

# Hepatitis C and HIV

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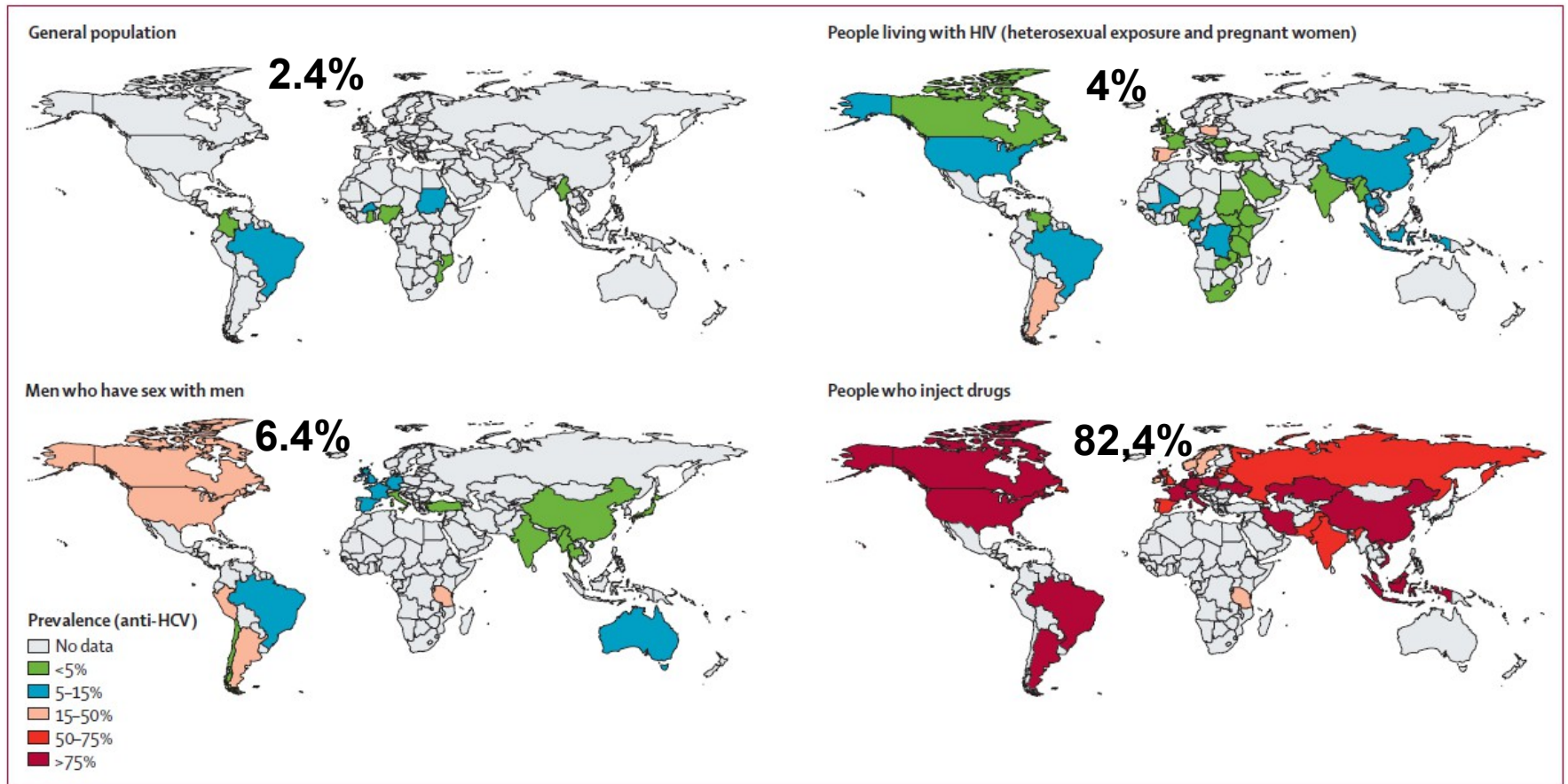
# Disclosures

