HCV micro-elimination in the MSM community

Code: MSM-HCV-MicroElimination

Version 3.0, 22-07-2021

Sponsor: PROJECTE DELS NOMS-HISPANOSIDA
Fundació FLS Lluita contra la Sida, les Malalties Infeccioses i la Promoció de la Salut i la Ciència

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1. SUMMARY

1.1. Sponsor identification and Address

Projecte dels Noms Hispanosida

Adress:
BCN Checkpoint
C/comte Borrell 164-166 Baixos
08015 Barcelona

Fundació FLS Lluita contra la Sida, les Malalties Infeccioses i la Promoció de la Salut i la Ciència

Adress:
Germans Trias i Pujol Hospital
Carretera de Canyet s/n
08916 Badalona (Barcelona)

1.2. Title of the study

HCV micro-elimination in the MSM community

1.3. Code of the protocol

MSM-HCV-MicroElimination

1.4. Principal investigator and address

Roger Paredes, MD, PhD

Fundació FLS Lluita contra la Sida, les Malalties Infeccioses i la Promoció de la Salut i la Ciència

Germans Trias i Pujol Hospital
Carretera de Canyet s/n
08916 Badalona (Barcelona)

1.5. Type of sites where the study will be performed

BCN Checkpoint
C/comte Borrell 164-166 Baixos
08015 Barcelona

BCN PrEP-Point
C/comte Borrell 168 Baixos
08015 Barcelona

1.6. Ethics Committee assessing the protocol

CEIC Germans Trias i Pujol University Hospital
Hospital Universitari Germans Trias i Pujol
Carretera de Canyet s/n
08916 Badalona (Barcelona)

1.7. Primary objective

Determine the prevalence of acute and chronic HCV infection in HIV-uninfected MSM and TGW community. Serologic prevalence will also be determined.

Stablish a fast-track circuit between Sexual Health Community centers and Hospital liver/infection diseases units to offer the possibility of starting treatment quickly after diagnosis and confirmation of HCV viremia on same day.

1.8. Design

Observational study

1.9. Study pathology

Hepatitis C virus (HCV) infection

1.10. Type of population and number subjects

Men who have sex with other men or transgender women, that are HIV negative and comes to get tested in our center or are under controls in our center.

Estimated enrollment first Phase 6000-7000 participants. Second phase 2000-3000 participants.

1.11. Calendar

- Ethics Committee application: June 2021
- Study starts (first patient in): June 2021
- Recruitment period: 2 years and 2 months.
- Patient follow-up: Single visit. Screening. In case of positive HCV viremia, 6 and 12 months post treatment control will be offered.
- Final report: 2023. Reinfections will be reported during 2024.

1.13 Financing source

- Gilead Sciences
- Cepheid

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3. GENERAL INFORMATION

3.1. Code

MSM-HCV-MicroElimination

3.2. Title

HCV micro-elimination in the MSM community

3.3. Sponsor information

- PROJECTE DELS NOMS HISPANOSIDA
- Fundació FLS Lluita contra la Sida, les Malalties Infeccioses i la Promoció de la Salut i la Ciència

3.4. Investigator and collaborators data

Investigators from BCN-Checkpoint and Infectious Diseases Service from the Hospital Germans Trias i Pujol.

3.5. Provisional sites and regions

BCN Checkpoint
BCN PrEP-Point

3.6. Expected study duration

The duration of this study is planned to be 2 years June 2021 to July 2023.

Following see the expected study calendar:

- Ethics Committee application: June 2021
- Study start (first patient in): June 2021
- Recruitment period: 2 years and 2 months
- Patient follow-up: Single visit on Screening. In case of positive HCV viremia, 6 and 12 months post treatment control will be offered.
- Final report: End of 2023. Reinfections will be reported during 2024.

