

2022

# HEPATITIS B VIRUS COMMUNITY SCREENING AND VACCINATION IN AFRICANS (HBV-COMSAVA)



## Project Report

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# EXECUTIVE SUMMARY

This project was launched in November 2020 and led by the Barcelona Institute for Global Health (ISGlobal) in close collaboration with west African community groups, the Hospital Clínic de Barcelona, the Hospital Universitari Vall d'Hebron, the Health Department of the Generalitat de Catalunya, the Public Health Agency of Barcelona through the International Health Unit (Servei d'Atenció al Viatger Internacional), and the Microbiology Department of the Vall d'Hebron Research Institute (VHIR). This study used point-of-care diagnostics in community and faith-based settings to identify and link to specialist care African migrants living with hepatitis B virus (HBV) and vaccinate in need. A total of 42 field visits were made during the weekends between November 2020 and January 2022.

Interventions were carried out in Barcelona, Igualada, Manresa, Martorell, Polinyà, Sabadell, Sant Andreu de la Barca, Terrassa, Torelló, Vilafranca del Penedès, Vic, and Girona/Salt. Of 444 people screened, 437 participants were included for analysis and were primarily from Ghana (73.2%) and Senegal (23.1%), were male (60.4%), and with a mean age of 42.1 years. 82% of the participants reported never having been tested for HBV before. The prevalence of current HBV infection (HBsAg+) was 9% (n=40), and past-resolved infection (anti-HBc+) was 41%. Overall, the return rate for linkage to care was 72% and 13 public health system health cards (Tarjetas CatSalut) were provided to those in a state of vulnerability.

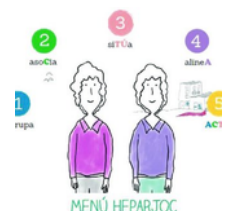
The study was funded by Gilead Sciences through an unrestricted grant in 2019 from their global HBV-CARE program.





# AN INCREDIBLE COLLABORATION

The Hepatitis B Virus (HBV) COMmunity Screening and Vaccination in Africans (HBV-COMSAVA) study would not have been possible without the multi-centre collaboration and the ongoing support from the Department of Health of Catalonia. Four hospitals received patients throughout the pilot project, including our main study hospitals: Hospital Clínic de Barcelona and Hospital Universitari Vall d'Hebron. Samples were processed at the Vall d'Hebron Institut de Recerca (VHIR) Liver Pathology Unit. HBV vaccines were provided to us free of charge through an agreement with the Health Department and Public Health Agency of Barcelona (l'ASPB) at the Servei d'Atenció al Viatger Internacional (SAVI) of the Hospital Clínic. Thanks to this partnership, we were also able to provide CatSalut health cards (which give access to the public health system of Catalonia) to those who were in a state of vulnerability; first, through an agreement with the Red Cross and later, through the Catalan Health Department. Finally, thanks to the Tropical Medicine & Community Health Unit at Vall d'Hebron-Drassanes, we were able to utilize the multilingual *HeparJoc* tool on tablets during our interventions. A special thank you to Dr Elisa Martró of Institut Germans Trias i Pujol for providing training on dried blood spot (DBS) sample collection.



## INTERVENTIONS



A total of 42 visits were made between November 2020-January 2022. This novel study used a novel rapid diagnostic test (RDT) to screen for HBsAg and plasma separation cards (PSCs) to collect blood samples in community-based settings. The blood samples later were transported to the hospital laboratory to be analyzed.

Participants who were positive for HBsAg on the RDT had viral load (HBV-DNA) examined in addition to co-infection with hepatitis D virus (HDV) through the presence of antibodies against HDV (anti-HDV). Those who were negative for HBsAg were screened for antibodies against core antigen (anti-HBcAg) to describe past resolved infection. Decentralized vaccination was offered when appropriate for those who did not already have immunity through self-reported vaccination or through past resolved HBV infection.

Before screening for HBV was offered, an information session on HBV is provided by the community health agents, including the use of the *HeparJoc* [1] interactive tool co-created in Spain with migrant populations.

