



VHPB TECHNICAL MEETING  
Antwerp, Belgium , 26/03/2024

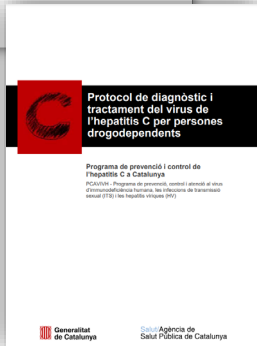
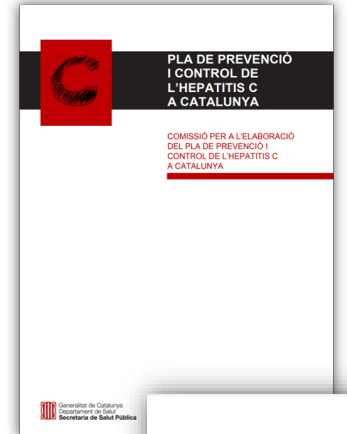
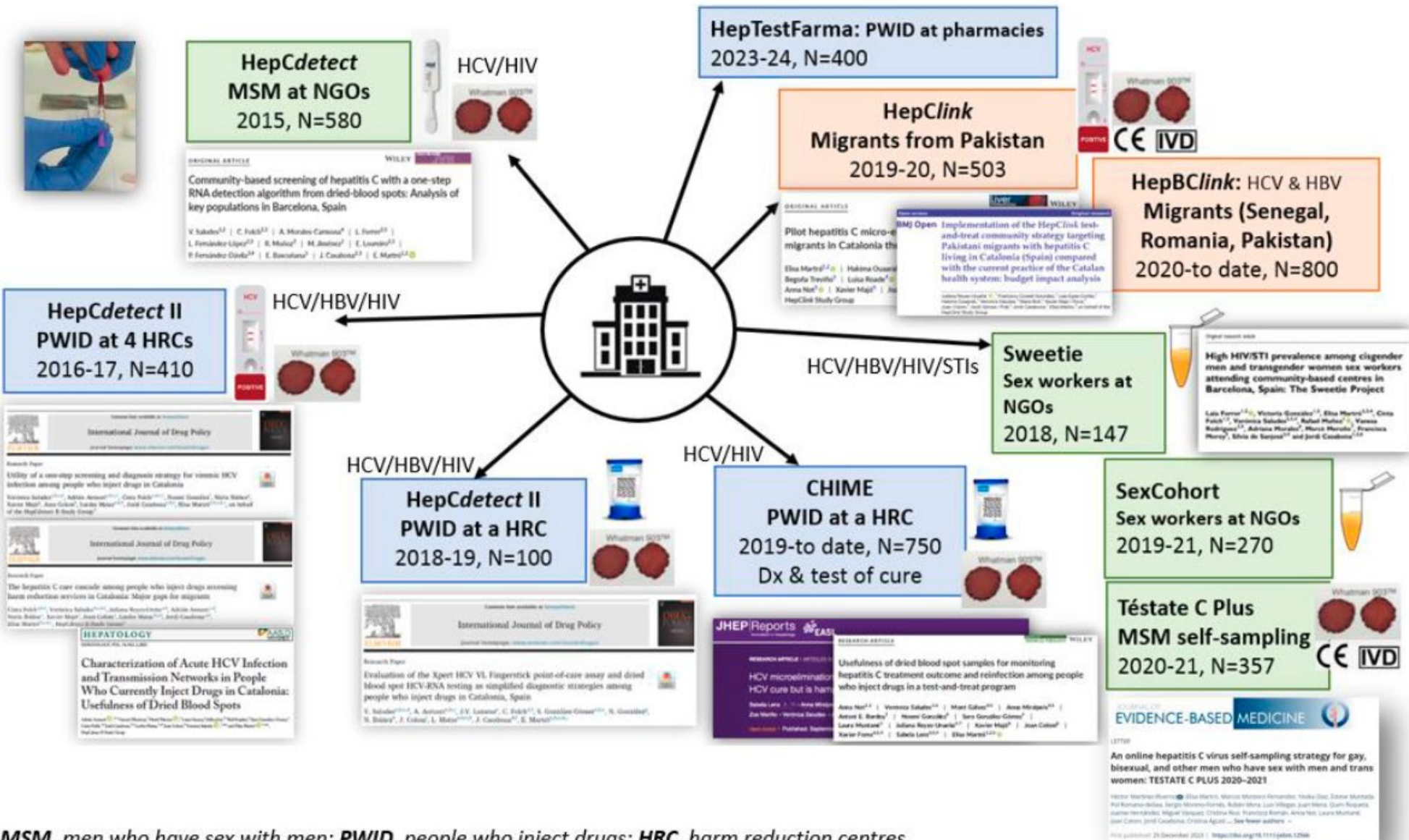
# Point-of-care testing for hepatitis B and C in migrants in diverse community centres