4. RATIONALE

Background and Significance

Since 2000, there have been multiple reports of outbreaks of sexually transmitted acute hepatitis C virus (HCV) infection in HIV-positive men who have sex with men (HIV+ MSM) in urban areas of North America, Europe, Australia and Asia[i]. Acute HCV infection is more likely to become persistent in the presence of HIV, and liver fibrosis progression in chronic HCV infection is faster even in patients with undetectable HIV viral loads[ii]. At 2018 CROI meeting in Boston the Swiss HCVree trial suggested that offering HCV treatment to all diagnosed HIV/HCV coinfected individuals within the Swiss HIV Cohort may be successful in reducing new incident infections by almost 50% as well as reducing the burden of chronic HCV by over 90%[iii]. Similar results had been reported at 2017 CROI in Seattle where again an increased uptake of DAA therapy in Netherlands with over 75% of all HIV/HCV coinfected MSM being cured caused a reduction in new infections by around 50% [iv] [v] [vi]. Thereby, these studies indicate that HCV micro-elimination may be achievable in well-identified patient populations. However, the challenge to overcome is the high risk of reinfection in a small number of subjects with very high-risk sexual practices, among HIV coinfected MSM, with reinfection rates of almost 25% after two years of follow-up after a first resolved or successfully treated episode of acute HCV[vii].

A potential source for HCV transmission may also come increasingly from HIV-negative MSM. Various studies presented at CROI 2018 looked at HCV prevalence and incident infections in HIV-negative MSM entering PrEP studies showing that the acute HCV epidemic has now also reached the HIV-negative MSM population[viii] [ix, x]. Clearly, early treatment of acute HCV will become crucial for achieving micro-elimination to limit transmission possibilities. Data from the NEAT-ID foundation PROBE-C cohort looked at the natural course of acute HCV infection in HIV-coinfected individuals[xi], and only 11% of all patients were able to clear HCV infection spontaneously, which implies that an overwhelming portion of patients will go on to develop chronic HCV infection and require treatment. Early intervention appears advisable to prevent further onward transmission of HCV. However, there is a huge gap as for data and awareness in this population.

5. OBJECTIVES

5.1. Hypothesis

A community center for MSM and TGW, with a longstanding experience of early HIV detection, linkage to care and treatment initiation, might be able to create a model with low barrier for Point-of-Care (POC) HCV detection in an understudied population. Through a simple algorithm to achieve detection, confirmation, and treatment initiation at the same day, it would be able to achieve rapid HCV viremia suppression in this scenario. Moreover, this model will be replicable in other European cities, where similar community centers and POC technology are in place.

5.2. Objectives

The primary Goal of this project is to identify HCV acute and chronic infections in HIV-uninfected MSM and TGW community and to offer them a low barrier linkage to care in the context of a fast-track circuit, offering a first visit with a specialist and starting hep C treatment in the same day after confirmation. A total of 10-15 unknown HCV infections are expected to be diagnosed during the study and to be treated. Potential risk factors for increased HCV infection rates include recreational drug use, including "chemsex", PrEP use, sex work, and several sexual behaviors. We will analyze which factors entangle an increased infection risk. This will allow us to focus and intensify screening on people with these factors while reducing the costs of continuous HCV screening in people who maintain at high risk.

Primary objectives

- Determine the prevalence of acute and chronic HCV infection in HIV-uninfected MSM and TGW community. Serologic prevalence will also be determined.
- Stablish a fast-track circuit between Sexual Health Community centers and Hospital liver/infection diseases units to offer the possibility of starting treatment quickly after diagnosis and confirmation of HCV viremia on same day.

Secondary objectives

- Characterization of risk factors associated with acute and chronic HCV infection in the MSM and TGW community to inform which individuals will benefit more from HCV screening.
- Creation of and HCV pre-test Score during Phase 1 and validation during Phase 2.
- Evaluate user's satisfaction with HCV testing using Patient Reported Outcome Measures (PROMs).
- Evaluation of causes for treatment delay and/or loss to follow up.
- Evaluation of reinfections after treatment during first year post treatment.

6. INFORMATION SOURCE AND FIELD

Source documents are the patient's medical records.

Study data will be collected through integrated forms in Salus (QSOFT, Software Salus 2017) that is software to compile user's information used in sites participating in this study. It is allocated in a Secure Server according to Personal Data protection Laws.

During the screening visit, the investigator will provide the participant the informed consent and will let the necessary time to read and understand the study procedures. If the participant agrees to participate in the study, he will sign the consent. One copy of the signed IC will be facilitate to the participant.

A demographics and a sexual behavior questionnaire will be requested to be completed by the study participants at the screening visit (See Appendix 2). Additionally, at the end of each study visit, PROMs questionnaire to evaluate satisfaction will be carried out (See appendix 3)*(In this study and adaptation of SUCE questionnaire will be performed*[xii]*)*.

