



Hospital Universitario
Puerta de Hierro Majadahonda

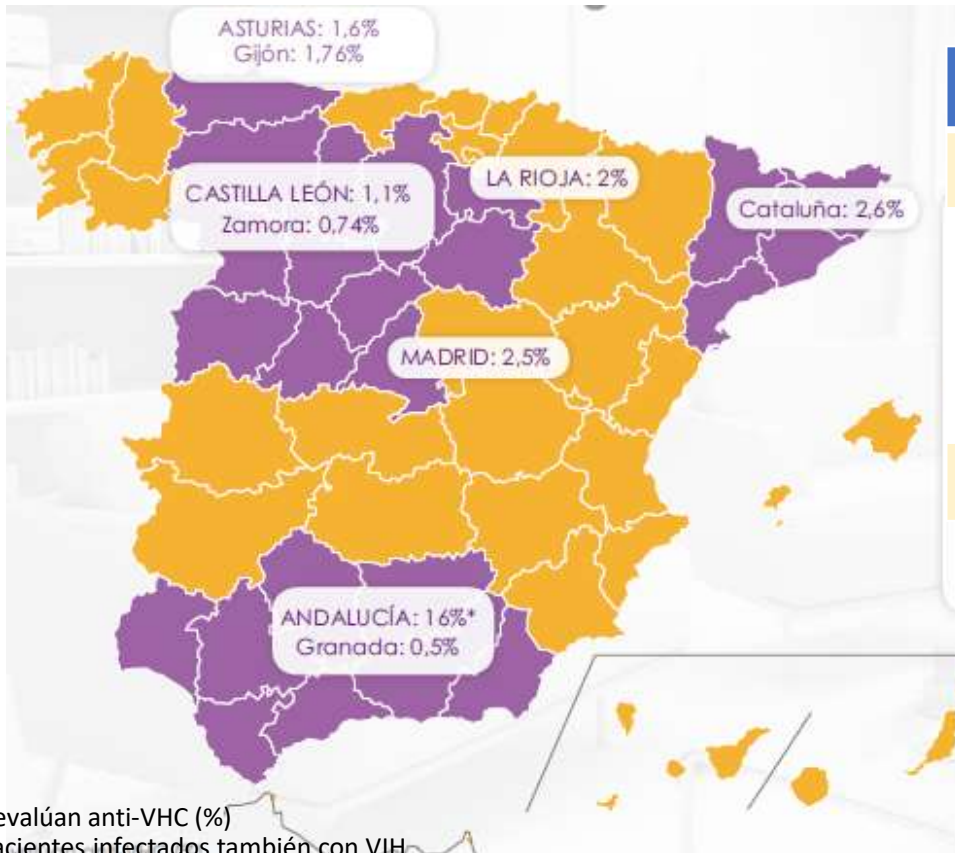
Comunidad de Madrid

¿ Que nos queda por hacer para conseguir la eliminación
de la Hepatitis C en España?

Jose Luis Calleja
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Hospital Universitario Puerta de Hierro
Universidad Autónoma de Madrid



Prevalence 1990-2010



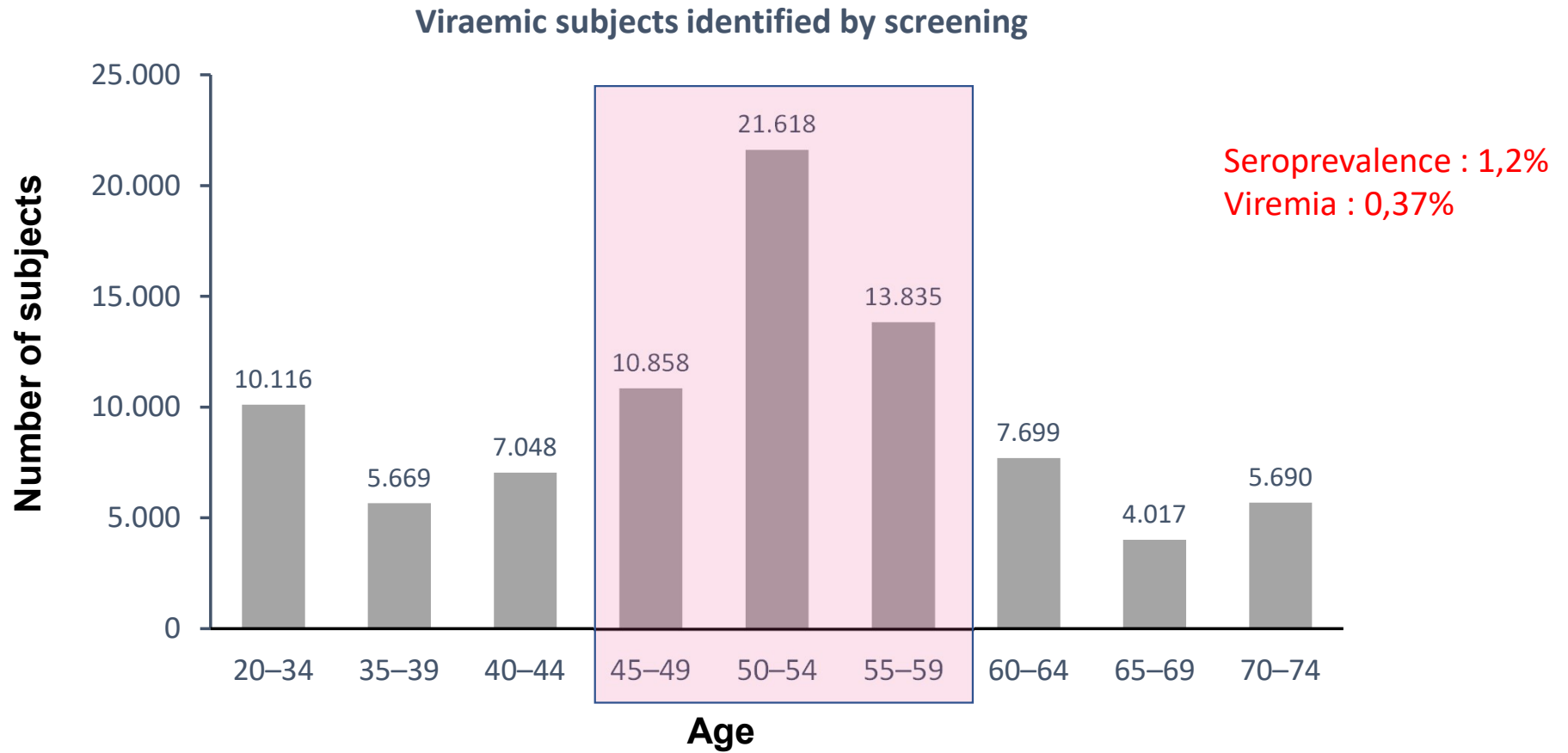
Área	Población (n)	Sero-prevalencia	Autor	Año
Cataluña	General (2,154)	2,6%	Solà	2002
Asturias	General (1,170)	1,6%	Riestra	2001
La Rioja	Urbana (890)	2%	Sacristán	1996
Zamora	General (675)	0,7%	Chimeno	2001
Valladolid	General (437)	1,1%	López Izquierdo	2007

