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Attualità della coinfezione HIV - virus epatitici

SVS SCHOOL OF MEDICINE AND SURGERY

Disclosures

- Massimo Puoti

  - Advisory Committees or Review Panels: MSD, Gilead Sciences, Abbvie, GSK, ViiV

  - Speaking and Teaching: MSD, Gilead Sciences, Abbvie, Janssen,

Case Reports > J Med Virol. 1996 Nov;50(3):276-82.
doi: 10.1002/(SICI)1096-9071(199611)50:3<276::AID-JMV11>3.0.CO;2-I.

Molecular analysis of mixed infection with hepatitis C virus and human immunodeficiency virus in a patient infected simultaneously

C Mazza [1], M Puoti, A Ravaggi, F Castelnuovo, A Albertini, E Cariani

Affiliations + expand

PMID: 8923294 DOI: 10.1002/(SICI)1096-9071(199611)50:3<276::AID-JMV11>3.0.CO;2-I

Hepatocellular carcinoma in HIV-infected patients: epidemiological features, clinical presentation and outcome

Massimo Puoti, Raffaele Bruno[a], Vincent Soriano[b], Francesco Donato[c], Giovanni Battista Gaeta[d], Gian Paolo Quinzan[e], Davide Precone[f], Umberto Gelatti[c], Victor Asensi[f] and Emanuela Vaccher[g] for the HIV HCC Cooperative Italian–Spanish Group*

HIV/AIDS MAJOR ARTICLE

Mortality Due to Chronic Viral Liver Disease among Patients Infected with Human Immunodeficiency Virus

Vincent Soriano,[1] Luz Martín-Carbonero,[1] Javier García-Samaniego,[1] and Massimo Puoti[2]

[1]Services of Infectious Diseases and Hepatology, Instituto de Salud Carlos III, Madrid; and [2]Service of Infectious Diseases, Ospedale Civile, Brescia, Italy

Incidence and Predictors of Severe Liver Fibrosis in Human Immunodeficiency Virus–Infected Patients with Chronic Hepatitis C: A European Collaborative Study

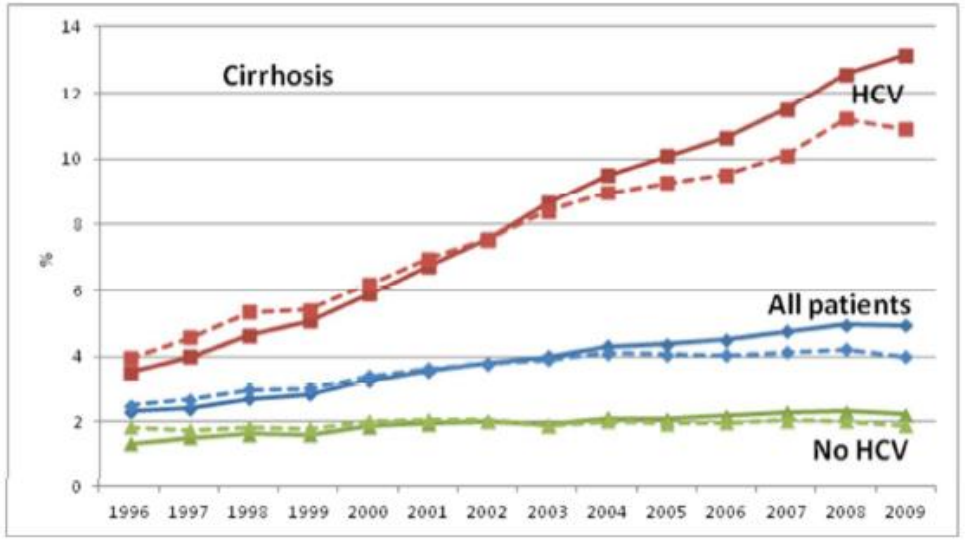
Luz Martín-Carbonero,[1] Yves Benhamou,[9] Massimo Puoti,[10] Juan Berenguer,[2] José Mallolas,[6] Carmen Quereda,[3] Ana Arizcorreta,[7] Antonio Gonzalez,[4] Jurgen Rockstroh,[11] Victor Asensi,[8] Pilar Miralles,[2] Montse Laguno,[6] Leonor Moreno,[3] José Antonio Girón,[7] Martin Vogel,[11] Javier García-Samaniego,[1] Marina Nuñez,[1] Miriam Romero,[1] Santiago Moreno,[3] Juan José de la Cruz,[5] and Vincent Soriano[1]

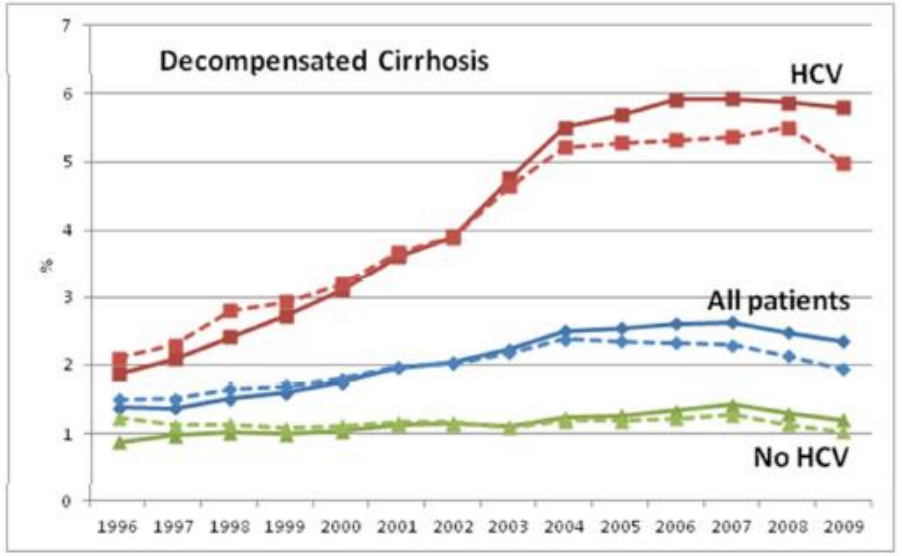
[1]Hospital Carlos III, [2]Hospital Gregorio Marañón, [3]Hospital Ramón y Cajal, [4]Centros Penitenciarios, and [5]Universidad Autónoma, Madrid, [6]Hospital Clínic, Barcelona, [7]Hospital Puerta del Mar, Cádiz, and [8]Hospital General, Oviedo, Spain; [9]Hôpital Pitié-Salpêtrière, Paris, France; [10]Spedali Civili, Brescia, Italy; and [11]University Hospital, Bonn, Germany

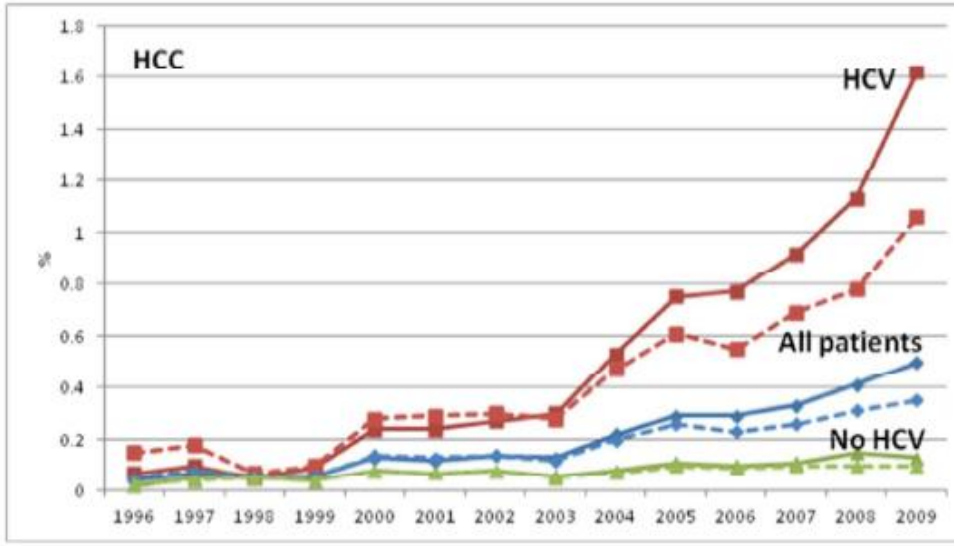
Table 1. Mortality due to end-stage liver disease among HIV-infected individuals before and after the introduction of highly active antiretroviral therapy (HAART).

		Pre-HAART era			HAART era		
Reference(s)	Location of study	Study year(s)	No. of patients who died/ no. in study	Mortality rate, %	Study year(s)	No. of patients who died/ no. in study	Mortality rate, %
[3]	Brescia, Italy	1987–1995	35/305	13	1997–1998	16/46	35
[4]	Boston	1991	3/26	11.5	1998–1999	11/22	50
[5, 6]	Madrid	1991–1995	15/312	4.8	2000	9/20	45
[8]	France	1995	21/1327	1.6	1997	36/543	7.8

Trends in the prevalence of cirrhosis, decompensated cirrhosis, HCC and mortality in 24,040 HIV–infected veterans during period 1996-06 presented according to HCV status

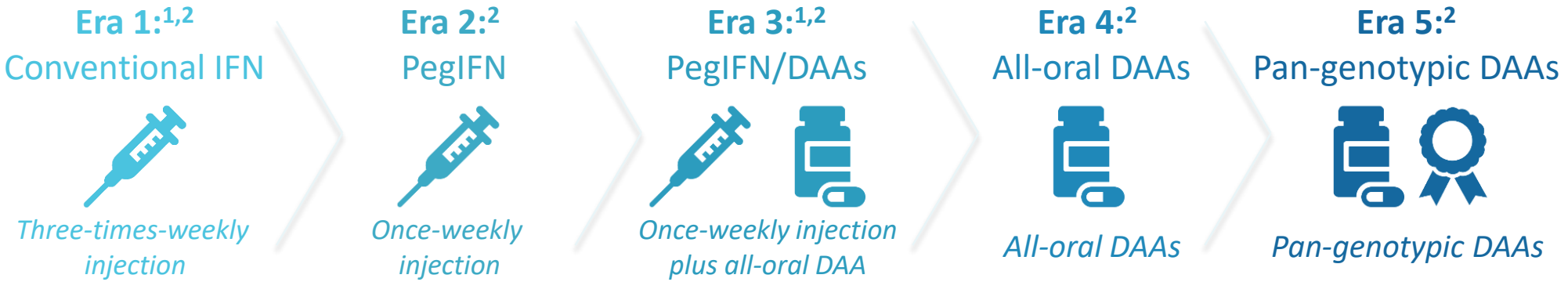


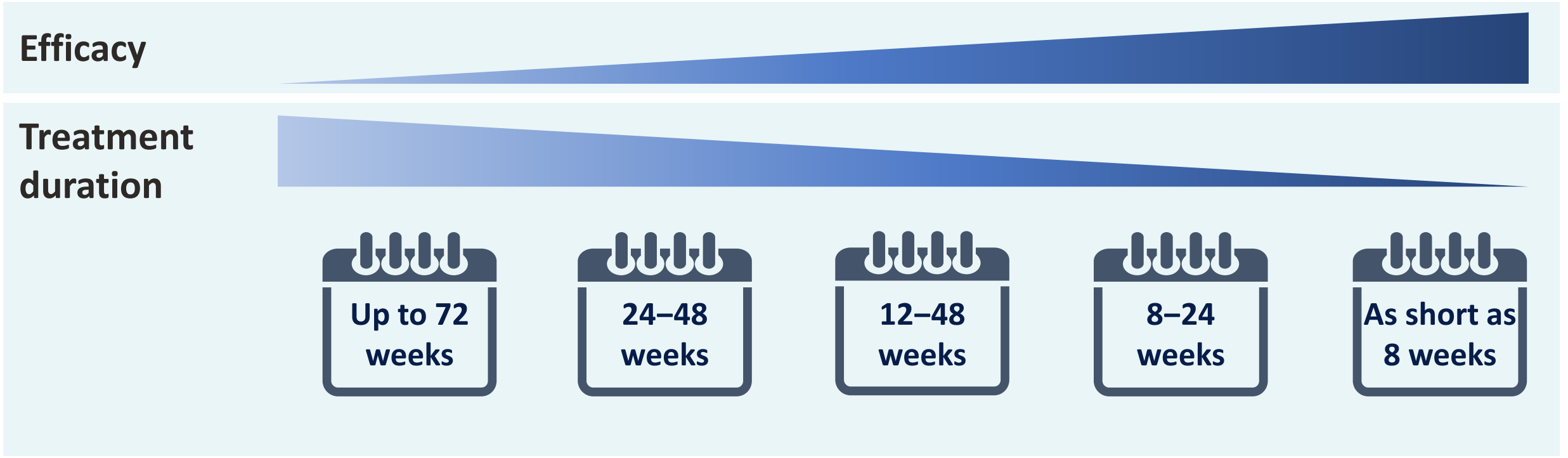




Ioannou V et al HEPATOLOGY 2013

HCV Therapy Has Evolved Substantially over the Past 30 Years towards Shorter and Simpler Therapies

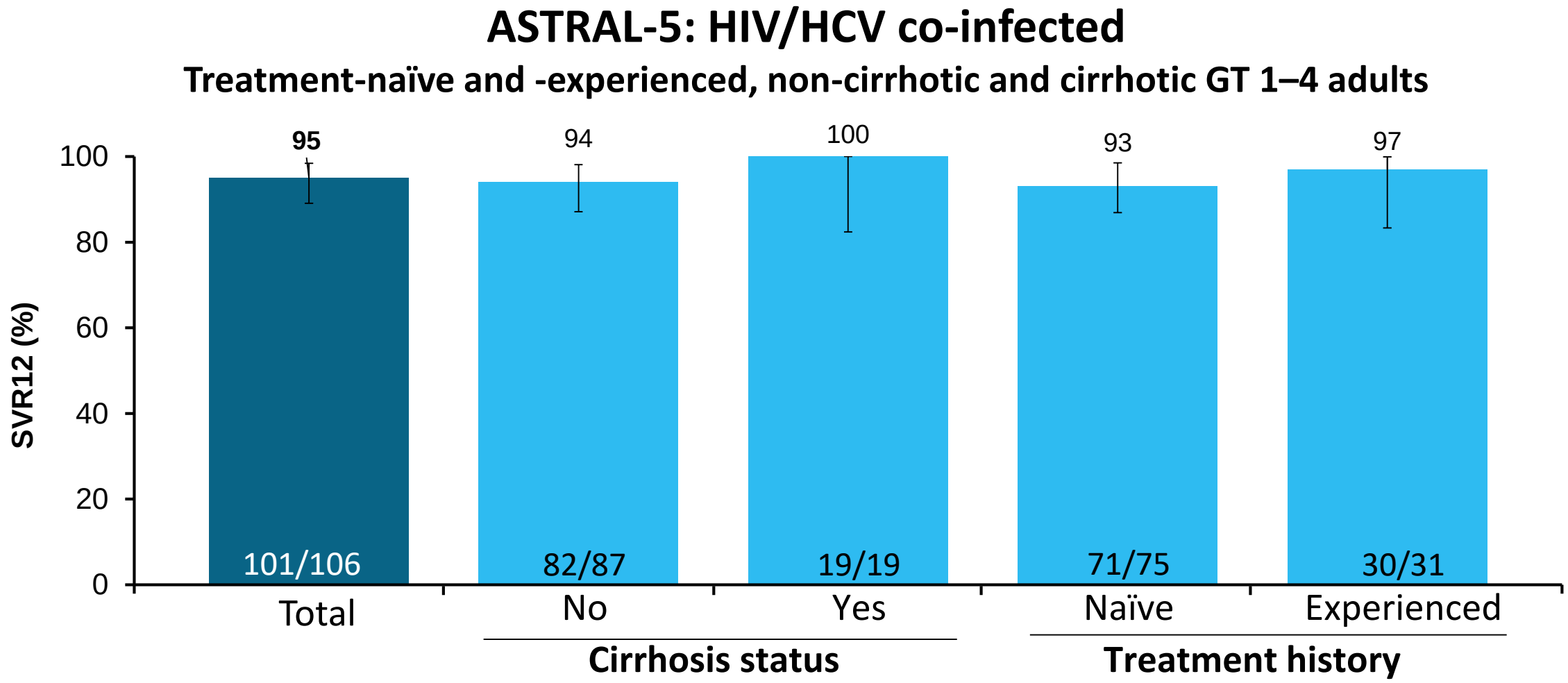




HEPC-IT-00143-E

1. Pawlotsky JM, *et al.* From non-A, non-B hepatitis to hepatitis C virus cure. *J Hepatol* 2015; **62:**S87–S99; 2. Manns M, *et al.* Hepatitis C virus infection. *Nat Rev Dis Primers* 2017; **3:**1–19.

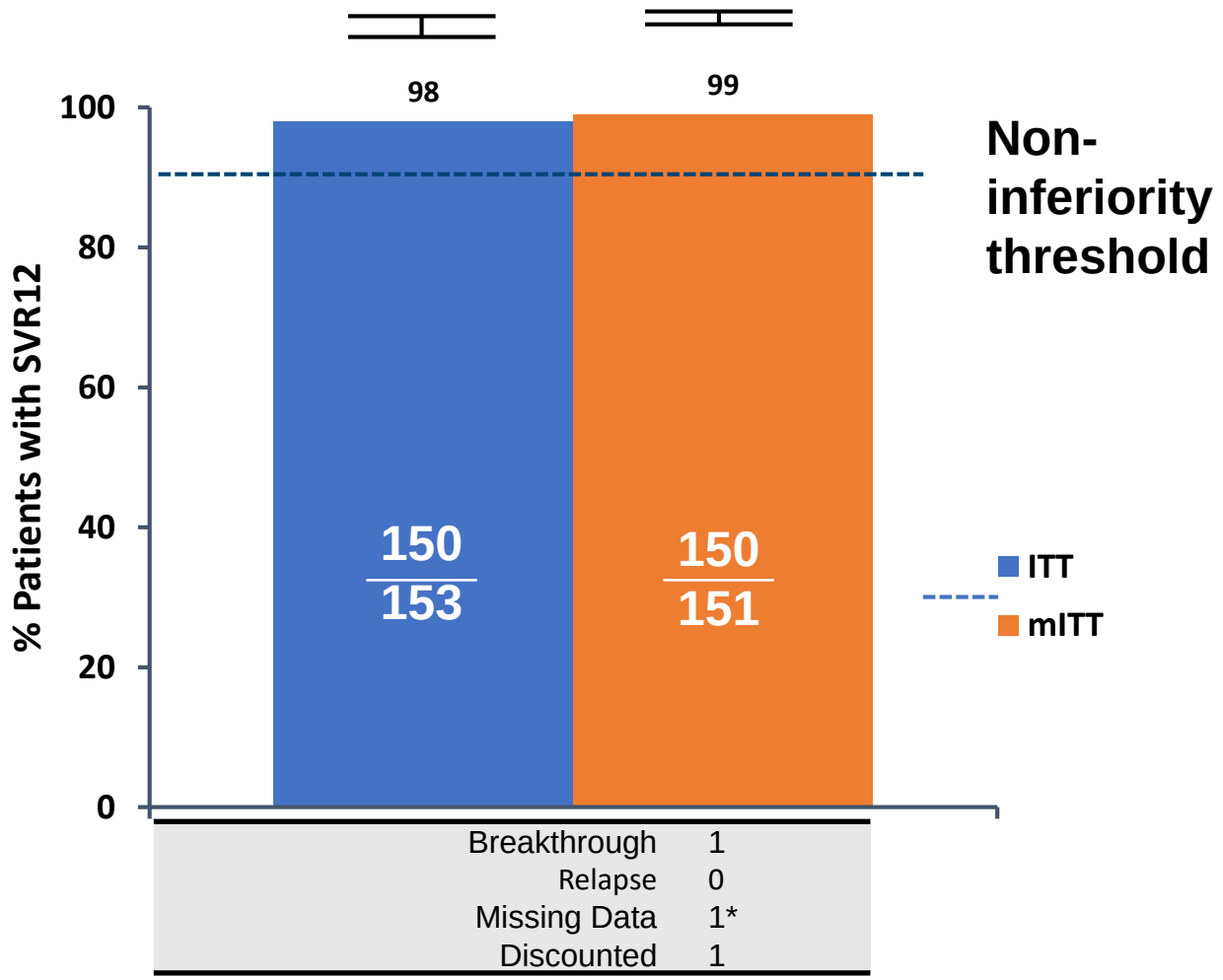
ASTRAL-5: high SVR across all patient types in adult HIV/HCV co-infected patients treated with 12 weeks' SOF/VEL



Wyles D**, et al.** Clin Infect Dis. 2017 Jul 1;65(1):6-12.

Error bars represent 95% confidence intervals

EXPEDITION-2 Study: efficacy



- One patient with GT3 infection and cirrhosis had on-treatment virologic failure at week 8; the patient was 85% compliant with treatment

*Patient returned at post-treatment week 24 and had achieved SVR

Rockstroh J, et al; 9th IAS, Paris, France, July 23-26, 2017; Abst. MOAB0303.

Research Article

EASL JOURNAL OF HEPATOLOGY

Viral Hepatitis

Efficacy and safety of direct-acting antiviral regimens in HIV/HCV-co-infected patients – French ANRS CO13 HEPAVIH cohort

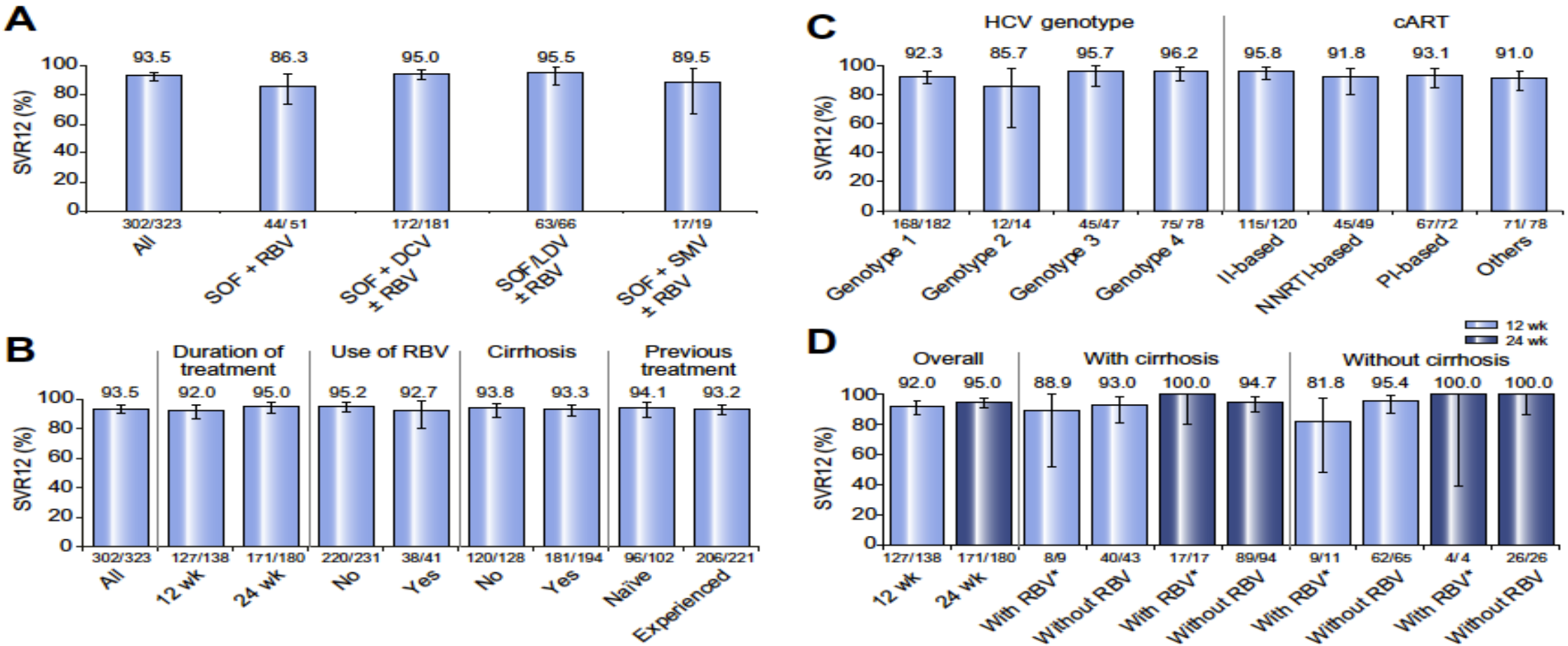


Fig. 1. Frequencies of sustained virological responses 12 weeks after end of therapy (SVR12). (A) Data grouped according to prescribed DAA regimen which was evaluated in adjusted exact logistic regression analysis (see Table 2A, B). (B*, C and D*) Data grouped according to the selected covariables which were evaluated in adjusted exact logistic regression analysis (see Table 2A, B). *Patients receiving SOF + RBV have been excluded from this analysis. Vertical bars represent 95% confidence intervals calculated using the exact binomial distribution.

