Supervised Injecting Facilities – Annotated Bibliography

The Drug Policy Modelling Program has prepared this annotated bibliography of published research concerned with Supervised Injecting Facilities, as at April 2012. We hope it will provide a useful resource for policy makers, clinicians and researchers interested in gaining an overview of the literature on this topic.

An accompanying bulletin (http://dpmp.unsw.edu.au/sites/default/files/dpmp/resources/DPMP%20Bulletin%2022.pdf*) provides a summary of the literature.

The bibliography is structured into six main sections

Table 1: Reviews of the literature (n=8 papers)

Reference	Outcomes Examined	Study period & location	Aim/Description and findings	Unresolved Issues/ Notable Limitations
Hedrich, D., Kerr, T., & Dubois-Arber, F. (2010). *Drug consumption facilities in Europe and beyond*. Lisbon: EMCDDA. See also: Hedrich, D. (2004). *European report on drug consumption rooms.* Lisbon: EMCDDA Hunt, N. (2006b). *The evaluation literature on drug consumption rooms.* York: Joseph Rowntree Foundation.	* An environment for safer drug use * Health status of target group * Public disorder	Research up to 2010 Worldwide	Provides a comprehensive narrative review of the literature on SIFs, including non-English literature. Despite some limitations of the available evidence, the broad conclusion is that SIFs do bring benefits on specific aspects of individual and public health and social order without incurring serious risks. There is consistent evidence that SIFs are associated with reductions in injecting risk behaviour such as syringe sharing and public drug use, and increases in uptake of detoxification and treatment services. SIFs do not appear to increase levels of drug use or risky patterns of consumption, nor do they result in higher rates of local drug acquisition crime. The evidence regarding effectiveness in reducing drug related deaths, HIV or hepatitis C virus (HCV) incidence is insufficient for drawing conclusions. To maximise the positive impacts of SIFs, adequate coverage is essential, as is political support and consensus between key actors	Definitive conclusions are difficult to draw due to the difficulty proving causality through observational studies; ethical concerns prevent the 'gold standard' of randomly controlled trials from being conducted. Supersedes Hedrich (2004), which is often referred to as the most comprehensive and early review of SIFs. Hunt (2006) also described data from Hedrich (2004).
Milloy, M. J., & Wood, E. (2009). Emerging role of supervised injecting facilities in Human Immunodeficiency Virus prevention. *Addiction,* 104(4), 620-621.	* Syringe lending and borrowing	Various Spain & Vancouver	Constructed a random-effects meta-analysis model to produce a pooled estimate of the relationship between SIF use and syringe sharing. Used three peer-reviewed studies (Bravo et al. 2009; Kerr, Tyndall, Li, Montaner & Wood 2005; Wood et al. 2005). The authors report a significant pooled effect size of 0.31 (95% CI 0.17–0.55) representing a 69% reduction in the likelihood of syringe sharing among SIF users	Only used results from three different studies so may not be definitive
Kerr, T., Kimber, J., DeBeck, K., & Wood, E. (2007). The role of safer injection facilities in the response to HIV/AIDS among injection drug users. *Current HIV/AIDS Reports,* 4(4), 158-164.	* Reaching IDUs at high risk for HIV infection * Providing safer injecting education and addressing high-risk injecting practices * Reducing syringe sharing * Promoting cessation of injecting * Reducing morbidity * Reducing mortality	Research up to 2007 Worldwide	This narrative review considers the role of SIFs in stemming the harms specifically associated with HIV/AIDS in IDUs. The authors find that there is evidence that SIFs can complement the existing set of services. By attracting high-risk IDUs, providing safer injecting education, reducing syringe sharing, and promoting enrolment into drug treatment programs, SIFs can help prevent HIV transmission and promote greater stability among active IDUs. As well, by providing an alternative space for injection, SIFs can reduce unsafe injection practices associated with public injecting that increase risk for bacterial infections and other forms of morbidity common among IDUs who are HIV positive. Finally, by providing emergency response in the event of overdose, SIFs may reduce mortality associated with injection drug use. They suggest that SIFs may have potential as sites for HIV testing, in order to prevent further spread, monitor disease progression and provide access to treatment. They also suggest that it might be effective to incorporate other therapies into SIF facilities, such as methadone maintenance therapy, and assisted therapy for antiretroviral as well as tuberculosis medications	There are methodological difficulties in demonstrating impacts of SIF use on the incidence of HIV infection

Zobel, F., & Dubois-Arber, F. (2004). *Short appraisal of the role and usefulness of Drug Consumption Facilities (DCF) in the reduction of drug-related problems in Switzerland: Appraisal produced at the request of the Swiss Federal Office of Public Health* Lausanne: University Institute of Social and Preventative Medicine.	* Morbidity * Mortality * Social/health care access * Injecting drug use * Public drug use * Publicly discarded syringes * Treatment initiation and outcomes	Research up to 2004 Worldwide	This short appraisal report, commissioned by the Swiss Federal Office of Public Health, examines the Switzerland's drug policy and the use of SIFs **and** inhalation rooms, epidemiology of drug dependence in Switzerland, and evidence of efficacy with a focus on Switzerland. They conclude that SIFs and inhalation rooms achieve the objectives set for them, reducing risky behaviour, fatal overdoses, public order problems and access to social and healthcare services. They also state that there is limited evidence in some areas, but for the most part the overall effect of drug consumption rooms on health-related problems appears positive	
Independent Working Group. (2006). *The Report of the Independent Working Group on Drug Consumption Rooms*. York.	* An environment for safer drug use * Health status of target group * Public disorder	United Kingdom	This comprehensive report from the Independent Working Group on Drug Consumption Rooms examines the policy context in the United Kingdom, the need for SIFs, evidence of efficacy (drawing largely on Hedrich 2004), potential barriers and concerns, models of SIF service and finally a set of recommendations. They recommend the establishment of SIF pilot schemes in the UK, as part of an integrated drug service, with strong community support and linkages. Conclude that SIFs offer a unique and promising way to work with the most problematic drug users, in order to reduce the risk of overdose, improve their health and lessen the damage and costs to society	See Hedrich (2010, 2004)
British Columbia Centre for Excellence in HIV/AIDS (2009). *Findings from the evaluation of Vancouver's pilot medically supervised safer injecting facility- Insite*. Vancouver: British Columbia Centre for Excellence in HIV/AIDS. See also: Wood, E., Tyndall, M. W., Montaner, J. S., & Kerr, T. (2006). Summary of findings from the evaluation of a pilot medically supervised safer injecting facility. *Canadian Medical Association Journal, 175*, 1399—1404.	*Promotion of illicit drug use *Initiation into treatment *Crime *Public order *Overdose prevention *Syringe sharing *Safe injecting practices	Vancouver	Provides a comprehensive summary of the research conducted on Vancouver's SIF (see 'Outcomes' section for individual studies). Studies included in the review showed that the creation of Insite was associated with no substantial changes in drug use among IDUs; 1 person out of 1,065 reported their first injection at Insite. Individuals who used Insite at least weekly were 1.7 times more likely to enroll in a detox program than those who visited the centre less frequently, and the year after Insite opened, there was a 33% increase in detoxification service use. In terms of crime, a study found no statistically significant changes in rates of drug trafficking or assaults and robberies, and a statistically significant drop in vehicle break-ins and vehicle thefts. There were significant decreases in numbers of publicly discarded syringes, injection-related litter, and people injecting in the area around Insite. IDUs who use Insite to inject drugs are 70% less likely to share syringes than IDUs who do not use the facility, and consistent Insite users were almost 3 times more likely to use sterile water, 2.8 times more likely to swab injection sites, more than twice as likely to dispose of syringes safely, and 2.8 times more likely to cook or filter their drugs.	Limitations of individual studies are described in published papers.

