

Background

- The Netherlands was one of the first countries worldwide to implement low-threshold harm-reduction programs (HRP), which include community-based (mobile) services with no waiting list or (drug-related) restrictions. These services are free of charge and reached the majority of people who inject drugs (PWID).
- Such programs would designate the Netherlands as a country with liberal drug policies.
- HRP probably contributed to the declining HIV and hepatitis C virus incidence in Amsterdam – with no new cases observed in the Amsterdam Cohort Studies since 2004 and 2012, respectively.

Objective

We aimed to assess socio-demographic, drug-related and clinical factors associated with HRP-uptake in a setting with liberal drug policies and unrestricted access to HRP among PWID using data from the Amsterdam Cohort Studies (1985-2015)

Methods

- Data on time-updated injecting drug use (IDU), use of needle and syringe exchange programs (NSP) and opioid substitution therapy (OST) dosage were used to classify HRP into 5 categories (table 1).
- Multinomial logistic regression with robust standard errors was used to assess associations of outcomes versus 'no HRP-uptake'; Backwards variable selection was based on a p-value cut-off of 0.10. Significance was based on a p-value <0.05.
- We restricted our analyses from 1989 onwards.

Table 1: harm reduction packages categories

Harm reduction package	Current PWID	OST dosage	NSP uptake %
No harm reduction	Yes	0 mg	0%
Incomplete harm reduction	Yes	<60 mg; 0 mg only if NSP uptake ≥1%	<100%; 0% only if OST ≥1 mg
Complete harm reduction	Yes	≥60 mg	100%
	No	≥60 mg	0%
Limited dependency	No	1 to <60 mg	0%
No dependence	No	0 mg	0%

Results

- We included 985 PWID with a median 18 study visits [interquartile range: 7-32].
- During the first cohort visit, most participants were on incomplete harm reduction, whereas during their last cohort visit, most participants were on complete harm reduction (Table 3).

Table 2: Factors associated with harm reduction uptake in multivariable analysis (1989-2015)

	Harm reduction packages uptake								overall p-value
	Incomplete		Complete		Limited dependency		No dependency		
	OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI	
Sex									
Male	1		1		1		1		0.09
Female	0.96	[0.64,1.43]	1.03	[0.64,1.66]	1.42	[0.89,2.28]	0.97	[0.62,1.53]	
Ethnicity									
Western	1		1		1		1		<0.01
non-Western	1.24	[0.69,2.23]	1.36	[0.69,2.67]	3.77	[1.94,7.32]	1.55	[0.82,2.90]	
Steady partner PWID (time updated)									
No/Never	1		1		1		1		<0.01
Yes, currently	1.63	[1.07,2.48]	1.12	[0.69,1.83]	0.19	[0.11,0.34]	0.11	[0.05,0.21]	
Yes, ever	1.08	[0.59,1.99]	1.80	[0.94,3.44]	2.84	[1.49,5.41]	1.91	[1.01,3.61]	
Homelessness (time updated)									
No	1		1		1		1		<0.01
Yes	0.79	[0.57,1.10]	0.46	[0.31,0.68]	0.28	[0.18,0.44]	0.40	[0.26,0.61]	
Excessive alcohol use (5 glasses/day) (time updated)									
No alcohol use	1		1		1		1		0.04
1-<5 glasses	0.70	[0.53,0.94]	0.69	[0.50,0.96]	0.69	[0.50,0.95]	0.94	[0.68,1.30]	
≥5 glasses	0.96	[0.65,1.42]	1.10	[0.72,1.70]	1.01	[0.66,1.53]	0.95	[0.62,1.45]	
HIV status (time updated)									
HIV negative	1		1		1		1		<0.01
HIV positive	1.84	[1.27,2.65]	3.71	[2.44,5.64]	1.23	[0.79,1.93]	0.71	[0.45,1.13]	
Hospitalization episode (time updated)									
No	1		1		1		1		0.05
Yes	0.71	[0.52,0.97]	0.72	[0.52,0.99]	0.62	[0.44,0.87]	0.59	[0.40,0.87]	
Cocaine use history (time updated)									
<5	1		1		1		1		<0.01
5-15	0.93	[0.62,1.39]	1.59	[1.00,2.52]	0.69	[0.43,1.10]	0.67	[0.42,1.07]	
>15	0.92	[0.59,1.46]	2.32	[1.37,3.90]	0.77	[0.45,1.34]	0.56	[0.33,0.96]	
Years since start IDU (time updated)									
<5	1		1		1		1		0.04
5-15	1.43	[0.94,2.18]	2.04	[1.22,3.40]	1.71	[1.04,2.80]	1.94	[1.17,3.23]	
>15	1.45	[0.88,2.40]	5.77	[3.16,10.53]	3.45	[1.94,6.14]	3.48	[1.94,6.26]	

Harm reduction package reference category was "no-HRP-uptake"; time-updated variables refer to the period since the last cohort visit.

Table 3: Harm reduction package uptake among PWID from the Amsterdam Cohort Studies

Harm reduction package	First cohort visit, n (%)	Last cohort visit, n (%)
No harm reduction	46 (5.3%)	26 (3.2%)
Incomplete harm reduction	456 (52.7%)	181 (22.5%)
Complete harm reduction	152 (17.6%)	313 (39.0%)
Limited dependency	130 (15.0%)	174 (21.7%)
No dependency	82 (9.5%)	109 (13.6%)

- Homelessness and having a current PWID partner were the most consistent factors negatively associated with HRP uptake and limited or no dependency (Table 2).
- Having a current PWID partner was the strongest factor negatively associated with having no dependency.
- Participants with a non-Western ethnicity were more likely to have limited dependency than those with a Western ethnicity.
- Longer duration since starting IDU (>15 years) was the strongest factor associated with complete harm reduction uptake and being HIV-positive with incomplete harm reduction uptake.

Conclusions

- Factors associated with HRP should be considered in future analyses when studying outcomes related to HRP.
- Our findings could be used to target and tailor interventions for increasing HRP-uptake among PWID.