



La roadmap dell'eliminazione di HCV nei consumatori di sostanze: cosa abbiamo fatto, cosa dobbiamo fare per lo sviluppo della presa in carico delle patologie correlate nei Ser.D.

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*UOC Tutela Salute delle Persone con limitazione della libertà
e SerD Carcere*

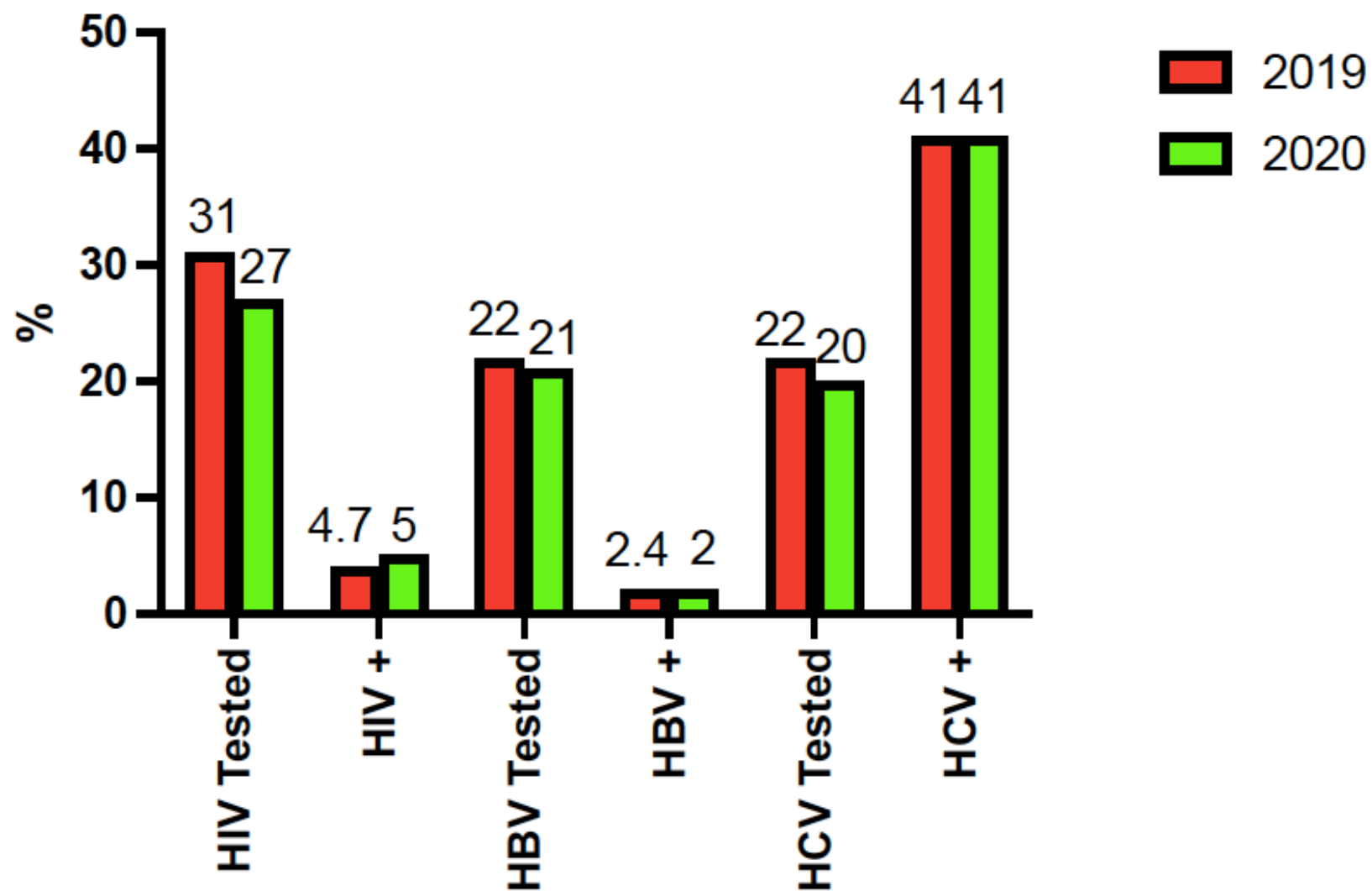
Azienda ULSS 6 Euganea, Padova

29 Settembre 2022

Disclosure

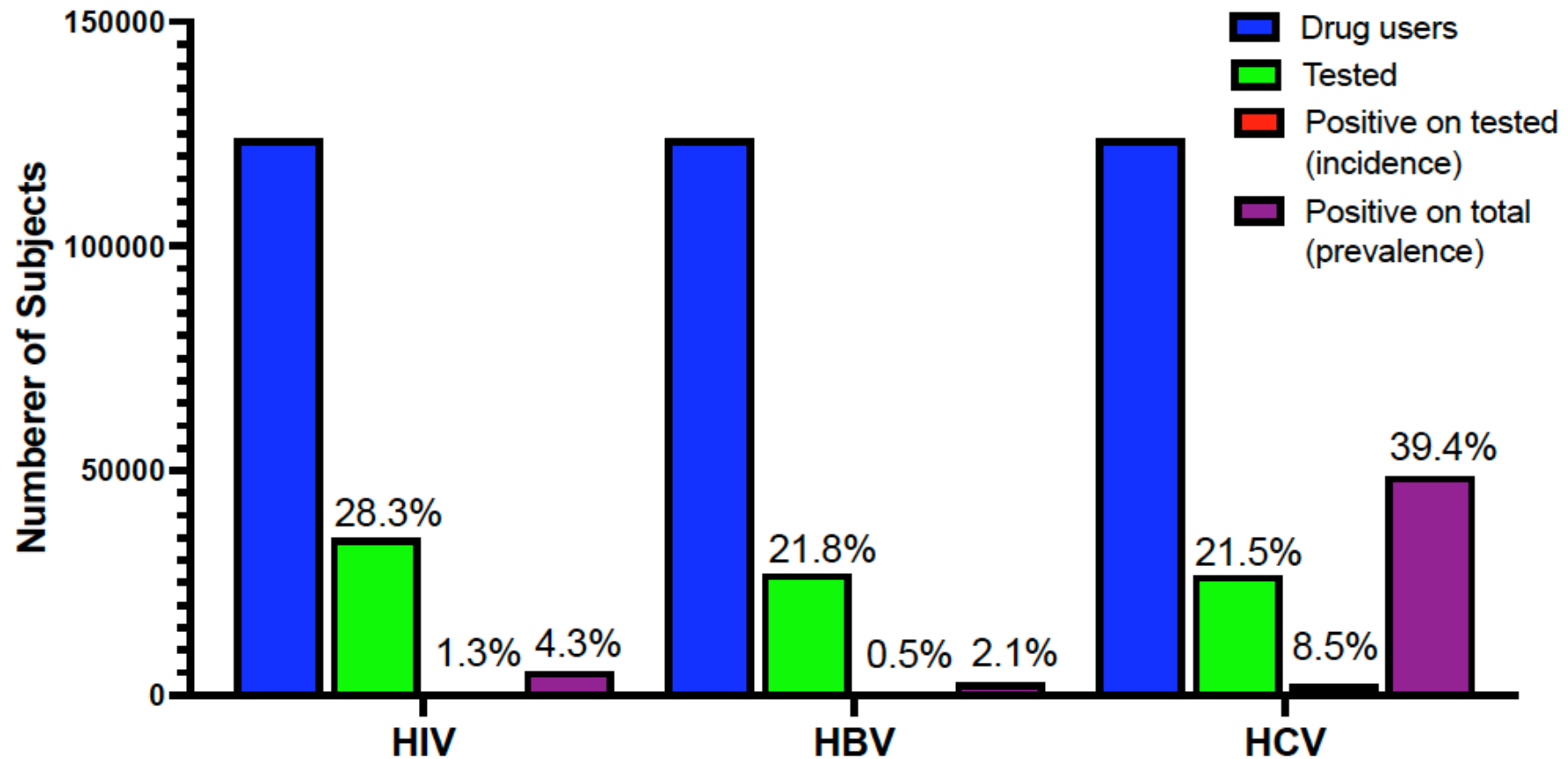
- **Speaker honoraria:** AbbVie, D&A Pharma, Gilead Sciences, Indivior and Reckitt Benckiser
- **Consulting fees:** Gilead Sciences, Indivior, Laboratorio Farmaceutico CT Srl, Merck Serono, Molteni Farmaceutici, Mundipharma Pharmaceuticals and Reckitt Benckiser
- **Project research grants:** AbbVie, Gilead Sciences, Cepheid, Indivior and Laboratorio Farmaceutico CT Srl

Epidemiology in key populations (1)



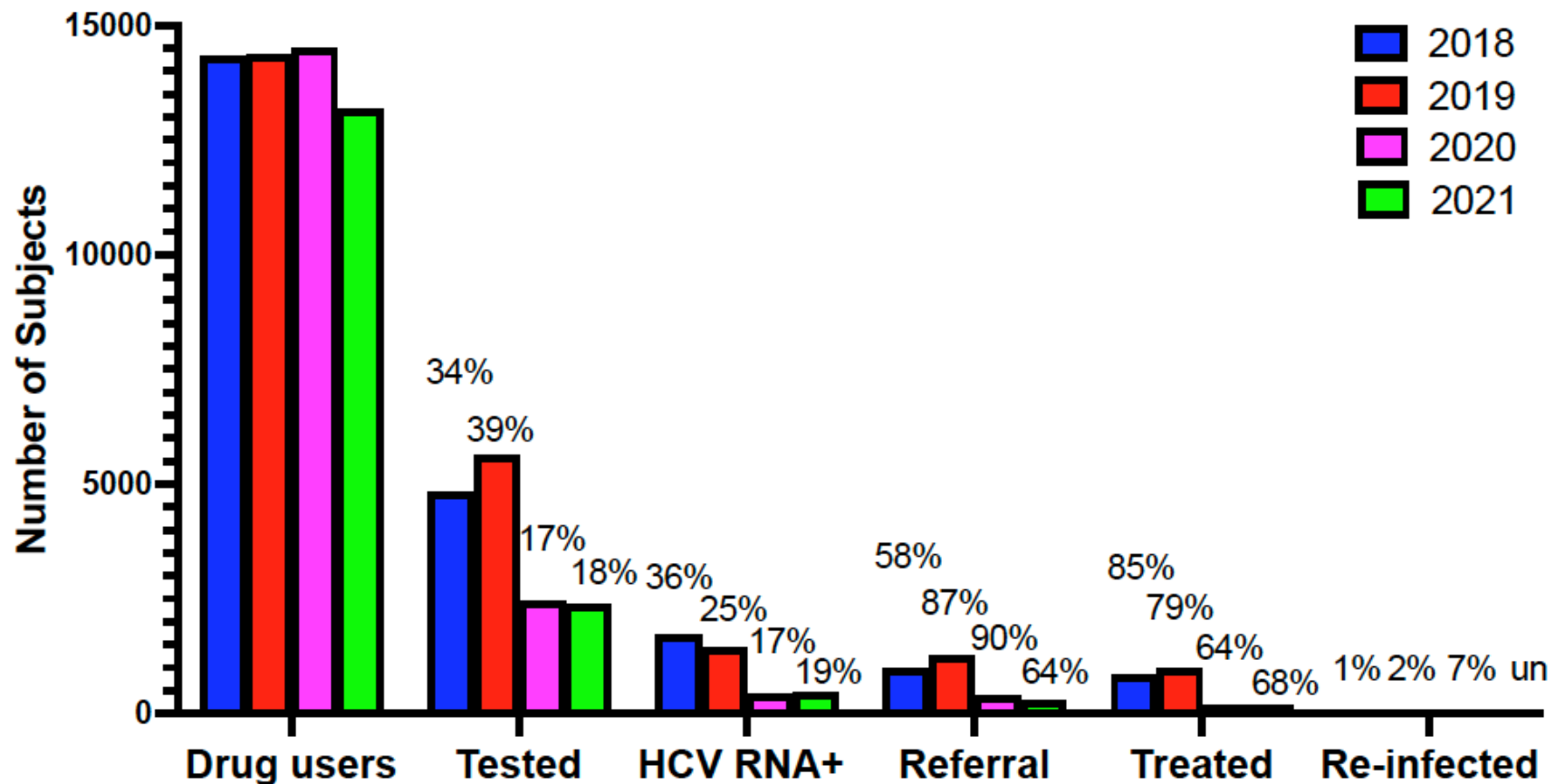
Epidemiology in key populations (2)

Infection diseases in drug users inside Italian Ser.D. - 2021

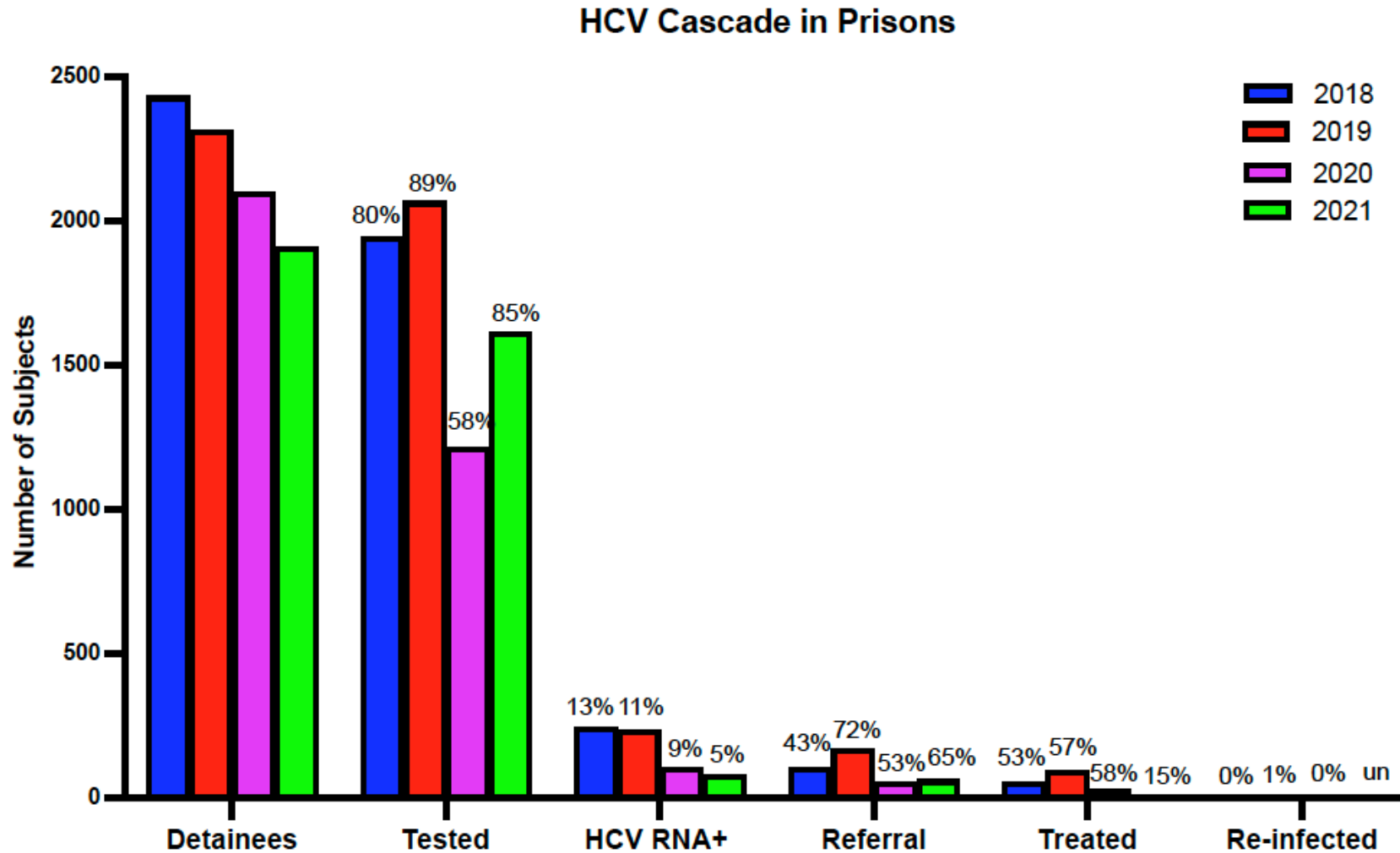


Epidemiology in Veneto Region in key populations (1)

HCV Cascade in Veneto Drug Abuse Services (Ser.D.)

