

Assessing the evidence for Supervised Consumption Sites: Synopses of key studies

1. SCSs reduce overdose mortality

Methods: Population-based overdose mortality rates were examined in the 500m surrounding the SIF before and after its opening and compared with before and after rates in the rest of the city of Vancouver.

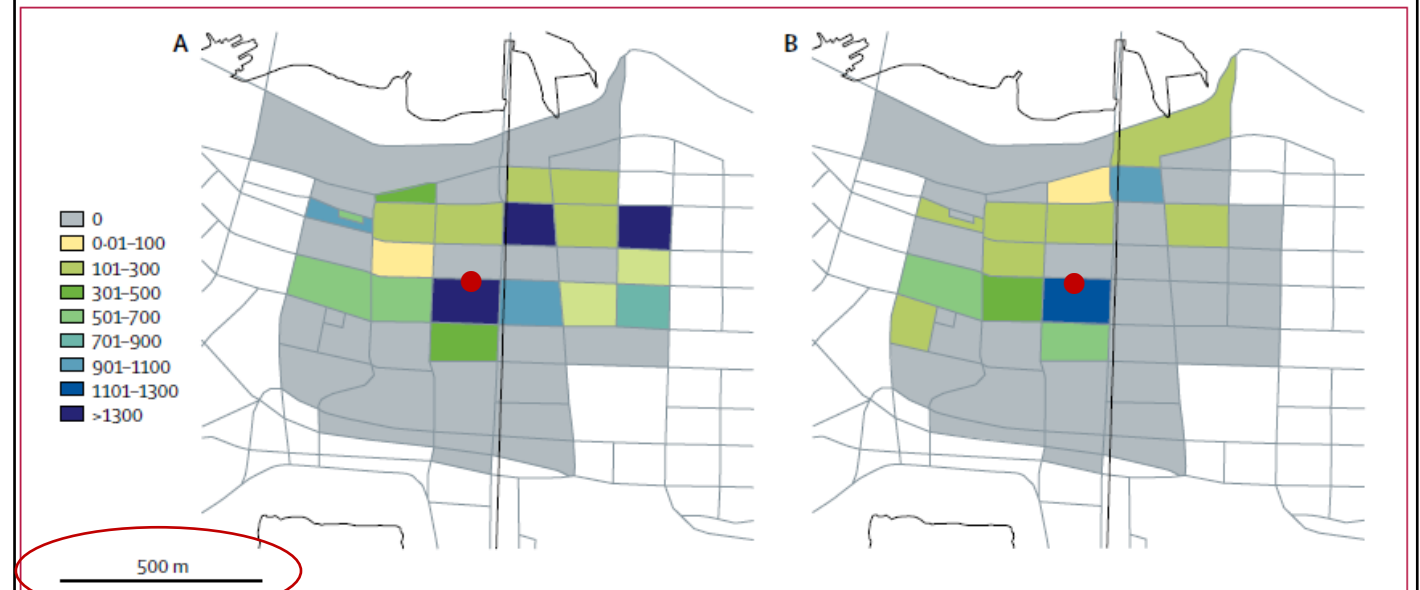
Results: In the area around the SIF overdose mortality **decreased 35%**, compared with a 9.3% reduction in the rest of the city.

Note the scale showing 500m. In the figure, all shaded blocks are within 500m of the SIF. Rates are given in units of 100,000 person-years: Darker shading represents higher OD death rates. The figure is showing reduced OD death rates around the SIF in the ~2-year period after opening. Looking at the table above it, you can see that the OD death rate decreased more for this 500m-area (35% reduction) than for Vancouver as a whole (9.3%).

	ODs occurring in blocks within 500 m of the SIF*		ODs occurring in blocks farther than 500 m of the SIF*	
	Pre-SIF	Post-SIF	Pre-SIF	Post-SIF
Number of overdoses	56	33	113	88
Person-years at risk	22 066	19 991	1 479 792	1 271 246
Overdose rate (95% CI)*	253.8 (187.3–320.3)	165.1 (108.8–221.4)	7.6 (6.2–9.0)	6.9 (5.5–8.4)
Rate difference (95% CI)*	88.7 (1.6–175.8); p=0.048	..	0.7 (-1.3–2.7); p=0.490	..
Percentage reduction (95% CI)	35.0% (0.0%–57.7%)	..	9.3% (-19.8% to 31.4%)	..

