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PROGRESS TOWARDS ELIMINATION

Factors associated with a ten-fold increase in people who inject drugs initiating direct acting antiviral therapies in Australia in 2016

Dr Jenny Iversen, Professor Gregory Dore, Ms Beth Catlett, Mr Philip Cunningham, A/Professor Jason Grebely and Professor Lisa Maher

BACKGROUND

Hepatitis C virus (HCV) sero-prevalence is high at >50% among people who inject drugs (PWID) in most developed countries, including Australia[1].

HCV treatment uptake among people who inject drugs is historically low at 1-2% in the few countries where documented, including Australia[2].

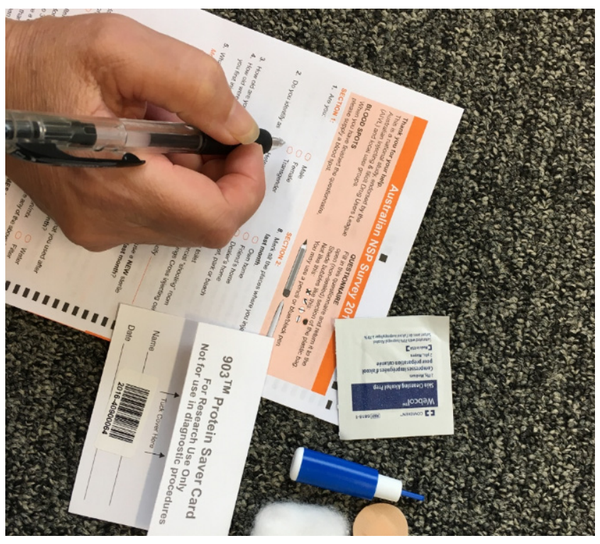
Optimism in relation to direct acting antiviral (DAA) therapy is reflected in WHO HCV elimination targets of 80% of the eligible population treated and a 80% reduction in HCV incidence by 2030.

In Australia, DAA therapies were listed on the national Pharmaceutical Benefits Scheme (PBS) in March 2016, providing subsidized access for all Australian adults (aged ≥18 years), with no restrictions by disease stage, ongoing substance use or provider type.

A range of DAAs are currently available on the PBS, with a dispensing fee payable per prescription (co-payment of $38.80 or $6.30 for concessional card holders, including seniors, veterans and others in receipt of government benefits).

The aims of this study were to:

1) investigate recent (last 12 months) uptake of HCV treatment among a large national sample of PWID in Australia in October 2016 (7 months after DAA PBS listing),
2) examine factors associated with recent uptake of HCV treatment, and
3) estimate prevalence of active infection and compare to baseline estimates collected in October 2015 (5 months before PBS DAA listing.



METHODS

This study used data from the Australian Needle Syringe Program Survey (ANSPS), a bio-behavioural sentinel surveillance system conducted annually since 1995. The ANSPS involves a self-administered questionnaire (including demographic characteristics, drug use and HCV testing/treatment behaviours) and provision of dried blood spot (DBS) for HCV antibody and RNA testing. The ANSPS is conducted at ~50 NSPs nationally and is representative of NSP attendees at sentinel sites[3].

Recent initiation of HCV treatment was estimated among the group assessed as eligible for treatment. Factors associated with recent initiation of HCV treatment were determined using logistic regression. HCV antibody and RNA results were combined with self-reported treatment uptake to estimate viraemic prevalence among 2015 and 2016 ANSPS samples.

RESULTS

Among n=2,016 respondents in 2016, 66% were men, median age was 41 years, with a median of 21 years since first injection. Half of respondents (n=1,019, 51%) had been exposed to HCV. Forty percent (n=404) of HCV antibody positive respondents had sufficient DBS for HCV RNA testing. HCV RNA tested respondents were less likely to be men and more likely to have initiated recent HCV treatment. Post stratification weightings were applied to adjust for sample bias.

Table 1: HCV RNA and self-reported treatment uptake among anti-HCV positive respondents

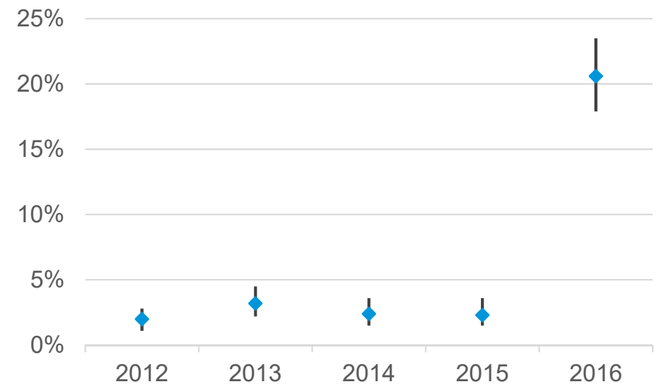
	Unweighted	Weighted
ACTIVE INFECTION (HCV RNA DETECTED)		
No treatment history *	223	232
Recent treatment history *	20	17
Prior treatment history *	11	12
CLEARED INFECTION (HCV RNA NOT DETECTED)		
No treatment history (spontaneous clearance)	81	86 (21%)
Recent treatment history *	60	48
Prior treatment history (prior treatment-induced clearance)	9	9 (2%)

