Kirby Institute

Injecting risk behaviours among people with a history of injecting drug use in an Australian prison setting, 2005-2014: the HITS-p study

Evan Cunningham | **6 September, 2017**

Disclosures

- Nothing to disclose

HCV in prison

- Injecting drug use is known to continue in prison
- The prevalence of HCV infection is high in prisons due, in part, to the incarceration of PWID for drug related crimes
- Prison represents a key setting in which to implement HCV treatment and prevention strategies
- HCV prevention strategies such as NSP and OST are either not available or have low coverage in many global prison settings
    - In Australia, OST is available and inmates are given access to bleach for cleansing injecting equipment

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Introduction

- In a previous study, syringe sharing in prison was associated with incident infection[1]
    - Incidence of 6.3 cases/100 person years among continuously imprisoned participants
- A better understanding of the injecting risk behaviours in prison is needed to implement prevention and treatment strategies
- Previous studies have been limited by cross-sectional or retrospective designs or limited to single prisons

4 1. Cunningham EB et al. Ongoing incident hepatitis C virus infection among people with a history of injecting drug use in an Australian prison setting, 2005-2014: the HITS-p study. J Viral Hepat 2017

Aims

HITS-p: A prospective, multi-prison study of PWID between 2005 and 2014

1. To investigate changes in injecting risk behaviours and drug use patterns prior to, and during, incarceration.
   - GEE to account for correlated nature of repeated measures
   - Logistic regression to investigate continuation and re-initiation of injecting
2. To assess the factors associated with ongoing injecting risk behaviours.
   - GEE to account for correlated nature of repeated measures

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Study assessments

Study Enrolment

- Completed questionnaire regarding the 3 months before entering prison and the time since entering prison

Study Follow-up

- Every 6-12 months while in prison
- Completed questionnaire regarding the time since last visit

- All interviews were done by study nurses outside of the custodial authority

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Baseline characteristics

Characteristic, n (%)	Overall, n (%) (n=499)
Age at baseline, years; median (Q1-Q3)	26 (23-32)
Female sex	175 (35)
Injecting drug use ever at baseline	499 (100)
Methamphetamine	431 (86)
Cocaine	231 (46)
Heroin	325 (65)
Buprenorphine/methadone	167 (33)
Recent injecting drug use since entering prison	136 (27)
Methamphetamine	56 (41)
Cocaine	17 (13)
Heroin	75 (55)
Buprenorphine/methadone	72 (53)
Recent IDU frequency since entering prison	
<weekly	90 (66)
≥weekly	39 (28)
Recent needle/syringe sharing since entering prison	99 (73)
Current OST at baseline	108 (18)

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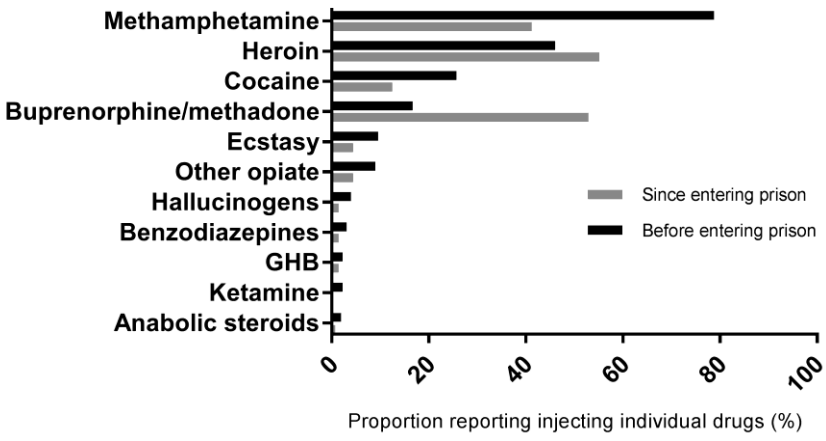

Results at study enrolment

Comparisons of time before prison to since entering prison

Decreased odds of any injecting: aOR 0.15, 95% CI 0.12-0.20

Characteristics	OR	95% CI	p-value	aOR	95% CI	p-value
Risk behaviours						
Frequency of injecting ≥weekly	0.06	0.04-0.10	<0.001	0.06	0.04-0.10	<0.001
Syringe sharing	9.81	6.50-14.81	<0.001	9.84	6.38-15.18	<0.001
Types of drugs						
Methamphetamine injecting	0.20	0.14-0.29	<0.001	0.21	0.14-0.30	<0.001
Cocaine injecting	0.33	0.19-0.56	<0.001	0.30	0.17-0.51	<0.001
Heroin injecting	1.19	0.84-1.69	0.316	1.11	0.78-1.58	0.551
Buprenorphine/methadone injecting	3.59	2.36-5.48	<0.001	3.53	2.28-5.46	<0.001
Other opiate injecting	0.44	0.18-1.04	0.061	0.40	0.16-0.99	0.047

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Results - study enrolment

Factors associated with continuing injecting (n=108)

