

HCV Co-infection in the UK Collaborative HIV Cohort (UK CHIC) Study

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on behalf of the UK CHIC Steering Committee**

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Background

- Prevalence of HCV/HIV co-infection varies widely
- UK HCV/HIV prevalence data is limited
- Implications of HCV co-infection
 - Increased progression of liver fibrosis
 - Reduced response rates to HCV treatment
 - Increased toxicity related to HAART
 - Impaired CD4 response to HAART?
- BHIVA Co-Infection Guidelines (2003)
 - Audit standard - all patients should be tested for HCV

Objectives

To describe:

- Trends in HCV testing over time
- Factors associated with HCV testing
- HCV prevalence
- Relationship between HCV and route of HIV acquisition

Methods: UK CHIC

- Contains data from all patients attending 7 UK centres from January 1996 onwards
- Data collection
 - Demographics
 - Antiretroviral treatment history
 - Laboratory data; CD4, HIV RNA, HBV/HCV status
 - AIDS events
 - Deaths
- 21256 HIV + patients
 - 61% MSM, 29% heterosexual, 4% IVDU
 - 79% male

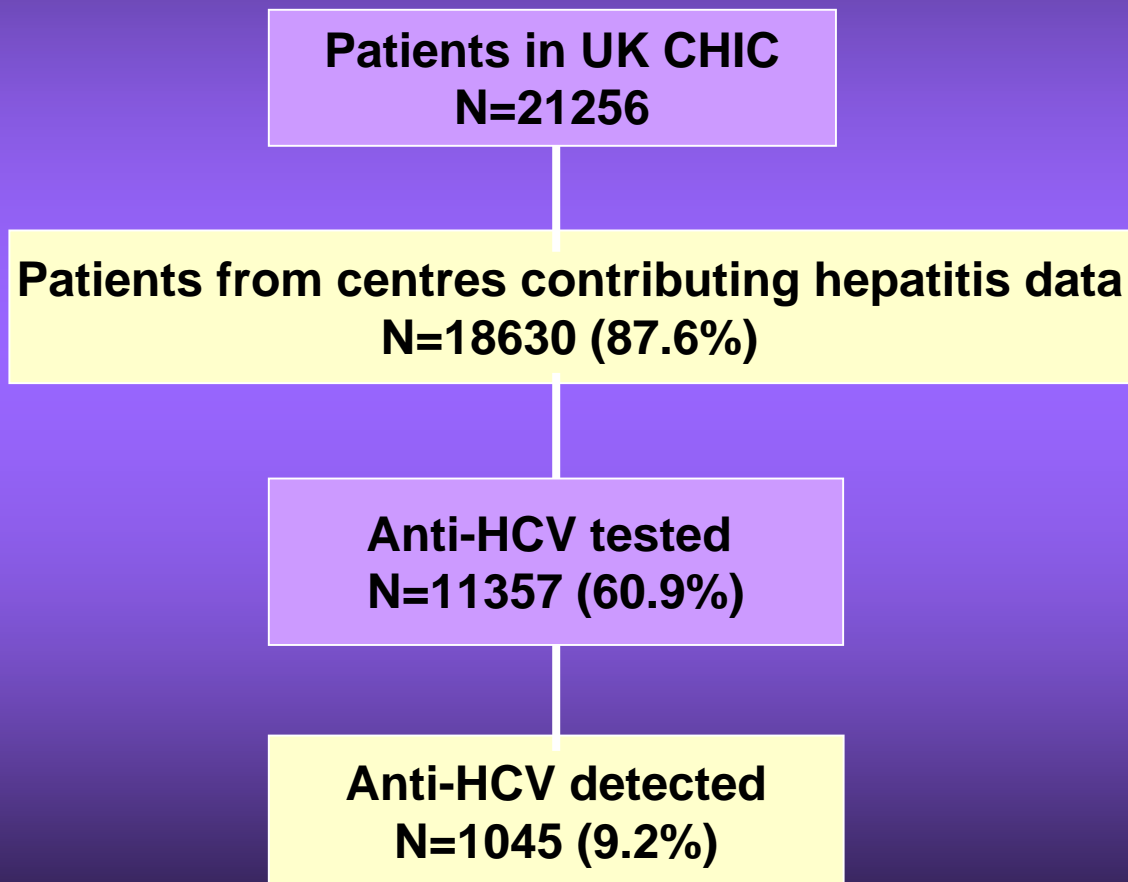
Methods: inclusion criteria

- 6/7 centres contributed HCV testing data and were included in the analysis
- Data to the end of 2003
- Analysis restricted to anti-HCV status
 - Data on HCV RNA less widely reported