SIF=supervised injection facility. Pre-SIF period–Jan 1, 2001, to Sept 20, 2003. Post-SIF period–Sept 21, 2003, to Dec 31, 2005. *Expressed in units of per 100 000 person-years.

Table 2: Overdose mortality rate in Vancouver between Jan 1, 2001, and Dec 31, 2005 (n=290), stratified by proximity to the SIF



Researchers mapped fatal overdose rates before (left) and after (right) the opening of Vancouver's SIF (●) in city blocks within 500 m of the facility

Marshall, B. et al. (2011). Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study. *Lancet*, 377(9775):1429-37.

2. SCSs increase access to substance use disorder treatment

Methods: A random sample of 1,090 participants of the Vancouver SIF prospective cohort study were analyzed to examine factors associated with the time to the cessation of injecting for a minimum of six months.

Results:

Factors independently associated with drug use cessation included:

- Use of methadone maintenance therapy
- Other addiction treatment

Factors independently associated with the initiation of addiction treatment included:

- **Regular SIF use at baseline**
- **Having contact with the addiction counselor within the SIF**
- Aboriginal ancestry

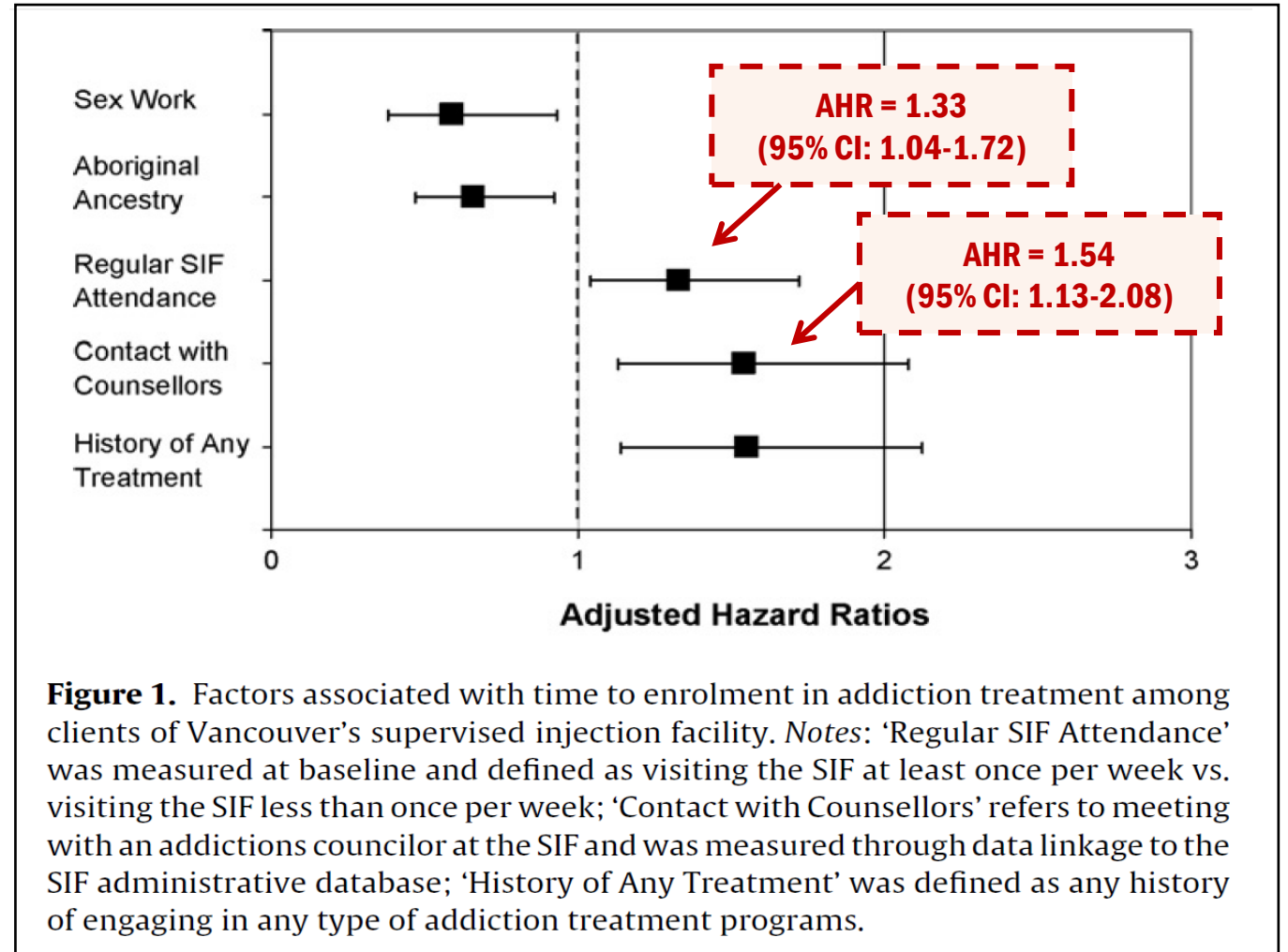


Figure 1. Factors associated with time to enrolment in addiction treatment among clients of Vancouver’s supervised injection facility. *Notes:* ‘Regular SIF Attendance’ was measured at baseline and defined as visiting the SIF at least once per week vs. visiting the SIF less than once per week; ‘Contact with Counsellors’ refers to meeting with an addictions counselor at the SIF and was measured through data linkage to the SIF administrative database; ‘History of Any Treatment’ was defined as any history of engaging in any type of addiction treatment programs.