**Speaker** : GSK, BMS, Boehringer Ingelheim, Janssen  
Gilead, Roche, MSD, Sanofi, Novartis, Vertex, Abbvie

**Grants** : BMS, Gilead, Roche, MSD

**Board member** : GSK, BMS, Boehringer Ingelheim,  
Janssen, Gilead, Roche, MSD, Sanofi, Novartis, Vertex,  
Abbvie

# Prevalence of HCV infection in HIV-infected patients



≈2 280 000 HIV-HCV co-infections

# HIV/HCV Co-infection: harmful impact of HIV

## Meta-analysis of 26 studies

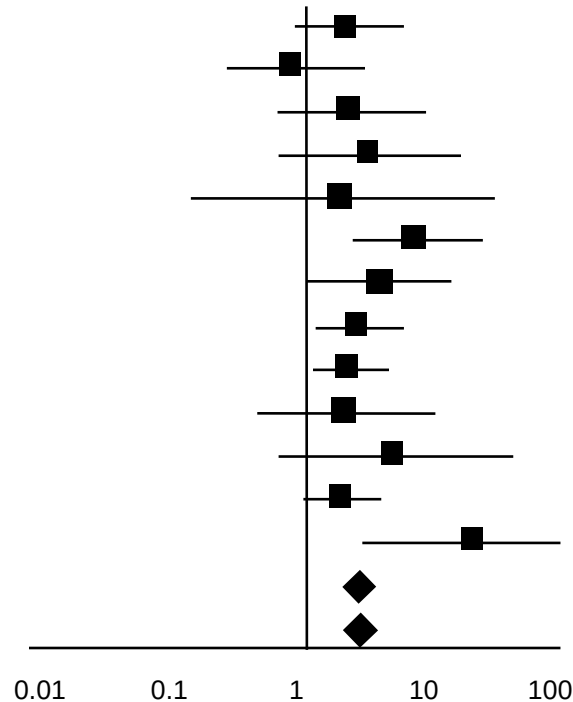
### No HAART

### HAART

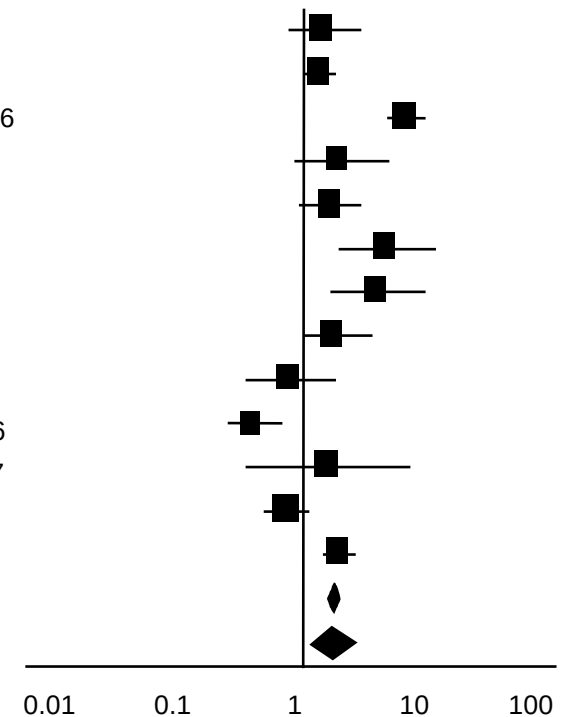
Risk ratio (95% CI)

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Allory, 2000  
 Bierhoff, 1997  
 Di Martino, 2001  
 Eyster, 1993  
 Grabczewska, 2005  
 Lesens, 1999  
 Makris, 1996  
 Pol, 1998a  
 Pol, 1998b  
 Romeo, 2000  
 Serfaty, 2001  
 Soto, 1997  
 Telfer, 1994  
 Fixed effects  
 Random effects



Benhamou, 1999  
 Brau, 2006  
 Gaslightwala&Bini, 2006  
 Gonzalez, 2006  
 Macias, 2005  
 Marine-Barjoan, 2004  
 Martinez-Sierra, 2003  
 Mohsen, 2003  
 Monto, 2005  
 Rodriguez-Torrez, 2006  
 Sarmiento-Castro, 2007  
 Valle Tovo, 2007  
 Verma, 2006  
 Fixed effects  
 Random effects



