



Public Health
England

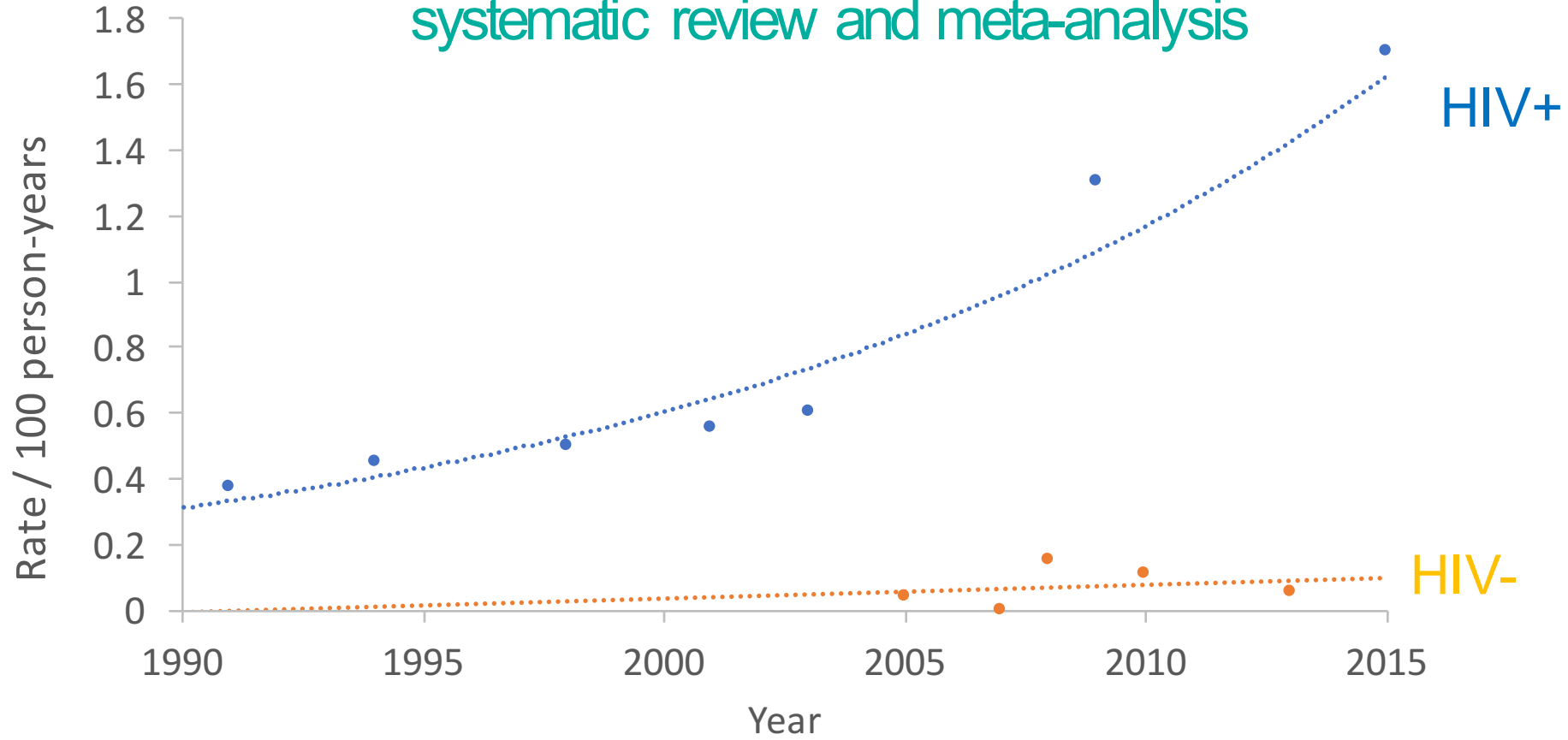
Protecting and improving the nation's health

