Kirby Institute

HCV exposure, infection and associated risk behaviours in two maximum-security prisons in NSW, Australia

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S T O P C

Background

- HCV prevalence in the prison setting is high.
  - Global (HCV Ab+): 26%
  - Australia (HCV Ab+): 31%

- HCV transmission in the prison setting is also high due to lack or sub-optimal coverage of HCV prevention strategies, including needle syringe programs (NSP), and opioid substitution treatment (OST).
  - HCV incidence, global: 16/100 py
  - HCV incidence, Australia: 6/100 py
    (among those with life-time history of injecting drug use)

- People who inject drugs (PWID) have high rates of imprisonment.
  - 45% of Australian prisoners report ever injecting drug use

Larney, Hepatology 2013; Butler 2015; Cunningham, INHSU 2016

Background

- In NSW prisons, OST and bleach-cleansing of injecting equipment is available, but not NSP.
- OST and bleach-cleansing of injecting equipment in NSW prisons had no significant impact on reducing HCV incidence.

Butler 2015; Cunningham, INHSU 2016; Luciani, Addiction 2014

The Surveillance and Treatment of Prisoners with hepatitis C

- A partnership project to investigate the feasibility of HCV treatment as prevention in the prison setting

- Overall aims:
  - To evaluate the impact of rapid scale-up of DAA treatment on HCV incidence and prevalence in the prison setting
  - To develop a translational framework for subsequent establishment of treatment-as-prevention programs in the prison sector