Rates of SVR12 according to the presence of cirrhosis, decompensated cirrhosis , history of previous interferon treatment and HCV genotype in 5464 HCV infected patients treated in Lombardy with EASL recommended treatment schedules stratified according to HIV co-infection

Study Group	ALL	Cirrhotics	Decompensated	PEGIFN Exp.	Genotype 3
HIV+	4444/4564 (97,4%)	2512/2588 (97,1%)	71/75 (94,7%)	1434/1472 (97,4%)	413/435 (94,9%)
HIV-	872/900 (96,9%)	557/576 (96,7%)	46/50 (92%)	150/157 (95,5%)	213/225 (94,7%)

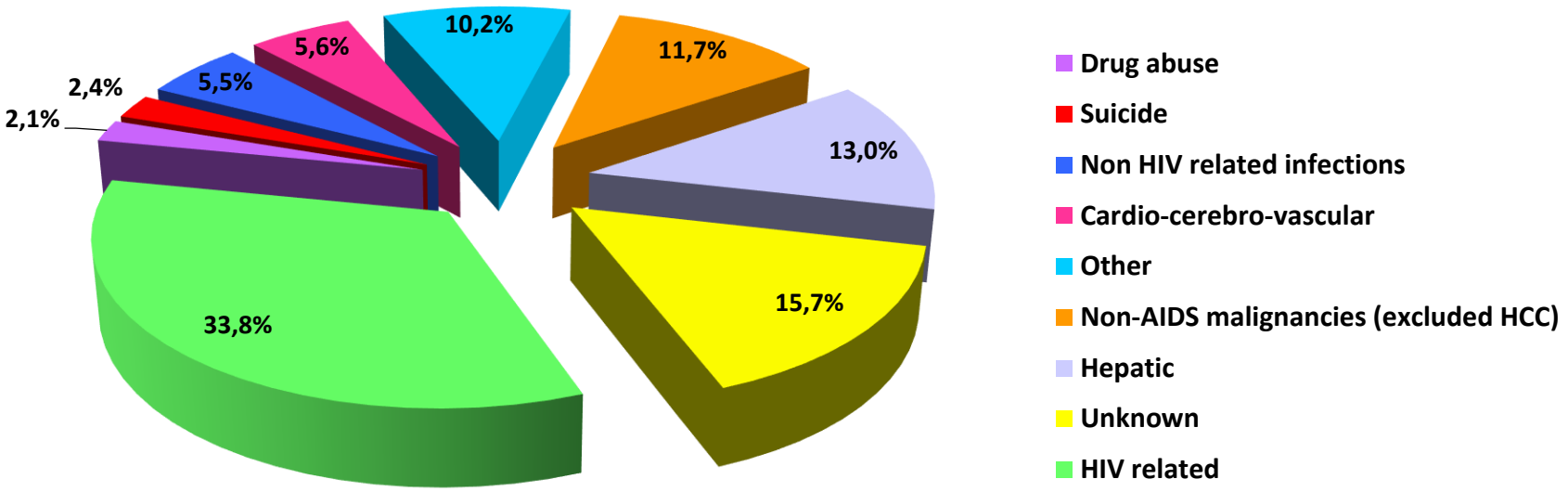
Multivariate logistic regression identified two predictors of lack of SVR12 HCV G3 infection (OR 2.25 95% CI 1.5-3.66 p<0.00001) and decompensation at baseline (OR 2.48 95% CI 1,16-5,3 p=0,0187). HIV coinfection was not associated with an increased risk of lack of SVR12 (OR 0,95 95% CI 0,61-1,47)

HIV related Characteristics:
median CD4 597 (IQR385-841) cells/mmc
CD4 < 200 7% HIV RNA supppressed 96.7% 3% not on cART 23% previous Dx of AIDS

Spinetti A. et al on Behalf of RETE LOMBARDIA HCV – NAVIGATORE . AASLD 2018

Fondazione Icona
ITALIAN COHORT NAIVE ANTIRETROVIRALS

Cause of death, n=1186



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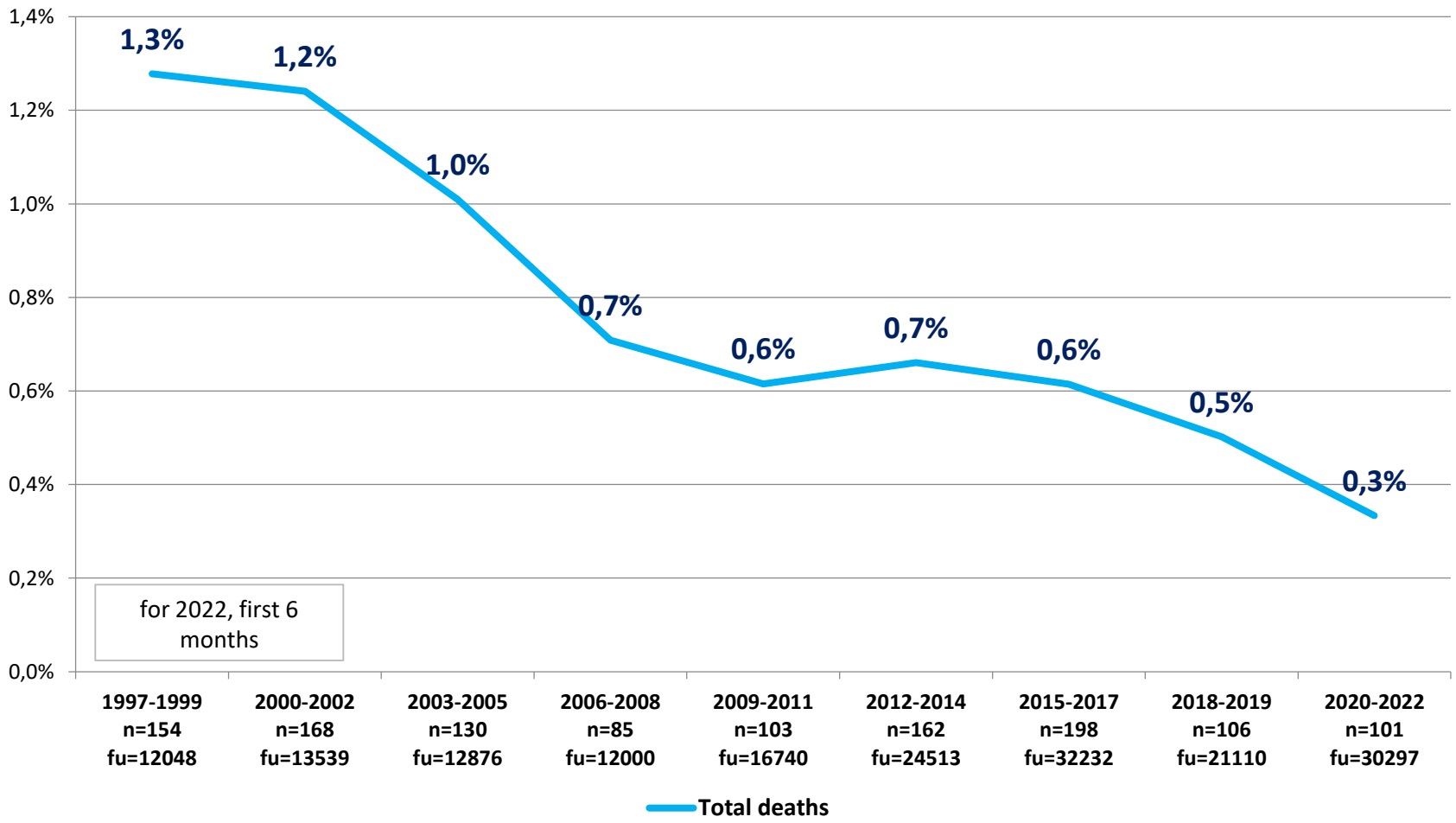
ITALIAN COHORT NAIVE ANTIRETROVIRALS

Prevalence of death according to calendar period of death



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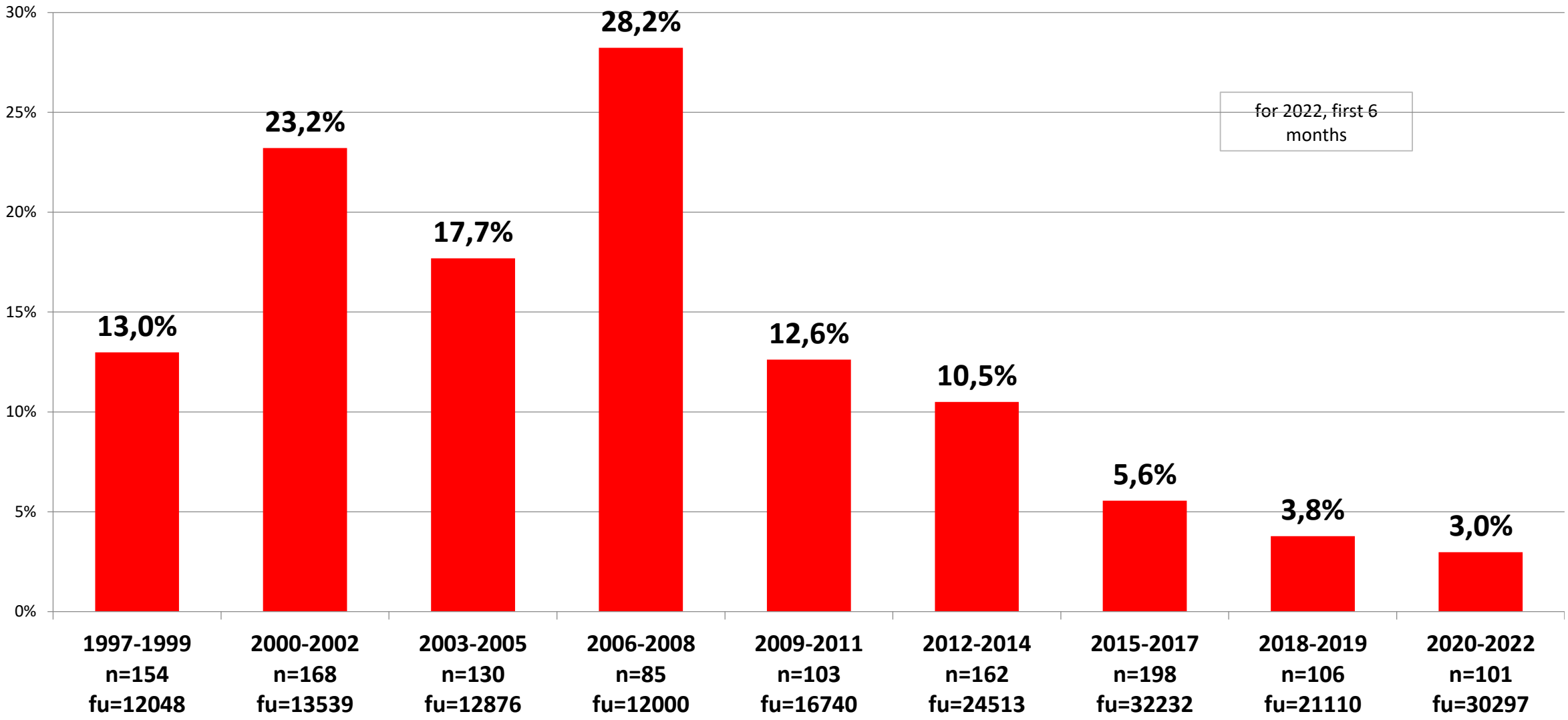
ITALIAN COHORT NAIVE ANTIRETROVIRALS

Proportion of liver related death in ICONA cohort acording to calendar period



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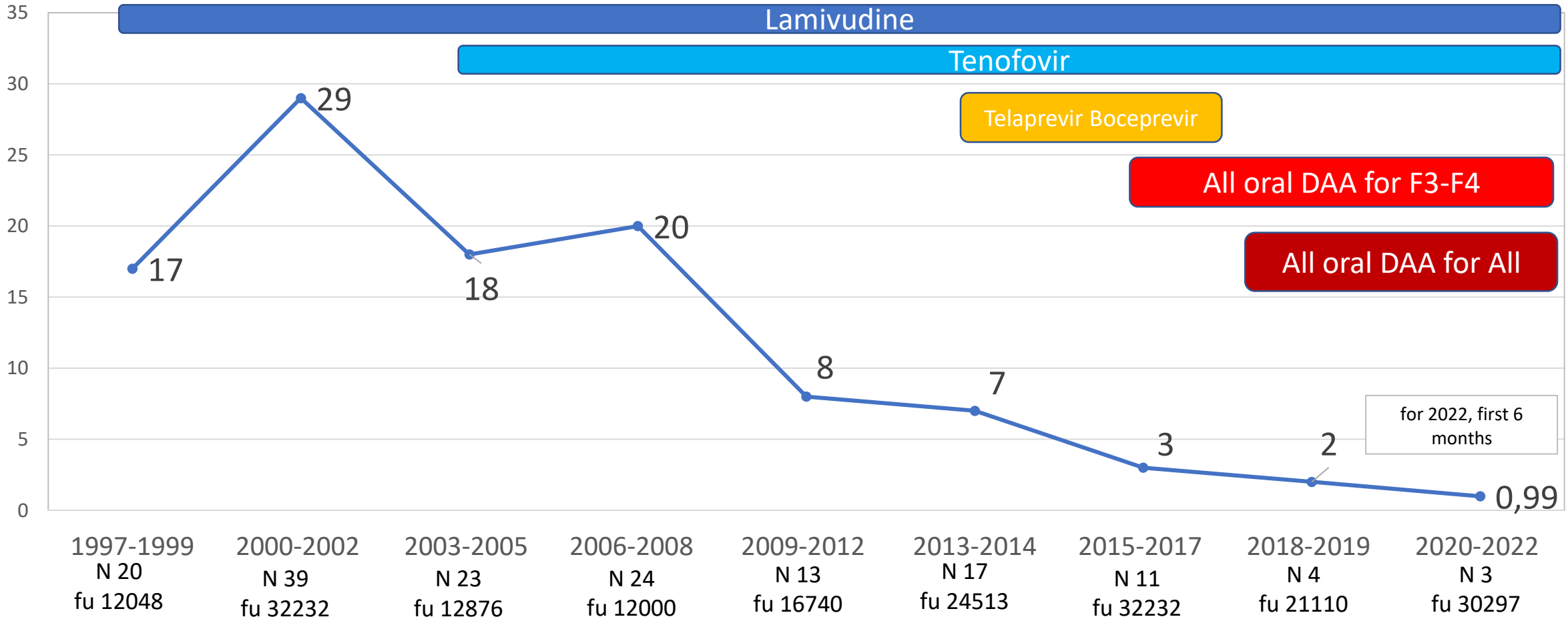
ITALIAN COHORT NAIVE ANTIRETROVIRALS

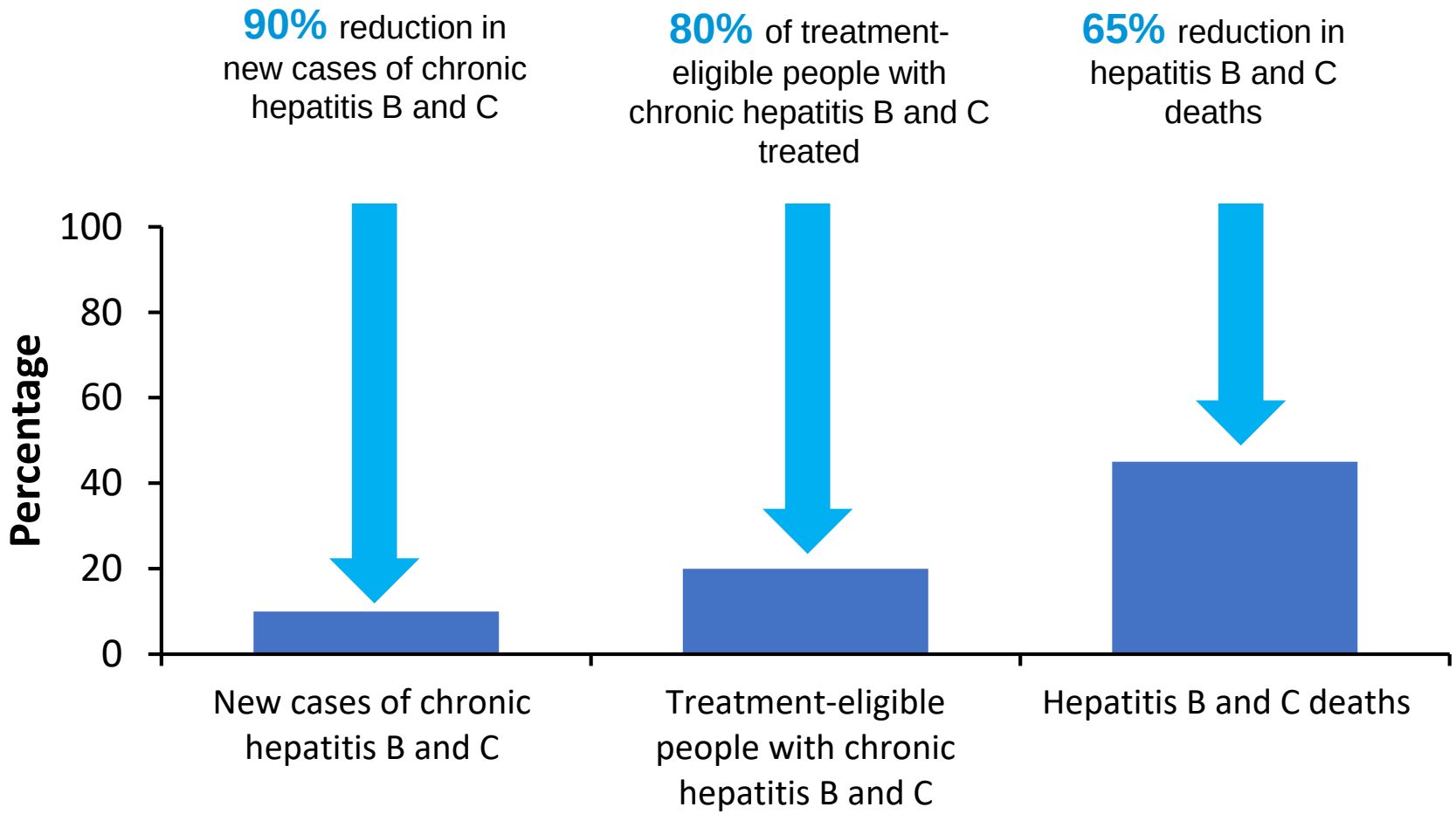
Liver related mortality in ICONA cohort : n of liver related death per 100.000 PPYY



Attualità della coinfezione HIV - virus epatitici

- Microeliminazione HCV in PLWH in Europa ed in Italia
- HCV come MST un ostacolo alla microeliminazione
- Anche in Italia ?: NoCo study
- HDV in HIV

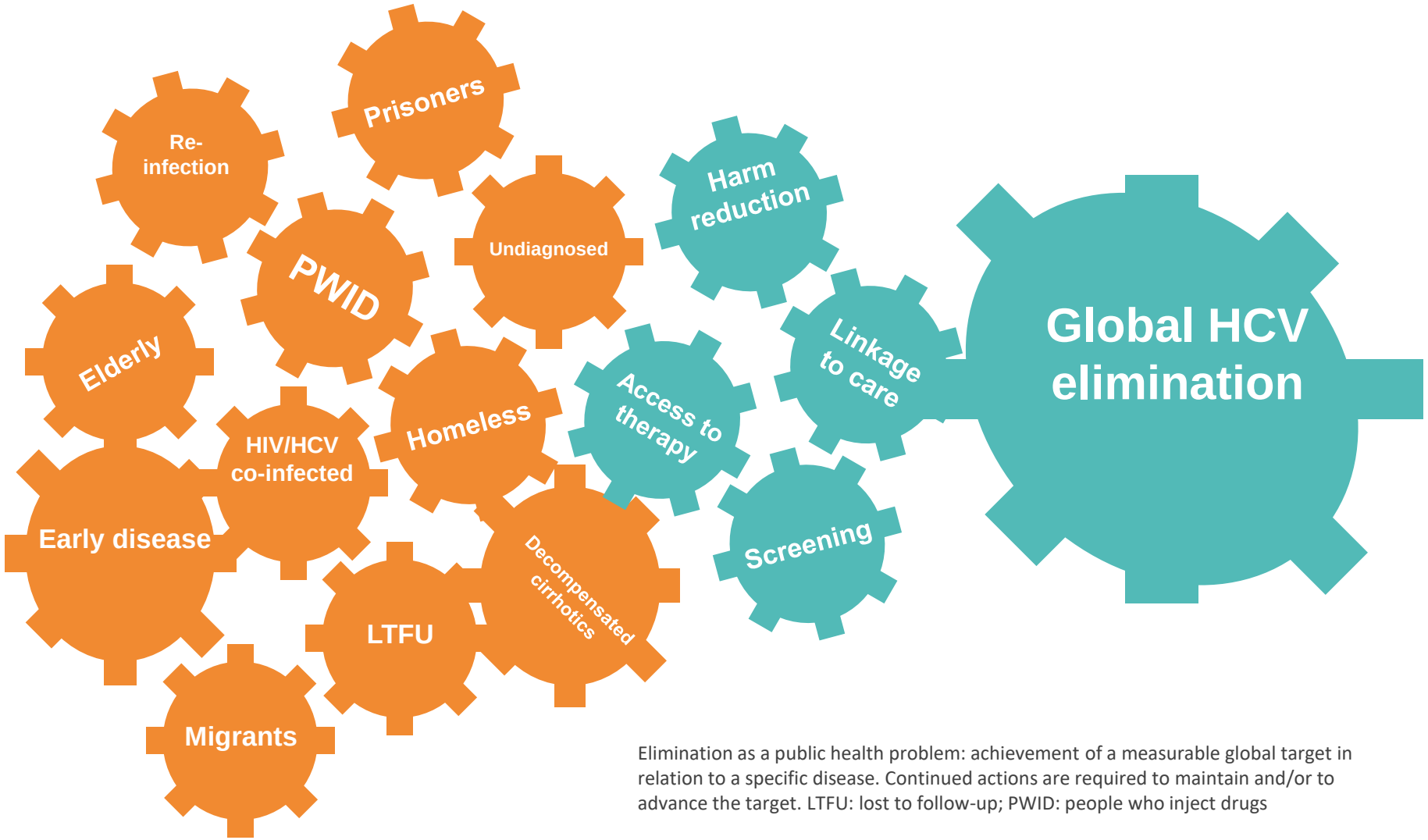
The global targets set by WHO to control viral hepatitis by 2030 are ambitious



WHO global health sector strategy on viral hepatitis. Available at: http://apps.who.int/iris/bitstream/10665/246177/1/WHO-HIV-2016.06-eng.pdf?ua=1 (accessed December 2017)

WHO: World Health Organization

Global HCV elimination as a therapeutic goal can seem daunting… but 100 flowers may rise



Elimination as a public health problem: achievement of a measurable global target in relation to a specific disease. Continued actions are required to maintain and/or to advance the target. LTFU: lost to follow-up; PWID: people who inject drugs

Attualità della coinfezione HIV - virus epatitici

- Microeliminazione HCV in PLWH in Europa ed in Italia
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- Anche in Italia ?: NoCo study
- HDV in HIV

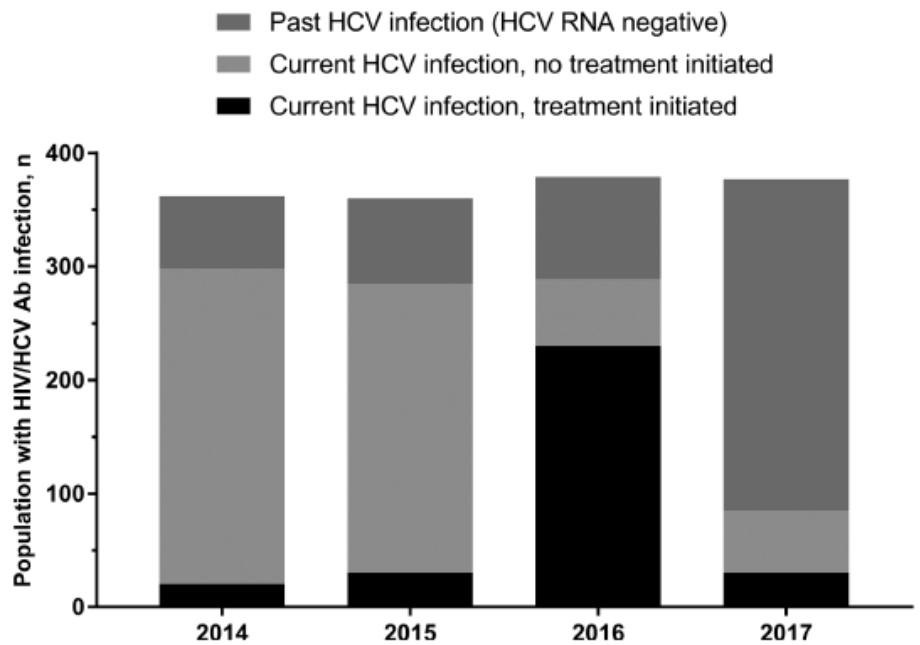
Clinical Infectious Diseases

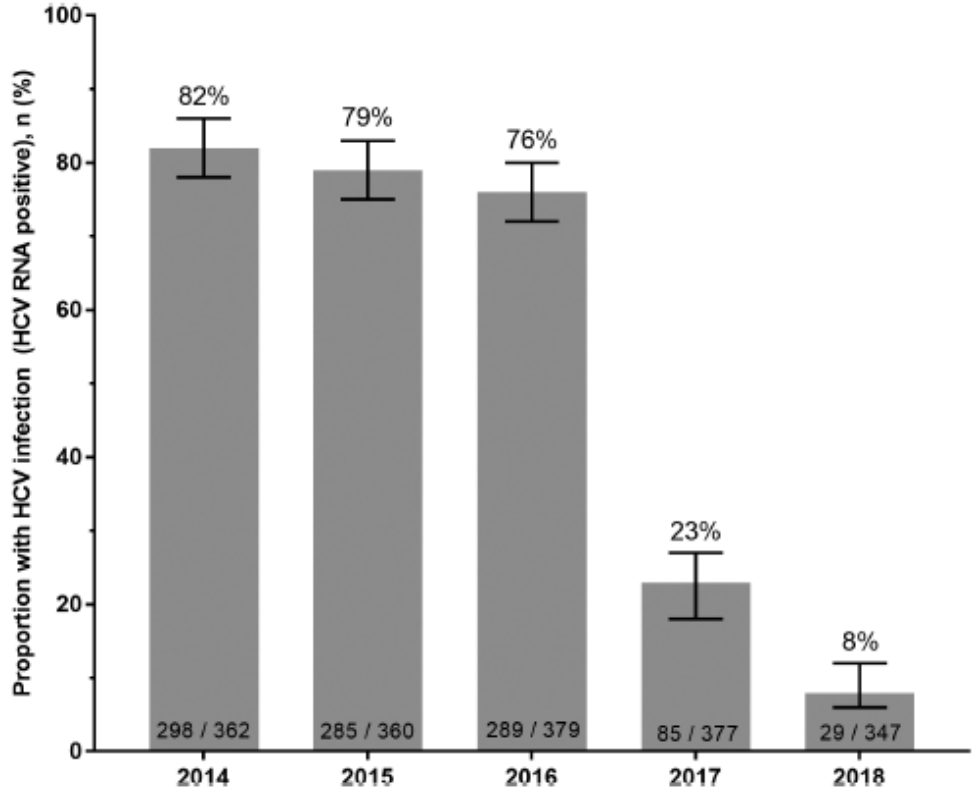
MAJOR ARTICLE

Moving Towards Hepatitis C Microelimination Among People Living With Human Immunodeficiency Virus in Australia: The CEASE Study