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CIBER in Epidemiology and Public Health (CIBERESP)



# Community screening of viral hepatitis in vulnerable populations since 2015



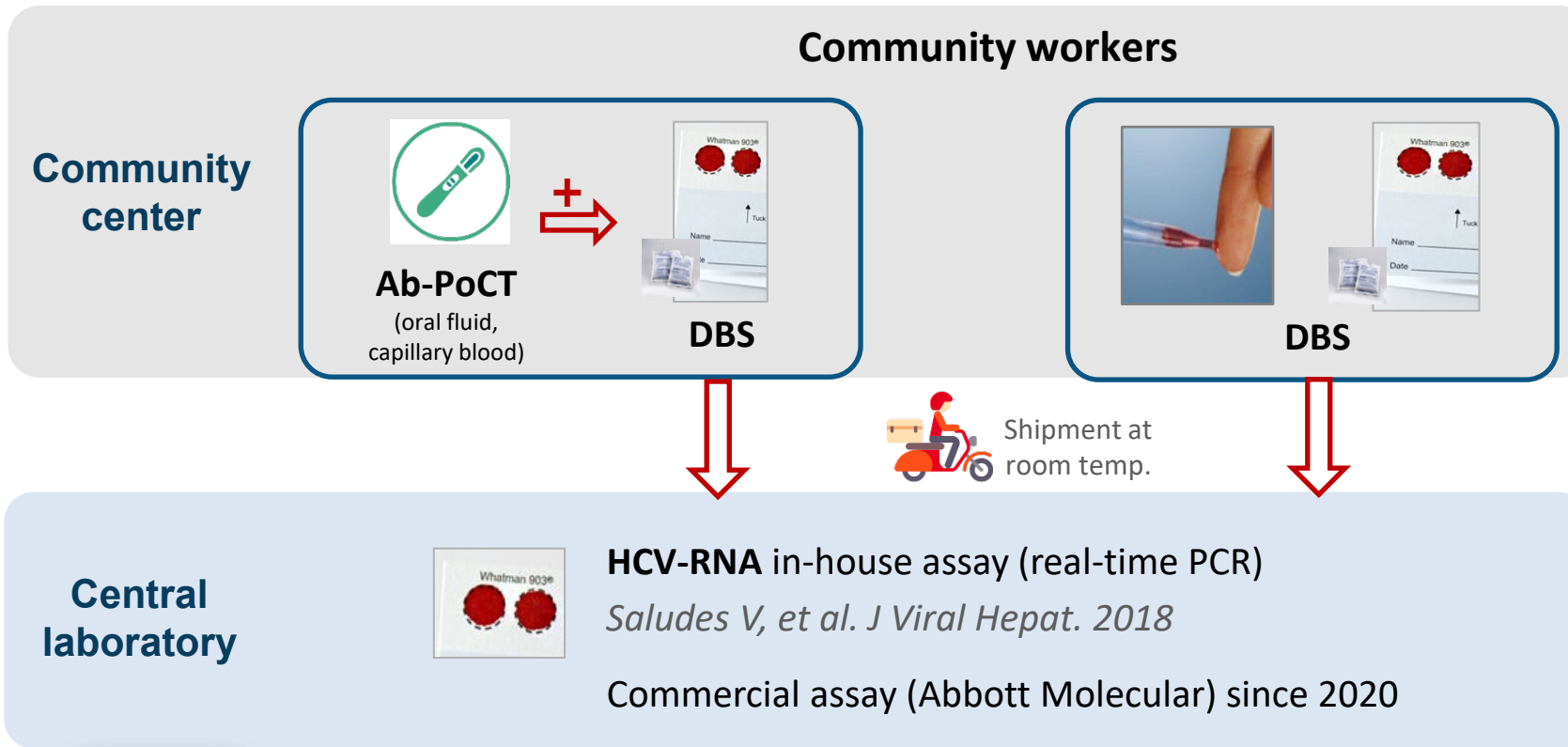
Reference centre for DBS testing from the network of drug centres

MSM, men who have sex with men; PWID, people who inject drugs; HRC, harm reduction centres

# Community screening strategies

**Intermediate prevalence:  
Ab-PoCT + reflex RNA testing**

**High prevalence:  
direct RNA testing**



**Evaluated in comparison with plasma**

## HCV-RNA in-house assay in DBS

**Hepatology out-patients HUGTIP (2015, N=82):**  
100% S, 100% E

*Saludes V, et al. J Viral Hepat 2018*

**PWID - HepCdetect II (2016-17, N=410):**  
97% Sens.\*, 100% Spec.

*Saludes V, et al. Int J Drug Policy 2019*

**PWID - 2018-19 (2018-19, N=100):**  
98% Sens.\*, 100% Spec.

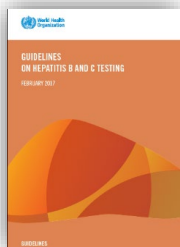
*Saludes V, et al. Int J Drug Policy 2020*