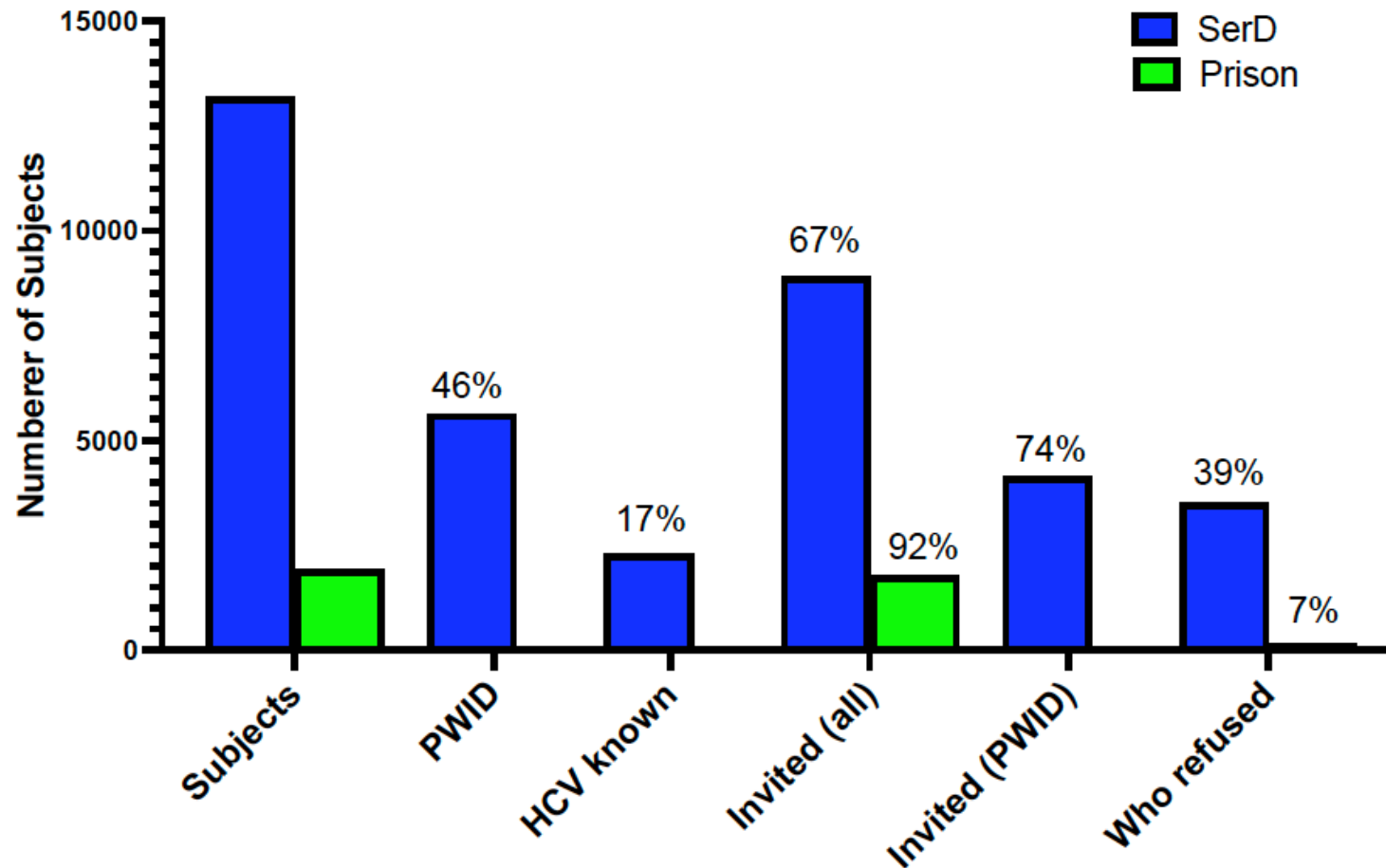


Epidemiology in Veneto Region in key populations (2)

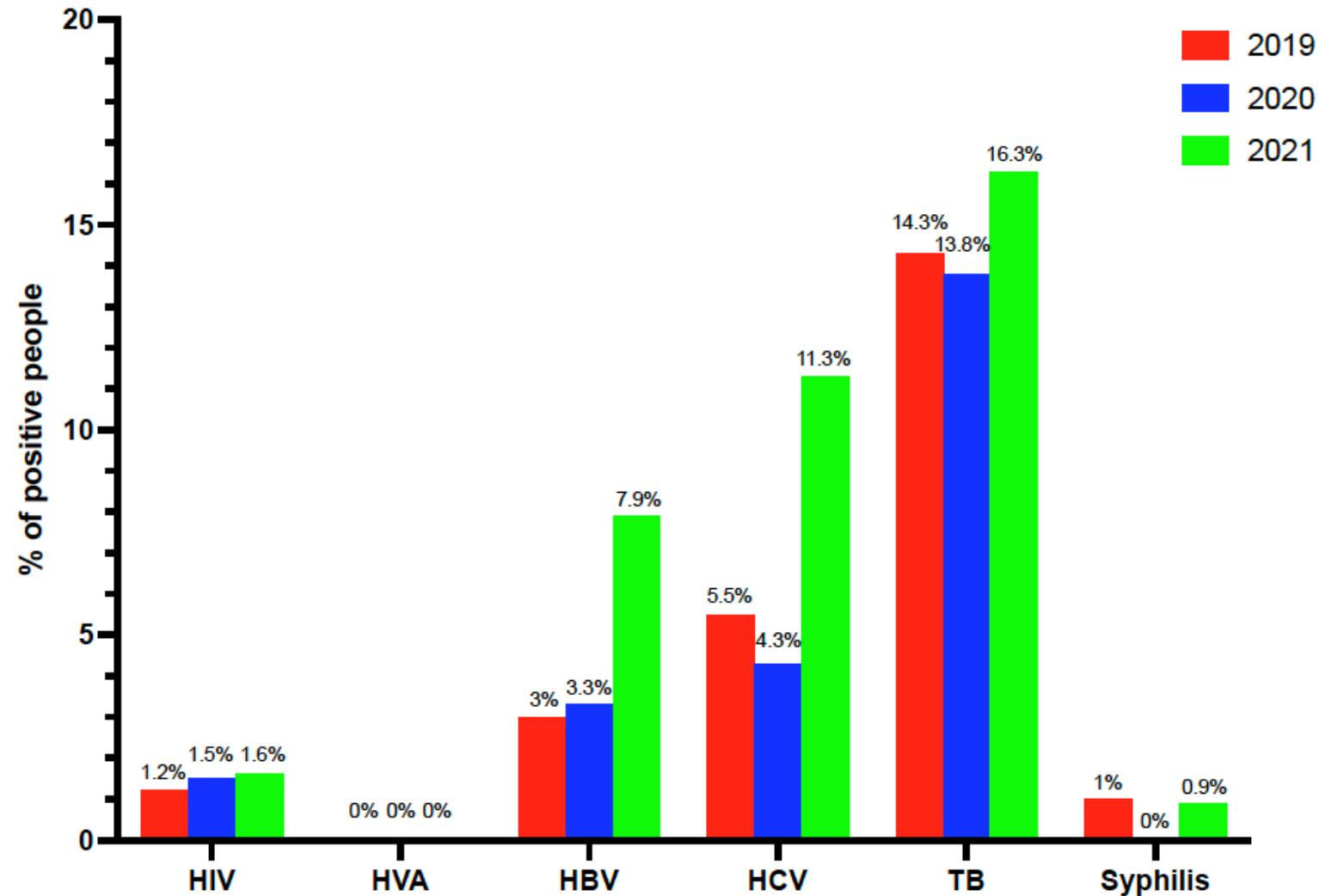


Epidemiology in Veneto Region in key populations (3)

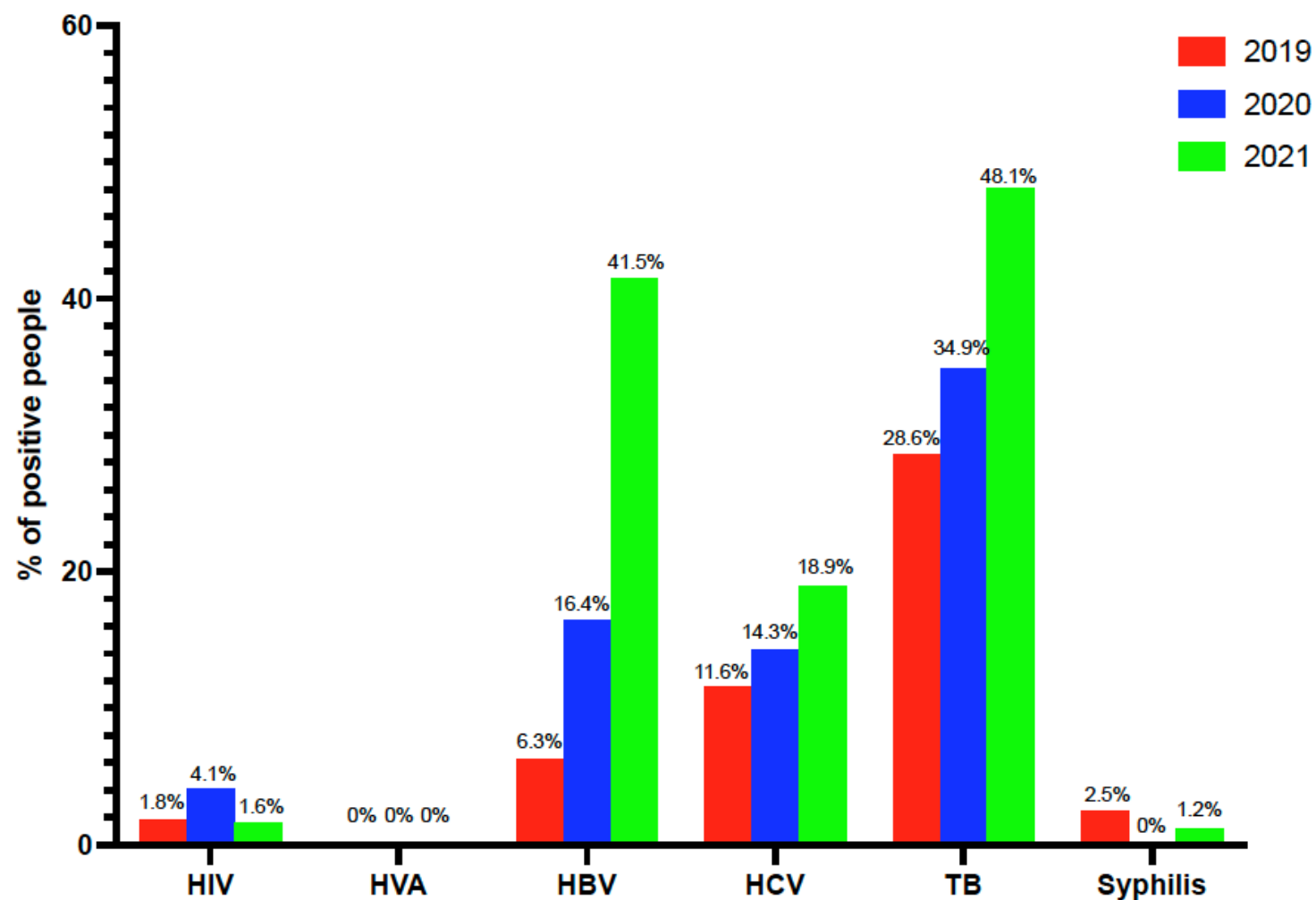
HCV test trend in Veneto Ser.D. and Prison - 2021



The incidence of the infections diseases in the entrant people in the Padua Prisons

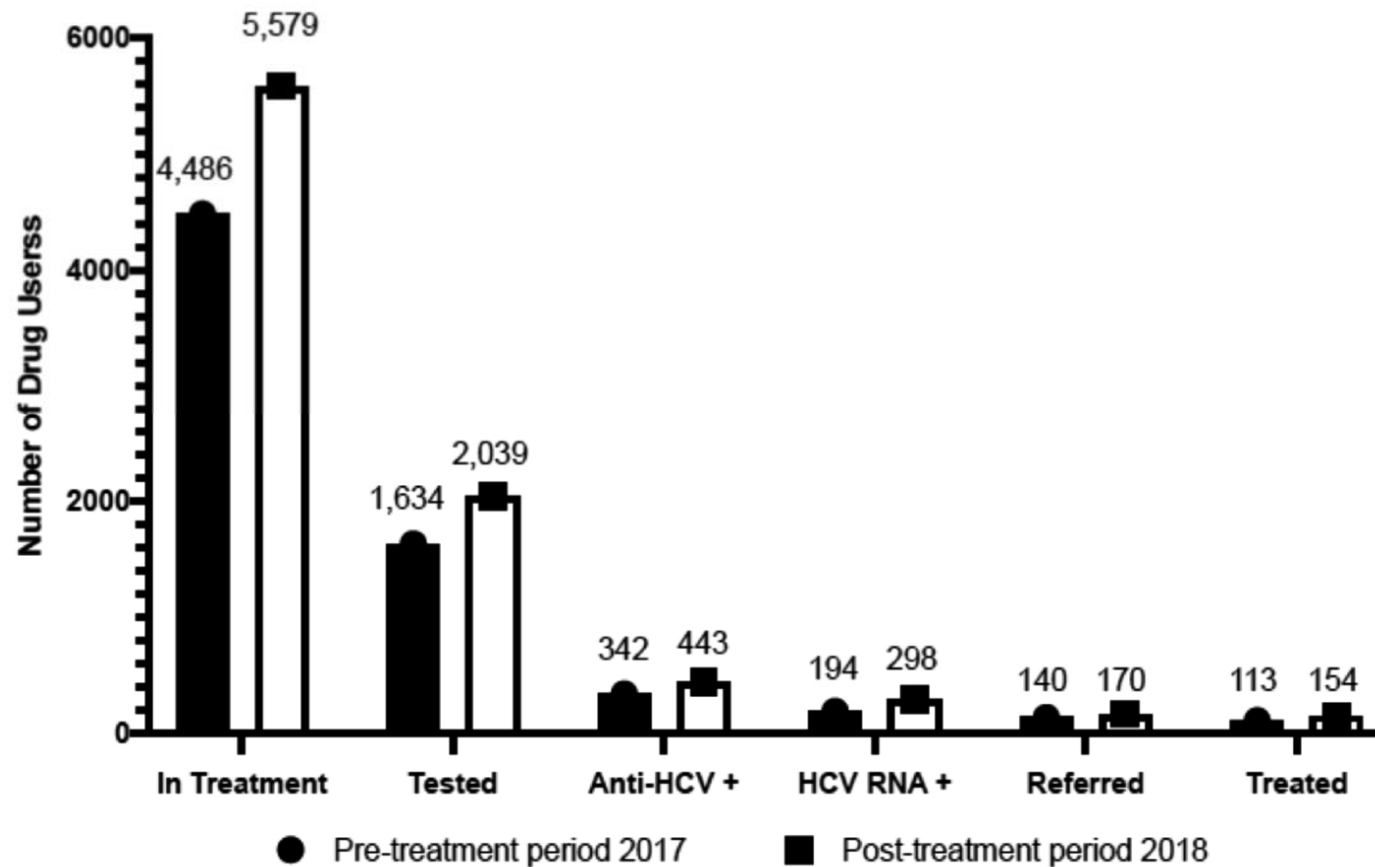


The prevalence of the infections diseases in the entrant people in the Padua Prisons

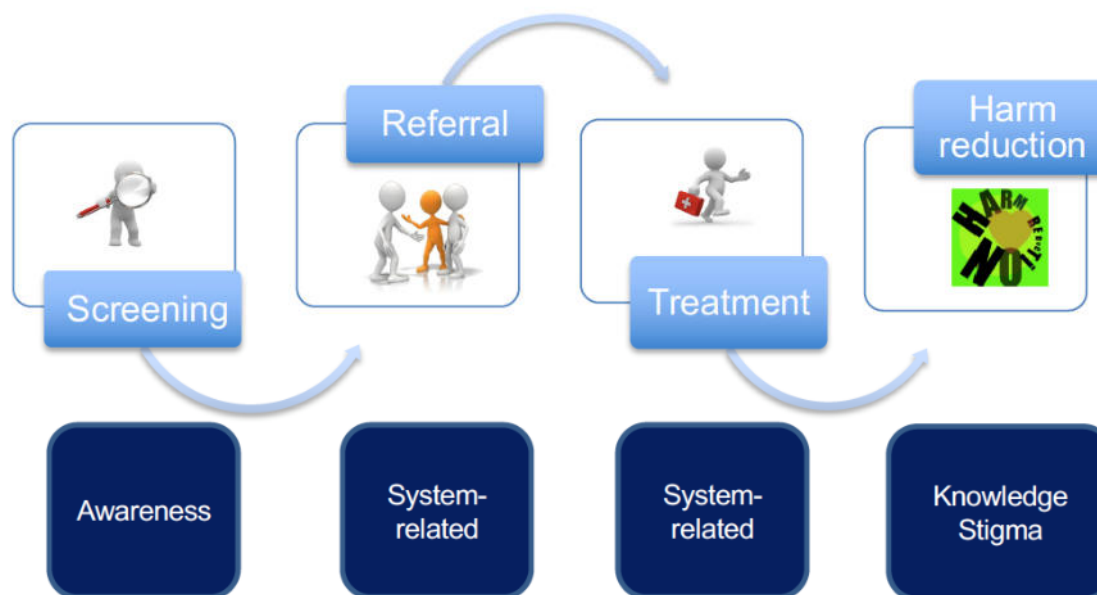


Barriers for HCV treatment

Fig. 1 - HCV cascade in the PWUDs in the pre-intervention (2017) and post-intervention (2018) periods (Paired t test $p < 0.14$)



