

# HIV/HCV Coinfection in Spain: Prevalence and Patient Characteristics in 2016



# Background

- Factors that determine the epidemiology of HIV/HCV coinfection in Spain have changed significantly in the last few years.
  - ✓ Decline in IDU as a mechanism of transmission of HIV
  - ✓ Higher mortality among coinfecting patients than in HIV-mono infected patients
  - ✓ Acute HCV infections among MSM
  - ✓ Availability of DAAs against HCV
- These findings provide strong arguments in favor of actively monitoring the burden of HIV/HCV coinfection

# Aims

- To assess the prevalence of HIV/HCV-coinfection in Spain in 2016
- To define the clinical characteristics of HIV/HCV-coinfected patients
- To compare the results with 3 similar studies done in 2002, 2009 and 2015<sup>1-3</sup>

# Methods

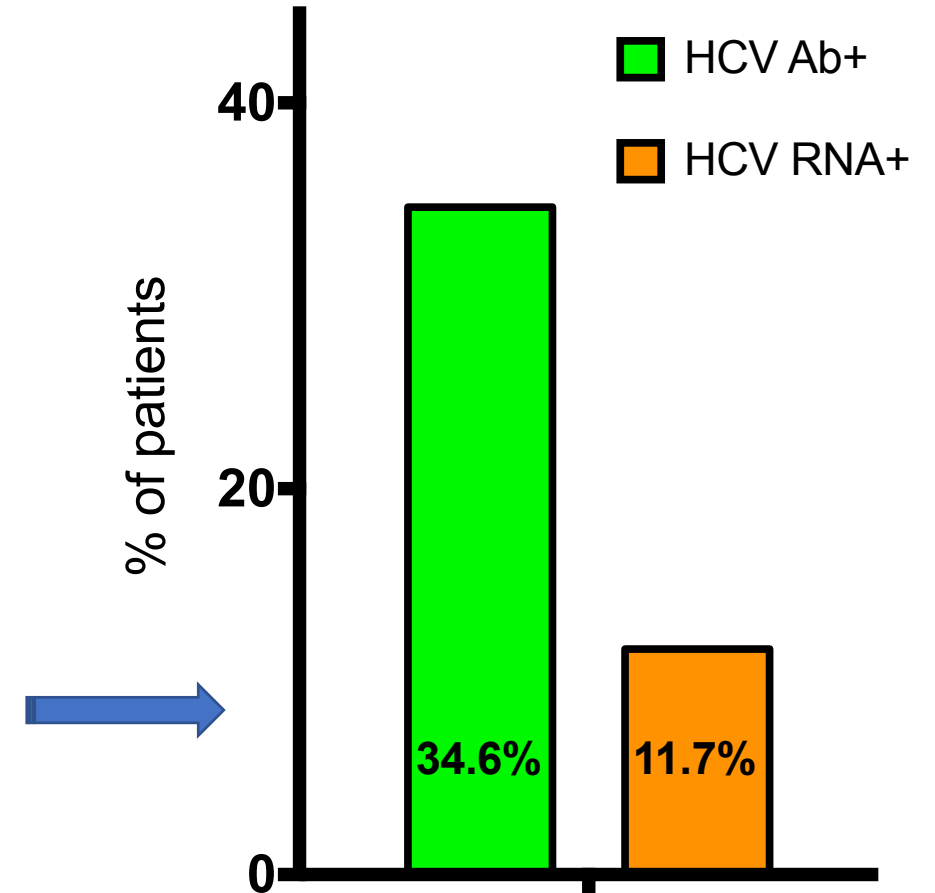
<b>Design</b>	<ul style="list-style-type: none"><li>• Nationwide cross-sectional study</li></ul>
<b>Study period</b>	<ul style="list-style-type: none"><li>• October-November 2016</li></ul>
<b>Reference population</b>	<ul style="list-style-type: none"><li>• All HIV+ patients in active follow-up in the participating centers*</li></ul>
<b>Sample size estimation</b>	<ul style="list-style-type: none"><li>• Confidence level 95% / Design effect 1.0 / Accuracy of 2.0%</li></ul>
<b>Patient selection</b>	<ul style="list-style-type: none"><li>• N° of patients from each hospital determined by proportional allocation / Patients were selected using simple random sampling</li></ul>
<b>Data recording</b>	<ul style="list-style-type: none"><li>• Online CRF</li></ul>

