure for drug users in need of treatment (HIV, hepatitis, OST, psychiatric illness) and to monitor treatment among those living on the street, with the help of nurses and social workers.

Partnerships and community participation

The success of the project is based on the establishment of new partnerships between harm reduction and medical treatment services in Luxembourg.

Transferability

The project was conceived as a scientific study and its results are documented in peer-reviewed publications,[4] which facilitates the dissemination and replication of this model of care in other sites.

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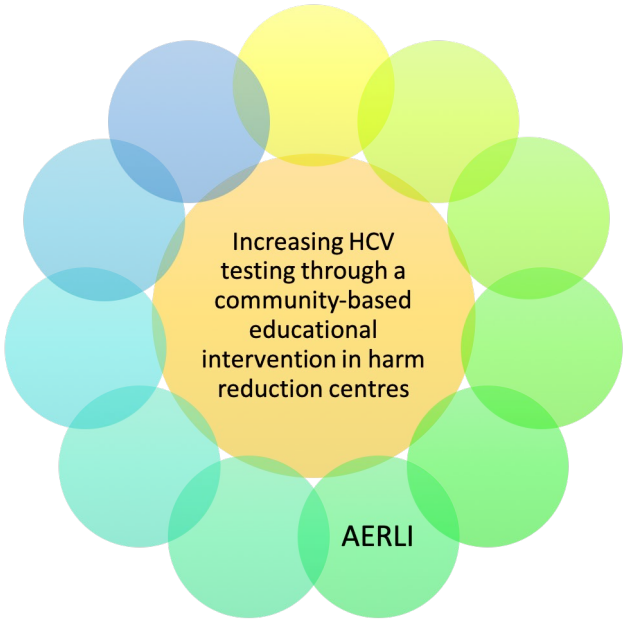

Case study 6 — Increasing HCV testing through a community-based educational intervention in harm reduction centres

WHAT (Service)	HCV testing (**TEST**)	✔	WHO (Target Group)	Service targeting people who inject drugs (**PWID**)	✔
	Linkage to HCV care (**LINK**)			A defined subgroup of PWID (**PWID-**)	
	Hepatitis C treatment (**TREAT**)			A wider group of people, including PWID (**PWID+**)	
WHERE (Setting)	Drug treatment center (**DTC**)		HOW (Actors / Approach)	Peer support workers (**PEER**)	✔
	Low-threshold agency (**LTA**)	✔		Nurse-led (**NURSE**)	
	Outreach (**OUT**)			Shared care model (**SHARED**)	
	Pharmacy (**PHA**)			Multidisciplinary team (**MULTI**)	

Case study 6

Country: France

Keywords: HCV testing; community based; drug substitution treatment; PWID; harm reduction sites; educational intervention; low-threshold agency

Quality level: Peer-reviewed publication; EU Health Programme

Short summary: From 2011 to 2013, a national, clustered, multisite intervention study to assess the impact of the injection-centred face-to-face educational session was conducted in 17 low-threshold harm reduction centres in France. The peer-led, community-based educational intervention (Accompagnement et Education aux

Risques Liés à l'Injection; AERLI) was conceived to provide training and education on safer drug-injecting practices to PWID. This included human immunodeficiency virus (HIV) and HCV transmission risk reduction, information on other injection-related complications and how to access HIV and HCV testing and care. The evaluation results showed that the intervention was effective in reducing HCV risk behaviours and risky injection practices, as well as associated cutaneous complications. It was also linked to increased HCV testing in PWID. In a population in which HCV prevalence is extremely high and access to care is often complicated, the results suggest that educational interventions can be effective additional means to increase the uptake of HCV testing among difficult-to-reach PWID.

Background

The prevalence of anti-HCV antibody (HCV-Ab) in PWID in most European studies is above 40 % and can reach over 80 % in some subpopulations. In France, the problem is particularly acute, with estimated national HCV-Ab prevalence rates in PWID of around 65 %, leading to a high burden in terms of morbidity and mortality. PWID are also considered the primary source of HCV transmission in France.[1]

The intervention was developed as the result of a collaboration between the French National Institute of Health and Medical Research (Institut National de la Santé et de la Recherche Médicale; INSERM) and two community-based non-governmental associations, AIDES and Médecins du Monde (MdM), with the aim to identify and evaluate innovative harm reduction and HCV-preventative interventions in response to the specific HCV-related public health need. The intervention, named AERLI according to its French acronym (Accompagnement et Education aux Risques Liés à l'Injection ([b])), is community based and focused on reducing injection-related harms. It consists of providing individualised health education and safer use advice, based on the direct supervision of drug consumption. Conducted by peers and health staff, it has two nested phases: the use of a standardised checklist when supervising injection, and a tailored educational intervention to reduce harm, which included information about HCV prevention, testing and care.[2]

Goal of the intervention — model of care

The goal of the community-based AERLI intervention was to limit unsafe injecting practices and their consequences in PWID[3] and to increase safer use behaviour, as well as promote HCV testing among this group through educational support.[4]

([b]) It is also called ITSESI (Individually Tailored Support and Education for Safer Injection).

Description of the intervention

The AERLI intervention consisted in the direct observation of drug-injecting practices in combination with training and education about human immunodeficiency virus (HIV) and HCV transmission risk reduction, information about other injection-related complications and access to HIV and HCV testing and care at low-threshold agencies. It was organised as a series of participant-centred face-to-face educational sessions, taking place in a dedicated room in each intervention group unit. Non-governmental organisation (NGO) staff and volunteers followed a comprehensive checklist, which covered elements regarding the observation of injection practices and the provision of advice on how to improve them in a three-step process:

1. direct observation by trained NGO staff/volunteers of participants' self-injecting the psychoactive substance they habitually used;
2. analysis of each component of the act of injection by the trained NGO staff/volunteers using the checklist to identify unsafe practices;
3. educational exchange about participant injection practices and questions they might have about a specific element.

Results and evidence of impact

The multisite intervention study enrolled 271 PWID seeking support for their injection practices, namely 144 people recruited in eight harm reduction centres implementing the intervention and 127 people recruited in nine harm reduction centres not providing the intervention. The latter received usual harm reduction counselling in accordance with current guidelines. All participants were interviewed on three occasions: at enrolment and 6 and 12 months later. Participants in the intervention group received at least one face-to-face educational session during the first 6 months. Each participant received a small monetary incentive for each questionnaire completed through computer-assisted telephone interviews. All PWID who agreed to participate in the study provided written informed consent. The assignment of harm reduction centres to the intervention and control groups was not randomly performed, as it was not feasible to implement the intervention in all centres, because not all centres had a dedicated space and trained staff/volunteers. Therefore, to avoid any possible bias related to non-random assignment, a two-step Heckman model was used in the different analyses.[3,4]

Of the 144 participants enrolled in the intervention group, 113 received at least one educational session. Of these participants, at enrolment, 44 % reported having being tested for HCV during the previous 6 months and 85 % reported this at 6 months or 12 months. In the control group, these percentages were 51 % at enrolment and

78 % at 12 months. Multivariable analyses showed that participants who received at least one educational session during follow-up were more likely to report HCV testing, compared with those who did not receive any intervention. Thus, the study found that the educational intervention AERLI has shown efficiency not only in reducing HCV at-risk practices and associated cutaneous complications[3] but also in increasing HCV testing in PWID.[4]

Sustainability of the practice

The positive results of the intervention led individualised risk advice, based on direct supervision of drug consumption - AERLI - to be included as a novel prevention intervention in French public health legislation in 2016 ([c]). The AERLI intervention was also mentioned in the national report on viral hepatitis[5] as an efficient intervention to reduce HCV risk practices and to increase access to HCV testing.[1] A training manual is available in France for any organisation that would like to provide the AERLI intervention[6,7] and an Australian training programme on HCV prevention is planning to include AERLI as a training session provided to PWID. In this context, the intervention is being scaled up and replicated in several contexts, including needle and syringe programmes, supervised drug consumption facilities and outreach programmes.

