

## STABLE INCIDENCE OF HEPATITIS C VIRUS INFECTION AMONG PEOPLE WITH A HISTORY OF INJECTING DRUG USE IN AN AUSTRALIAN PRISON SETTING, 2005-2014: THE HITS-P STUDY

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**Introduction:** Hepatitis C virus (HCV) transmission is high in prisons. Understanding trends in incidence and factors associated with infection in prisons is crucial for developing HCV prevention and treatment programs. This study investigated trends in HCV incidence and associated factors among a cohort of prisoners in New South Wales (NSW), Australia.

**Methods:** Data were available from the Hepatitis C Incidence and Transmission Study in prisons (HITS-p) from 2005-2014. Temporal trends in HCV incidence were evaluated. Factors associated with time to HCV seroconversion were assessed using Cox proportional hazards regression.

**Results:** Among 590 participants enrolled, 320 were eligible for inclusion ( $\geq 1$  follow-up visit, lifetime history of injecting drugs, and HCV antibody/RNA negative at enrolment). Mean age was 26 years, 72% (n=229) were male, 33% (n=104) reported recent injecting drug use, and 25% (n=81) reported syringe sharing during follow-up. Overall, 93 infections were observed [815 person-years (p-yrs) of follow up], with a median time to infection of 553 days (IQR: 228-1024). HCV incidence was 11.4/100 p-yrs (95% CI: 9.3-14.0/100 p-yrs) in the overall population and 6.3/100 p-yrs (95% CI: 4.5-8.9/100 p-yrs) among the continually imprisoned population. A stable trend in incidence was observed over the study period. Overall, time to incident HCV infection was independently associated with older age [adjusted hazard ratio (aHR): 0.66; 95% CI: 0.45-0.98], receiving opioid substitution therapy (OST) (aHR: 1.77; 95% CI: 1.10-2.85), recent methamphetamine injecting (aHR: 2.00; 95% CI: 1.15-3.46), and recent heroin injecting (aHR: 2.52; 95% CI: 1.62-3.91).

**Conclusion:** In Australia, HCV incidence in prisons among people with a history of injecting drug use is high and is associated with older age, injecting methamphetamine, and injecting heroin, with no protective effect of OST. These findings highlight the need for improved harm reduction strategies and evaluation of interferon-free HCV treatment as prevention strategies in prisons.

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