\*Active follow-up = at least 1 visit in the previous 12 months

# Summary of findings

<b>Centers</b>	<ul style="list-style-type: none"><li>• 43 centers</li></ul>
<b>Reference population</b>	<ul style="list-style-type: none"><li>• 38,904 HIV+ patients</li></ul>
<b>Sample size</b>	<ul style="list-style-type: none"><li>• 1,588 HIV+ patients</li></ul>
<b>HCV serology</b>	<ul style="list-style-type: none"><li>• Known in 1,585 (99.8%) patients</li><li>• 548 of whom were HCV Ab+<ul style="list-style-type: none"><li>• 292 were HCV-RNA<sup>(-)</sup> following SVR</li><li>• 186 patients were HCV-RNA<sup>(+)</sup></li><li>• 68 cleared HCV-RNA spontaneously</li><li>• 2 had unknown HCV-RNA results</li></ul></li></ul>

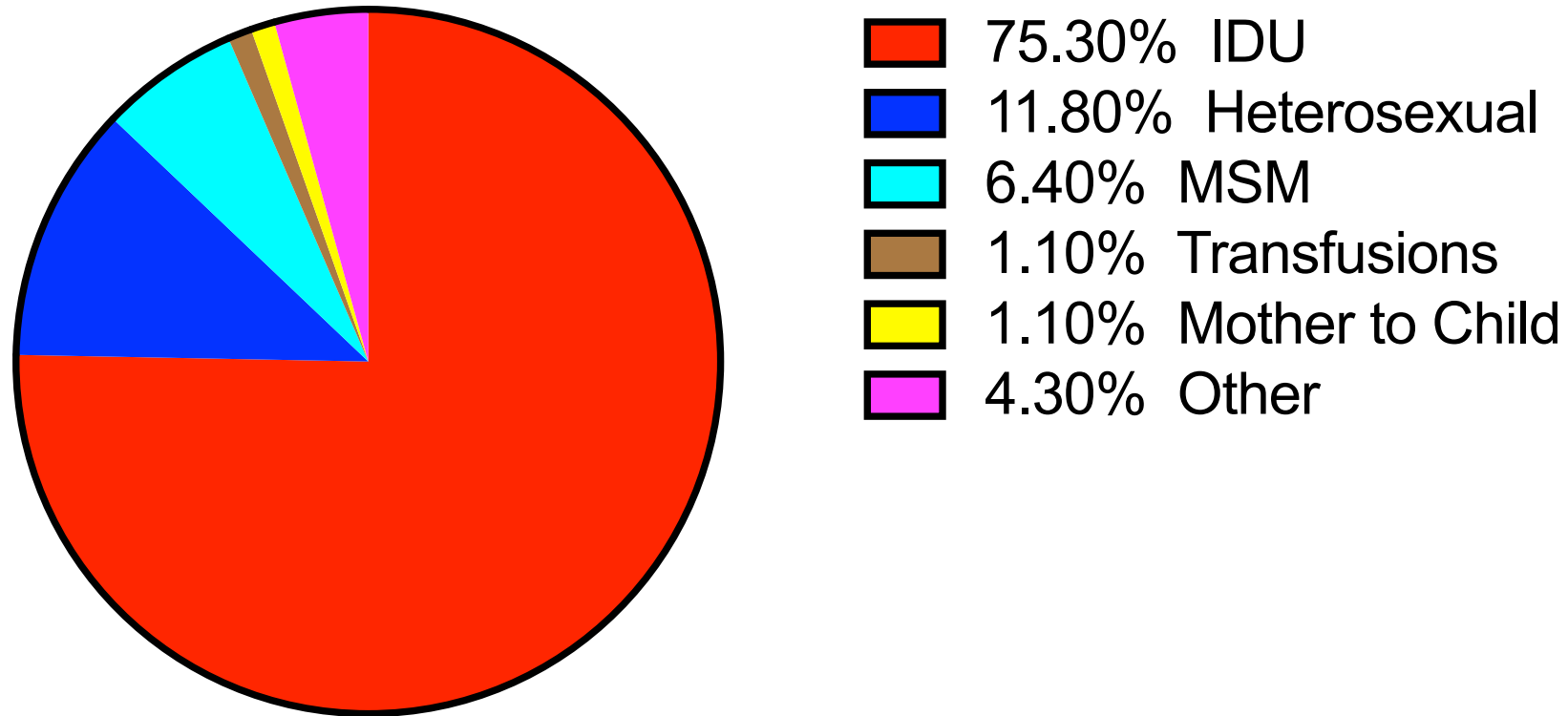
## Prevalence of HCV infection



# Characteristics of patients according to HCV serology

	HCV-positive (N = 548)	HCV-negative (N = 1037)	P