Partnerships and community participation

The AERLI intervention was created and developed in a collaboration between INSERM and the community-based associations MdM and AIDES.[3] The legal context initially made the implementation of the AERLI intervention difficult, which required it to be evaluated, before the subsequent amendment of the law in 2016.

A community-based research approach was necessary to meet the objectives of the evaluation study and required a close partnership between researchers, users and field workers from the initial stages (i.e. in the definition of the intervention and its evaluation) to the dissemination of the results.[2,8] As well as having been planned and conducted in line with the community-based research model, the AERLI intervention

([c]) Law Nº 2016-41 of January 26th, 2016 On the modernization of our health system (available at https://www.legifrance.gouv.fr/eli/loi/2016/1/26/AFSX1418355L/jo/texte). In particular article L. 3411-8 section 4° of the French Public Health Law (Code de la santé publique) which was created through Law Nº 2016-41 specifies that advice on risks and harm reduction measures should be promoted. In this context, the direct supervision of drug use in order to warn users against risky practices, to accompany them and to provide them with safer use advice to prevent or reduce the risk of infection transmission and other negative health consequences, without any active participation in the consumption act, are explicitly included and allowed measures.

is 'community based' itself in the sense that it is conducted not only by healthcare staff but also by peers and other non-medical staff.[2]

Transferability

The educational AERLI intervention has been shown to be efficient not only in reducing unsafe HCV transmission practices and associated cutaneous complications, but also in increasing access to HCV testing in PWID. The latter finding is an important argument for increasing the availability of similar educational programmes in community settings. In addition, further interventions may be adapted to different marginalised populations, especially crack cocaine users.[4]

Currently, AERLI is being evaluated in a project using outreach methods, namely the Outsider project funded by the French Agency for Research on AIDS and Viral Hepatitis. The effectiveness of AERLI will also be evaluated in different European countries (Bulgaria, Greece, Portugal and Romania) through the Eurosider project (A Safer Injecting Drugs Education Research to reduce HIV/HCV risk transmission in people who inject drugs), funded by the European Commission ([d]). Like needle and syringe programmes and opioid maintenance treatment programmes, AERLI will be used as a new way of promoting access to hepatitis testing and treatment.[8]

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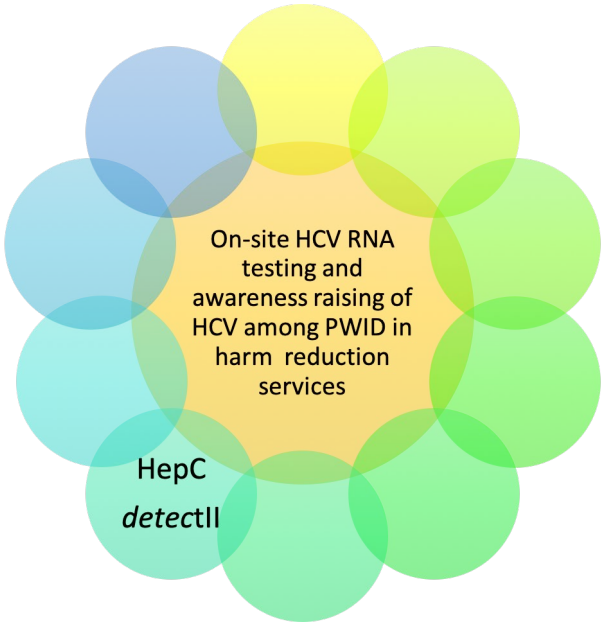

Case study 7 — On-site HCV RNA testing and awareness raising of HCV among PWID in harm reduction services

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	✔
	Linkage to HCV care (LINK)			A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	✔
	Outreach (OUT)			Shared care model (SHARED)	
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 7

Location: Catalonia, Spain
Keywords: HCV testing; dried blood spots; PWID; nurse facilitators; harm reduction service; low-threshold agency
Quality level: Peer-reviewed publication; EU Health Programme

Short summary: In Catalonia, Spain, the coverage of antibody testing among PWID who attend harm reduction services is high. However, linkage to care for HCV RNA confirmation is limited. The HepC*detect* II study was carried out with the aim of

assessing the effectiveness of an on-site HCV RNA testing strategy in detecting HCV viraemic cases. It also aimed to promote, among treatment candidates, an awareness of HCV disease status and linkage to care, as well as to describe the local epidemics in current PWID.

Background

In Spain, HCV diagnosis rates may be too low to allow hepatitis elimination by 2030. To improve the diagnosis rate, community screening is needed of populations at risk of infection, through simplified testing algorithms. In this context, an in-house simple assay for the detection of HCV RNA from dried blood spots (DBSs) has previously been developed and validated.[1]

The network of harm reduction services in Catalonia includes 16 harm reduction centres and five mobile units, 11 of them with supervised consumption facilities (http://drogues.gencat.cat/ca/professionals/reduccio_de_danys/). In 2017, approximately 6 000 PWID attended at least one of the centres in this network. [2] Most harm reduction services offer rapid HCV antibody testing, but many PWID still face numerous barriers to accessing healthcare services for HCV diagnosis confirmation and treatment. This situation could be improved by the implementation of HCV RNA on-site testing with the previously developed DBS-based assay.

In this context, the Hep*Cdetect* II study was carried out by a reference hospital and research institute (project investigator: Elisa Martró, Microbiology Department, Laboratori Clínic Metropolitana Nord, Germans Trias i Pujol University Hospital, Germans Trias i Pujol Research Institute (IGTP)) in collaboration with the Centre for Epidemiological Studies on Sexually Transmitted Infections and HIV/AIDS of Catalonia (CEEISCAT), the Program on Substance Abuse (part of the Agència de Salut Pública de Catalunya - ASPCAT) and four harm reduction services, namely El Local da Mina (Sant Adrià del Besòs); AIDE (Terrassa); Àmbit Prevenció (Barcelona); and AEC GRIS (Reús).

Goal of the intervention

The Hep*Cdetect* II study was designed as a community-based cross-sectional prospective study of the prevalence of viraemic HCV infection in a convenience sample of current PWID (n = 410) attending four harm reduction services that altogether cared for 2 258 people in the province of Barcelona in 2017[2], which represents 37.6 % of all PWID who attended harm reduction services in Catalonia.

The goal of the HepC*detect* II study was to implement on-site HCV RNA testing from DBSs at four pilot harm reduction services to:

- assess the utility of an alternative one-step screening and confirmatory diagnosis assay of hepatitis C;
- estimate the prevalence of viraemic HCV infection and its determinants;
- assess the extent of unawareness among PWID regarding their HCV infection status;
- estimate the cascade of diagnosis, care and treatment among current PWID;
- improve awareness on HCV transmission and treatment.