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2. SCSs increase access to substance use disorder treatment

Table 1. Univariate and Multivariate Cox Proportional-Hazards Analysis of the Time to Entry into a Detoxification Program among 1031 Users of Injection Drugs after the Opening of a Supervised Injecting Facility (SIF).*

Variable	Unadjusted Relative Hazard (95% CI)	P Value	Adjusted Relative Hazard (95% CI)	P Value
Homelessness (yes vs. no)†	1.43 (1.07–1.91)	0.02	1.42 (1.06–1.90)	0.02
Binge drug use (yes vs. no)†	1.44 (1.05–1.97)	0.02	1.35 (0.98–1.85)	0.06
Ever in treatment (yes vs. no)‡	2.70 (1.56–4.65)	<0.001	2.43 (1.41–4.22)	0.002
Weekly use of SIF (yes vs. no)§	1.84 (1.34–2.52)	<0.001	1.72 (1.25–2.38)	0.001
Addictions counselor (yes vs. no)†§	2.41 (1.55–3.77)	<0.001	1.98 (1.26–3.10)	0.003

In multivariate analyses, an average of at least weekly use of the SIF and any contact with the facility's addictions counselor were both independently associated with more rapid entry into a detoxification program.

Vancouver, Canada – SEOSI cohort study

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3. SCSs reduce neighborhood burden of drug use

Methods: Injection-related public order metrics were measured during 6 weeks before and 12 weeks following the opening of the SIF in Vancouver.

Metrics of public order:

- Number of people injecting in public
- Publicly discarded syringes and injection-related litter

Results: After the opening of the SIF there was:

- **Reduced** injecting in public
- **Reduced** publicly discarded syringes
- **Reduced** injection related litter

