

# Viral Hepatitis and HIV Screening in Seasonal Mountain Workers: Feasibility and Results of a First French Experiment

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## ABSTRACT

**Introduction:** The Mobile Hepatitis Team (MHT) was set up in 2013, with main objective was to increase outreach screening care treatment access and cure of our target population. Target population was drugs users, prisoners, homeless, precarious people, migrants, and psychiatric patients. Seasonal workers working in mid-mountain ski resorts in the Eastern Pyrenees constitute a population at risk of viral hepatitis and HIV. This young population presents sexual risk behaviors and consumption of addictive products without regular access to care because of their mobility, moving from one workplace to another according to the seasons. They do not have a regular general practitioner, do not perform screening tests and there is no access to care other than the mandatory occupational medicine visit at the beginning of the season. In previous actions on the health area of the high cantons of the department of Pyrénées-Orientales. We met with invested partners who referred us to this specific population of seasonal workers and their lack of access to screening and care, except for the occupational medicine hiring visit, organized before the beginning of the winter season, late November in early December.

**Objective:** To detect viral hepatitis and HIV in a population at viral risk and far from care and offer them immediate treatment of the type of linkage to care "TEST TO CURE".

**Methodology:** 2-weeks HCV HBV and HIV finger sticks by trained nurses and orientation to the hepatology or the infectious units.

**Results:** only 28 HCV finger sticks were completed. We also met 4 patients with known HCV serology. Three patients received DAA treatment and one patient spontaneous cured with negative RNA. One new patient had RNA C positive on balance sheet without social rights. We oriented him towards social worker to treat him later. Two patients had 2 real time HCV viral load not detected (including one post treatment follow-up) and one RNA negative without antiviral treatment, in case of HCV spontaneous clearance. For HBV, 16 finger sticks were completed, all negative. We did not meet as many seasonal workers as originally planned. This is why we conducted a second session over 2 days only targeted on these temporary accommodations. We realized 26 HCV and HIV finger sticks. One patient was HIV positive. HIV serology was unknown until our screening session. Nobody was HCV positive but 62% of screened people were drugs users or former drugs users.

**Discussion:** our study was a success even the low number of people screened in the first 2-week session. The second 2-day session was more efficient. It was the first experience of hepatitis and HIV screening in this population of seasonal mountain workers.

**Conclusion:** despite all limits, hepatitis and HIV screening among seasonal mountain workers was an innovative and efficient action. This action could be easily replicated in all populations of seasonal workers, whether in the mountains or by the sea.

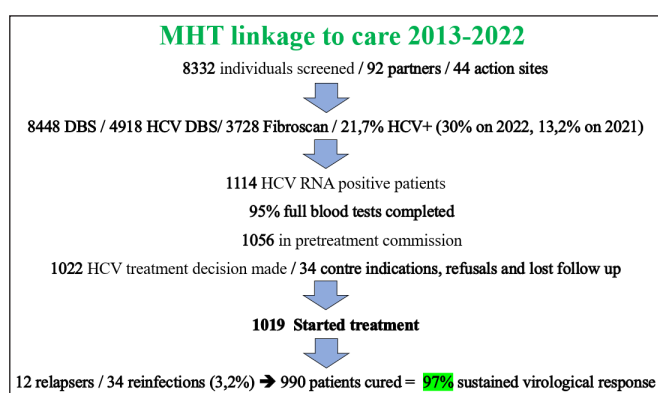
## Introduction

In 2016, the World Health Organization (WHO) set an ambitious goal to eliminate hepatitis C as a major public health threat by 2030 [1]. Specific targets include increasing sterile needles/syringes distributed from 20 to 200 per person per year for PWID, reducing new hepatitis C infections by 80% and hepatitis C-related deaths by 65%, increasing hepatitis C diagnoses from <20% to 90% and the number of people receiving hepatitis C treatment from less 10% to 80%. Drug injection was main contamination route of hepatitis C virus (HCV) in France and western Europe since 1990 [2]. Although highest European HCV screening rate in France, 33% of patients didn't take care of hepatitis C because there were no diagnosed [3]. On 2018,

the International Network of Hepatitis in Substance Users (INHSU) published recommendations for good practices about HCV pathway on drug users (4), emphasizing the treatment of all drug users to minimize contamination and re-infection. There are national recommendations about treating all HCV patients even active drug users in France [5-6].