Description of the intervention — model of care

As part of the HepC*detect* II study, on-site HCV RNA testing from DBSs was implemented in four drug harm reduction services of the formal network of the Catalan Health Department, and offered to 410 active PWID (who had injected at least once over the previous 6 months), over a 15-month period from May 2016 to July 2017[3] This sample size was calculated to estimate the prevalence of viraemic HCV infection with high confidence and precision.

The participating harm reduction services routinely offer a point-of-care test to detect HCV antibodies, and a point-of-care test to detect human immunodeficiency virus (HIV) antibodies and p24 antigen (all study participants were tested). For this study, DBS samples were also collected from all participants for HCV RNA testing with a previously validated method. Besides DBS samples, paired plasma samples were collected in the harm reduction centre that recruited the highest number of participants, where nursing personnel were available, and were shipped to the coordinator laboratory in order to determine the HCV viral load by the reference method, and perform a field validation of the DBS testing method.[3]

For those participants with an HCV-reactive test who did not have a national health card, community workers at the harm reduction services gave them a health card. In addition, community workers actively referred participants to primary care for HCV confirmatory testing or HIV care (following the standard linkage to care pathway). Furthermore, when necessary, participants were accompanied by community workers during the whole process.

Epidemiological data were collected using an anonymous questionnaire administered by trained staff at the participating harm reduction services. This questionnaire included questions related to sociodemographic characteristics, behavioural data regarding previous sexual practices, injected/non-injected drug use

and types of drugs, imprisonment, self-reported HCV and HIV testing, previous diagnosis and treatment of HCV and HIV infection, and previous diagnosis of other sexually transmitted infections. Questionnaire and testing data were used to describe unawareness of HCV status[4] and to estimate the cascade of care.[5]

Additionally, educational sessions were specifically designed and evaluated for the retention of knowledge 1 month post intervention. A 2-hour educational session was designed based on the social action theory and evaluated through a 23-item questionnaire validated in Catalonia. This questionnaire consisted of three subscales (treatment, transmission routes and risk behaviours) administered first pre intervention, again immediately post intervention and finally 1 month after the intervention.[5]

Results and evidence of impact

The collection of DBSs was easily implemented at the participating harm reduction services. Additionally, the one-step detection of HCV RNA from DBSs was highly reliable for identifying viraemic infections, in comparison with the two-step algorithm of rapid antibody testing followed by viral load testing from plasma (no statistically significant differences at detecting viraemic infections were observed between the one-step and the two-step diagnostic strategies).[3]

The results for the study provide the first estimates of the prevalence of viraemic HCV infection[3] and of the HCV cascade among current PWID in Catalonia,[5] and highlight the potential benefits of:

- implementing DBS testing at harm reduction services to improve diagnosis rates of viraemic infection and awareness of HCV status;[4]
- offering decentralised treatment in harm reduction centres to improve treatment rates.[4,5]

The awareness-raising intervention proved to be effective in terms of the degree of retention of knowledge by PWID and in reducing the stigma and myths associated with treatment, and could therefore improve linkage to care. This knowledge improvement was also retained 1 month after the intervention. Additionally, the questionnaire tool was shown to be effective for the assessment of knowledge and attitudes towards HCV.[6]

Sustainability of the practice

This one-step diagnosis strategy (direct HCV RNA detection from DBSs) presents a simple and reliable way of increasing the identification and self-knowledge of viraemic HCV infections, and of monitoring epidemics among PWID. The implementation of this alternative HCV RNA testing method in harm reduction and addiction treatment settings, as well as in other populations at risk of infection, is currently being discussed with the Catalan Public Health Agency in the context of the Plan for the Prevention and Control of hepatitis C in Catalonia. With current pangenotypic antiviral regimens, treatment could begin simply with the diagnosis of viraemia from DBSs, followed by infected persons being linked to specialists in hospitals for liver disease and additional assessments.

Partnerships and community participation

This study was made possible through a multidisciplinary partnership between researchers at IGTP, epidemiologists at CEEISCAT and policymakers at ASPCAT. Additionally, four drug harm reduction services within the formal network of the Catalan Health Department, and community workers at these services, participated in the study. As described above, community workers actively referred participants to primary care and, when necessary, provided them with a national health card and accompanied participants during the whole process.

Transferability

The implementation of this new model of care using a DBS-based on-site HCV RNA testing strategy is well documented and due to positive outcomes its transfer to other drug addiction centres in Spain, to facilitate linkage to care and treatment, is underway.

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For more information

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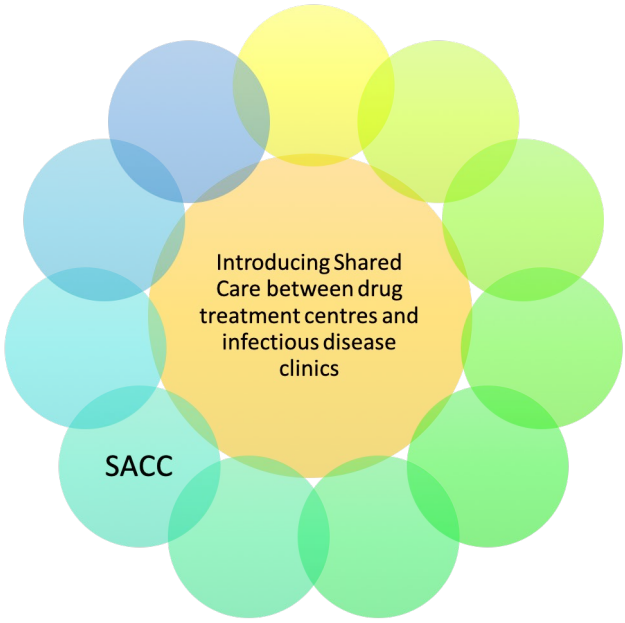

Case study 8 — Introducing shared care between drug treatment centres and infectious disease clinics to improve HCV treatment and care for PWID

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	✔
	Linkage to HCV care (LINK)			A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)	✔		A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)	✔	HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	
	Outreach (OUT)			Shared care model (SHARED)	✔
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 8

Location: Copenhagen, Denmark

Keywords: HCV testing; HCV treatment; PWID; nurse facilitators; low-threshold agency; outpatient drug treatment centre; shared care; decentralisation; community setting

Quality level: European Centre for Disease Prevention and Control case study

Short summary: To improve access to health services for PWID, the Shared Addiction Care Copenhagen (SACC) project was developed as a cross-sectorial collaboration between 11 municipal drug treatment centres and two specialised

infectious disease clinics. The drug treatment centres offered a range of services including counselling, drop-in services, opiate substitution therapies and syringe distribution. The aim of the intervention was to develop and implement a generic decentralised HVC shared care model for HCV testing, evaluation and treatment at the drug treatment centres, with the aim of decreasing HCV-related transmission, morbidity and mortality among PWID. The SACC project has helped break down barriers between different sectors in the healthcare system by establishing a cohesive treatment and care model for PWID with HCV. The key to the success of the SACC model has been the close collaboration and investment of multiple stakeholders including 11 municipal drug treatment centres, two infectious disease clinics and a research facility that provided IT support to develop the online database. Key personnel, including dedicated nurses and doctors at both facilities, need to be identified and act as resources to facilitate the intervention.