\*In patients with viral loads >3000 IU/mL in plasma

## Xpert HCV-VL Fingerstick assay (Cepheid)

**PWID - 2018-19 (2018-19, N=100):**  
98.4%-100% Sens., 100% Spec.

*Saludes V, et al. Int J Drug Policy 2020*



Intermediate Ab prevalence (**2%**)  
→ screening recommended

Intermediate-high RNA prevalence (50-74%)  
→ RNA screening recommended (*one-step*)  
*Scott N, et al. J Viral Hepat 2018*



# New models of care for vulnerable populations

1. Outreach education and screening of migrants from endemic countries



2. On-site VH and HIV/STI screening in sex workers at NGOs: HBV vaccination needs among migrants



3. PoC HCV testing and treatment in PWID at harm reduction centers: major gaps for migrants



# 1. Outreach education and screening of migrants from endemic countries

2019-20: HepClink

2020-23: HepBClick

**New model of care for HCV – Pakistan (N=503)**

- HCV-Ab PoCT, HCV-RNA testing in DBS

Training of community health agents

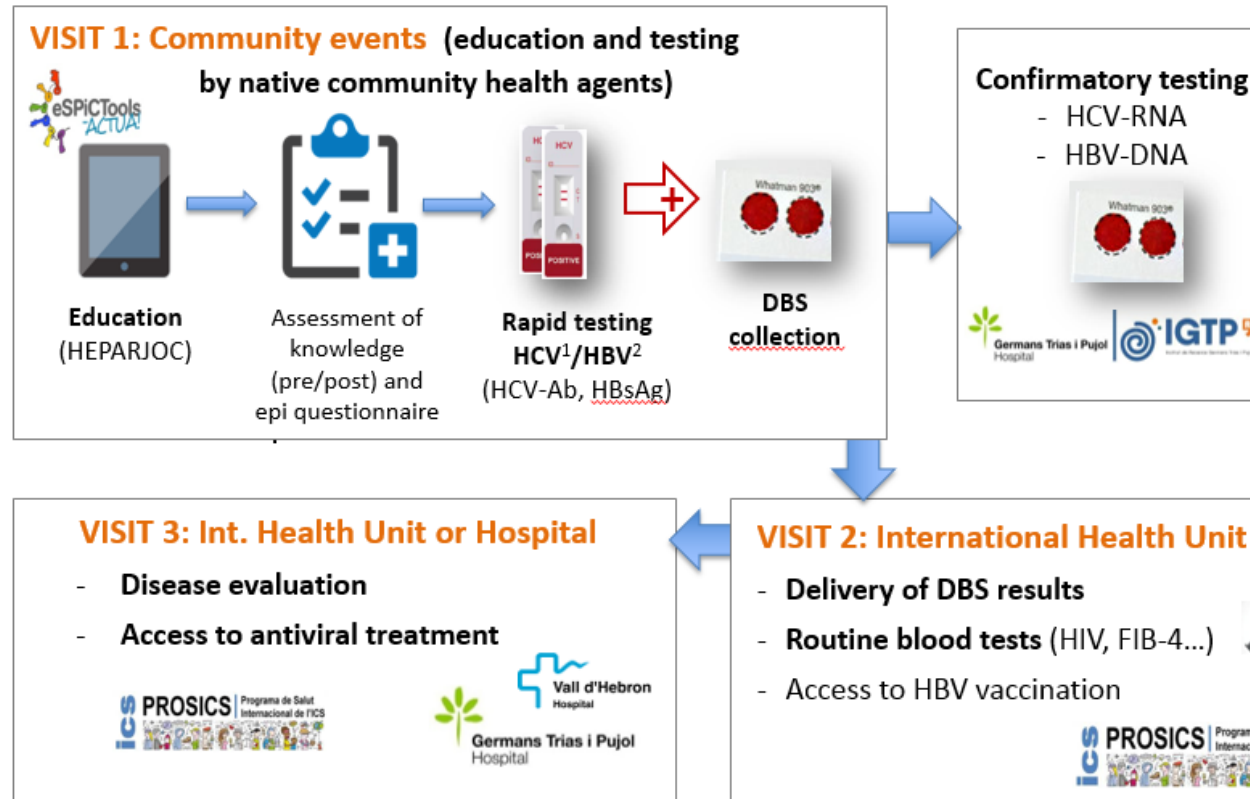
*Martró E, et al. Liver Int 2022*

*Reyes-Ureña J, et al. BMJ Open 2023*



**HCV and HBV – Romania, Senegal, Pakistan (N=768)**

- HCV-Ab & HBsAg PoCT, HCV-RNA & HBV-DNA testing in DBS



## 2019-20: HepClink

- This novel model of care was **well accepted** and **effective** reaching a Pakistani migrant population with **low-level knowledge of HCV** and **largely not tested before** (9.7%)
- The observed **prevalence (4.6% Ab; 1.2% RNA)** and **high unawareness of their HCV status** justify **targeted screening** in this group both in the **community and in primary care**