Additionally, and in case to be necessary it will be asked to the participant information related to previous HCV infections or in case of a diagnostic to follow treatment received and results of blood test performed on other public health units of Catalonia.

The study visits will be performed in the clinical installations of BCN CheckPoint or BCN PrEP·Point, allocated in Barcelona C/ Comte Borrell 164-166 and 168 respectively.

Laboratory determinations

Point of care test (POCT) will be performed in BCN Checkpoint and BCN PrEP·Point.

Whole blood antibodies will be tested with POCT using immunochromatographic rapid test (Abbott rapid HCV test "SD BIOLINE HCV assay"). Viral load to screen and confirm will be performed with whole blood by Point of Care Real-Time Quantitative Reverse Transcription PCR (Cepheid "Xpert® HCV VL Fingerstick"), genotypes 1-6 are covered by this technique, and its limit of detection is 35 IU/mL.

Acute infections with negative antibodies will be also tested with (Cepheid "Xpert® HCV Viral Load), genotypes 1-6 are covered by this technique and its limit of detection is 4.0 IU/mL in plasma and 6.1 IU/mL in genotype 1.

Chemistry and Microbiology HUGTiP laboratories will be used for genotype study and hematology and chemistry evaluation in case of a confirmed diagnostic (positive viral load). Exam will include blood count (3mL EDTA tube), Serum Creatinine, AST, ALT, GGT, alkaline phosphatases, direct and indirect Bilirubin (5mL SST gel Tube), Prothrombin Time (2.7mL coagulation tube) and for the HCV Genotype (10 mL EDTA tube). A total of 20.7mL will be obtained per venipuncture

Microbiology HUGTiP laboratories will be also used for the cases that positive serology is obtained with rapid test and viral load is negative, without having received previous treatment for HCV or without previously known infection, to

confirm possible cases of spontaneous Cure. In these cases, a total of 7mL (SST gel tube) will be obtained by venipuncture.

7. STUDY DESIGN

7.1. Study population: Selection criteria

Inclusion Criteria

1. All BCN Checkpoint and BCN PreP·Point clients.
2. 18 years and older.
3. HIV uninfected or diagnosticated in the center in the last 7 days prior to the study inclusion.
4. Men that have sex with men or transgender women.
5. Signature of written consent form.
6. Ability to comply with the requirements of the study protocol.

Exclusion Criteria

1. Knowledge of HIV infection from more than 7 days
2. Knowledge of active HCV infection

7.2. Study Schedule of Assessments

This project will be performed in the BCN Checkpoint and BCN Prep·Point , which is a community center for sexual health care and detection of HIV and other STIs for MSM and TGW since 2006.

The services offered by both centers are focused on prevention through early/acute detection of HIV plus fast access to treatment, promotion of biomedical approaches, as well as the promotion of a healthy sexuality among the MSM community.

The center also has experience in systematic detection of asymptomatic STIs and their treatment to prevent their dissemination among the community and the general population. Fast linkage to care has been established in collaboration with "Fundació Lluita contra la Sida" and with the "Hospital Universitari Germans Trias i Pujol", wherein during 2019 a total of 7.581 persons were attended.

This study will have two different phases: phase 1 (first year) and phase 2 (second year).

All the participants should answer the "Sexual Behavior and demographics" questionnaire (Appendix 2), before any blood study extraction during phase 1 and phase 2.

Phase 1:

1A. Assess the prevalence of untreated HCV infection among HIV-negative MSM and TGW.

During the first year all clients of BCN Checkpoint (6,000-7,000) will be offered a serology test, Abbott rapid HCV test "SD BIOLINE HCV assay". It will take 5 minutes to obtain the test results.

If a positive result is obtained in serology test a Cepheid "Xpert® HCV VL Fingerstick" will be performed to identify HCV Viremic cases. The time to obtain the test result will be 60 min approximately.

In case of positive serology and positive viral load, Chemistry and Microbiology HUGTiP laboratories will be used for genotype study and hematology and chemistry.

In case of positive serology with negative viral load, standard lab serology will be also performed to confirm serology, thrown standard hospital lab circuit. If confirmation, this participant will be considered as previously HCV infection with spontaneous cure, if no treatment has been received previously (See table 1).

All participants diagnosticated with viremic HCV infection will be offered a 6 and 12 month post treatment visit to asses possible reinfections. Cepheid "Xpert® HCV VL Fingerstick" will be used as described before to evaluate reinfections. Theses visits will remain without changes during all phases of this study.