The Mobile Hepatitis Team (MHT) was set up in 2013, following the publication of a scientific report on reducing risks of infection amongst drug users in 2011, which recommends screening all drug users for HCV and establishing multidisciplinary clinics with 'all-in-one' screening to treatment and providing medical and social care [2]. MHT main objective was to increase outreach

screening care treatment access and cure of our target population. Target population was drugs users, prisoners, homeless, precarious people, migrants and psychiatric patients. MHT was composed of 1 hepatologist, 3 nurses, 1 secretary, 1 social worker, one health care worker, for a cross-disciplinary approach. Resources include two specific cars, on van, serology point-of-care testing (POCT), and two mobile FIBROSCAN®. Ninety-nine different medical and social units were partners: low and high threshold drug units, retention and detention center medical units, outside psychiatric units, emergency, and homeless food/hosting units. We proposed part or all our services to our medical and social partners. There were 15 different services for half million people area in south of France. All services were free for patients and for partners. We already had screened more than 10000 people with 99 partner structures spread over its territory of action (included Pyrénées-Orientales and Est Audois) and allowed the healing of 1000 patients. MHT linkage to care was reported on figure 1 and described in a previous article [7].



**Figure 1:** Mobile Hepatitis Team linkage to care 2013-2022

Seasonal workers working in mid-mountain ski resorts in the Eastern Pyrenees constitute a population at risk of viral hepatitis and HIV. This young population presents sexual risk behaviors and consumption of addictive products without regular access to care because of their mobility, moving from one workplace to another according to the seasons. They do not have a regular general practitioner, do not perform screening tests and there is no access to care other than the mandatory occupational medicine visit at the beginning of the season. In 2018, 2020 and 2022, we conducted specific actions of 2 to 3 days on the health area of the high cantons of the department of Pyrénées-Orientales, Cerdagne and Capcir. We met with invested partners who referred us to this specific population of seasonal workers and their lack of access to screening and care, except for the occupational medicine hiring visit, organized before the beginning of the winter season, late November in early December.

### Objective of the Study

To detect viral hepatitis and HIV in a population at viral risk and far from care and offer them immediate treatment of the type of linkage to care “TEST TO CURE”

### Methodology

- Presence of nurses of the mobile hepatitis team of the Perpignan Hospital on the sites of initial presence of seasonal workers involved in winter sports stations of the Catalan Pyrenees before the beginning of the winter season 2022-2023

- Duration of daily screening sessions 2 weeks
- Implementation of HIV HCV VHB finger sticks proposed to seasonal workers
- In case of positivity to HIV, immediate referral to the infectious diseases department of the Perpignan Hospital and prescription of an initial biological assessment
- In case of HCV positivity, realization of a FIBROSCAN for assessment of hepatic fibrosis and measurement of viral load C; if viral load C is positive, immediate implementation of antiviral treatment C
- In case of HBV positivity, realization of a FIBROSCAN for assessment of hepatic fibrosis and additional biological assessment; implementation of antiviral treatment B according to current recommendations

### Target Populations

- Targeted screening for vulnerable populations.
- Targeted screening for populations with risk behaviors that may expose them to HCV, HBV, HIV
- Targeted screening for populations geographically distant from conventional structures

### Technical and Human Resources Required

- Nurse On-Call 2 Full-Time Equivalent 2 Weeks
- social mediator 1 full-time equivalent 2 weeks
- dedicated mobile FIBROSCAN 2 weeks
- real-time C viral load measurement system GENEXPERT Cepheid
- Finger sticks tests for hepatitis C hepatitis B and HIV

### Partners Involved in our Study

- Cerdagne and Capcir health centers in the municipalities of Font Romeu and Les Angles
- Occupational Health Department
- Ski Seasonal Forum
- Medical analysis laboratories of the upper cantons Cerdagne Capcir