Statistical Analysis

- Prevalence of Hepatitis C was calculated according to calendar year
- Chi-squared and Mann-Whitney tests were used to compare those tested against those not tested in univariate analyses
- Multivariate analyses were carried out using Logistic regression

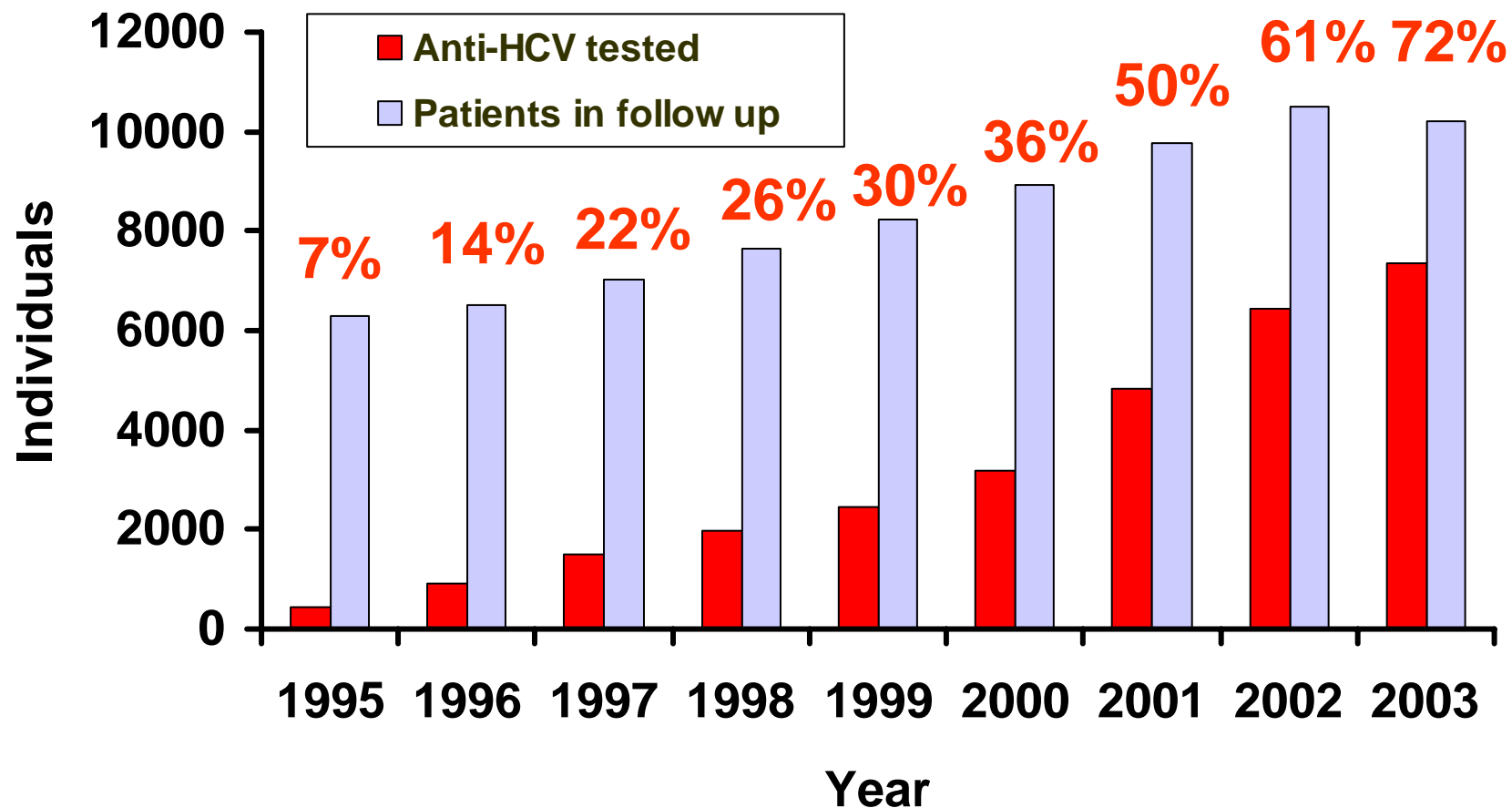
Patient Disposition



Results: demographics

		Antibody Test N=11357
Age (years)	Median (IQR)	36.3 (31.4, 42.1)