**HeparJoc is a multilingual interactive tool to increase HBV knowledge that was co-created and validated with migrant populations.**

Furthermore, participants were provided with information leaflets on HBV during the intervention to take home for themselves. Those who tested positive were provided with referrals to one of the participating collaborating university hospitals in Barcelona or Girona during the initial visit, irrespective of the results of the blood samples obtained with the PSC. Those who tested negative were given their results during a second pre-determined visit. During this intervention, a participant could receive post-test counselling due to past resolved infection or were offered the first dose of the HBV vaccine in situ in addition to a referral for subsequent doses at their primary care center. On average, the second visit took place 25 days after the initial screening.

The team encountered many challenges, such as the ever-changing COVID-19 restrictions, working in small spaces with poor lighting, managing public transportation, and variability in participation.



Photo by Jan Pilarcik



# PRELIMINARY DATA

Between 21 November 2020 and 21 January 2022, 444 people were offered HBV testing in community settings. Of these, 437 participants were included for analysis and had a mean age of 42 years (SD: 10). Participants were primarily from Ghana (73%) and Senegal (23%), and male (60%). Most participants reported never having been tested for HBV before (82%). Overall, the return rate for linkage to care for the entire program was 72%.

## N.º 01 – HBsAg+ patients



The prevalence of current HBV infection (HBsAg+) was 9% (n=40). Of these, 52% (n=21) had an undetectable viral load. Among those who had a detectable viral load (HBV-DNA), the mean value was 112,642 UI/mL (range: 19-1,930,000). No one was HBeAg+ and two patients had anti-HDV antibodies. 93% of those who were HBsAg+ had a first visit with a liver specialist. The mean number of days between screening and a first visit with a liver specialist was 20 days (SD: 15).

## N.º 02 – HBsAg- patients



### Anti-HBc+ participants

Past resolved infection (HBsAg-/anti-HBc+) was 41% among those who were HBsAg-. Participants with past resolved infection were offered post-test counselling during a second visit, of which 70% of these participants received it

### Participants eligible for vaccination

Among the negative participants, 48% required vaccination, of which 70% returned to the second visit and were offered the first dose of the HBV vaccination and 85% accepted vaccination

The mean number of days between screening and returning to provide results was 26 days (SD: 16).



Photo by Jan Pilarcik





# DISSEMINATION OF RESULTS

Results of this study have been presented as 10 conference abstracts, in 1 published peer-review publication and an additional two forthcoming.

## Publications to date

Picchio CA, Nomah DK, Rando-Segura A et al. A novel model of care for simplified testing of HBV in African communities during the COVID-19 pandemic in Spain. *Sci Rep* 2021;11(17063). Doi:10.1038/s41598-021-96350-3.

## Forthcoming

Results from the HBV-COMSAVA model of care to support community-based hepatitis B testing, linkage to care, and vaccination among west African migrants in greater Barcelona, 2020-2022. Expected submission: October 2022

Describing the prevalence and associated risk factors of chronic conditions and multimorbidity among West African migrants participating in an HBV screening program in greater Barcelona. Expected submission: October 2022

## Conference abstracts

1- Picchio CA, Nomah DK, Rando-Segura A, Rodriguez-Tajes S, Lens S, Pamplona J, López C, Rodriguez-Frías F, Buti M\*, Lazarus JV\*. Community-based screening increases hepatitis B linkage to care among African migrants in Spain. (Poster presentation), **European Public Health Association (EUPHA) Conference**, Berlin, Germany (2022).

2- Picchio CA, Rando-Segura A, Fernández E, López N, Gómez S, Nomah DK, Diatta O, Rodriguez-Tajes, Lens S, Fornis X, Rodriguez-Frías F, Buti M, Lazarus JV. HBV screening in West African migrant community and faith-based organizations increased HBV vaccination among this high-risk population in greater Barcelona, Spain. (Poster presentation), **EASL's International Liver Conference**, London, UK (2022).

3- Picchio CA, Nomah DK, Rando-Segura A, Gómez S, Fernández E, Diatta O, Buti M, Rodriguez-Tajes, Lens S, Fornis X, López N, Rodriguez-Frías F, Lazarus JV. Community-based HBV testing among west African migrants in greater Barcelona, Spain increases linkage to specialist care and vaccination: the HBV-COMSAVA model. (Poster presentation), **EASL's International Liver Conference**, London, UK (2022).