Table 2: Outcome evaluations and epidemiological studies (n=29 papers)

Authors & Publication Year	Outcomes Examined	Study period & location	Aim/Description	Findings	Unresolved Issues/ Notable Limitations
DeBeck et al. (2011). Injection drug use cessation and use of North America's first medically supervised safer injecting facility. *Drug and Alcohol Dependence,* 113, 172-176.	* Injecting drug use cessation * Treatment initiation	Dec 2003- Jun 2006 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict quitting drug use. Performed linkages with health databases to verify participant information	Regular use of the SIF and having contact with counsellors at SIF were associated with entry into treatment (AHR = 1.33, 95% CI: 1.04–1.72 for regular use of SIF). Entry into treatment programs was unsurprisingly associated with injection cessation	Drug use cessation was in a short timeframe (6 months), potentially leading to an overestimation of cessation. Regular SIF use was defined somewhat arbitrarily and with no justification as at least one visit per week vs. less than one visit per week. Different definitions may have led to different results
Marshall, B. D. L., Milloy, M. J., Wood, E., Montaner, J. S. G., & Kerr, T. (2011). Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study. *The Lancet,* 377(9775), 1429-1437.	* Fatal overdoses	Jan 2001- Dec 2005 Vancouver	This study examined the effect of opening the SIF on overdose mortality rates with a pre- and post- test design studying the area around the SIF (500m radius). Importantly, this study used a comparator; the city area not including the area around the SIF	They found a decrease of 35% in overdose mortality in the area around the SIF following its opening. This was in comparison to the rest of the city, which saw a 9.3% decrease	See Christian et al (2011) and Marshall, Milloy, Wood, Montaner & Kerr (2012) for critique and further comments
KPMG. (2010). *Further evaluation of the Medically Supervised Injecting Centre during its extended trial period (2007-2011): Final report*. Sydney: KPMG.	* Client/staff perspectives * Referral * Changes in injecting behaviour * Publicly discarded syringes * Public drug use * Community views on amenity * Opioid- related overdose events * Notifications of HIV and HCV infection	Jun 2007- Apr 2010 Sydney	This comprehensive report is an evaluation of the SIF in Sydney as of 2007 (extended trial period). It evaluates the SIF's performance on a number of outcome variables. It also includes a large set of descriptive data on client characteristics, SIF services and drug use	* Generally positive perspectives and satisfaction by both clients and staff * New referral mechanisms indicate higher drug treatment referral uptake (see Kimber et al. 2008 for previous results) * More frequent SIF attendees were more likely to have accepted a referral to another service * Clients generally believed the SIF had improved their safe injecting practices * There has been a decline in total number of publicly discarded syringes in the SIF area, more marked in the areas within 500m of the SIF * There was some evidence that SIF users injected in public less often since attending the SIF * Community support for the SIF has increased over time * Larger decrease in opioid-related ambulance call outs and ER presentations in the SIF area versus the comparator group/s. No significance testing. See Salmon, van Beek, Amin, Kaldor & Maher (2010) and NCHERC (2007) for related analyses * Inconclusive results on HIV and HCV infection	It is unclear whether many of the analyses have been subjected to statistical significance testing

