



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

Hajari B¹, Grebely J¹, Byrne M¹, Marks P¹, Butler T¹, Amin J¹, Vickerman P², Martin NK^{2,3}, McHutchison JG⁴, Brainard DM⁴, Treloar C⁵, Lloyd AR¹, Dore GJ¹

1. The Kirby Institute, UNSW Australia, Sydney, Australia; 2. School of Social and Community Medicine, University of Bristol, UK; 3. Division of Global Public Health, University of California San Diego, CA, USA; 4. Gilead Sciences, Inc., Foster City, CA, USA; 5. Centre for Social Research in Health, UNSW Australia, Sydney, Australia

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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

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.

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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

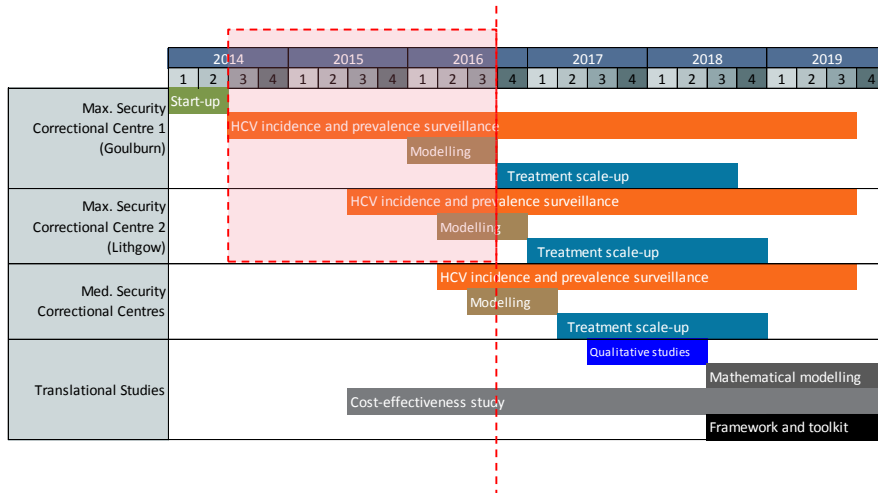


Dillwynia Correctional Centre (Women), Sydney



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SToP-C: Study Schedule



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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

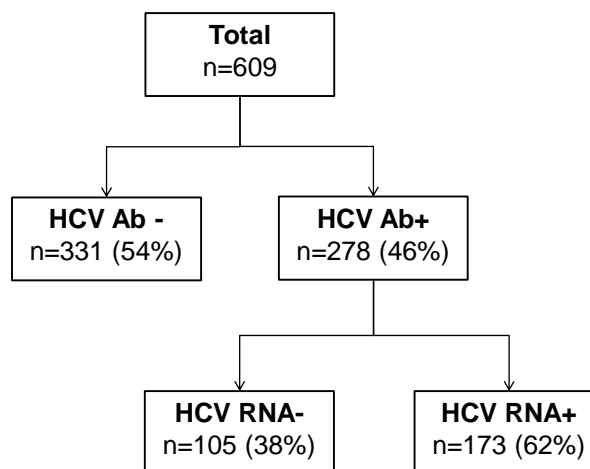
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Results: Background characteristics

	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%)

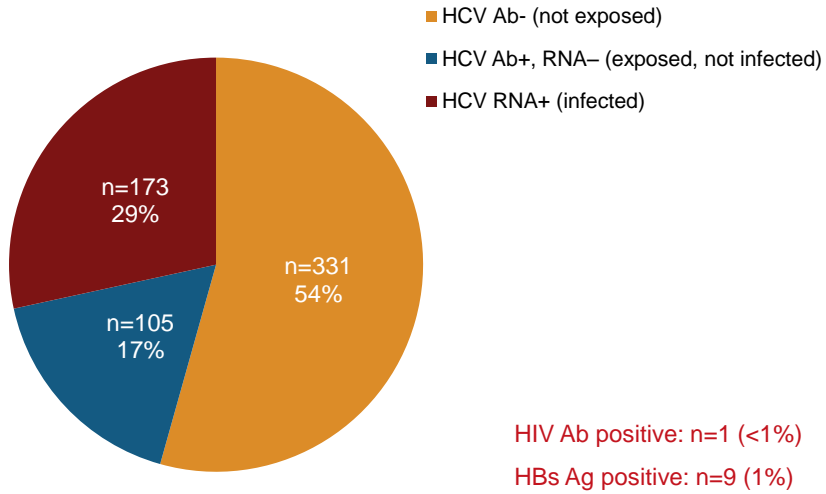
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Results: HCV status