Maximum-security prisons

Goulburn Correctional Centre, Goulburn

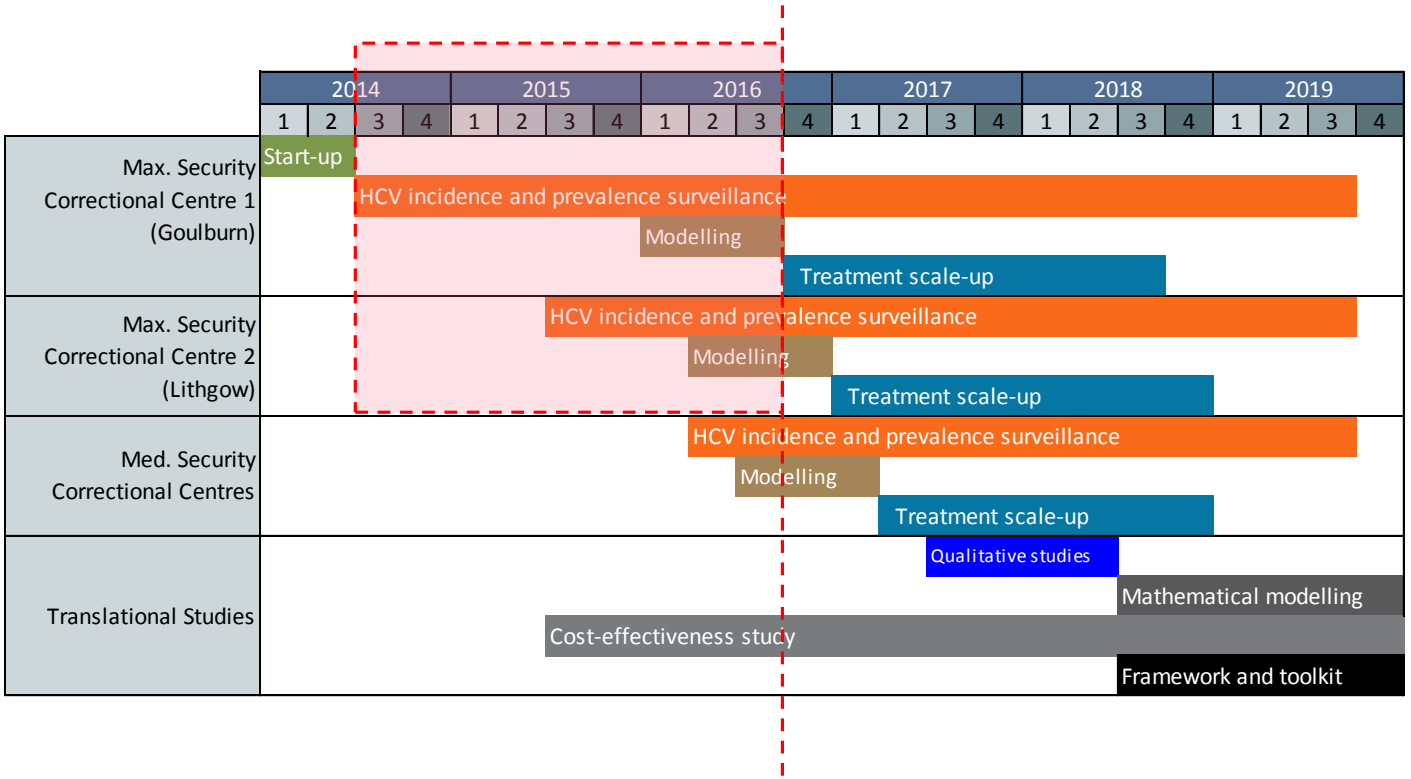
Lithgow Correctional Centre, Lithgow

Medium-security prisons

Outer Metropolitan Multipurpose Correctional Centre (OMMPCC), Sydney

Dillwynia Correctional Centre (Women), Sydney

STOP-C: Study Schedule



Methodology

- Data for this analysis includes prisoners enrolled from two maximum-security prisons between October 2014 and August 2016.

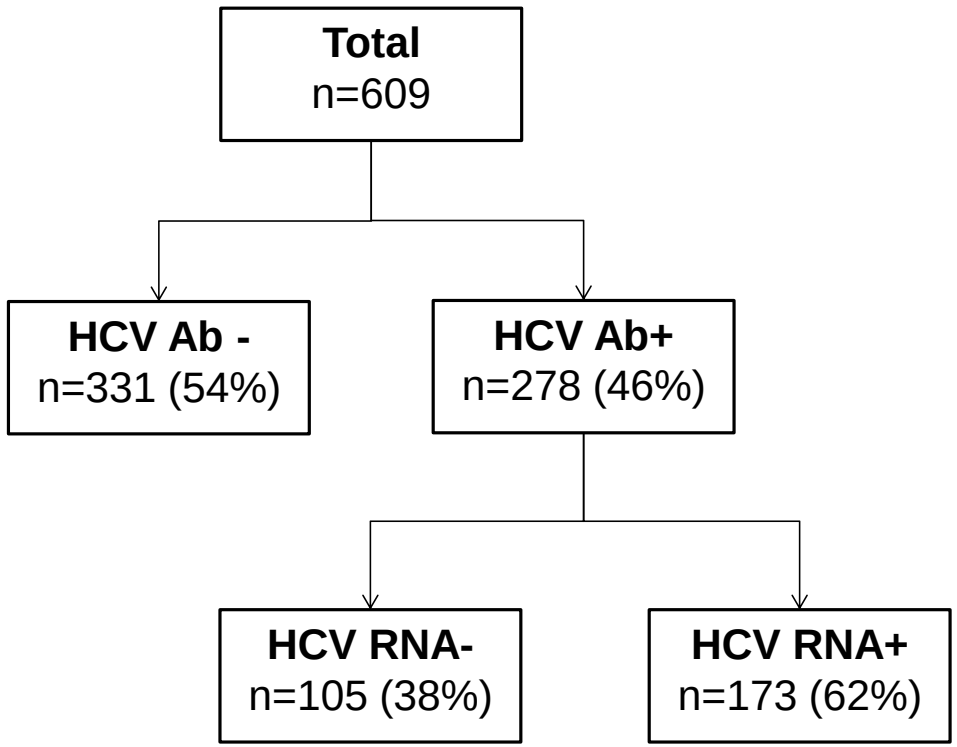
- At enrolment, participants received testing for HCV Ab and RNA, and completed a detailed interview, including injecting behaviours.

- **Objectives:**
  - To evaluate HCV exposure and infection
  - To assess the behavioural factors by HCV status