HCV  
mono-infection

HIV/HCV  
co-infection

HCV  
mono-infection

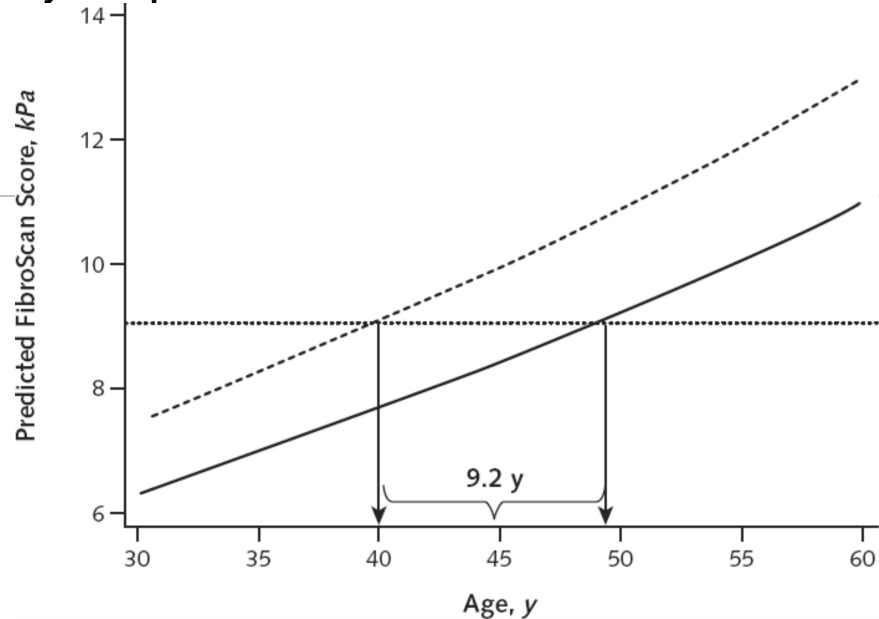
HIV/HCV  
co-infection

# HIV/HCV Co-infection: harmful impact of HIV

**Annals of Internal Medicine**

ESTABLISHED IN 1927 BY THE AMERICAN COLLEGE OF PHYSICIANS

From: HIV, Age, and the Severity of Hepatitis C Virus–Related Liver Disease: A Cohort Study



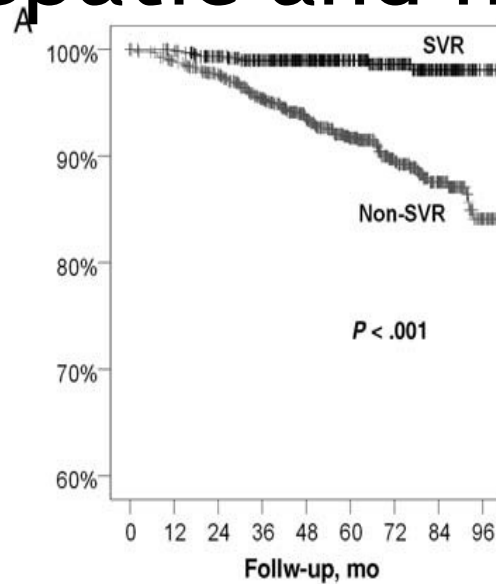
## Figure Legend:

Liver fibrosis and age among persons coinfecting with HIV and HCV and those with only HCV.