Salmon, A. M., Van Beek, I., Amin, J., Kaldor, J., & Maher, L. (2010). The impact of a supervised injecting facility on ambulance call-outs in Sydney, Australia. *Addiction,* 105(4), 676-683.	* Opioid-related overdoses attended by an ambulance	May 1998- May 2006 Sydney	Examined ambulance attendances in the immediate area around the SIF (3.6km^2) pre- and post- the SIF opening. Importantly, this study used comparator groups; the rest of NSW and also the broader neighbouring area around the SIF	There was a greater decline in opioid-related overdose ambulance attendances in the area around the SIF following its opening, versus the rest of NSW. This effect was significantly greater during the operating hours of the SIF and in the immediate area of the SIF (compared to the neighbouring area)- 80% versus 45%. They suggest that SIFs are likely to be more effective when located in areas of highly-concentrated drug use	Overcomes the challenge of a true comparator with the ecological analysis
Bravo, M. J., Royuela, L., De la Fuente, L., Brugal, M. T., Barrio, G., Domingo-Salvany, A., & the Itínere Project, G. (2009). Use of supervised injection facilities and injection risk behaviours among young drug injectors. *Addiction,* 104(4), 614-619.	* Risky injecting behaviours	2002- 2005 Spain (5 SIFs)	This study used a cross-sectional design with targeted sampling of general injecting drug users (SIF and non SIF) in Barcelona and Madrid. They sought to examine the use of SIFs as a predictor of safer injecting practices to prevent transmission of blood-borne infections	SIFs users were more likely than non-SIFs users to be men, with marginal or illegal activities as the main source of income, and to be Hepatitis-C positive. Using SIFs was associated independently with not borrowing used syringes (AOR 0.4, 95% CI 0.2–0.9). However, there was no sig association between SIF use and not sharing injection equipment indirectly (AOR 0.7, 95% CI 0.4–1.4). These results suggest that more SIF efforts should be targeted at emphasising the relationship between indirectly sharing injection equipment and blood-borne virus infections	Cross sectional study meaning no casual inferences were made. The representativeness of the sample is not known
Marshall, B. D. L., Wood, E., Zhang, R., Tyndall, M. W., Montaner, J. S. G., & Kerr, T. (2009). Condom use among injection drug users accessing a supervised injecting facility. *Sexually Transmitted Infections,* 85(2), 121-126.	* Condom use during intercourse in the past 6 months	Dec 2003- Dec 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict condom use. This was a prospective longitudinal design to assess changes over time	Over the 2 years, consistent condom use by SIF users increased by 13%-30%. Consistent condom use among regular partners was independently associated with time since recruitment from within the SIF (AOR 1.29, 95% CI 1.06-1.55) and HIV positivity (AOR= 2.23, 95% CI 1.51-3.31), but inversely associated with enrolment in alcohol/drug treatment (AOR 0.68, 95% CI 0.52-0.89) and injecting with a sex partner (AOR 0.5, 95% CI 0.37-0.68). For those reporting casual sex partners, consistent condom use was significantly associated with HIV positivity (AOR 1.70, 95% CI 1.03-2.81), borrowing syringes (AOR 0.54, 95% CI 0.32-0.91) and lending syringes (AOR 0.52, 95% CI 0.32-0.84)	There was a large loss to follow-up. Measures relied on self-report of sexual encounters and may have led to underreporting of socially undesirable activities
Kimber, J. O., Mattick, R. P., Kaldor, J., Van Beek, I., Gilmour, S., & Rance, J. A. (2008). Process and predictors of drug treatment referral and referral uptake at the Sydney Medically Supervised Injecting Centre. *Drug and Alcohol Review,* 27(6), 602-612.	* Service referrals (e.g., treatment, health, welfare) * Service referral uptake (where the referral resulted in an assessment)	May 2001- Oct 2002 Sydney	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict referral to services. Referral uptake was defined as the proportion of people who followed through on referrals relative to total referrals made. Frequent attendance was defined as being in the top quartile of the visits' frequency distribution during the study period (i.e. ≥12 visits)	There was a high rate of referral (24 per 1000 visits), mostly to drug treatment. Confirmed referral uptake, however, was greatest for health care referrals (27%). Frequent SIF uses were referred to drug treatment at more than 1.5 times the rate of other clients but actual uptake rates were not significantly different to others (OR 0.8, 95% CI 0.4 – 2.0). Higher drug referral uptake was associated with sex work (AOR 2.6, 95% CI 1.1–5.8) and daily or more frequency of injecting (AOR 2.3, 95% CI 1.1 – 5.2). Lower uptake was related to psychiatric history (AOR 0.2, 95% CI 0.5 – 0.7). Also, they noted that over half of referral uptakes were to a nearby health/ treatment service, signalling the importance of integrated services	Stringent referral variable- written referral only- may have resulted in a conservative estimate of referral uptake. Also, did not include dynamic factors that have an impact on referral uptake (e.g., client motivation and readiness to change, social/support networks)

Milloy, M.-J. S., Kerr, T., Mathias, R., Zhang, R., Montaner, J. S., Tyndall, M., & Wood, E. (2008). Non-Fatal Overdose Among a Cohort of Active Injection Drug Users Recruited from a Supervised Injection Facility. *The American Journal of Drug and Alcohol Abuse,* 34(4), 499-509.	* Non-fatal overdoses	Dec 2003- Dec 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict non-fatal overdose	Factors independently associated with non-fatal overdose included sex trade involvement (AOR 1.45, 95% CI 1.07–1.99), public drug use (AOR 1.50, 95% CI 1.09–2.06), being a victim of abuse (AOR 1.45, 95% CI 1.13–1.87), and needing help injecting (AOR 1.35, 95% CI 1.04–1.75). Methadone maintenance therapy was protective for non-fatal overdose (AOR 0.68, 95% CI 0.49–0.94). There was no statistical evidence linking use of the SIF with a higher likelihood for non-fatal overdose (AOR 1.01, 95% CI 0.77–1.32), even though previous studies indicate that more regular users of the SIF may carry more risk factors for overdose	Limitations include unquantifiable potential changes in IDUs injecting routines. Recruitment into the study occurred after visits to the SIF had begun, which could have led to an underestimation of the SIF's effect
Milloy, M. J., Kerr, T., Tyndall, M., Montaner, J., & Wood, E. (2008). Estimated drug overdose deaths averted by North America's first medically-supervised safer injection facility. *PloS one,* 3(10), e3351.	* Number of overdose deaths averted in the SIF	Mar 2004- Jul 2008 Vancouver	Used a Monte Carlo simulation and a three-part sensitivity analysis in order to obtain an estimate of the number of fatal overdoses averted by the SIF	Number of overdose deaths averted in the SIF during the study period was equal to between two and 12 per annum. This represents between 6.1%-37% of the total overdose burden in the area during the study period	Estimates were used for missing data
Richardson, L., Wood, E., Zhang, R., Montaner, J., Tyndall, M., & Kerr, T. (2008). Employment Among Users of a Medically Supervised Safer Injection Facility. *The American Journal of Drug and Alcohol Abuse,* 34(5), 519-525.	* Employment	Dec 2003- Dec 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict employment. Employment was defined as a self reported job in the last 6 months	Factors that were negatively and independently associated with employment were being female (AOR 0.26, 95% CI 0.18–0.37), Aboriginal (AOR 0.56, 95% CI 0.40–0.80), lower education (AOR 0.63, 95% CI 0.50–0.81), unstable housing (AOR 0.58, 95% CI 0.47–0.71), and daily heroin use (AOR 0.81, 95% CI 0.66–0.99). Binge drug use was positively associated with employment (AOR 1.27, 95% CI 1.06–1.52). There was no significant relationship between regular use of the SIF and employment, suggesting that regular use of the SIF neither interferes with nor promotes facility users' employment	The employment variable was very broad. Also, reliance on self report may have led to socially desirable reporting biases
McKnight, I., Maas, B., Wood, E., Tyndall, M. W., Small, W., Lai, C., Montaner, J., & Kerr, T. (2007). Factors associated with public injecting among users of Vancouver's supervised injection facility. *The American Journal of Drug and Alcohol Abuse,* 33(2), 319-325.	* Public drug use	Jun 2004- Jul 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict public drug use. Also examined a range of other factors thought to be related to public drug use	Frequency of SIF use was not associated with public drug use. Participants who reported that wait times affected frequency of SIF use were significantly more likely to report public drug use (AOR= 3.26, 95% CI 2.11–5.06). Other variables significantly and independently associated with public drug use were homelessness (AOR= 3.1, 95% CI 1.46–6.58), recent incarceration (AOR= 1.77, 95% CI 1.15–2.73), used needle lending (AOR= 5.39, 95% CI 1.96–14.78), requiring help injecting (AOR= 1.60, 95% CI 1.01–2.54), and daily heroin injection (AOR= 2.71, 95% CI 1.84–3.98)	

