

Women in England with exposure to prison and drug use had **14x** greater risk of hepatitis C seroconversion

INTRODUCTION

- Sentinel surveillance of blood borne viruses (SSBBV) in England was established in 2002 and collects positive and negative results for BBV tests from participating laboratories
- We aimed to estimate incidence of hepatitis C virus (HCV) amongst at risk groups, using HCV antibody seroconversion in SSBBV.

METHODS

We conducted a retrospective cohort study of people aged ≥ 16 years with >1 result in SSBBV. Individuals entered the cohort on the date of their first negative test and exited on the final negative test or first positive test. Only tests within three years of another test, or between two sequences of tests were included; individuals had to enter the cohort before 2020.

Exposures were assigned based on location of tests including drug service, prison, sexual health service and other healthcare settings. Incidence rates (IR) were calculated, a Kaplan Meier curve generated, and Cox regression performed.

RESULTS

A total of 694,216 people were included in the cohort accounting for 1,327,273 person years; 8,123 seroconversions were identified with an overall incidence rate of 0.61 per 100 person years (95% CI: 0.60-0.63). Those with an exposure to drug treatment or prison had an incidence rate of 4.74 (95% CI: 4.55-4.94) and 2.37 (95% CI: 2.25-2.50) per 100 person years respectively.

Cox regression showed significantly higher hazard ratios for those exposed to drug treatment and prison particularly for women where an exposure to both these settings had a hazard ratio of 14.44 ($p < 0.001$; 95% CI: 11.84-17.61) compared to 7.16 ($p < 0.001$; 95% CI: 6.63-7.72) for men with the same exposures.

CONCLUSIONS

Our work shows an increased risk of HCV seroconversion amongst women with exposure to both prison and drug treatment. This population faces multiple health inequalities and barriers to prevention and treatment services which requires focused interventions if we are to realise ambitions for elimination of viral hepatitis by 2030.

KEY FINDINGS

Figure 1. Kaplan Meier survival estimates of HCV seroconversion based on gender, prison exposure and drug treatment exposure amongst people recorded in SSBBV, England 2002-2021