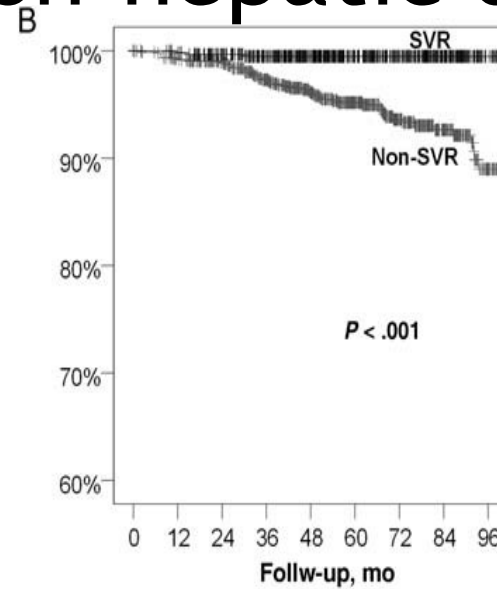
For each age, predicted liver fibrosis scores were calculated using a regression equation that included the race, sex, alcohol use, body mass index, hepatitis B virus surface antigen level status, and HCV RNA level values for a representative participant (black overweight male who has no regular alcohol use, is hepatitis B virus surface antigen–negative, and has high HCV viral load) for persons coinfecting with HIV and HCV (dashed line) and for persons with only HCV (solid line). For example, a 40-year-old HIV and HCV coinfecting person with these characteristics was calculated to have a predicted FibroScan score of 9.04 kPa. For this same degree of fibrosis, the predicted age in a similar person but with only HCV was 49.2 years. Over the entire age range, the average difference in estimated age between persons coinfecting with HIV and HCV and those with only HCV was 9.2 years (90% coverage limit, 5.2 to 14.3 years). HCV = hepatitis C virus.