Background

It is estimated that half of all individuals infected with HCV in Denmark have not been diagnosed, with even fewer having entered clinical care and treatment, and that the majority of this group are PWID. The physical and organisational divide between drug treatment centres — which are responsible for providing and obliged to provide HCV testing, counselling and opioid substitution therapy for PWID — and hospitals, which are responsible for the clinical evaluation and treatment of HCV, is one of the main barriers to PWID seeking testing and treatment. This divide is thus regarded as one of the main reasons for the small number of HCV-infected PWID at each step of the HCV treatment cascade, from screening to treatment.[1]

To improve access to health services for this vulnerable group, the Shared Addiction Care Copenhagen (SACC) project was developed as a cross-sectorial collaboration between 11 municipal drug treatment centres in the Municipality of Copenhagen and two specialised infectious disease clinics in the Capital Region of Denmark. The drug treatment centres offered a range of services including counselling, drop-in services, opiate substitution therapies and syringe distribution.[2]

Goal of the intervention — model of care

The goal of the SACC intervention was to develop and validate a model for decentralised HCV care and treatment (shared care) for clients enrolled in drug treatment centres in the Municipality of Copenhagen, Denmark, with the aim of reducing the increased HCV-related morbidity and mortality among PWID in Denmark.[2]

Description of the intervention

The SACC model was implemented over a 3-year intervention (June 2014 to June 2017) divided into two phases, with a pilot phase involving three drug treatment centres and a validation phase including eight additional drug treatment centres in the Municipality of Copenhagen. As part of the SACC model, staff at the drug treatment centres and at the infectious disease clinics also collaborated closely prior to the launch of the intervention. To create an overview of the individual patients and the entire patient population, as a first step a shared database was developed in which data from all relevant existing databases was merged in real-time. This allowed for both the infectious disease clinics and the drug treatment centres to have a complete overview of previous and current hepatitis and human immunodeficiency virus (HIV) test results, liver stiffness results and other relevant blood tests, vaccination and treatment status of the clients.[1]

Staff at the 11 municipal drug treatment centres received training in viral hepatitis and HIV epidemiology, transmission, treatment and vaccination, as well as training in venepuncture. Each treatment centre also developed plans for how to establish contact with their clients to ensure annual testing for HCV and HIV. Additionally, staff were educated about their roles in the SACC project and how the two different types of facilities, which normally operate separately, must work together to ensure SACC's effectiveness.[2]

All citizens registered for drug treatment in the Municipality of Copenhagen participated in SACC.[2] Based on the results of the initial screening, those who tested positive for hepatitis B virus (HBV) and/or HCV were offered a clinical evaluation (including a liver stiffness scan) at the drug treatment centre and further blood tests, treatment and care at the drug treatment centre in close collaboration with staff from the infectious disease clinic. The prescription of HCV treatment and monitoring of treatment outcome remained the responsibility of the infectious disease specialists, whereas the drug treatment centres were responsible for dispensing HCV medicine and ensuring treatment compliance.[1]

Results and evidence of impact

During the course of the project, around 2 000 people were at any point in time enrolled at the 11 participating drug treatment centres, some for shorter courses of therapy and others for near-lifelong treatment. More than 700 people were tested at the treatment centres for HIV and viral hepatitis, and annual plans were developed for all those who were screened. The average percentage of clients who

had been tested increased from 44 % (before the intervention) to 66 % (during the intervention). In total, 208 people were newly diagnosed with chronic HCV during the project period. All those who tested HCV-positive were offered a liver stiffness scan at their drug treatment centre by a staff member from the infectious disease clinic and, in total, 140 people with HCV were scanned for liver fibrosis. Those with high levels of fibrosis were evaluated for treatment and, if indicated, treatment was distributed at the drug treatment centre. The SACC database played a key role in creating an overview of those infected with HCV both at an individual level and per drug treatment centre.[2]

Within the project period, 31 individuals with chronic HCV were compliance assessed and, of these, 25 individuals were put on and completed HCV treatment and all have been cured. The remaining six individuals either chose not to start treatment or had their treatment postponed, most often because of an alcohol problem that made compliance with treatment difficult.[2]

The SACC project has helped break down barriers between different sectors in the healthcare system by establishing a cohesive treatment and care model for PWID with HCV. By using a mobile liver stiffness scanner (transient elastography) at the drug treatment centres, instead of at the infectious disease clinics, the project was able to better assess the burden of liver fibrosis at both the individual and the population levels. SACC has provided a more comprehensive overview of the number of HCV infections in the Municipality of Copenhagen, and of the extent to which the Municipality of Copenhagen meets the obligation to offer testing for HBV, HCV and HIV to all newly referred PWID.[2]

Sustainability of the practice

The intervention was run as a 3-year project financed by the Municipality of Copenhagen and finished in June 2017. However, the Municipality decided to continue the SACC model as part of routine clinical care for PWID with HCV in Copenhagen and has allocated funding for the continuation of the SACC database. The infectious disease clinics will continue the collaboration with the Municipality of Copenhagen in order to continue the shared care model.[2]

Since November 2018, direct-acting antiviral (DAA) treatment restrictions based on the stage of fibrosis have been removed in Denmark. Compared with the project period, this has led to a five-fold increase in the number of people who have received DAA therapy in drug treatment centres. All drug treatment centres in Copenhagen are planning to offer treatment to those infected, to comply with the

goal of micro-elimination of HCV infection among individuals enrolled in drug treatment.

The project required extensive human resources and involved the training and education of staff at the drug treatment centres, in addition to coordination of testing, liver stiffness scans and hepatitis treatment and care. The substantial financial investment required to purchase a mobile liver stiffness scanner is an important consideration when implementing a similar model. Making diagnostics, treatment and care accessible at drug treatment centres may significantly contribute to improving the continuum of care for PWID and to eliminating viral hepatitis C as a public health threat.[3]

Other municipalities within the Capital Region of Denmark have shown interest in the project and an implementation working group has been established to explore potential cooperation and financial options for continuing and expanding the project.[2] Owing to the expansion of the SACC model, its name was changed to the Shared Addiction Care Collaboration.

Partnerships and community participation

SACC is based on successful collaboration between infectious disease clinics in the Capital Region of Denmark, the Centre for Infectious Disease Research and the social services of the Municipality of Copenhagen, involving the 11 municipal drug treatment centres. Stakeholders in the project included healthcare professionals from both primary care and hospital care, as well as community association representatives and researchers.[2]

Transferability

Several municipalities within the Capital Region of Denmark have expressed interest in the model (or parts of it) and an implementation working group has been established to assess potential options for cooperation, as well as financial and structural preconditions for expanding the intervention to other municipalities.[2]

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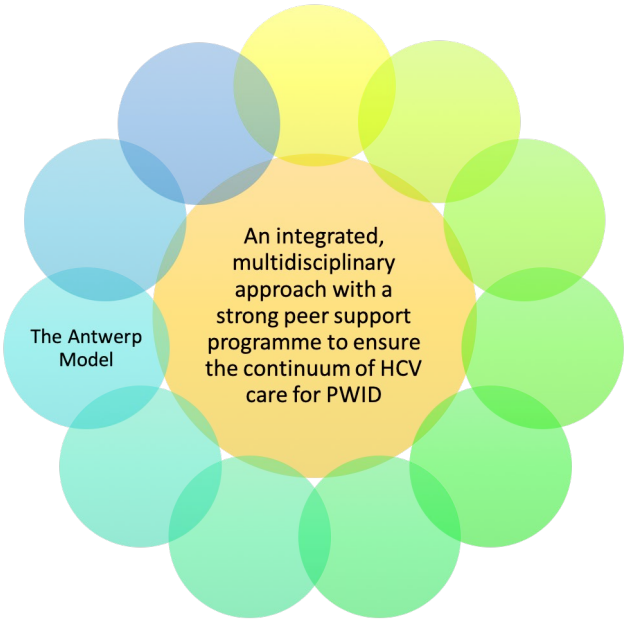