National Centre in HIV Epidemiology and Clinical Research. (2007). *Sydney Medically Supervised Injecting Centre evaluation report no. 4: Evaluation of service operation and overdose-related events*. Sydney: UNSW.	* Opioid-related overdoses attended by an ambulance * Opioid-related deaths * Opioid poisoning presentations at hospitals * Publicly discarded syringes * Operating costs	* Overdose-related events: May 1998- Apr 2006 * Syringe disposal: Jan 2000- Jan 2007.	This report is the final evaluation issued by the NCHECR of the Sydney SIF. Includes results from Salmon, van Beek, Amin, Kaldor & Maher (2010) regarding ambulance call outs to opioid overdoses. Also reports on opioid-related deaths, conducting a similar analysis (pre- and post-SIF opening changes with comparison area). They also examine changes in opioid poisoning presentations at Emergency Departments over the time period. Lastly, the authors analyse monthly counts of publicly discarded syringes pre- and post- the SIF opening	There were significant decreases in monthly average morphine deaths in both the Kings Cross vicinity and the rest of NSW following the SIF opening; the difference between the rates of change was not significant (Poisson regression X^2= 0.02, p= 0.877). There was a significant decrease in average monthly presentations to ERs in Kings Cross following the opening of the SIF (OR 0.65, 95% CI 0.57–0.74), however no comparison group was used here. Lastly, there was a significant 48% decrease in the average monthly count of publicly discarded syringes in the vicinity of the SIF following its opening ()OR 0.52, 95% CI 0.51–0.52). See Salmon, van Beek, Amin, Kaldor (2010) for more detailed results on ambulance call outs, which did suggest a possible effect of the SIF. Also includes operating costs of the SIF, which increased from previous estimates	Socially desirable responding may have influenced results. The use of the postcodes 2011 and 2010 to define the Kings Cross vicinity may be overly inclusive, leading to an underestimation of effect. Analysis of opioid poisoning hospital presentations limited by potential confounding introduced by the reduction in heroin supply around the same time the SIF was opened
National Centre in HIV Epidemiology and Clinical Research. (2007). *Sydney Medically Supervised Injecting Centre Interim Evaluation Report no. 3: Evaluation of Client Referral and Health Issues*. Sydney: UNSW.	* Self reported changes in risky injecting behaviour * Frequency of injecting * Heroin use * Public injection * Syringe sharing	1995- 2005 Sydney	This report is an interim evaluation of the SIF in Sydney as of 2007. It evaluates the SIF's performance on some outcome variables. It also includes a large set of descriptive data on client characteristics, service use, referrals, and client health and risk behaviours	77% of participants reported improvements in their injecting practices since registering at the SIF. Specifically, clients reported improvements in injecting technique, understanding of overdose risk and a decrease in the likelihood of sharing injecting equipment. A comparison of reported daily injecting from 2001 to 2004 among recent SIF attendees showed a significant trend downwards over time (p= 0.02) whereas the non-recent SIF attendees did not show any significant changes. Also, there was a significant increase in recent heroin injection among non-recent SIF attendees (p= 0.04), whereas the recent SIF attendees showed no changes. Evidence about public injecting change was inconclusive, although recent SIF attendees consistently reported this more frequently. Lastly, there were no changes in syringe-sharing for any of the participants over time, with similar rates reported by recent and non-recent SIF attendees	The cross-sectional nature of the information on changes in risky injecting behaviour must be taken with caution. Also, differences between the recent and non-recent SIF attendees in the subsequent analyses were not compared statistically
Petrar, S., Kerr, T., Tyndall, M. W., Zhang, R., Montaner, J. S. G., & Wood, E. (2007). Injection drug users' perceptions regarding use of a medically supervised safer injecting facility. *Addictive Behaviors,* 32(5), 1088-1093.	* Self reported changes in injecting behaviour * Barriers to use of the SIF	Dec 2003- Sep 2005 Vancouver	This study assessed IDUs' experiences and opinions regarding the SIF in Vancouver and explored what kinds of operational changes might improve the current service	75% of participants reported that their injecting behavior had changed since using the SIF, and 95% rated the overall quality of service as excellent or good. HIV-positive individuals were less likely to report behavior changes as a result of SIF use (p=0.005); this was likely due to safer baseline behaviors among this population. Commonly reported restrictions to using the SIF were travel difficulties (12%), limited operating hours (7%), waiting times (5%), and police working too near the SIF (5%). Potential changes in the SIF's operation were suggested. In relation to operational changes that would improve the current service, the three most common suggestions were longer hours of operation (53%), addition of a washroom (51%), and reduced waiting times (46%)	As this study does not provide a robust test of injecting behaviour changes, the more relevant results are those pertaining to perceived barriers and improvements to the SIF rather than the changes in behaviour variable