Marianne Martinello,[1,2,3] Jasmine Yee,[1] Sofia R. Bartlett,[1] Phillip Read,[4] David Baker,[5] Jeffrey J. Post,[6,7,8] Robert Finlayson,[9] Mark Bloch,[10] Joseph Doyle,[11] David Shaw,[12] Margaret Hellard,[11,13] Kathy Petoumenos,[1] Lanni Lin,[1] Philippa Marks,[1] Tanya Applegate,[1] Gregory J. Dore,[1,2] and Gail V. Matthews[1,2]; for the the CEASE study team

[1]The Kirby Institute, University of New South Wales Sydney, Sydney, New South Wales, Australia, [2]St Vincent's Hospital, Sydney, New South Wales, Australia, [3]Blacktown Mt Druitt Hospital, Blacktown, New South Wales, Australia, [4]Kirketon Road Clinic, Sydney, New South Wales, Australia, [5]East Sydney Doctors, Sydney, New South Wales, Australia, [6]The Albion Centre, Sydney, New South Wales, Australia, [7]Prince of Wales Hospital, Sydney, New South Wales, Australia, [8]Prince of Wales Clinical School, University of New South Wales Sydney, Sydney, New South Wales, Australia, [9]Taylor Square Private Clinic, Sydney, New South Wales, Australia, [10]Holdsworth House Medical Practice, Sydney, New South Wales, Australia, [11]Burnet Institute, Melbourne, Victoria, Australia, [12]Royal Adelaide Hospital, Adelaide, South Australia, Australia, and [13]Alfred Hospital, Melbourne, Victoria, Australia

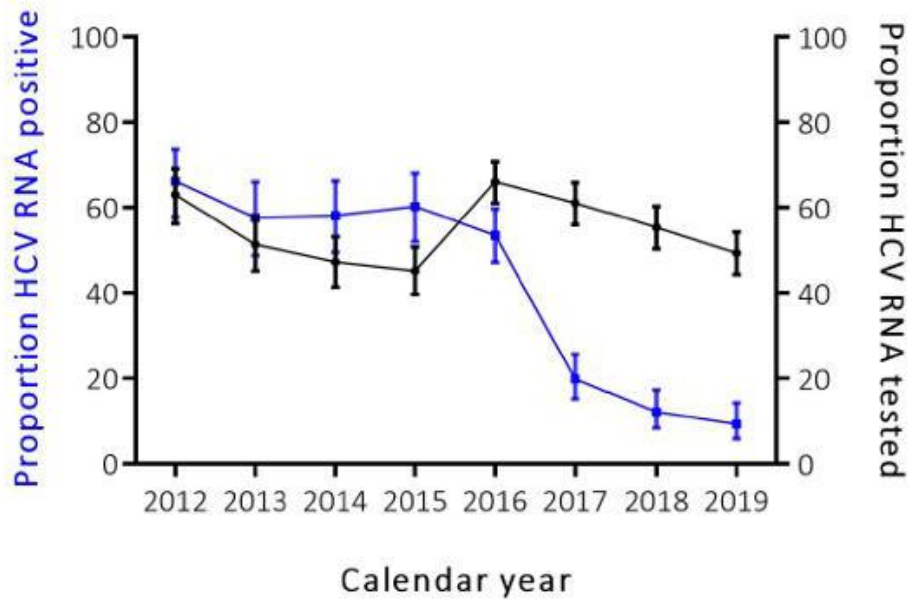




Micro-elimination of hepatitis C among people with HIV coinfection: declining incidence and prevalence accompanying a multi-center treatment scale-up trial

Authors:

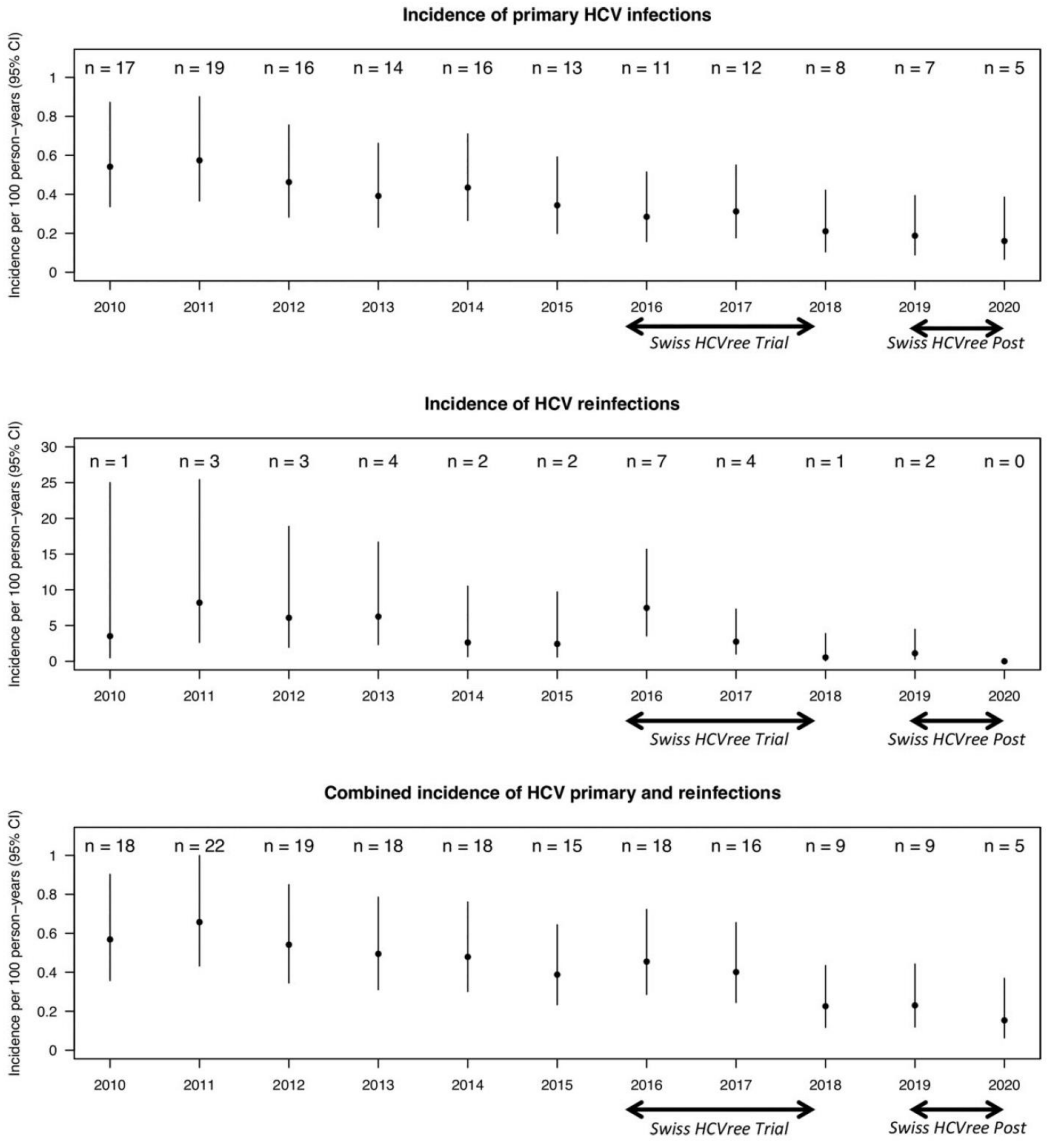
J. S. Doyle[1,2], D. K. van Santen[1,3], D. Iser[2,4], J. Sasadeusz[2,5], M. O'Reilly[6], B. Harney[1], M. W. Traeger[1], J. Roney[2], J.C. Cutts[1], A. L. Bowring[1], R. Winter[1], N. Medland[7], C.K. Fairley[7], R. Moore[8], B. Tee[9], J. Asselin[1], C. El-Hayek[1], J. F. Hoy[2], G. V. Matthews[10], M. Prins[11,12], M. A. Stoové[1,3], M. E. Hellard[1,2,3,13]



	2012	2013	2014	2015	2016	2017	2018	2019
Total tested	136	125	129	141	241	226	214	194
Total positive	90	72	75	85	129	45	26	18
Total HIV+ (ab+)	1,440	1,605	1,733	1,690	1,766	1,947	2,003	1,997

Sustained Effect on Hepatitis C Elimination Among Men Who Have Sex With Men in the Swiss HIV Cohort Study: A Systematic Re-Screening for Hepatitis C RNA Two Years Following a Nation-Wide Elimination Program

- HCV screening phase ('Phase A') from October 2015 until June 2016, → treatment with DAA offered
- 57% and 84% decrease of incident and prevalent HCV infections, in 2017→ 1.2% and 0.31 /100 person/years in 2017
- In 2019 in =4641 MSM LHIV prevalence was 0.6%, → 48% decline
- Incidence of HCV among MSM in the SHCS declined to 0.19/100 py (95% CI [.09, .39]) in 2019.



Kuseiko K et al CID 2022 https://doi.org/10.1093/cid/ciac273

Epidemiological trends of HIV/HCV coinfection in Spain, 2015–2019

- HCV serostatus was known in 1316 PLWH (99.3%), of whom 376 (28.6%) were HCV antibody (Ab)-positive (78.7% were prior injection drug users); 29 were HCV-RNA- Positive (2.2%).
- Of the 29 HCV-RNA- positive PLWH, infection was chronic in 24, it was acute/recent in one, and it was of unknown duration in four.
- Cirrhosis was present in 71 (5.4%) PLWH overall, three (10.3%) HCV-RNA- positive patients and 68 (23.4%) of those who cleared HCV after anti-HCV therapy (p = 0.04).

Fanciulli C et al HIV Medicine. 2022;23:705–716.

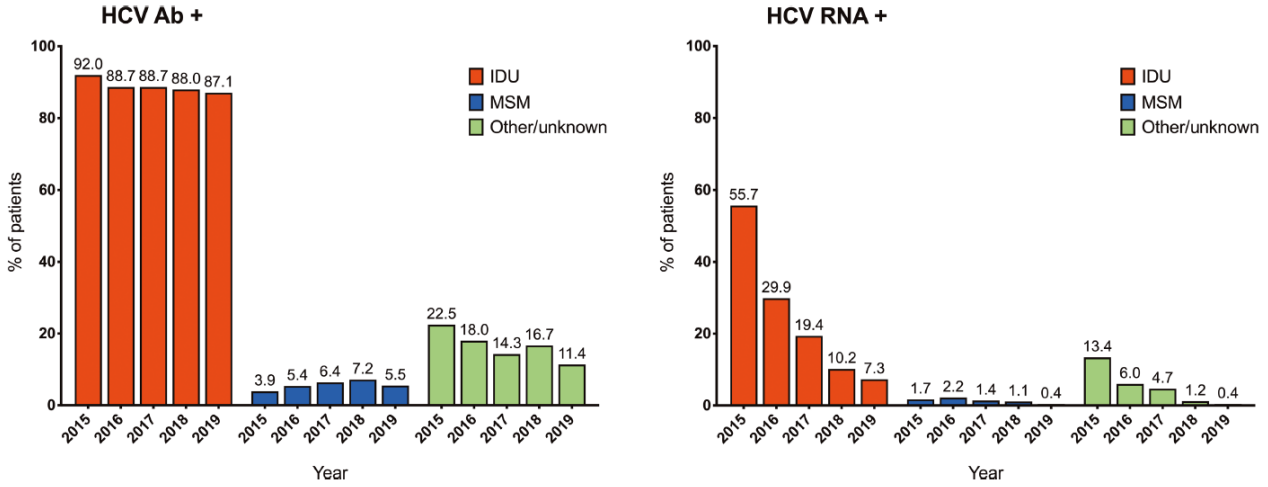


FIGURE 2 Prevalence of hepatitis C virus (HCV) seropositivity and active HCV infection in the annual cross-sectional studies carried out by 'Grupo de Estudio del SIDA' (GeSIDA) from 2015 to 2019, categorized by HIV transmission category groups. HCV Ab+, presence of antibodies against HCV; HCV-RNA+, detectable HCV-RNA, IDU, injection drug use; MSM, men who have sex with men

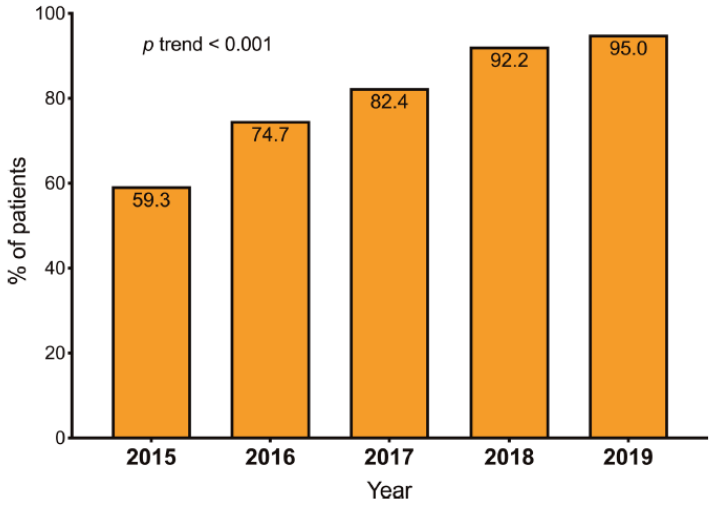


FIGURE 3 Uptake of anti-hepatitis C virus (HCV) treatment in the annual cross-sectional studies carried out by the 'Grupo de Estudio del SIDA' (GeSIDA) from 2015 to 2019. Treatment uptake was defined as the proportion of people living with HIV with current or past chronic HCV infection exposed to anti-HCV therapy

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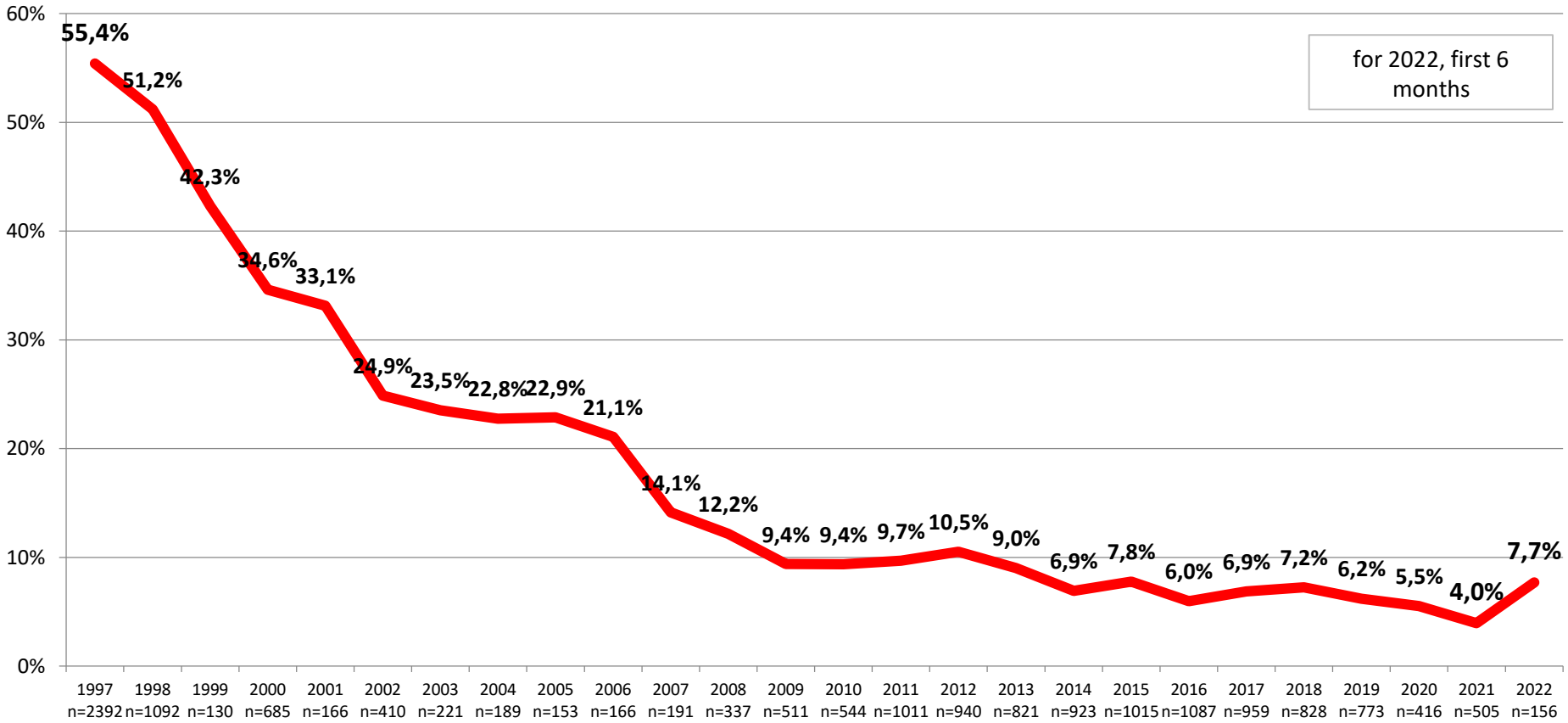
ITALIAN COHORT NAIVE ANTIRETROVIRALS

Proportion of patients with HCVAb pos test within 1 year from enrolment, according to calendar year of enrolment



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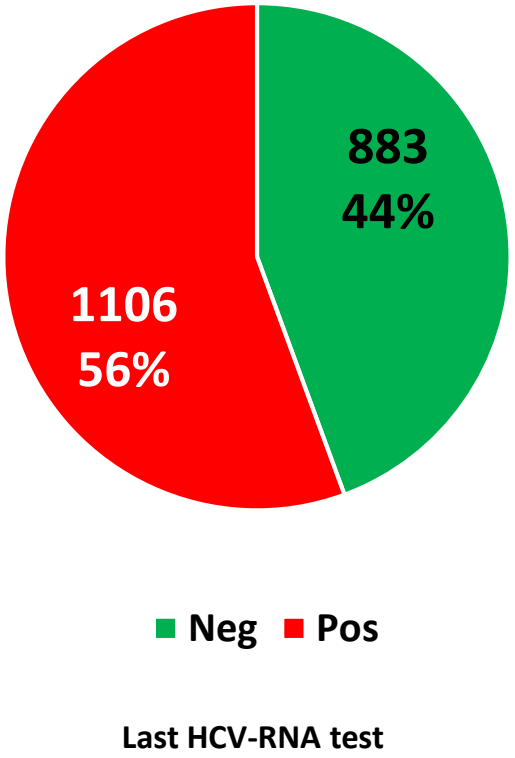
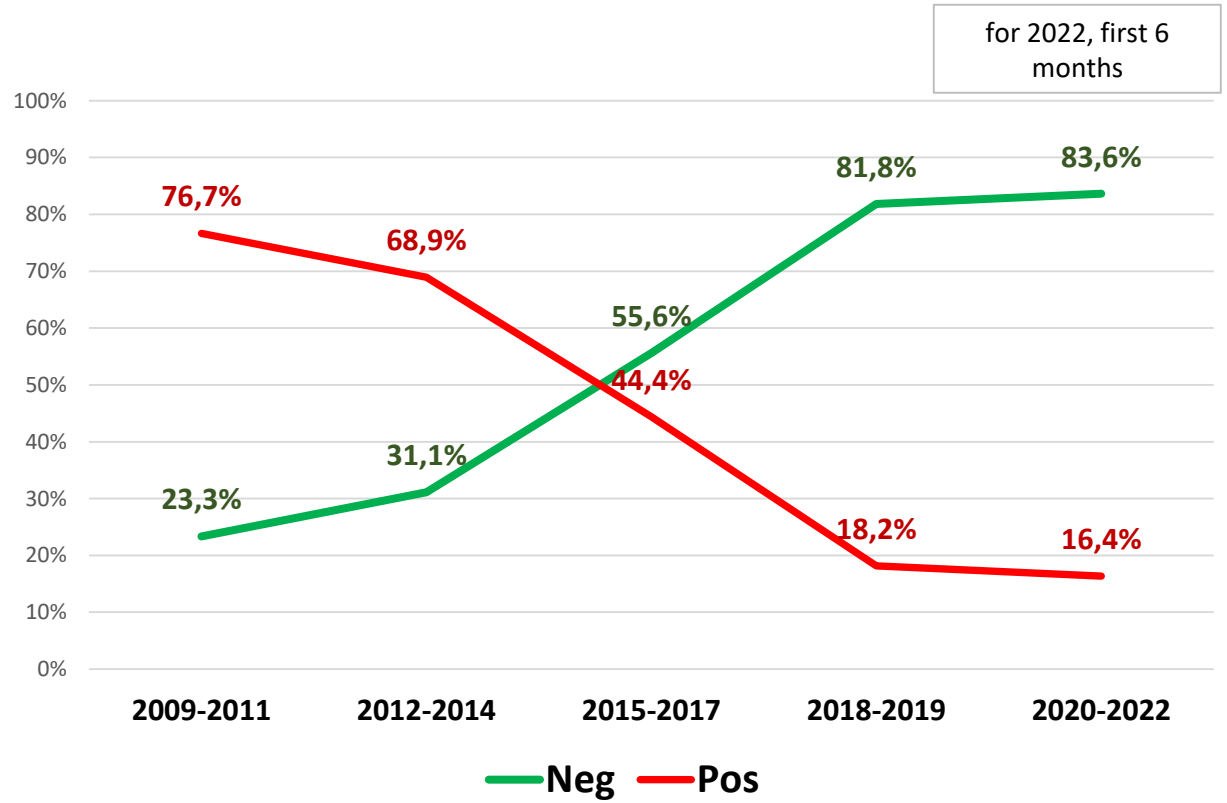
ITALIAN COHORT NAIVE ANTIRETROVIRALS

Prevalence of HCV-RNA pos in HCVAb pos patients according to calendar year of follow up in ICONA





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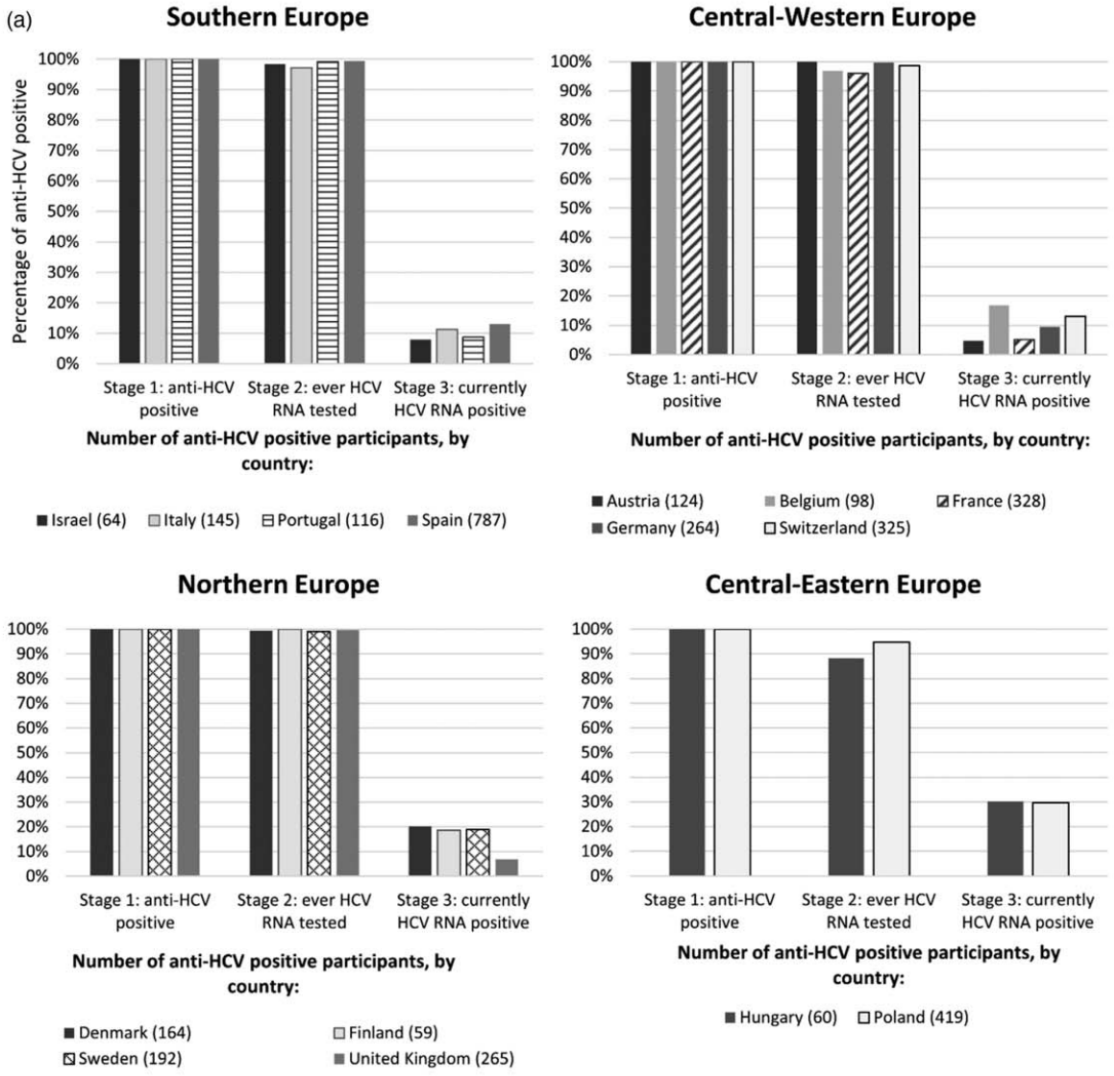
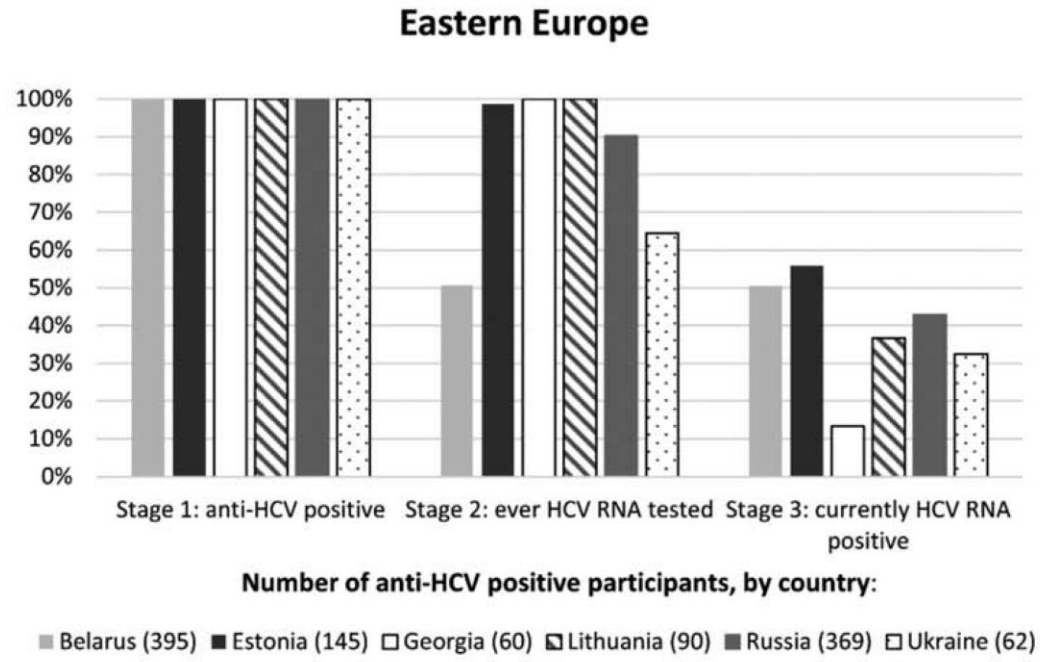
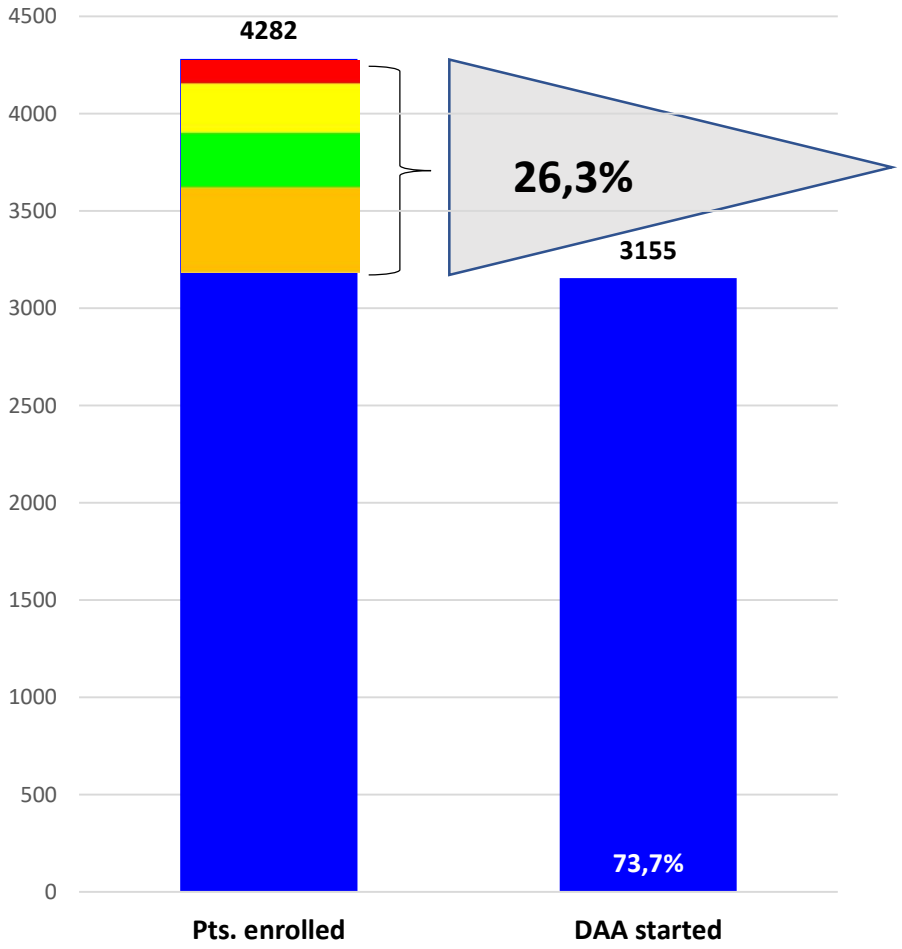
The hepatitis C cascade of care in HIV/hepatitis virus coinfected individuals in Europe: regional and intra-regional differences