Case study 9 — The 'Antwerp model' — an integrated, multidisciplinary approach with a strong peer support programme to ensure the continuum of HCV care for PWID (Free Clinic)

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	✔
	Linkage to HCV care (LINK)	✔		A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	✔
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	✔
	Outreach (OUT)	✔		Shared care model (SHARED)	✔
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	

Case study 9

Location: Antwerp, Belgium

Keywords: HCV testing; HVC treatment; PWID; nurse facilitators; drug treatment centres; shared care; decentralisation; community setting; low-threshold agency; peer support; outreach; needle and syringe programme

Quality level: Hepatitis C Community Summit

Short summary: The aim of the 'Antwerp model' of hepatitis C care, developed by the non-governmental organisation Free Clinic in Antwerp, Belgium, is to provide holistic low-threshold harm reduction services for PWID. It is an integrated, multidisciplinary model of hepatitis C care with a strong nurse-led peer support programme for delivering a continuum of care, from information and education on and diagnosis of hepatitis C, to linkage to care, treatment and prevention of reinfection. The Free Clinic collaborates intensively with the hepatology unit in a large community hospital (ZNA - Ziekenhuis Netwerk Antwerpen) and uses a 'C-Buddies' system, namely a strong peer support programme in which people who formerly used drugs, and who have completed HCV therapy, offer support and guidance to peers.

Background

In recent years, the treatment of hepatitis C has evolved substantially, with shorter regimens, almost no side effects and a very high success rate. Moreover, PWID and former drug users are no longer considered a special population in terms of HCV infection, as research has shown that they can be treated as easily and successfully as other infected patients. However, there is still a wide gap to bridge in terms of organising hepatitis C care and treatment and making it accessible for this group.

To overcome this gap, the low-threshold addiction centre Free Clinic (a non-governmental organisation (NGO) in Antwerp) started an intensive collaboration with the hepatology unit in a large community hospital (ZNA) to apply the holistic 'Antwerp "not under one roof" model' for hepatitis C management among PWID. In addition to the hospital collaboration, an important activity of the Free Clinic is its peer support programme: the 'C-Buddies' project.[1]

Goal of the intervention — model of care

The aim of the Antwerp model of hepatitis C care is to offer PWID an integrated, multidisciplinary model of care with a strong nurse-led peer support programme (the 'C-Buddies' project) and to provide a continuum of hepatitis C care from information, education, screening and diagnosis, to linkage to care, hepatitis C treatment and prevention of reinfection.[2]

Description of the intervention

Interventions used in the Antwerp model to enhance HCV testing, linkage to care and treatment uptake include:

- integrated HCV care delivered by professionals with peer support in a low-threshold harm reduction setting, including point-of-care (on-site) HCV assessment ((rapid) HCV antibody testing);
- community-based nurse-led HCV evaluation (including personal, social, physical and psychiatric evaluations), therapeutic education and pre-treatment counselling;
- subsequent referral to hepatitis specialists for HCV evaluation and treatment;
- follow-up (off-site) HCV-ribonucleic acid (RNA) testing and non-invasive liver disease assessment using transient elastography (FibroScan, Echosens, Paris, France) at the hepatology unit at the community hospital (ZNA);
- peer support providing education, scheduling of specialist appointments, general follow up in problematic situations, follow up regarding appointments with services (also other hospital visits), home visits to locate individuals and patient navigation in the hospital.

The Antwerp model has four main pillars:

1. The NGO Free Clinic, where pre-counselling, screening, information, referral, and medical, social and psychological follow-up is delivered, and where clients can talk about (safe) drug use.
2. A needle and syringe programme, which offers prevention, sterile injection materials, information about safe injecting techniques, referral, screening and the opportunity to talk about drugs and risks.
3. ZNA — the hepatology unit at the community hospital, which offers staging, trials, referral, medication and follow-up and has a 'streetwise specialist'.
4. The C-Buddies project — a peer support project that aims to connect with patients, help them navigate through the entire testing and treatment process, and improve their general living conditions. Through dialogue, peers (people who formerly used drugs, and who have completed hepatitis C treatment) provide a broad range of services (a holistic approach, not only HCV related) ranging from education during the pre-therapy phase and practical and mental support during therapy to aftercare under the supervision of professionals, among whom are a dedicated hepatitis C nurse who coordinates the C-Buddies project.[1,2]

The C-Buddies project was set up in 2009 as a pilot project, focusing on supporting the everyday needs of PWID, but was closed in 2010 owing to a lack of funding. In 2015, the project restarted with a new focus on providing peer support in all steps of the cascade of care and including a hepatitis C nurse.[3]

Important features of the Antwerp model of care include the high degree of flexibility to adapt to the needs of the users and professional partners and the teamwork approach, in which every member of the team is important and peer workers are seen as colleagues. Training and support for the peer workers is essential.[1,2]

In their role as 'streetwise specialists', peers are put in contact with people who use drugs (PWUD), whether through the drug scene or by visiting homeless shelters and other low-threshold facilities. The C-Buddies project can deliver HCV screening during house calls or, for instance, during hepatitis 'awareness' sessions on site. Peers visit people's houses to support them, to get to know them and to accompany them to appointments.

The C-Buddies remind people of their appointments by using text messages, WhatsApp, Messenger, etc., and they also accompany people to appointments outside hepatitis C treatment.

The liver specialist at the hospital has reserved a specific time slot to be available to provide counselling and PWUD can make an appointment through the C-Buddies project. On the counselling day, the peers wait for the PWUD at the entrance of the hospital and escort them to the HCV unit. The fixed counselling slot was set up owing to a need for more flexibility in appointments; sometimes, PWUD do not show up to their appointment, but can remember that there is a counselling time slot every week. The liver specialist was and is willing to 'think outside the box' in the case of appointments, referrals, etc., and feedback from the C-Buddies team is always taken into account.

Every member of the team has to be streetwise and 'think outside the box': they have to know how PWUD live, know the scene, know how to talk about drug use and safe injecting techniques, and know that using drugs (and alcohol) is something that is part of the life of PWUD. It is important for all coworkers to be pragmatic and not to have expectations for behavioural change in relation to people who are not ready to be abstinent at present.