Basic characteristics of HepClink participants vs. Pakistani population accessing primary care:

	HepClink	Primary care	p value
Median age, years (IQR)	36 (19-59)	38 (19-62)	<.001
Men, n/N (%)	329/503 (65.4%)	18 036/25 455 (70.9%) <sup>a</sup>	.002
Previous HCV testing, n/N (%)	49/503 (9.7%)	15 037/25 455 (59.1%) <sup>a</sup>	<.001
HCV Ab positive, n/N (%)	23/502 (4.6%)	1126/15 037 (7.5%) <sup>b</sup>	.018
HCV-RNA positive, n/N (%)	6/502 (1.2%)	378/15 037 (2.5%) <sup>b</sup>	.084

### Quality indicators:

	N	Percentage
Effectiveness indicators		
No of people attending educational sessions	505	-
No of people tested	502/505	99.4
% of people who reported to have been previously tested for HCV	49/505	9.7
% of people with a positive HCV test result (Ab)	23/502	4.6
% of people tested for HCV with a screening test who received test results (complete screening)	502/502	100
% of people who tested positive for HCV-RNA who visited the doctor (linkage to care)	5/6	83.3
% of people who tested positive for HCV-RNA who visited the doctor, started and completed treatment (retention in care)	5/6	83.3
Impact indicator		
% of people who tested HCV positive who were diagnosed late	1/5	20

## 2020-23: HepB*Clink*

### Pakistan: N=328

- Consulate (n=178)
- Mosque (n=77)
- Taxi schools (n=73)

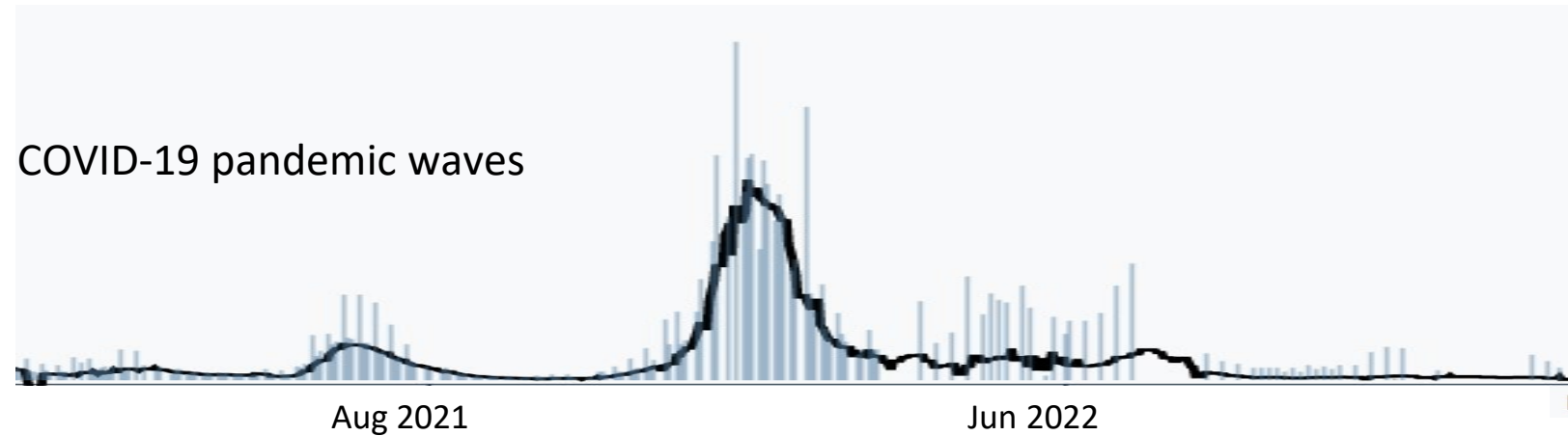
### Romania: N=136

- Church (n=101)
- Homes (n=24)
- Institutional places (n=11)