Sex N (%)	Male	9386 (82.6)
	Female	1969 (17.3)
Ethnicity N (%)	White	7770 (68.4)
	Black Caribbean	259 (2.3)
	Black African	1954 (17.2)
	Other	1374 (12.1)
Risk Group N (%)	Homo/Bisexual	7806 (68.7)
	Heterosexual	2852 (25.1)
	IVDU	427 (3.8)
	Other	272 (2.4)

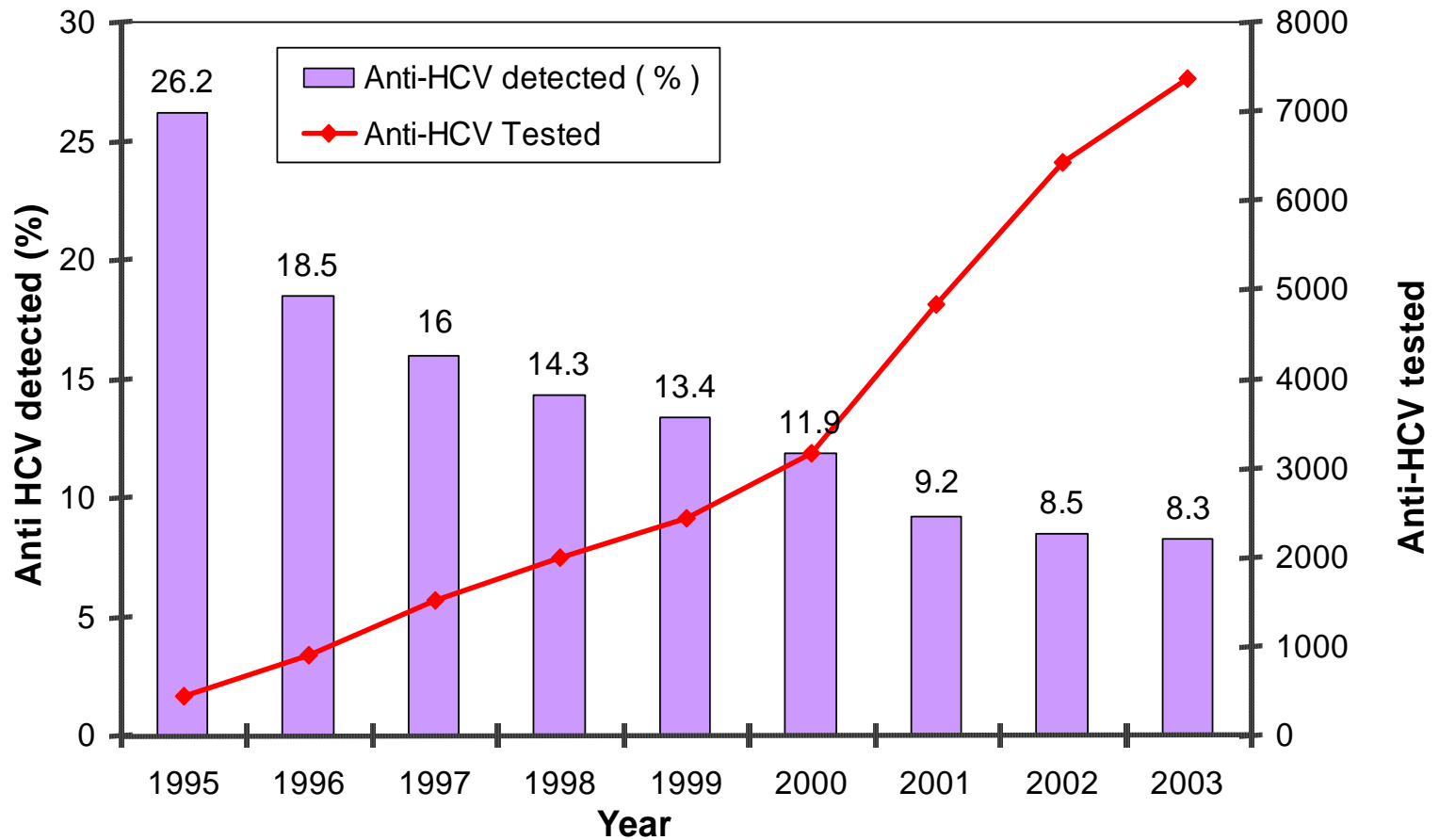
Anti-HCV testing trends over time



Factors associated with anti-HCV testing in the first 18 months after entering the cohort