Results and evidence of impact

Outcomes of the Free Clinic in 2017 were:

- 90 % (n = 379) of Free Clinic PWID clients were tested for anti-HCV antibody;
- 76 % (n = 286) of PWID tested were positive for anti-HCV antibody (anti-HCV+);

- 86 % (n = 245) of anti-HCV+ patients underwent HCV RNA polymerase chain reaction testing;
- 43 % (n = 105) of anti-HCV+ PWID were positive for HCV RNA.[2-5]

Thanks to the Antwerp model and the C-Buddies system, the most vulnerable clients can enrol in the care cascade, resulting in more people undertaking HCV treatment.[3]

Sustainability of the practice

After the previous funding period ended in 2018, a new project was approved by the Flemish government securing the continuation of the C-Buddies (Antwerp) project and the syringe exchange (Flanders) from 2019 to 2023. Both projects have become part of the 'GIG' programme (Gezondheidspromotie bij Injecterend Gebruik), a health promotion programme for PWID. There is also political support for the C-Buddies project at the highest level: the Flemish Minister of Health (Jo VanDeurzen) mentioned the C-Buddies project in his policy note 2019[6]: '… in collaboration with the federal government and other communities, we set up an HCV elimination committee that can provide policy advice to meet the WHO [World Health Organization] elimination goal in 2030. We continue to focus on PWID as the most important risk group. This can be further supported by the C-Buddies project…' (translated from Dutch).

In the context of plans to expand the model to other parts of the Flemish region, as part of the GIG, the project provides some support to organisations that are willing to build a local care cascade. For example, in 2018, the building of a care cascade from the ground up was piloted in Sint Niklaas, a city of about 70 000 inhabitants in East Flanders. Over 25 working days (1 day a week for 6 months), project collaborators contacted the care network, and reached out to PWUD, introduced rapid screening, referred PWUD to the local liver specialist and started a number of hepatitis C treatments. This experience will be used to apply to the Flemish government for funding for a new project, which includes the creation of an expert centre that can support local initiatives to build care cascades, support local case managers and hepatitis C nurses, and support other initiatives in relation to hepatitis C, as well as collect data.

Partnerships and community participation

The NGO Free Clinic builds on partnerships with both hospitals and the community. Collaboration with the hepatology unit (ZNA) at the community hospital helps to ensure continuity of care. Further collaborations have been established with low-threshold services, including homeless shelters, housing projects and welfare

organisations; drugs services (both outpatient and residential); hospitals; GPs; homes for the elderly; and psychiatric units, among others.

Peers bring extra value, but they need support and guidance, and organisations need to be ready to work with them. Working with peers needs a different approach and the Antwerp model has been successful in this because all partners were flexible and communicated with each other. Peer support works because there is guidance and support and because all partners in the model respect each other and their different roles. Thorough preparation is needed before the start of a peer project: good communication channels have to be established between the different partners, clear goals have to be defined, and support and coordination of the peer team needs to be provided.

Transferability

As the pilot project in Sint Niklaas documents, the main elements of the model could easily be transferred to another city in Belgium, but it would need to be adapted to local needs, local service networks and organisations, and local teams.

As regards its transferability to other countries, when colleagues from Copenhagen showed an interest in starting a hepatitis C peer project, project collaborators sent them a guide that was written in the first period of the project. The Asian Harm Reduction Network in Myanmar also started a hepatitis C peer support pilot in Kachin state, using some of the experiences of the Antwerp model.

In addition, by attending conferences and talking about our model (oral and poster presentations), we try to transfer our good practice.

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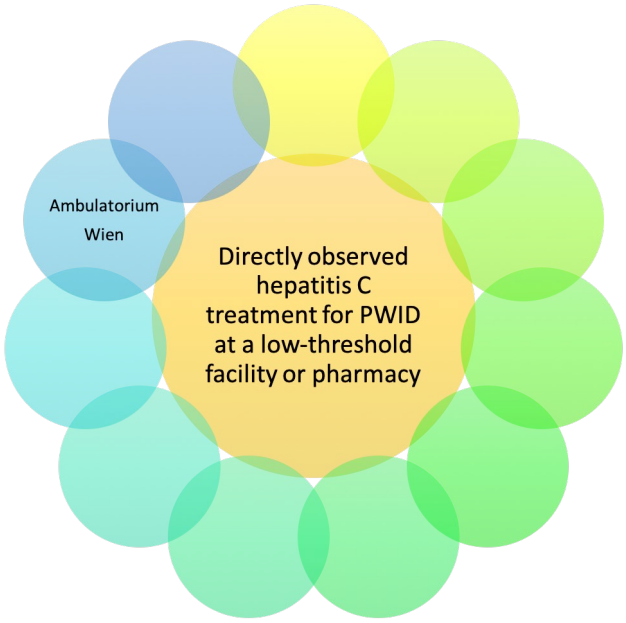

Case study 10 — Ambulatorium Suchthilfe Wien: directly observed hepatitis C treatment for PWID at a low-threshold facility or pharmacy

WHAT (Service)	HCV testing (TEST)		WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	Linkage to HCV care (LINK)			A defined subgroup of PWID (PWID-)	✔
	Hepatitis C treatment (TREAT)	✔		A wider group of people, including PWID (PWID+)	
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)	✔		Nurse-led (NURSE)	
	Outreach (OUT)			Shared care model (SHARED)	✔
	Pharmacy (PHA)	✔		Multidisciplinary team (MULTI)	✔

Case study 10

Location: Vienna, Austria

Keywords: HCV testing; HVC treatment; PWID; community setting; low-threshold agency, shared care, multidisciplinary team.

Quality level: Peer-reviewed publication

Short summary: Chronic hepatitis C treatment in current PWID and in those who are in opioid substitution treatment (OST) is optimally managed if direct-acting antivirals are provided in the same location as the treatment for drug dependence. The goal of this intervention was to evaluate adherence to therapy and sustained virological

response in patients who received OST together with antiviral treatment for hepatitis C under supervision at a pharmacy or by a healthcare professional (‘directly observed therapy’) in a low-threshold facility in Vienna, Austria (Ambulatorium Suchthilfe Wien). To evaluate the impact of the intervention, an open-label, non-interventional, proof of concept study was conducted. The study has now been completed and, owing to its success, the intervention is being continued as a regular treatment. A total of 233 patients have finished the treatment course and 12 weeks of follow-up. The adherence to antiviral therapy was excellent, with only 0.15 % of scheduled dates for ingestion of the antiviral therapy in combination with OST missed by patients. These results suggest that the intervention is successful in this population and setting.

Background

Prevalence of hepatitis C infection in PWID is high, but even among those receiving OST, regular attendance at hepatological centres for hepatitis C treatment can be challenging and self-administration might result in clients not taking their medication regularly. Chronic hepatitis C treatmentof these clients might ideally be managed at low-threshold facilities with direct-acting antivirals (DAAs) administered together with OST under the direct observation of medical staff.

Goal of the intervention — model of care

The goal of the intervention was to evaluate adherence to therapy and sustained virological response (SVR) in patients with chronic hepatitis C and who are at a high risk of non-adherence to DAA therapy. These patients therefore received their OST medication together with antiviral treatment for hepatitis C at a pharmacy or a low-threshold facility.

Description of the intervention

Based on conclusions from an earlier study, patients with chronic hepatitis C and who were at a high risk of non-adherence to DAA therapy received antiviral treatment together with OST under the direct observation of a pharmacist, physician or nurse at a pharmacy or at the Ambulatorium Suchthilfe Wien — a low-threshold drug treatment facility in Vienna, Austria.[1] Before and during HCV treatment, all examinations, including analysis of fibrosis stage by transient elastography using the FibroScan 502 Touch device (Echosens, Paris, France), were done at the low-threshold drug treatment facility.