4- Picchio CA, Nomah DK, Rando-Segura A, Rodriguez-Tajes S, Lens S, Fornis X, Pamplona J, López C, Rodriguez-Frías, Buti M, Lazarus JV. Resultados de un proyecto comunitario para aumentar la vacunación y vinculación al cuidado de la hepatitis B en inmigrantes del África occidental en Cataluña: el modelo HBV-COMSAVA. (Oral presentation), **Jornadas Catalanas de Salut Internacional**, Barcelona, Spain (2022).

# DISSEMINATION OF RESULTS CONT'D

## Conference abstracts

5- Picchio CA, Araujo SG, Nomah DK, Fernández E, Rando-Segura A, Buti M, Rodriguez-Tajes S, Lens S, Rodriguez-Frías F, Lazarus JV. Community-based HBV screening increases linkage to care among west African migrants in greater Barcelona, Spain: preliminary data from the HBV-COMSAVA model of care. (Poster presentation) **AASLD The Liver Meeting®**, [Hybrid, Anaheim, CA] (2021).

6- Picchio CA, Fernández E, Araujo SG, Nomah DK, Rando-Segura A, Buti M, Rodriguez-Tajes, Lens S, Rodriguez-Frías F, Borràs E, Lazarus JV. Decentralized HBV vaccination in west African community centres in greater Barcelona, Spain to accelerate viral hepatitis elimination: preliminary data from the HBV-COMSAVA model of care. (Poster presentation) **Conference on Liver Diseases in Africa (COLDA)**, [Virtual due to COVID-19] (2021).

7- Picchio CA, Nomah DK, Rando-Segura A, Gómez S, Fernández E, Rodriguez-Tajes S, Buti M, Lens S, Rodriguez-Frías F, Lazarus JV. HBV-COMSAVA: Preliminary results from a novel community-based hepatitis B screening and linkage to care programme for west African migrants in greater Barcelona, Spain. (Oral presentation) **Global Hepatitis Summit**, Taipei [Hybrid due to COVID-19] (2021).

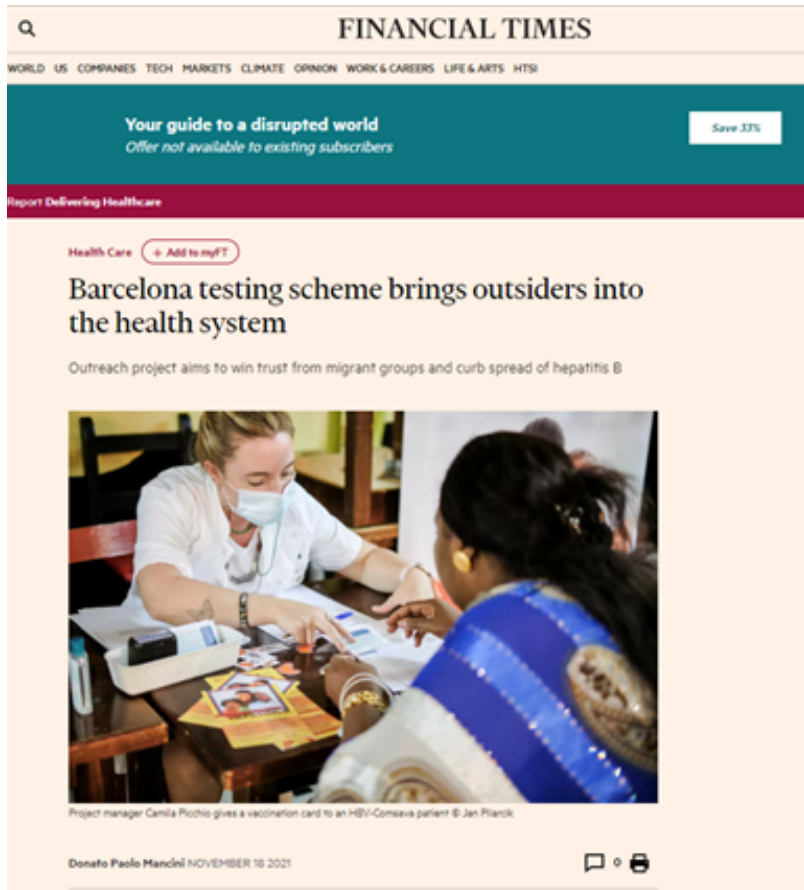
8- Picchio CA, Nomah DK, Rando-Segura A, Gómez S, Fernández E, Rodriguez-Tajes S, Buti M, Lens S, Rodriguez-Frías F, Borràs E, Colom J, Lazarus JV. Simplificació del cribado de hepatitis B en Catalunya en població migrante procedente de África occidental: datos preliminares del modelo de cuidado HBV-COMSAVA. (Poster presentation) **Asociación Española del Estudio del Hígado (AAEH) Congreso** [Madrid, Spain] (2021).