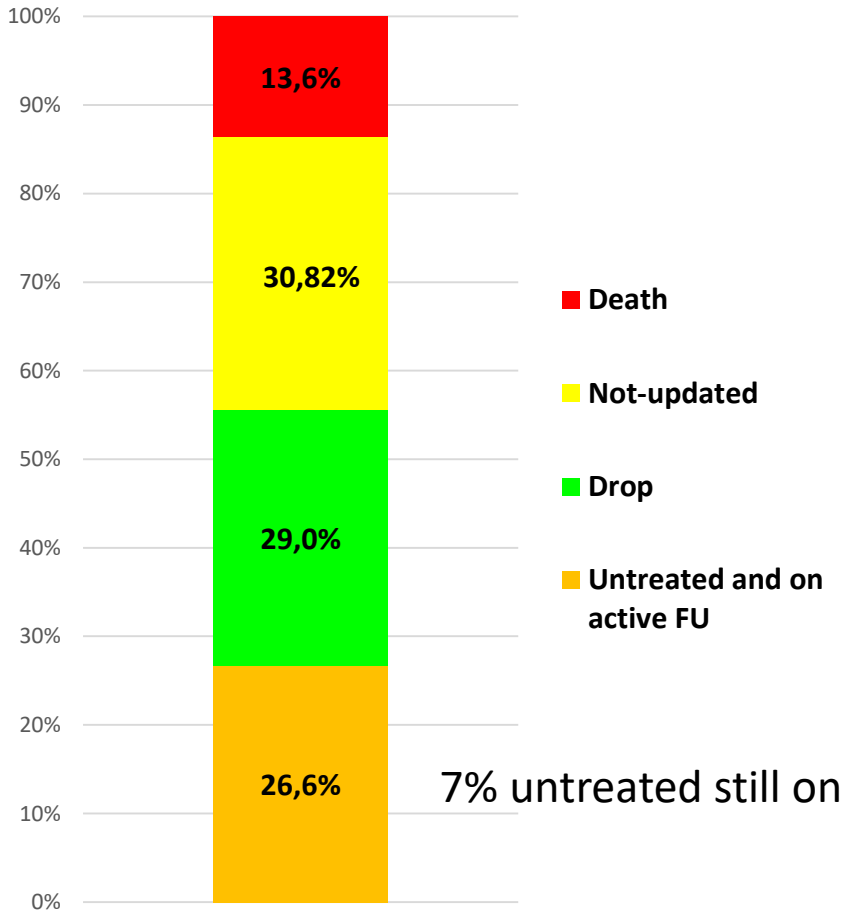




Fursa O et al AIDS 2022, 36:423–435

Proportion of untreated HCV patients in Icona/HepaIcona





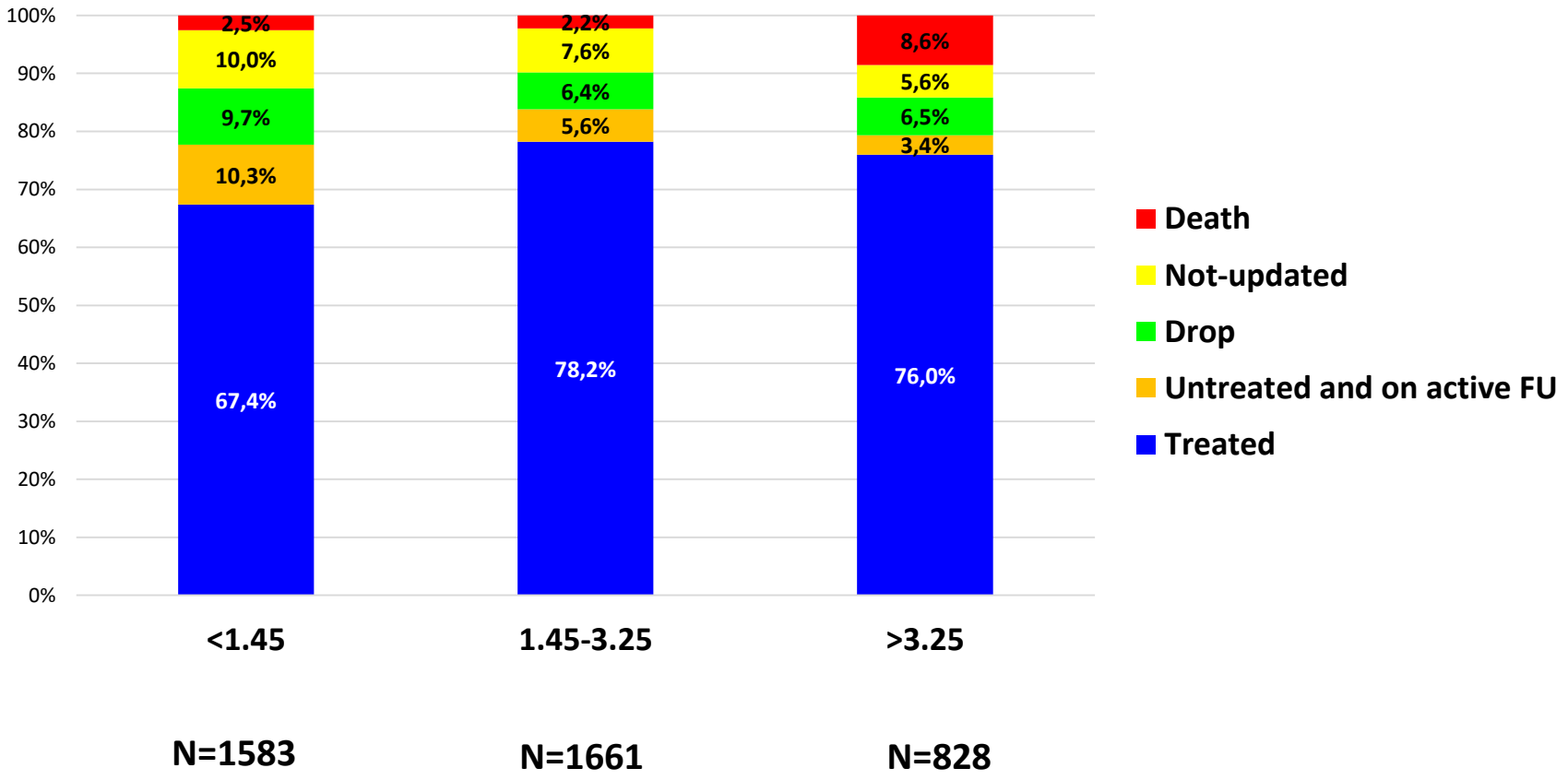
7% untreated still on active follow up

Jun 2022 Report

HEPAicona Hepatitis Icona Cohort

Fondazione Icona
ITALIAN COHORT NAIVE ANTIRETROVIRALS

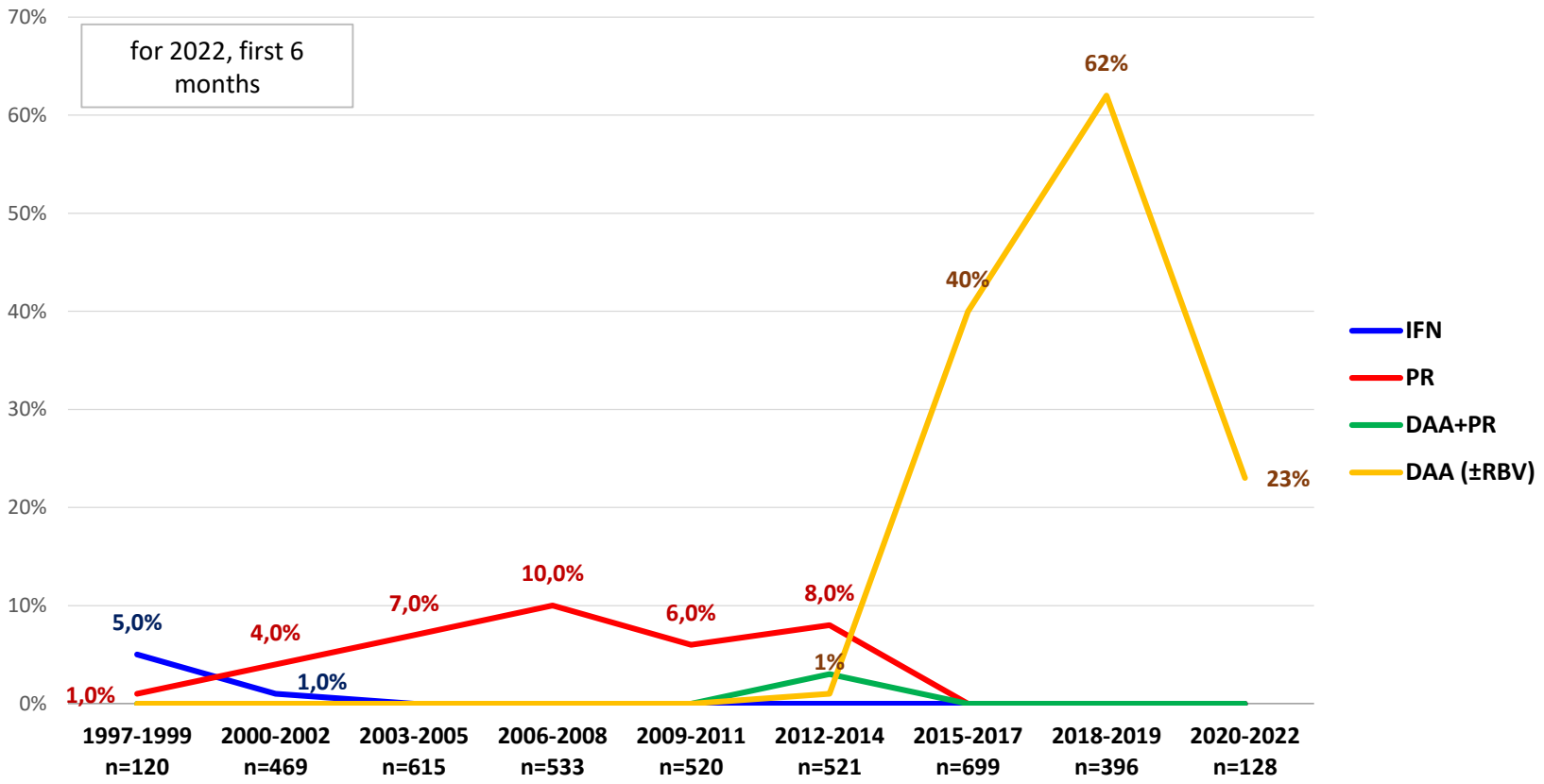
Prevalence of start of any anti-HCV treatment according to last FIB4 value in Icona/Hepaicona patients (n=2995/4072)



Jun 2022 Report

Fondazione Icona
ITALIAN COHORT NAIVE ANTIRETROVIRALS

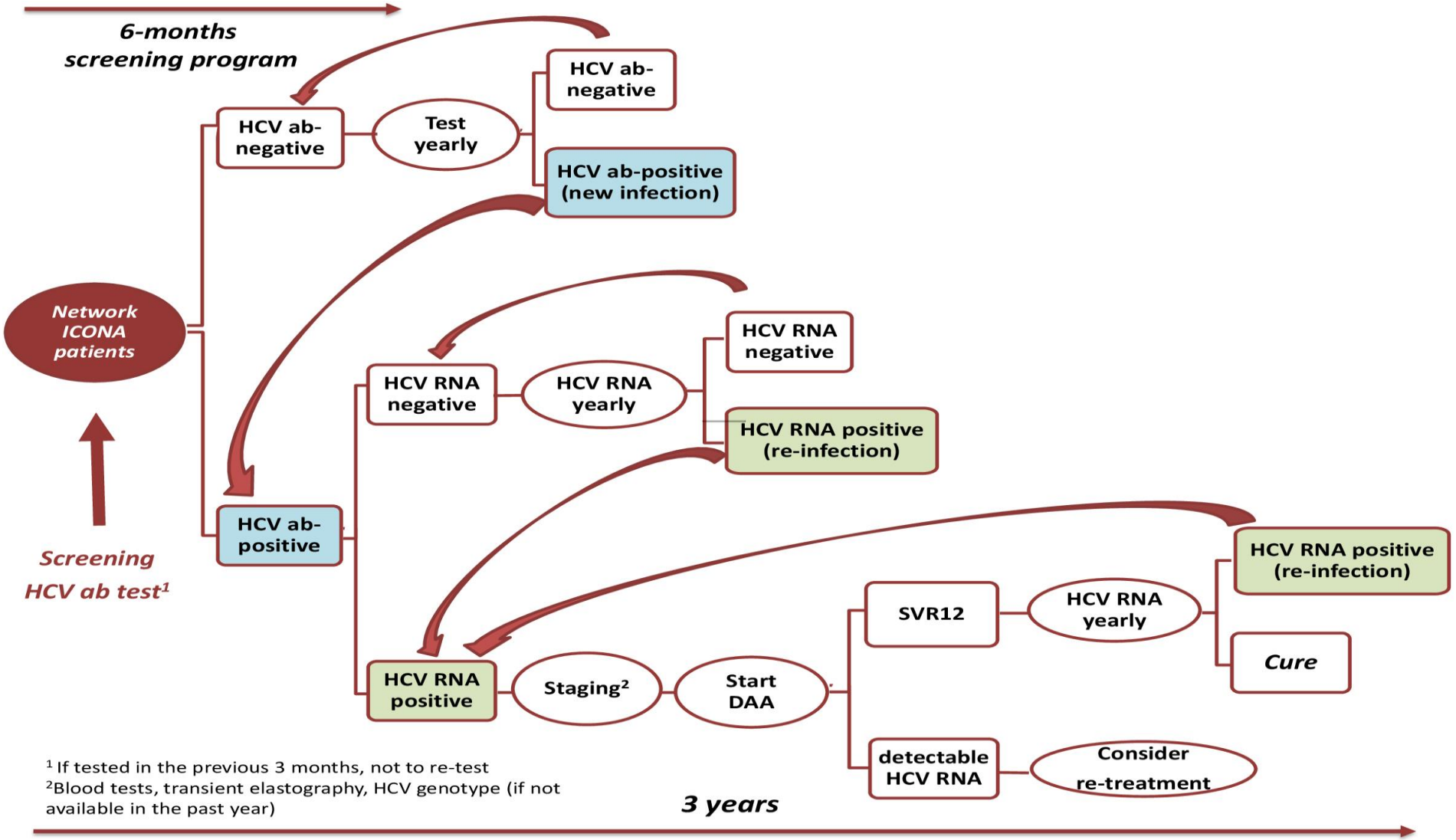
Proportion of HCV-RNA+ patients starting any anti-HCV treatment for the first time, according to drug compound and period of starting



Jun 2022 Report

NoCo Project

Conceived by Professor Mauro Moroni
Fondazione Icona



[1] If tested in the previous 3 months, not to re-test
[2] Blood tests, transient elastography, HCV genotype (if not available in the past year)

Conceived by Professor Mauro Moroni
Fondazione Icona

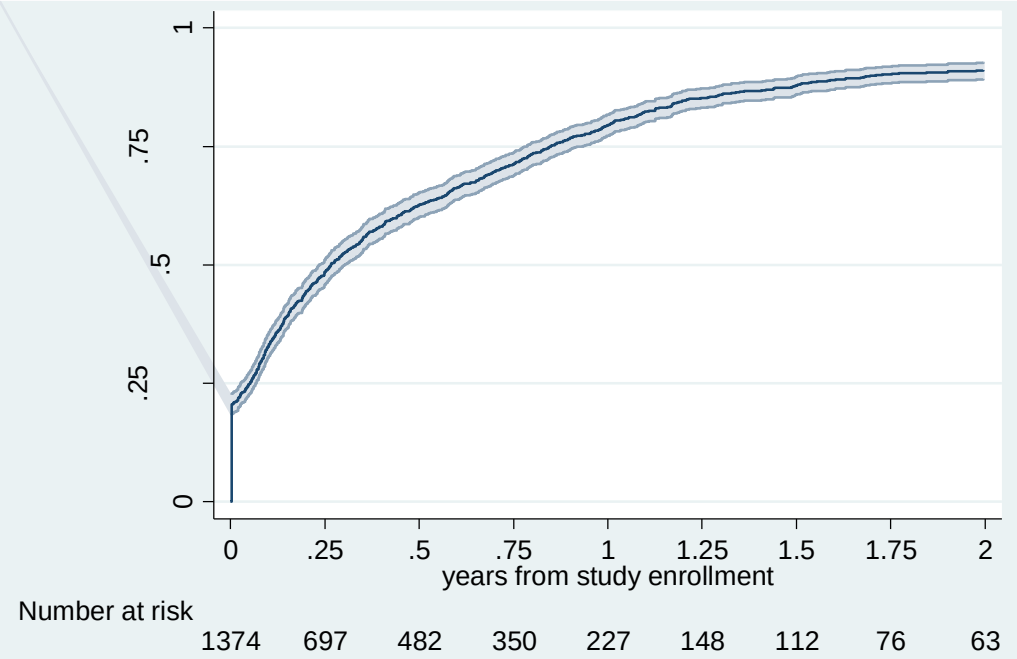
DAA uptake and response

1,374/1,732 (79.3%) HCV viremic subjects at baseline had a follow-up thereafter

1,184 subjects started DAA

<u>915/1,374</u> had available HCV-RNA data >=12weeks after EOT

SVR12 in 874, 95.5%



	Probability of DAA-uptake (95%CI)
1-year	79.5% (95%CI: 77.3-81.7)
2vyear	79.5% (95%CI: 77.3-81.7)

Conceived by Professor Mauro Moroni
Fondazione Icona

Predictors of access to DAA by Cox regression

	HR	95%CI		p	aHR	95%CI		p
Gender	0.99	0.87	1.12	0.839				
Mode of HIV Transmission								
Heterosexual	1.00				1.00			
IDU	0.89	0.74	1.07	0.204	0.72	0.60	0.87	**0.001**
MSM	0.95	0.77	1.19	0.672	0.97	0.78	1.21	0.787
Other/Unknown	1.36	1.02	1.80	0.034	1.17	0.88	1.56	0.279
Age, per 10 yrs increase	1.12	1.04	1.20	0.002				
Italian (vs. Non-italians)	0.92	0.72	1.17	0.476				
Year HIV infection, per 1 yr more	0.99	0.98	0.99	<0.001				
HIV-RNA > 50 copies/mL	0.64	0.51	0.80	<0.001	0.72	0.57	0.91	**0.006**
CD4<200 cells/mmc	0.76	0.68	0.85	<0.001	0.59	0.43	0.80	**0.001**
>3.25	1.00				1.00			
1.45-3.25	1.28	1.04	1.56	0.017	1.20	0.98	1.47	0.077
<1.45	1.11	0.91	1.36	0.309	1.10	0.90	1.36	0.348
Missing FIB4	0.75	0.57	0.98	0.037	0.85	0.65	1.11	0.236
HCV Genotype								
G1 or G4					1.00			
G2 or G3	0.96	0.84	1.10	0.581	0.95	0.83	1.09	0.465
Other/Multiple/Missing	0.53	0.43	0.66	<0.001	0.60	0.48	0.75	<0.001

***Set of Adjustments:**

CD4: sex, year hiv infection

FIB-4: mode transmission, year hiv infection

HCV Genotype: mode transmission, year hiv infection

HIV-RNA: italian, mode transmission, year hiv infection

Mode HIV Transmission: year hiv infection

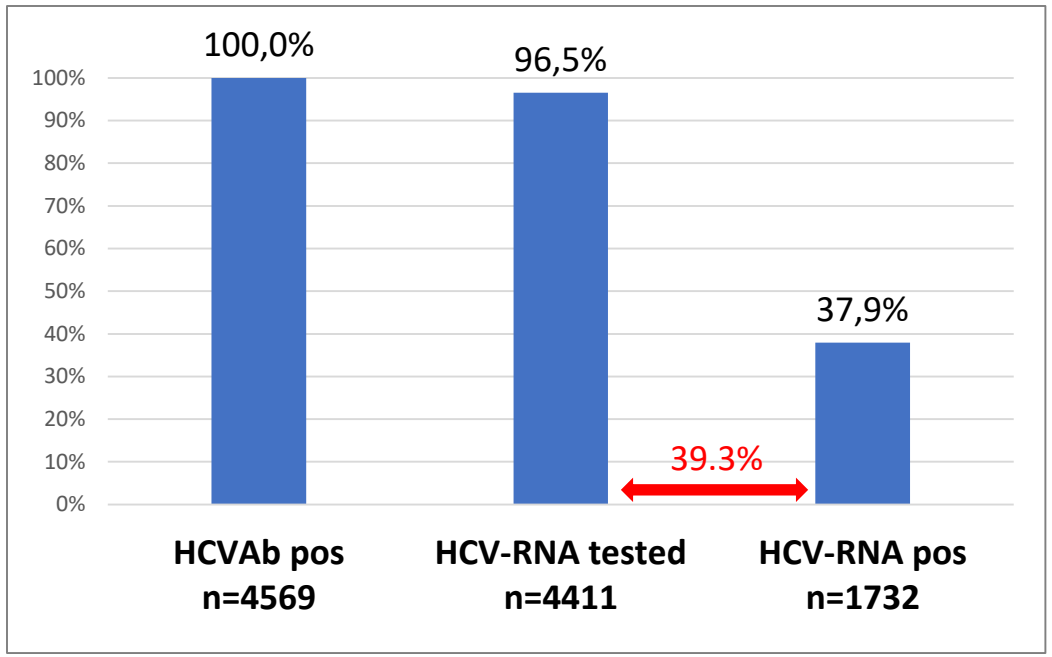
Predictors of SVR12 by fitting a logistic regressions