Seroprevalence : 1.6%-2.6%



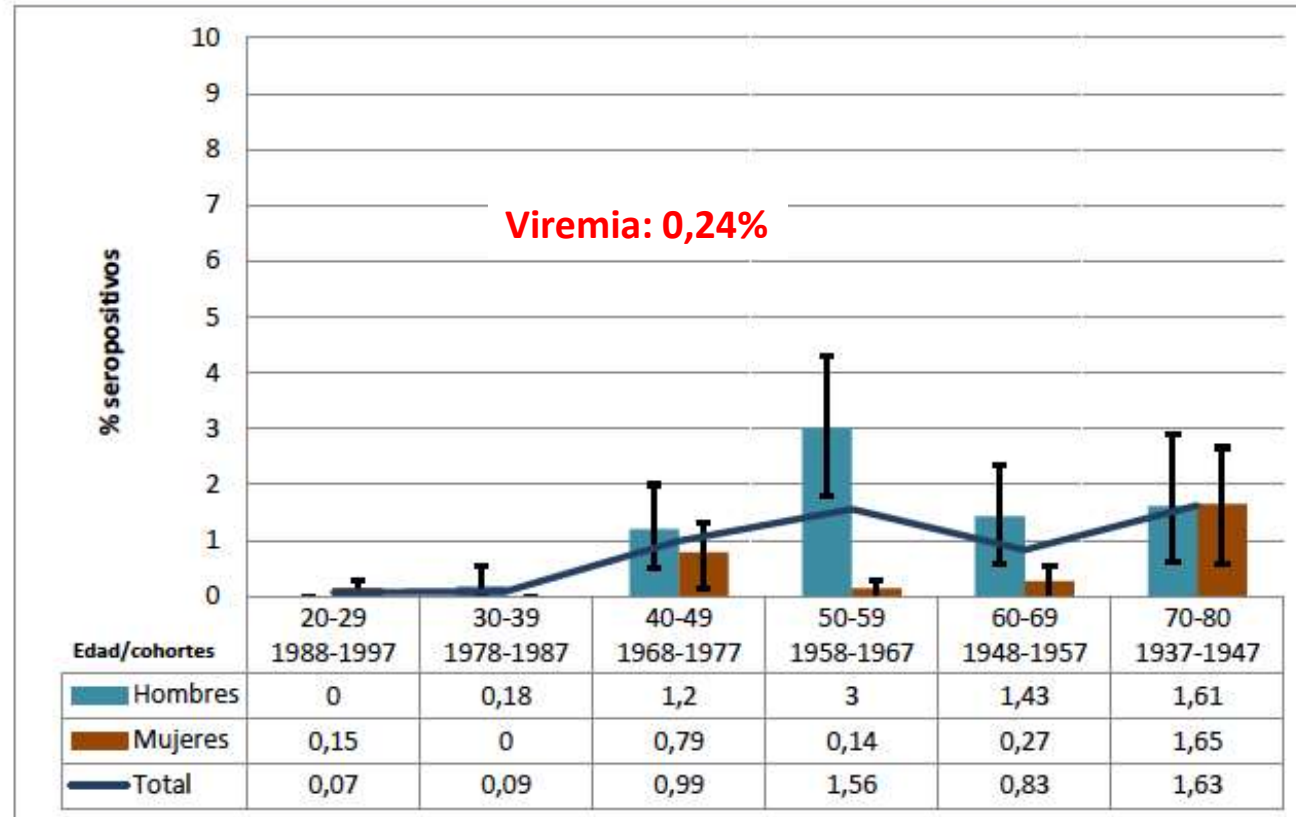
The ETHON Study

2015-2016



Prevalence 2018-2019

Gráfica 3.14.2. Población con anticuerpos frente a VHC por grupos de edad/cohortes de nacimiento y sexo.



Prevalence 2022-2023

EN JULIO IMPLANTADO EN TODAS LAS ÁREAS

31.000

PRUEBAS REALIZADAS

38

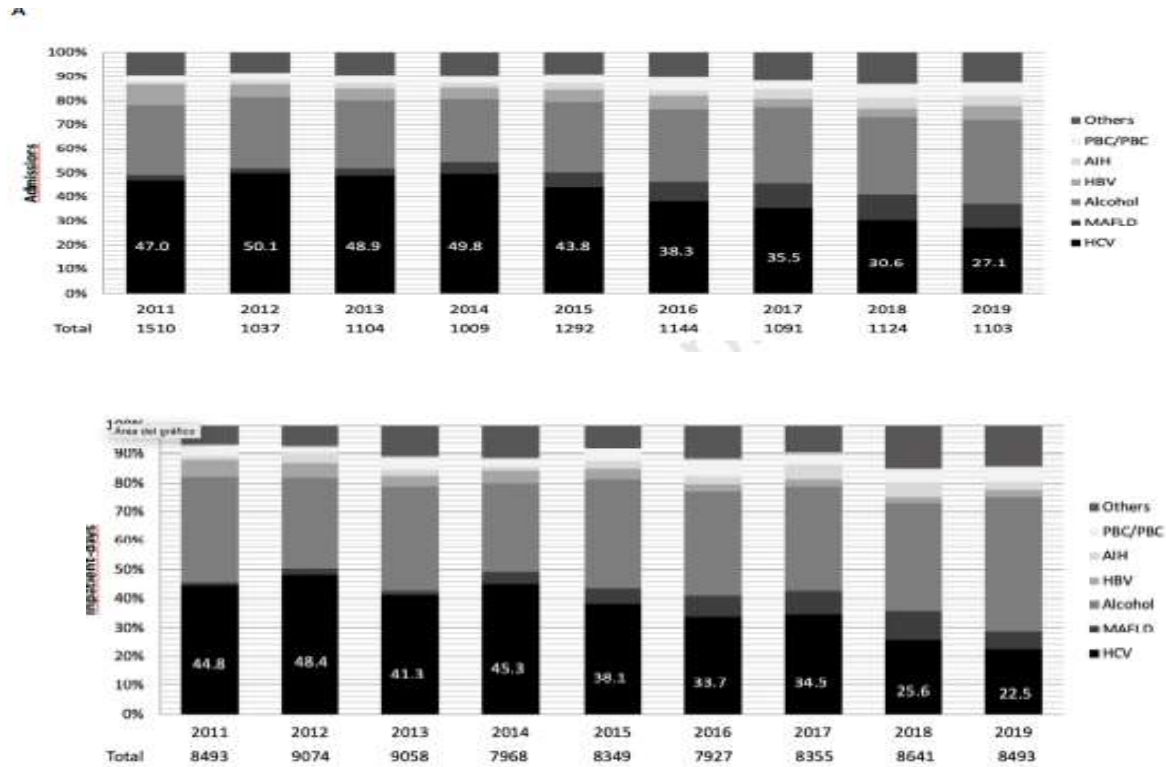
CASOS POSITIVOS

0,12 %

VIREMIA 0,12 % Prevalencia

MUY BUENA ACEPTACIÓN POR LA POBLACIÓN

Dastric reduction of Hospitalization due to Hepatitis C in Spain



Admitted in 2015 : 525 (48%) vs Admitted in 2019 : 300 (27%)