Salmon, A. M., Thein, H.-H., Kimber, J., Kaldor, J. M., & Maher, L. (2007). Five years on: What are the community perceptions of drug-related public amenity following the establishment of the Sydney Medically Supervised Injecting Centre? *International Journal of Drug Policy,* 18(1), 46-53.	Community perceptions of: * Public drug use * Publically discarded syringes * Drug dealing * Annoyances associated with public drug use * Advantages/ disadvantages of SIF	Oct 2000-Nov 2005 Sydney	A survey was conducted among random samples of residents and business operators in Kings Cross prior to and following the opening of the SIF, to assess changes in community perceptions of public amenity	There were downwards trends in perceived public drug use in both the residential and business samples, although the change was considered an independent effect only for the residential sample, after adjustment for confounds (AOR 0.53, 95% CI 0.37–0.74). There were also decreases in discarded syringes in both samples, which were both significantly and independently predicted by survey year (residential AOR 0.35, 95% CI 0.26–0.48; business AOR 0.53, 95% CI 0.34–0.81). Perceptions of drug dealing were stable across the time period. Reported annoyances decreased significantly over the time period. Both residential and business operators reported more advantages than disadvantages of the SIF; advantages were health related (e.g., HIV/AIDS control, overdose risk) whereas disadvantages were concerns about increased drug use (e.g., attracts drug users to the area, encourages drug use). For many of the above measures, living within 500m of the SIF decreased the likelihood of perceiving problems	Supersedes Thein, Kimber, Maher, MacDonald & Kaldor (2005) in the two variables 'annoyances' and 'advantages/disadvantages'. However, the responses to these outcomes appear to have been prompted in the 2005 study but unprompted here (i.e., in the previous study, the authors listed the 'impacts' of the SIF and asked for agreement/disagreement, whereas in the current study participants were asked to identify potential responses)
Stoltz, J.-A., Wood, E., Small, W., Li, K., Tyndall, M., Montaner, J., & Kerr, T. (2007). Changes in injecting practices associated with the use of a medically supervised safer injection facility. *Journal of Public Health,* 29(1), 35-39.	* Safer injection practices	July 2004-June 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict safer injecting practices. There was no pre- post-test measure but instead, change was assessed by asking participants if they believed their injecting practices had changed since using the SIF	Consistent SIF users were more likely than non-consistent SIF users to be using heroin daily and be involved in sex work. Each change in injection behaviour was independently and positively associated with consistent SIF use: * reuse syringes less often (AOR 2.04, 95% CI 1.38–3.01) * less rushed during injection (AOR 2.79, 95% CI 2.03–3.85) * less injecting outdoors (AOR = 2.7, 95% CI = 1.93–3.87) * using clean water for injecting (AOR 2.99, 95% CI 2.13–4.18) * cooking or filtering drugs prior to injecting (AOR 2.76, 95% CI 1.84–4.15) * tying off prior to injection (AOR 2.63, 95% CI 1.58–4.37) * safer disposal of syringes (AOR 2.13, 95% CI 1.47–3.09) * easier finding a vein (AOR 2.66, 95% CI 1.83–3.86) * injecting in a clean place (AOR 2.85, 95% CI 2.09–3.87)	Non-significant associations between consistent SIF use and borrowing (OR 0.78, 95% CI 0.42–1.44), and lending (OR 0.63, 95% CI 0.36–1.10) syringes (Table 1). Measures rely on self-report
Wood, E., Tyndall, M. W., Zhang, R., Montaner, J. S. G., & Kerr, T. (2007). Rate of detoxification service use and its impact among a cohort of supervised injecting facility users. *Addiction,* 102(6), 916-919.	* Detox service use * Treatment initiation	Dec 2003-Mar 2005 (Follow up Jun 2005) Vancouver	This study examined the effect of opening the SIF on detox service use with a pre- and post-test design studying SIF users. The study conducts prospective and retrospective database linkages with detox facilities rather than self-report	The year after the SIF opened was associated with a 30% increase in uptake of detox services (AOD 1.32, 95% CI 1.11–1.58). At follow up, detox service use was positively associated with uptake of methadone maintenance therapy (AHR 1.56, 95% CI 1.04–2.34) or other treatment (AHR 3.73, 95% CI 2.57–5.39). Furthermore, use of the SIF decreased significantly following detox (24 visits versus 19 visits per month, p= 0.002)	Differences in detoxification use between the pre- and post-SIF years could have been attributable to unmeasured factors independent of the SIF
Kerr, T., Stoltz, J.-A., Tyndall, M., Li, K., Zhang, R., Montaner, J., & Wood, E. (2006). Impact of a medically supervised safer injection facility on community drug use patterns: a before and after study. *BMJ,* 332(7535), 220-222.	Starting and stopping: * Injecting drug use * Binge drug use * Crack cocaine smoking * Starting or stopping methadone	Period 1 (2002-2003) v period 2 (2003-2004) Vancouver	This longitudinal study examined the effect of opening the SIF on drug use patterns with a pre- and post- test design studying IDU in Vancouver. Specifically, the Comparing % change in variables pre/post SIF opening. From Vancouver injecting drug users study (VIDUS)	Only differences were: decrease in number of participants who relapsed into binge drug use in the second period, and in increase in number who started smoking crack cocaine	These were a set of early results, many of which have been supersedes by later studies