		Odds Ratio	95% CI	P-Value
Sex N (%)	Male	1	-	-
	Female	0.96	(0.85, 1.08)	0.495
Ethnicity N (%)	White	1	-	-
	Black African	0.81	(0.71, 0.92)	0.096
	Other	0.80	(0.72, 0.89)	0.027
Risk Group N (%)	Homo/Bisexual	1	-	-
	Heterosexual	0.74	(0.65, 0.85)	0.281
	IVDU	1.40	(1.15, 1.71)	<0.001
	Other	0.23	(0.19, 0.28)	<0.001
Year first seen In cohort	≥2002	1	-	-
	1999-2001	0.32	(0.30, 0.36)	<0.001
	1996-1998	0.14	(0.12, 0.15)	<0.001
	<1996	0.02	(0.01, 0.02)	<0.001

Detectable anti-HCV tests over time



Factors associated with detectable anti-HCV

		Odds Ratio	95% CI	P-Value
Sex N (%)	Male	1	-	-
	Female	1.23	(0.95, 1.59)	0.124
Ethnicity N (%)	White	1	-	-
	Black African	0.22	(0.16, 0.31)	<0.001
	Other	0.73	(0.60, 0.88)	0.001
Risk Group N (%)	Homo/Bisexual	1	-	-
	Heterosexual	1.46	(1.13, 1.88)	0.003
	IVDU	94.59	(73.44, 121.84)	<0.001
	Other	4.36	(1.17, 5.91)	<0.001
Year of test	≥2002	1	-	-
	1999-2001	1.34	(1.17, 1.60)	<0.001
	1996-1998	2.01	(1.64, 2.45)	<0.001
	<1996	4.88	(3.56, 6.68)	<0.001
No. of previous tests	Per 1 test increase	1.60	(1.51, 1.71)	<0.001

Also adjusted for whether or not patients had started treatment before test date, last CD4 and last Viral Load measurement before test

Limitations

- Analysis based on primary risk factor for HIV acquisition -underestimates IVDU
- A proportion of patients with anti-HCV will have cleared infection - overestimate the burden of HCV disease
- May underestimate UK wide prevalence

Conclusions

- UK CHIC anti-HCV prevalence 9.2%
- Patients in current follow up
 - 72% have been tested for anti-HCV
 - 8.3% anti-HCV prevalence
- HIV positive patients with unknown anti-HCV status

UK CHIC and further analyses

- Inclusion of other centres
- Expand hepatitis data
 - HCV RNA and LFT's
- Further analyses
 - Response to HAART in HCV/HIV
 - Time to change of HAART in HCV/HIV
 - Progression and mortality in HCV/HIV