# HCV cure decreases mortality from both hepatic and non-hepatic diseases

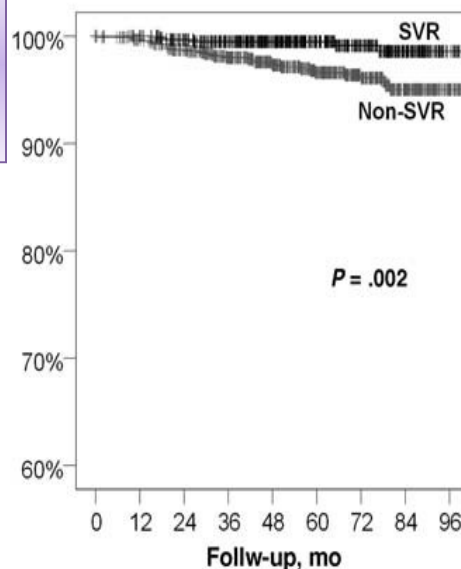
All-cause mortality



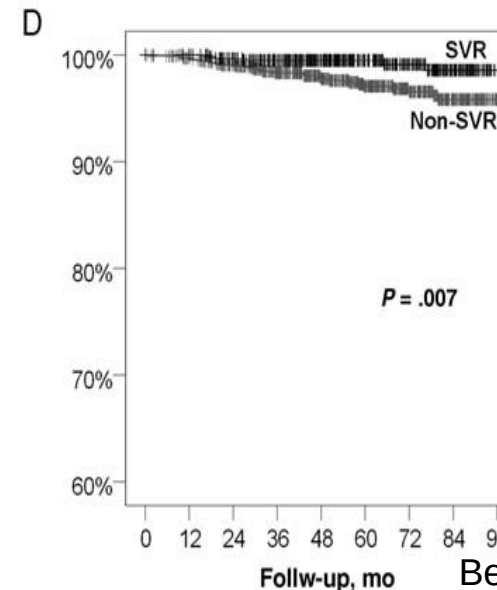
Hepatic mortality



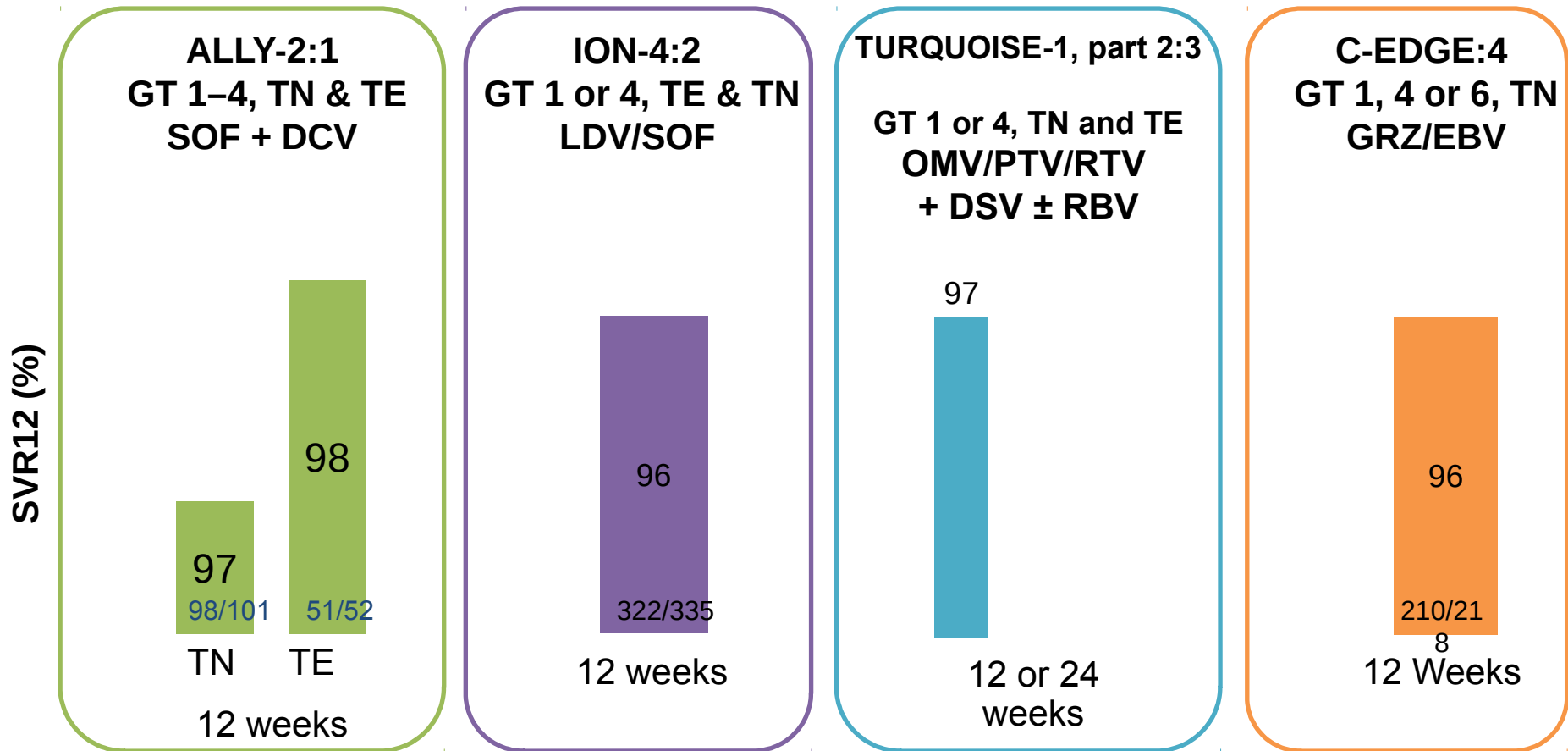
Extra-hepatic mortality



Extra-hepatic and non-HIV mortality



# High SVR in adult patients with HIV/HCV co-infection treated with DAAs

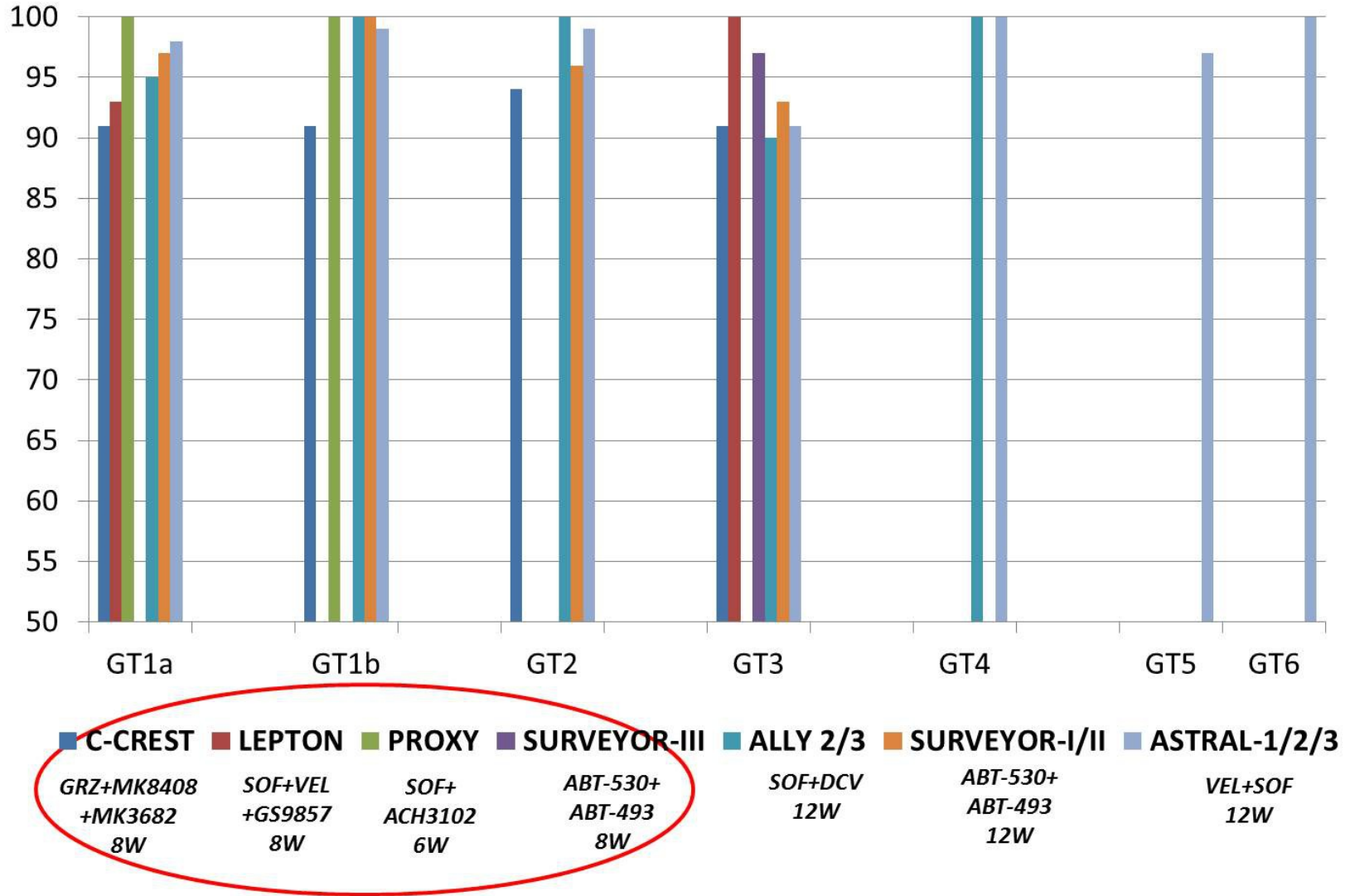


• Studies included non-cirrhotic and cirrhotic patients.  
• TE: treatment-experienced

**NOT HEAD-TO-HEAD COMPARISONS**

1. Wyles D, et al. N Engl J Med 2015;373:714–25;
2. Naggie S, et al. N Engl J Med 2015;373:705–13;
3. Rockstroh JK, et al. IAS 2016; Abstract # 10333;
4. Rockstroh JK, et al. Lancet HIV 2015;2:e319–27