1B. Also, during the first year, 1.000 subjects with a previous negative "SD BIOLINE HCV assay" will be offered Cepheid "Xpert® HCV VL Fingerstick" tests to detect acute HCV infection if they fulfil at least one of the following criteria[xiii], [xiv], [xv], [xvi], [xvii], [xviii], [xix], [xx], [xxi], [xxii], [xxiii], [xxiv]:

1. Group sex with ChemSex use during last 3 months.
2. Slamming during last 3 months.
3. Fisting without gloves during last 3 months.
4. Sharing anal play toys without condoms during last 3 months.
5. Sharing sniffing roller for cocaine or other drugs during last 3 months.
6. Partner with active HCV or recently diagnosed with HCV on the last 3 months
7. PrEP use*
8. Previous HCV Infection,
9. HIV infection recently diagnosticated.

**PrEP alone as unique criteria will not be considered condition to perform HCV viral load, if it is the only condition, as in our center PrEP users are screened before starting PrEP and each year with serologic screening. Also, HCV screening is performed in case of founding high liver enzymes levels in periodic blood tests performed in PrEP routine controls.*

The participants with a previous negative "SD BIOLINE HCV assay" and a positive "Xpert® HCV VL Fingerstick" will be confirmed with the Cepheid "Xpert® HCV Viral Load". In these cases, a standard lab serology, hematology and biochemical exam will be also performed thrown standard hospital lab circuit (See table 1).

Table 1. Study Chronogram Phase 1

	SCREENING	6 months Post Treatment visit *	12 months Post Treatment visit*
Informed consent	X		
Selection Criteria	X		
SD BIOLINE HCV assay	X		
Cepheid "Xpert® HCV VL Fingerstick"	X[a]	X[a]	X[a]
Xpert® HCV Viral Load	X[b]		
Routine Serology	X[c]		
genotype study/Hematology and biochemical analysis	X[d]		
Sexual behavior & demographics questionnaire	X		
PROMS questionnaire	X	X	X

a) The participants that obtain a positive result from the SD Bioline HCV assay test will be confirmed with Cepheid "Xpert® HCV VL Fingerstick" to identify HCV viremic cases. Also first 1000 participants with a negative result from the SD Bioline HCV assay test that fulfils criteria mentioned on 1B point, will be confirmed with Cepheid "Xpert® HCV VL Fingerstick" to identify acute HCV infections. *During V6MPTV and V12MPTM the fingerstick will be offered to all the participants with HCV infection detected during the screening visit.

b) Acute infections with negative antibodies will be also tested with (Cepheid "Xpert® HCV Viral Load) to confirm viremic cases.

c) In case of positive serology with negative viral load, standard lab serology will be performed to confirm serology, thrown standard hospital lab circuit.

d) For the confirmed HCV Viremic cases, it will be analyzed the following parameters: blood count, Serum Creatinine, AST, ALT, GGT, alkaline phosphatases, direct and indirect Bilirubin, protrombine time and the genotype study will be performed.

** Visits after 6 months and 12 months are optional and only are applicable for those patients that had been diagnosticated and treated for HCV infection during the screening visit.*

After one year, a statistical analysis (interim analysis at 6 months*) of the results will be made to determine associated factors for positive antibody test as well as for positive acute HCV test to set selection criteria for phase 2 of the study. A Draft of HCV pre-test Score will be developed with this first-year analysis and implemented during second phase.

*Interim analysis will be used to evaluate data collection, correct incidences and to set up data analysis system. This will facilitate the results evaluation at the end of Phase 1 and it will allow to create the pre-test score to start the study Phase 2.

Phase 2: Targeted testing

During the second year, selected criteria from pre-test score will be used to offer clients an HCV rapid antibody test "SD BIOLINE HCV assay". Estimation of tests: 2,000-3,000. Depending on the results obtained on the first year, this analysis could change.

In addition, about 300 participants that complies the SCORE criteria founded during phase 1 for acute HCV infection, will be performed Cepheid "Xpert® HCV VL Fingerstick". On Visits V6MPT and V12MPT, screening will be performed with Cepheid "Xpert® HCV VL Fingerstick".

The goal with both detection strategies is to uncover a 3-time higher prevalence rate, according to our experience with HIV criteria obtained after evaluation of factors.