Treatment of PWID with HCV infection: Essential Step



The care pathway

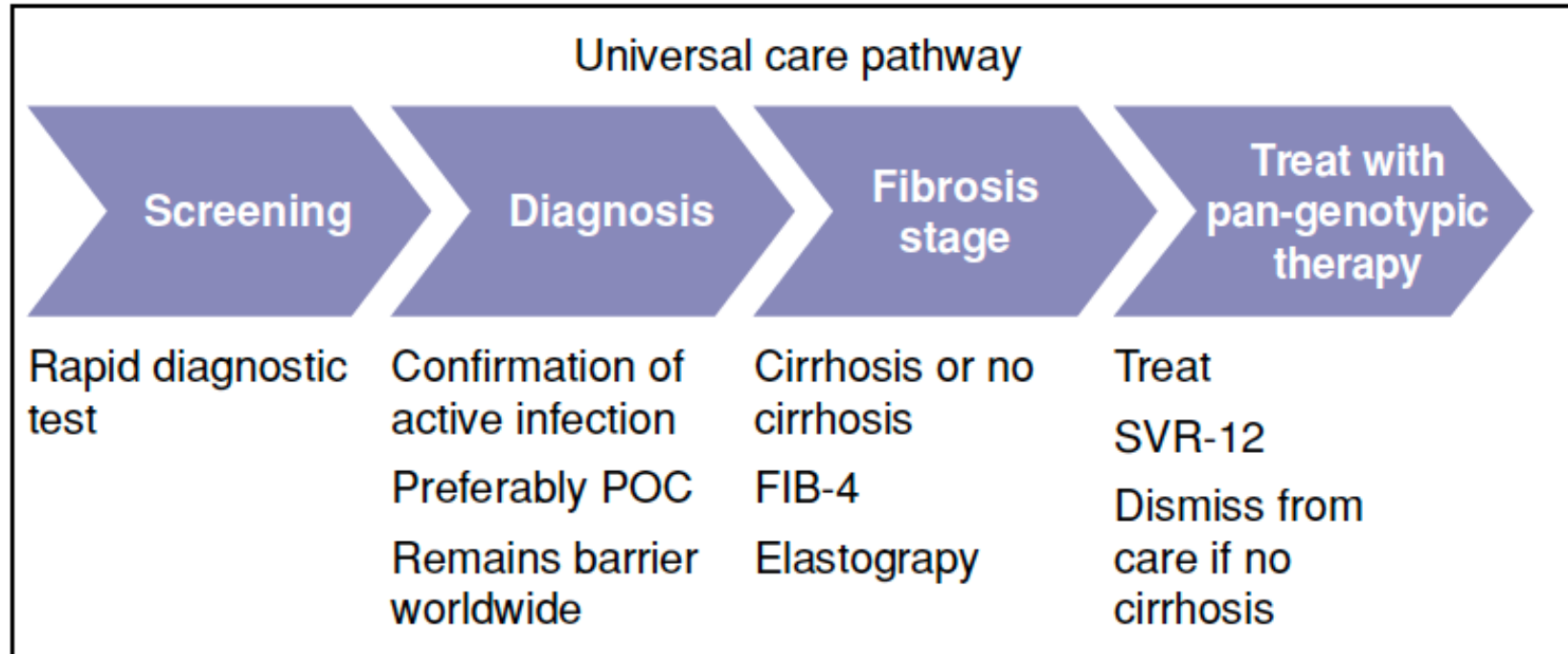
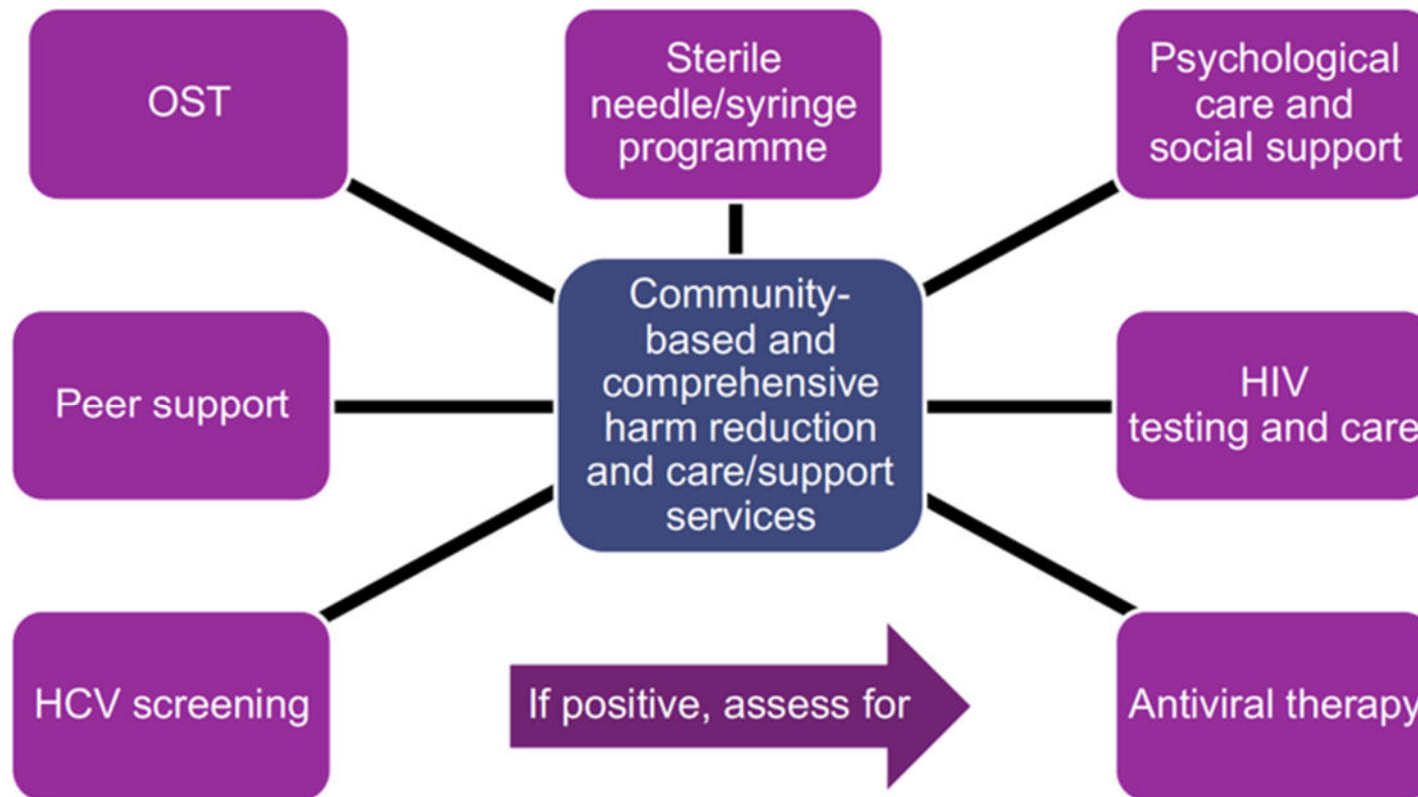


Figure 1. Universal care pathway for hepatitis C.

FIB-4: Fibrosis-4 Index for Liver Fibrosis; POC: Point-of-care; SVR-12: Sustained virologic response for 12 weeks.

Taking in charge: ingredients

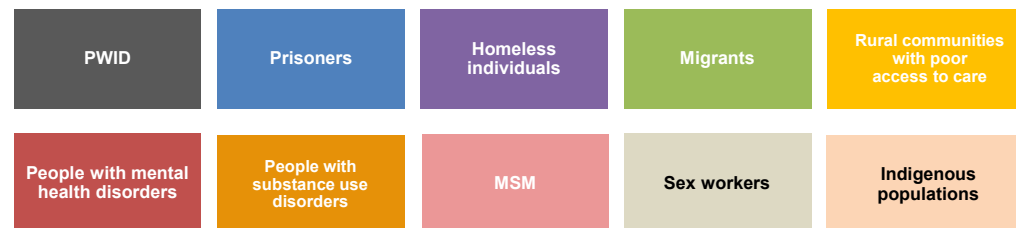


EASL HCV treatment recommendations 2020



Simplified treatment algorithm

- Improving access to HCV therapy has become a worldwide priority
- When genotype/subtype determination is not available, not affordable and/or limits access, simplified treatment should be used to facilitate the cascade of care
- Groups who will benefit from a streamlined care pathway:



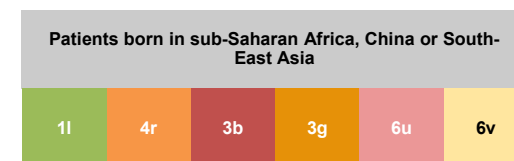
"Pangenotypic HCV drug regimens can be used to treat individuals without identifying the HCV genotype and subtype"

Genotype/subtype determination-based algorithm

- Where available and affordable, and access to care would not be limited, genotype/subtype determination could optimise results in some groups:



- If sequence analysis of the NS5B coding region is available and affordable it should be performed in:



Post COVID-19 Era: the active ingredients

Points to consider:

Strengths

- To know the number of patients to be treated
- Point of care as effective model of treatment for HCV + PWIDs
- Case manager (nurse based)

- COVID-19 emergency
- Lack of HCV specialists
- No time for HCV specialist to go inside SerDs and Prisons
- Waiting list for treatment
- Limits in the access to care

Weakness

Points to consider:

- Care plan managed by HCV specialist in tele-health
- Clinical evaluation and treatment by addiction specialist
- Operational management made by addiction nurse



F.A. Nava, Personal Communication

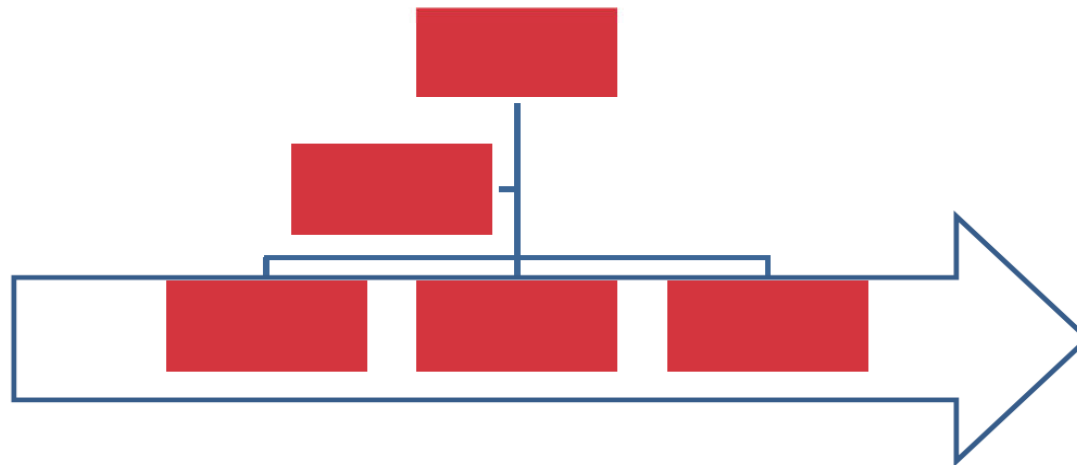
The Patient's journey

The organization should not preserve the “internal order” that can be a “barrier” for client's need....



The organization is vertical while the client's service is horizontal

George Fisher former Motorola CEO



The PWIDs as reservoir of HCV: the proof of genotypes

Taherkhani R *et al.* Hepatitis C elimination

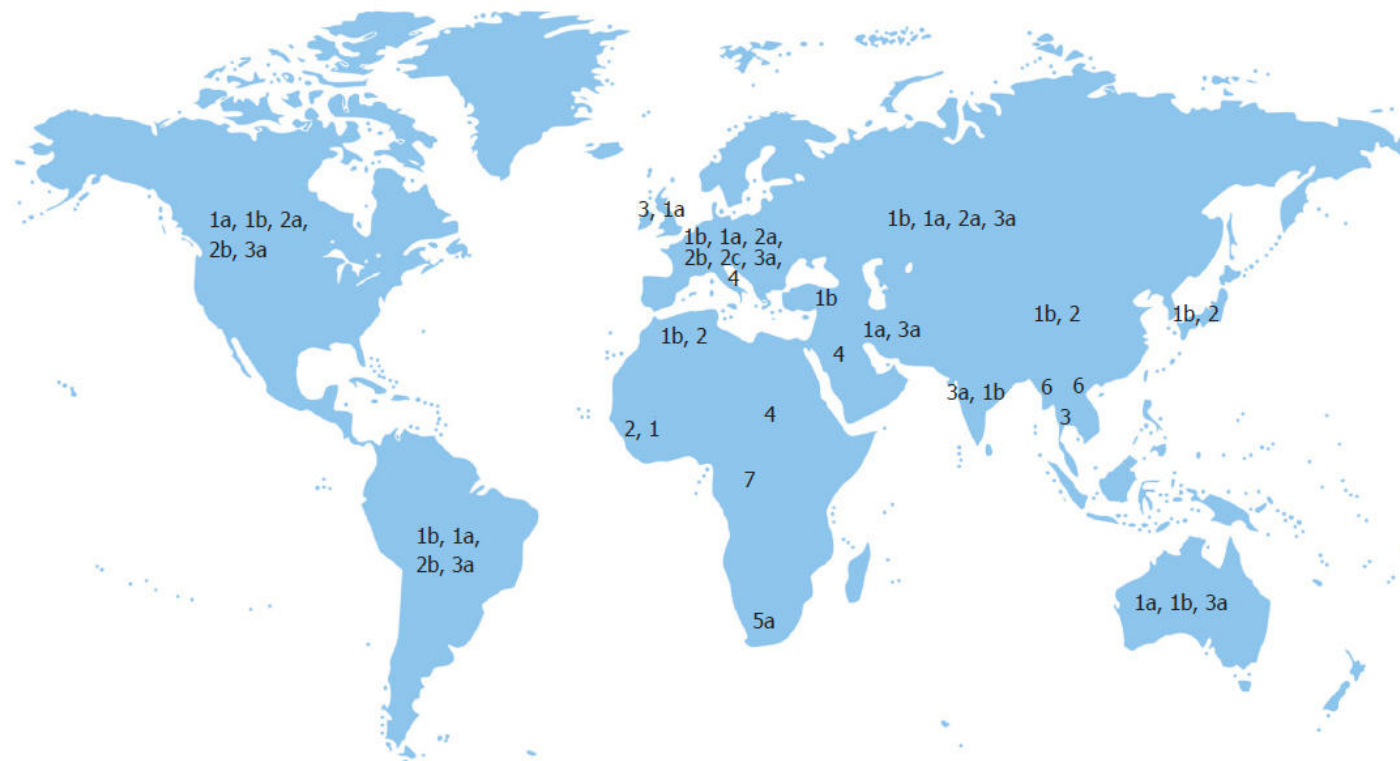
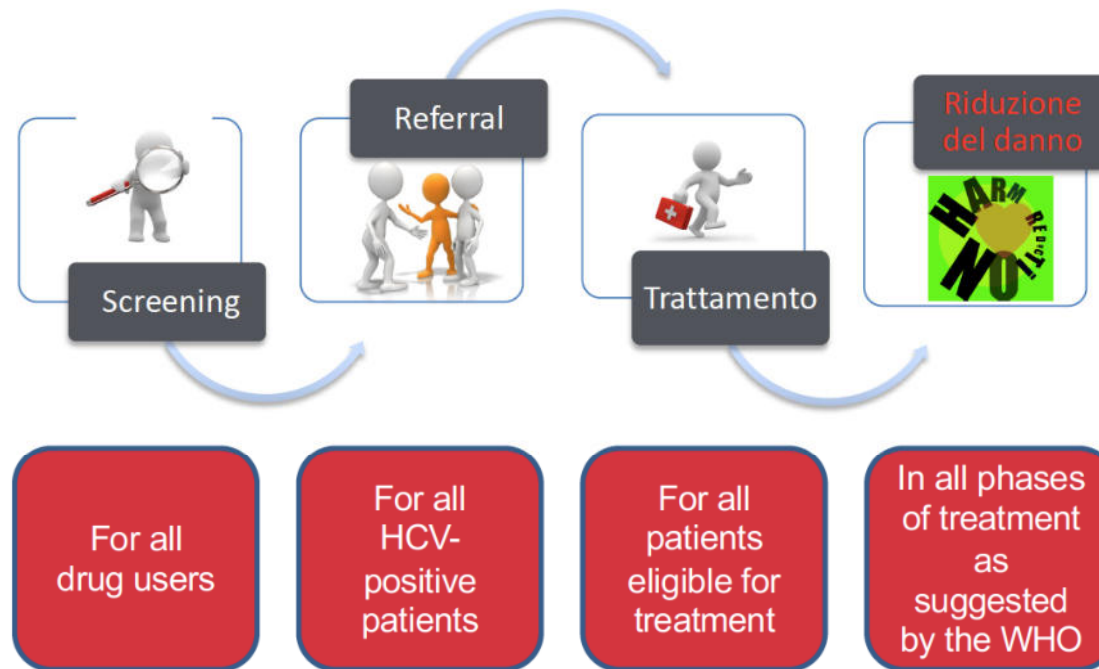