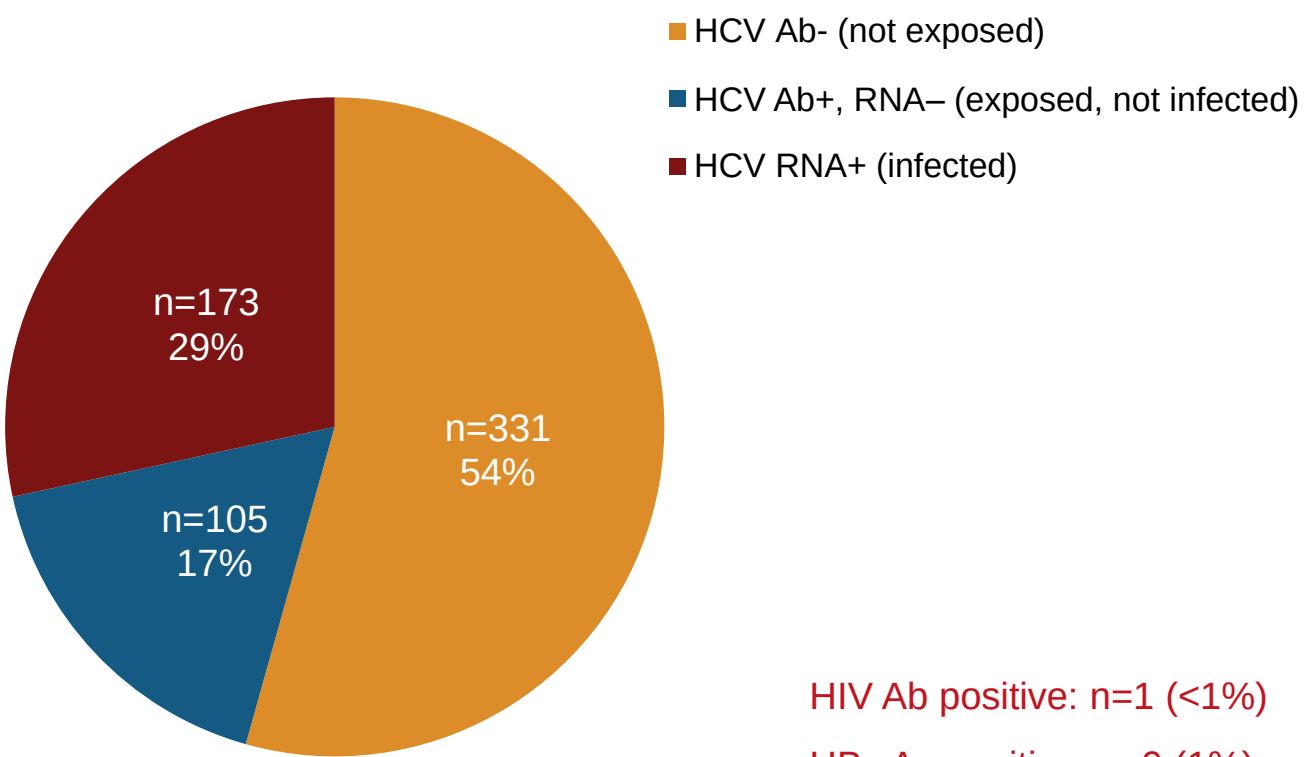
Results: Background characteristics

	Total (n=609)	Goulburn (n=426)	Lithgow (n=183)
Age, median (IQR), year	33 (26, 43)	33 (26, 43)	32 (26, 41)
Born in Australia	510 (84%)	360 (84%)	150 (82%)
Education level lower than high school	218 (36%)	148 (35%)	70 (38%)
Length of sentence, median (IQR), years	7.8 (3.0, 17.0)	7.0 (2.2, 16.0)	9.2 (3.7, 20.0)
Duration incarcerated, median (IQR), years	1.8 (0.6, 4.2)	1.6 (0.5, 4.1)	2.2 (1.1, 4.4)
Previously imprisoned	435 (71%)	312 (73%)	123 (67%)

Results: HCV status



Results: HCV status

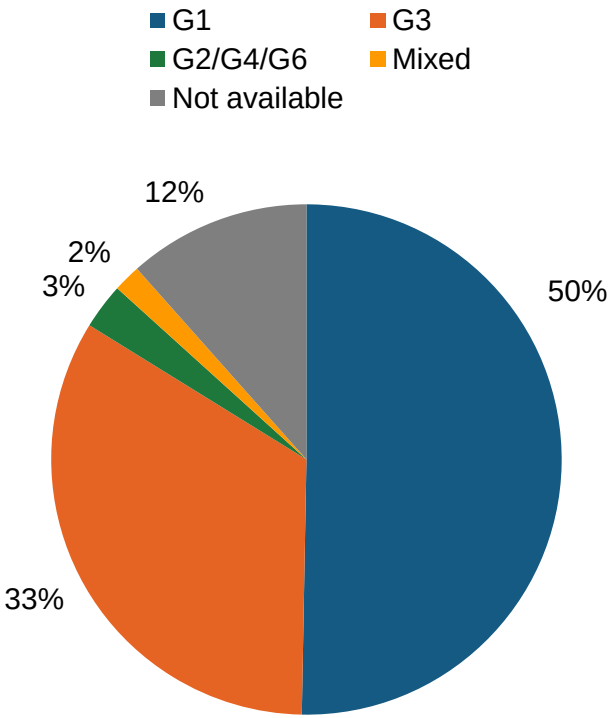


HIV Ab positive: n=1 (<1%)