Procedures in case of positive results will be as described on first year phase. Final report will focus on proposing how the model could be replicated in other similar cities and settings.

Table 2. Study Chronogram Phase 2

	SCREENING	6 months visit *	12 months visit*
Informed consent	X		
Selection Criteria **	X		
SD BIOLINE HCV assay	X		
Cepheid "Xpert® HCV VL Fingerstick"	X[a]	X[a]	X[a]
Xpert® HCV Viral Load	X[b]		
Serology	X[c]		
genotype study/Hematology and biochemical analysis	X[d]		
Sexual behavior & demographics questionnaire	X		
PROMS questionnaire	X	X	X

a) About 300 participants that complies the SCORE criteria founded during phase 1 for acute HCV infection, will be performed Cepheid "Xpert® HCV VL Fingerstick". On Visits V6MPT and V12MPT, screening will be performed with Cepheid "Xpert® HCV VL Fingerstick".

b) If the Xpert® HCV VL Fingerstick test is positive, and SD BIOLINE HCV assay is negative , a confirmation viral load test will be performed to the participant "Cepheid "Xpert® HCV Viral Load"

c) In case of positive serology with negative viral load, standard lab serology will be performed to confirm serology, thrown standard hospital lab circuit.

e) For the confirmed HCV Viremic cases, it will be analyzed the following parameters: blood count, Serum Creatinine, AST, ALT, GGT, alkaline phosphatases, direct and indirect Bilirubin, protrombine time and the genotype study will be performed.

** Visits after 6 months and 12 months are optional and only are applicable for those patients that had been diagnosticated and treated for HCV infection during the screening visit.*

*** The selection criteria will be defined according to the pre-test score finded during phase 1.*

7.3. Sample size predetermination

This observational study will include up to 7000 participants during Phase 1 and up to 3000 participants during Phase 2. Size determination has been determined by expected users during the first year to participate in the cohort. It will not be possible to determine a necessary size to optimize this study as there are no data concerning HCV prevalence in HIV-uninfected MSM and TGW in our allocation.

8. VARIABLES AND MEASURE INSTRUMENTS.

8.1. Study Variables

- Determination of acute HCV cases detected by viral load.
- Number of positive viremic results and cases per 100 person-years.
- HCV serologic prevalence.
- Number of positive serologic test with or without positive viremia.
- Time between confirmed diagnostic and start of treatment (Measured in days).
- Number of reinfections at 6 and 12 months after treatment.
- Identification of risk factors using the sexual behavior and demographics questionnaire
- Ratio of satisfaction using "Patient Reported Outcome Measures" (PROMs)
- Causes of treatment delay or loss to follow up
- Reinfections/treatments measured in percentage.

8.2. Endpoints

Primary End-points

- Proportion of viremic HCV prevalence in MSM and TGW community in Barcelona at the screening visit.
- Determination of acute cases detected by Viral load during screening visit
- HCV Seroprevalence with non-viremic status at screening visit.
- Number of days between diagnosis and treatment initiation during the study.

Secondary End-points

- Characterization of risk factors associated with acute and chronic HCV infection in the MSM and TGW community to inform which individuals will benefit more from HCV screening.
- Evaluation of causes for treatment delay and/or loss to follow up a long the study
- Evaluation of reinfections after treatment during first year post treatment.
- Service user's punctuations achieved after experience in HCV testing.

9. STATISTICAL ANALISIS

A descriptive analysis will be conducted for the following variables: number of subjects, sociodemographic characteristics (gender, age, and partner's HCV status), sexual behavioral patterns (number of partners, drug use while having sex), PrEP use, and biological results. Results are presented in terms of incidence rate ratios (IRRs) and 95% confidence intervals (CIs) and their p-values of active HCV infections and presented as cases per 100 person-years. Depending on the type or distribution of each variable, absolute frequencies (N) and percentages (%), interquartile range (Q1– Q3), or standard deviation (SD) will be calculated. This descriptive analysis will be presented calculated for individuals separately to allow investigation of the association between groups. Categorical variables will be evaluated by Chi square test or Fisher's test, while Student's t-test or Wilcoxon test was used for continuous variables. After the first phase we will conduct a univariate analysis with all independent factors (HCV risk factors). The outcome variable will be the number of new cases of HCV and taking into account the population at risk. Factors associated with HCV infections with univariate p-value<0.1 will be entered in Poisson regression, adjusted by age and gender. A

significant level of 5% will be taken into account for all analysis performed. Descriptive statistics of demographic factors, and sexual behavior patterns and biological results will also be carried out for possible reinfections detected during follow up visits. A descriptive analysis of the patient reported outcomes will also be carried out and presented in the final report. All analyses will be carried out by means of the STATA 14.2 (StataCorp LP, College Station, TX USA).