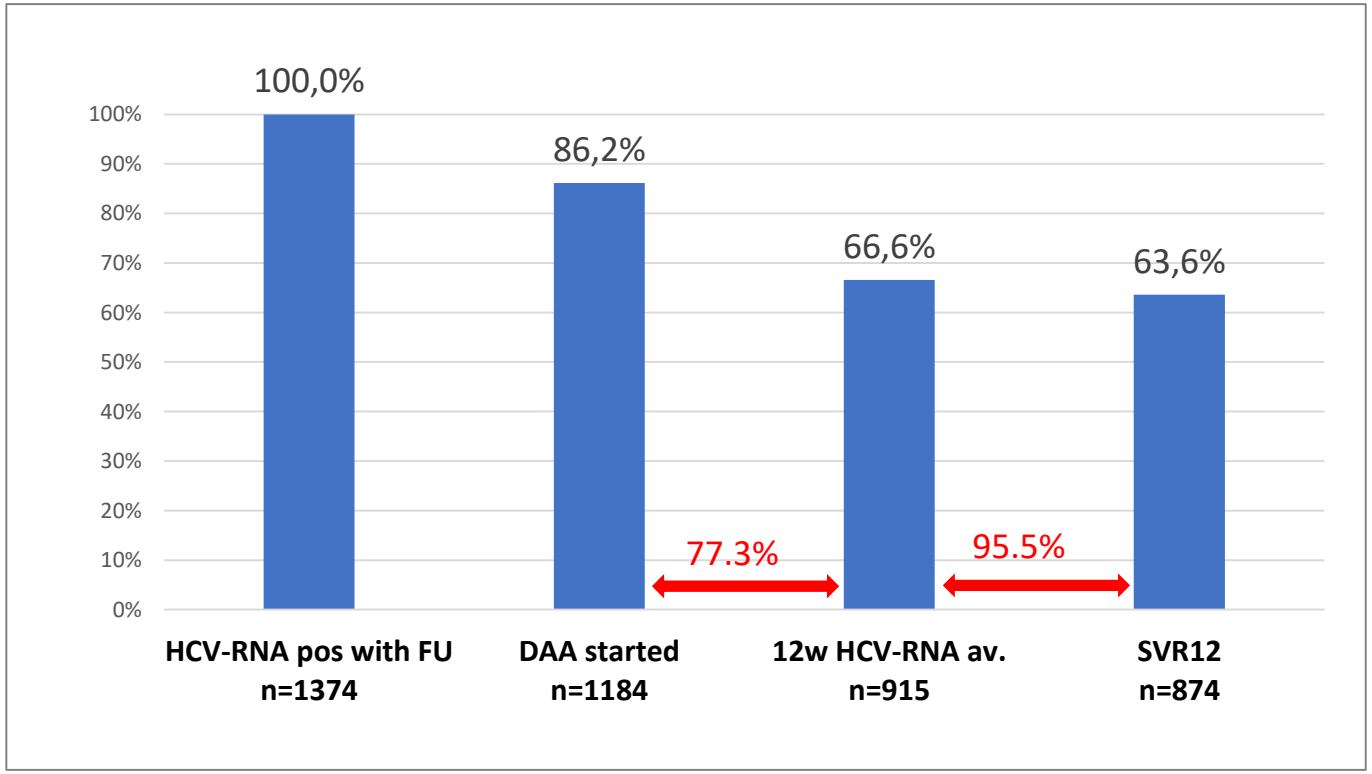
	OR	95%CI		p	aOR*	95%CI		p
Gender	0.93	0.45	1.93	0.844				
Mode of HIV Transmission								
Heterosexual	1.00				1.00			
IDU	0.97	0.37	2.57	0.952	0.70	0.25	1.96	0.500
MSM	7.43	0.86	64.50	0.069	8.14	0.93	70.84	0.058
Other/Unknown	0.40	0.12	1.36	0.142	0.32	0.09	1.13	0.076
Age, per 10 yrs increase	1.03	0.69	1.53	0.895				
Italian (vs. Non-italians)	0.38	0.14	1.01	0.052				
Year HIV infection, per 1 yr more	0.99	0.96	1.02	0.413				
HIV-RNA>50 copies/ml	1.39	0.33	5.90	0.656	1.41	0.32	6.22	0.646
CD4<200 cells/mmc	0.15	0.06	0.40	<0.001	0.18	0.06	0.52	**0.001**
FIB-4, per 1 more	0.89	0.80	0.99	0.031				
<1.45	1.00				1.00			
1.45-3.25	2.88	1.27	6.53	0.011	1.04	0.49	2.24	0.913
>3.25	3.75	1.59	8.85	0.003	0.46	0.19	1.11	0.085
Missing FIB4	4.30	0.53	34.96	0.172	1.03	0.13	8.20	0.976
HCV Genotype								
G1 or G4	1.00							
G2 or G3	1.00	0.48	2.09	0.996	1.09	0.52	2.29	0.820
Other/Multiple/Missing	0.73	0.17	3.20	0.679	0.89	0.19	4.06	0.879
Regimen								
GCV/PBV	1.00				1.00			
SOF/VEL	0.69	0.34	1.43	0.320	0.80	0.38	1.67	0.556
Other Regimen	0.41	0.13	1.35	0.143	0.46	0.14	1.56	0.213
Missing	0.45	0.05	3.73	0.457	0.43	0.05	3.76	0.448

***Set of Adjustments**

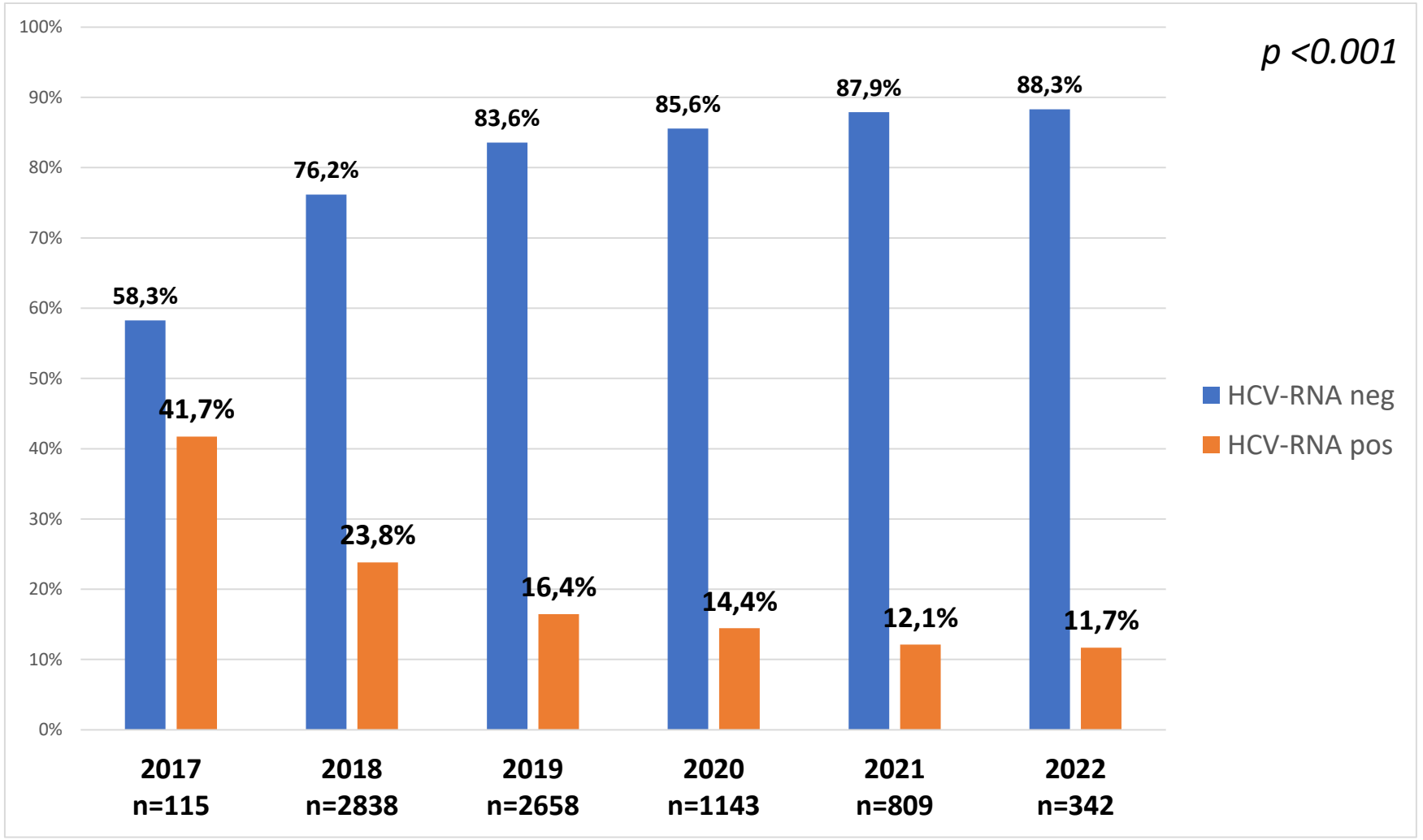
FIB4: VL < 50, cd4, hcv genotype, mode transmission
HCV-Genotype: mode transmission, year hiv infection
DAA regimen: VL < 50, fibrosis, hcv genotype, mode transmission
CD4: VL < 50, fibrosis, hcv genotype, mode transmission
HIV-RNA:cd4, fibrosis, hcv genotype, mode transmission
Mode of Transmission: year hiv infection

CASCADE of HCV care in the NoCo Study





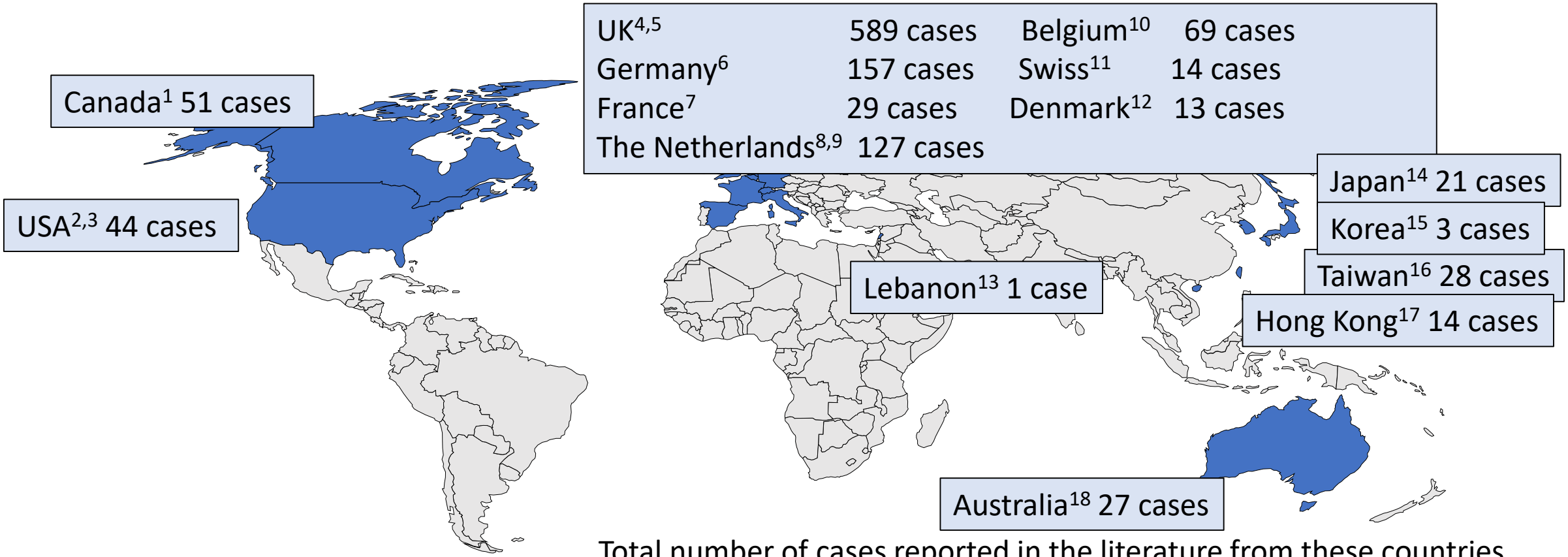
Active HCV infection according to calendar year of FU



Attualità della coinfezione HIV - virus epatitici

- Microeliminazione HCV inPLWH in Europa ed in Italia
- HCV come MST un ostacolo alla microeliminazione
- Anche in Italia ?: NoCo study
- HDV in HIV

Acute outbreaks of HCV have been reported in HIV+ MSM across the world



Total number of cases reported in the literature from these countries

1. Burchell AN, et al. Can J Infect Dis Med Microbiol 2015;26:17–22; 2. Luetkemeyer A, et al. J Acquir Immune Defic Syndr 2006;41:31–6; 3. Cox A, et al. Gastroenterology 2009;136:26–31; 4. Giraudon I, et al. Sex Transm Infect 2008;84:111–5; 5. Ruf M, et al. Euro Surveill 2008;13:1–3; 6. Vogel M, et al. Clin Infect Dis 2009;49:317–8; 7. Gambotti L, et al. Euro Surveill 2005;10:115–7; 8. Urbanus A, et al. AIDS 2009;23:F1–F7; 9. Arends JE, et al. Neth J Med 2011;69:43–9; 10. Bottieau E, et al. Euro Surveill 2010;15:1–8; 11. Rauch A, et al. Clin Infect Dis 2005;41:395–402; 12. Barfod TS et al. Scand J Infect Dis. 2011;43:145–8; 13. Dionne-Odom J, et al. Lancet Infect Dis 2009;9:775–83; 14. Nishijima T, et al. J Acquir Immune Defic Sundr 2014;65:213–7; 15. Lee S, et al. Korean J Intern Med 2016; doi: 10.3904/kjim.2015.353; 16. Sun YH, et al. J Clin Microbiol 2012;50:781–7; 17. Lin AWC, et al. J Int AIDS Soc 2014;17:19663;

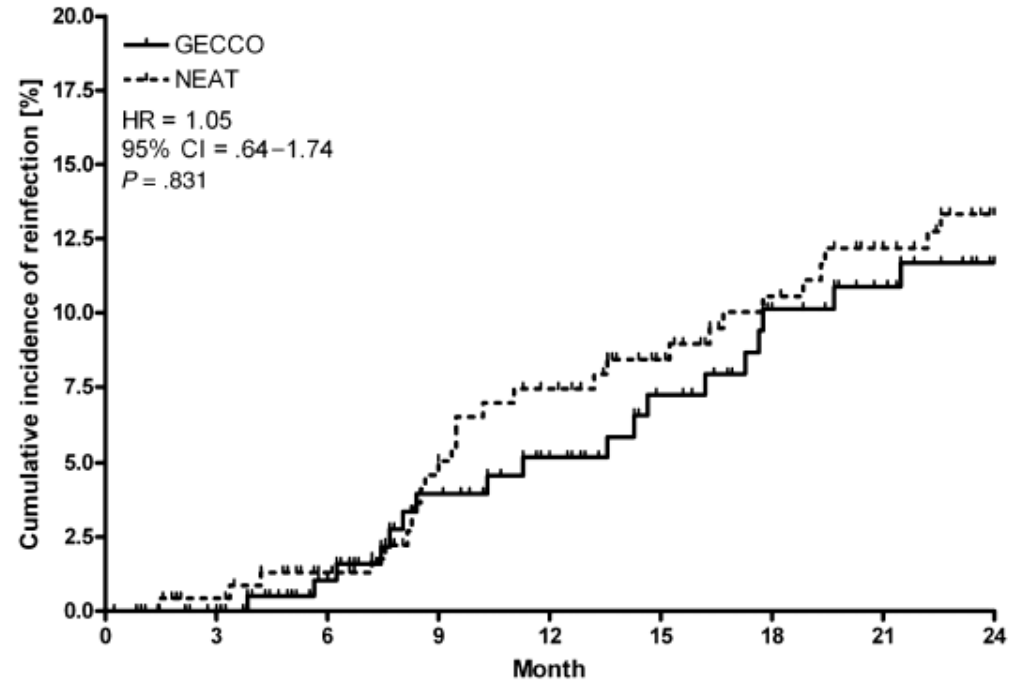
Clinical Infectious Diseases

MAJOR ARTICLE

Reinfection With the Hepatitis C Virus in Men Who Have Sex With Men After Successful Treatment With Direct-acting Antivirals in Germany: Current Incidence Rates, Compared With Rates During the Interferon Era

Patrick Ingiliz,[1,2,a] Malte H. Wehmeyer,[3,a] Christoph Boesecke,[4,5,6] Julian Schulze zur Wiesch,[3,5] Knud Schewe,[7] Thomas Lutz,[8] Axel Baumgarten,[1] Karl-Georg Simon,[9] Dietrich Hueppe,[10] Juergen K. Rockstroh,[4,5,6] Stefan Mauss,[11] and Stefan Christensen,[12,13]; for the European AIDS Treatment Network (NEAT) Study Group; German Hepatitis C Cohort (GECCO) Study Group

[1]Center for Infectiology, Berlin, Germany, [2]Department of Gastroenterology and Hepatology, Charité University Medical Center, Berlin, Germany, [3]Medical Department, University Medical Center Hamburg-Eppendorf, Hamburg, Germany, [4]Department of Medicine I, University Hospital Bonn, Bonn, Germany, [5]German Centre for Infection Research, Partner Site Cologne-Bonn, Bonn, Germany, [6]Infectious Diseases, European Acquired Immunodeficiency Syndrome Treatment Network, Brussels, Belgium, [7]Infectiology Center Hamburg Study Center, Hamburg, Germany, [8]Infektiologikum, Frankfurt, Germany, [9]Practice for Gastroenterology Leverkusen, Leverkusen, Germany, [10]Practice for Gastroenterology Herne, Herne, Germany, [11]Center for Human Immunodeficiency Virus and Hepatogastroenterology, Duesseldorf, Germany, [12] Infectious Diseases, Center for Interdisciplinary Medicine, Muenster, Germany, and [13]Department of Gastroenterology and Hepatology, Muenster University Hospital, Muenster, Germany

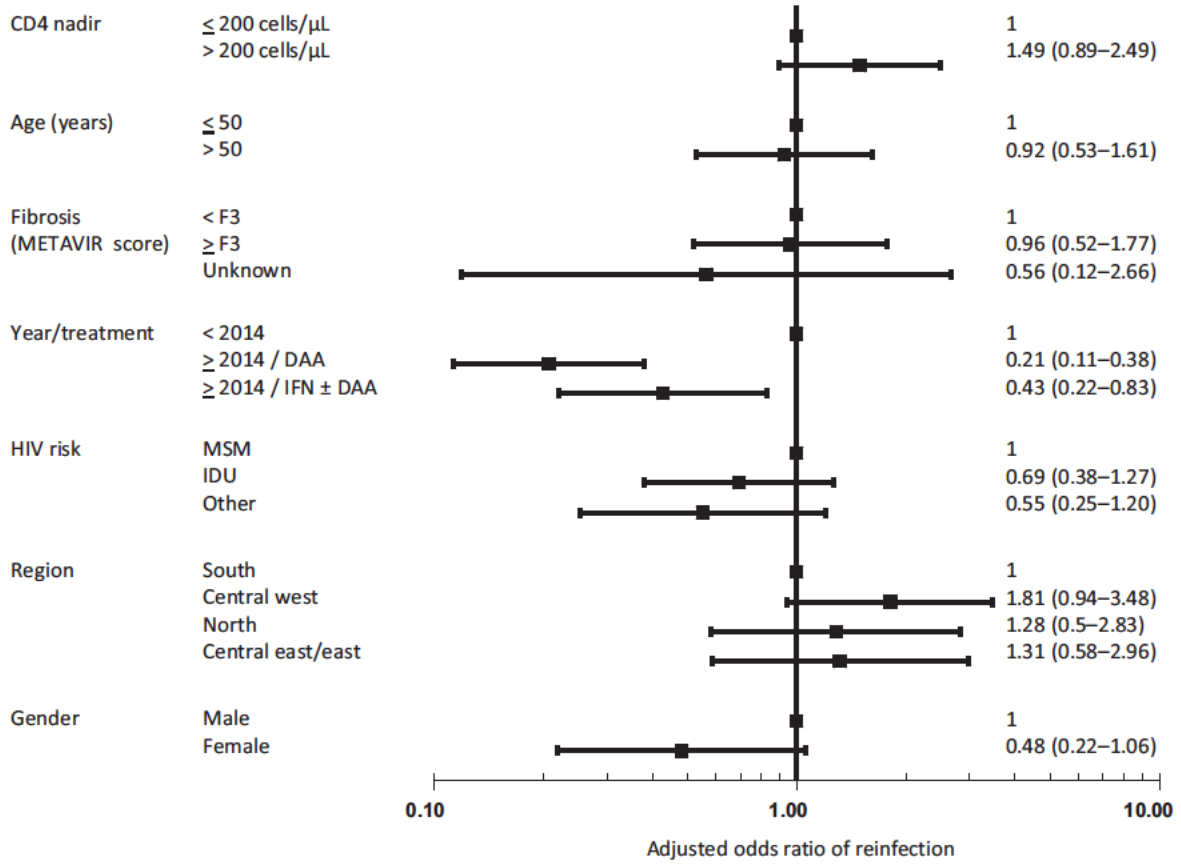


Patients at risk:

GECCO	216	207	183	161	149	135	122	114	101
NEAT	236	231	219	202	193	178	167	158	147

HCV reinfection after HCV therapy among HIV/HCV-coinfected individuals in Europe

- Factors associated with odds of reinfection by 2 years after SVR in EuroSIDA participants with one or more HCV-RNA test and 2 years follow-up
- 1022 individuals were included. injection drug users (52%),
- By 24 months, 75, 7.3%,[95% confidence interval (CI): 5.7–8.9%] individuals were reinfected



Amele S et al HIV Medicine. 2022;23:684–692.

Reinfection rate of hepatitis C in HIV-1 positive men who have sex with men: A systematic review and meta-analysis

- Sixteen studies with 9,017person-years (PY) follow-up were included.
- The overall HCV reinfection rate following successful treatment among HIV-1-infected MSM was 5.27/100 PY (95% CI, 3.98, 6.96).

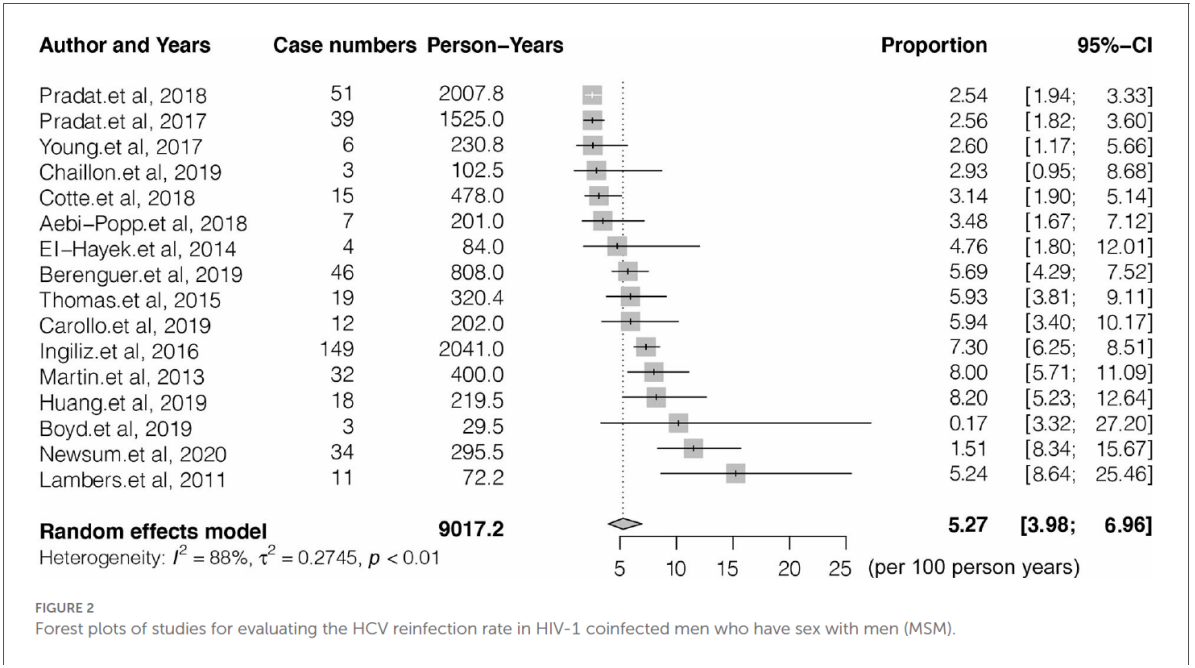


FIGURE 2
Forest plots of studies for evaluating the HCV reinfection rate in HIV-1 coinfected men who have sex with men (MSM).