Risk factors and patterns of HCV transmission amongst men who have sex with men

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Background

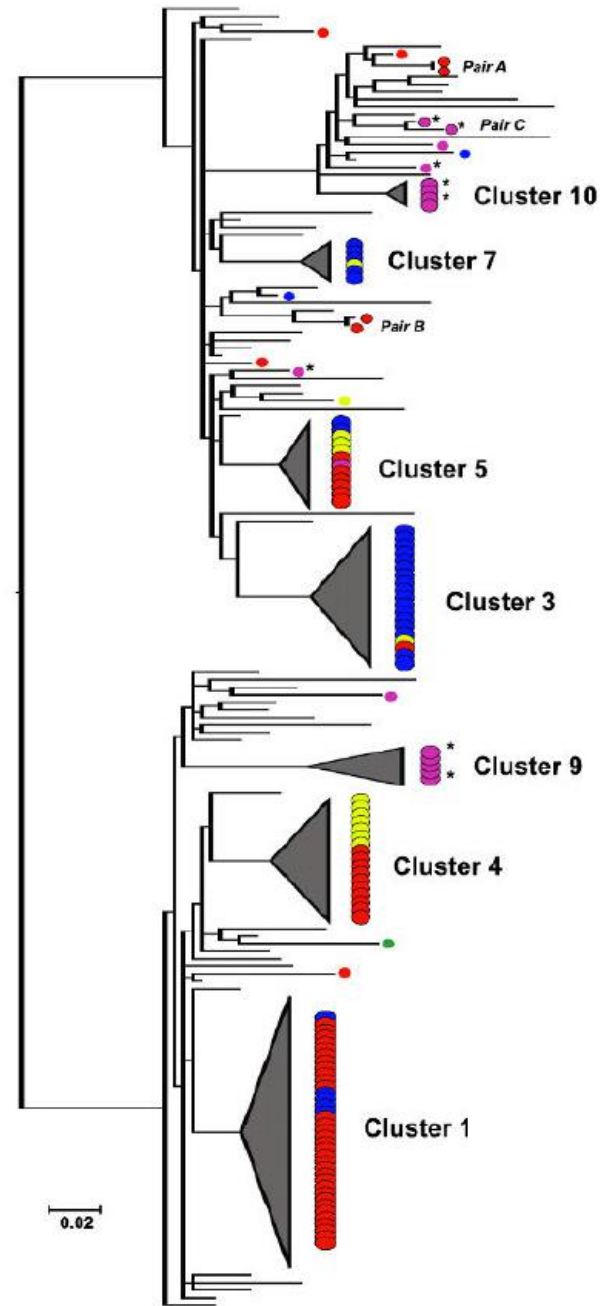
Incidence of HCV in men who have sex with men: systematic review and meta-analysis



Hagan *et al* 29: 2335 AIDS 2015
Ghislà *et al* 45: 309 Infection 2017

Background

NS5B phylogenetic tree for HCV genotype 1a



Monophyletic clusters are shaded, country of origin coded:

(●) England, (■) Netherlands,

(■) Germany, (■) France, (■) Australia.

Aims

- Characterise risk behaviours in HIV- and HIV+ MSM with acute HCV
- Determine patterns of HCV transmission amongst HIV- and HIV+ MSM

Methods

Study type

Prospectively-recruited cohort
Single visit

Centres

Hepatitis clinics
London, Brighton, Leeds

Recruitment period

January – August 2017

Population

MSM with acute HCV (<12 months)