10. ETHICAL ASPECTS

This study will be carried out following the ethical principles recovered in the Declaration of Helsinki from Brazil, October 2013.
This study will be conducted according to Spanish regulations regarding biomedical investigations (Organic Law 14/2007 of biomedical investigation)

The required documentation prior to the start will be:

• Protocol approval by the Ethics Committee.

Confidentiality requirements will follow the required Data Protection legislation (see section 10.3).

10.1. Benefit/Risk evaluation

Participating in this study offers the option of being screened against Hepatitis C Virus, in the context of a full Screening of other STI that are not the objective of this study. Complete assessment and information about transmission ways and possible ways of protection will be offered during the visit.

Participating in this study has not significant risks. Only those associated to capillary blood sampling that can implicate little bleeding or pain in the puncture area.

10.2. Patient information and informed consent

The investigator will inform the candidates of the nature, duration, and purpose of this study and, in addition, of all the inconveniences and obstacles that, if any, can be expected. In addition, written information will be provided to the patient. Patients must have the legal capacity to give their consent and exercise their freedom of decision. Written informed consent will be obtained by signing the study informed consent form.

One copy of the signed IC will be facilitate to the participant.

The consent forms will be reviewed whenever there were changes in the study procedures or new information were available that may affect the patient's willingness to participate. Patients will reconfirm consent with the most recent version of the consent forms during their participation in the study, and the process will be recorded in the medical record by the investigator.

All signed and dated consent forms must remain in the investigator site file and must be available for verification at any time.

10.3. Confidentiality

The processing of the data will be performed in accordance with Spanish Organic Law 3/2018 (LOPD-GDD), which develops the General Data Protection Regulation 2016/679 on data protection and privacy for all individuals within the European Union (GDPR). The individuals and donors will be guaranteed anonymity, and at the time of informed consent signature were informed that all communication shall take place between him/her and the investigator of the study they participated in. This study will be conducted using pseudonymized data. The patient will be identified in the records by the corresponding unique code number, not associated with any of his/her personal data. The database used for this study, is SALUS (Microsoft® SQL Server).

In order to prevent improper access by unauthorized third parties, security measures will be implemented such as the pseudonymisation of the data, the control of access to the database SALUS (Microsoft® SQL Server) through secure personal passwords and its storage on a secure server located in the European union under current regulations with the highest quality and specific security and, if necessary, encrypted data transfer.

The data controller will be the co-sponsors of this project:

- La Fundación FLS de Lucha contra el Sida y las enfermedades infecciosas, (lopd@flsida.org)

- PROJECTE DELS NOMS-HISPANOSIDA, info@hispanosida.com

- In addition, the data controller of the data that will be integrated in the participant's Medical History will be the *Institut Català de la Salut*, dpd@ticssalutsocial.cat.

Data transmitted to third countries, and other countries, will in no case contain personal data. If such transfer occurs, it will be for the same purposes of the study described and ensuring confidentiality, at least to the level of protection of the law in Spain.

11. PRACTICAL CONSIDERATIONS

11.1. Study plan

June 2021-May 2022 Phase 1

June-July 2021 Phase 1 data Analysis and Pre-Test Score development.

August 2022-July 2023 Phase 2

August 2023- January 2024 Phase 2 analysis and results reporting

February 2023-September 2024 6 and 12 months post treatment visits.

October 2024-November 2024- Reinfections reporting

11.2. Follow-up and final reports

It's planned an interim analysis report at 6 and 12 months after the study initiation.

A final report will be performed with the obtained results.

11.3. Results diffusion

It is planned to communicate this study in national and international conferences of socio-sanitary interest and one or many English publications (peer review).

11.4. Risks and potential limitations

As this project will be included in an ongoing project of community screening, recruitment is not expected to be a problem, however intensification of campaigns for promotion of HCV testing will be considered in case of lack of interest in our actual users.