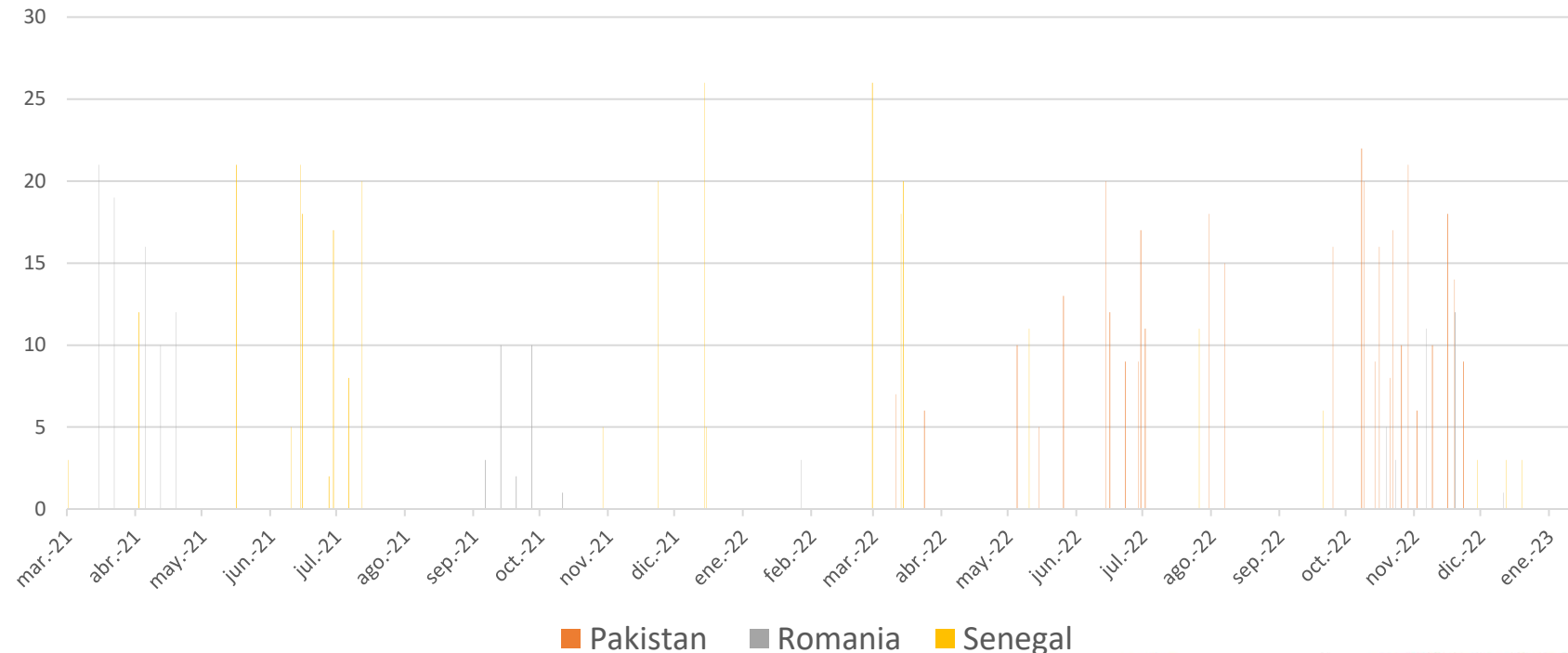
### Senegal: N=304

- Associations (n=297)
- Settlement (n=7)

### COVID-19 pandemic waves



### Interventions



## 2020-23: HepBClink



Female sex, %  
Median age (yr.)  
Previous knowledge on what hepatitis C is (%)  
Previous knowledge on what hepatitis B is (%)



Previously tested for HCV (%)  
Previously tested for HBV (%)  
Individual healthcare card (%)  
At least one medical visit over the last year...

Speaks Spanish/Catalan (%)  
Current remunerated job (%)



"Do you agree with hepatitis C testing being..."  
"Are you satisfied with HCV testing during..."