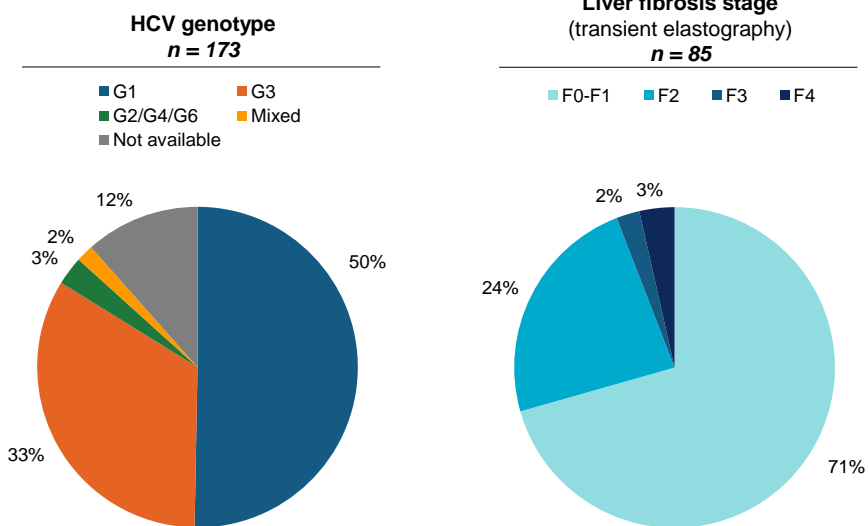
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Results: HCV status



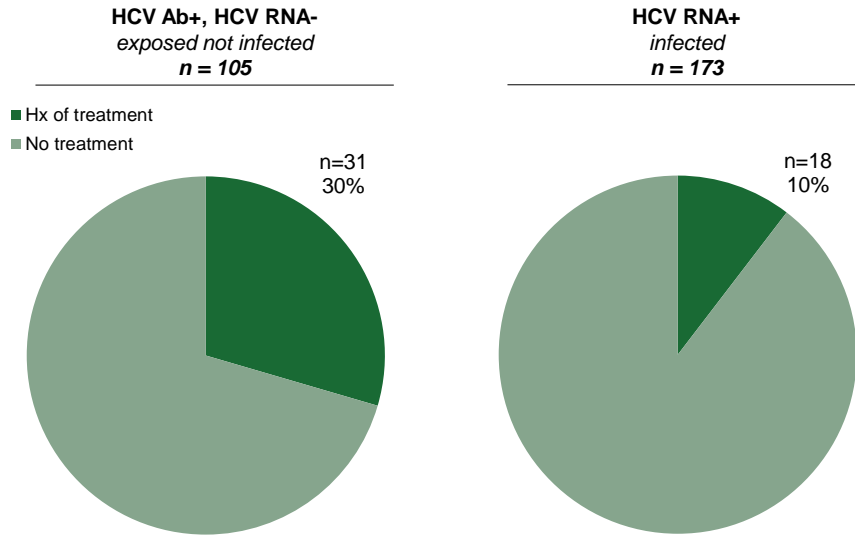
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Results: Genotype and liver fibrosis