Male sex, n (%)	415 (75.7)	805 (77.6)	.39
Age years, mean (SD) <sup>2</sup>	51 (7)	47 (12)	<.001
IDU as HIV transmission category, n (%)	417 (76.1)	53 (5.1)	<.001
CDC clinical category C, n (%)	166 (30.3)	236 (22.8)	.001
cART, n (%)	538 (98.2)	994 (95.8)	.014
Type of cART regimen, n (%)			
2 NRTI + 1 NNRTI	136 (25.2)	376 (37.8)	<.001
2 NRTI + 1 PI	74 (13.7)	118 (11.9)	
2 NRTI + 1 integrase inhibitor	183 (33.9)	312 (31.4)	
PI-based monotherapy	36 (6.7)	49 (4.9)	
PI-based bitherapy	53 (9.8)	56 (5.6)	
Other	57 (10.6)	83 (8.3)	
HIV-RNA copies/ml, n (%), patients on cART			
<50	488 (90.7)	924 (93.0)	.28
50-200	23 (4.3)	30 (3.0)	
>200	27 (5.0)	40 (4.0)	
CD4+ – T cells/μL, median (IQR), patients on cART	659 (431-886)	678 (495-910)	.039

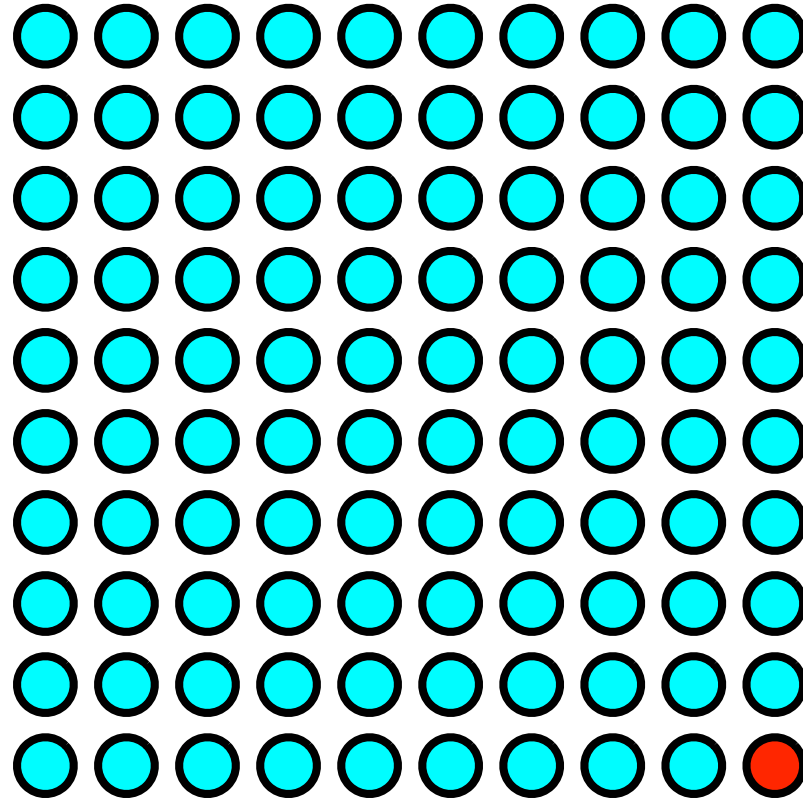
# HIV transmission categories among patients with active HCV infection