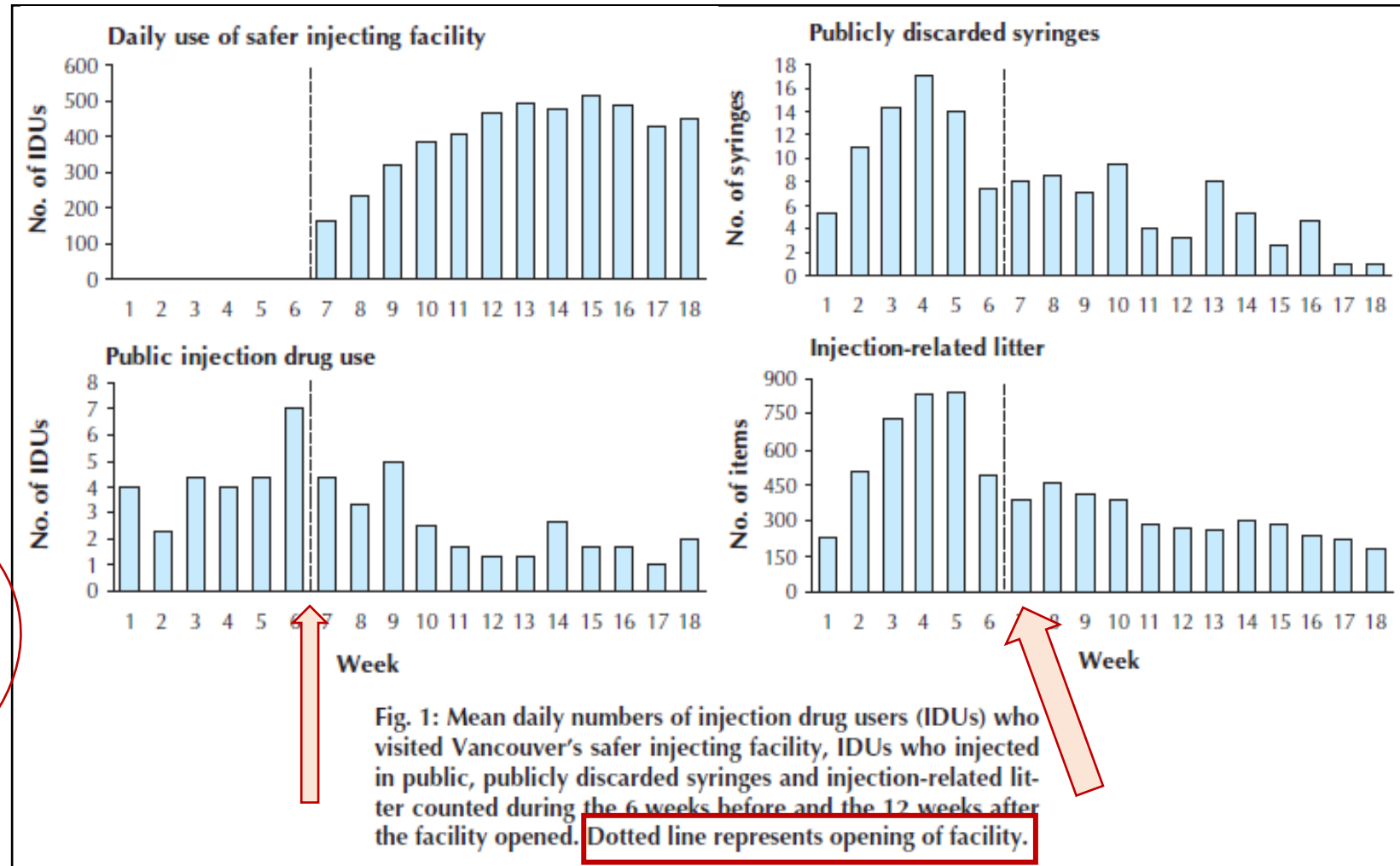


Fig. 1: Mean daily numbers of injection drug users (IDUs) who visited Vancouver's safer injecting facility, IDUs who injected in public, publicly discarded syringes and injection-related litter counted during the 6 weeks before and the 12 weeks after the facility opened. Dotted line represents opening of facility.

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4. SCSs are cost-effective

A 2017 cost-benefit study calculated the financial and health costs and benefits of a hypothetical SCS in Baltimore, modeled on Insite in Vancouver.