A total of 300 PWID on stable OST with chronic hepatitis C and at a high risk of non-adherence to DAA therapy (male/female: 228/72; mean age: 38.0 ± 8.3 years; genotype 1/2/3/4: 178/3/109/7 (unknown: n = 3); human immunodeficiency virus (HIV) co-infection: n = 18; liver cirrhosis: n = 60) started antiviral treatment. Patients received antiviral therapy together with OAT under the direct observation of a pharmacist, physician or nurse at a pharmacy or low-threshold facility. The DAA regimen was selected according to genotype, fibrosis stage, pre-treatment and current reimbursement insurance policy. Among all of the patients, 70 % reported ongoing injecting drug use and most had a very poor socioeconomic status.

Results and evidence of impact

A total of 214 patients finished the treatment course and 12 weeks of follow-up. Following the concept of 'directly observed therapy', adherence to antiviral therapy was excellent, as only 0.15 % of scheduled dates for ingestion of the antiviral therapy in combination with OAT were missed by patients.

Twelve weeks after the end of the therapy, SVR12 was confirmed in 213 of 214 patients (SVR12 rate: 99.5 %; 95 % CI: 97.3-99.9 %). During follow-up, reinfections occurred in 12 of 214 patients (5.6 %). The cumulative rate of reinfection 24 and 48 weeks after the end of the therapy was 5.3 % and 9.5 %, respectively.

Directly observed therapy of chronic hepatitis C at a pharmacy or a low-threshold facility is highly effective in PWID with ongoing injecting drug use and a high risk of non-adherence to DAA. By using this model of care, chronic hepatitis C can be cured in a group of difficult-to-treat patients who, according to studies published to date, are unlikely to be successfully treated in other settings. It should be stressed that successful treatment is not only beneficial for the patients themselves but also for the general population because further transmission of the virus may be prevented.

Sustainability of the practice

Ambulatorium Suchthilfe Wien is a low-threshold drug treatment facility in Vienna, Austria, which is part of a larger community service (Suchthilfe Wien gGmbH). This service is well established and also provides a syringe programme, a drop-in centre and a night shelter for PWID. Therefore, the intervention was grounded at an established organisation and the intervention will continue to operate in the future. In addition, as the intervention was initially designed as a scientific study, it is fully documented, which facilitates its continuation.

Partnerships and community participation

Partnerships were established with hospitals, pharmacies and community organisations, especially with Professor Michael Gschwantler, head of the Fourth Department of Internal Medicine, Wilhelminenspital, Vienna.

Transferability

The intervention was initially designed as a scientific study; therefore, all of the procedures and protocols follow evidence-based practices and are fully documented. Thus, in similar settings and populations (PWID on OAT with hepatitis C infection), this intervention will be easy to replicate.

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For more information

Flyer: https://www.suchthilfe.wien/wp-content/uploads/SHW_ASHW_2014_WEB.pdf

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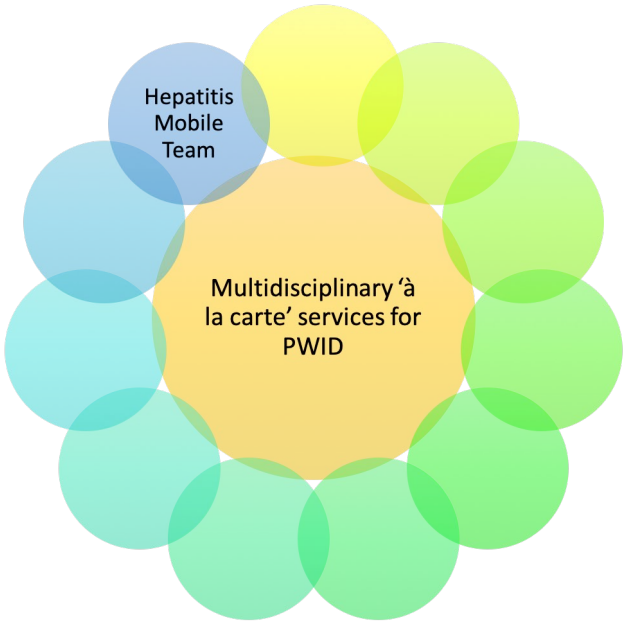

Case study 11 — Hepatitis mobile team (HMT): multidisciplinary 'à la carte' services for PWID

WHAT (Service)	HCV testing (TEST)	✔	WHO (Target Group)	Service targeting people who inject drugs (PWID)	
	Linkage to HCV care (LINK)	✔		A defined subgroup of PWID (PWID-)	
	Hepatitis C treatment (TREAT)			A wider group of people, including PWID (PWID+)	✔
WHERE (Setting)	Drug treatment center (DTC)		HOW (Actors / Approach)	Peer support workers (PEER)	
	Low-threshold agency (LTA)			Nurse-led (NURSE)	
	Outreach (OUT)	✔		Shared care model (SHARED)	✔
	Pharmacy (PHA)			Multidisciplinary team (MULTI)	✔

Case study 11

Location: Perpignan, France

Keywords: HCV testing; HVC treatment; PWID; community setting; low-threshold agency

Quality level: Peer-reviewed publication

Short summary: In France, treatment for HCV should be provided to all patients and especially to people who use drugs and/or are incarcerated, even if they have no liver fibrosis. The hepatitis mobile team (HMT) '*Le Fil Vert*' serves a population of 500 000 in Perpignan, France, and provides 15 different services divided into four

main areas: early detection of viral hepatitis and human immunodeficiency virus (HIV); linkage to HCV care and fibrosis assessment; access to treatment; and follow-up during and after treatment for HCV. HMT is linked to the gastroenterology unit of Perpignan Hospital and has established multiple partnerships with community associations and care facilities. The training of both professionals working at HMT and patients is a key element of this intervention, which employs educational nurses for this purpose. Between 2013 and 2018, HMT's services were used by 5 382 patients; more than one-fifth of the 3 053 HCV tests performed were positive, 2 302 examinations of liver stiffness were performed and HCV was cured in 651 patients.

Background

In France, there are an estimated 150 000-200 000 people living with HCV, of whom 75 000 are not yet diagnosed.[1] In 2012, 12 000 patients were treated; in 2013, 6 000 patients were treated; in 2014, 10 800 patients were treated; and, in 2015, 14 000 patients were treated. According to guidelines issued by the French Association for the Study of the Liver (Association Française for pour l'Étude du Foi) issued in March 2018, treatment for HCV should be provided to all patients, including all people who use drugs and/or are incarcerated, even if they have no liver fibrosis.[2] In practice, if these guidelines are followed, this means that all of the people who use drugs and all of the people who are incarcerated in France have to be treated for HCV. Therefore, universal access to treatment should be a part of comprehensive care for HCV, which includes screening, management of comorbidities and prevention of reinfection.

Goal of the intervention — model of care

The main goal of this intervention is to provide individualised care, screening using point-of-care rapid tests, educational interventions and follow-up treatment through a mobile outreach clinic in order to promote access to care for the most vulnerable populations.