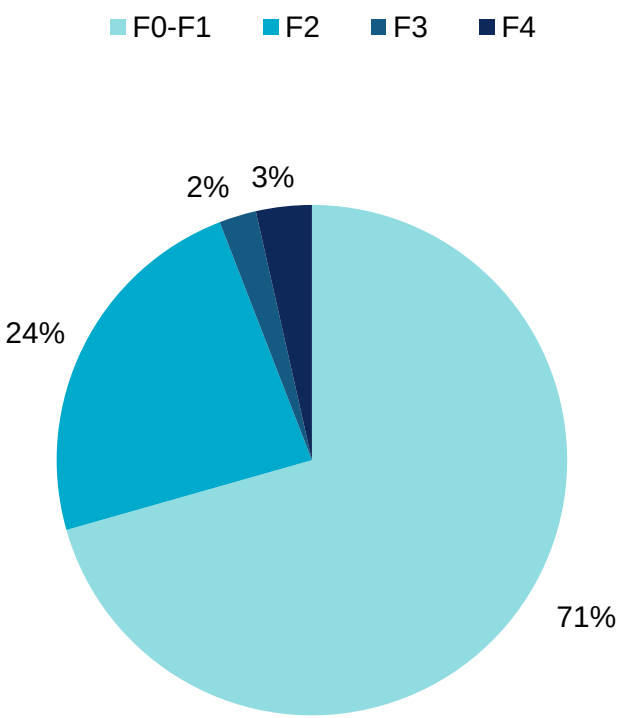
HBs Ag positive: n=9 (1%)