National Centre in HIV Epidemiology and Clinical Research. (2006). *Sydney Medically Supervised Injecting Centre Interim Evaluation Report no. 2: Evaluation of Community Attitudes towards the Sydney MSIC*. Sydney: UNSW.	Community perceptions of: * Public drug use * Publically discarded syringes * Drug dealing * Annoyances associated with public drug use * Knowledge of SIF * Agreement with SIF * Advantages/ disadvantages of SIF	2000-2005 Sydney	This report is an interim evaluation of the SIF in Sydney as of 2006. It asses attitudes towards drug use and SIFs, experience and perceptions of public drug use and related issues	Rates of knowledge of the location of the SIF stayed fairly constant over time. The proportions of residents who agreed with the establishment of the SIF in 2005 was 73%, a slight decline from 78% in 2002, but still above the proportion who agreed with its establishment prior to opening in 2000 (68%). See Salmon, Thein, Kimber, Kaldor & Maher (2007) for other results	Supersedes Thein, Kimber, Maher, MacDonald & Kaldor (2005) on variables 'knowledge of SIF' and 'agreement with SIF'
Wood, E., Tyndall, M. W., Zhang, R., Stoltz, J.-A., Lai, C., Montaner, J. S. G., & Kerr, T. (2006). Attendance at supervised injecting facilities and use of detoxification services. *New England Journal of Medicine,* 354(23), 2512-2514.	* Time to entry into a detox program	Dec 2003- Mar 2005 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict entry into detox. Performed linkages with health databases to verify participant information	Factors that were independently associated with more rapid entry into detox were homelessness (AHR 1.42, 95% CI 1.06–1.90), treatment history (AHR 2.43, 95% CI 1.41–4.22), and having contact with the facility's counsellor (AHR 1.98. 95% CI 1.26–3.10). Weekly or more frequent use of the SIF was also independently associated with more rapid entry into detox (ARH 1.72, 95% CI 1.25–2.38)	Does not address detoxification success, only enrolment. Also this may not mean they end up in treatment, or succeed there either
Wood, E., Tyndall, M., Lai, C., Montaner, J., & Kerr, T. (2006). Impact of a medically supervised safer injecting facility on drug dealing and other drug-related crime. *Substance Abuse Treatment, Prevention, and Policy,* 1(1), 13.	* Crime rates (charges)	Oct 2003- Sep 2005 Vancouver	This study examined the effect of opening the SIF on crime with a pre- and post- test design studying crime rates in the neighbourhoods around the SIF. Accessed Vancouver Police Department statistics regarding charges for drug trafficking, assaults and robberies, and vehicle break-ins and vehicle theft	Arrest for drug trafficking, assaults, and robbery were similar after the facility's opening. Rates of vehicle break-ins/theft declined significantly	Due to the nature of the methodology and the inability to rule out confounding factors such as policing practices, the authors caution against inferring that any changes were due to the SIF. They instead suggest that the SIF was not associated with a marked increase in drug-related criminal activity
Freeman, K., Jones, C. G., Weatherburn, D. J., Rutter, S., Spooner, C. J., & Donnelly, N. (2005). The impact of the Sydney Medically Supervised Injecting Centre (MSIC) on crime. *Drug and Alcohol Review,* 24(2), 173-184.	* Drug-related activity around the MSIC (loitering, dealing) * Acquisitive crime	Jan 1999- Oct 2002 Sydney	This study conducts a time series analysis of police-recorded trends, as well as key informant interviews, in order to examine the Sydney SIF's impact on crime. They concentrate on the area surrounding the SIF	They find no evidence the SIF had any impact on acquisitive crime. There was little or no sustained increase in loitering near the SIF by drug users or dealers	Results may be confounded by the heroin shortage
Kerr, T., Tyndall, M., Li, K., Montaner, J., & Wood, E. (2005). Safer injection facility use and syringe sharing in injection drug users. *The Lancet,* 366(9482), 316-318.	* Syringe sharing	Dec 2003- June 2004 Vancouver	Used a cohort of IDUs recruited from the community (VIDUS study) and measured their frequency of use of the SIF to assess whether frequency of SIF use can predict syringe sharing	Use of the SIF was independently associated with reduced syringe sharing (AOR 0.29, 95% CI 0.11–0.78). Furthermore, there were no baseline-pre SIF-syringe sharing differences between those reporting consistent and non-consistent use of the SIF, demonstrating that the groups were roughly equivalent in this respect and thus increasing confidence in the conclusion that SIF use was the cause of the effect	Sample not random and may not be representative. Rates of syringe sharing may be undestimates because of socially desirable responding. Used a combined endpoint of lending and borrowing to obtain adequate statistical power