Elimination of Hepatitis C : Global aims

≥80%

Reduction of the incidence

≥90%

Diagnosed patients

≥80%

Treated patients

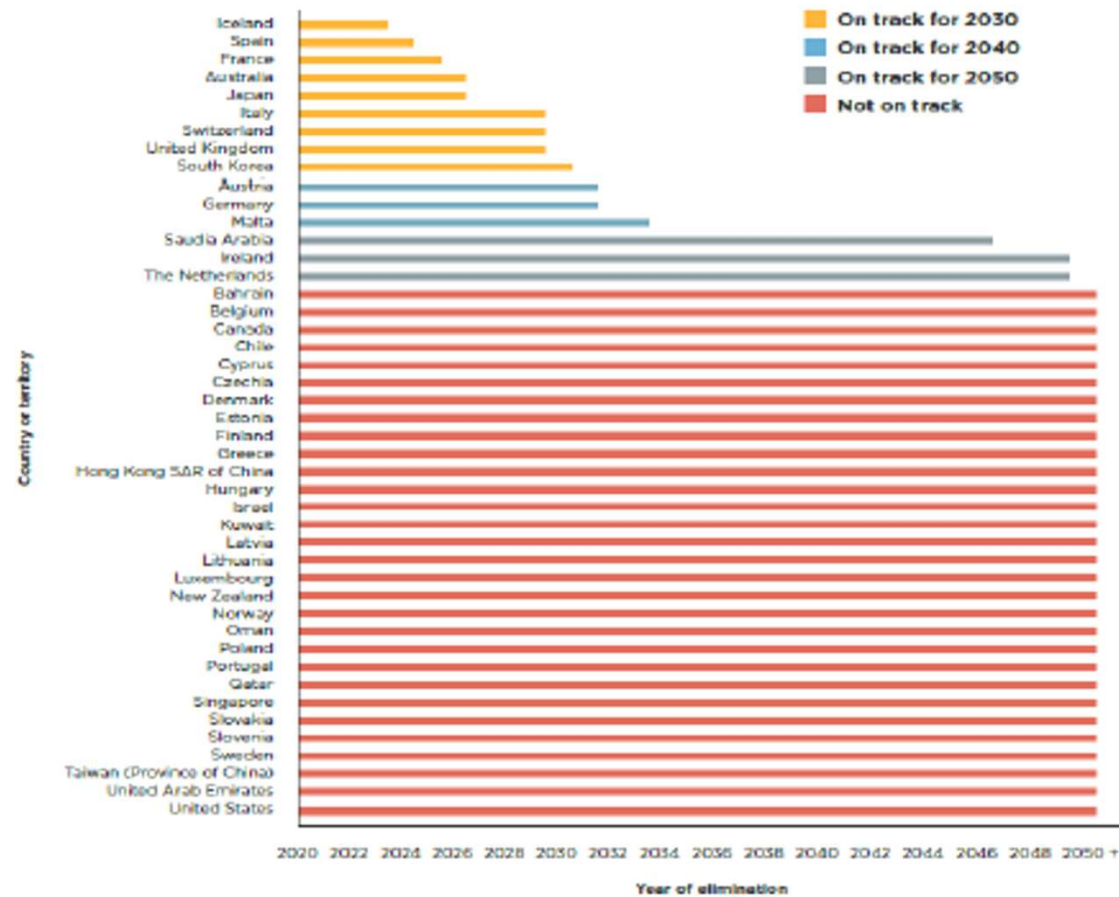
65%

Reduction of mortality

VHC, virus de la Hepatitis C

Interim guidance for country validation of viral hepatitis elimination. Geneva: World Health Organization; 2021. Disponible en <https://www.who.int/publications/i/item/9789240028395>

Spain is leading the race for elimination of Hepatitis C



Comment

<https://doi.org/10.1038/s41575-023-00813-z>

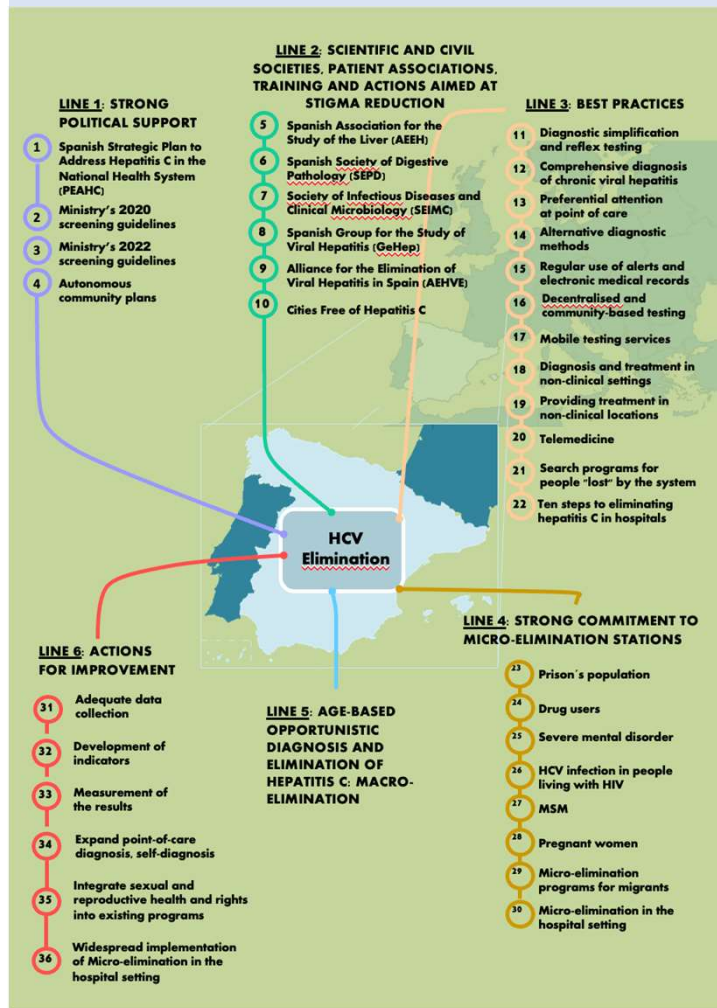
The path to successful hepatitis C elimination in Spain

Javier Crespo, Joaquín Cabezas, José Luis Calleja, María Buti & Jeffrey V. Lazarus

 Check for updates

Crespo J, Cabezas J, Calleja JL, Buti M, Lazarus JV. Nature Review Gastroenterol Hepatol 2023.

Reasons for the success of VHC Elimination Program in Spain



1. Strong political Support
2. Actions by Patients / Scientific societies / Civil society
3. Best clinical practices
4. Strong commitment to Microelimination programmes
5. Opportunistic screening

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The Spanish National Strategic Plan 2015: a pioneer in Europe



The **Spanish National Strategic Plan** has allowed Spain to be recognised as one of the countries that has advanced the most towards the objectives set by the WHO for the elimination of hepatitis C by 2030

Strategic aims

Quantifying the problem and determining measures for prevention

Defining the scientific-clinical criteria to determine when to use DAA drugs

Co-ordinating implementation throughout the healthcare system

Advancing knowledge of prevention, diagnosis and treatment through research and development