Subgroup	Studies numbers	Rate (95% CI), per 100 PY	I^2	Model	p-value of heterogeneity	p-value between subgroups
Study era						
Europe	10	5.28 (3.73, 6.84)	84%	Random	<0.01	0.08
North America	3	3.92 (1.67, 6.17)	68%	Random	0.04	
Oceania	2	7.03 (5.49, 8.57)	11%	Fixed	0.29	
Asia	1	8.20 (4.57, 11.83)	NA	NA	NA	
Study design						
Prospective	9	5.92 (3.80, 8.04)	90%	Random	<0.01	0.45
Retrospective	7	4.94 (3.08, 6.80)	79%	Random	<0.01	
Publication type						
Journal article	10	5.62 (3.61, 7.63)	91%	Random	<0.01	0.53
Others	6	4.81 (3.30, 6.33)	61%	Random	0.02	
Setting						
Multi-center	11	5.08 (3.43, 6.73)	90%	Random	<0.01	0.59
Single-center	5	5.96 (4.81, 7.11)	0%	Fixed	0.77	
Start point						
End of treatment	4	8.73 (4.21, 13.26)	83%	Random	<0.01	0.05
SVR12/24	10	4.55 (2.99, 5.91)	87%	Random	<0.01	
Test interval						
<6 months	8	7.59 (5.15, 10.03)	92%	Random	<0.01	<0.01
≥ 6 months	7	2.88 (2.26, 3.50)	0	fixed	0.53	
HCV medication						
DAAs	5	3.32 (2.24, 4.88)	66%	Random	0.02	<0.01
Peg-interferon and ribavirin	6	7.76 (5.77, 10.37)	72%	Random	<0.01	
Interferon + DAAs	3	3.98 (2.05, 7.56)	89%	Random	<0.01	
Risk level						
High risk	7	5.44 (3.41, 7.47)	81%	Random	<0.01	0.05
Moderate risk	6	4.50 (2.04, 6.96)	84%	Random	<0.01	
Low risk	3	7.41 (6.33, 8.48)	0	Fixed	0.79	

Wang Z et al. Front. Public Health 10:855989. doi: 10.3389/fpubh.2022.855989

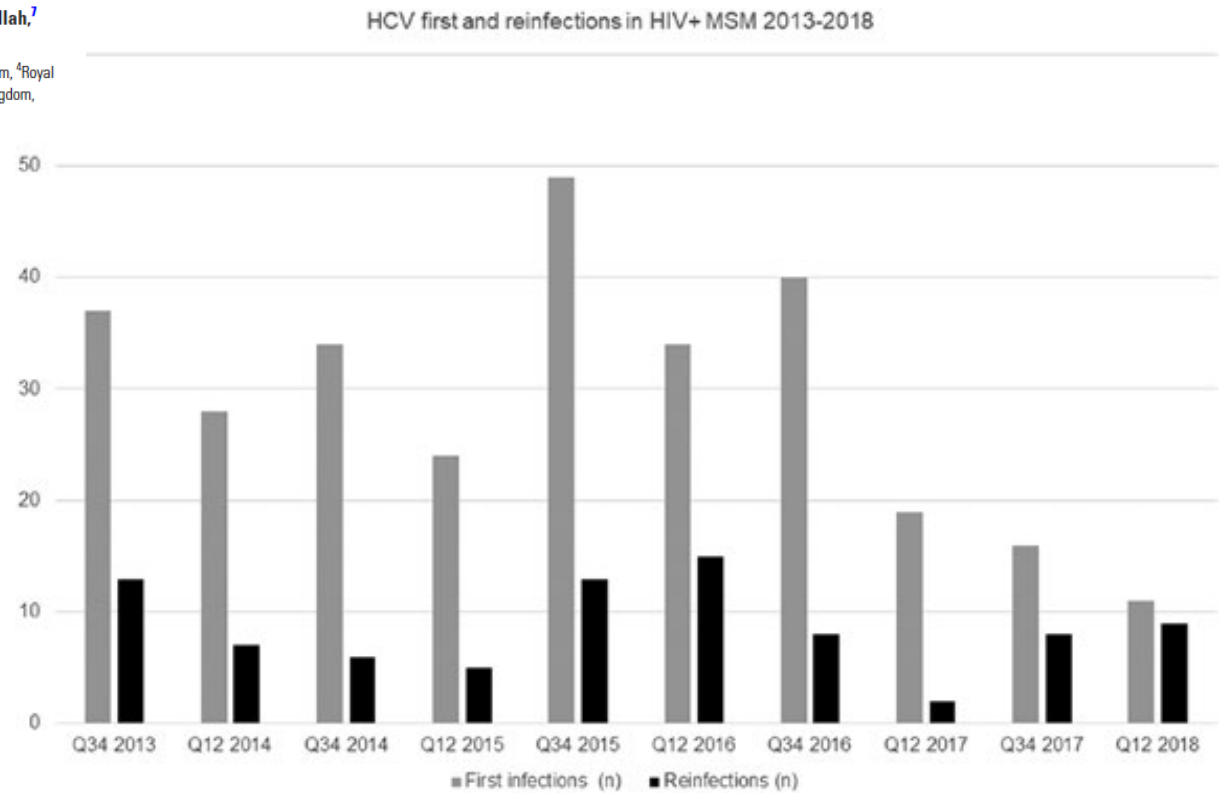
Clinical Infectious Diseases

MAJOR ARTICLE

Decline in Hepatitis C Virus (HCV) Incidence in Men Who Have Sex With Men Living With Human Immunodeficiency Virus: Progress to HCV Microelimination in the United Kingdom?

Lucy J. Garvey,[1,©] Graham S Cooke,[1,2] Colette Smith,[3] Christoph Stingone,[4] Indrajit Ghosh,[5] Subathira Dakshina,[5] Lakshmi Jain,[5] Laura J Waters,[5] Tabitha Mahungu,[4] Filippo Ferro,[4] Chandni Sood,[1] Carolyn Freeman,[1] Clare Phillips,[6] Rageshri Dhairyawan,[7] Ruth Burholt,[6] Harriet Sharp,[6] Sadna Ullah,[7] Yvonne Gilleece,[6] Ashley Brown,[1] Chloe Orkin,[7,8] Alison Rodger,[3,4] and Sanjay Bhagani[4]; on behalf of the BHIVA Microelimination Group

[1]St Mary's Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom, [2]Imperial College, London, United Kingdom, [3]Institute for Global Health, UCL, London, United Kingdom, [4]Royal Free Hospital NHS Trust, London, United Kingdom, [5]Mortimer Market Centre, CNWL NHS Trust, London, United Kingdom, [6]Brighton and Sussex University Hospitals NHS Trust, United Kingdom, [7]Barts Health NHS Trust, London, United Kingdom, and [8]Queen Mary University of London, London, United Kingdom



Decreasing prevalence and stagnating incidence of Hepatitis C-co- infection among a cohort of HIV-1- positive patients, with a majority of men who have sex with men, in Germany, 1996–2019

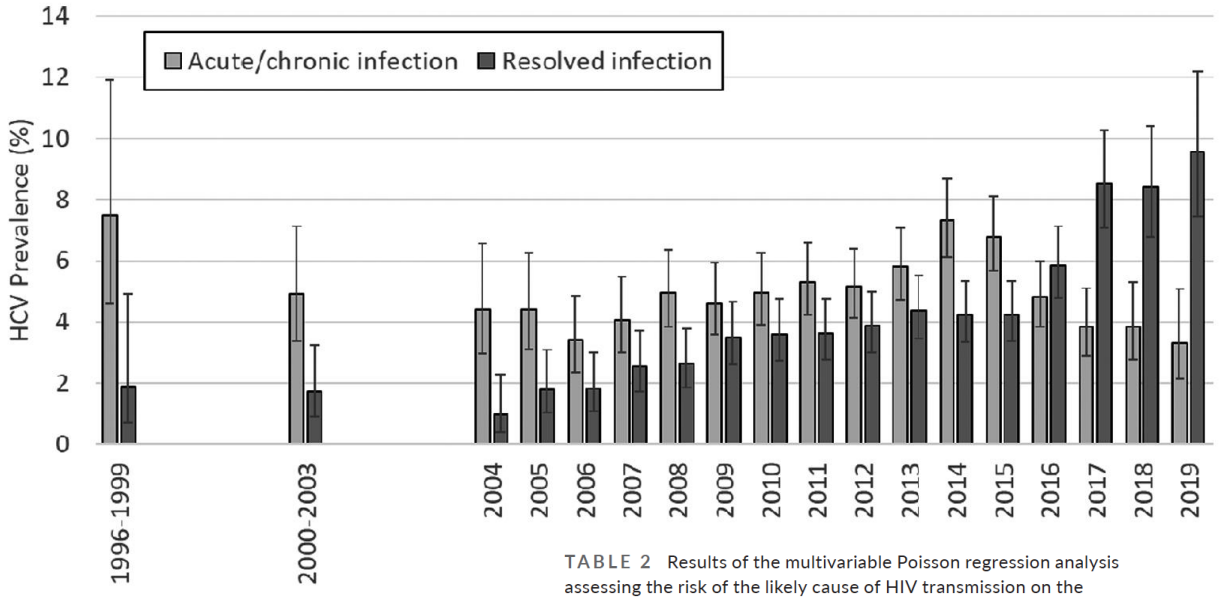


TABLE 2 Results of the multivariable Poisson regression analysis assessing the risk of the likely cause of HIV transmission on the prevalence of acute/chronic or resolved HCV infection, adjusted for age, sex and region of origin

Risk of HIV transmission	aRR	95% CI	*p*-value
MSM	Ref.		
Heterosexual	0.69	0.43–1.12	.134
High prevalence country	–		
IDU	**8.22**	**6.48–10.43**	**<.001**
Occupational risk	0.77	0.12–4.98	.780
Unknown	0.48	0.16–1.46	.194

Abbreviations: aRR, adjusted Risk Ratio; CI, Confidence Interval; IDU, Injecting Drug Use; MSM, Men who have Sex with Men. The bold values were highlighted to indicate statistical significance.

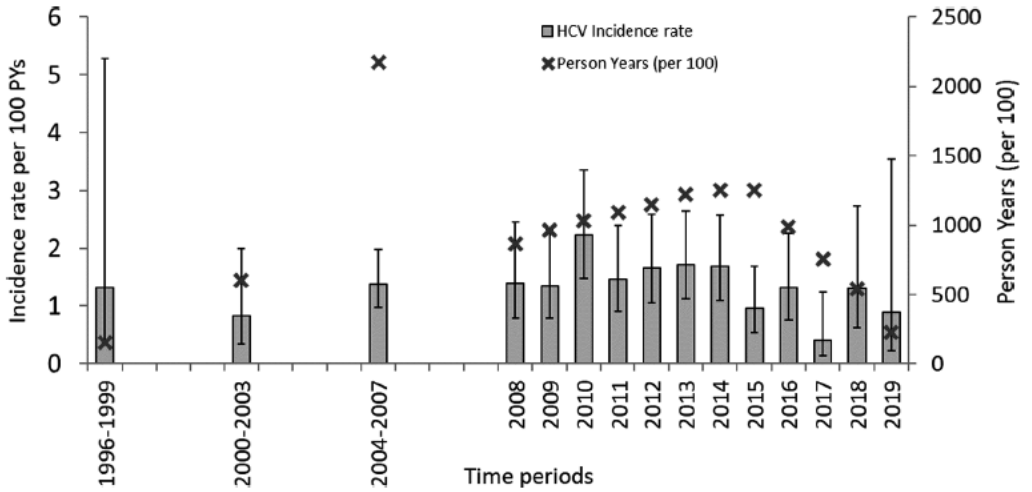


TABLE 3 Results of the multivariable binomial regression analysis assessing the risk of the likely cause of HIV transmission on the incidence of an HCV infection, adjusted for age, sex and region of origin

Risk of HIV transmission	aRR	95% CI	*p*-value
MSM	Ref.		
Heterosexual	0.17	0.04–0.78	.023
High prevalence country	–		
IDU	0.40	0.05–3.00	.369
Occupational risk	–		
Unknown	0.52	0.13–2.07	.351

Krings A et al J Viral Hepat. 2022;29:465–473.

Attualità della coinfezione HIV - virus epatitici

- Microeliminazione HCV in PLWH in Europa ed in Italia
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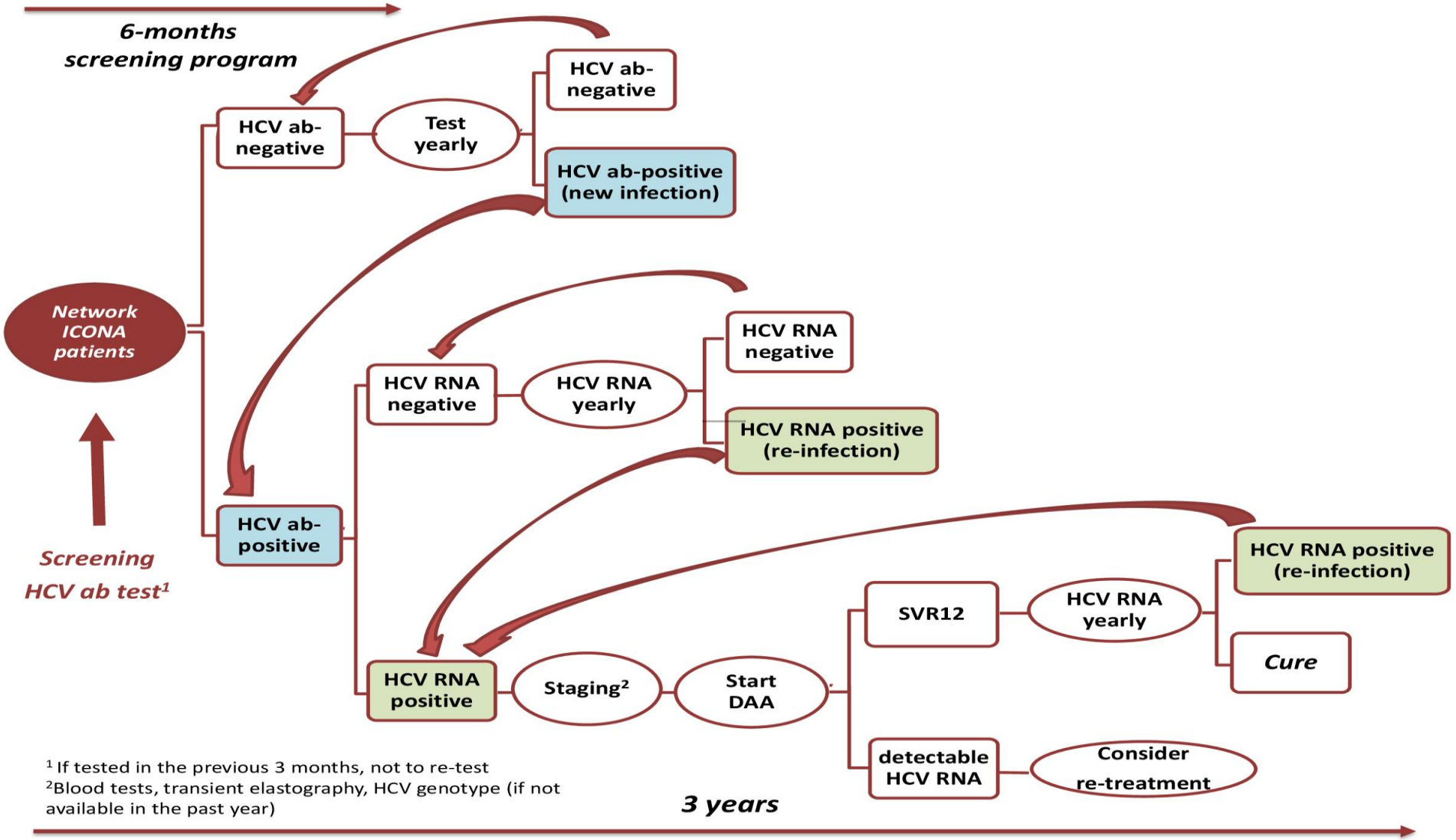
- Dopo l' SVR attenzione a MAFLD
- HDV in HIV

NoCo Project

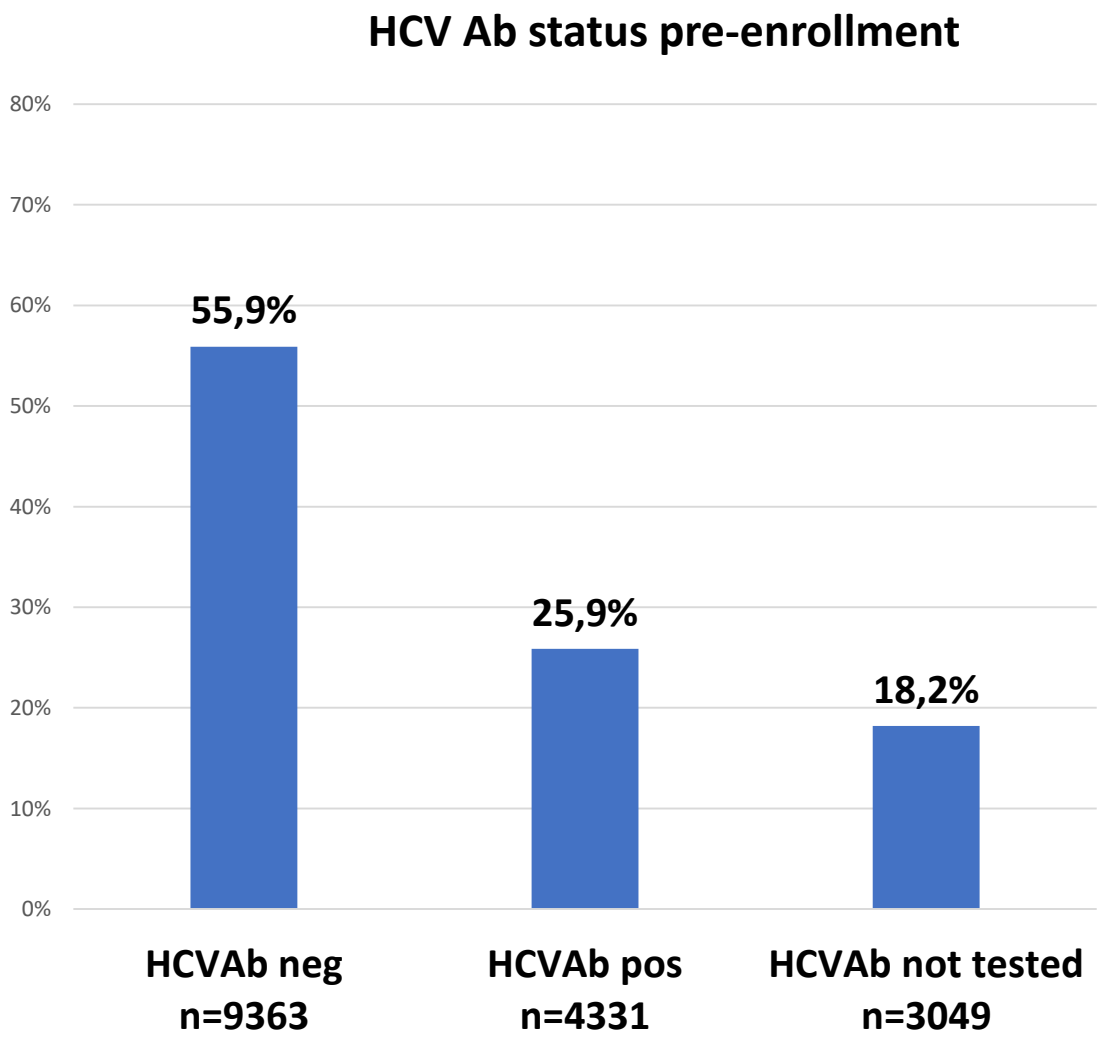
Conceived by Professor Mauro Moroni
Fondazione Icona

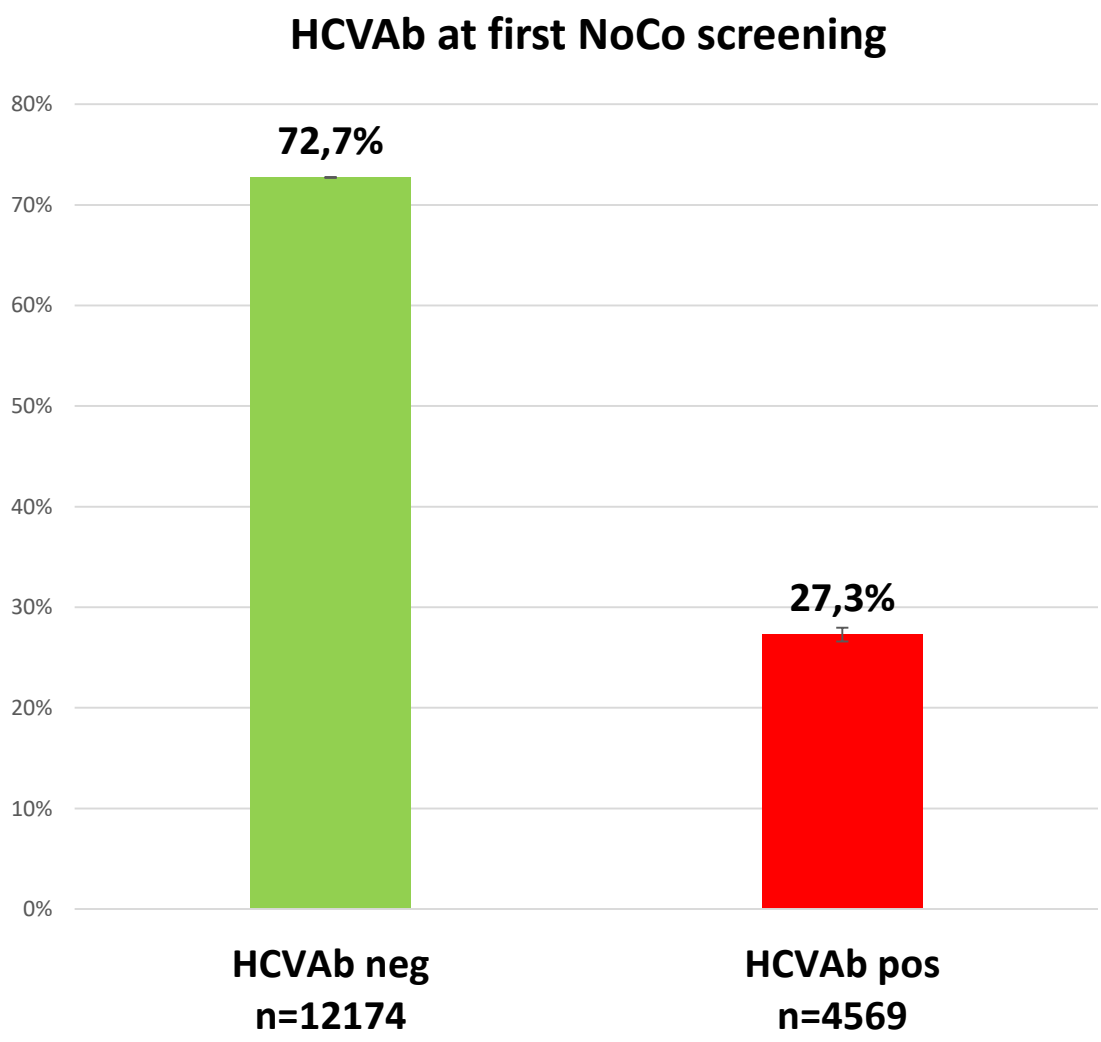


[1] If tested in the previous 3 months, not to re-test
[2] Blood tests, transient elastography, HCV genotype (if not available in the past year)

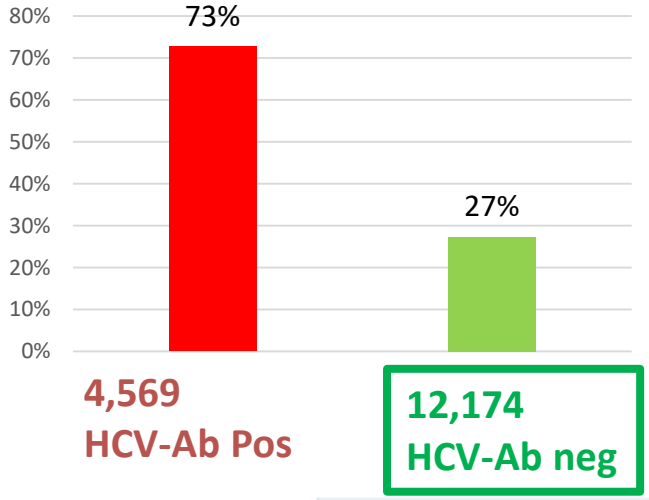
Conceived by Professor Mauro Moroni
Fondazione Icona

NoCo Study: HCV Ab at baseline in 16,743 PLWH





HCV seroconversions during NoCo Study: Incidence and KM probabilities

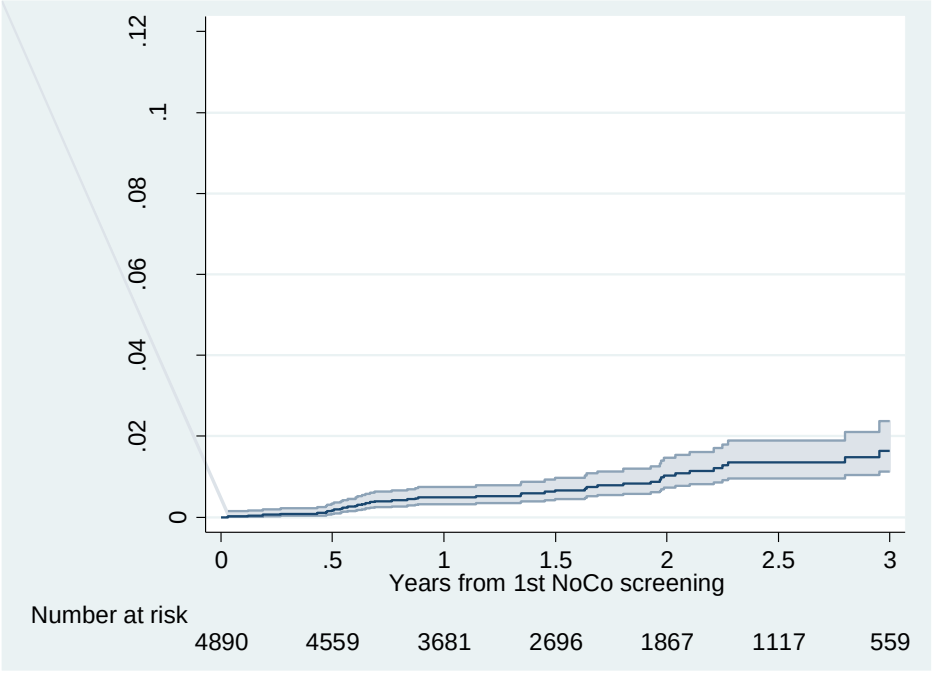


4890 HCV-Ab neg PLWH with at least a 2nd screening (40.2%)

Median FU (IQR) = 1.64 yrs (1.00-2.43)

42 HCV seroconversions (0.86%)

Incidence Rate: 0.48 x 100 PYFU (95% CI: 0.36-0.65)



KM estimated probability of HCV SC:

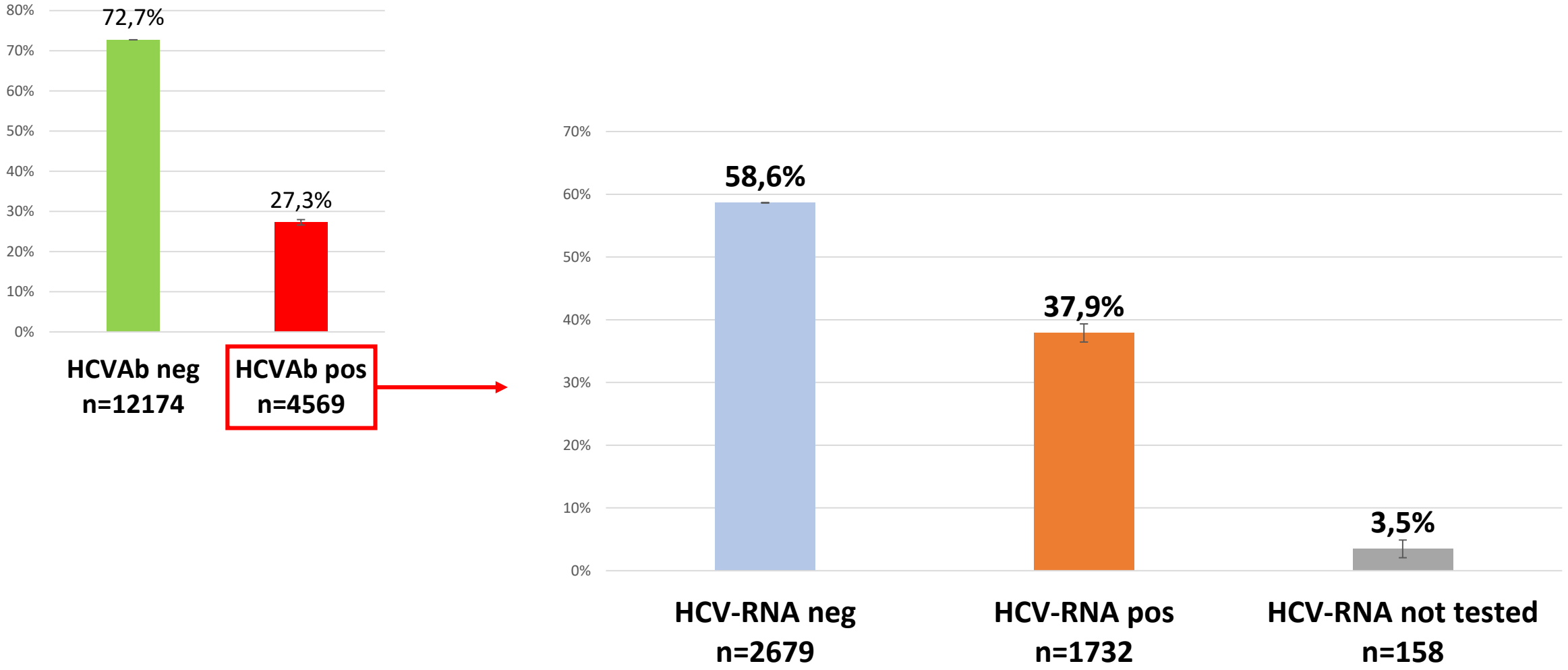
- 1-yr: 0.5% (0.3-0.7)
- 2-yr: 1.0% (0.7-1.5)

Predictors of HCV seroconversions during NoCo Study using a Poisson regression model

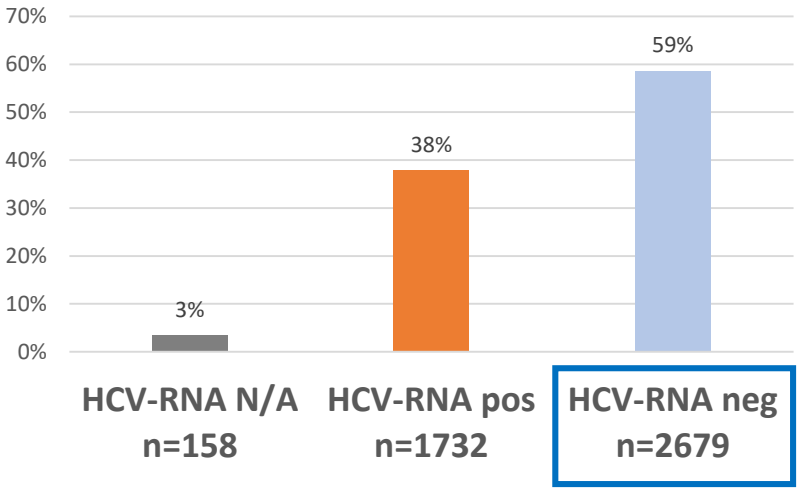
Conceived by Professor Mauro Moroni
Fondazione Icona

	IRR	95%CI		p	aIRR	95%CI		p
Gender M (vs.F)	1.45	0.57	3.68	0.438	1.06	0.35	3.26	0.917
Mode of HIV Transmission								
Heterosexual	1.00				1.00			
IDU	1.06	0.14	8.13	0.957	1.20	0.15	9.49	0.86
MSM	1.63	0.82	3.21	0.161	1.63	0.72	3.69	0.245
Other/Unknown	0.89	0.20	3.96	0.875	0.93	0.20	4.23	0.920
Age, per 10 yrs increase	0.85	0.65	1.12	0.249	1.02	0.76	1.37	0.913
Italian (vs. Non-italians)	1.52	0.76	3.02	0.233	1.62	0.78	3.38	0.197
Years from HIV Diagnosis, per 10 yrs less	1.75	1.00	3.07	0.048	1.65	0.90	3.00	0.103

Active HCV infection – First NoCo screening



HCV Reinfections during NoCo Study: Incidence and KM probabilities

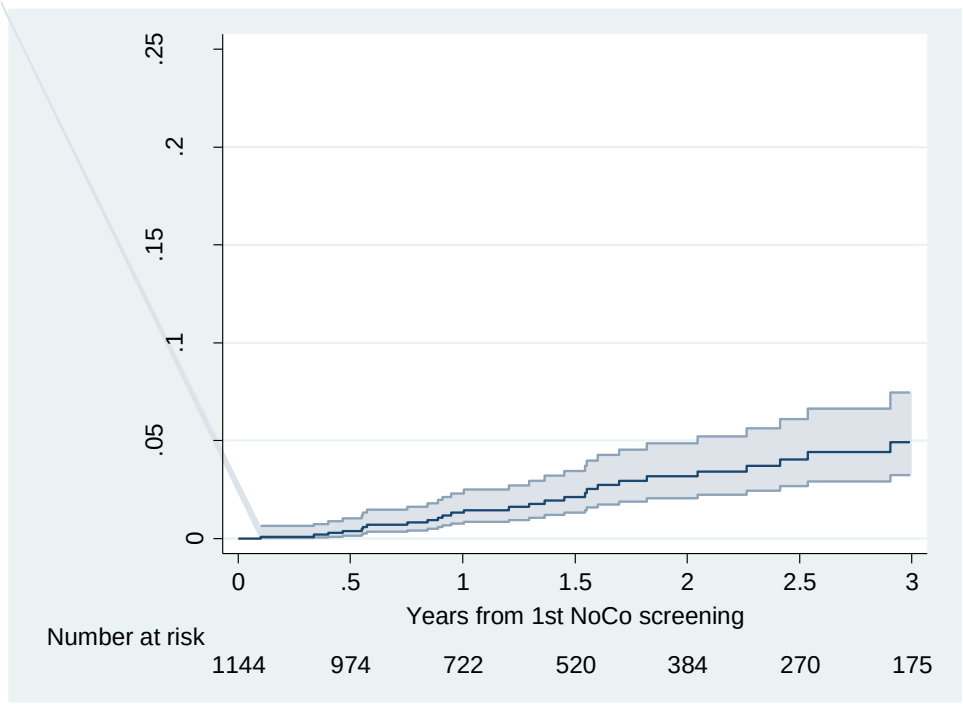


1,144 HCV-RNA neg with at least a 2nd HCV RNA test (42.7%)

Median FU(IQR)= 1.3 yrs (0.7-2.4)

38 /1,144 (3.3%) PLWH turned HCV-RNA pos

- **10 relapses after DAA**
- **<u>28 confirmed HCV-reinfections</u>**



<u>KM estimated probability of HCV SC:</u>

- 1-yr: 1.3% (0.7-2.3)
- 2-yr: 3.2% (2.0-4.8)

Predictors of HCV reinfections during NoCo Study using a Poisson regression model

	IRR	95%CI		p	aIRR	95%CI		p
Gender M (vs.F)	1.62	0.56	4.68	0.369	1.59	0.51	4.91	0.422
Mode of HIV Transmission								
Heterosexual	1.00				1.00			
IDU	1.26	0.29	5.47	0.754	1.24	0.28	5.52	0.78
MSM	3.11	0.65	14.97	0.157	1.73	0.32	9.46	0.526
Other/Unknown	1.81	0.25	12.84	0.554	1.81	0.25	12.95	0.553
Age, per 10 yrs increase	0.57	0.38	0.85	0.005	**0.60**	**0.38**	**0.95**	**0.029**

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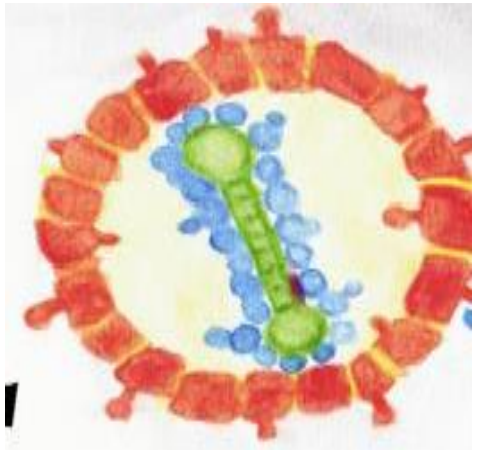
- HDV in HIV

Hepatitis D (delta) Virus



Calle Serrano et al, Semin Liver Dis. 2012
Lempp et al, Nat Rev. 2016

- The «Delta agent» was discovered in 1977 by Mario Rizzetto
- Defective virus that needs HBsAg for its propagation
- 10-20 million individuals are anti-HDV positive
- Causes the most severe form of chronic viral hepatitis

  More rapid progression to liver cirrhosis and liver cancer; 5-7x more likely to develop cirrhosis and HCC vs HBV

- Current standard anti-HDV therapy: NUC not effective, PegIFNα effective in only 20% of the patients (not EMA or FDA approved)
- New therapies are needed

Coinfezione da HDV in HIV+ HBsAg+

Prevalenza

Paese	Anno	N HBsAg+	N HDVAb+ (%)	95% CI	N HDVRNA+ (%)	95% CI
Francia	2010	308	24 (8%)	5–11	16 (73%)	**52–87**
Svizzera	2016	771	139 (18%)	15–21	73 (60%)	**51–68**
Multicentrico (EUROSIDA)	2011	422	61 (14%)	11–18	31 (82%)	**67–91**
Italia (Coorte ICONA)	**1997- 2015**	**518**	**115 (22%)**	**18-26**		

Storia Naturale

Autore /Paese	anno	Tipo do studio	Epatite Cronica Delta N	Gruppo di Controllo	Outcome	HDV vs Gruppo di Controllo
Soriano V et al/ Multicentrico Europeo	2011	Longitudinale	61	361 HBsAg+ HDVAb-	Morte per epatopatia	AIRR 4.44 (95% CI 1.45-13.54)
Brancaccio et al / Italia	2022	Longitudinale	115	403 HBsAg+ HDVAb-	Evoluzione verso Cirrosi o Scompenso epatico o HCC o morte per epatopatia	AOR 1.67 (1.15-2.95)

Shen DT, et al. . J Viral Hepat. 2021 Jul;28(7):1057-1067; Soriano V. et al. AIDS. 2011 Oct 23;25(16):1987-92. Brancaccio G, et al . Pathog Glob Health. 2022 Mar 7:1-9. doi:.

Hepatitis delta infection among persons living with HIV in Europe

Table 1: Demographic and clinical characteristics of participants at ART initiation, by HDV status

	HDV-positive	HDV-negative	p-value
N (%)	237 (15.2%)	1319 (84.8%)	-
Cohort			
Eurosida	113 (47.7)	614 (46.6)	
SHCS	124 (52.3)	705 (53.4)	
Age, median (IQR)	33 [28, 37]	36 [30, 43]	<0.001
Female (%)	53 (22.4%)	243 (18.4%)	0.2
HIV transmission group (%)			<0.001
MSM	17 (7.2%)	681 (51.6%)	
PWID	182 (76.8%)	188 (14.3%)	
HET	32 (13.5%)	354 (26.8%)	
Other	3 (1.3%)	36 (2.7%)	
missing	3 (1.3%)	60 (4.5%)	
Geographical origin			<0.001
Africa	21 (8.9)	208 (15.8)	
Asia	2 (0.8)	59 (4.5)	
Europe	211 (89.0)	940 (71.3)	
Latin America	0 (0.0)	66 (5.0)	
North Africa and the Middle East	1 (0.4)	16 (1.2)	
missing	*2 (0.8)*	*30 (2.3)*	
HIV RNA in $\log_{10}$ cp/ml, median (IQR)	4.3 [3.0, 5.0]	4.4 [2.9, 5.1]	0.4
missing	8 (3.4%)	30 (2.3%)	
Prior AIDS (%)	71 (30.0%)	476 (36.1%)	0.08
CD4 count, cells/µl, median (IQR)	218 [113, 338]	240 [105, 365]	0.4
missing	2 (0.8%)	1 (0.1%)	
Median creatinine in µmol/L (IQR)	74.0 [65.7, 84.5]	79.0 [68.0, 90.0]	0.001
missing	46 (19.4%)	192 (14.6%)	
Median thrombocyte count in G/L (IQR)	147.5 [106.0, 202.5]	196.0 [153.8, 247.0]	<0.001
missing	13 (5.5%)	135 (10.2%)	
Median ALT in U/L (IQR)	50.0 [26.5, 89.0]	32.0 [19.0, 54.0]	<0.001
missing	38 (16.0%)	125 (9.5%)	
Anti-HCV Ab positive (%)	179 (75.5%)	321 (24.3%)	<0.001
Median HBV DNA (IQR)	0 [0, 1210]	207 [0, 75712]	0.002
missing	81 (34.0%)	391 (29.6%)	
HBV-DNA category (%)			0.01
HBV DNA <20 IU/ml	88 (37.1%)	427 (32.4%)	
HBV-DNA 20-2000 IU/ml	32 (13.5%)	174 (13.2%)	
HBV-DNA >2000 IU/ml	36 (14.2%)	327 (24.8%)	
missing	81 (34.2%)	391 (29.6%)	
HBV active ART at time of HBV DNA measurement (%)			
XTC	103 (43.5%)	711 (53.9%)	0.004
TDF	54 (22.8%)	322 (24.4%)	0.7
XTC+TDF	41 (17.3%)	275 (20.8%)	0.3

Abbreviations: HDV, hepatitis D virus; IQR, interquartile range; HIV, human immunodeficiency virus; MSM, men who have sex with men; PWID, persons who inject drugs; HET, heterosexual; AIDS, acquired immunodeficiency syndrom; ALT, alanine aminotransferase; HCV, hepatitis C virus; Ab: antibody; HBV, hepatitis B virus, XTC, lamivudine/emtricitabine; TDF, tenofovir disoproxil fumarate;

EUROSIDA + SHCS
43.000 PLHIV

2793 HBsAg+ (6,5%)

1556 (56%)
Tested for anti HDV

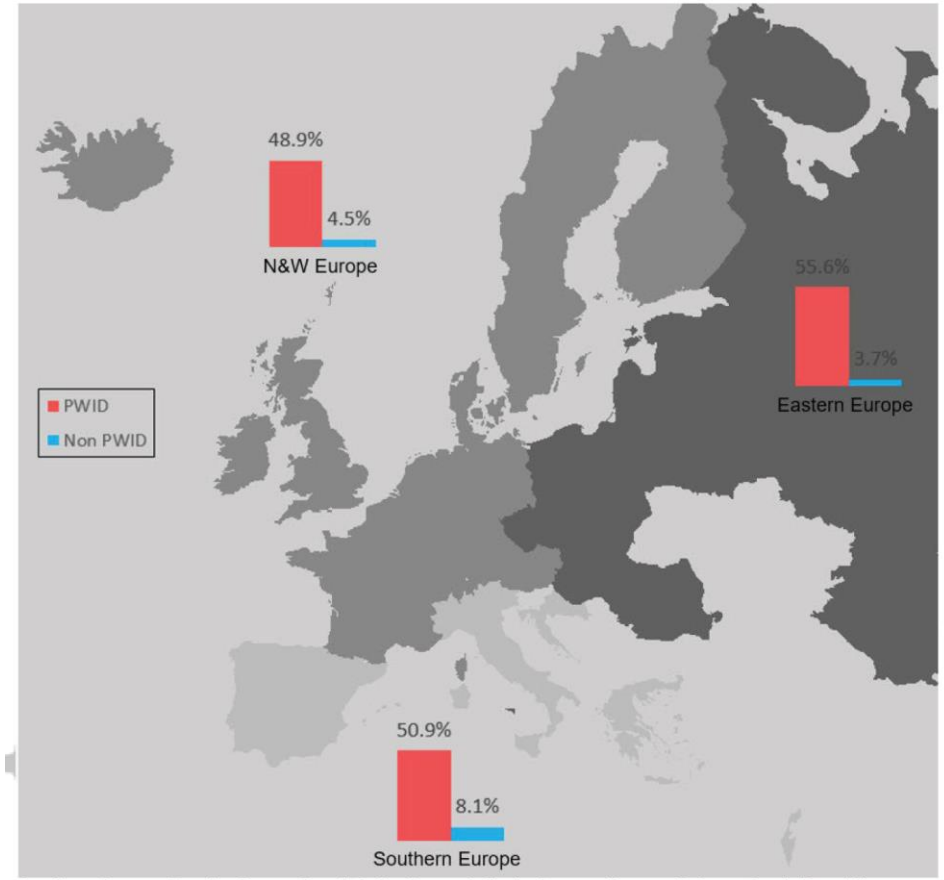
237/1556 HDVAb+
15,2% (95% CI 13.5%-17.1%)

200/237(84% tested for HDVRNA

132/200 (66%) HDVRNA+

HDVRNA+ 0,65%

Figure 1: Prevalence of HDV among PLWH across the different European regions and according to HIV transmission group

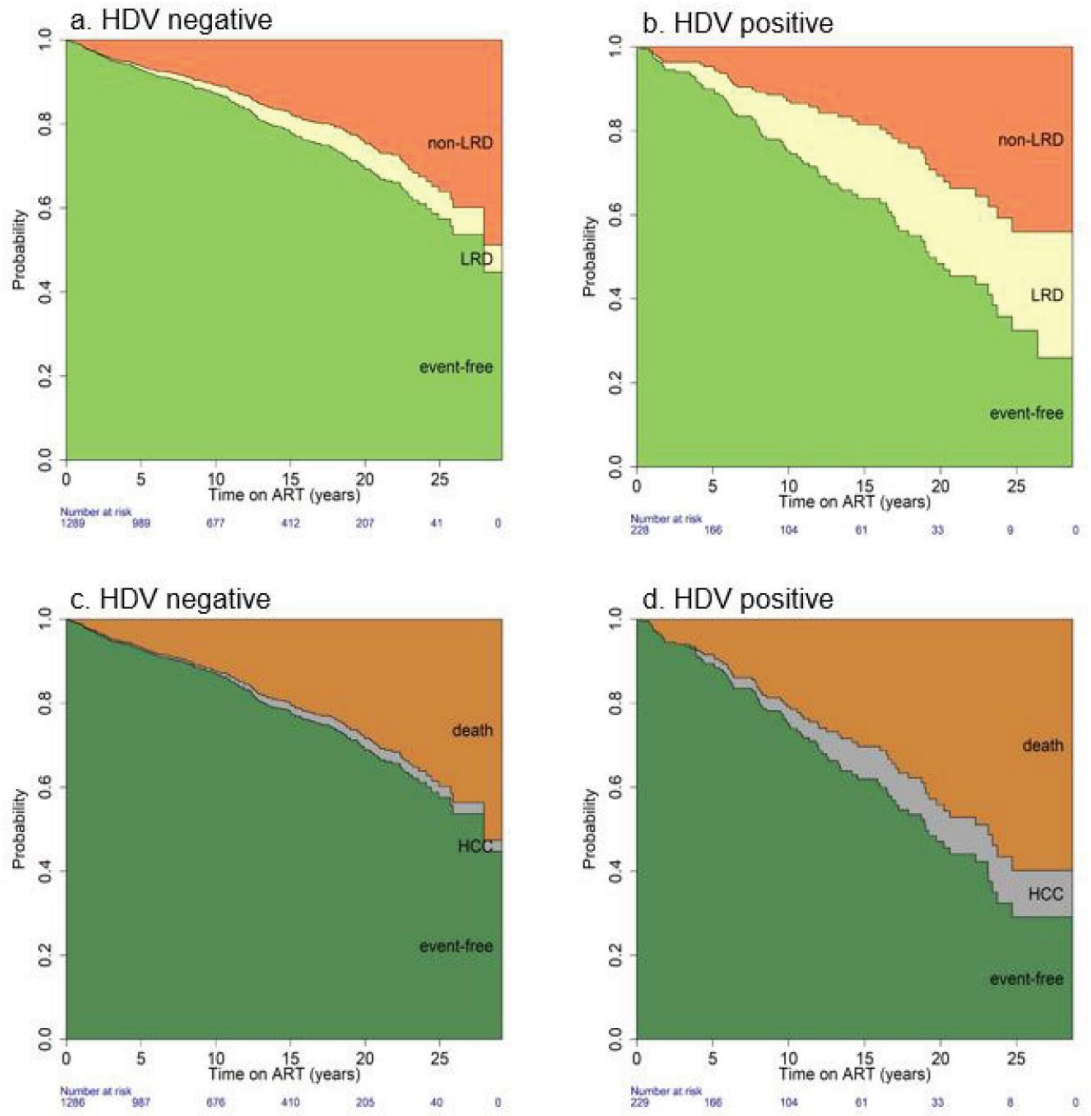


Southern Europe: Croatia, Greece, Israel, Italy, Portugal, Spain; Eastern Europe: Belarus, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Poland, Romania, Russian Federation, Slovakia; Northwestern Europe: Austria, Belgium, Switzerland, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Sweden, UK

Beguelin C et al in press

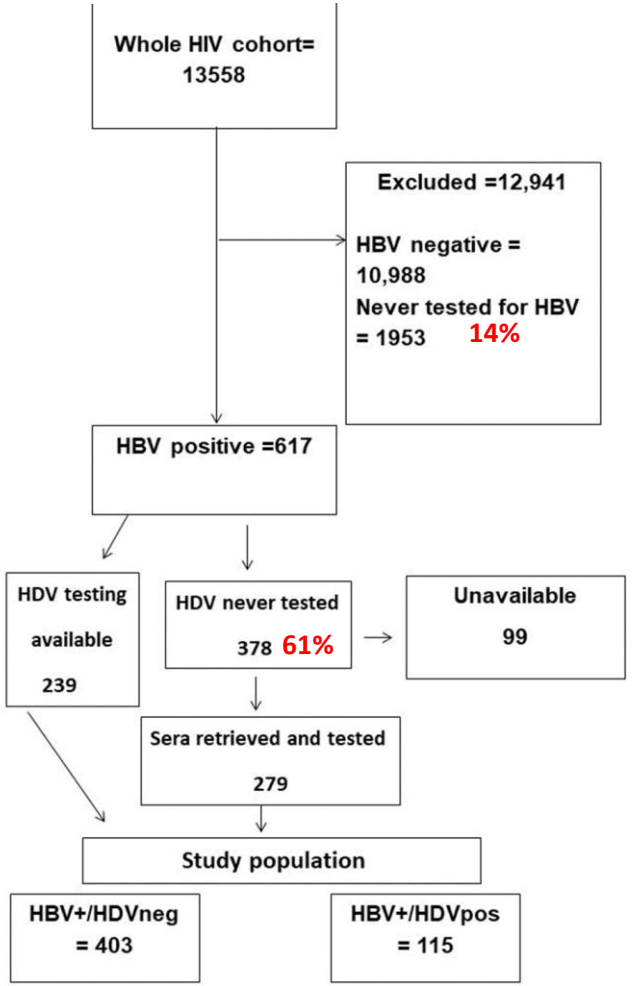
Hepatitis delta infection among persons living with HIV in Europe

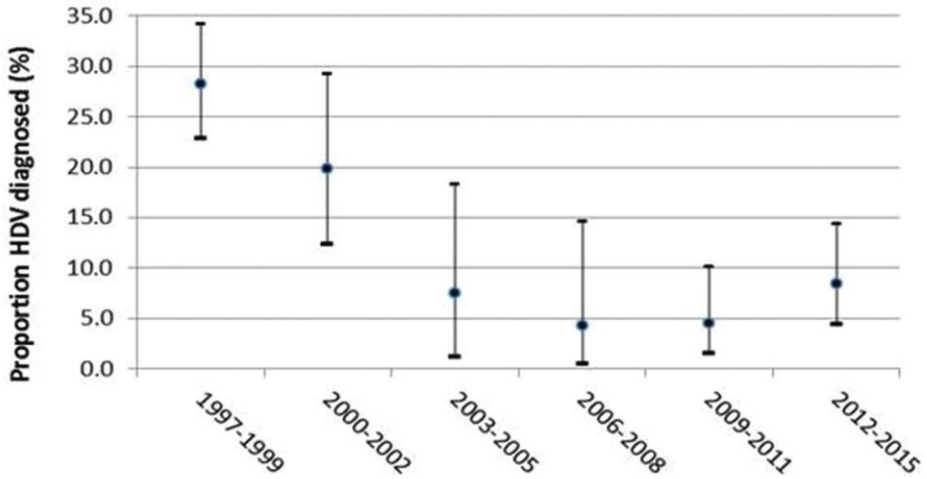
- During a median follow-up time of 10.8 years (IQR 5.6-17.8), 82 (34.6%) HDV-positive participants and 265 (20.1%) HDV-negative individuals died (logrank test, p<0.001,
- 41.5% (34/82) of the deaths were liver-related in HDV-positive individuals, compared to 17.7% (47/265) in HDV-negative individuals
- Fourteen (5.9%) HDV-positive individuals developed HCC compared to only 21 (1.6%) in those without HDV-coinfection
- 73% (52/63) of those who died, 84% (26/31) of those who died from liver-related death and 92% (12/13) of those who developed HCC had active HDV replication.
- In analyses comparing HDV RNA-positive individuals with the rest of the cohort (i.e., HDV negative and those HDV positive but with undetectable HDV RNA), the 10-year cumulative probability for both liver-related death (0.15, 95% CI 0.08-0.20) and HCC (0.06, 95% CI 0.01-0.11) were higher in HDV RNA-positive individuals.
- In multivariable analyses, active HDV replication was associated with
  - overall mortality (aHR 1.8, 1.3-2.5),
  - liver related death (aHR 3.1, 1.7-5.7)
  - and HCC occurrence (aHR 8.3, 3.0-22.7),
- Alive 50 HDVRNA + out of 100 → HDVRNA + alive 0,33% of the 2 cohorts



Beguelin C et al in press

Hepatitis delta coinfection in persons with HIV: misdiagnosis and disease burden in Italy





HDV diagnosis	73	19	4	2	5	12
All HBV positive	259	96	53	47	112	142

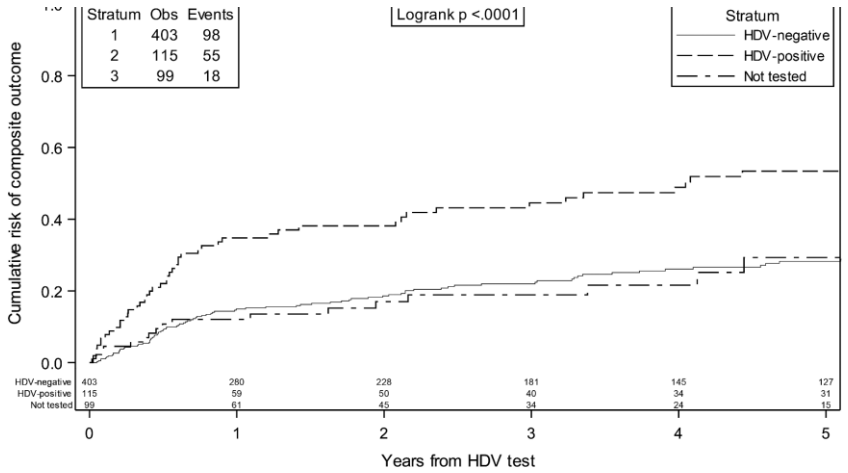


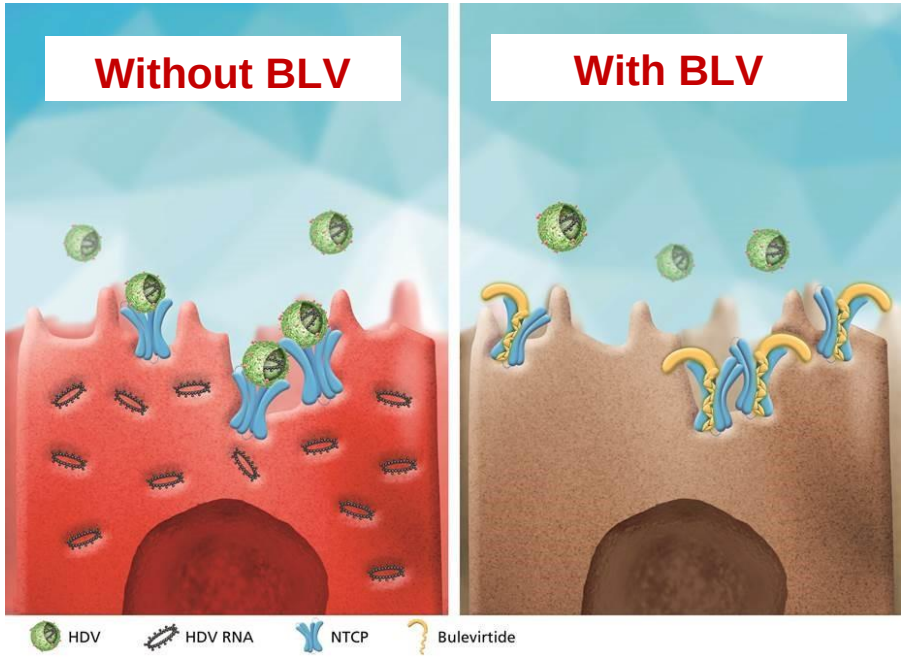
Table 2. Relative hazards of developing the Composite Clinical Outcome (CCO). Details are in result section.