### Evaluation Criteria

- Monitoring and evaluation method envisaged, indicators monitored and results
- Number of seasonal workers to be screened
- Number of seasonal workers screened
- HIV and hepatitis B and C finger sticks positivity rate
- number of FIBROSCAN performed
- rate of management of chronic viral infections
- number of patients treated (for the 3 viruses) and cured (for hepatitis C)

### Provisional Calendar

- 02-11-2022: partner information by email and EMH newsletter (figures 2,3)
- 28-11-2022: start of screening sessions
- 09-12-2022: end of screening hotlines
- 31-01-2023: evaluation report

CENTRE HOSPITALIER  
**PERPIGNAN**

**ZERO HEPATITES CERDAGNE CAPCIR**

**EMH**  
EQUIPE MOBILE HEPATITES

**Dépistage Gratuit Hépatites C & B - VIH**  
**En partenariat avec la Santé au Travail**

**Du 28 Novembre 2022 au 9 Décembre 2022**

**À FONT-ROMEU**  
**Lundi de 10h à 12h / 13h30 à 17h**  
**Mardi, mercredi, jeudi de 8h à 12h / 13h30 à 17h**  
**Vendredi de 8h à 12h**

**Pôle santé au travail**  
7 Boulevard François Arago

**Maison de santé**  
28 Boulevard du Cambre d'Aze

En France, des milliers de personnes sont infectées sans le savoir

Les virus des hépatites B et C peuvent endommager le foie sans symptômes

Une goutte de sang suffit pour se contaminer

Résultats en 15min

**Contact Equipe Mobile Hépatites**  
**06 69 34 15 80 - 06 44 16 42 68**

Figure 2: Screening information poster



Figure 3: Screening team photos

## Results

We did the two weeks screening weeks in November and December 2022/ Only 28 HCV finger sticks were completed. We also met 4 patients with known HCV serology. Three patients received DAA treatment and one patient spontaneous cured with negative RNA. One new patient had RNA C positive on balance sheet without social rights. We oriented him towards social worker to treat him later. Two patients had real time HCV viral load not detected (including one post treatment follow-up) and one RNA negative without antiviral treatment, in case of HCV spontaneous clearance. For HBV, 16 finger sticks were completed, all negative and we met 13 full vaccinated hepatitis B people. We did also 16 negative HIV finger sticks.

We did not meet as many seasonal workers as originally planned because, contrary to the data provided by our partners in previous mountain actions, these workers do not systematically go to occupational medicine visits. It was suggested to us to move rather to their places of accommodation, campsites, and parking of the ski stations. This is why we conducted a second session in March 2023 over 2 days only targeted on these temporary accommodations. We realized 26 HCV and HIV finger sticks. One patient was HIV positive. HIV serology was unknown until our screening session. Nobody was HCV positive but 62% of screened people were drugs users or former drugs users.

Concerning liver fibrosis evaluation by FIBROSCAN, nine measures have been taken. Four patients were classified F0-F1, three F2, one F3 and one F4. The cirrhotic patient was referred to a one-day hospitalization to assess his liver disease. The patient with severe liver fibrosis F3 was referred to a liberal hepatologist.

## Discussion

Our study was a success even the low number of people screened in the first 2-week session. The second 2-day session was more efficient. It was the first experience of hepatitis and HIV screening in this population of seasonal mountain workers. The strengths were the proximity of housing with organization in quasi-residential, the catch-up sessions at the foot of the slopes with ski services support, the integration of action in Regional Health Agency Occitanie screening weeks. We have highlighted the pressed fear of stigmatization of seasonal guests and the needs of changing screening areas to increase number of screened people. The limitations of the study were the lack of coordination of occupational health service, the non-compulsory transition to work doctor for seasonal workers, the lack of support from local actors and finally a first period not optimal for screening.

## Conclusion

Despite all limits, hepatitis and HIV screening among seasonal mountain workers was an innovative and efficient action. We found HIV and HCV unknown patients and severe liver fibrosis patients. This action could be easily replicated in all populations of seasonal workers, whether in the mountains or by the sea.

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