Figure 1 Geographical distribution of hepatitis C virus genotypes. Hepatitis C virus (HCV) genotypes 1, 2 and 3 show a widespread distribution in almost all parts of the world. HCV genotype 4 has been restricted to a few countries in the Middle East and Africa. HCV genotype 5, 6 and 7 have been reported in South Africa, South East Asia and Central Africa, respectively ^[1,11,30,35,36]

HCV Patient's journey



National Programme HCV Screening



Ministero della Salute

IL MINISTRO DELLA SALUTE

di concerto con

IL MINISTRO DELL'ECONOMIA E DELLE FINANZE

Esecuzione dell screening nazionale
per l'eliminazione del virus HCV

Articolo 1

Screening dell'infezione attiva da HCV

1. Lo screening dell'infezione attiva dell'HCV è effettuato con l'intento di rilevare le infezioni da virus dell'epatite C ancora non diagnosticate, migliorare la possibilità di una diagnosi precoce, avviare i pazienti al trattamento onde evitare le complicanze di una malattia epatica avanzata e delle manifestazioni extraepatiche, nonché interrompere la circolazione del virus impedendo nuove infezioni.



2. Lo screening è rivolto, in via sperimentale, una tantum per il biennio 2020 -2021, per un unico test, a:
 - tutta la popolazione iscritta all'anagrafe sanitaria e nata dal 1969 al 1989;
 - ai soggetti seguiti dai servizi pubblici per le Dipendenze (SerD), indipendentemente dalla coorte di nascita e dalla nazionalità;
 - ai soggetti detenuti in carcere, indipendentemente dalla coorte di nascita e dalla nazionalità.



3. Le operazioni di screening saranno organizzate dalle Regioni e prevedono:

a) per la coorte di nascita dal 1969 e al 1989 lo screening avverrà, con chiamata attiva attraverso i Medici di Medicina Generale e/o il Servizio di prevenzione territoriale. Ogni occasione di incontro con una struttura sanitaria sarà, per la coorte indicata, un'opportunità per effettuare lo screening per HCV.

Lo screening verrà effettuato

- attraverso il test sierologico, con la ricerca di anticorpi anti HCV (HCV Ab) ed il reflex testing (se il test per HCV Ab risulta positivo, il laboratorio eseguirà immediatamente, sullo stesso campione, la ricerca dell'HCV RNA o dell'antigene HCV -HCV Ag)

oppure

- attraverso un test capillare rapido e conferma successiva del HCV RNA nel caso di risultato positivo;

b) per i soggetti in carico ai SerD e la popolazione detenuta lo screening avverrà preferenzialmente attraverso test rapido, eseguibile su sangue intero con prelievo capillare, o con l'HCV Ab (POCT – Point of Care Test) o direttamente con l' HCV RNA test rapido (POCT – Point of Care Test). La scelta della tipologia di esame avverrà sulla base della valutazione del contesto epidemiologico locale.

4. Lo screening è effettuato previa idonea informativa fornita agli interessati dagli operatori sanitari. Per lo stesso deve essere acquisito il consenso informato scritto all'esecuzione del test e al trattamento dei dati personali e per la coorte a rischio, come i consumatori di sostanze, deve essere associato a misure di riduzione del danno come previste dal DPCM del 12.01.17.

Barriers for screening

- No Blood sample collection
- No rapid test
- No model of care
- No Information and awareness
- No team and network
- Stigma
- No OAT
- No stratification of target people

Clinical Infectious Diseases

MAJOR ARTICLE



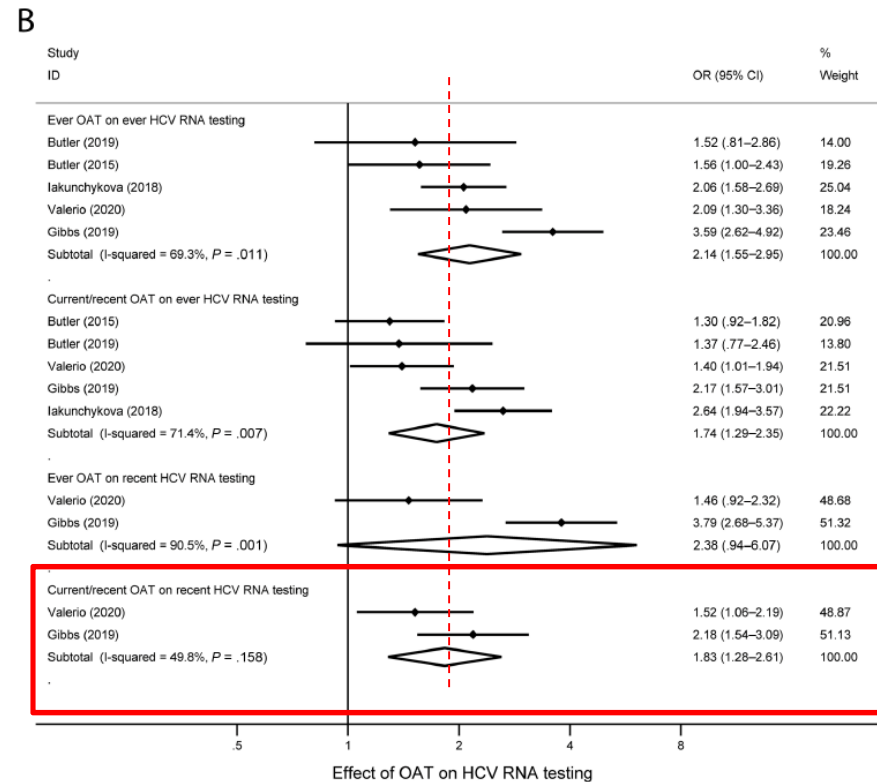
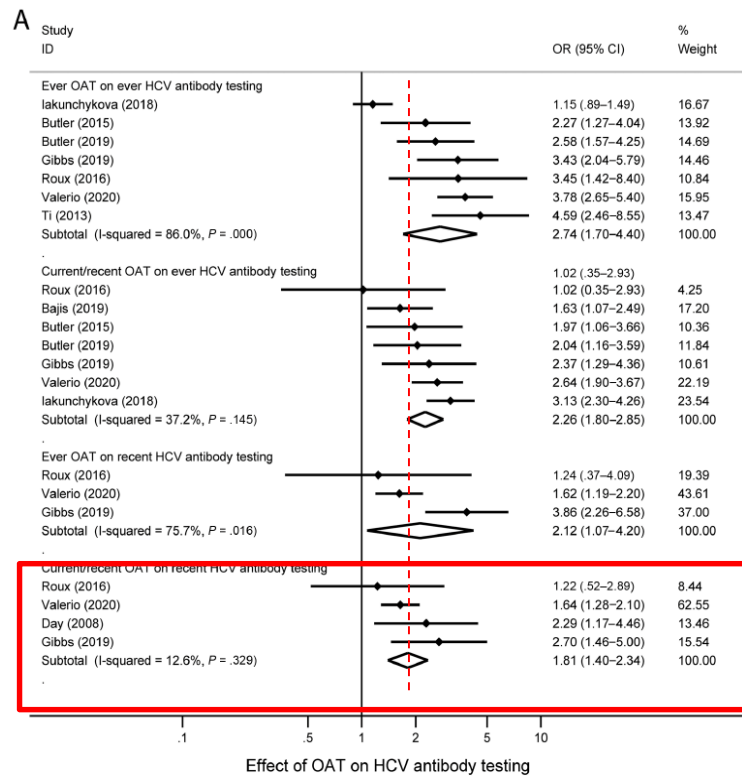
Association Between Opioid Agonist Therapy and Testing, Treatment Uptake, and Treatment Outcomes for Hepatitis C Infection Among People Who Inject Drugs: A Systematic Review and Meta-analysis

Jason Grebely,^{1,✉} Lucy Tran,² Louisa Degenhardt,² Alexander Dowell-Day,² Thomas Santo Jr,² Sarah Larney,² Matthew Hickman,³ Peter Vickerman,³ Clare French,³ Kerryn Butler,^{2,4} Daisy Gibbs,² Heather Valerio,¹ Phillip Read,⁵ Gregory J. Dore,¹ and Behzad Hajarizadeh¹

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(See the Editorial Commentary by Kattakuzhy and Rosenthal on pages e119–21.)

OAT and screening increase LTC and adherence



REVIEW

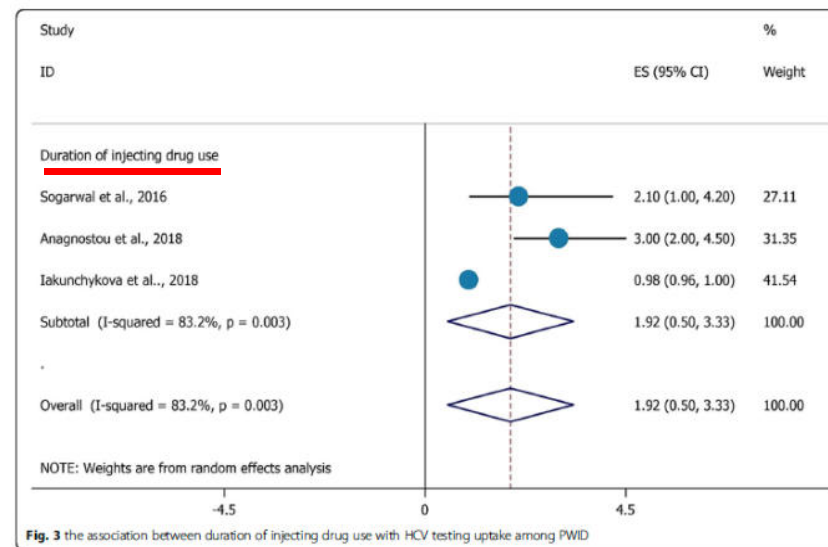
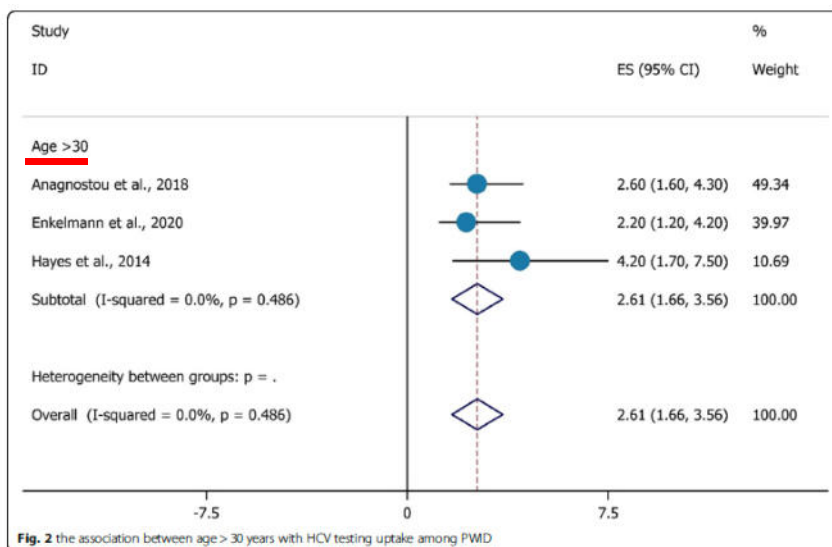
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Prevalence and high risk behaviours associated with HCV testing among people who inject drugs: a systematic review and Meta-analysis

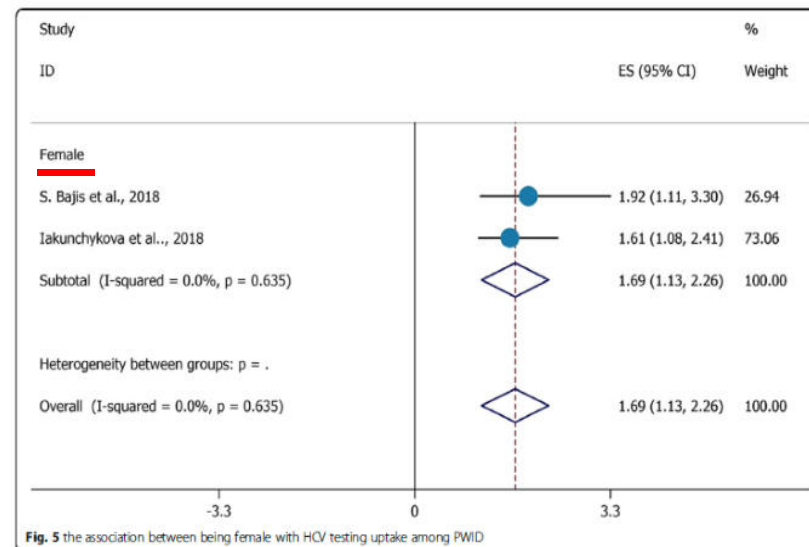
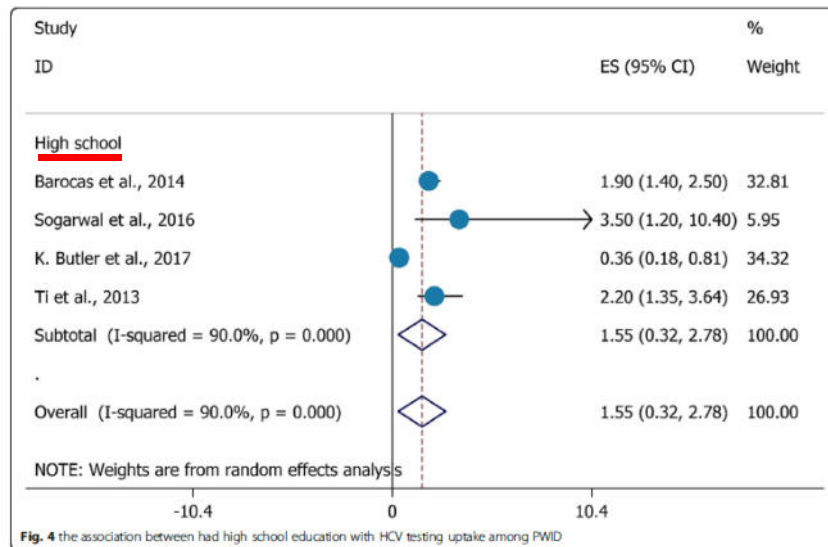


Salah Eddin Karimi¹, Azadeh Bayani², Peter Higgs³, Amir-Hossein Bayat⁴, Morteza Hemmat⁴, Elahe Ahounbar⁵, Bahram Armoon^{4*}  and Yadolah Fakhri⁶

Determinants (1)

