

# Among people who inject drugs, homelessness increases risk of Hepatitis C exposure by 58%. Polydrug use and history of imprisonment are important mediators.

## The association between homelessness and hepatitis C exposure among people who inject drugs in England, Wales and Northern Ireland: a cross-sectional study

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### INTRODUCTION

- Among people who inject drugs (PWID), there is evidence that homelessness is associated with increased risk of hepatitis C virus (HCV) infection.
- We used a large cross-sectional survey of PWID to test whether homelessness is associated with increased risk of hepatitis C exposure, and if so, whether this difference could be explained by injecting practices, contact with harm reduction services and/or incarceration.

### METHODS

- We used bio-behavioural survey data from the Unlinked Anonymous Monitoring Survey (UAMS) of HIV and Viral Hepatitis among People Who Inject Drugs -from 2012 to 2017-
- Exclusion criteria were as follows: participants who did not inject in the past year, those aged under 16 or over 64, those who previously injected. We restricted the analysis to the first completed survey per respondent.
- A Poisson regression model was fitted with HCV exposure (measured as antibody positive (HCV Ab+) in a dried blood spot test) as the dependent variable and homelessness as the independent variable, subsequently adding potential mediators. Age and sex were considered a-priori as confounders.

### RESULTS

- In total, 11,106 eligible individuals were included in the analysis.
- 18% (2091) reported current homelessness, of which 59% were HCV Ab+.
- 22% (2456) reported never being homeless, of which 38% were HCV Ab+.
- The risk of HCV exposure in those currently homeless is 58% higher than in those never homeless (Table 1), After adjusting for injecting risks, protective factors and incarceration, the increased risk is 29%.
- The number of times in prison (figures 1, 2) and injecting both opiates and stimulants (figure 2) are important mediators.

### CONCLUSION

- This study is one of the largest exploring homelessness and HCV exposure. The majority of PWID in this study had experienced homelessness, and had significantly higher risk of HCV exposure.
- Prisons may be an important location for health promotion interventions that address the higher risk of HCV among homeless PWID.

Table 1. Relative risk (RR) of hepatitis C exposure in current vs never homeless

Mediators	RR	95% CI	% Change in age + sex adjusted risk ratio
1: age + sex	1.58	(1.45, 1.72)	0%
2: frequency and duration	1.51	(1.38, 1.64)	12%
3: drugs injected	1.43	(1.31, 1.57)	26%
4: sharing	1.57	(1.44, 1.71)	2%
5: high risk injecting sites	1.52	(1.39, 1.65)	10%
6: all injecting risk variables	1.36	(1.24, 1.49)	38%
7: uses needle exchanges	1.57	(1.44, 1.71)	2%
8: opiate substitution therapy	1.56	(1.43, 1.70)	3%
9: number of times in prison	1.44	(1.31, 1.57)	24%
10: Injected in prison	1.54	(1.41, 1.68)	7%
11: fully adjusted	1.29	(1.17, 1.41)	50%

Figure 1. Prevalence of hepatitis C exposure among people who inject drugs in England, Wales and Northern Ireland by homelessness and prison history. (Size of circles is proportional the size of the sample)

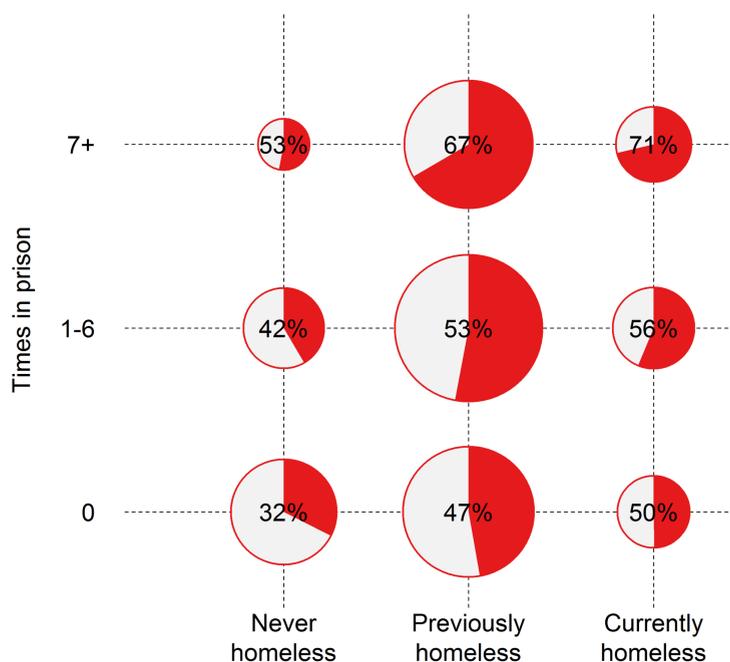


Figure 2. Proportion reporting various risk factors for hepatitis C and the associated prevalence of hepatitis C exposure (Hep C Ab+) in current vs never homeless