Methods: The authors conducted a cost-benefit analysis by integrating local health data (for Baltimore) and data on the impact of existing SCSs, using models for six key outcomes: prevented HIV and HCV transmission, skin & soft tissue infections, OD mortality, OD-related medical care, and increased MAT. Low and high estimates are also provided.

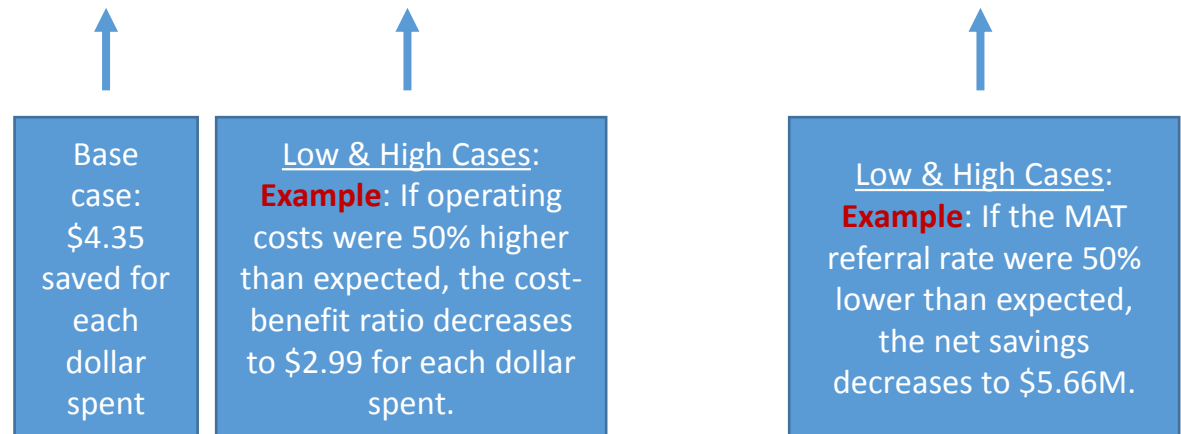
Results:

- **Net savings \$5.98M**
- **\$4.35 saved for every dollar spent**
- Every year, **would prevent:**
 - 3.7 HIV cases
 - 21 HCV cases
 - 374 days in hospital for skin/soft tissue infections
 - 5.9 OD deaths
 - 108 ambulance calls for OD
 - 78 OD emergency room visits
 - 27 OD-related hospitalizations
- Every year, would bring **additional 121 PWID into treatment**

Table 10

Summary of sensitivity analysis impact on overall results

Variable tested	Cost-benefit ratio			Net savings (\$ million)		
	Base case	Low case	High case	Base case	Low case	High case
Operating cost	4.35	2.99	7.96	5.98	5.17	6.79
Syringe sharing rate	4.35	3.52	5.17	5.98	4.51	7.46
SSTI rate	4.35	4.09	4.61	5.98	5.52	6.45
Overdose death rate	4.35	3.51	5.19	5.98	4.48	7.48
Nonfatal OD rate	4.35	4.28	4.42	5.98	5.86	6.11
MAT referral rate	4.35	4.17	4.53	5.98	5.66	6.30



Source: Irwin, A., Jozaghi, E., Weir, B. W., Allen, S. T., Lindsay, A., & Sherman, S. G. (2017). Mitigating the heroin crisis in Baltimore, MD, USA: a cost-benefit analysis of a hypothetical supervised injection facility. *Harm reduction journal*, 14(1), 29.

Preliminary data from unsanctioned SCS in the United States

A social service agency in an undisclosed urban location in the U.S. opened an unsanctioned SCS in Sept 2014. This is what they've found so far.

Methods: A 12-question quantitative survey was administered before each time a program participant injected drugs at the site. Surveys were collected across the 2,574 injections by over 100 participants in a two-year period.