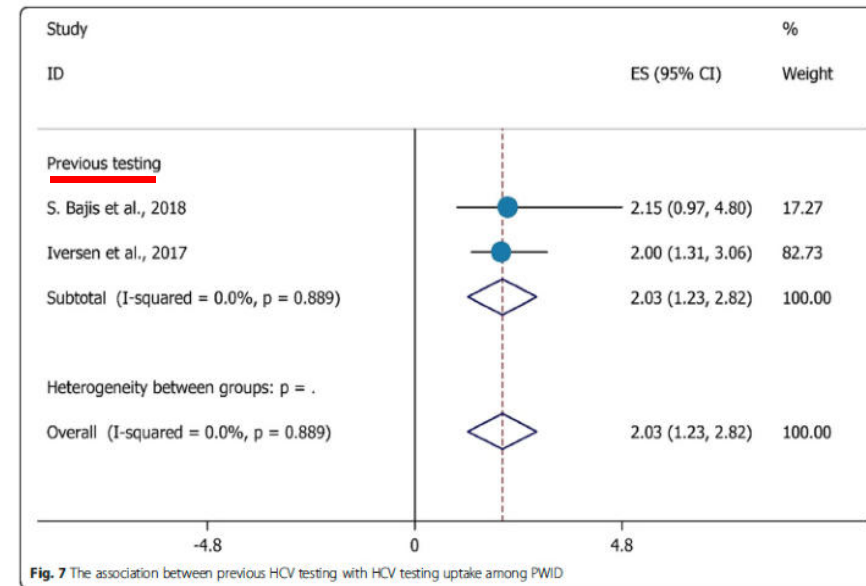
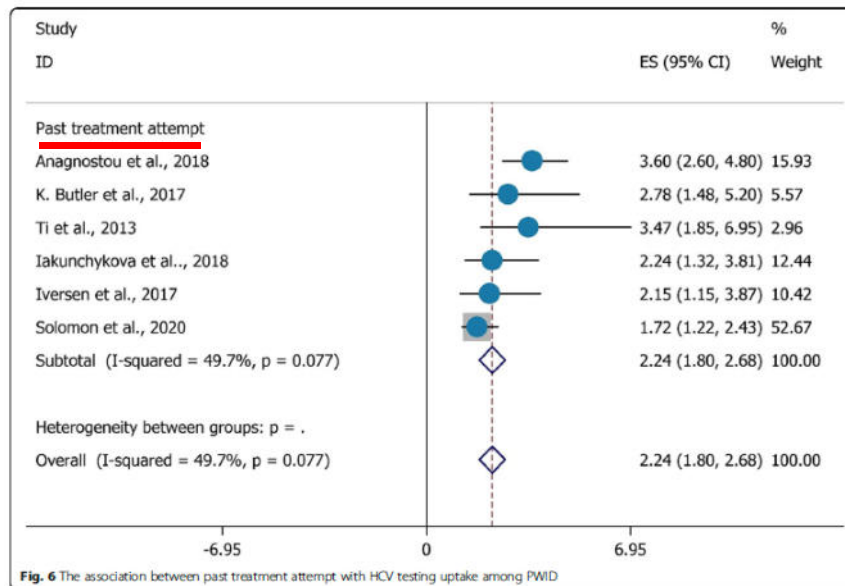


Determinants (2)



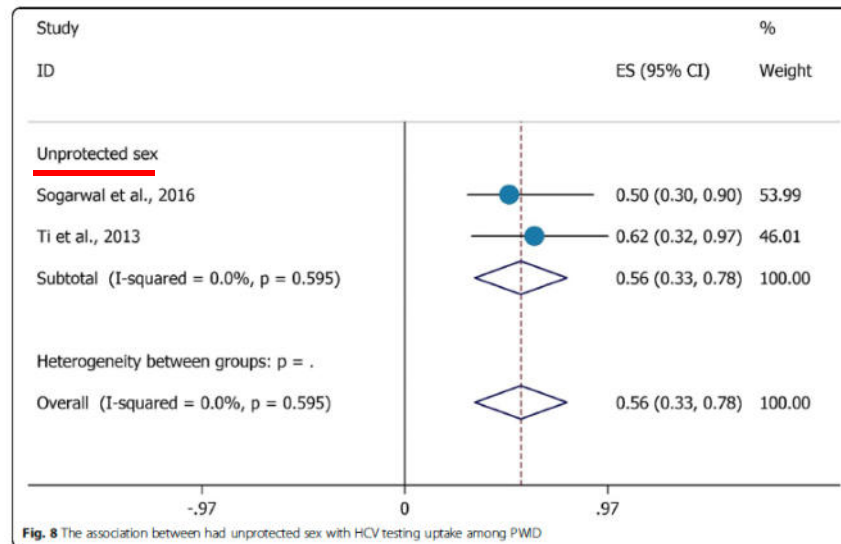
Karimi et al., 2020

Determinants (3)



Karimi et al., 2020

Determinants (4)



Karimi et al., 2020

Test also alcoholics

Tabella 1. – *Caratteristiche Anagrafiche e Sociosanitarie dei 315 pazienti alcol dipendenti sottoposti a screening per HCV*

VARIABILE	HCV- N=269	HCV + N=46	(P=)
Età (media±ESM)	46,6±0,7	42,8±1,1	0,027*
Maschi (%)	203(75,5)	35(76,1)	0,928
Coniugati (%)	134(49,8)	18(39,1)	0,180
Scolarità Superiore (%)	68(25,4)	8(17,8)	0,272
Lavoro precario/disoccupati (%)	90(33,5)	25(54,3)	0,007*
Situazione abitativa stabile (%)	265(98,5)	44(95,7)	0,190
Tossicodipendenti ero e/o coca (%)	56(20,8)	31(67,4)	0,0001*
IVDU (%)	5 (1,9)	23(50)	0,0001*
Alcol-Anni di abuso (media±ESM)	11±0,6	10,9±1,1	0,705
Diagnosi in Asse I e/o II [DSM] (%)	144(59,8)	24(66,7)	0,428
Diagnosi in Asse III [DSM] (%)	92(41,1)	33(75)	0,0001
AST elevate [UNL=30] (%)	168(63,2)	38(84,4)	0,005
ALT elevate [UNL=35] (%)	144(54,1)	34(77,3)	0,004
GGT elevate [UNL=30] (%)	190(71,4)	39(86,7)	0,032
Markers HBV [HBcAb±HBsAg] (%)	87(21,5)	23(52,3)	0,0001
HIV-Ab (%)	3(1,2)	7(20)	0,0001

* Variabili inserite nella regressione logistica multivariata

Screening and Determinants



Hepatitis C diagnosis and treatment in people who use drugs: mind the gap in the linkage to care

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Barriers of LTC

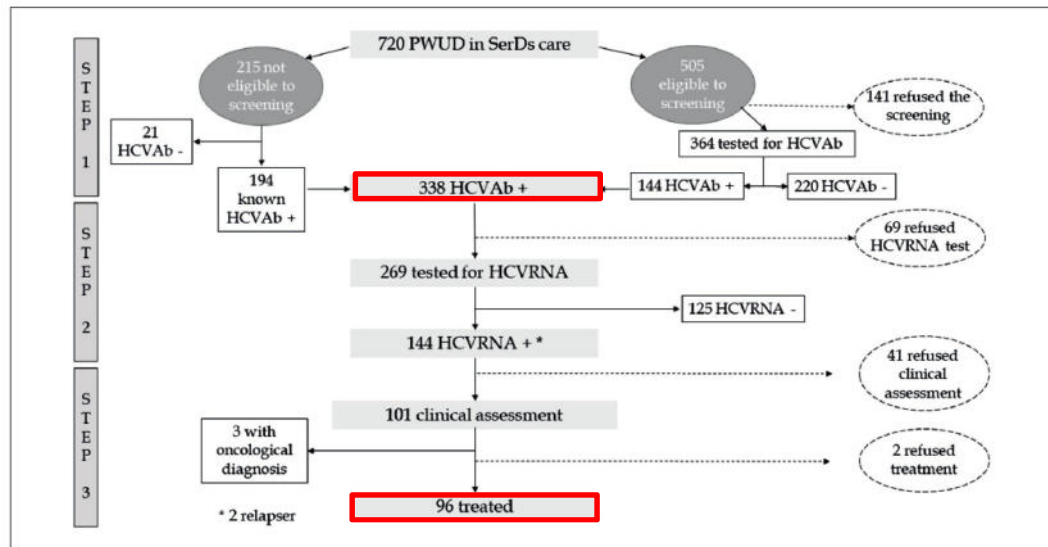


Figure 1. Genotype distribution of PWUD enrolled in step 3.

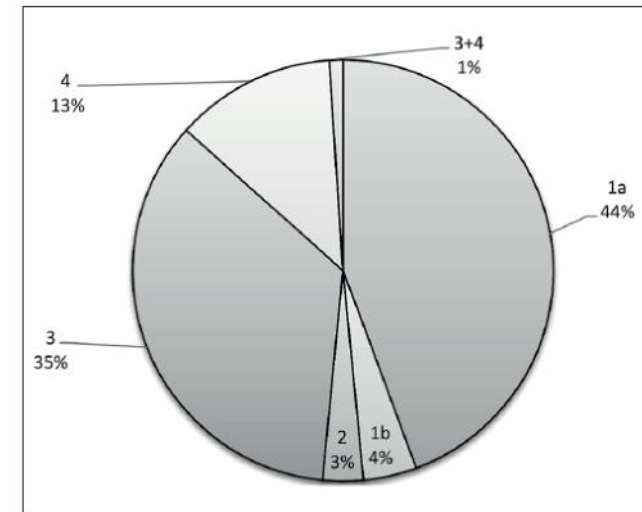


Figure 2. Genotype distribution of PWUD enrolled in step 3.



Risk Factors Associated with Linkage to Care among Suburban Hepatitis C-Positive Baby Boomers and Injection Drug Users

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Erin Taub · Mathew Tharakan · Gerald J. Kelly · Pruthvi Patel ·
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ABSTRACT

Introduction: Suffolk County, located in Eastern Long Island, has been an epicenter for the opioid epidemic in New York State, yet no studies have examined hepatitis C virus (HCV) prevalence in this population. Additionally, few studies have assessed barriers for linkage to care (LTC) to HCV treatment in people who inject drugs (PWID), a high-risk HCV cohort. We

aimed to determine prevalence of HCV infection in a suburban medical center and to assess risk factors associated with LTC in HCV-positive baby boomers and young PWID.

Methods: A retrospective chart review was carried out on adult patients with ICD-9/10 diagnostic codes for HCV from January 2016 to December 2018 at Stony Brook Medicine. Data collected included sociodemographics, RNA serostatus, LTC, health insurance, employment, past medical or psychiatric history, and substance or injection drug use.

Results: Overall, 27,049 individuals were screened for HCV and 1017 were HCV seropositive (3.8%), 437 (42.9%) were HCV RNA-positive and 153 (40.6%) achieved LTC. In multivariate analysis, living with cirrhosis was associated with a positive LTC. Medicaid or Medicare insurance was associated with a negative LTC. Intravenous drug users were more likely to be young and have concomitant polysubstance use and psychiatric disease. A bimodal distribution of HCV-positives is present in our population.

Conclusion: Those with liver cirrhosis are more likely to achieve LTC, as are those with private insurance. Public health efforts to promote awareness of HCV and to facilitate access to treatment among PWID are needed.

Keywords: Hepatitis C virus; Intravenous drug abuse; Linkage to care; Risk factors

Enhanced Digital Features To view enhanced digital features for this article go to <https://doi.org/10.6084/m9.figshare.8125025>.

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HCV distribution for age

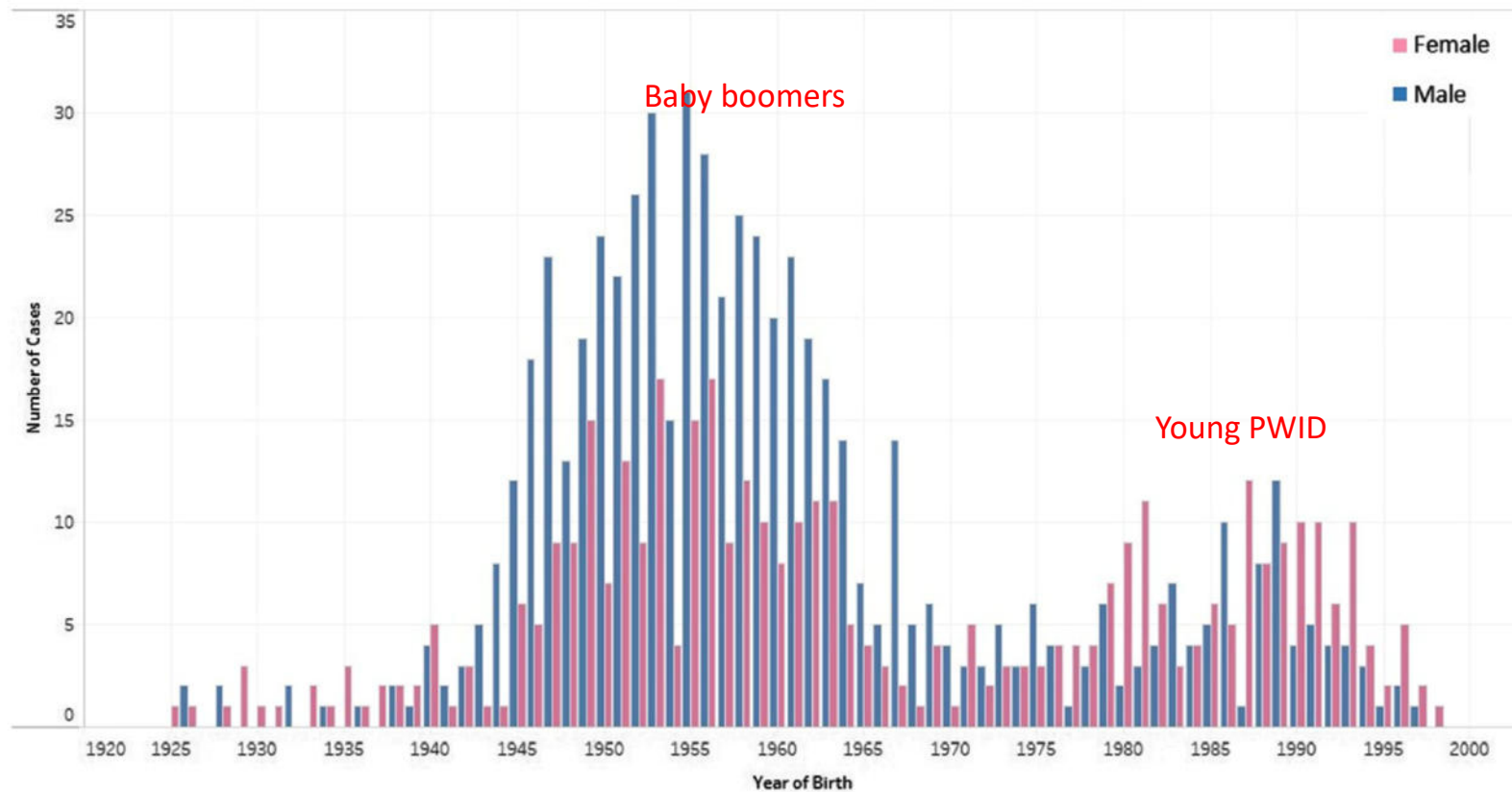


Fig. 1 Bimodal distribution of HCV antibody-positives presenting to Stony Brook Medicine between 2016 and 2018

HCV cascade

A Hepatitis C Care Cascade

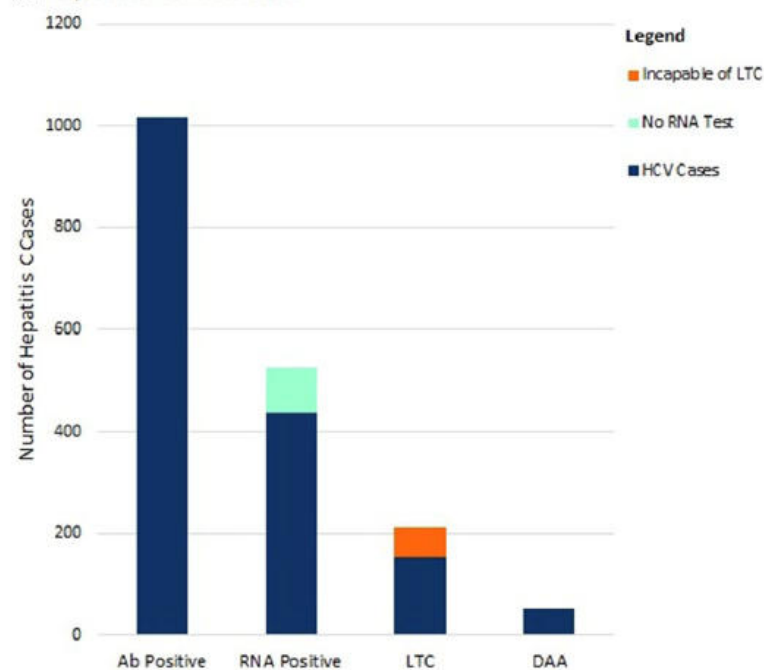
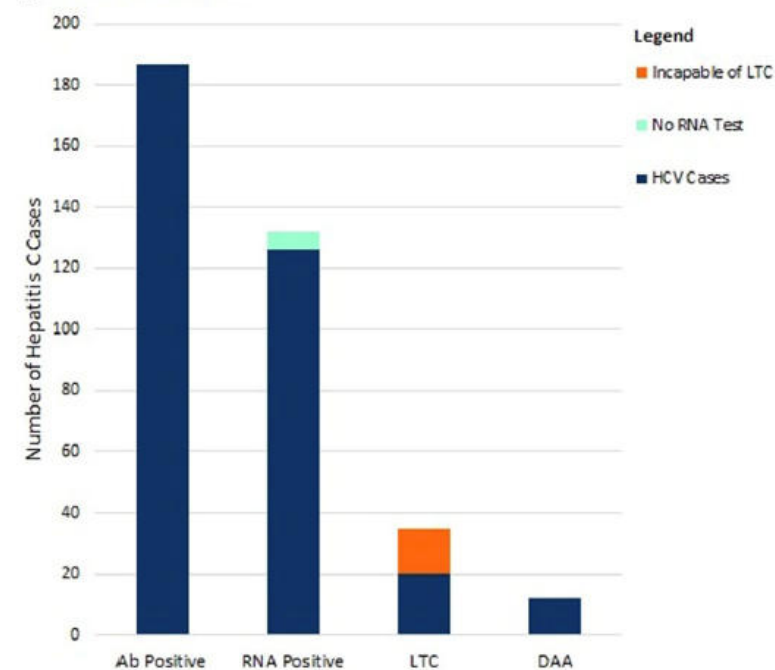