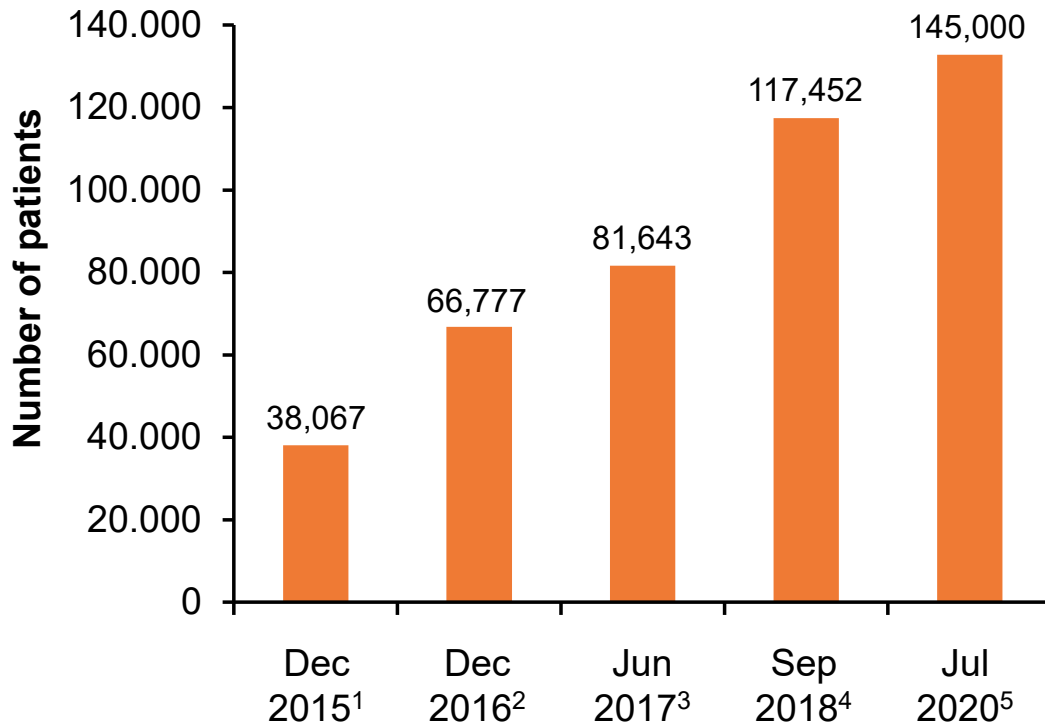
Policy approaches to tackling hepatitis C in Spain. Available at: <https://eiperspectives.economist.com/sites/default/files/Gilead%20Hep%20C%20report%20WEB%20%281%29.pdf> (accessed February 2020)

DAA: direct-acting antiviral

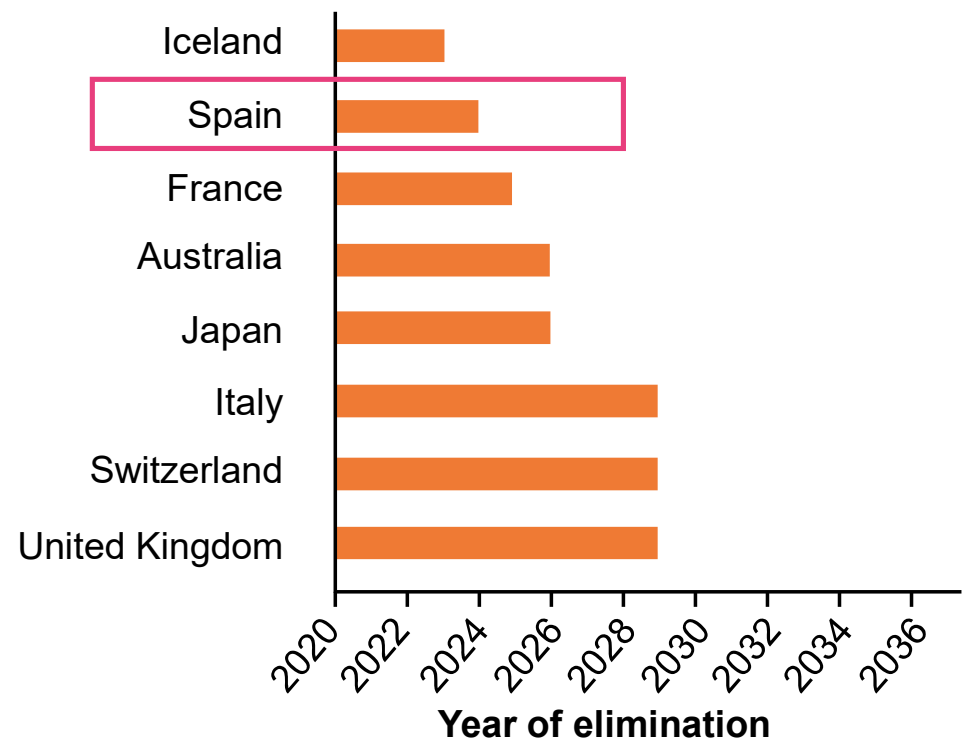
In 6 years (2015–2022), we have been able to treat and cure more than 160.000 patients with HCV



Patients treated with DAAs since 2015




Estimated year of elimination of HCV by country or territory⁶



1. La Moncloa. Available at: <https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/msssi/Paginas/2016/230216reunionhepatitisc.aspx>; 2. Ministry of Health. Available at: https://www.mscbs.gob.es/ciudadanos/enfLesiones/enfTransmisibles/hepatitisC/PlanEstrategicoHEPATITISC/docs/informeSituacionPEAHCPresentadoCISNS_Jun2017.pdf; 3. diariofarma. Available at: <https://www.diariofarma.com/2017/09/03/hepatitis-c-81-643-pacientes-tratados-9552-respuesta-positiva>; 4. Ministry of Health. Available at: [https://www.mscbs.gob.es/ciudadanos/enfLesiones/enfTransmisibles/hepatitisC/PlanEstrategicoHEPATITISC/docs/Plan_Estrategico_Abordaje_Hepatitis_C_\(PEAHC\).pdf](https://www.mscbs.gob.es/ciudadanos/enfLesiones/enfTransmisibles/hepatitisC/PlanEstrategicoHEPATITISC/docs/Plan_Estrategico_Abordaje_Hepatitis_C_(PEAHC).pdf); 5. La Moncloa. Available at: <https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/sanidad/Paginas/2019/011019-hepatitis.aspx> (websites accessed February 2020); 6. Razavi H. EASL 2019; Poster #SAT-260

Actions to be done at political level

- 
- Incidence registry
 - Improve mortality data
 - Support Universal screening
 - Global National Elimination Plan

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Moving forward: AEEH Elimination Plan – 2019

Gastroenterol Hepatol. 2019;42(9):579–592



CLINICAL PRACTICE GUIDELINES

Elimination of hepatitis C. Positioning document of the Spanish Association for the Study of the Liver (AEEH)☆



Javier Crespo^{a,*}, Agustín Albillos^b, María Buti^c, José Luis Calleja^d,
Javier García-Samaniego^e, Manuel Hernández-Guerra^f, Trinidad Serrano^g,
Juan Turnes^h, Enrique Acínⁱ, Juan Berenguer^j, Marina Berenguer^k,
Joan Colom^l, Inmaculada Fernández^m, Conrado Fernández Rodríguezⁿ,
Xavier Forns^o, Federico García^p, Rafael Granados^q, Jeffrey Lazarus^r,
Jose María Molero^s, Esther Molina^t, Fernando Pérez Escanilla^u, Juan A. Pineda^v,
Manuel Rodríguez^w, Manuel Romero^x, Carlos Roncero^y, Pablo Saiz de la Hoya^z,
Gloria Sánchez Antolín^{aa}

1 Combination of different screening approaches

- Based on age
- Based on risk factors
- Microelimination

2 Simplifying diagnosis

- Diagnosis in one step
- Point of care diagnosis

3 Strategies for optimising linkage to care

4 Simplifying treatment

- Treatment out of the hospital
- Pangenotypic treatment

5 Strict epidemiological surveillance to detect reinfections

6 Increased awareness among the general population

2017: Alianza para la Eliminación de las Hepatitis Víricas en España (AEHVE)

Different patients association and scientific societies with a strong cominmment for elimination of Hepatitis C



Plataforma de Afectados por Hepatitis C Madrid



21 actions for the Elimination of Hepatitis C in Spain

AEHVE Alianza para la Eliminación de las Hepatitis Víricas en España
21 RECOMENDACIONES PARA LA ELIMINACIÓN DE LA HEPATITIS C EN ESPAÑA EN 2021



Alianza para la Eliminación de las
Hepatitis Viricas en España



What is #hepCityFree

#hepCityFree is a movement for cities **to lead the fight for elimination of hepatitis C** in Spain, with the aim of becoming the first great country free of HCV, in line with the objectives set by the WHO for developed countries. A 90% reduction in transmission and 65% reduction in HCV-associated mortality by 2030. It is inspired by the FastTrack HIV movement (Paris Declaration).