Variable	OR	95% CI	P	aOR	95% CI	P
Age (per 10 years younger)	1.41	0.98-2.03	0.062	1.64	1.08-2.50	0.023
Female sex	1.70	1.04-2.77	0.033	1.32	0.76-2.29	0.319
Methamphetamine injecting	0.58	0.34-0.99	0.046	0.86	0.46-1.62	0.643
Cocaine injecting	2.11	1.28-3.47	0.003	1.65	0.93-2.91	0.085
Heroin injecting	2.70	1.69-4.31	<0.001	2.55	1.44-4.50	0.001
Buprenorphine/methadone injecting	1.45	0.81-2.59	0.217	0.80	0.41-1.56	0.518
Frequency of injecting (≥ weekly vs. < weekly)	2.65	1.07-6.52	0.034	2.59	0.92-7.31	0.072
Syringe sharing	2.38	1.38-4.09	0.002	2.43	1.33-4.44	0.004
Previous imprisonment	1.88	1.11-3.20	0.020	2.55	1.36-4.79	0.004
Time in prison at baseline interview (per year)	1.35	1.12-1.62	0.002	1.55	1.27-1.90	<0.001

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Results - study enrolment

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Results - study enrolment

Factors associated with re-initiation of injecting (n=28)

Variable	OR	95% CI	P	aOR	95% CI	P
Age (per 10 years younger)	3.95	1.64-9.52	0.002	10.69	3.17-36.08	<0.001
Female sex	1.39	0.54-3.55	0.495	0.92	0.32-2.66	0.883
Previous imprisonment	0.94	0.78-1.13	0.49	1.10	0.89-1.35	0.387
Time in prison at baseline interview (per year)	1.13	0.97-1.32	0.112	1.62	1.23-2.13	0.001

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Results - study enrolment

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Previous imprisonment	0.94	0.78-1.13	0.49	1.10	0.89-1.35	0.387
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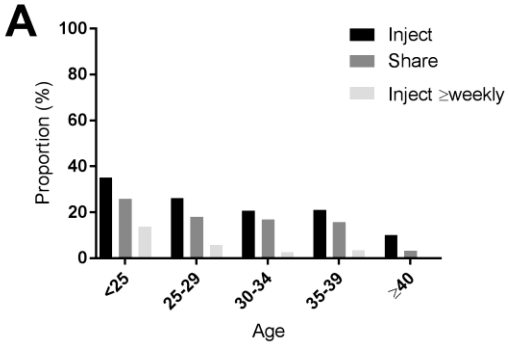

Results – follow-up

Factors associated with ongoing injecting in prison

Outcome	Factor	OR	95% CI	p	aOR	95% CI	p
Injecting							
	Age (per 10 years younger)	1.64	1.16-2.27	0.004	1.87	1.28-2.78	0.001
	Interview date (per calendar year)	0.99	0.98-1.01	0.525	1.02	0.99-1.04	0.145
	Time in prison at interview	1.23	1.11-1.37	<0.001	1.36	1.19-1.54	<0.001
	Female sex	1.07	0.64-1.78	0.796	1.05	0.62-1.76	0.861
	Current OST at interview	2.02	1.30-3.13	0.002	2.04	1.30-3.20	0.002

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Results – follow-up

Factors associated with ongoing risk behaviours in prison

Outcome	Factor	OR	95% CI	p-value	aOR	95% CI	p-value
≥weekly injecting drug use							
	Age (per 10 years younger)	1.47	0.94-2.33	0.085	1.72	1.05-2.86	0.029
	Interview date (per calendar year)	1.00	0.97-1.04	0.837	1.02	0.99-1.06	0.215
	Time in prison at interview	1.12	1-1.25	0.045	1.25	1.09-1.44	0.002
	Female sex	0.92	0.5-1.68	0.781	1.08	0.58-2	0.806
	Current OST at interview	0.60	0.3-1.21	0.154	0.56	0.27-1.16	0.119
Needle/syringe sharing							
	Age (per 10 years younger)	2.50	1.67-3.85	<0.001	2.00	1.28-3.13	0.002
	Interview date (per calendar year)	0.93	0.9-0.95	<0.001	0.95	0.92-0.98	0.001
	Time in prison at interview	1.60	1.27-2.03	<0.001	1.59	1.23-2.06	<0.001
	Female sex	1.09	0.61-1.92	0.774	1.01	0.54-1.89	0.986
	Current OST at interview	2.29	1.38-3.79	0.001	1.98	1.16-3.41	0.013

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Discussion

- Advent of highly effective, well tolerated DAAs has made treatment as prevention a realistic strategy
- In many settings, scale up will require a targeted approach
  - Targeting to younger individuals may result in the greatest benefit
- Treatment in combination with scale up of NSP and OST for greatest benefit
- Results potentially suggest increased access to buprenorphine/methadone in prison

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Conclusion

- A multifaceted approach to HCV prevention is needed:
  - Scale up of HCV DAA treatment among young injectors
  - Implementation and scale up of prevention strategies such as OST and NSP in prison

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Conclusion

HITS-p study participants

HITS-p investigators

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A/Prof. Jason Grebely
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