**CONFIDENTIAL**



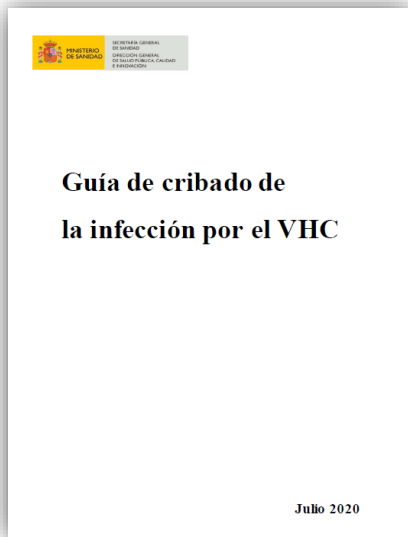
**HBV (HBsAg)**

**HCV**

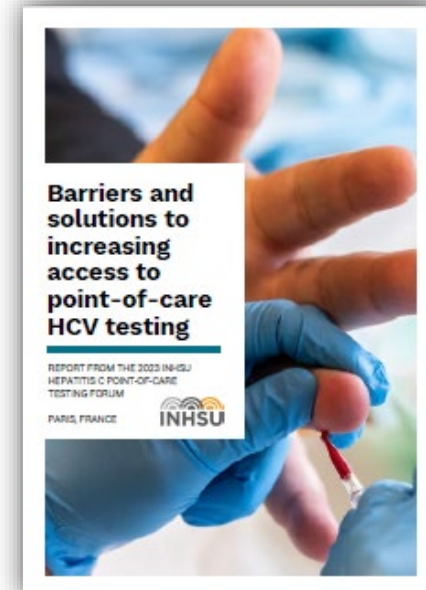
*CONFIDENTIAL*



- Implemented at the Consulate General of Pakistan in Barcelona over the COVID-19 pandemic
- Pilot extended to other areas/countries of origin by the Public Health Agency of Catalonia



- Model of care included among best practices in the first Spanish testing guidelines



## 2. On-site VH and HIV/STI screening in sex workers at NGOs: HBV vaccination needs among migrants



2017-18: Sweetie

2019-21: SexCohort

N=123 (32% cisgender men, 68% transgender women)

**91% migrants**, mainly from Central and South America

- **HIV: 25%**

- **HCV-Ab: 2.4%** (all cleared infections)

- **HBV: 34.2% exposed, 0.8% HBsAg pos**

*Ferrer L, et al. Int J STD AIDS 2022*

N=271 (32% cisgender men, 68% transgender women)

**93% migrants** (86% from Central and South America)

- **HIV: 26%**

- **HCV-Ab: 1.9%, HCV-RNA: 0.7%**

- **HBV: 22% exposed, 1.9% HBsAg pos**

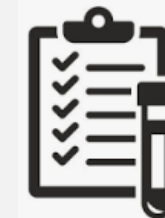
*Antuori A, et al. (under review)*

Participants were scheduled at the NGOs for **decentralized sample collection by a nurse**



**Laboratory testing:**  
integrated screening of  
*Chlamydia trachomatis*  
*Neisseria gonorrhoeae*  
*syphilis, papillomavirus*  
*HIV, HBV, HCV*

**Second visit at the NGO to get the results, and referral to the health system if positive**



*CONFIDENTIAL*

There is a need to **reinforce screening and vaccination programs aimed at TSW and MSW as integrated services** offered at the community centres commonly accessed by these populations

### 3. PoC HCV testing and treatment in PWID in harm reduction centers: major gaps for migrants



#### Decentralised sample collection

– HCV-RNA testing in DBS (N=410)

Training of HRC nurses and community workers

*Saludes V, et al. Int J Drug Policy 2019*

*Folch C, et al. Int J Drug Policy 2021*

#### Decentralised diagnosis

– Xpert HCV VL FS (N=100)

Training of HRC nurses

*Saludes V, et al. Int J Drug Policy 2020*

#### Decentralised diagnosis, treatment and follow-up (SVR, reinfection)

– Xpert HCV VL FS (N=750/1350)

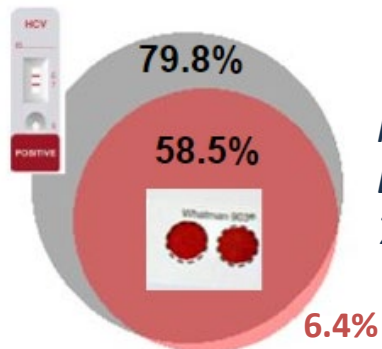
– DBS sequencing (baseline vs FU)