**Total=100**

# Percentage of patients with reinfection\*

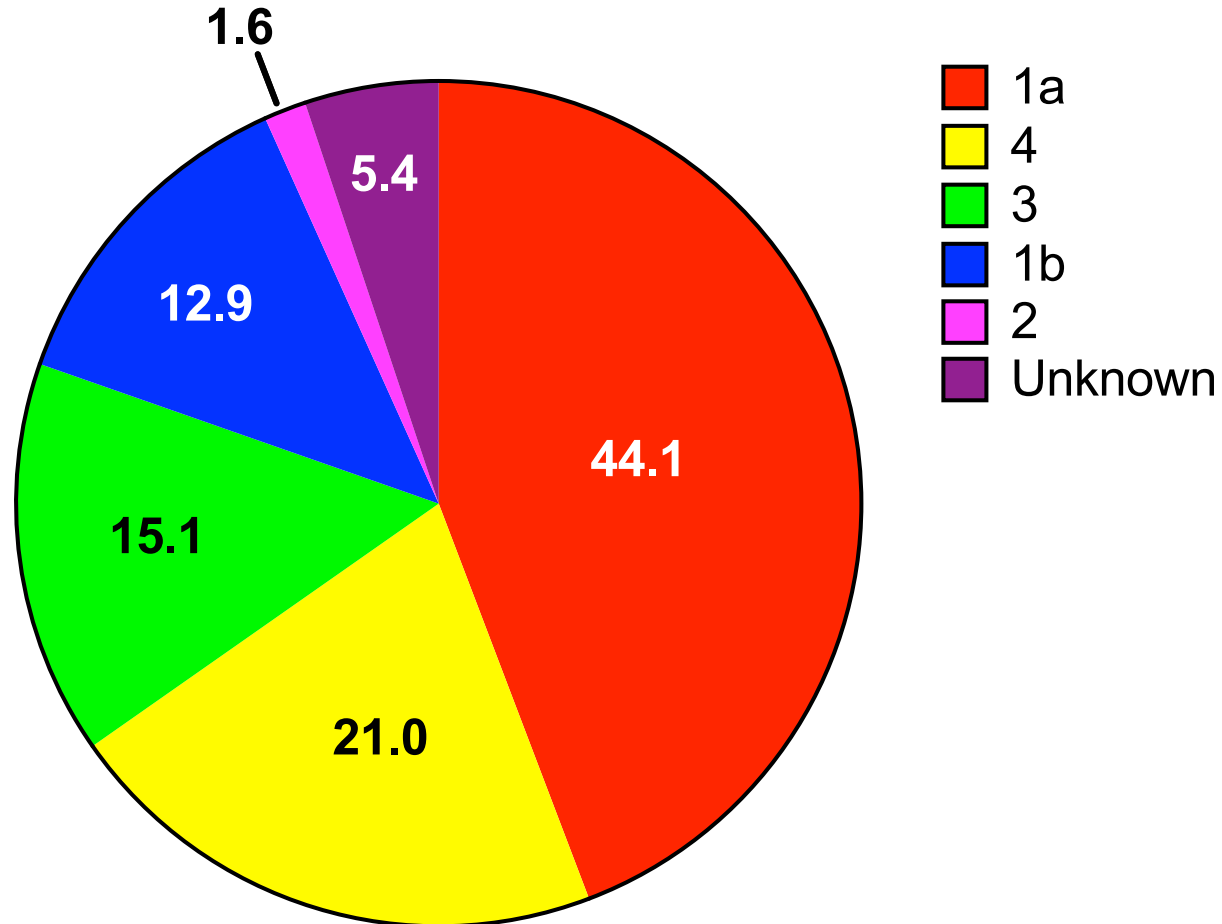
\*Patients with active HCV infection with a prior SVR