Results:

- White, male, homeless majority
- 2 OD's on site, both reversed by staff/Narcan
 - Rate = 1 OD per 1,287 injections
- No incidents of violence
- Site averted over 2,300 instances of public injection in the neighborhood over 2 years
- 1,725 episodes of averted unsafe disposal
- Full benefits cannot be realized or evaluated until sanctioned

Source: Kral, A. H., & Davidson, P. J. (2017). Addressing the Nation's opioid epidemic: lessons from an unsanctioned supervised injection site in the US. *American Journal of Preventive Medicine*, 53(6), 919-922.

Characteristic (N=2,574)	Percent
Gender identity (n=2,567)	
Men	91.3
Women	7.6
Transgender	1.1
Race/ethnicity	
White	80.1
African American	13.5
Latino	3.9
Asian/Pacific Islander	0.2
Native American	1.5
Other	1.5
Currently homeless	80.5
Type of drug used at site	
Heroin	79.3
Opiate pills	5.4
Methamphetamine	16.4
Cocaine/Crack	9.0
Mix (speedball, goofball)	13.0
Number of injections past month overall	
Mean	113.8
Median (IQR)	100 (60, 130)
Where would you have injected if not at site today?	
Public restroom	34.9
Street, park, or parking lot	57.3
My own place	4.1
Friend's place	1.8
Other	1.9
Experienced overdose past 30 days not at the site	6.6
Witnessed overdose past 30 days not at the site (n=1,812)	25.7
Used unsterile syringe past 30 days (n=1,806)	9.0
Disposed of syringe in public place past 30 days (n=2,534)	67.4
Rushed an injection not at site (n=1,811)	
Always	15.3
Often/Sometimes	68.5
Never	16.1
Had contact with police past 30 days (n=1,808)	75.9

IQR, interquartile range.

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SCSs don't:	Further Reading
Encourage people to initiate injection drug use	<p>Kerr 2007 examined length of injecting career and circumstances surrounding initiation into injection drug use among 1065 SIF users and found that the median years of injection drug use was 15.9 years, and that only 1 individual reported performing a first injection at the SIF. These findings indicate that the SIF's benefits have not been offset by a rise in initiation into injection drug use.</p> <p style="text-align: right;">Am J Public Health. 2007 Jul;97(7):1228-30.</p>
Act as a barrier for attendees to seek employment	<p>Richardson 2008 surveyed 1090 SIF users and found in a multivariate analysis of factors associated with employment, using the SIF for $\geq 25\%$ of injections (versus $< 25\%$ of injections) was not statistically significant, suggesting that use of the SIF is not having an adverse impact on efforts to seek employment.</p> <p style="text-align: right;">Am J Drug Alcohol Abuse. 2008;34(5):519-25.</p>
Attract drug dealers to the area	<p>Wood 2006 used Vancouver Police Department data to examine the effect of a SIF on crime rates before and after opening and no increases were seen with respect to drug trafficking (124 vs. 116) or assaults/robbery(174 vs. 180), although a decline in vehicle break-ins/vehicle theft was observed (302 vs. 227). The SIF was not associated with increased drug trafficking or crimes commonly linked to drug use.</p> <p style="text-align: right;">Subst Abuse Treat Prev Policy. 2006 May 8;1:13.</p>
Increase relapse rates or decrease rate of stopping injection drug use	<p>Kerr 2006 performed an analysis of periods before and after the facility's opening that showed no substantial increase in the rate of relapse into injected drug use (17% v 20%) and no substantial decrease in the rate of stopping injected drug use (17% v 15%).</p> <p style="text-align: right;">BMJ. 2006 Jan 28;332(7535):220-2.</p>
Increase the likelihood of overdose	<p>Milloy 2009 surveyed injection drug users and found at baseline, 638 (58.53%) reported a history of non-fatal overdose and 97 (8.90%) reported at least one non-fatal overdose in the last six months. In the analysis, factors associated with recent non-fatal overdose included: sex-trade involvement and public drug use. Using the SIF for $\geq 75\%$ of injections was not associated with recent non-fatal overdose in univariate or multivariate analyses.</p> <p style="text-align: right;">J Public Health (Oxf). 2010 Sep;32(3):342-9.</p>