Thein, H.-H., Kimber, J., Maher, L., MacDonald, M., & Kaldor, J. M. (2005). Public opinion towards supervised injecting centres and the Sydney Medically Supervised Injecting Centre. *International Journal of Drug Policy,* 16(4), 275-280.	Community perceptions: * Knowledge of SIF * Agreement with SIF * Understanding of impacts *SIF location considerations	Oct 2000- Oct 2002 Sydney	A survey was conducted among random samples of residents and business operators in Kings Cross prior to and following the opening of the SIF, to assess changes in community perceptions of the SIF	Most respondents reported some knowledge of SIFs. There was an increase in agreement with the establishment of the SIF from 68% in 2000 to 78% in 2002 ($p< 0.001$) and a corresponding decrease in disagreement (26% to 17%, $p< 0.001$). There were significant decreases for both residents and business operators in the beliefs that SIFs make drug law enforcement difficult, and that SIFs make people think it's legal to inject drugs. There were significant increases in the beliefs that SIFs improve the health of users and reduce publicly discarded syringes. Overall the findings indicate diminished concern among local residents and businesses about crime and drug users in the area after the SIF opened. The three most frequently reported locations by respondents in 2000 and 2002 were areas of high drug use, away from children and young people and away from residential areas	Despite evidence of a decrease, the authors do not address the high agreement with the beliefs 'SIFs attract drug users' and 'SIFs make people think injecting drug use is legal'. Also see Salmon, Thein, Kimber, Kaldor & Maher (2007) for related study
Wood, E., Tyndall, M., W. , Stoltz, J.-A., Small, W., Lloyd-Smith, E., Zhang, R., . . . Kerr, T. (2005). Factors Associated with Syringe Sharing Among Users of a Medically Supervised Safer Injecting Facility. *American Jounral of Infectious Diseases,* 1(1)	* Syringe lending and borrowing	Mar 2004- Oct 2004 Vancouver	Used a cohort of IDUs recruited from the SIF and measured their frequency of use of the SIF (comparing those who used the SIF exclusively for all their injections to those who also injected elsewhere) to assess whether frequency of SIF (and what other factors) use can predict safer syringe lending and borrowing among SIF users. Examined both HIV-positive and negative SIF users	Syringe borrowing among HIV-negative IDUs was positively associated with public drug use (OR 7.07, 95% CI 2.16–23.13) and requiring help injecting (OR 2.59, 95% CI 1.42–4.74). Syringe lending among HIV-positive IDUs was associated with daily cocaine injection (OR 3.42, 95% CI 1.15–10.2) and shooting gallery use (OR 6.16, 95% CI 1.75–21.70). There was some evidence that the SIF may reduce syringe borrowing among HIV-negative IDUs (OR 0.14, 95% CI 0.00–0.78), but no evidence that the SIF may reduce syringe lending among HIV-positive IDUs (OR 0.94, 95% CI 0.00–7.90)	The analyses were bivariate rather than multivariate; i.e., they did not adjust scores to determine independent effect of each factor. For example, the effect found due to SIF use could have disappeared when controlling for differences in another factor
Wood, E., Kerr, T., Small, W., Li, K., Marsh, D. C., Montaner, J. S. G., & Tyndall, M. W. (2004). Changes in public order after the opening of a medically supervised safer injecting facility for illicit injection drug users. *Canadian Medical Association Journal,* 171(7)	* Public injecting drug use * Publicly discarded syringes * Injection-related litter *Drug dealers in vicinity	Aug 2003- Dec 2003 Vancouver	This study examined the effect of opening the SIF on public order with a pre- and post- test design studying the area surrounding the SIF (10 city blocks). The study used objective outcome measures and data was collected by observation. Difference between 6 wks before SIF opening and 12 wks after SIF opening (daily averages)	There were statistically significant correlations between daily counts of SIF usage and daily counts of the 3 public order measures. The daily mean number of suspected drug dealers was 45.2 in the period before and 40.7 in the period after the opening of the SIF; the difference was not statistically significant ($p= 0.34$). The period after the opening of the SIF was independently associated with a reduction in public injection drug use ($\beta= –0.61$, $p< 0.001$), publicly discarded syringes ($\beta= –0.72$, $p< 0.001$) and injection-related litter ($\beta= –0.72$, $p < 0.001$)	Did not adjust results for seasonality. There was a possibility of observer bias in the data collection phase.
MSIC Evaluation Committee. (2003). *Final report of the evaluation of the Sydney Medically Supervised Injecting Centre*. Sydney.	* Opioid-related overdoses attended by an ambulance * Opioid poisoning presentations at hospitals * Opioid-related deaths * Publicly discarded syringes * Overdose deaths prevented * New cases of HIV, HBV and HCV * Incidence of HCV	Various Sydney	This comprehensive report is an evaluation of the SIF in Sydney as of 2003. It evaluates the SIF's performance on a number of outcome variables. It also includes a large set of descriptive data on client characteristics and use	Although the same data sets were used in published individual studies, there is some difference in measurement/analysis, time period and level of detail between studies. It may be useful to review all relevant studies: * See NCHECR (2007) and Salmon, Van Beek, Amin, Kaldor & Maher (2010) for results on opioid overdose, although the current study does a very different analysis- time series- rather than odds ratios * See Kimber et al (2008) for results on client health and referral uptake. Differs in definition of 'frequent' SIF attendance. Consequently, there are different results. In the current article, clients who visited the SIF on more than 10 occasions were almost 18 times more likely to have confirmed referral uptake (OR 17.7, 95% CI 10.1–	See KPMG (2010) for results in the extended trial period (to 2007). Results may be confounded by the heroin shortage. SIF clients could not be followed up across time if they did not stay in contact with the SIF due to privacy legislation

	* Prevalence of HIV and HCV * Health service referral uptake * Crime *Drug-related loitering			30.9) * See Salmon, Thein, Kimber, Kaldor & Maher (2007), Thein, Kimber, Maher, MacDonald & Kaldor (2005) and National Centre in HIV Epidemiology and Clinical Research (2006) for results on public opinion/amenity * See Freeman et al (2005) for results on crime and loitering	
Zurhold, H., Degkwitz, P., Verthein, U., & Haasen, C. (2003). Drug consumption rooms in Hamburg, Germany: Evaluation of the effects on harm reduction and the reduction of public nuisance. *Journal of Drug Issues,* 33(3)	* Drug consumption behaviour * Service use * Risk and health awareness * Stressors for staff * Community perceptions of nuisance and attitudes towards SIFs	Unclear Germany (3 SIFs)	Examined whether use of SIFs leads to positive changes in health-related behaviours and public disturbances. The data on behaviour change is descriptive. Also conducted qualitative interviews with community members and analysed them using content analysis	Most of the sample reported at least one change in health-related behaviour. The most frequently-reported changes were 'more careful hygiene and cleanliness' (37%) and 'taking more time and rest' (28%). More frequent SIF users reported more changes in positive habits, using more services, having more public drug use, and spending more time in the open drug scene. Qualitative interviews indicated that most community members believed drug-related burdens had declined since the opening of SIFs	Little statistical significance testing, so the changes in injecting behaviours should be regarded as descriptive. Also note that these SIFs are rooms housed in broader 'low threshold' facilities which offer many other services, and the rooms are open to both injecting and smoking drug users

Table 3: Economic assessments (n=7 papers)