* n=314 (75% adjusted) assessed as eligible for treatment in the 12 months to October 2016

RESULTS CONTNUED

Recent initiation of HCV treatment was stable at 2-3% over the period 2012-2015, increasing to 21% in 2016.

Figure 1: Recent initiation of HCV treatment



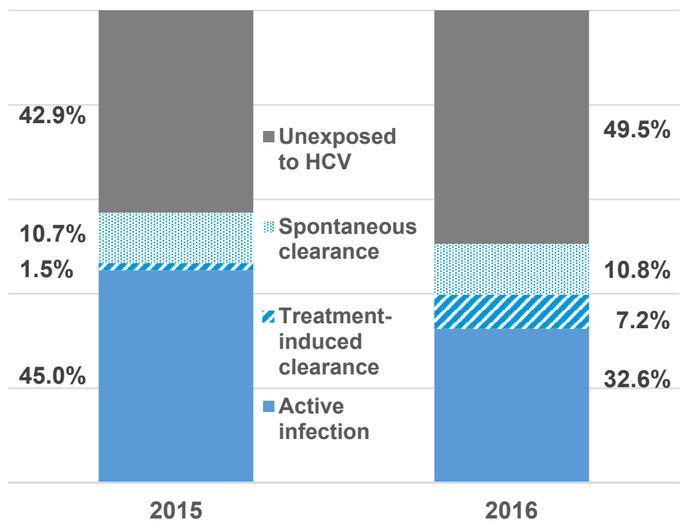
* Excludes respondents with spontaneous or prior treatment-induced clearance

Table 2. Factors associated with recent initiation of HCV treatment

	Recent treatment	No recent treatment	AOR
Age, quartiles			
≤37 years (ref)	16 (18)	73 (82)	--
38-42 years	23 (30)	54 (70)	1.89 (0.89-4.01)
43-49 years	13 (16)	66 (84)	0.76 (0.33-1.75)
≥50 years	28 (41)	41 (59)	2.84 (1.34-6.01)
Freq. of injection:			
Daily +(ref)	33 (20)	129 (80)	--
<Daily	45 (32)	97 (68)	1.99 (1.14-3.45)
Receptive syringe sharing (last month):			
Yes (ref)	4 (7)	52 (93)	--
No	75 (29)	180 (71)	4.91 (1.68-4.36)

There were no associations (p<0.10) between recent treatment uptake and gender, Indigenous status, overseas born, drug last injected, geographic location, current OST and recent imprisonment.

Figure 2: Viraemic prevalence among ANSPS samples in 2015[4] and 2016



Viraemic prevalence declined from 45% in 2015 to 33% in 2016.

CONCLUSIONS

This study demonstrated a rapid and significant increase in HCV treatment initiation among PWID following unrestricted access to DAA therapies.

Treatment uptake among PWID (20%) was higher than among the general population of people living with chronic HCV infection (14% in 2016).

Australia has implemented specific initiatives prioritising access to HCV treatment among PWID, including programs within opioid substitution therapy (OST) and prison settings and at peer-based services.

Although our results indicate widespread initiation of DAA treatment, including among potentially vulnerable sub-populations of PWID, those at highest risk of transmission were less likely to initiate treatment.

Population-level declines in viraemic prevalence among PWID are feasible in settings with unrestricted access to treatment and high coverage harm reduction programs.

Australia must continue to monitor equity of access to HCV treatment among PWID to guide progress towards WHO elimination goals, particularly the goal to reduce HCV incidence by 80% by 2030.

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CONFLICTS OF INTEREST

GD is an advisory board member and receives honorarium from Roche, Merck, Janssen, Gilead, Bristol-Myers Squibb, Abbvie, has received research grant funding from Roche, Merck, Janssen, Gilead, Bristol-Myers Squibb, Vertex, Boeringher Ingelheim, Abbvie and travel sponsorship from Roche, Merck, Janssen, Gilead, and Bristol-Myers Squibb. JG is a consultant/advisor and has received research grants from Abbvie, Bristol Myers Squibb, Cepheid, Gilead, Janssen, and Merck.

Contact Information

NAME: Professor Lisa Maher

TEL NO: +61 2 9385 0900

EMAIL: lmaher@kirby.unsw.edu.au

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