Questions related to risk factors such as number of sexual contacts, drug use, etc. will be asked by the counselor and could produce an underestimation of these risk factors. However, we have been working with this kind of questionnaires for the last 15 years and users have never expressed any problem due to a peer-to-peer service, which allows a safe environment for the clients. All our staff and volunteers are previously selected and adequately trained.

Users with positive results could refuse to attend the medical specialist in the Hospital Germans Trias due to the distance. In this case derivation to other Hospital could be considered. However, treatment will last only 8-12 weeks and usually require no subsequent follow-up. So, in our opinion the interference of this problem in this study would be extremely limited, other Hospitals on the city are working in Test and Treat HCV strategy and referral has been done in the past; also, we will ask for follow up with the participant through telephone calls.

The Partner notification potential Contacts will be performed in our center in collaboration with the Public Health agency to offer testing to positive case contacts. However, in the MSM community this can sometimes be difficult or even not possible because users don't keep in contact with the most part of their sexual partners. From our center we are going to facilitate to get a test in all suspicious cases of contact to other cases.
Our team has been trained during years in the use of rapid tests, including HIV ELISA, PCR, and Syphilis rapid tests. In this cases HCV viral load could be performed at the same time, but also HCV serology could be sent to the lab, as BCN Checkpoint disposes of nurses and doctors at all opening hours (from 8.00 to 20.00 hours) to perform common blood test through standard venipuncture.

Migrants or undocumented population could have difficulties in their access to the required HCV treatment. In case of confirmation of active HCV and no possibilities of treatment, our center has the possibility to facilitate fast access to the Public Health system to facilitate access to care and treatment, as it is considered a Health priority to eradicate HCV by 2030 in the context of WHO's Global Health Sector Strategy on Viral Hepatitis program. This circuit has been used for HIV confirmed cases and the Public Health Agency is aware of this study and this possibility.

11.5. Expected Outcome

It is expected that HCV screening has a good acceptance in the community. It is also expected to be easy to implement both the HCV test and HCV viral load as the center is used to this kind of tests.

According to the 4.7% prevalence in the MSM community estimated by the ECDC for 2018, it is expected to find 305 positive cases of seroprevalence of HCV infection, but it unknow how many of them will be viremic, as HCV has actively been treated with DAAs in Spain. Therefore, it will be difficult to determinate number of acute HCV infection cases to be found if HCV viral load screening is performed. Also, in our cohort this number might be influenced by the fact that the center attends a migrant community with higher rates of HCV as well as more frequent Chemsex users.

All these facts make it difficult to estimate the potential number of acute HCV cases, but we expect to find 10-15 cases of acute infections.

Implementing HCV screening among the MSM community will increase the detection of acute cases and, due to higher infectiousness, we can contribute to increase the reduction of the transmission chain among the MSM community. Creating a model that could be implemented in other community centers like BCN Checkpoint will increase HCV detection and treatment, working in line with the WHO 2030 objectives of HCV eradication.

It is also expected that acute HCV detections and partner notification create more awareness around MSM about the importance of HCV prevention.

Appendix 1. Informed Consent

Attached separately in an independently versioned document.

Appendix 2. Sexual behaviors and demographics questionnaire

Attached separately in an independently versioned document.

Appendix 3. Satisfaction questionnaire PROMs (SUCE Adaptation)

Cuestionario de Satisfacción del Usuario										
Por favor puntúe de 1 a 10 las siguientes preguntas, siendo el 10 la respuesta mejor valorada y el 1 la respuesta peor valorada										
1. El tiempo que pasó desde que pidió la cita hasta la fecha de consulta 1	1	2	3	4	5	6	7	8	9	10
2. Los trámites que tuvo que hacer en recepción	1	2	3	4	5	6	7	8	9	10
3. El tiempo de espera hasta ser atendido	1	2	3	4	5	6	7	8	9	10
4. La comodidad de la sala de espera	1	2	3	4	5	6	7	8	9	10
5. El trato por parte del personal	1	2	3	4	5	6	7	8	9	10
6. El cuidado con su intimidad durante la consulta	1	2	3	4	5	6	7	8	9	10
7. La duración de la consulta	1	2	3	4	5	6	7	8	9	10
8. La información clínica recibida	1	2	3	4	5	6	7	8	9	10
10. La claridad con que le explicaron las pruebas realizadas	1	2	3	4	5	6	7	8	9	10
11. La facilidad de los trámites que ha tenido que hacer si ha necesitado volver a citarse	1	2	3	4	5	6	7	8	9	10

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