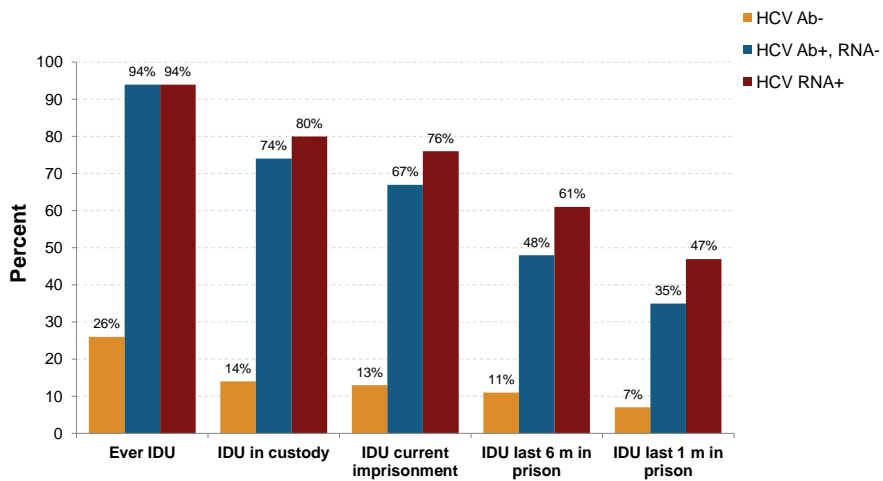
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Results: Self-reported history of HCV treatment



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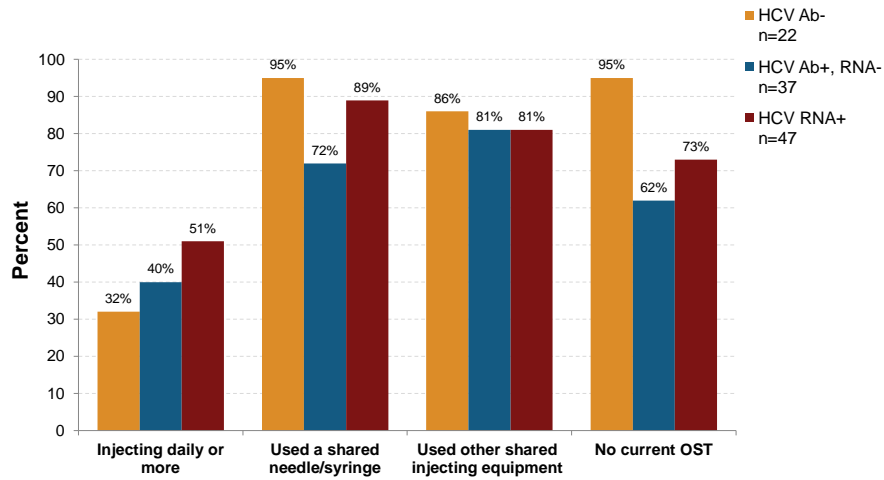
Results: IDU risk behaviors by HCV status



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Results: IDU risk behaviors among active PWID

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



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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.

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Study partners:



Protocol Steering Committee:

Stuart Loveday (Chair)	Hepatitis NSW
Greg Dore (co-PI)	UNSW Australia
Andrew Lloyd (co-PI)	UNSW Australia
Jason Grebely	UNSW Australia
Tony Butler	UNSW Australia
Marianne Byrne	UNSW Australia
Carla Treloar	UNSW Australia
Georgina Chambers	UNSW Australia
Lee Trevethan	JH&FMHN
Colette McGrath	JH&FMHN
Julia Bowman	JH&FMHN
Roy Donnelly	JH&FMHN
Luke Grant	Corrective Services NSW
Terry Murrell	Corrective Services NSW
Nicky Bath	NSW Health
Alison Churchill	Community Restorative Centre
Kate Pinnock	Community Restorative Centre
Mary Ellen Harrod	NSW Users and AIDS Association
Natasha Martin	University of California San Diego
Peter Vickerman	University of Bristol

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