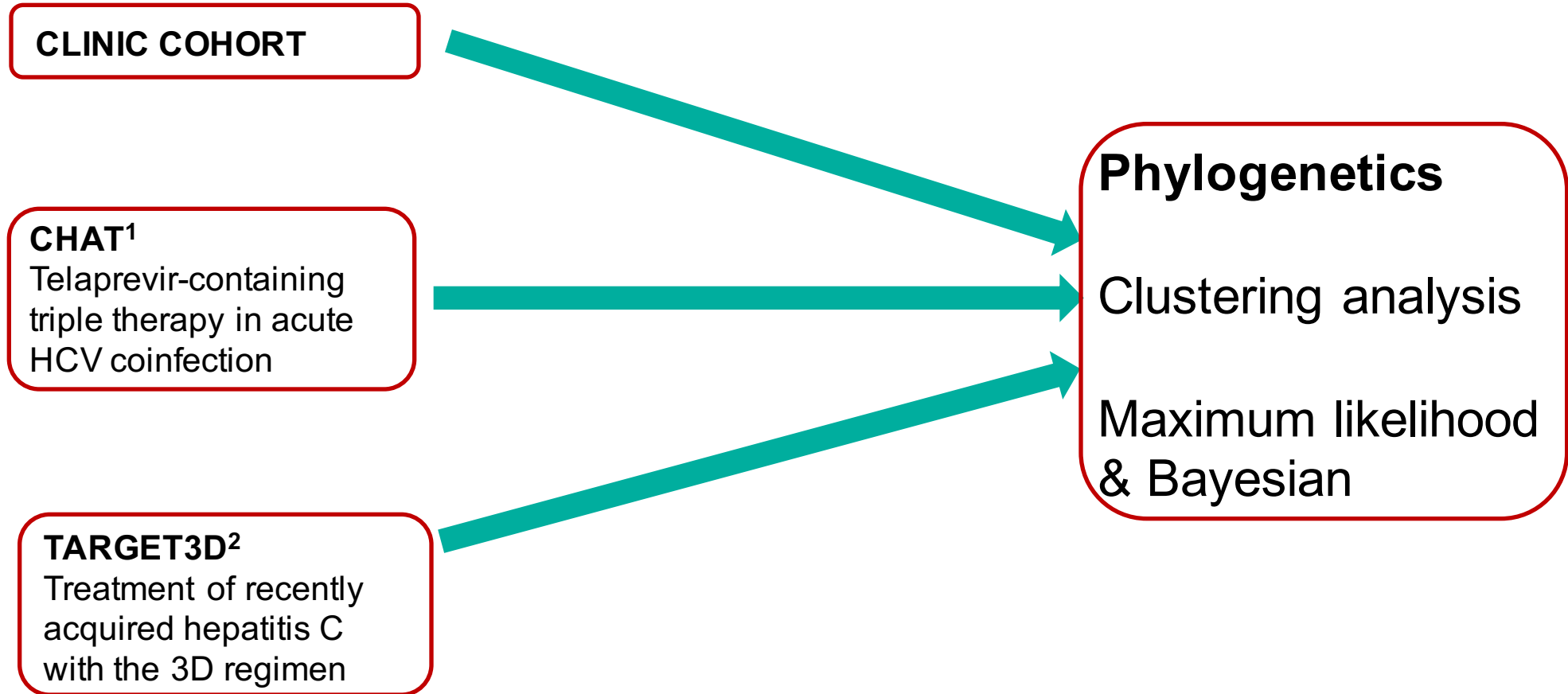


Questionnaire

STI screen

Blood for HCV whole genome sequencing

Methods



1. Boesecke *et al* Antivir Ther 22: 619 2017
2. www.clinicaltrials.gov/NCT02634008

Results

Characteristics of HIV- and HIV+ MSM with acute HCV

	HIV- n=16		HIV+ n=24		All N=40		P value
	n	% or IQR	n	% or IQR	N	% or IQR	
Clinico-demographics							
Median age, years	34	29-43	44	36-50	39	33-49	0.021*
UK-born	9	56.3	18	75.0	27	67.5	0.215
London recruit	16	100	17	70.8	33	82.5	0.030*
Jaundice	2	12.5	2	8.3	4	10.0	0.667
PrEP use in last 12 months	13	81.3	-	-	13	32.5	-
HIV VL not detected on cART	-	-	22	91.7	22	55.0	-
STI at HCV diagnosis	5	31.3	7	29.2	12	30.0	0.888
HCV results							
Anti-HCV negative	1	6.3	3	12.5	4	10.0	0.638
Median HCV RNA, log IU/mL	3.7	3.2-5.7	5.1	4.3-6.3	4.8	3.4-6.2	0.279
HCV genotype ¹							
1a	13	81.3	14	58.3	27	67.5	0.177
4	1	6.3	9	37.5	10	25.0	0.032*
Prior HCV episode(s)	4	25.0	5	20.8	9	22.5	1.000
IDU acquisition	6	37.5	8	33.3	14	35.0	0.787
Spontaneous clearance	2	12.5	4	16.7	6	15.0	1.000

¹Genotype distribution: 1a (n=27), 3a (n=3), 4d (n=9), 4 no subtype (n=1)

*<0.05 by chi-squared, Fishers exact or Mann Whitney U test

DAA direct acting antivirals, IDU injection drug use, STI sexually-transmitted infection, SVR12 sustained virologic response at 12 weeks

Risk behaviours amongst HIV- and HIV+ MSM with acute HCV

	HIV- n=16		HIV+ n=24		All N=40		P value
	n	% or IQR	n	% or IQR	N	% or IQR	
Drug use							
IDU ever	7	43.8	11	45.8	18	45.0	0.897
Ever injected by another person	5	31.3	8	33.3	13	32.5	0.890
IDU in last 12 months	6	37.5	8	33.3	14	35.0	0.787
Last drug injected: methamphetamine	7	100	10	90.9	17	94.4	1.000
Per mucosal drugs in last 12 months	15	93.8	19	79.2	34	85.0	0.373
Sexual history in last 12 months							
Median no. sex partners	36	16-50	16	4-16	16	8-39	0.025*
Sex in a group environment	14	87.5	17	70.8	31	79.5	0.272
Fisting	12	75.0	13	54.2	25	62.5	0.318
Condomless anal sex	16	100	21	87.5	37	92.5	0.262