Fig. 2 a HCV Care Cascade at Stony Brook Medicine for all HCV antibody (*Ab*)-positives between 2016 and 2018.
b HCV Care Cascade at Stony Brook Medicine for all

B PWID Care Cascade



HCV antibody (*Ab*)-positives who identified as PWID between 2016 and 2018

Factors associated with LTC

Table 2 Multivariate analysis of factors associated with linkage to care (LTC) among HCV antibody- and RNA-positive individuals presenting to SBM

<i>n</i> = 308	Probability of linking to care OR (CI)	<i>p</i> value
Insurance		
➡ Medicare vs. private	0.29 (0.13–0.63)	0.002
➡ Medicaid vs. private	0.45 (0.22–0.90)	0.024
Self-pay vs. private	0.70 (0.22–2.29)	0.559
Polysubstance use		
Yes vs. no	0.60 (0.29–1.23)	0.160
➡ Cirrhosis		
Yes vs. no	2.87 (1.41–5.84)	0.004
Chronic kidney disease		
Yes vs. no	1.55 (0.84–2.89)	0.163
Marital status		
Single vs. married/domestic partner	1.33 (0.70–2.51)	0.385
Divorced/separated vs. married/domestic partner	0.81 (0.35–1.89)	0.629
Widowed vs. married/domestic partner	0.67 (0.23–1.95)	0.466
Primary care physician		
Yes vs. no	1.54 (0.85–2.76)	0.152
Baby boomer		
Yes vs. no	1.17 (0.65–2.10)	0.599

Factors associated with RNA +

Table 3 Multivariate sub-analysis of factors associated with intravenous drug use among HCV antibody and RNA-positive PWID at Stony Brook Medicine between 2016 and 2018

<i>n</i> = 202	Probability of IV drug use OR (CI)	<i>P</i> value
→ Age	0.92 (0.86–0.98)	0.01
→ Number of comorbidities		
≥ 4 vs. < 4	2.22 (0.46–10.66)	0.32
Race		
→ Black vs. white	0.09 (0.01–0.60)	0.01
Asian vs. white	< 0.001 (< 0.001–> 999.9)	0.99
Other vs. white	0.54 (0.02–19.07)	0.74
Ethnicity		
Hispanic vs. non-Hispanic	0.27 (0.02–4.10)	0.35
Insurance		
Medicare vs. private	1.21 (0.17–8.48)	0.85
Medicaid vs. private	1.76 (0.51–6.11)	0.37
Self-pay vs. private	0.57 (0.06–5.79)	0.63
Tobacco		
Yes vs. no	0.83 (0.28–2.08)	0.68
Polysubstance use		
→ Yes vs. no	73.13 (13.09–408.51)	< 0.0001
Marital status		
Married/domestic partner vs. single	0.34 (0.10–1.14)	0.08
Divorced/separated vs. single	0.53 (0.09–3.13)	0.49
Widowed vs. single	> 999.9 (< 0.001–> 999.9)	0.99
Psychiatric disease		
→ Yes vs. no	2.79 (1.09–7.15)	0.03
Primary care physician		
Yes vs. no	0.61 (0.25–1.52)	0.29

Lier et al., 2019

Real-world Efficacy of Direct-Acting Antiviral Therapy for HCV Infection Affecting People Who Inject Drugs Delivered in a Multidisciplinary Setting

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Background. Many clinicians and insurance providers are reluctant to embrace recent guidelines identifying people who inject drugs (PWID) as a priority population to receive hepatitis C virus (HCV) treatment. The aim of this study was to evaluate the efficacy of direct-acting antiviral (DAA) HCV therapy in a real-world population comprised predominantly of PWID.

Methods. A retrospective analysis was performed on all HCV-infected patients who were treated at the Vancouver Infectious Diseases Centre between March 2014 and December 2017. All subjects were enrolled in a multidisciplinary model of care, addressing medical, psychological, social, and addiction-related needs. The primary outcome was achievement of sustained virologic response (undetectable HCV RNA) 12 or more weeks after completion of HCV therapy (SVR-12).

Results. Overall, 291 individuals were enrolled and received interferon-free DAA HCV therapy. The mean age was 54 years, 88% were PWID, and 20% were HCV treatment experienced. At data lock, 62 individuals were still on treatment and 229 were eligible for evaluation of SVR by intent-to-treat (ITT) analysis. Overall, 207 individuals achieved SVR (90%), with 13 losses to follow-up, 7 relapses, and 2 premature treatment discontinuations. ITT SVR analysis show that active PWID and treatment-naïve patients were less likely to achieve SVR ($P = .0185$ and $.0317$, respectively). Modified ITT analysis of active PWID showed no difference in achieving SVR ($P = .1157$) compared with non-PWID.

Conclusion. Within a multidisciplinary model of care, the treatment of HCV-infected PWID with all-oral DAA regimens is safe and highly effective. These data justify targeted efforts to enhance access to HCV treatment in this vulnerable and marginalized population.

Keywords. hepatitis C virus; interferon-free direct-acting antiviral therapy; multidisciplinary; PWID.

High rate of SVR in PWIDs

Table 2. Overall SVR Rate and SVR Rates Per Regimen

Completed Regimens and Available SVR12	Value	HCV Cure	ITT SVR, %	95% CI	mITT SVR, %	Per-Protocol SVR, %	Relapse	LTFU/DC
Overall	229	207	90	86–94	93	96	7	13/2
PRoD	80	73	88	83–96	95	96	3	3/1
ELB/GRAZ	31	27	87	71–95	95	100	0	4/0
SOF/LDV	58	51	88	77–94	91	94	3	4/0
SOF/VEL based	32	30	94	80–98	94	97	1	0/1
Other regimens	28	26	93	77–98	93	100	0	2/0
RBV based	96	88	92	84–96	94	97	3	4/1

Abbreviations: DC, discontinuation; ELB/GRAZ, elbasvir/grazoprevir; ITT, intent-to-treat; LDV, ledipasvir; LTF, lost to follow-up; mITT, modified intent-to-treat; PRoD, paritaprevir/ritonavir/ombitasvir plus dasabuvir; RBV, ribavirin; SOF, sofosbuvir; SVR, sustained virologic response; VEL, velpatisvir.

HR in drug users (1)







Harm reduction measures

- Needle and syringe programmes
- Opioid substitution therapy (OST) and other drug dependence treatment
- HIV testing and counseling
- Antiretroviral therapy (ART)
- Prevention and treatment of sexually transmitted infection (STIs)
- Condom programmes for IDUs and their sexual partners
- Targeted information, education and communication (IEC) for IDUs and their sexual partners
- Vaccination, diagnosis and treatment of viral hepatitis
- Prevention, diagnosis and treatment of tuberculosis (TB)

WHO suggestion

www.emro.who.int/asd/health-topics/drug-related-harm-reduction.html

Harm reduction services

- Overdose reversal education and training services
- Navigation services to ensure linkage to HIV and viral hepatitis prevention, testing, treatment and care services, including antiretroviral therapy for HCV and HIV, pre-exposure prophylaxis (PrEP), post-exposure prophylaxis (PEP), prevention of mother to child transmission and partner services
- Referral to hepatitis A and hepatitis B vaccinations to reduce risk of viral hepatitis infection
- Provision of education on HIV and viral hepatitis prevention, testing, and referral to treatment services
- Provision of information on local resources and/or referrals for PrEP

Harm reduction supplies

- Overdose reversal supplies, including the purchase of naloxone kits (this may include syringes for the purpose of administering injectable naloxone only)
- Substance test kits, including fentanyl test strips
- Safer sex kits, including condoms
- Sharp disposal and medication disposal kits
- Wound care supplies
- Medication lock boxes
- Supplies to promote sterile injection and reduce infectious disease transmission through injection drug use, exclusive of sterile needles, syringes, and other drug paraphernalia
- Safer smoking kits to reduce infectious disease transmission, excluding pipes/pipettes and other drug paraphernalia
- FDA-approved home testing kits for viral hepatitis (i.e., HBV and HCV) and HIV
- Written educational materials on safer injection practices and HIV and viral hepatitis and prevention, testing, treatment, and care services
- Distribution mechanism (e.g., bags for naloxone or safer kits, metal boxes/containers for holding naloxone) for harm reduction supplies, including stock as otherwise described and delineated on the list

OPINION

Open Access

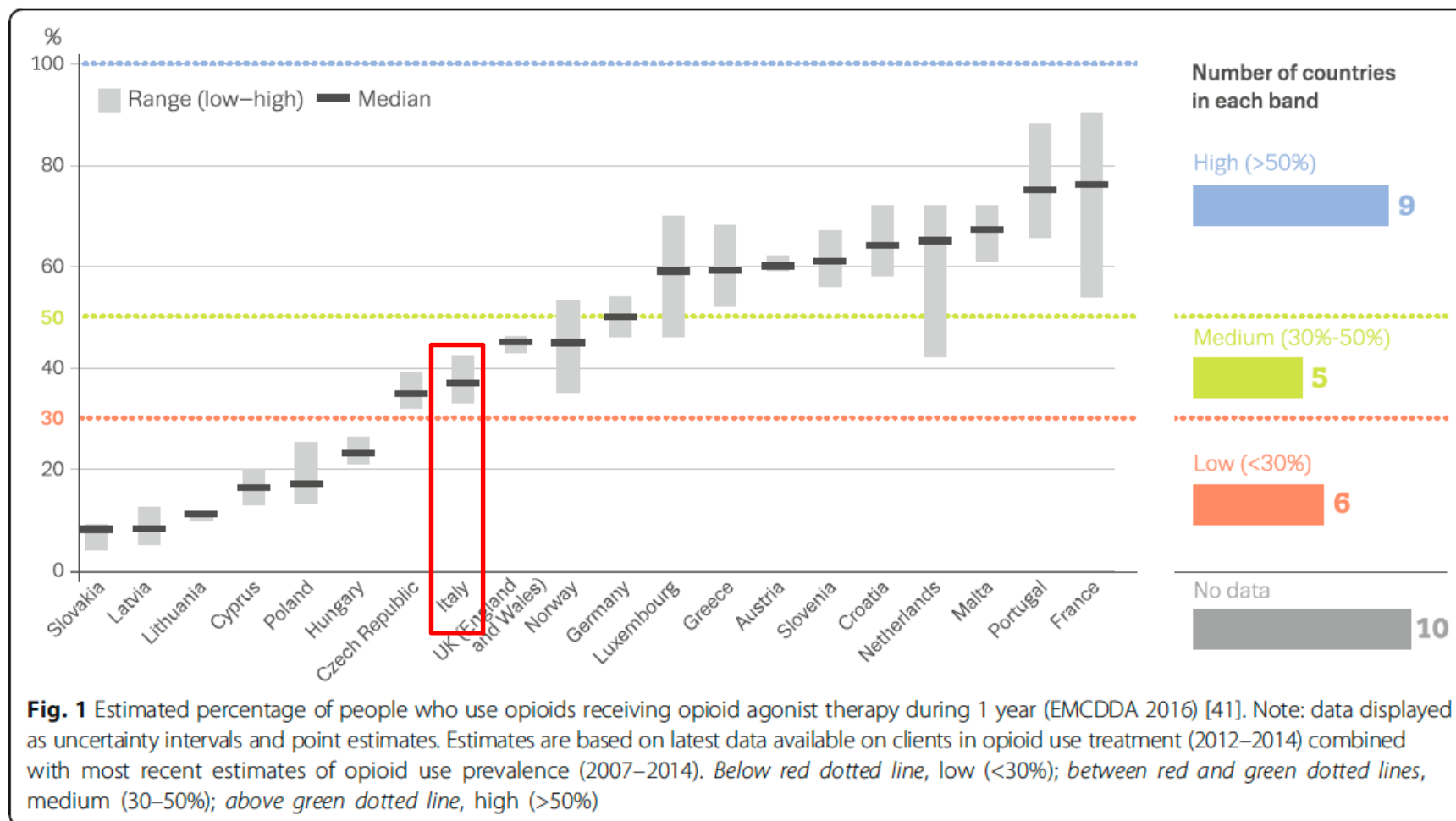


CrossMark

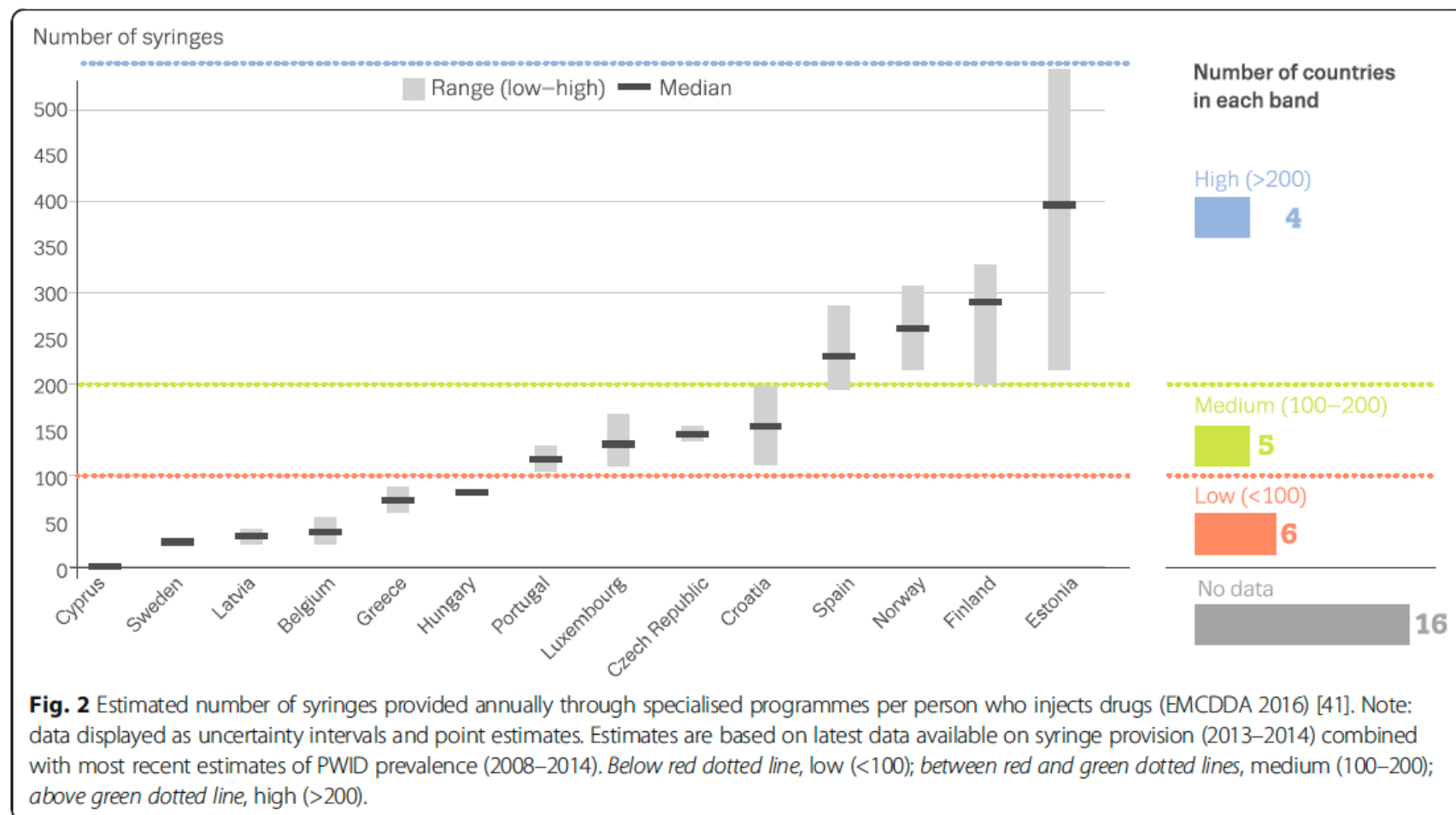
Monitoring quality and coverage of harm reduction services for people who use drugs: a consensus study