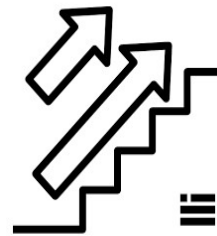


Ciudades Adheridas


SEVILLA, VALENCIA, GIJÓN, SANTANDER, GRANADA, ALCOY, VIGO, SANTIAGO, MADRID, FERROL, PONTEVEDRA, SALAMANCA, CORDOBA, LEÓN, ECIJA

Próximos pasos:

- Apoyo de la Junta de Gobierno de la FEMP (Federación Española de Municipios y Provincias)
- Creación de los Comités #hepCityFree en las ciudades adheridas al programa e implantación de proyectos en cada ciudad
- Medición avances



Actions to be done at patients association and civil society

- 
- Continue general awareness
 - Hepatitis C Free city program
 - Actions in vulnerable population

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Reflex testing implementation in hospitals in Spain

31%¹

89%²

Most HCV elimination initiatives have been slowed down or disrupted due to COVID-19 pandemic, ie Reflex Testing³

>95% of the participants in the survey are currently using Reflex Testing⁴

2017

2019

2020

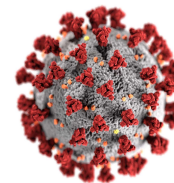
2022



Diagnóstico de la hepatitis C en un solo paso



Original article
Hepatitis C reflex testing in Spain in 2019: A story of success²
Javier Crespo^a, Pablo Lázaro^{b,c}, Antonio Javier Blasco^b, Antonio Aguilera^c,
Javier García-Samaniego^d, José María Eiros^d, José Luis Calleja^e, Federico García^g



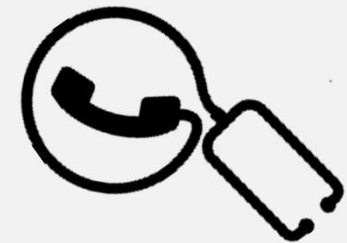
1. Diagnóstico de la hepatitis C en un solo paso. Available at www.seimg.or
2. Crespo J, et al. Enferm Infecc Microbiol Clin. 2021;39:119–126.
3. Scientific letter / Enferm Infecc Microbiol Clin. 2021;39(9):475–482
4. Survey conducted by SEIMC (non published data)



Reflex Testing



Alerts



**Direct referral
strategies**

Retrospective search as strategy to identify and retrieve non referred or lost-to- follow-up patients

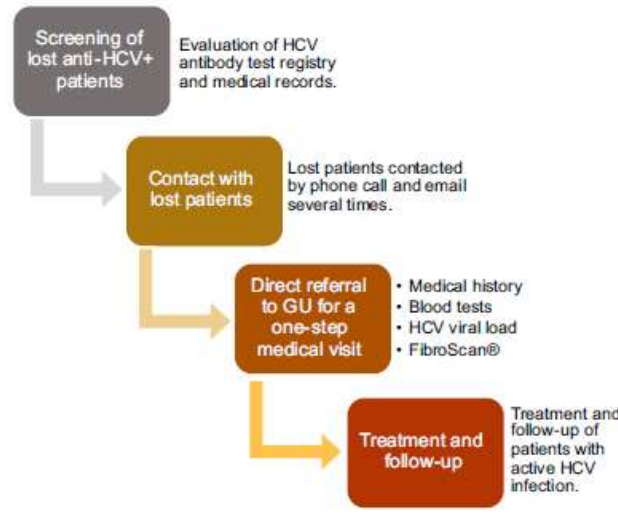
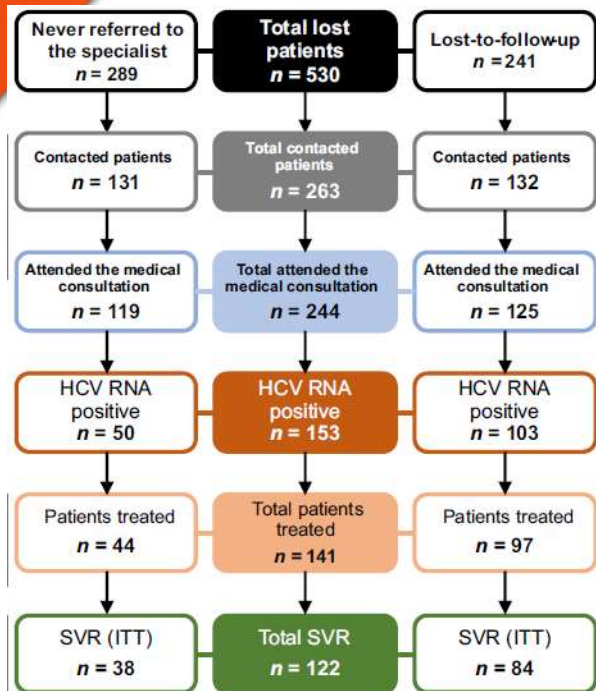
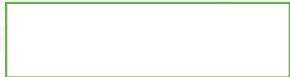


FIGURE A, Flowchart of HCV treatment in anti-HCV+ patients who were not referred or lost-to-follow-up during 2013-2018 and attended medical consultations after a simplified referral circuit. B, Model of the simplified care circuit

- **21,7%** anti-VHC+ patients were not referred to a specialist
- **23,1%** referred patients did not complete HCV cascade of care
- Only **68%** on the patients with HCV infection were treated

HCV, hepatitis C virus; ITT, intention to treat; SVR, sustained virological response; GU, Gastroenterology Unit

Microbiological data searches can be implemented at a national level as this is an easy way to identify patients with chronic HCV infection not linked to care in the NHS





Ten steps to eliminating hepatitis C in hospitals

José Luis Calleja¹, Antonio Aguilera², Maria Buti^{3,4}, Javier Crespo⁵, Federico García^{6,7,8}, Francisco Jorquera⁹, Luis Enrique Morano¹⁰, Juan Macias^{8,11,12} and Jeffrey V. Lazarus^{13,14}✉

Only 12 high-income countries are on track to meet the World Health Organization's goal of eliminating hepatitis C as a public health threat by 2030, and micro-elimination opportunities in high-risk populations in settings such as hospitals are often overlooked. We propose ten steps to eliminate hepatitis C in hospitals.