Results: Genotype and liver fibrosis

HCV genotype
n = 173

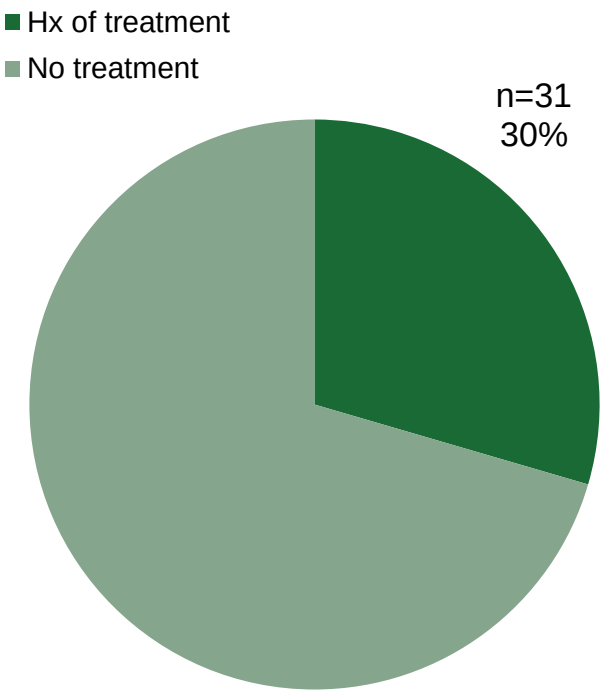


Liver fibrosis stage
(transient elastography)
n = 85

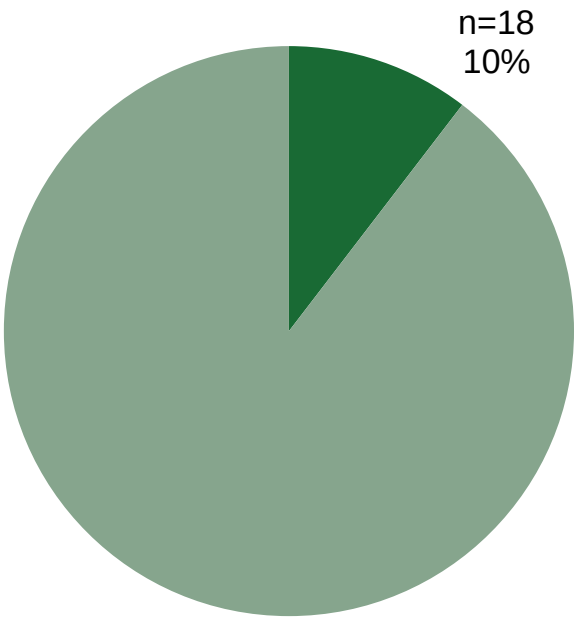


Results: Self-reported history of HCV treatment

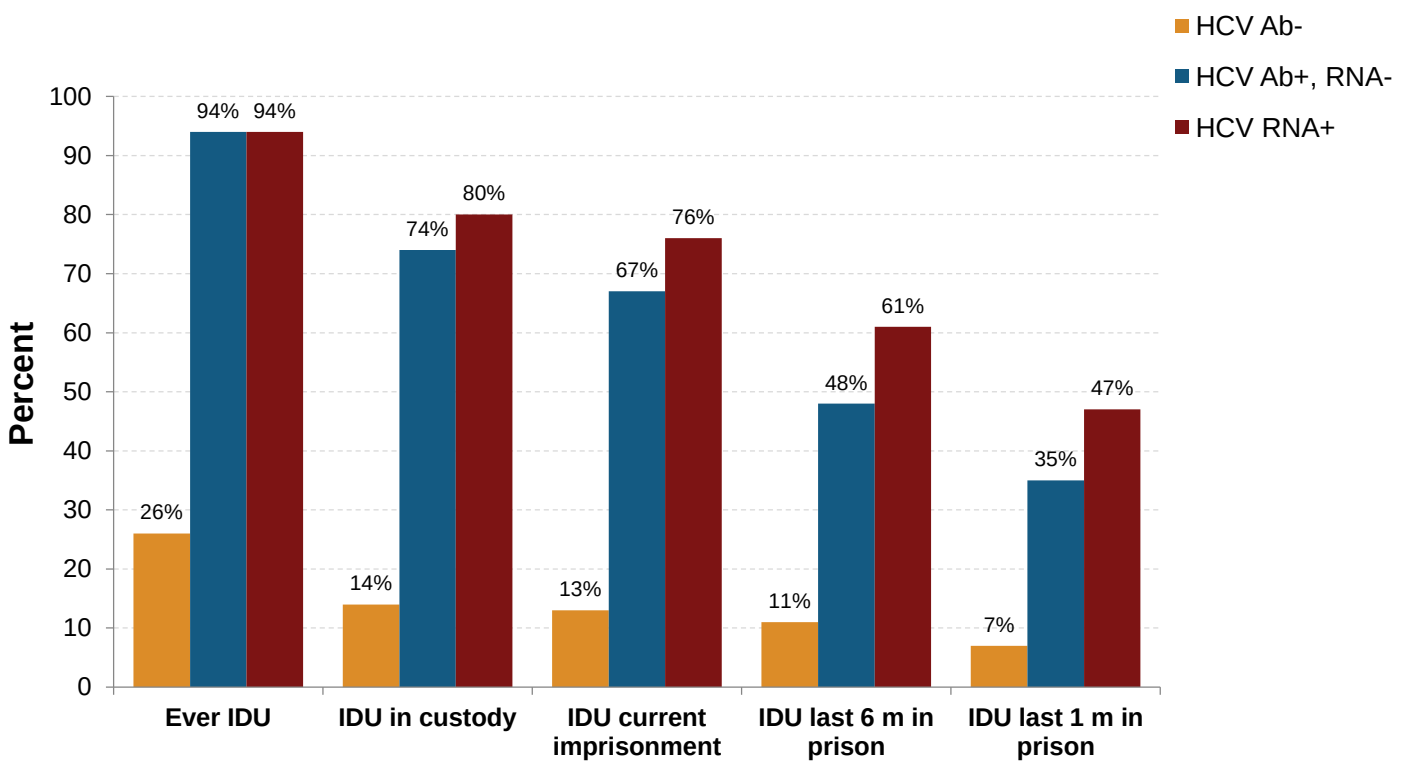
HCV Ab+, HCV RNA-
exposed not infected
n = 105