Lucas Wiessing^{1*} , Marica Ferri¹, Vendula Běláčková^{2,3,4}, Patrizia Carrieri^{5,6}, Samuel R. Friedman⁷, Cinta Folch^{8,9}, Kate Dolan¹⁰, Brian Galvin¹¹, Peter Vickerman¹², Jeffrey V. Lazarus^{13,14}, Viktor Mravčík^{2,3,15}, Mirjam Kretzschmar^{16,17}, Vana Sypsa¹⁸, Ana Sarasa-Renedo^{9,19}, Anneli Uusküla²⁰, Dimitrios Paraskevis¹⁸, Luis Mendão²¹, Diana Rossi²², Nadine van Gelder¹, Luke Mitcheson²³, Letizia Paoli^{24,25}, Cristina Diaz Gomez²⁶, Maitena Milhet²⁶, Nicoleta Dascalu²⁷, Jonathan Knight²⁸, Gordon Hay²⁹, Eleni Kalamara¹, Roland Simon¹, EUBEST working group, Catherine Comiskey³⁰, Carla Rossi³¹ and Paul Griffiths¹

OAT use in Europe



NSP programmes in Europe

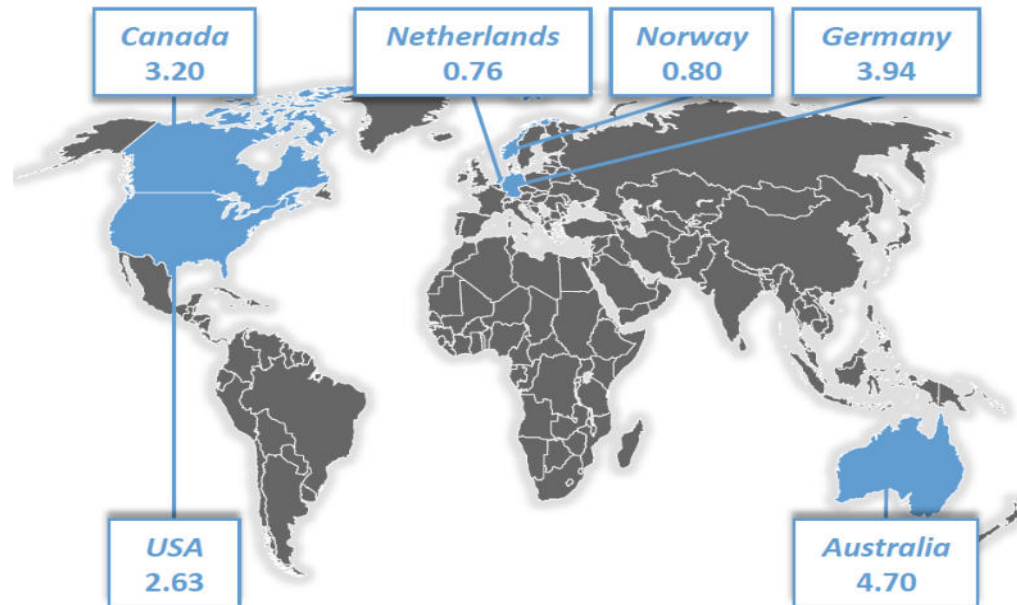


The rate of reinfection

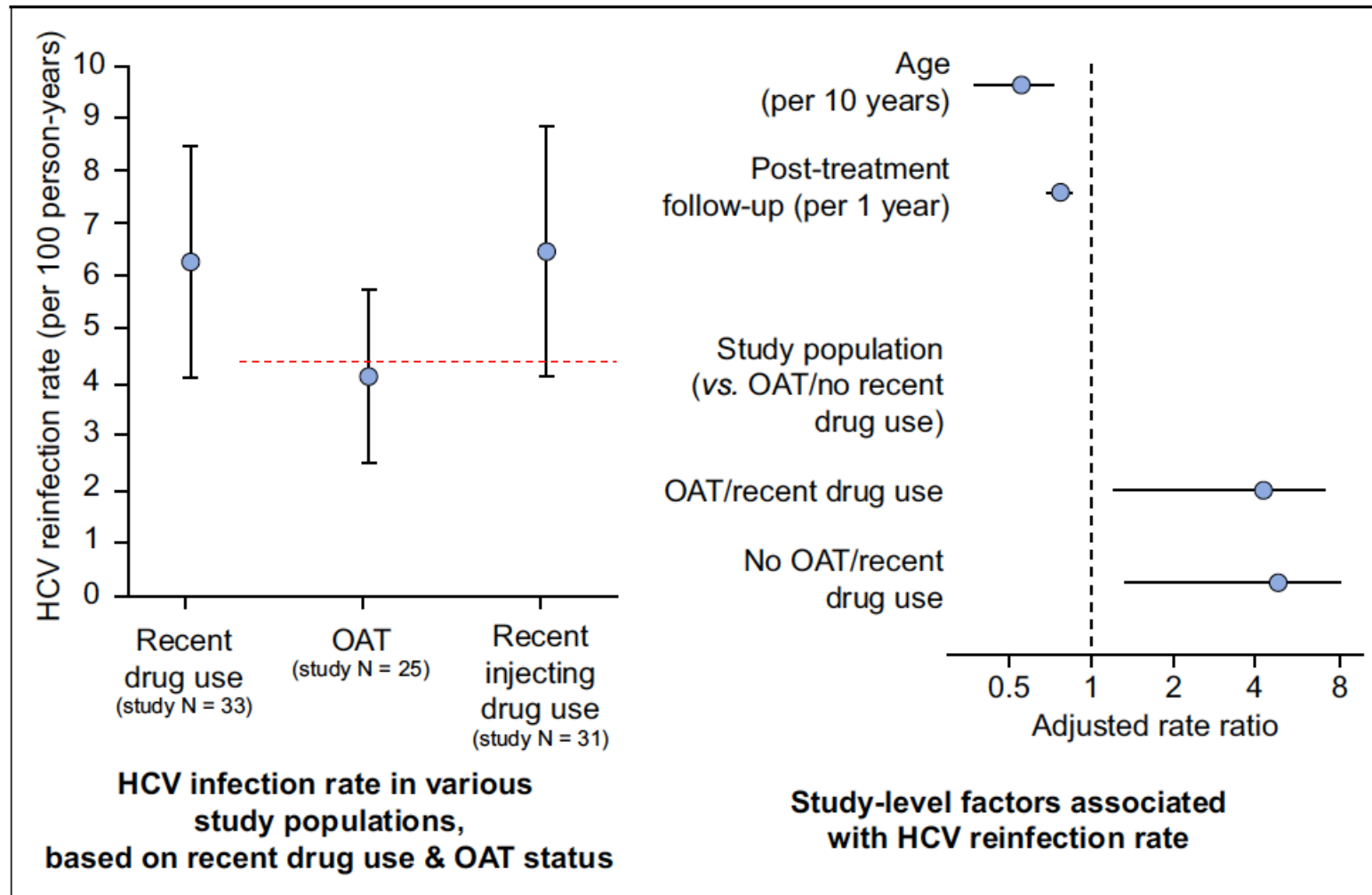
Il rischio di infezione nei
PWID:
2.4 (95% CI 0.9-6.1)
per 100 soggetti-anno

↓ **HARM
REDUCTION**

Reinfection Rates Among Persons Who Ever Injected
Drugs Per 100 Person-Years²



OAT reduces reinfection



More faster, less reinfections

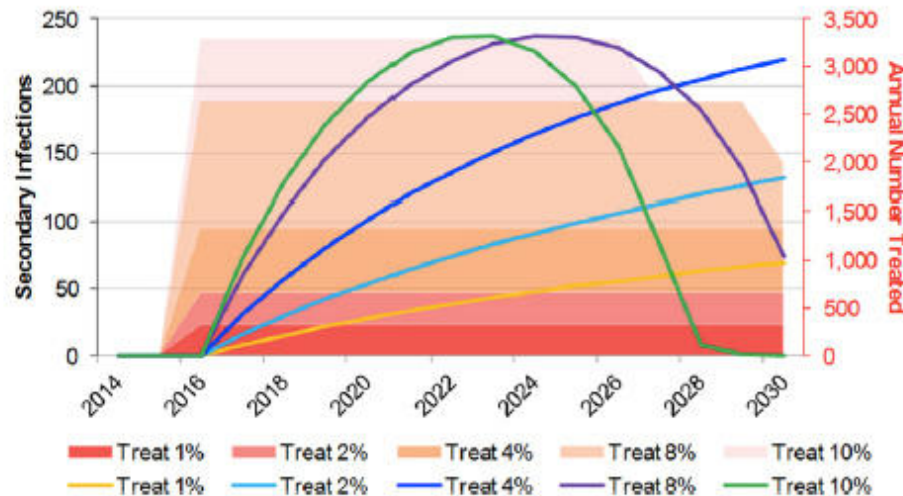
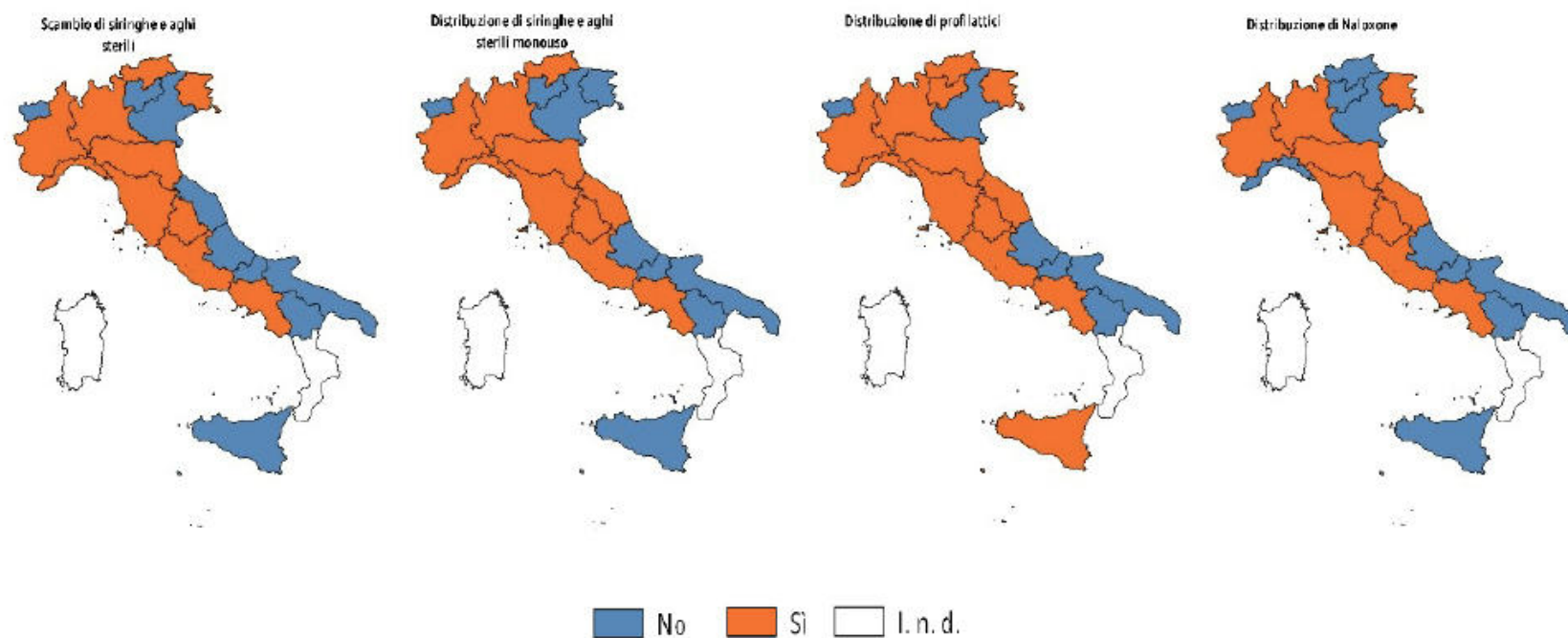


Fig. 1. Modeling the effect of HCV treatment on reinfection in people who inject drugs (PWID). Mathematical modeling was used to evaluate the effect of increased treatment on hepatitis C virus (HCV) reinfection among PWID in Australia. Each line represents the expected number of individuals with HCV reinfection (secondary infections, left axis) in each year, based on a given annual HCV treatment scenario. The colored lines represent the annual proportion of PWID treated per year. Permission to reproduce the image has been obtained from the author.⁸⁴ (Courtesy of Homie Razavi, PhD, Denver, CO, with permission; and Reproduced from Razavi H. Reducing a country's HCV-disease burden. The 4th International Symposium on Hepatitis in Substance Users (INHSU 2015). Sydney, Australia, October 7–9, 2015, with permission.)

Harm reduction measures in Italy

Figura 5.4.5 - Grado di disponibilità/accessibilità alla distribuzione di materiale



Fonte: Gruppo tecnico interregionale Dipendenze. Elaborazione IFC-CNR - Anno 2020

Harm Reduction Kit – Padua Prison



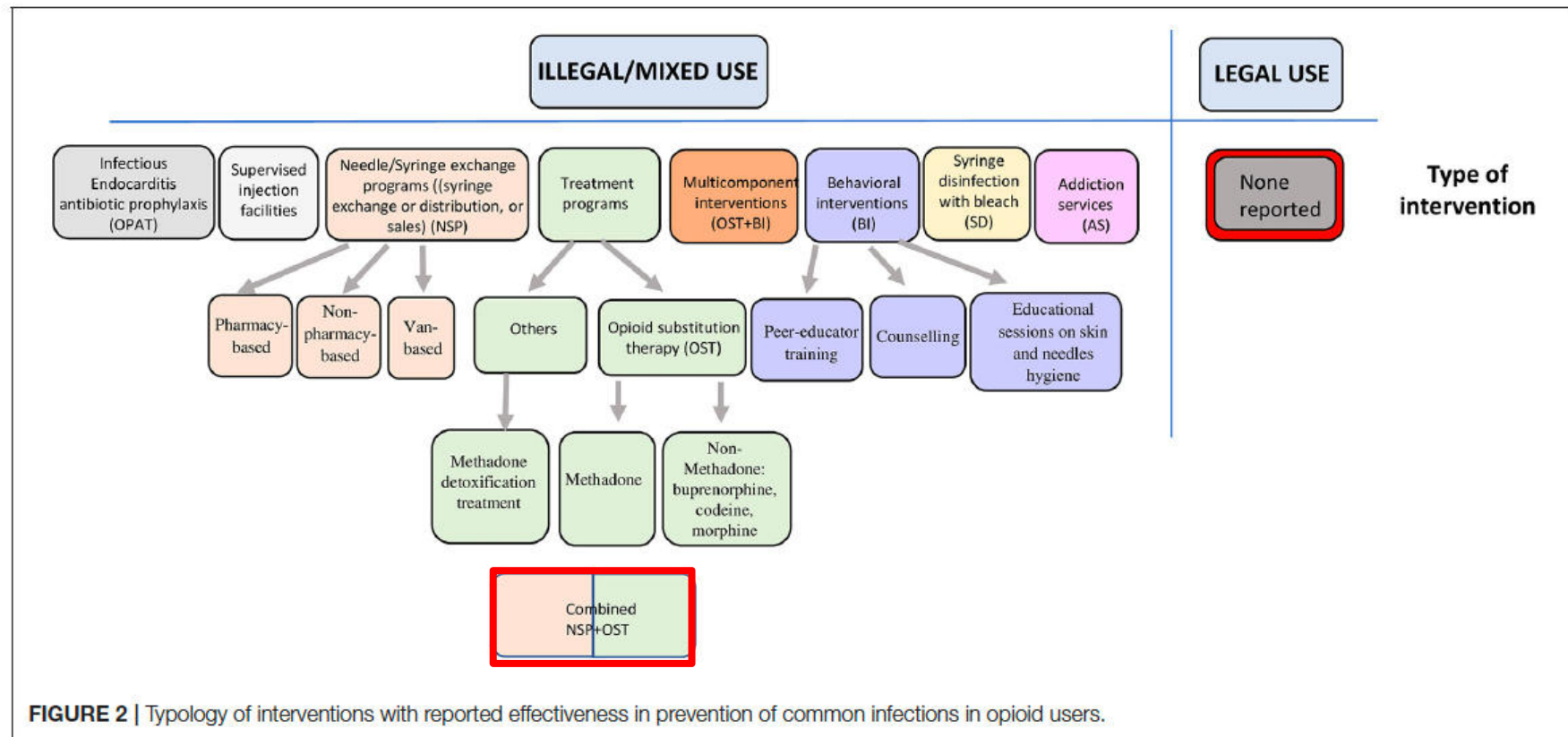
Information provided by Dr Felice Alfonso Nava