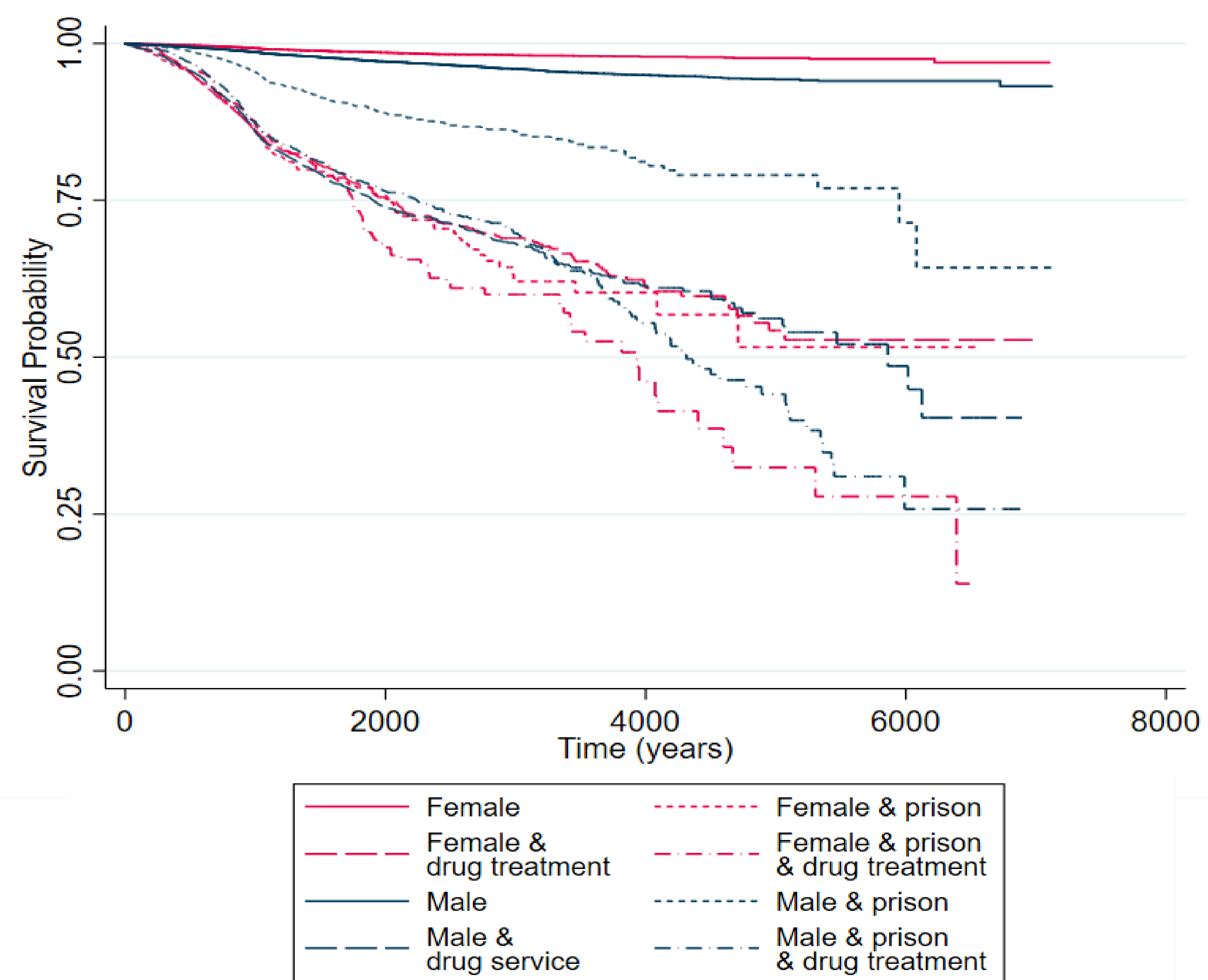


Table 1. Results of multivariable analysis of risk of HCV seroconversion by exposure amongst people recorded in SSBBV, England 2002-2021

Exposure	Female			Male		
	aHR*	95% CI**	p-value	aHR*	95% CI**	p-value
Drug Service	13.30	11.89 - 14.86	<0.001	7.16	6.63 - 7.72	<0.001
Prison	12.45	10.77 - 14.40	<0.001	2.03	1.85 - 2.23	<0.001
Drug Service & Prison	14.44	11.84 - 17.61	<0.001	6.33	5.66 - 7.08	<0.002
Antenatal	1.10	0.92 - 1.31	0.304			
Renal	0.83	0.70 - 0.99	0.04	0.60	0.53 - 0.67	<0.001
Sexual Health	0.74	0.61 - 0.90	0.003	1.28	1.19 - 1.39	<0.001
A&E	0.71	0.60 - 0.86	<0.001	0.75	0.67 - 0.85	<0.001
GP	0.85	0.77 - 0.94	0.001			
Age	0.97	0.97 - 0.98	<0.001	0.97	0.97 - 0.97	<0.001
	Ethnicity					
White	Ref			Ref		
Asian	0.73	0.62 - 0.86	<0.001	0.48	0.43 - 0.54	<0.001
Black	0.47	0.33 - 0.68	<0.001	0.28	0.21 - 0.39	<0.001
Mixed/Other	0.43	0.28 - 0.66	<0.001	0.47	0.36 - 0.61	<0.001
Unknown	0.95	0.80 - 1.14	0.605	0.58	0.53 - 0.63	<0.001

*aHR = adjusted hazard ratio **95%CI = 95% Confidence Interval



More Information

Scan the QR code to see more information on Hepatitis C in England and the UK

Contact Info

Dave Leeman
David.leeman@ukhsa.gov.uk