9- Picchio CA, Buti M, Kwakye Nomah D, Villota M, Lens S, Mandas M, Majó X, Colom J, Lazarus JV. Eliminating hepatitis B virus infection in west African migrants in Barcelona: a community-based testing and vaccination model of care to link patients to liver specialists. (Poster presentation) **International Viral Hepatitis Elimination Meeting (IVHEM)**, Amsterdam [Virtual due to COVID-19] (2020).

10- Picchio CA, Kwakye Nomah D & Lazarus JV. HBV awareness and self-reported testing and vaccination in Ghanaian migrants living in the greater Barcelona area participating in a community-based intervention. (Poster presentation) **Conference on Liver Diseases in Africa (COLDA)**, Dakar [Virtual due to COVID-19] (2020).

# MEDIA AND SOCIAL MEDIA

The project was featured in the Financial Times on 17 November 2021, where the story was also available in print. In 2021, HBV-COMSAVA was featured in a press release to commemorate World Hepatitis Day (July 28) by the Health Department.



**70+**

Twitter mentions with  
#HBVCOMSAVA

**95**

Followers on Instagram  
(@vh.comsava)



Busy day today giving results & testing new patients with @Mariabutif for the #HBVCOMSAVA study! Return rate of 95% for those coming for referrals/vaccine/PTC and a positivity rate (HBsAg+) of 14% for those newly tested. Clearly, there is a need for community-based work! #NOhep



ISGlobal and 9 others

7:17 PM - Jun 20, 2021 - Twitter for iPhone

View Tweet analytics

3 Retweets 1 Quote Tweet 16 Likes



Another lively community outreach clinic w. #HBVCOMSAVA @ISGLOBALorg screening, vaccination & linkage to care in migrant populations n Barcelona #NoHep [isglobal.org/en/-/hbv-comsava...](https://isglobal.org/en/-/hbv-comsava...) @capicchio @JVLazarus



You and 4 others

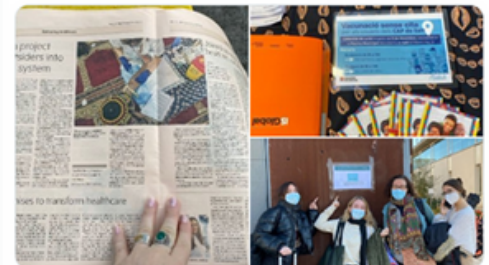
6:24 PM - Jul 7, 2021 - Twitter for Android

3 Retweets 6 Likes



Replying to @CHIPO\_HBV

Thanks!! It's #InternationalMigrantsDay so the #HBVCOMSAVA team is out testing in northeastern Spain today.



You and 9 others

3:35 PM - Dec 18, 2021 - Twitter for Android

2 Retweets 4 Likes

Follow us! #HBVCOMSAVA @VH.COMSAVA

HBV-COMSAVA FINAL REPORT  
ISGlobal 20220



# SOCIAL IMPACT

Despite the challenges due to the COVID-19 pandemic, the HBV-COMSAVA model of care demonstrated that by employing simplified diagnostic tools, including a rapid detection test (RDT) and the plasma separation card (PSC) for blood sample collection it is possible to screen, link to care, and vaccinate West African migrants in community-based settings who may face barriers to receiving care. The preliminary results from this study provide evidence that may contribute to the ongoing decision-making on how best to eliminate hepatitis B as a public health challenge in Barcelona and the rest of Catalonia. The community-based nature of HBV-COMSAVA enabled our team to reach a high prevalence population in settings in which participants are comfortable, familiar, and trusting. The HBV-COMSAVA care pathway was able to link to care an at-risk population for HBV and also provide access to the public health system through an expedited CatSalut card request process during the COVID-19 pandemic.