**Total=100**

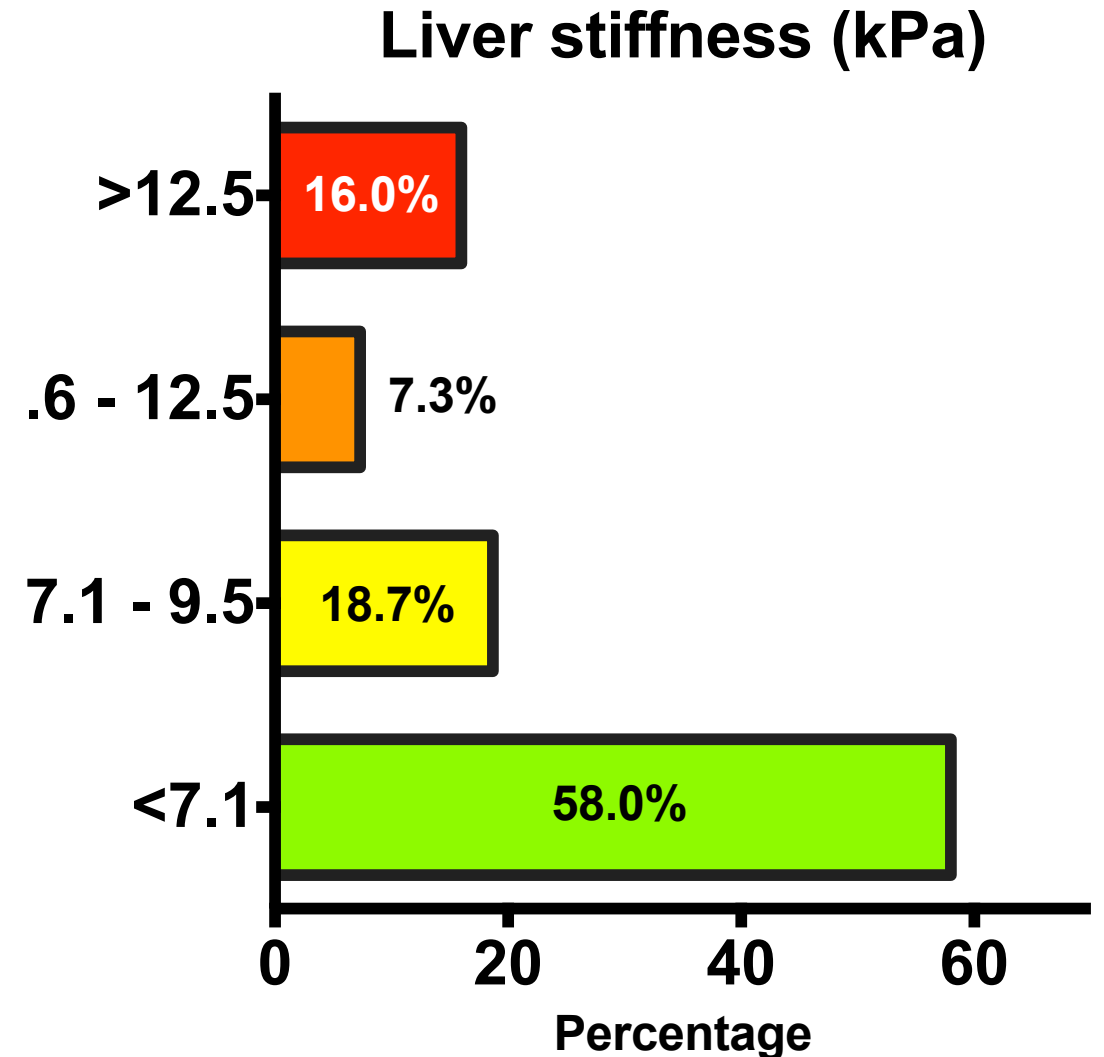


# Genotype distribution (%) in patients with active HCV infection



## Fibrosis staging in patients with active HCV infection

<b>Patients with TE, n (%)</b>	150 (80.6)
<b>TE value – kPa, median (IQR)</b>	6.6 (5.4 – 9.1)
<b>TE distribution – kPa, n (%)</b>	
<7.1	87 (58.0)
7.1 - 9.5	28 (18.7)
9.6 – 12.5	11 (7.3)
>12.5	24 (16.0)
<b>Patients with FIB-4, n (%)</b>	185 (99.5)
<b>FIB-4 value, median (IQR)</b>	1.5 (1.1 – 2.2)
<b>FIB-4 distribution, n (%)</b>	
≤1	39 (21.1)
1 – 3.25	122 (65.9)
≥3.25	24 (13.0)



# Anti-HCV exposure in patients with active HCV infection (HCV RNA positives)

Anti-HCV therapy, n (%)	N = 186
Never	121 (65.1)
Ongoing	41 (22.0)
In the past	34 (18.3)
Null or partial response	26
Relapse	1
D/C due to adverse events	5
Sustained viral response	2

## Characteristics of patients with active HCV and those who cleared HCV following anti-HCV therapy (SVR)

	Active HCV	Clearance of HCV after SVR	<i>P</i>
	N = 186	N = 292	
Liver cirrhosis, n (%)	28 (15.0)	92 (31.5)	<.001
Decompensated cirrhosis, n (%)	4 (14.3)	8 (8.7)	.39
Hepatocellular carcinoma, n (%)	1 (3.6)	1 (1.1)	.37
Serum albumin, median (IQR)	4.0 (3.5 – 4.6)	4.4 (4.0 – 4.7)	.046
Patients with FIB-4, n (%)	28 (100.0)	92 (100.0)	
FIB-4 value - Median (IQR)	2.8 (1.6 – 5.1)	2.0 (1.4 – 3.2)	.047
Patients with TE, n (%)	27 (96.4)	84 (91.3)	
Last TE value – kPa, median (IQR)	10.9 (3.2 – 25.4)	14.7 (7.7 – 34.3)	.29