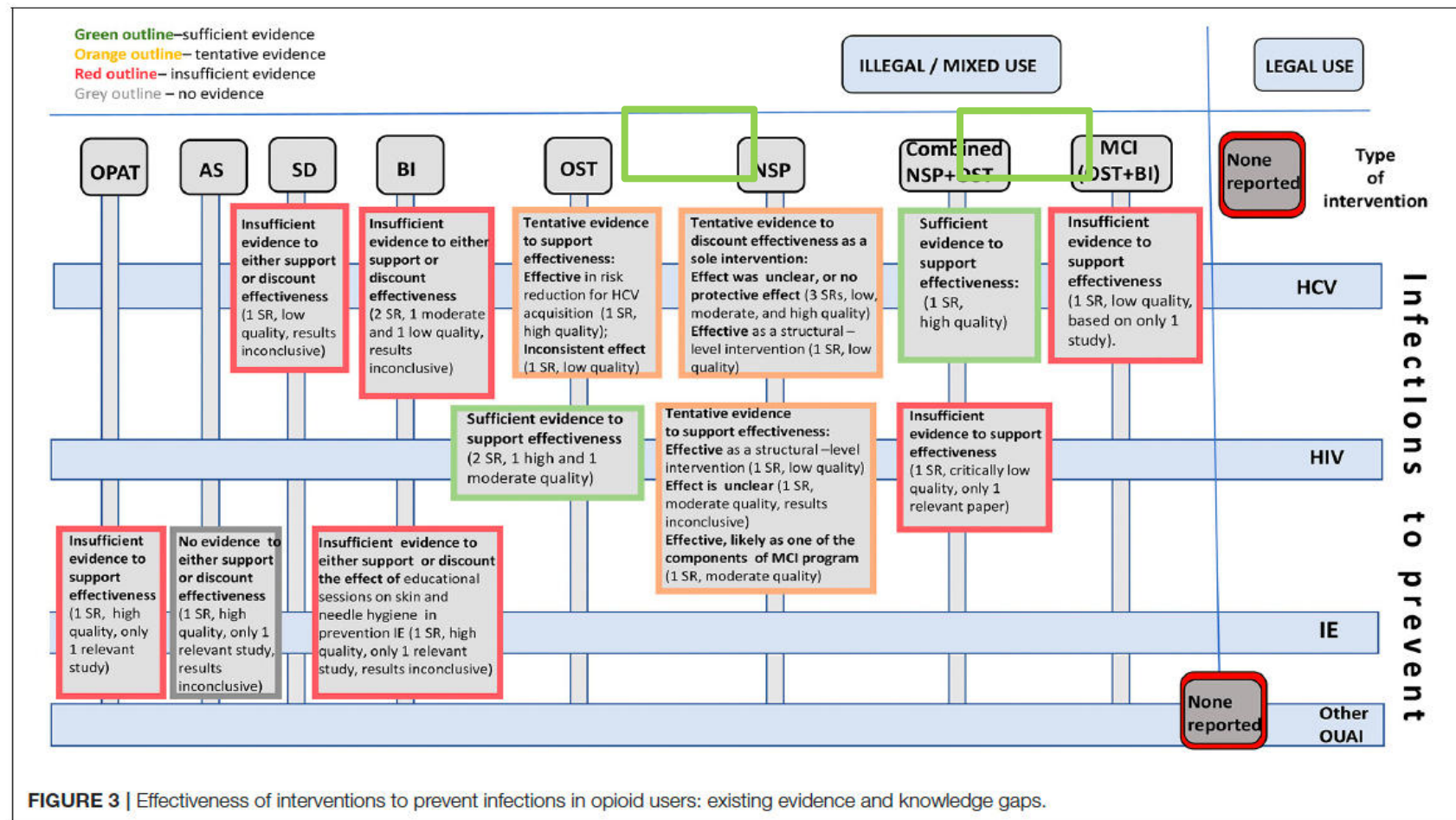
Effectiveness of Interventions for Prevention of Common Infections Among Opioid Users: A Systematic Review of Systematic Reviews

Svetlana Puzhko¹, Mark J. Eisenberg^{2,3,4}, Kristian B. Fillon^{2,3,5}, Sarah B. Windle³, Andréa Hébert-Losier², Genevieve Gore⁶, Elena Paraskevopoulos⁷, Marc O. Martel^{8,9} and Irina Kudrina^{1,8}*

EBM: Harm Reduction



EBM: Harm Reduction



The Journal of Infectious Diseases

SUPPLEMENT ARTICLE



Psychosocial Factors and the Care Cascade for Hepatitis C Treatment Colocated at a Syringe Service Program

Daniel Winetsky,^{1,2,3,4} Daniel Burack,⁴ Pantelis Antoniou,¹ Bill Garcia,⁵ Peter Gordon,^{1,2} and Matthew Scherer^{1,2}

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Psychosocial characteristics and HCV cascade (1)

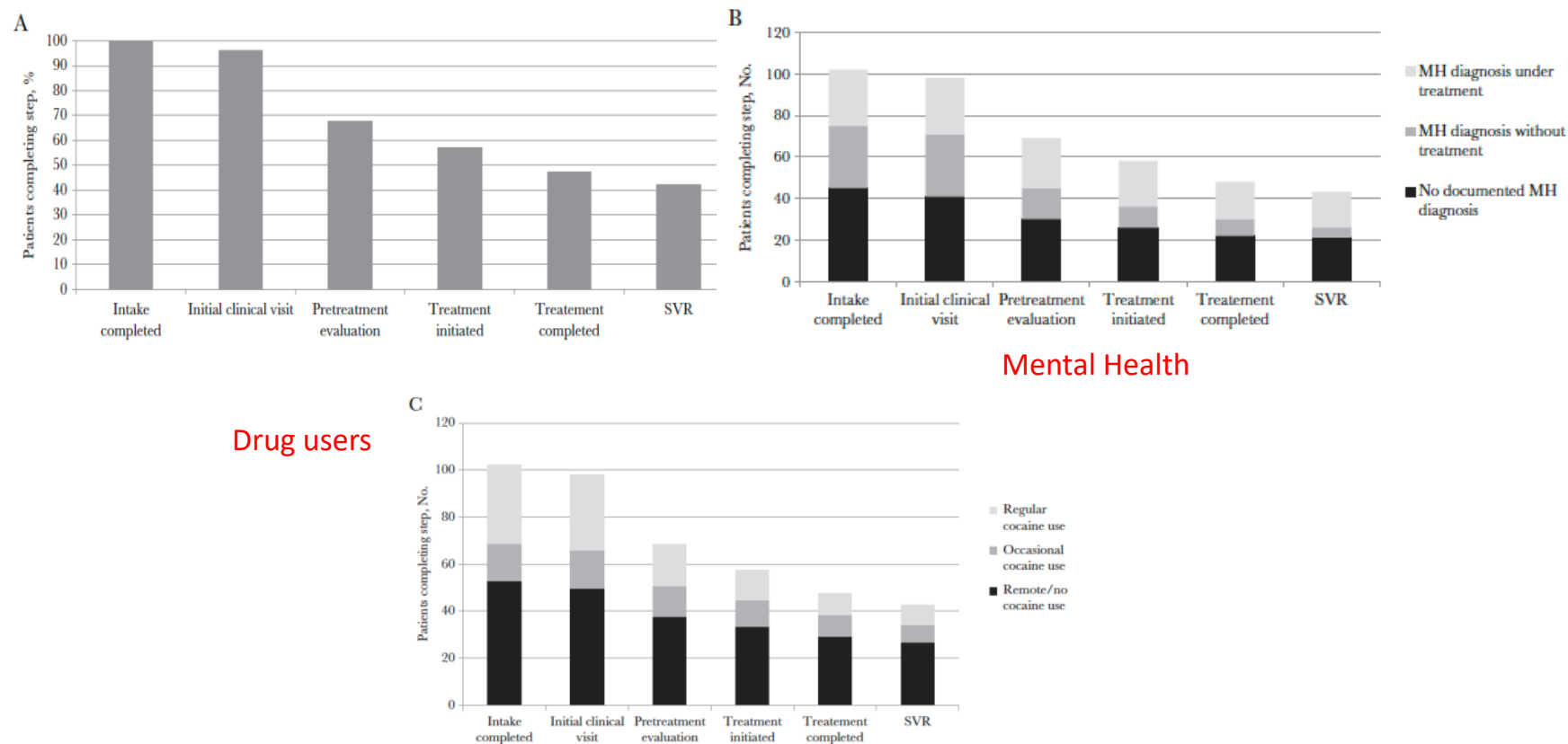


Figure 1. Psychosocial characteristics and the hepatitis C virus treatment care cascade. *A*, Care cascade for all Comprehensive Hepatitis C Care on the Corner patients at the time of analysis. *B*, Care cascade by documented diagnostic and treatment status of mental health (MH) comorbidities at the time of program intake. *C*, Care cascade by reported cocaine use at the time of program intake. Whether cocaine use was remote or active was determined based on the providers' clinical assessment. Abbreviation: SVR, sustained virologic response.

Psychosocial risk factors in the care cascade (2)

Table 1. Psychosocial Risk Factors and the Care Cascade

Risk Factor	Patients, No. (%) ^a			
	At Intake	Starting DAA	Completing DAA	SVR
Age, y				
<30	21 (20.6)	8 (38.1)	6 (75.0)	5 (83.3)
31–40	26 (26.5)	12 (46.2)	8 (66.7)	7 (87.5)
41–50	15 (14.7)	8 (53.3)	8 (100.0)	6 (75.0)
51–60	28 (27.5)	22 (78.6)	18 (81.8)	18 (100.0)
>60	12 (11.8)	8 (66.7)	8 (100.0)	7 (87.5)
Sex				
Female	33 (32.4)	18 (54.5)	15 (83.3)	15 (100.0)
Male	69 (67.6)	40 (58.0)	33 (82.5)	28 (84.8)
Opoid treatment				
Active opiod use	68 (66.7)	37 (54.4)	30 (81.1)	28 (93.3)
Opiod agonist therapy	23 (22.5)	14 (60.9)	13 (92.9)	10 (76.9)
Abstinence/XR-naltrexone	6 (5.9)	5 (83.3)	3 (60.0)	3 (100.0)
Cocaine use				
None/remote use ^b	53 (52.0)	34 (64.2)	29 (85.3)	27 (93.1)
Occasional use	16 (15.7)	11 (70.1)	10 (90.1)	8 (80.0)
Regular use	33 (32.4)	13 (39.4)	9 (69.2)	8 (88.9)
Alcohol use disorder				
Present	21 (20.6)	15 (71.4)	12 (80.0)	12 (100.0)
Absent	81 (79.4)	43 (53.1)	36 (83.7)	31 (86.1)
Mental health status				
Diagnosis without treatment	30 (29.4)	10 (30.0)	8 (80.0)	5 (62.5)
No documented diagnosis	45 (44.1)	26 (57.8)	22 (84.6)	21 (95.5)
Diagnosis with established treatment	27 (26.5)	22 (81.5)	18 (81.8)	17 (94.4)

Housing status				
Street homeless	33 (32.4)	18 (54.5)	15 (83.3)	14 (93.3)
Shelter	12 (11.8)	10 (83.3)	10 (100.0)	8 (80.0)
Staying with friends or family	24 (23.5)	9 (37.5)	7 (77.8)	6 (85.7)
SRO hotel	5 (4.9)	3 (60.0)	2 (66.7)	2 (100.0)
Stably housed	28 (27.5)	18 (64.3)	14 (77.8)	13 (92.9)
Criminal justice involvement^c				
None documented	70 (68.6)	33 (47.1)	27 (81.8)	24 (88.9)
Prior history	31 (30.4)	24 (77.4)	20 (83.3)	19 (95.0)
During care cascade/after intake	10 (9.8)	7 (70.0)	4 (57.1)	3 (75.0)
Total	102 (100.0)	58 (56.9)	48 (82.8)	43 (89.6)

Abbreviations: DAA, direct-acting antiviral; OUD, opiod use disorder; SRO, single room occupancy; SVR, sustained virologic response; XR, extended release.

^aPercentages in the different columns represent the following: intake, proportion of total; starting DAA, proportion of patients in the same category at intake; completing DAA, proportion of those in the same category starting DAA; and SVR, proportion of those in the same category completing DAA.

^bWhether cocaine use was remote or active was determined based on the providers' clinical assessment.

^cPrior criminal justice history and criminal justice involvement during the care cascade were not mutually exclusive, so percentages in the "Intake" column exceed 100%.

Psychosocial effects of HCV treatment (3)

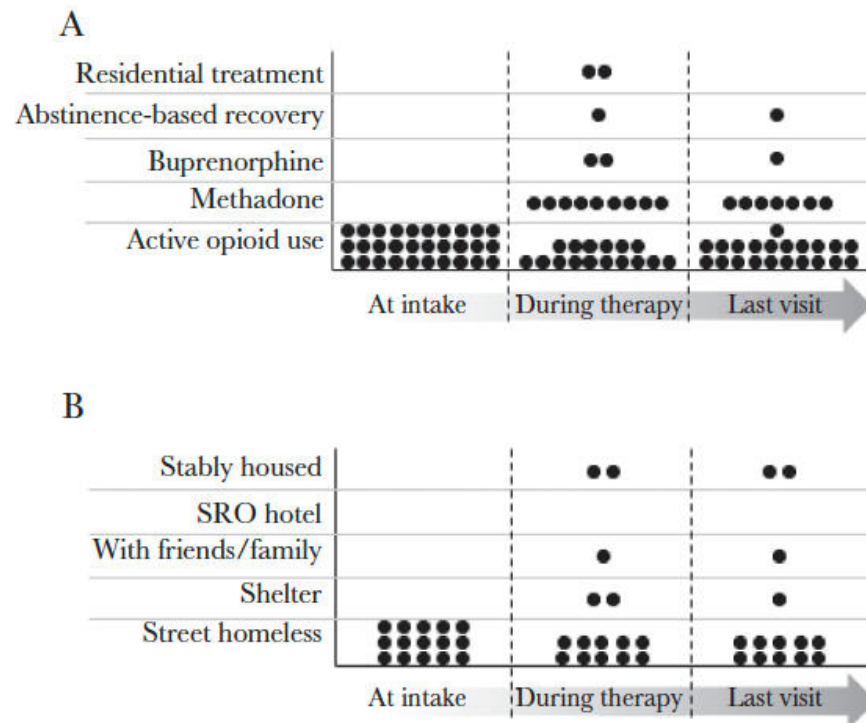


Figure 2. Changes in housing and opioid use disorder (OUD) treatment status during the course of hepatitis C virus (HCV) treatment. **A**, Status of OUD treatment at 3 time points during the course of therapy: at intake, during midtreatment visits for monitoring of direct-acting antiviral (DAA) therapy, and at the last documented visit. This figure represents only the 30 patients who completed HCV treatment and were actively using opioids at the time of intake. **B**, Housing status at intake, during DAA therapy and at the last documented visit for the 15 patients who completed HCV treatment and were initially street homeless. (Note: One patient who was street homeless at intake resided in a shelter for a period of time during therapy and then was staying with a friend or family member at the last documented clinic visit (denoted by an asterisk). Another patient who was street homeless at intake stayed with a friend or family member for a period of time during therapy, but this patient's housing status was not documented at the time sustained virologic response was confirmed.) Abbreviation: SRO, single room occupancy.

Winetsky et al., 2020

Conclusion

- Simplified treatment (**access to care**)
- Screening (**early detection**: treatment as prevention)
- Linkage to care (**quality of care**)
- Harm reduction (**effectiveness, prevention, and rehab**)

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