Photo by Jan Pilarcik

# WHAT'S NEXT?

Given the success of this pilot program, which finalized in January 2022, we have secured additional funding to continue the testing program and include testing for hepatitis C virus (HCV) in the same population. Viral Hepatitis Community Screening and Vaccination in Africans (VH-COMSAVA) began in June 2022 and is expected to continue until January 2023.



- Perform an economic evaluation of the project to include in the final manuscript and publish two additional manuscripts by the end of 2023.
- We have included HCV into the screening program, which is why the study is now called VH-COMSAVA.



- We received a €1 million action grant from the European Commission to expand the project to other parts of Spain as well as Greece and Italy with non-governmental and clinical colleagues in those settings



- Continue disseminating results on social media and at high-level scientific conferences.

# STUDY TEAM & ACKNOWLEDGEMENTS

## ON THE GROUND

**Camila Picchio** (Project Manager & PhD candidate)

**Emma Fernández** (Project Nurse)

**Nélida López** (Project Nurse)

**Daniel K Nomah** (Ghana Community Coordinator)

**Omar Diatta** (Senegal Community Coordinator)

**Silvia Gómez** (Research Intern)

**Marina MacKinnon** (Graduate student)

**Jeffrey Lazarus** (PI, ISGlobal)

## HEPATOLOGISTS

**Maria Buti** (Co-PI, Hospital Vall d'Hebron, Barcelona)

**Sabela Lens** (Co-PI, Hospital Clínic, Barcelona)

**Sergio Rodriguez-Tajes** (Hospital Clínic, Hepatologist, Barcelona)

**Xavier Forns** (Hospital Clínic, Hepatologist, Barcelona)

**Javier Pamplona** (Hospital Santa Caterina, Hepatologist, Girona)

**Carme López** (Hospital Trueta, Hepatologist, Girona)

## LABORATORY

**Ariadna Rando-Segura** (Laboratory Technician, VHIR)

**Francisco Rodriguez-Frías** (Co-PI, Head of Laboratory, VHIR)

## SAVI, HOSPITAL CLÍNIC

**Isabel Vera** (SAVI)

**Montse Roldan** (SAVI)

## DEPARTAMENT DE SALUT

**Xavier Majó** (Departament de Salut)

**Sandra Manzanaras** (Departament de Salut)

**Joan Colom** (Departament de Salut)

## UNITAT SALUT INTERNACIONAL- DRASSANES

**Jordi Gomez** (Salut Internacional-Drassanes)

**Hakima Ouabarab** (Salut Internacional-Drassanes)

## INSTITUT GERMANS TRIAS I PUJOL

**Elisa Martró Català** (IGTP)

*and all of our incredible volunteers!*



## Contact

Prof Jeffrey V Lazarus

[Jeffrey.Lazarus@isglobal.org](mailto:Jeffrey.Lazarus@isglobal.org)

Camila Picchio, MPH

[Camila.Picchio@isglobal.org](mailto:Camila.Picchio@isglobal.org)