# First results of DAA next generation





# Prevalence of potential interactions with ARVs

		Hepatitis C directly acting antivirals									
	Proportion of patients	BOC	DCV	LED/SOF	OBV/PTVr	OBV/PTVr + DSV	SMV	SOF	TVR	Peg IFN	RBV
HIV nucleosides/nucleotides reverse transcriptase inhibitors											
ABC	23.0%										
ddi	0.9%										
FTC	59.3%										
LAM	27.0%										
TDF	64.0%										
ZDV	4.8%										
HIV non nucleosides/nucleotides reverse transcriptase inhibitors											
EFV	10.3%										
ETV	8.1%										
NVP	5.5%										
RPV	1.7%										
HIV entry/integrase inhibitors											
DLG	0.2%										
EVGc	0.0%										
MRV	3.3%										
RAL	26.9%										
HIV protease inhibitors											

- 1164 patients from DAT'AIDS base
- Analysis of potential interactions with ARVs

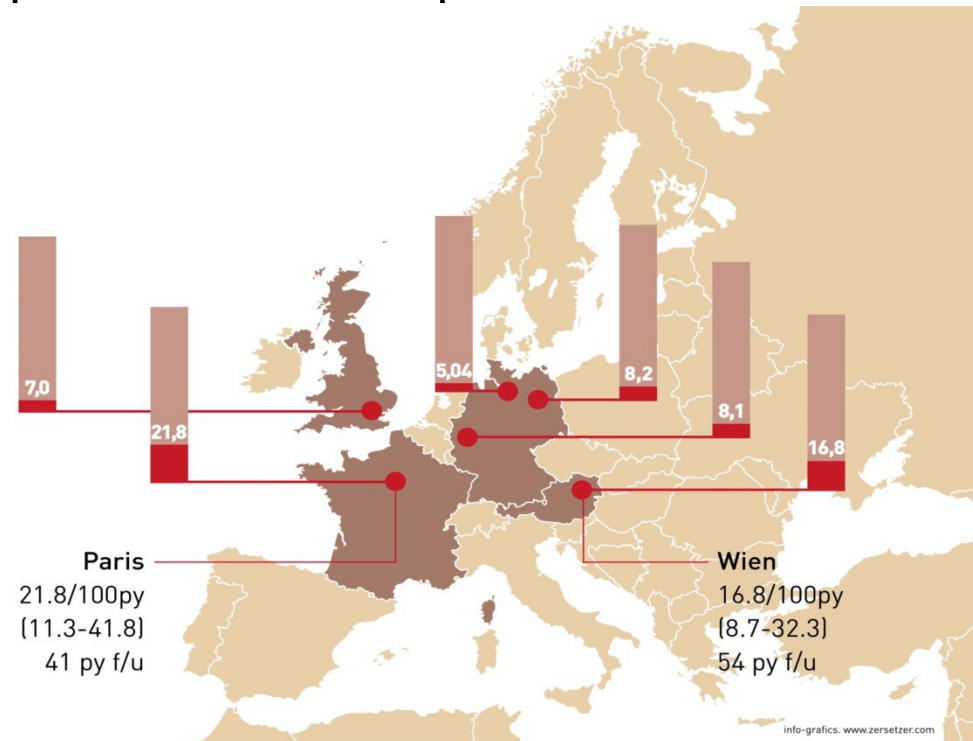


	DCV	SOF/LD V	OBV/PT Vr	OBV/PT Vr/DSV	SMV	SOF	PegIFN	RBV
<b>CI</b>	0%	0,2%	34,4%	34,4%	78,8%	0,2%	4,8%	5,2%
<b>I pos.</b>	49,4%	67,6%	52,2%	52,2%	0%	0%	91,6%	92,4%
<b>No CI</b>	50,6%	32,2%	13,4%	13,4%	21,2%	99,8%	3,5%	2%

- No clinically significant interaction expected
- Potential interaction – may require close monitoring, alteration of drug dosage or timing of administration
- These drugs should not be coadministered