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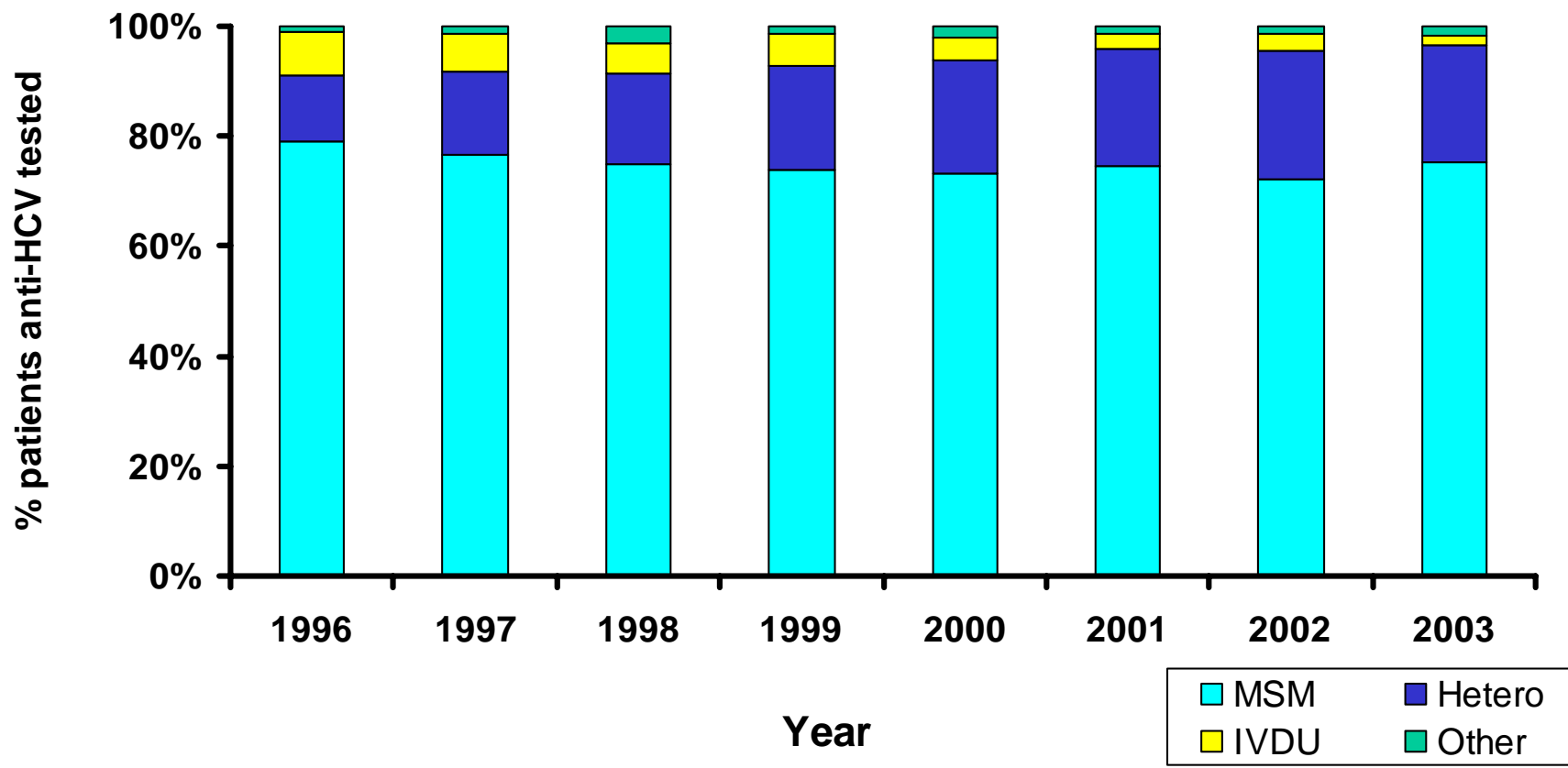