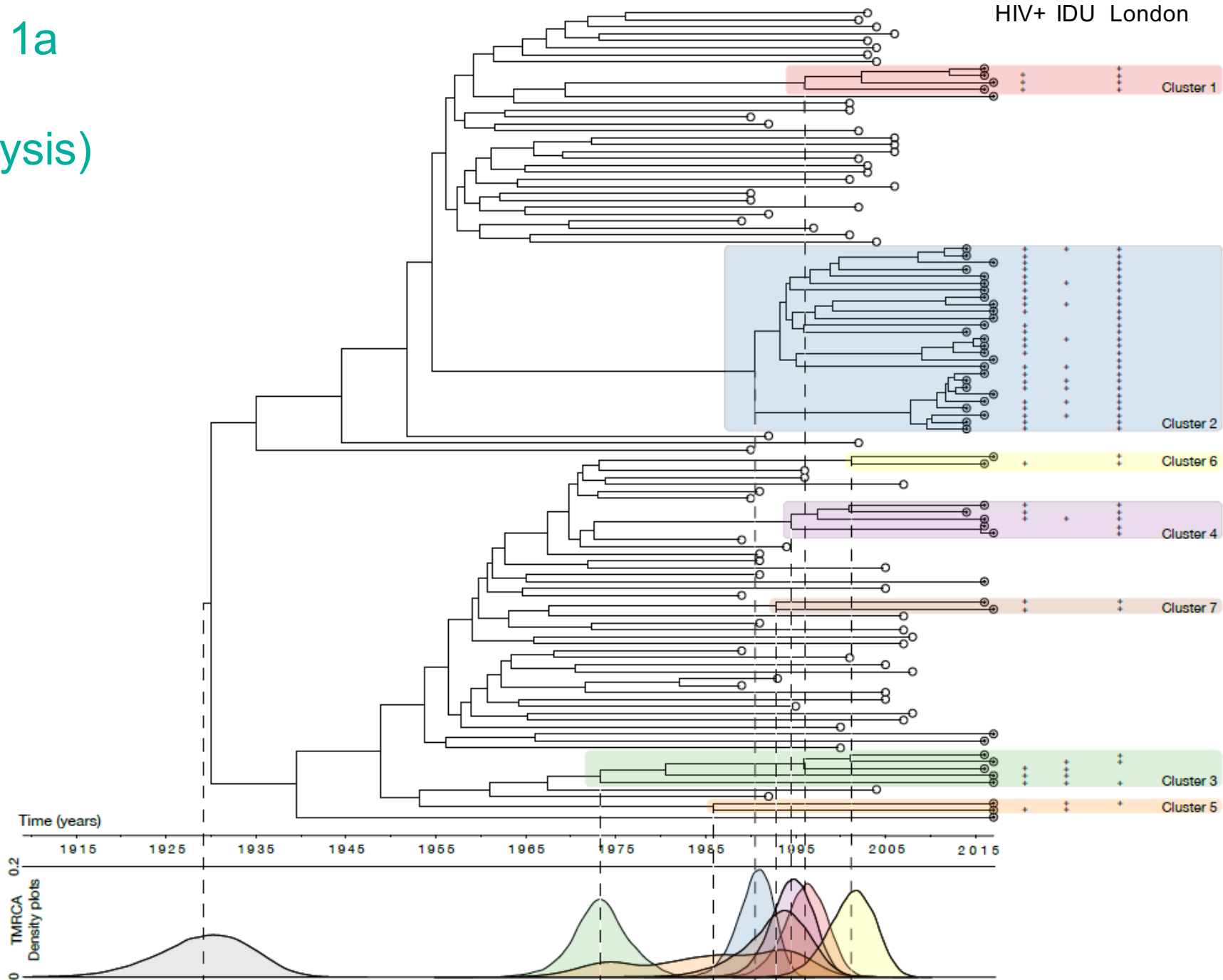
*<0.05 by chi-squared, Fishers exact or Mann Whitney U test

HIV and HCV status reported for 'all, most or some' sexual partners by study participants

	HIV- n=16 (%)	HIV+ n=24 (%)	All N=40 (%)	P value
Partner HIV+	13 (81.3)	20 (83.3)	33 (82.5)	1.000
Partner HCV+	4 (25.0)	3 (12.5)	7 (17.5)	0.407
Partner HIV-	11 (68.8)	14 (58.3)	25 (62.5)	0.505
Partner HCV-	13 (81.3)	21 (87.5)	34 (85.0)	0.668
Unsure of partner HIV status	11 (68.8)	13 (54.2)	24 (60.0)	0.240
Unsure of partner HCV status	11 (68.8)	12 (50.0)	23 (57.5)	0.356

HCV genotype 1a phylogeny (Bayesian analysis)

- Dataset
- Reference



Conclusions

- Forty percent of MSM with acute HCV were HIV-, mostly PrEP-users.
- High levels of condomless anal sex and chemsex seen overall.
- HIV- MSM were younger and had more sexual partners than HIV+ MSM.
- Most MSM thought partners may be HIV+ but few thought they may be HCV+.
- Clusters including both HIV- and HIV+ men suggest shared transmission networks.

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Thank you



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