# ANNEX-REPORTS



Date	Location	Target population	Intervention type
21 Nov 2020	Barcelona Central	Ghana	Pilot Kick-off
05 Dec 2020	Barcelona Central	Ghana	Screening
09 Jan 2021	Barcelona Central	Ghana	Results/Vaccination
10 Jan 2021	Vilafranca del Penedès	Ghana	Screening
17 Jan 2021	Vic	Ghana	Screening
30 Jan 2021	Vic	Ghana	Screening
31 Jan 2021	Vilafranca del Penedès	Ghana	Results/Vaccination
07 Feb 2021	Martorell	Ghana	Screening
13 Feb 2021	Torelló	Ghana	Screening
21 Feb 2021	Vic	Ghana	Results/Vaccination
28 Feb 2021	Martorell	Ghana	Results/Vaccination
07 Mar 2021	Torelló	Ghana	Results/Vaccination
21 Mar 2021	Igualada	Ghana	Screening
27 Mar 2021	Torelló	Ghana	Results/Vaccination
25 Apr 2021	Igualada	Ghana	Results/Vaccination
02 May 2021	Sant Andreu de la Barca	Ghana	Screening
16 May 2021	Sant Andreu de la Barca	Ghana	Results/Vaccination
05 Jun 2021	Terrassa	Senegal	Screening
06 Jun 2021	Barcelona	Muslim Association	Screening
20 Jun 2021	Besòs	Senegal	Results/Vaccination
03 Jul 2021	Terrassa	Senegal	Results/Vaccination
04 Jul 2021	Martorell	Ghana	Screening
18 Jul 2021	Martorell	Ghana	Results/Vaccination
05 Sep 2021	Sabadell	Senegal	Screening
11 Sep 2021	Besòs	Senegal	Screening
12 Sep 2021	Barcelona	Muslim Association	Results/Vaccination
26 Sep 2021	Sabadell	Senegal	Results/Vaccination
02 Oct 2021	Besòs	Senegal	Results/Vaccination
03 Oct 2021	Manresa	Senegal	Screening
17 Oct 2021	Manresa	Senegal	Results/Vaccination
23 Oct 2021	Sabadell	Senegal	Results/Vaccination
23 Oct 2021	Polinyà	Senegal	Screening
06 Nov 2021	Manresa	Senegal	Screening
07 Nov 2021	Besòs	Senegal	Screening
13 Nov 2021	Besòs	Senegal	Results/Vaccination
27 Nov 2021	Polinyà	Senegal	Results/Vaccination
28 Nov 2021	Besòs	Senegal	Results/Vaccination
11 Dec 2021	Manresa	Senegal	Screening
18 Dec 2021	Girona/Salt	Senegal	Screening
15 Jan 2022	Girona/Salt	Senegal	Results/Vaccination
22 Jan 2022	Manresa	Senegal	Results/Vaccination

# ANNEX-CONFERENCES



Year	Authors, title, and conference
2022	Picchio CA, Nomah DK, Rando-Segura A, Rodriguez-Tajes S, Lens S, Pamplona J, López C, Rodriguez-Frías F, Buti M, Lazarus JV. Community-based screening increases hepatitis B linkage to care among African migrants in Spain. (Poster presentation) European Public Health Association (EUPHA) Conference, Berlin (September 2022).
2022	Picchio CA, Rando-Segura A, Fernández E, López N, Gómez S, Nomah DK, Diatta O, Rodriguez-Tajes, Lens S, Forns X, Rodriguez-Frías F, Buti M, Lazarus JV. HBV screening in West African migrant community and faith-based organizations increased HBV vaccination among this high-risk population in greater Barcelona, Spain. (Poster presentation), EASL International Liver Conference, London, UK (2022).
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2021	Picchio CA, Araujo SG, Nomah DK, Fernández E, Rando-Segura A, Buti M, Rodriguez-Tajes S, Lens S, Rodriguez-Frías F, Lazarus JV. Community-based HBV screening increases linkage to care among west African migrants in greater Barcelona, Spain: preliminary data from the HBV-COMSAVA model of care. (Poster presentation) AASLD The Liver Meeting®, [Hybrid, Anaheim, CA] (2021).
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2021	Picchio CA, Nomah DK, Rando-Segura A, Gómez S, Fernández E, Rodriguez-Tajes S, Buti M, Lens S, Rodriguez-Frías F, Lazarus JV. HBV-COMSAVA: Preliminary results from a novel community-based hepatitis B screening and linkage to care programme for west African migrants in greater Barcelona, Spain. (Oral presentation) Global Hepatitis Summit, Taipei [Hybrid due to COVID-19] (2021).
2021	Picchio CA, Nomah DK, Rando-Segura A, Gómez S, Fernández E, Rodriguez-Tajes S, Buti M, Lens S, Rodriguez-Frías F, Borràs E, Colom J, Lazarus JV. Simplificación del cribado de hepatitis B en Cataluña en población migrante procedente de África occidental: datos preliminares del modelo de cuidado HBV-COMSAVA. (Poster presentation) Asociación Española del Estudio del Hígado (AAEH) Congreso [Virtual due to COVID-19] (2021).
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