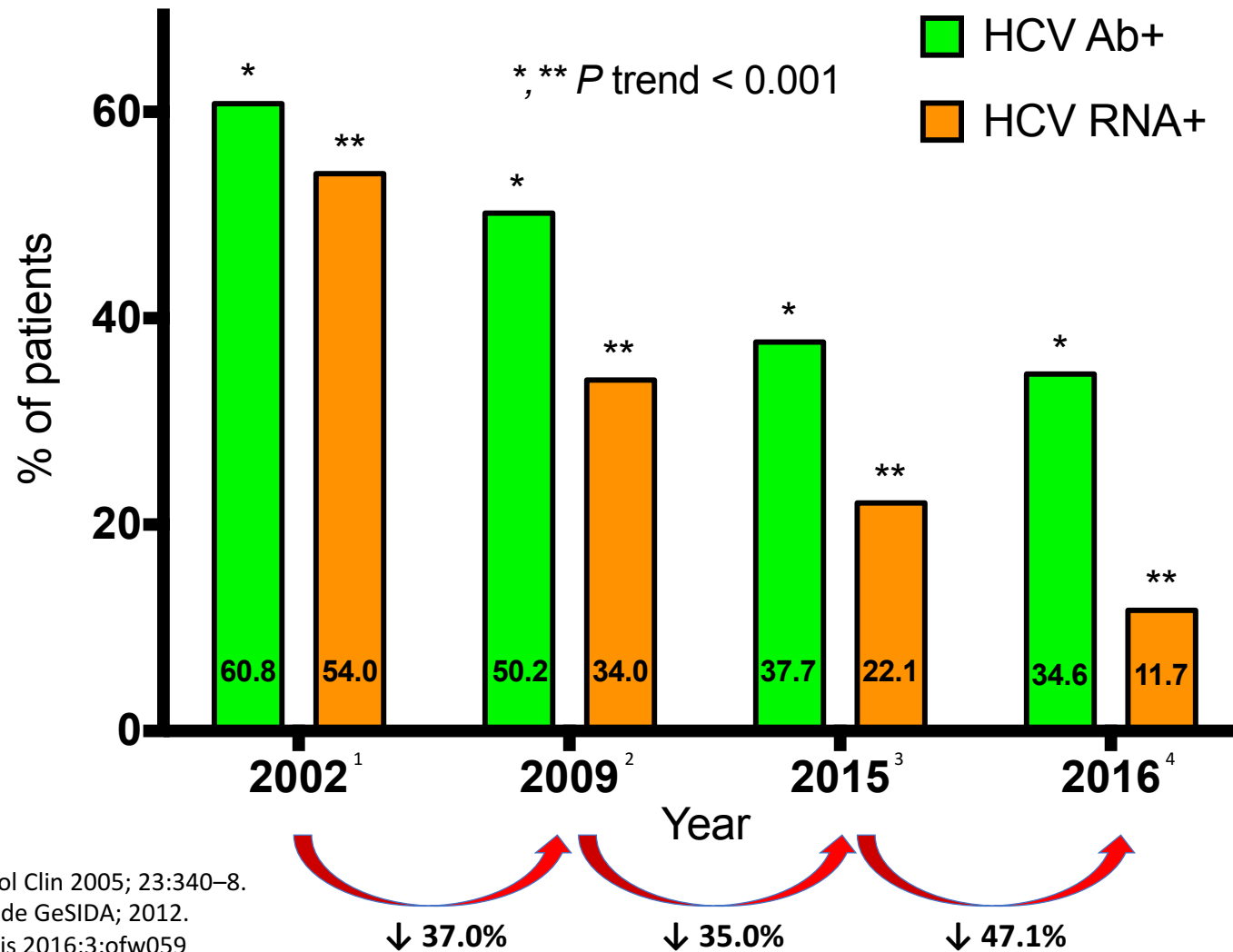
# HIV/HCV coinfection in Spain: GeSIDA prevalence studies

	Centers	Reference Population
2002 <sup>1</sup>	39	31,800
2009 <sup>2</sup>	43	29,559
2015 <sup>3</sup>	41	35,791
2016 <sup>4</sup>	43	38,904