	Unadjusted	Adjusted for baseline factors [1]	Adjusted for baseline factors and time varying use of IFN[2]
HDV –	1.00	1.00	1.00
HDV +	2.34 (1.68, 3.26)*	1.67 (1.15, 2.42)**	2.02 (1.39, 2.95)*
HDV unknown	0.95 (0.58, 1.58)	1.04 (0.64, 1.76)	0.81 (0.46, 1.45)

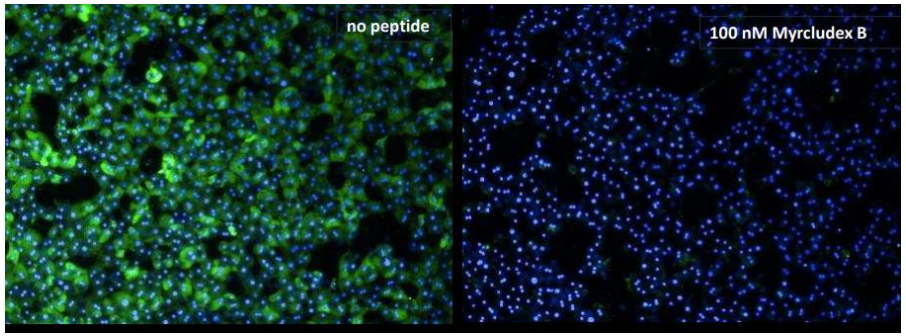
[1]Adjusted for geographical region, alcohol consumption, CD4 count, anti-HCV status, use of IFN-based therapy
[2]Adjusted for baseline factors plus use of IFN-based therapy post baseline and censoring using IPW
*P < 0.001. **P = 0.025

Brancaccio G et al Pathogens and Global Health, DOI: 10.1080/20477724.2022.2047551

Bulevirtide (BLV) (Myrcludex B) is the first-in-class entry inhibitor HEPCLUDEX® for Europe



with permission of MYR Pharmaceuticals



Immunofluorescence of HBsAg (green) and DAPI (blue) in HBV-infected PHHs at day 15 p.i.[1]

Mode of action:

- Synthetic lipopeptide (47 amino acids) derived from the preS1 domain of the HBV large surface protein
- Mechanism of action: entry inhibitor
- Cellular target (NTCP)
- BLV blocks NTCP, the entry receptor for HBV/HDV
- Hence, new infections are prevented
- Infected hepatocytes are replaced by naive cells, which will be protected from infection
- Consequently, viral spread in the liver is prevented

Administration:

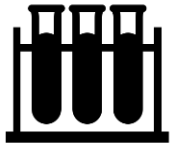
- Self administered s.c injections
- Every day

Approval:

- Conditional approval for 2 mg by EMA (July 20)
- Adults with compensated CHD

Modified from Urban S, Neumann-Haefelin C, Lampertico P. GUT 2021

Bulevirtide DDI



- **Clinically significant interactions with**

– Drugs that may decrease NTCP expression (victim; higher serum level lower intracellular exposure) → **co-administration should be avoided**

– **Efavirenz, Etravirine anti HIV PI and anti HIV combo containing Ritonavir and probably Cobicistat.**

– **Sulfasalazin, Irbesartan, Ezetimibe, Ketoconazole**

- **Close clinical monitoring or co-administration avoided with NTCP substrates (perpetrator; probably lower efficacy) :**

– **estrone-3-sulfate, fluvastatin, atorvastatin, pitavastatin, pravastatin, rosuvastatin, and thyroid hormones**

MYR GmbH. HEPCLUDEX▼ (bulevirtide), Summary of Product Chacteristics. October 2020. Hepatitis Drug Drug Interactions https://www.hep-druginteractions.org

Bulevirtide DDI

- 10 mg daily
  - inhibition of OATP1B1/3 transporters (perpetrator; higher exposure) close clinical monitoring warranted and when possible coadministration should be avoided
  - atorvastatin, bosentan,docetaxel, fexofenadine, glecaprevir, glyburide (glibenclamide), grazoprevir, nateglinide, paclitaxel, paritaprevir, pitavastatin, pravastatin, repaglinide, rosuvastatin, simeprevir, simvastatin, olmesartan, telmisartan, valsartan, voxilaprevir
  - modest inhibition CYP3A4 (perpetrators higher exposure)
    - Clinical monitoring for co-administered narrow-therapeutic-index drugs which are sensitive CYP3A4 substrates
      - **Cyclosporine, Carbamazepine, Fentanil, Oxycodone**, Simvastatin, **Sirolimus, Tacrolimus,** Amiodarone, Dronedarone, Dofetilide, Quinidine, Bedaquiline, Apixaban, Rivaroxaban, Glibenclamide, Repaglinide, Nateglinide,Astemizole, Ebastin, Ergotamine, Didroergonovine, Quinine, Aripiprazole, Pimozide, Midazolam, Paclitaxel, Sunitinib, Domperidone, Cisapride, Bosentan, Olmesartan, Valsartan, Telmisartan, **Phencyclidine (PCP), Carfentanil, GHB**, Colchicine, Ergometrine,
    - Non significant Drug Drug interactions and no clinical monitoring needed wih Doravirine Maraviroc and Rilpivirine

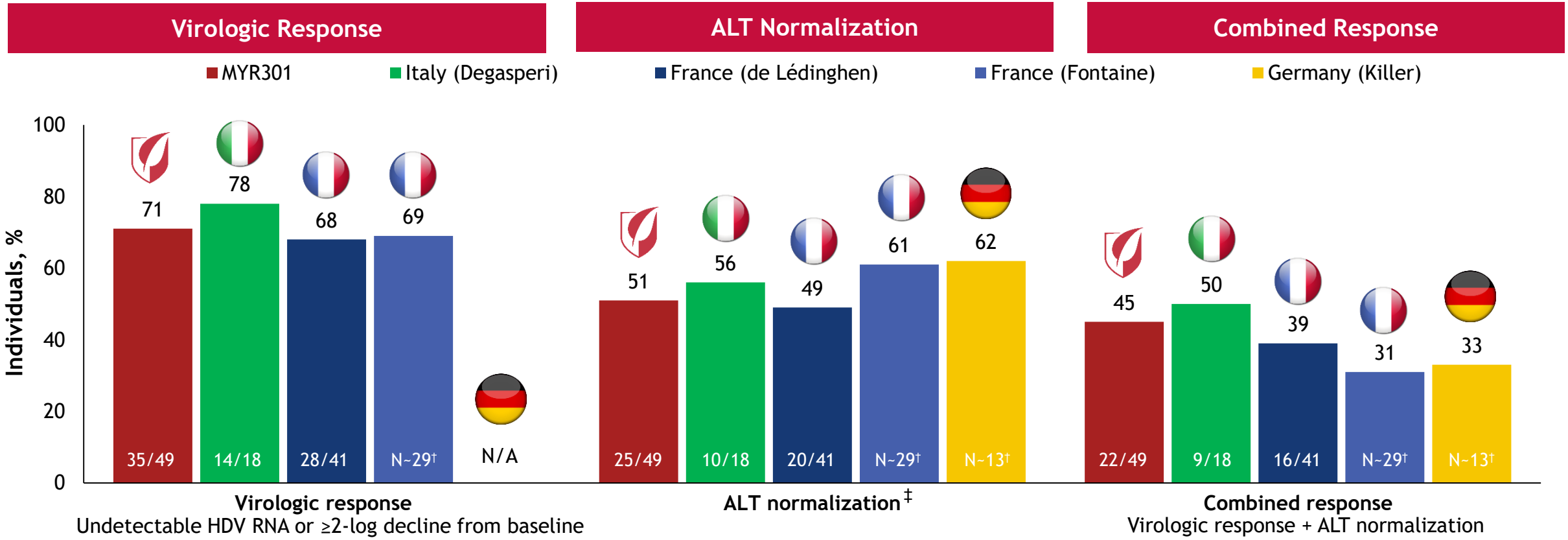
MYR GmbH. HEPCLUDEX▼ (bulevirtide), Summary of Product Chacteristics. October 2020. Hepatitis Drug Drug Interactions https://www.hep-druginteractions.org

Bulevirtide: DDI with Antiretrovirals

Viral hepatitis drugs		ATV/c	ATV/r	DRV/c	DRV/r	LPV/r	DOR	EFV	ETV	NVP	RPV	FTR	MVC	BIC	CAB oral	CAB/RPV	DTG	EVG/c	RAL	TAF	TDF
HDV	Bulevirtide	↑	↑	↑	↑	↑	E	↑	↑	↔	E	↔	E	↔	↔	E	↔	↑	↔	↔	↔

https://www.hep-druginteractions.org

BLV 2 mg monotherapy in CHD: efficacy at week 48 MYR301 and RWD Sets



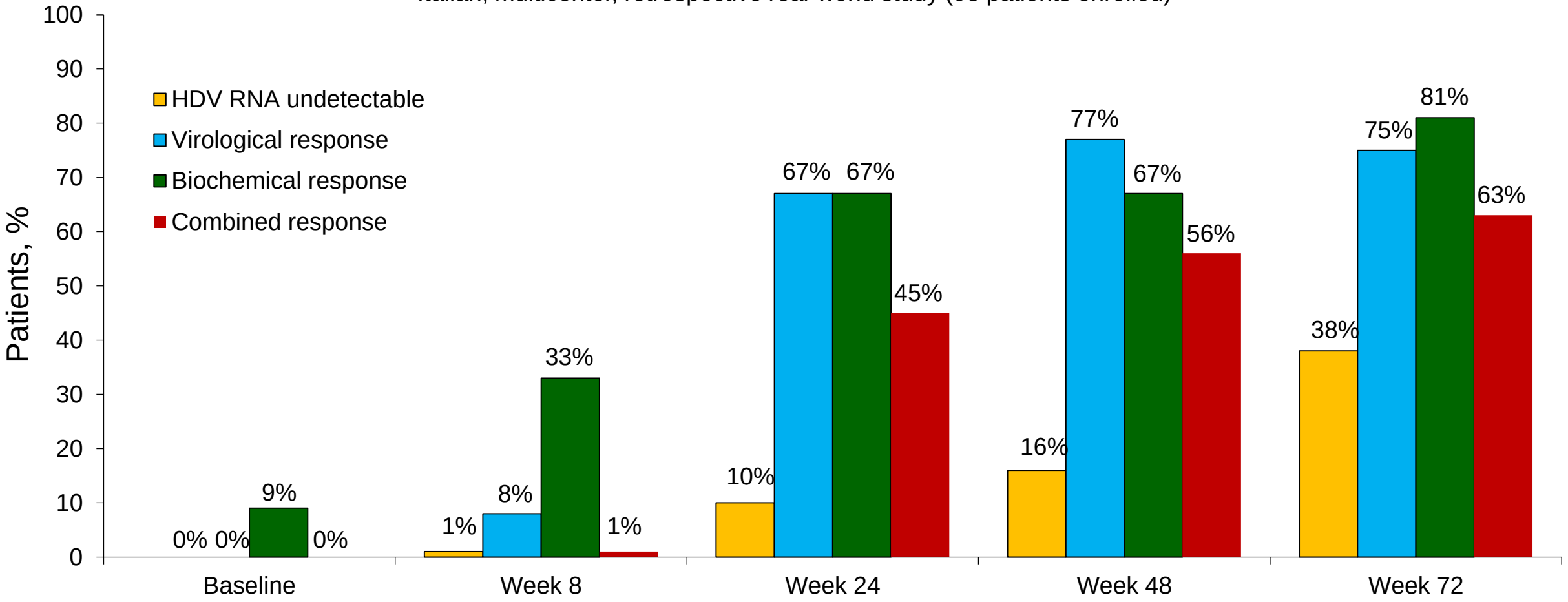
Week 48 RWD support the efficacy of BLV 2 mg observed in MYR301

*NOT HEAD-TO-HEAD COMPARISONS. †n/N are not provided/unclear in the source document; ‡See slide notes for ALT cutoff values. BLV, bulevirtide; RWD, real-world data.

1) . Wedemeyer H, et al. EASL 2022. Oral #GS006; 2. Degasperi A, et al. EASL 2022. Poster #SAT429; 3. de Lédinghen V, et al. AASLD 2021. Oral #21; 4. Fontaine H, et al. EASL 2022. Oral #OS093; 5. Killer A, et al. EASL 2022. Poster #SAT345

Extension of BLV 2 mg monotherapy up to 72 weeks in patients with compensated CHD-related cirrhosis (HEP4Di)

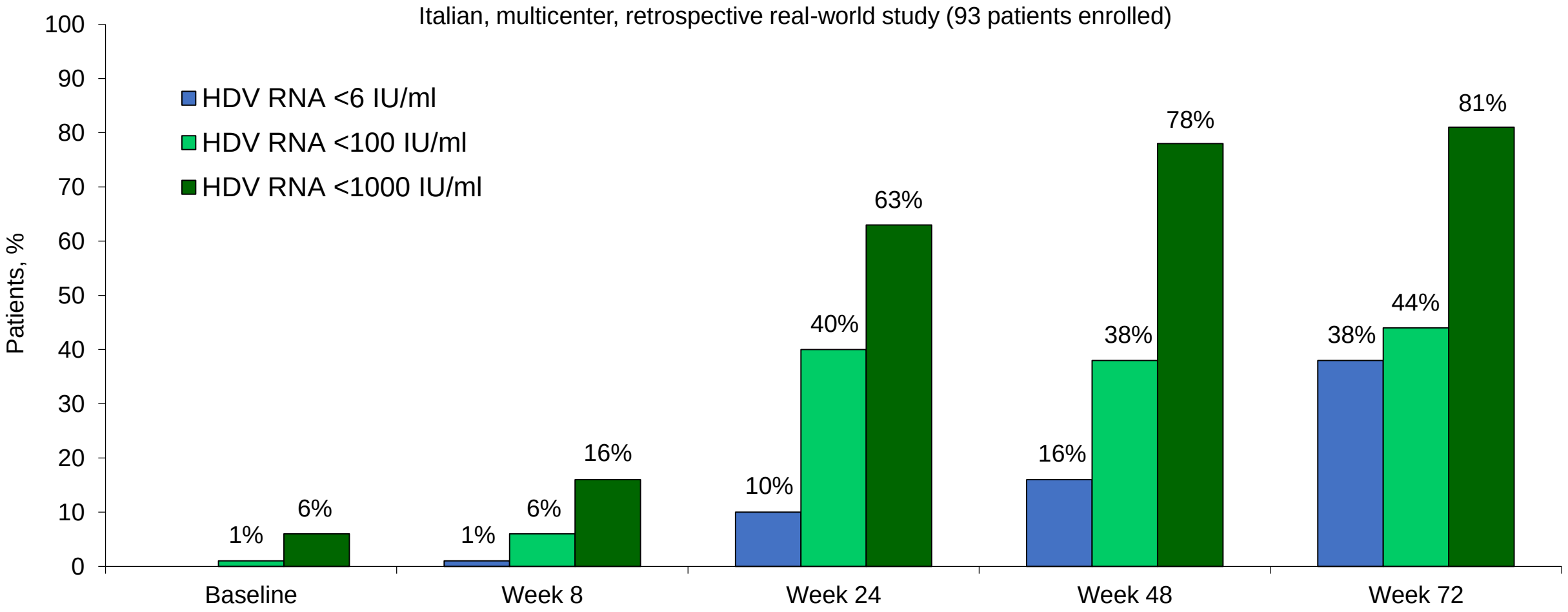
Italian, multicenter, retrospective real-world study (93 patients enrolled)



Virological response: Undetectable HDV RNA or ≥2-log decline from baseline; **Biochemical response**: ALT <40 U/L; **Combined response**: virological and biochemical
HDV RNA = LLQ <6 IU/ml

Anolli MP, Degasperi E et al, AASLD 2022

Extension of BLV 2 mg monotherapy up to 72 weeks in patients with compensated CHD-related cirrhosis (HEP4Di)



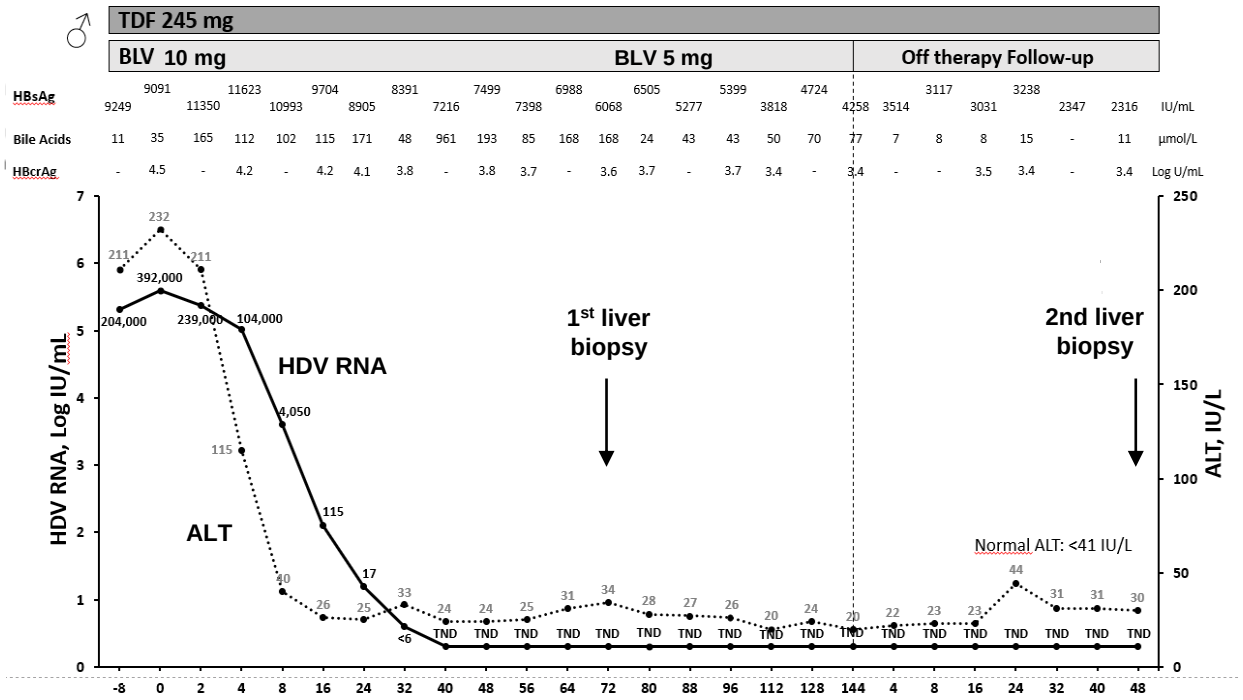
N=3 patients with HDV RNA decline <1 Log at week 24 (primary non-response)

Anolli MP, Degasperi E et al, AASLD 2022

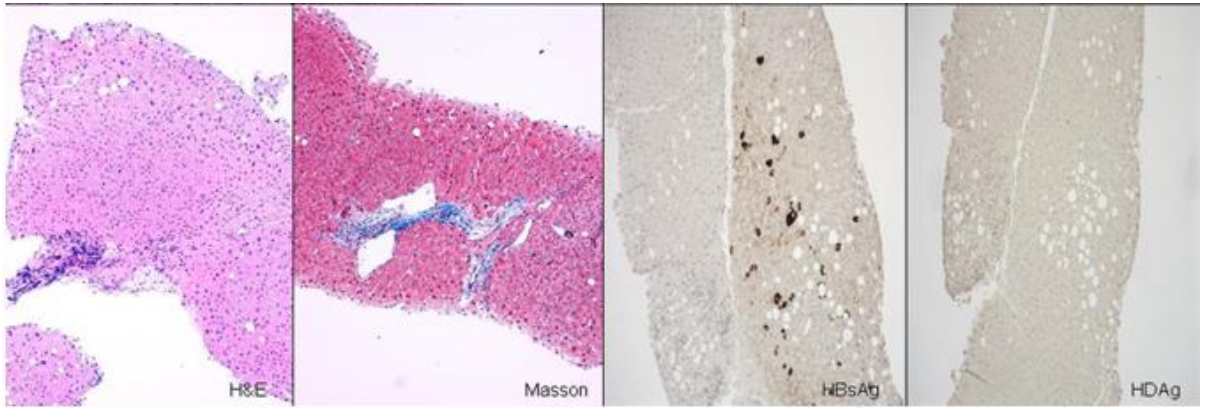
A 3-year course of BLV monotherapy may cure HDV - The "Milan patient"

A 55 year-old patient with HDV-related compensated cirrhosis with F1 esophageal varices and contraindications to pegIFNα

Virological and biochemical response during and off BLV therapy



2nd liver biopsy performed at week 48 off-therapy



H&E staining | Masson staining | HBsAg staining | HDAg staining

- Minimal features of inflammation, improvement of fibrosis (Ishak G1 S4) and resolution of autoimmunity features compared to baseline biopsy (Ishak G9 S6)
- HBsAg staining positive (<1%), HBcAg negative.
- **HDAg, HDV RNA and cccDNA undetectable (Dandri's lab)**
- **HDAg and intrahepatic HDV RNA were already undetectable** in the liver biopsy performed on-therapy at week 72 (Dandri's lab)

Clinical outcomes

- HDV suppression/cure resulted in a significant improvement in biochemistry, liver function parameters, AFP, LSM, and in regression of esophageal varices.
- No specific safety issues, BA normalized after BLV discontinuation

Conclusions

- **A 3-year course of BLV monotherapy may cure HDV infection even in difficult-to-treat patients with advanced compensated cirrhosis**
- **HDV eradication occurred without HBsAg loss**

Loglio A et al, J Hepatol 2019, Loglio A et al, J Hepatol 2022

Anolli MP et al, EASL 2022 and J Hepatol 2022

Attualità della coinfezione HIV - virus epatitici: messaggi chiave

- La disponibilità di terapie soppressive per HBV ed eradicanti per HCV ha determinato un importante decremento della mortalità per malattia epatica in HIV nell'ambito di un generale miglioramento della sopravvivenza
- L'efficacia della terapia anti HCV consente l'impiego della stessa come strumento di prevenione
- La Microeliminazione dell' HCV procede a rapidi passi ma trova uno zoccolo duro:
  - nelle reinfezioni in MSM (meno rappresentate in Italia rispetto agli altri paesi europei) e
  - nel mancato trattamento dei pazienti con scarsa compliance alla terapia anti HIV ed AIDS presenters
- Dobbiamo ancora trattare l'11% dei PLWH HCVRNA + in Italia
- L'infezione da HDV è frequente in PLWH ed è associata ad incremento di mortalità per epatopatia per l'impatto peggiorativo sulla malattia epatica HBV correlata
- La quota «residua» di soggetti con infezione cronica da HDV non è elevata, ma con la possibilità di terapia data dalla Bulevirtide la mortalità per epatopatia potrà ulteriormente diminuire

Aknowledgments

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