# Acute HCV reinfection in Europe

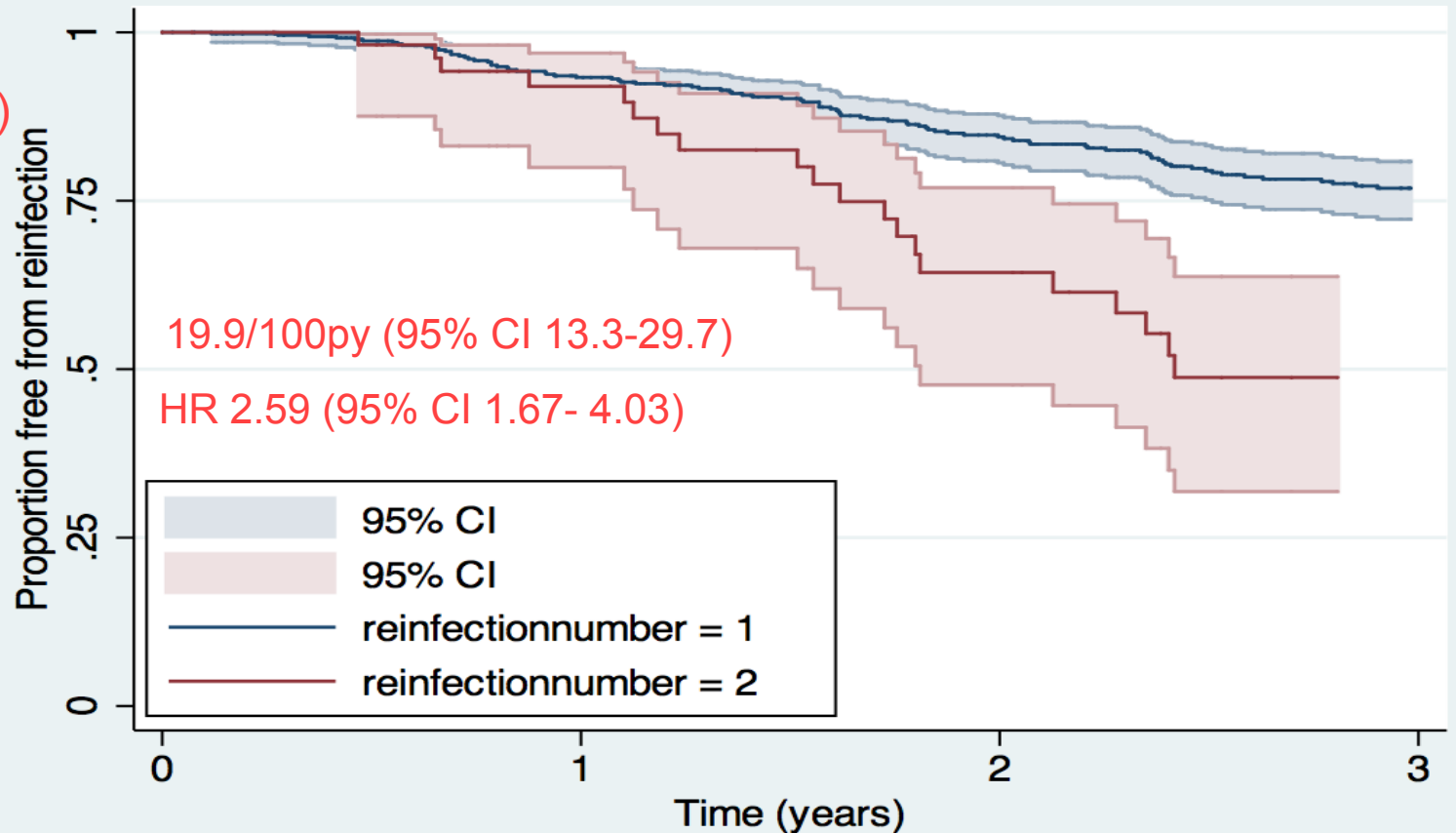
- Observational survey in France, UK, Germany, Austria (NEAT network)
- 482 MSM included after a first episode of acute hepatitis C



# Incidence of 1st and 2nd reinfection

Reinfection incidence of 7.6/100 py (95% CI 6.3-9.1) [1583 py f/u with 121 reinfections]

Kaplan-Meier comparing 1st/2nd reinfection



Number at risk

Reinfection 1	482	405	313	219
Reinfection 2	56	40	24	12

# Hepatitis C and HIV coinfection

## Conclusions