Results

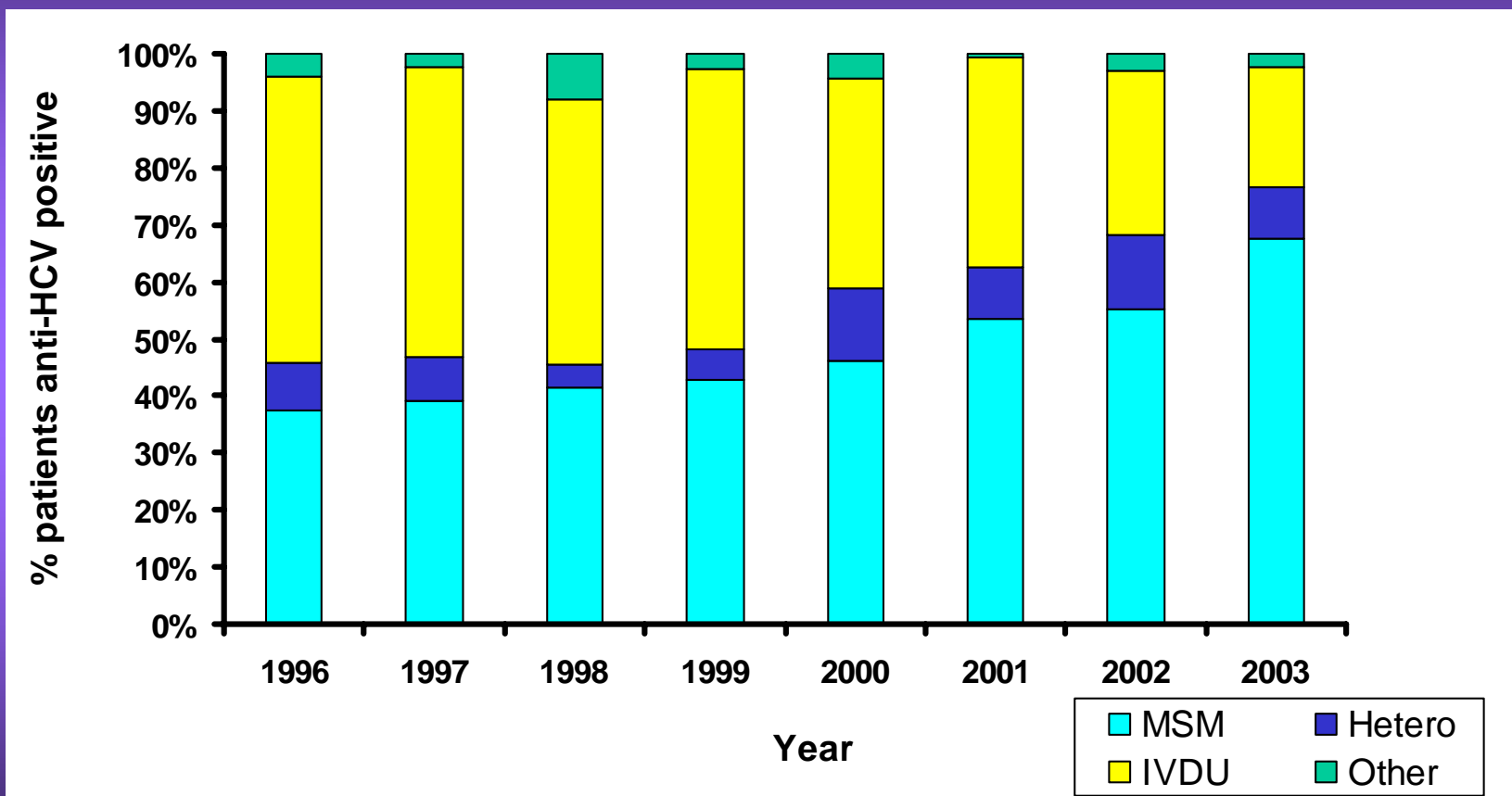
	Median follow up Years	IQR
UK CHIC	4.1	(1.8, 8.4)
Anti-HCV tested	5.0	(1.8, 9.2)

Median time to first anti-HCV test from first seen date
1.1 years (IQR: (0.0, 6.2))

Anti-HCV testing: exposure category



Anti-HCV positive: exposure category



Univariate ORs: testing in 18 months

Variable		Odds Ratio	95% CI	P-Value
Sex N (%)	Male	1	-	-
	Female	1.25	(1.16, 1.35)	<0.001
Ethnicity N (%)	White	1	-	-
	Black African	1.45	(1.34, 1.57)	<0.001
	Other	1.17	(1.08, 1.28)	0.525
Risk Group N (%)	Homo/Bisexual	1	-	-
	Heterosexual	1.43	(1.33, 1.53)	<0.001
	IVDU	1.04	(0.89, 1.22)	0.2550
	Other	0.59	(0.51, 0.69)	<0.001
Year first seen	≥ 2002	1	-	-
In cohort	1999-2001	0.36	(0.33, 0.39)	<0.001
	1996-1998	0.17	(0.15, 0.18)	<0.001
	<1996	0.02	(0.02, 0.03)	<0.001

Univariate ORs: anti-HCV positive

Variable		Odds Ratio	95% CI	P-Value
Sex N (%)	Female	1	-	-
	Male	0.97	(0.96, 0.98)	<0.001
Ethnicity N (%)	White	1	-	-
	Black African	0.92	(0.91, 0.93)	<0.001
	Other	0.97	(0.96, 0.98)	<0.001
Risk Group N (%)	Homo/Bisexual	1	-	-
	Heterosexual	0.98	(0.97, 0.98)	<0.001
	IVDU	2.22	(2.18, 2.26)	<0.001
	Other	1.11	(1.08, 1.14)	<0.001
Year first seen	≥ 2002	1	-	-
In cohort	1999-2001	1.02	(1.00, 1.02)	0.009
	1996-1998	1.07	(1.05, 1.08)	<0.001
	<1996	1.23	(1.20, 1.26)	<0.001