Box 1 | Ten required actions to eliminate hepatitis C in hospitals

1. Implement reflex testing within all diagnostic services
2. Adopt an effective system for notifications or alerts of positive cases, both to the requesting physician and to the service(s) responsible for hepatitis C virus (HCV) treatment
3. Establish direct referral to specialized care for any patient diagnosed with a chronic HCV infection
4. Identify all patients lost in the system through a retrospective search for positive cases from at least 2015 onwards and periodically every 2 years after
5. Simplify pre-treatment evaluation in patients with chronic HCV infection, with or without compensated cirrhosis
6. Simplify the dispensing of treatment, promoting complete delivery in a single visit, and facilitating its monitoring
7. Implement universal screening in high-risk patients
8. Establish screening in certain selected groups of patients by risk factors: pregnant people, patients admitted to the emergency department, during the pre-anaesthesia evaluation and/or those admitted to any hospital unit
9. Implement a decentralized and simplified diagnosis to facilitate approaching vulnerable populations
10. Implement coordination with harm reduction centres linked to hospitals

Calleja JL at al Nature Rev Gastroenterol Hepatol 2022



HCV prevalence in patients screened in emergency department

13,479 participants were screened in a 19 months period (Feb-20 to Sep-21). ▼



Anti-HCV positive: **553 (4%) participants**
HCV-RNA detectable: **100 (0.7%) participants**



HBsAg positive: **87 (0.7%) participants**
HBeAg positive: **3 participants**
Anti-HDV: **1 participant**



Coinfected HBV-HCV
2 participants

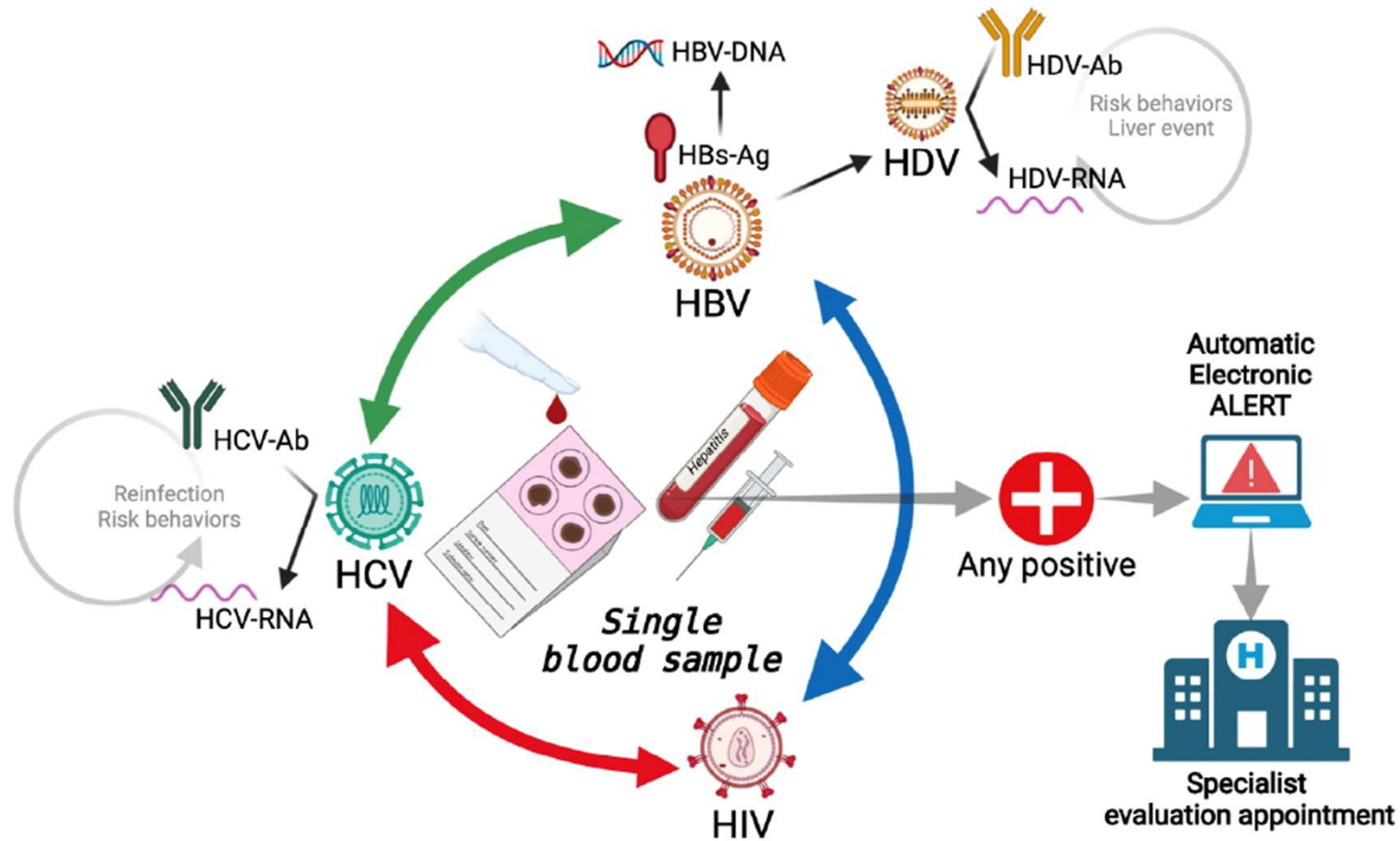
Demographic and clinical characteristics of screened anti-HCV / HBsAg positive participants.	Anti-HCV positive participants (n=553)	HBsAg positive participants (n=87)	p value*
Male, n(%)	280 (51%)	59 (69%)	<0.05
Age (years), Md (IQR)	74 (55-86)	63 (50-78)	<0.05
Caucasian, n(%)	506 (92%)	69 (79%)	<0.05
HIV coinfection, n(%)	58 (11%)	0	<0.05
Intravenous drugs users, n(%)	98 (18%)	1 (1%)	<0.05
Psychiatric disorders, n(%)	205 (37%)	18 (21%)	<0.05
Unaware of the infection, n(%)	222 (40%)	31 (36%)	0,5
Late diagnosis (FIB-4 >3.25), n(%)**	164 (30%)	21 (24%)	0,3

*Comparison between patients with anti-HCV and HBsAg participants.

** Vallet-Pichard A, et al. Hepatology 2007.

Conclusion: Simultaneous testing of hepatitis B and C infection showed a prevalence of HBV of 0.6% and active HCV infection of 0.7%, almost three times higher than that reported in the general population. Screening for HBV and HCV infection in emergency departments can be a useful strategy to identify patients with unknown viral hepatitis and ensure appropriate management.

Comprehensive diagnosis



Crespo J, Calleja JL, Cabezas J, García F, Aguilera A, Jorquera F, Lazarus JV. A call for the comprehensive diagnosis of viral hepatitis as a key step towards its elimination. Liver Int. 2023 May;43(5):1145-1147.

Actions to be done with best practices

A decorative horizontal line consisting of a red line on top and an orange line below it, with two arrows pointing to the right. The first arrow is red and the second is orange.

- Expand the comprehensive diagnosis to Sexually transmitted diseases
- Improve the detection at any level of health system including hospitals
- Focus on Emergency Departments