External hepatology trained nurse

*Lens S, et al. JHEP Rep 2022*

*Not A, et al. J Med Virol 2023*

*Incentive at post-treatment follow-up / educational sessions*



*Incentive at delivery of results: 100% (80% same day)*

## 2016-17: HepCdetect II

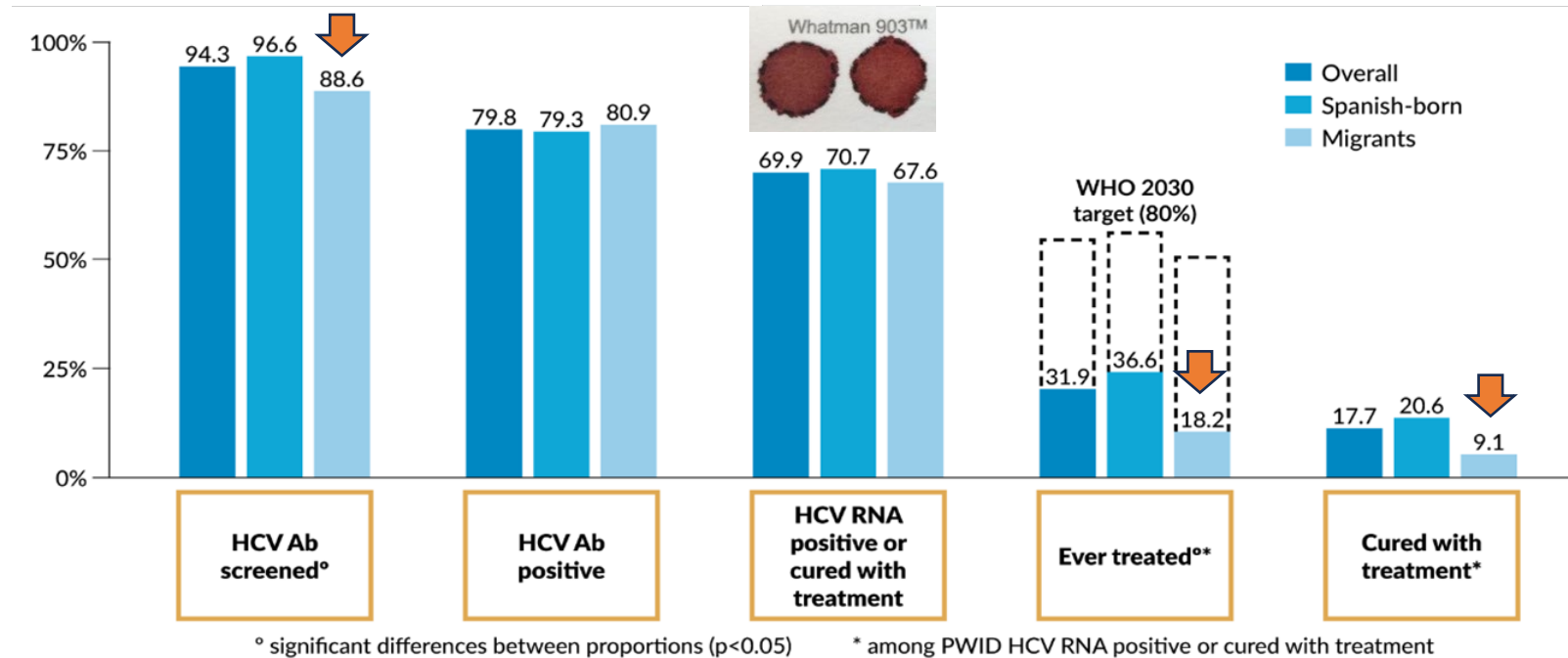
### People who actively injected drugs in harm reduction centers:

115/410 (28%) were migrants; 65% from Central and Eastern European countries, 15.6% from Italy, and the rest from 15 other countries in Europe, Asia and South America.

Migrants were **younger** and more likely to be **homeless** (22.6 vs 9.2%,  $p < 0.001$ ), and less likely to have been in **treatment for drug-dependence** (70.4 vs 95.6%,  $p < 0.001$ ).

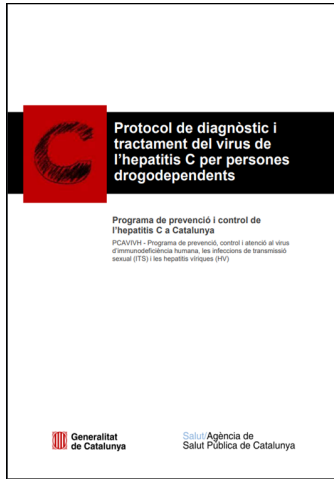
**HBV:** 1.7% HBsAg, 21.7% exposed  
21.7% vaccinated, **27.3% susceptible**

### • Estimation of the cascade of care



In adjusted multivariate analysis, Spanish-born PWID were:

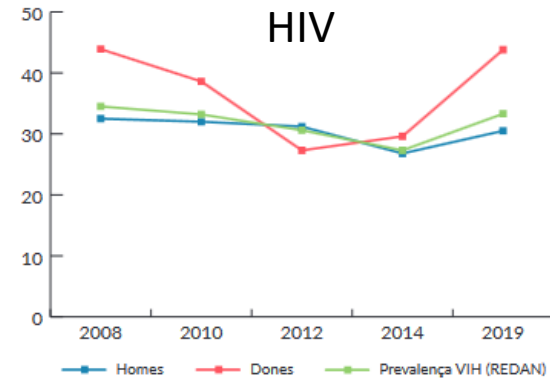
- **3 times** more likely to have been **previously tested**
- **2.4 times** more likely to have **received treatment**