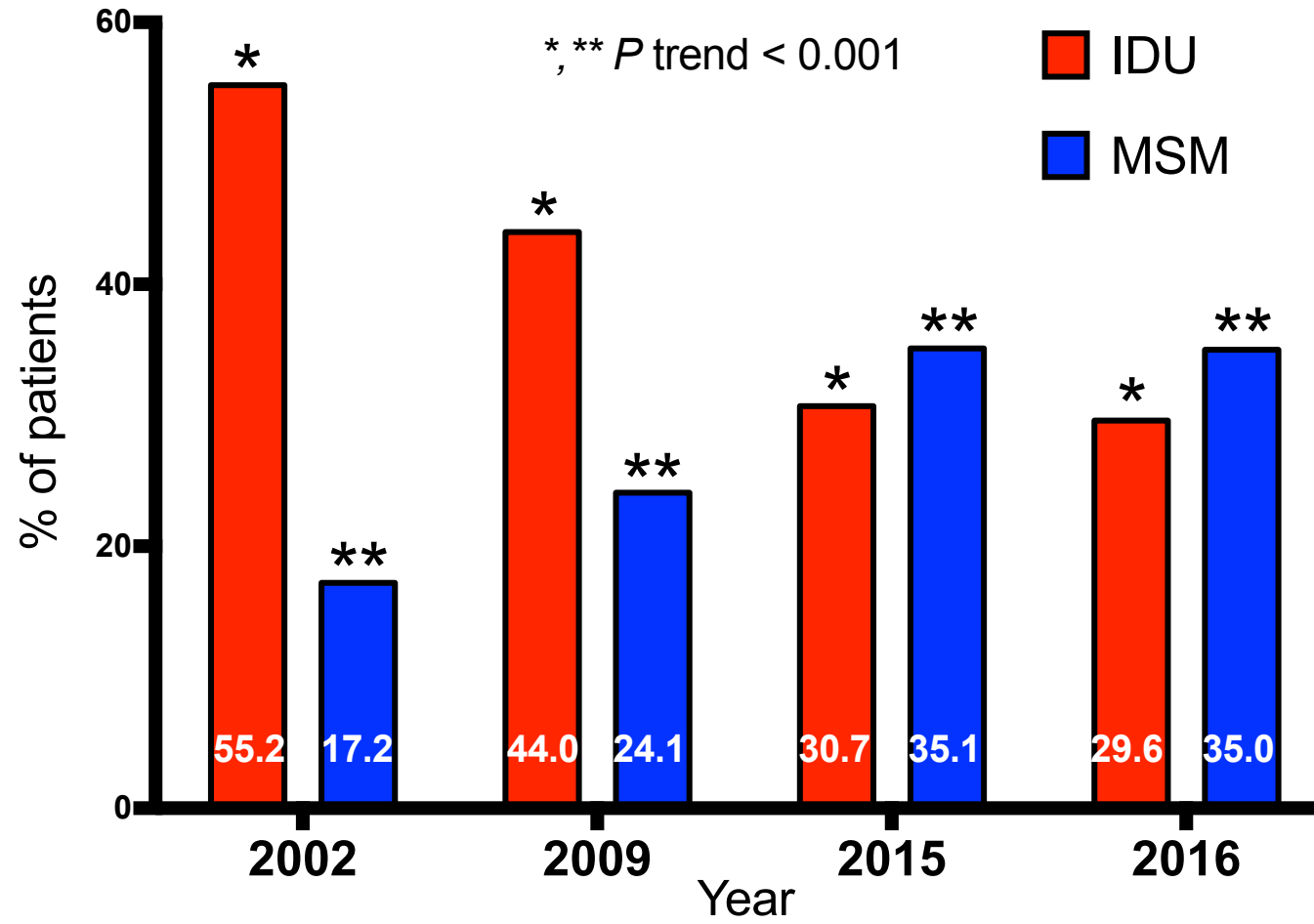
1. González J, et al *Enferm Infecc Microbiol Clin* 2005; 23:340–8.
2. González J, et al. IV Congreso Nacional de GeSIDA; 2012.
3. Berenguer J et al. *Open Forum Infect Dis* 2016;3:ofw059
4. Berenguer J, González J et al. (Personal Communication); 2017