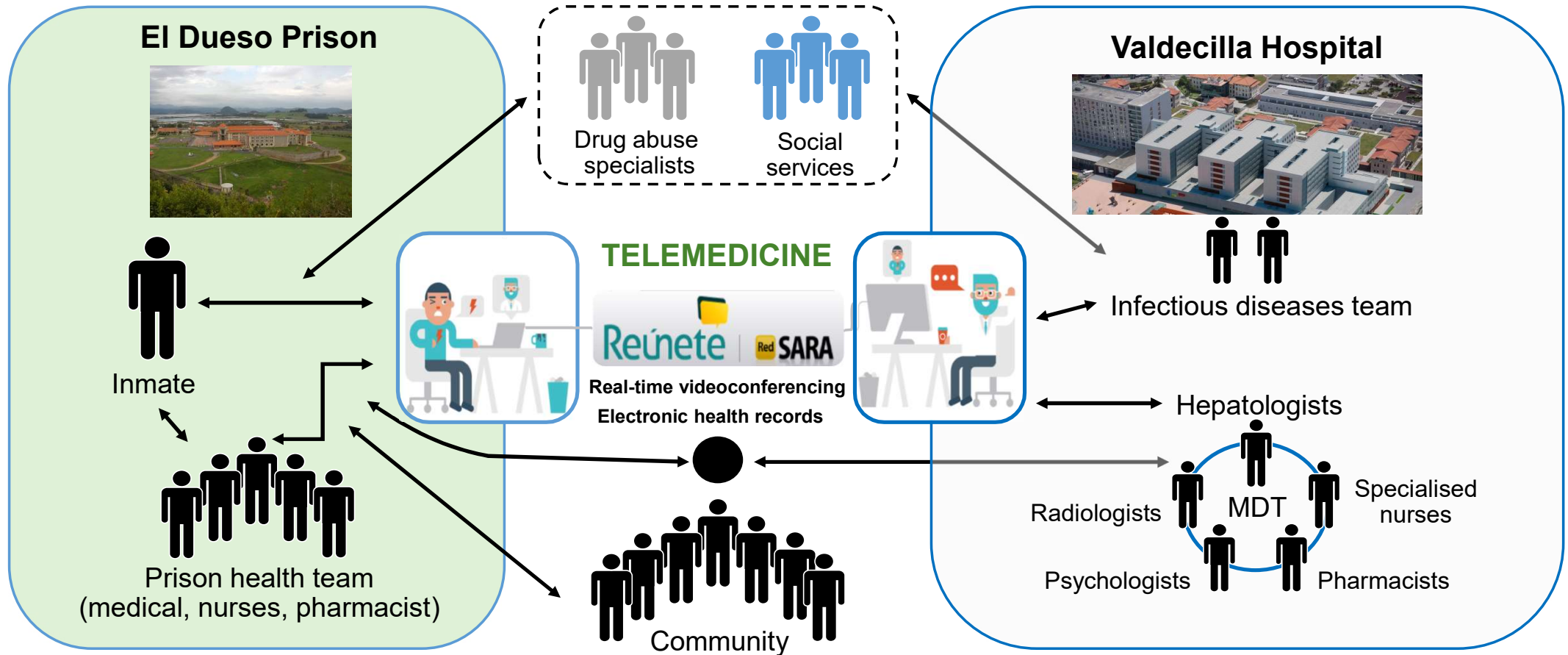
Reasons for the success of VHC Elimination Program in Spain

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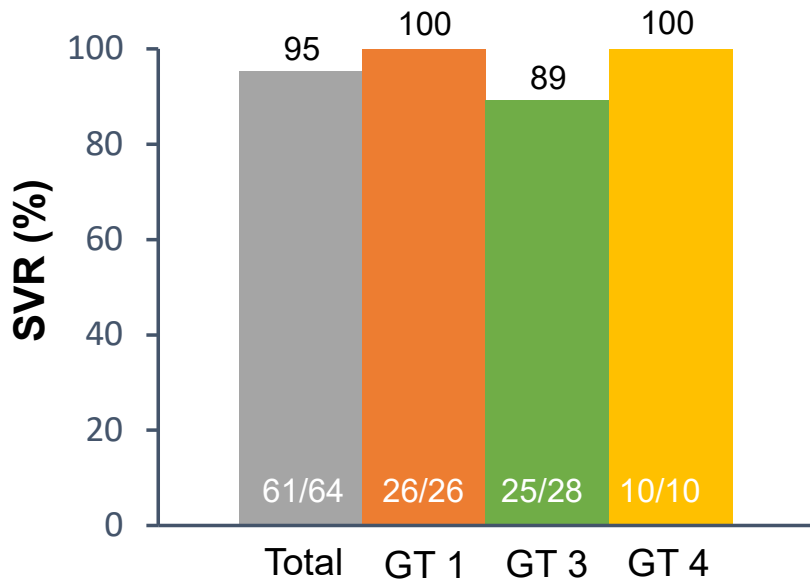
Potential Populations for Micro-elimination

Majority population
Treatment naive non-cirrhotic with no social or economic disadvantages
Example patient populations to be prioritized for HCV micro-elimination¹
Prisoners
Chaotic/active PWUDs
Former PWUDs/on-OST
MSM
Migrant communities from high prevalence regions
Generational cohorts of high prevalence
Hemophilia patients
Children
Geographically defined areas
Patients with advanced liver disease

Microelimination in prisons



Microelimination in prisons



Comorbidities	
HIV, n (%)	11 (1.3)
HIV/HBV, n (%)	1 (0.1)
Psychiatric disorder, n (%)	155 (18%)

Liver fibrosis	
F0–F1	36 (52%)
F2	9 (13%)
F3	7 (10%)
F4	17 (25%)

*17/86 viremic patients whose confinement period at the center was expected to be lower than 30 days were excluded from the treatment phase.

F: fibrosis stage; GT: genotype

Microelimination in prisons

Penitentiary population						
Year	2015	2016	2017	2018	2019	2021
Number of Inmantes	49,976	49,224	47,803	47,901	47,499	
HCV screening rate	79%	80%	75%	79%	79%	
HCV seroprevalence	19.5%	18.7%	16.7%	10.6%	10.2%	
HCV viremia prevalence	--	11%	9%	3%	1,9%	<1%
HCV incidence	0.2	0.4	0.4	0.29	--	
HCV treatment rates	--	24%	52%	~100%	~100%	

Actions to be done at microlimitation programs



- Five important population to work with :
 - MSM
 - IV Drug addicts
 - Alcohol abuse
 - Migrants
 - Homeless

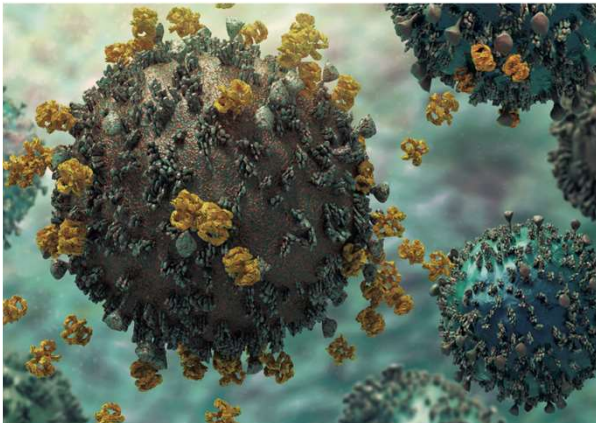
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The Galician way to achieve the goal of HCV elimination



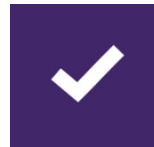
Estratexia para a eliminación da hepatitis C como problema de saúde pública en Galicia