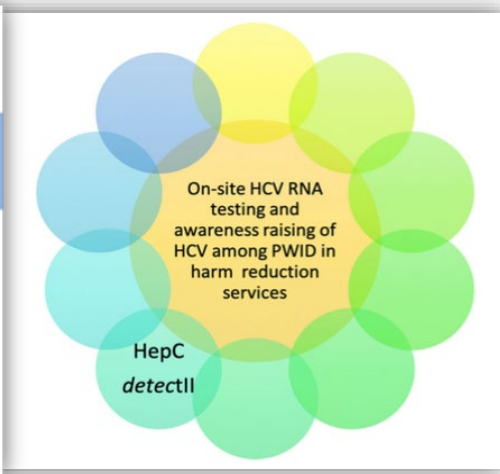
- **DBS testing implemented in drug dependence centers by the Public Health Agency of Catalonia in 2020-21**



- **Biobehavioural monitoring in people who inject drugs in harm reduction centers in Catalonia (HIV and HCV-Ab screening in oral fluid)**



**2023: DBS implemented to monitor changes in the cascade of care**



**SPAIN**  
CAN ELIMINATE HEPATITIS  
NATIONAL HEPATITIS ELIMINATION PROFILE

**ABOUT THE N-HEP**  
These National Hepatitis Elimination Profiles (N-HEPs) bring together data on each country's epidemiological burden, status of progress delivery, and policy environment. Working with local partners, the profiles track down the essential components of effective public health initiatives and highlight achievements, challenges, and lessons for the 30 countries included. The N-HEPs serve as advisory tools for ongoing policy development and resource mobilization in pursuit of the 2030 hepatitis elimination goals.

**AT A GLANCE:**

	HBV	HCV
Relative Burden	40%	10%
Global Burden	10%	10%
Health Burden Change	10%	10%
Number of interventions per 100,000 per year	10	10

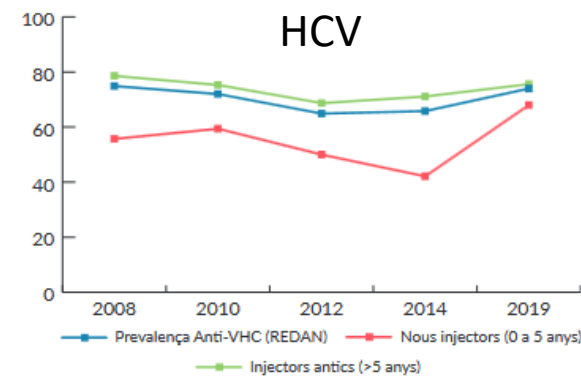
**BURDEN OF DISEASE**  
Estimated deaths: 0.28x (0.10-0.34) | Estimated DALYs: 0.17 (0.09-0.26)  
Deaths per 100,000: 2.07 | DALYs per 100,000: 5.9

**OVERVIEW OF POLICY ENVIRONMENT**  
As part of the elimination strategy, Spain has implemented several key interventions, including:  
• In 2018, Spain was one of 12 countries to implement the WHO's 'Global Strategy for the Elimination of Hepatitis C Infection' (GSEHC).  
• In 2019, Spain was one of 12 countries to implement the WHO's 'Global Strategy for the Elimination of Hepatitis B Infection' (GSEHB).  
• Implementation of the WHO's 'Global Strategy for the Elimination of Hepatitis C Infection' (GSEHC) and 'Global Strategy for the Elimination of Hepatitis B Infection' (GSEHB) in Spain.

**IN THIS PROFILE:**

- 1 OVERVIEW
- 2 THE HEALTH BURDEN OF VIRAL HEPATITIS
- 3 PROGRESS TOWARDS 2030 WHO ELIMINATION GOALS
- 4 POLICY ENVIRONMENT FOR THE ELIMINATION OF HEPATITIS
- 5 NEXT STEPS TOWARD ELIMINATION

**THIS PDF IS INTERACTIVE!** Move elements on the map, the table and buttons on the left. Click a link.



REDAN. SIVES 2020, CEEISCAT 2021

# Challenges and solutions of community integrated services

## Migrant population:

- **Building trust:** civil society involvement, community health agents (*same country, same language, male/female*)



- **Testing acceptability:** educational game

<https://espictools.cat/heparjoc-mk/>

## Sex workers:

- **Partnering with NGOs** attending all their needs

## People who inject drugs:

- **Migrants with language barriers**
- **Acceptability related to incentives** (*results delivery, treatment follow-up, reinfection prevention educational sessions led by peers*)
- **Implementation:** multidisciplinary teams involving public health agents in pilot projects





# Thank you for your attention!!!



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Consulate General, Harm reduction  
centres, NGOs and all study participants

Study Groups:  
HepCdetect, HepCdetect II,  
CHIME, HepClink, HepBlink



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