Description of the intervention

The hepatitis mobile team (HMT) is an activity provided by the gastroenterology unit at Perpignan Hospital. It is staffed by a hepatologist, a nurse coordinator, three additional nurses (two of whom are educational nurses), two social workers, two healthcare workers and a secretary. The team has three cars at its disposal (including one large van), three machines to carry out non-invasive assessments of the fibrosis stage of the liver (transient elastography, FibroScan, Echosens, Paris, France) and facilities for point-of-care testing for HCV, human immunodeficiency virus (HIV) and

hepatitis B virus (HBV). The HMT serves an area with a population of 500 000 and provides 15 different services divided into four main areas:

1. Early detection: screening and point-of-care testing, including at the mobile outreach unit '*Le Fil Vert*', which also has a device at its disposal to assess fibrosis of the liver in a non-invasive way.
2. Linkage to care and fibrosis assessment: social screening and diagnosis, mobile liver stiffness scanning for on-site assessment, on-site specialist consultations and staff training.
3. Access to treatment: early access to a pre-treatment multidisciplinary healthcare team and free mobile phones for patients, allowing them to maintain a close link to the HMT.
4. Follow-up during and after treatment: individual psychoeducational sessions, collective educational workshops and information transmission specifically targeted at people who use drugs.

All service areas can be customised and can potentially serve 1 500 outpatients. The psychoeducational intervention is designed to promote compliance, continuity of care and monitoring of treatment. Topics include training to increase compliance with direct-acting antivirals, management of side effects and monitoring of medical examinations. Follow-up includes one-on-one appointments with a nurse and — provided the patient gives consent — reports are sent to the treating physician. For patients who do not speak French (about 10-15 % of programme users are migrants) a translation service by phone is available. Group educational workshops are organised in four sessions, each led by a nurse, a psychologist, a relaxation therapist or a dietician.

Results and evidence of impact

Between 2013 and 2018, a total of 5 382 patients used HMT's services: users of the '*Le Fil Vert*' mobile unit were mostly men (78 %), French nationals (68 %) and aged 25-44 years (49 %), and most had already been screened before (59 %).[3,4] Of the 8 382 point-of-care tests conducted, 3 053 (26.3 %) were for HCV. A total of 21.3 % (n = 650) of the HCV tests were positive, with 66 tests also being positive for HBV and five being positive for both HIV and HCV. Patients already diagnosed with HCV represented 52 % of those who used the mobile unit for screening, while 30 % were already in HCV care and 18 % were new patients. From 2013, when the project was set up, until the end of 2018, a total of 2 302 liver fibrosis scans were carried out by a trained nurse (including 606 carried out in 2018 alone). Of those who had the scan, 41 % had a newly acquired HCV infection, 31 % had a previously known HCV

infection, 2 5% had already completed treatment for HCV and 3 % identified alcohol use as their reason to do the liver stiffness examination.[4]

A total of 667 patients were referred to an on-site specialist consultation (taking place in the same mobile unit where testing was conducted), which was ultimately attended by 660 patients (98 %). Between 2013 and 2018, HCV was cured in 651 patients, 16 patients were lost to follow-up and two patients stopped the treatment. Three patients did not want care. A total of 458 face-to-face sessions and 589 phone sessions were organised for patients. Group educational workshops organised in 2014-2018 were attended by 289 participants, with an average of seven patients per session.[4, 5]

The HMT allowed a 'hard-to-reach' population to access care, owing to outreach screening in community settings where the most vulnerable populations can be reached and the facilitation of access to specialist consultations, including for those previously diagnosed and not linked to care. Training and coaching contributed to improving adherence to treatment and to increasing the number of HCV patients supported, treated and cured.

Patients who have used HMT highlight the following as the most positive points of the service: that is a free-of-charge service, the closeness to the community (as the services were provided outside a hospital setting), the timely communication of the test results and the availability of nurses and social workers.

Sustainability of the practice

The availability of support, access to a rapid specialist consultation (within 3 days) and flexible patient care were key elements in ensuring the sustainability of the practice. The close link between the outreach unit and the local hospital's gastroenterology unit, as well as a wide range of other partners, contributed to the success of the treatment.

Another key aspect for sustainability was regular staff training. Staff were trained three times per year and an average of 42 staff members took part in a total of 18 training sessions conducted since December 2013. As training sessions also targeted medical staff and social workers of partner institutions, the practice is sustainable beyond the HMT.

Partnerships and community participation

The HMT is closely linked to Perpignan Hospital (Centre Hospitalier de Perpignan). In addition to partnerships established with hospitals, partnerships with associations and community services were a key element and included methadone centres, low-threshold drug centres, housing units and daycare centres. Patient association networks were another key partner of the project.

Transferability

All components and processes of the intervention are well documented, as are its results, which will allow replication in other sites and countries.

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Annex 1 — Template for case studies

Title

Model of care

WHAT (Service)	HCV testing (**TEST**)		WHO (Target Group)	Service targeting people who inject drugs (**PWID**)	
	Linkage to HCV care (**LINK**)			A defined subgroup of PWID (**PWID-**)	
	Hepatitis C treatment (**TREAT**)			A wider group of people, including PWID (**PWID+**)	
WHERE (Setting)	Drug treatment center (**DTC**)		HOW (Actors / Approach)	Peer support workers (**PEER**)	
	Low-threshold agency (**LTA**)			Nurse-led (**NURSE**)	
	Outreach (**OUT**)			Shared care model (**SHARED**)	
	Pharmacy (**PHA**)			Multidisciplinary team (**MULTI**)	

Model of care template

Location:

Keywords:

Quality level:

Short summary:

Background *Epidemiological situation and/or context for the intervention*

Goal of the intervention — model of care

Description of the intervention *Objectives, actors involved, process of implementation*

Results and evidence of impact

Sustainability of the practice

Partnerships and community participation

Transferability

References *Evaluation studies, publications and additional supporting evidence*

For more information *Website(s)*

Contact *(email) with consent*

Annex 2 — Examples of models of care from the peer-reviewed literature

These examples are based on the presentation 'Effective strategies to enhance testing, linkage to and retention in care and treatment for PWID' given by Scientia Professor Carla Treloar and Professor Jason Grebely at the INHSU (International Network on Hepatitis in Substance Users) Satellite to the 26th International Conference on Harm Reduction, Porto (Portugal) on 27 April 2019 (amended).

HCV testing

- Peer-delivered outreach HCV testing and counselling[1]
- Prison-based outreach testing and counselling[2]
- Patient referral contact-tracing programme with monetary incentive for testing[3]
- Rapid HCV antibody testing at community pop-up/mobile clinics or low-threshold settings[4-6]
- Dried blood spot testing[7,8]
- Integrated on-site testing, counselling and education[9,10]

HCV linkage to care

- Patient navigation and facilitated referral for HCV evaluation[11-13]
- Nurse-led pre-treatment assessment in prisons with specialist support via telemedicine[14]
- Non-invasive liver disease assessment using transient elastography with facilitated referral to care[7,15-17]
- Integrated HCV care in drug and alcohol settings/primary care, including on-site HCV assessment with/without peer support[18-23]
- Community-based nurse-led HCV evaluation and liver disease assessment using transient elastography and subsequent referral to specialists for treatment[24]
- HCV bridge counsellor employed to provide education, scheduling of specialist appointments, home visits to locate individuals, incentives and transportation[10]
- Multidisciplinary mobile clinic offering point-of-care testing, counselling and liver disease assessment using transient elastography[6]

HCV treatment uptake

- Integrated HCV care in drug and alcohol settings/primary care, including on-site HCV assessment with/without peer support[19,20,25]

- Integrated HCV care and drug use care in primary care, with/without on-site treatment[22,23,26,27]
- Community-based nurse-led HCV evaluation, including ordering of blood tests and disease assessment using transient elastography and subsequent referral to specialist for treatment[24]
- Patient navigation including motivational interviewing and treatment readiness counselling[13]

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