Age-specific opportunistic screening... with some innovative features

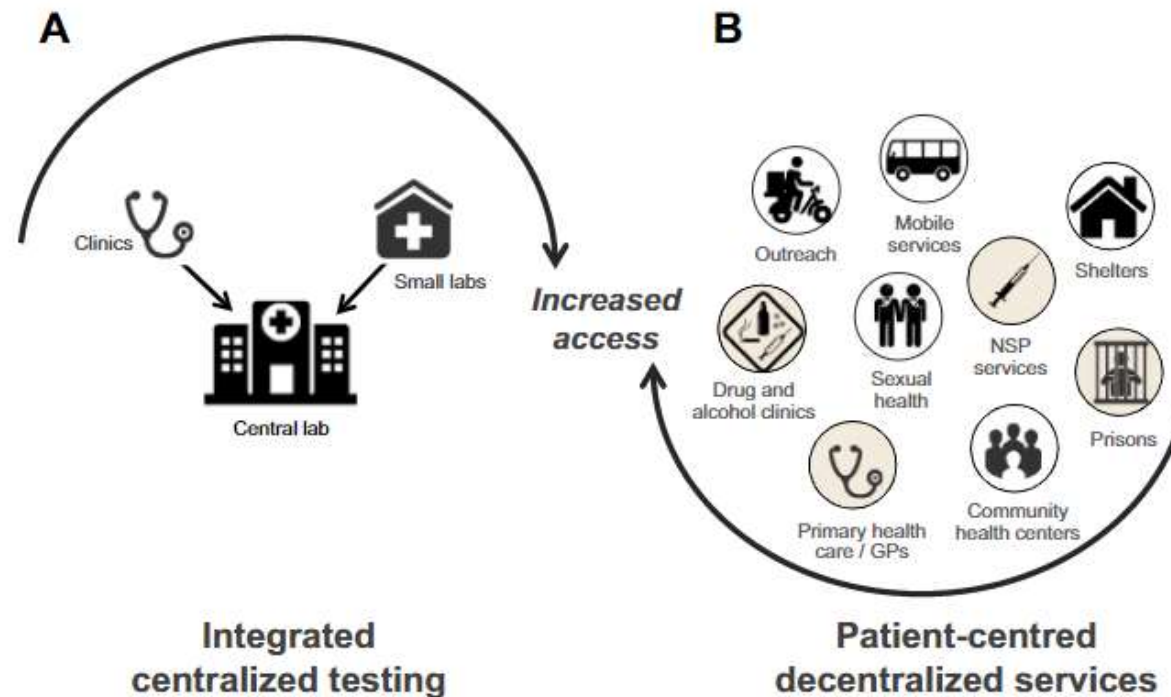


Recovery of patients already diagnosed but lost follow-up



Microelimination strategies

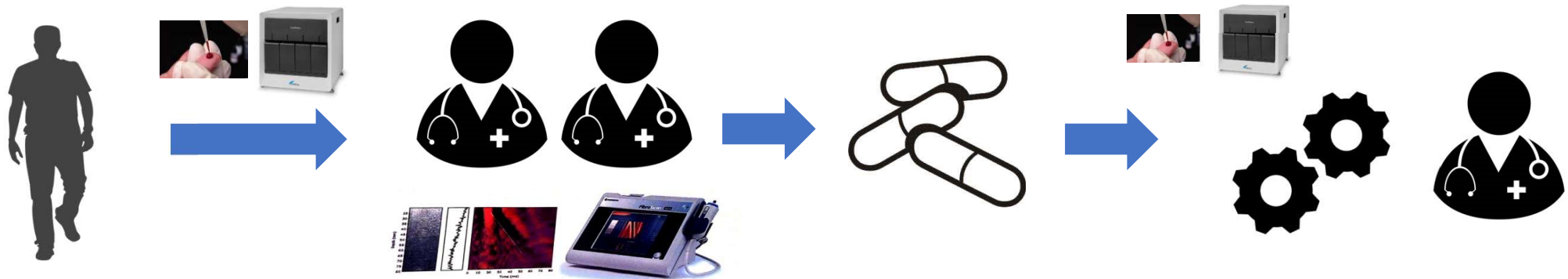
Improving the care cascade: changing the model



hepatitis C virus (HCV) testing models at both (A) integrated centralized, tertiary or district laboratories and (B) patient-centered decentralized primary health care services are required for global elimination. GPs, general practitioners; NSP, needle/syringe program.



Simplifying HCV management in high-risk groups:



- On-site HCV RNA+ testing (GeneXpert result in <2h)

- Portable FibroScan® (5–10 min)
- Drug–drug interactions
- Behavioural questionnaire
- Education

- On-site treatment
- Adherence monitoring
- Education

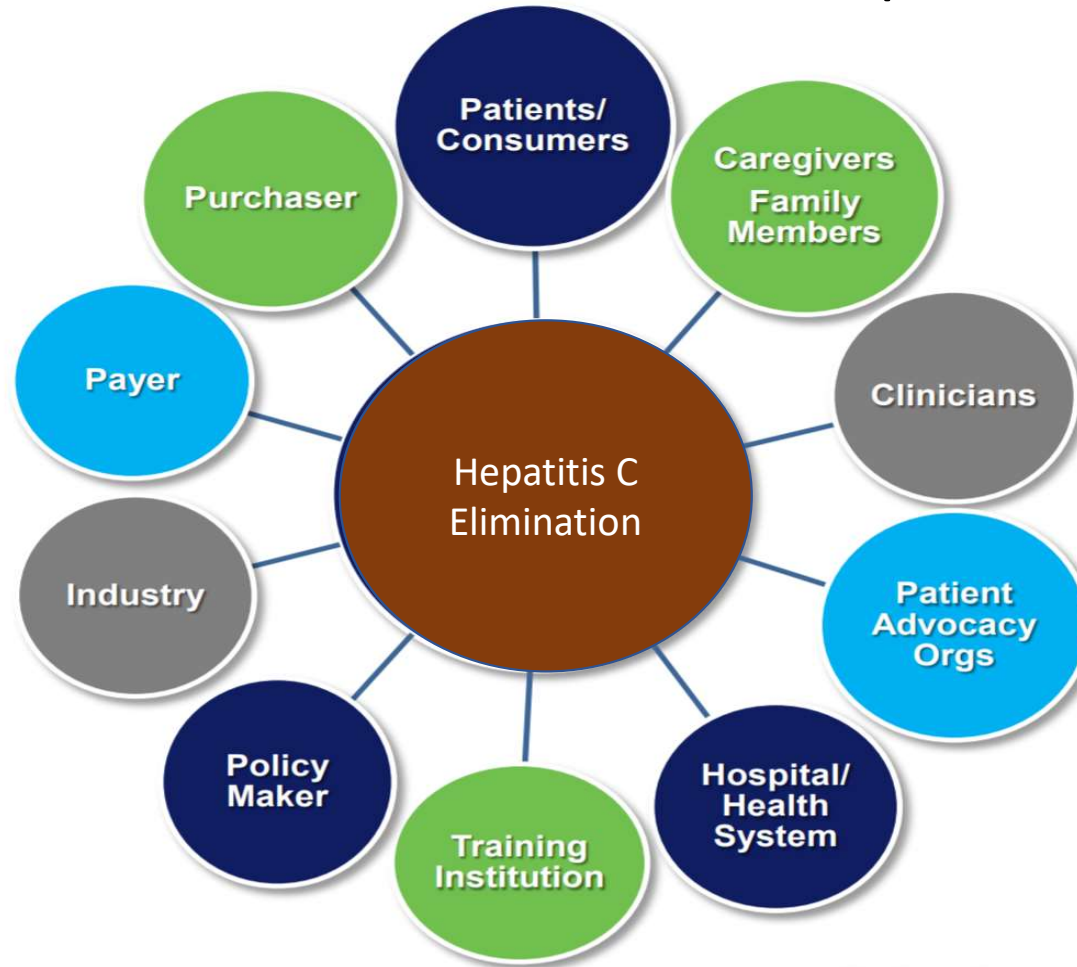
- SVR and reinfection evaluation

BUT... there are some difficulties: social complexity, incarceration, early reinfection

Areas for improvement

1. Data collection to assess elimination programs (Incidence, outcomes)
2. Evaluation of complementary risks (alcohol, metabolic)
3. Expand point of care diagnosis and self testing (vulnerable population)
4. Special populations (homeless, migrants and MSM)
5. Integrate viral screening in Sexually Transmitted infections
6. Coordination of the efforts between all the regions

Shared leadership



Take Home messages

- A National Elimination Plan is needed to achieve all the goals
- Pillars:
 - Universal Screening
 - Reflex testing
 - Universal Access to DAA
 - Decentralized care
 - Multidisciplinary approach
 - Taking advantages of the opportunities of COVID 19