# Prevalence of HCV infection



1. González J, et al Enferm Infecc Microbiol Clin 2005; 23:340–8.
2. González J, et al. IV Congreso Nacional de GeSIDA; 2012.
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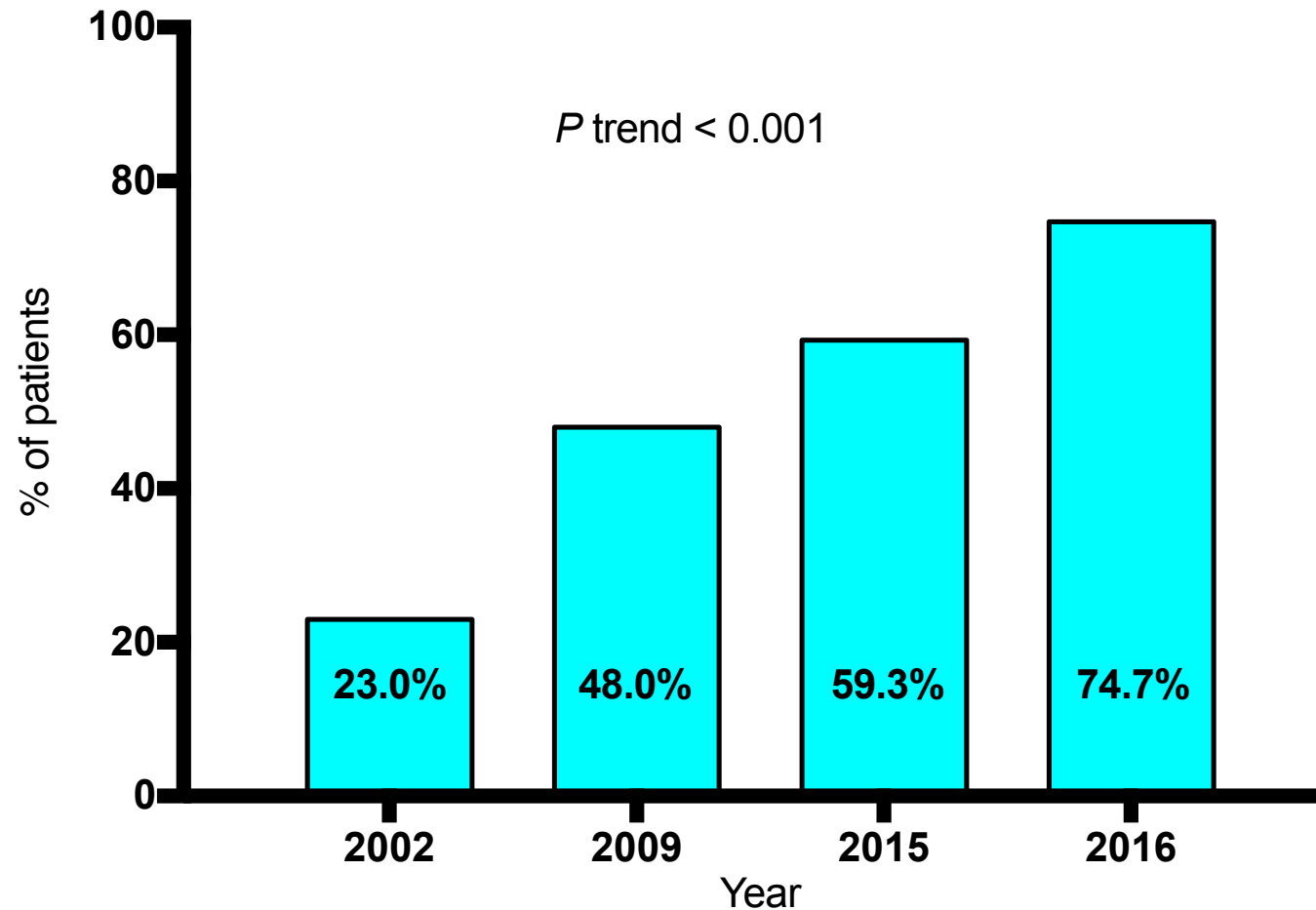
# Mechanisms of HIV transmission



1. González J, et al *Enferm Infecc Microbiol Clin* 2005; 23:340–8.
2. González J, et al. IV Congreso Nacional de GeSIDA; 2012.
3. Berenguer J et al. *Open Forum Infect Dis* 2016;3:ofw059
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# Anti-HCV treatment uptake

Percentage of patients with current or past chronic HCV infection exposed to anti-HCV therapy



1. González J, et al *Enferm Infecc Microbiol Clin* 2005; 23:340–8.
2. González J, et al. IV Congreso Nacional de GeSIDA; 2012.
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# Conclusions

- 1) The prevalence of active HCV infection among HIV-infected individuals in Spain at the end of 2016 was 11.7%.
  - This represents a 47.1% reduction in comparison with what was found in 2015.
  - Increased exposure to DAA-Rx was the reason underlying this sharp decrease.
- 2) IDU continues to be the predominant mode of HIV transmission in patients with active HCV infection.
  - HCV infection among MSM contributes little to the current burden of HIV/HCV coinfection in Spain
- 3) Our findings show that the elimination of HCV among HIV-infected patients in Spain is a goal that can be achieved in the short term once the treatment is accessible to all coinfecting patients

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