HCV RNA+
infected
n = 173

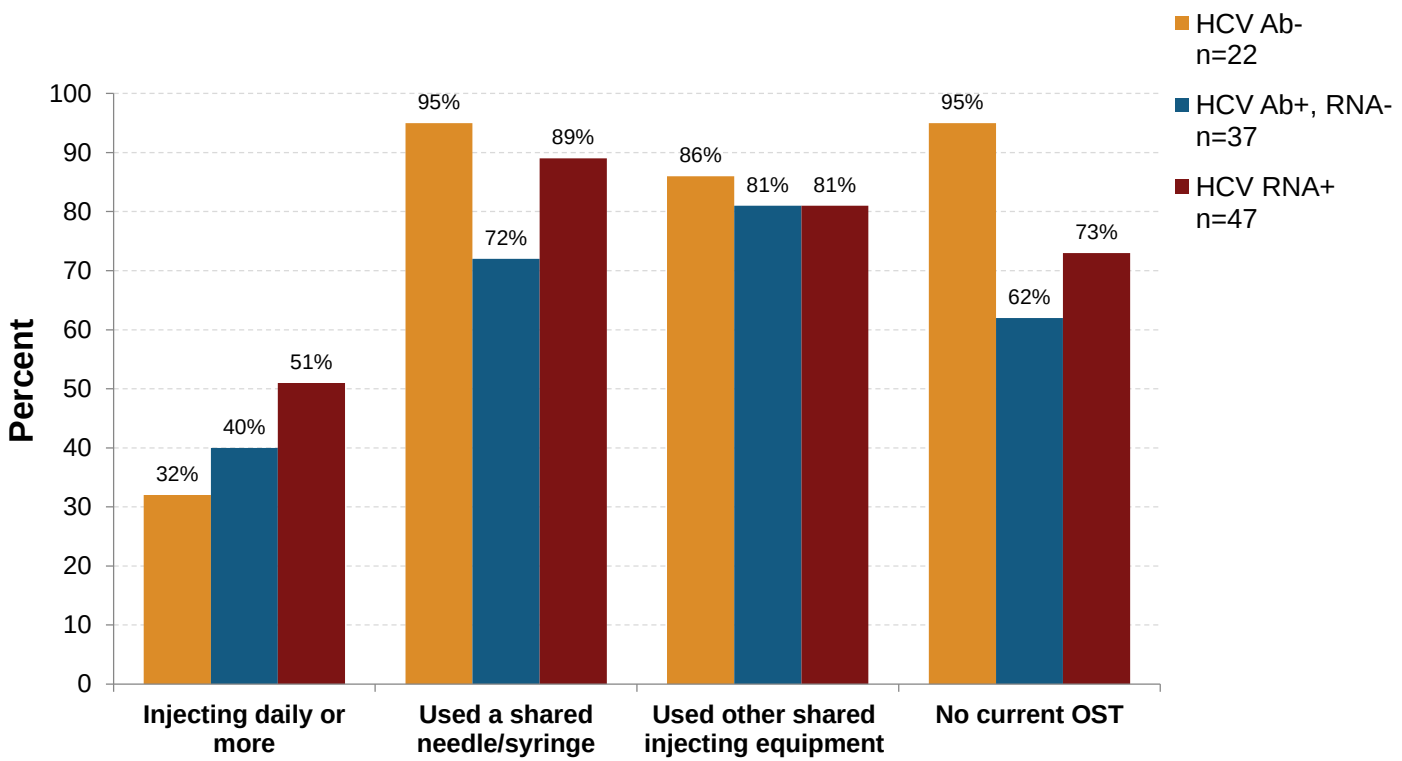


Results: IDU risk behaviors by HCV status



Results: IDU risk behaviors among active PWID

Those injecting in the last month in prison *(n = 140)*



Conclusion

- A high proportion of participants with HCV infection from maximum-security prisons reported injecting risk behaviours, potentially contributing to HCV transmission in the prison.

- Among total participants at risk of HCV, those with previous HCV exposure and clearance were more likely to report active injecting in the prison than those with no previous exposure, suggesting ongoing risk of re-infection.

- Among participants with active IDU, high risk injecting was reported by all participants. It can translate to:
  - High risk of transmitting HCV by those with HCV infection
  - High risk of both HCV primary and re-infection among susceptible individuals

- Increased HCV prevention strategies are needed.

- Surveillance of HCV incidence should focus on detection of both HCV primary infection and re-infection.

Acknowledgements

STOP-C is supported by National Health and Medical Research Council (NHMRC) Partnership Project Grant (APP1092547), and Gilead Sciences, Inc.

Study partners:

UNSW AUSTRALIA

NSW GOVERNMENT Justice Corrective Services

NSW GOVERNMENT Health Justice Health & Forensic Mental Health Network

CSRH Centre for Social Research in Health

NSW GOVERNMENT Health

changing lives reducing crime

Hepatitis NSW

GILEAD

NUAA NSW USERS AND AIDS ASSOCIATION

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