Authors & Publication Year	Outcomes Examined	Study period & location	Aim/Description	Findings	Unresolved Issues/ Notable Limitations
Andresen, M. A., & Boyd, N. (2010). A cost-benefit and cost-effectiveness analysis of Vancouver's supervised injection facility. *International Journal of Drug Policy,* 21(1), 70-76.	* HIV infections prevented (lifetime health costs) * Deaths prevented (lost productivity/ wages) * Running costs of SIF	Vancouver	Conducted a cost-effectiveness and a cost-benefit analyses of the Vancouver Insite SIF to determine whether the facility's prevention of infections and deaths among IDUs is of greater or lesser cost than the cost involved in providing the service	The SIF prevents 35 new cases of HIV and 2.8 deaths per year. This results in societal benefits of $7.56m per year (after costs are taken into account). Therefore the Insite SIF is cost saving as a stand-alone operation, independent of Insite's other services	The economic evaluation is not methodologically rigorous. Methodological issues pertaining to models, data and assumptions are raised by Pinkerton (2011)
Pinkerton, S. D. (2011). How many HIV infections are prevented by Vancouver Canada's supervised injection facility? *International Journal of Drug Policy,* 22(3), 179-183.	* HIV infections prevented (lifetime health costs) * Deaths prevented (lost productivity/ wages) * Running costs of SIF	Vancouver	Suggest that Andresen & Boyd (2010) made many errors, including incorrect equations, misspecification of models, unjustified parameters and more. They identify the errors and suggest corrections to the model, resulting in a revised estimate of 5–6 HIV infections prevented by the SIF per year, which is about smaller than Andresen & Boyd's figure of 35 by roughly a factor of 5. The estimate Pinkerton gives here is higher than the 2.8 figure in his 2010 paper (which includes a similar analysis) because the current paper takes an additional factor into consideration. Despite the corrections made to Andresen & Boyd's model, the author finds that the SIF is still cost-saving; the total savings due to averted HIV-related medical care costs and prevented overdose deaths (approximately $1.7 to $1.9 million per year), are just slightly greater than the estimated $1.5 million annual operating cost of the SIF		This paper does not seek to conduct a cost-benefit or cost-effectiveness analysis, it provides corrections to an existing model
Pinkerton, S. D. (2010). Is Vancouver Canada's supervised injection facility cost-saving? *Addiction,* 105(8), 1429-1436.	* HIV infections prevented (lifetime health costs) * Running costs of facility	Vancouver	The aim of the study was to estimate whether Vancouver's Insite facility (SIF and Needle Exchange Program (NEP)) prevented a sufficient number of HIV infections to be cost saving. A series of equations were used to estimate the expected incidence of HIV infection within Vancouver's IDU community, both with and without the SIF in operation	Found that Insite prevents 83.5 HIV infections per year, which equates to approximately $17.6m saving (they also give $7.8m as a conservative estimate) in life-time HIV-related medical care costs. This exceeds the facility's operating costs ($3m annually), so Insite is cost-saving. This is mainly due to the NEP; the reduction in borrowing rates due to safe injections within the SIF prevented only 2.8 infections per year averting $580 000 in additional HIV-related medical care costs on top of the NEP. The NEP is considerably more beneficial than the SIF in reducing HIV infections.	It is unclear whether the SIF itself is cost-saving. See Pinkerton (2011) for a similar model looking only at the SIF. The authors acknowledge that the scarcity of detailed information about the injecting practices of IDUs in Vancouver impacts the certainty of findings
Bayoumi, A. M., & Zaric, G. S. (2008). The cost-effectiveness of Vancouver's supervised injection facility. *Canadian Medical Association Journal,* 179(11), 1143-1151.	* Deaths prevented (life-years gained) * Rates of HIV and Hepatitis C infection * Healthcare costs	Vancouver	The authors used a dynamic compartmental model with a 10 year time horizon to conduct a cost-effectiveness analysis of the Vancouver SIF (SIF only, excluding Insite's other facilities). They modelled individuals aged 15–64 cycling through the model until death, ageing beyond 64 years or migration out of the Vancouver area	At their most conservative estimate, the SIF was associated with net savings (incremental gain relative to no SIF) of almost $14m and 920 life-years gained over the 10 years. The ratio for the SIF relative to no SIF dominated (the SIF is cost effective)	Results were sensitive to rates of injecting and rates of needle sharing. See Des Jarlais, Arasteh & Hagan (2008) for comments
Des Jarlais, D. C., Arasteh, K., & Hagan, H. (2008). Evaluating Vancouver's supervised injection facility: data and dollars, symbols and ethics. *Canadian Medical Association Journal,* 179(11), 1105-1106.	See Bayoumi & Zaric (2008)	Vancouver	State that the Bayoumi & Zaric study overestimates incidence rate of HIV infection, leading to biased results. However, even with a revised estimate of about 250–350 averted HIV infections over 10 years, the SIF is still cost-effective. The authors conclude that the threat to close Insite appears to be based more on emotional and symbolic reactions to the facility than to evidence		

Saha International Limited. (2008). *Final Report to NSW Health 'Economic evaluation of the Medically Supervised Injecting Centre at Kings Cross (MSIC)*. Sydney: SAHA.	* HIV/HCV infection prevented * Client & referral services * Overdoses prevented * Other agencies * Running costs of facility	Sydney	Conducts a cost-benefit analysis comparing the estimated costs of running SIF against the costs of providing a similar health outcome elsewhere in the health system	The SIF saves $658,000 over providing similar health outcomes, as currently achieved at SIF, through other means in the health system. Without the SIF, there would be significant costs in the treatment of overdoses and new HIV and HCV infections. This indicates that the health outcomes provided by the SIF come at a lower cost to Government than the alternative	Sensitivity testing of key parameters demonstrated that more conservative estimates resulted in the SIF coming at a higher cost to Government than the alternative
MSIC Evaluation Committee. (2003). *Final report of the evaluation of the Sydney Medically Supervised Injecting Centre*. Sydney.	* Deaths prevented (lost productivity, lost quality of life) * Service utilisation (NEP, ambulance calls, Police) * Running costs of SIF	Sydney	Conducted a cost-benefit analysis of the Sydney SIF to determine whether the existence of the SIF is preferable to its non-existence	Cost/benefit ratios for the future operation of the SIF could range from 1.20 to 1.97, indicating that it is cost-beneficial compared to the SIF not existing	Does not include opportunity cost to the operation of the SIF (that is, the money used to operate the SIF could have been used to purchase other interventions). SAHA (2008) includes this factor. Also reports on various outcomes (see entry above)

Table 4: Policy and Law (n=15 papers)

Authors & Publication Year	Location	Aim/Description and Findings
Semaan, S., Fleming, P., Worrell, C., Stolp, H., Baack, B., & Miller, M. (2011). Potential role of safer injection facilities in reducing HIV and Hepatitis C infections and overdose mortality in the United States. *Drug & Alcohol Dependence,* 118, 11.	United States	The authors use the Kass ethical framework for public health programs to analyse health needs and outcomes, operational matters, and ethical considerations for SIFs in the U.S.. Public health goals include overdose mortality, and HIV/Hepatitis C infection. They review the evidence and conclude that SIFs should be considered by public health providers and policy makers
Burris, S., Anderson, E. D., Beletsky, L., & Davis, C. S. (2009). Federalism, policy learning, and local innovation in public health: The case of the supervised injection facility. *Saint Louis University Law Journal,* 53	United States	This article explains the various mechanisms for authorizing an SIF under state law, the dual (state and federal) regulation of controlled substances in the United States, and then considers how a state would counter a federal challenge to a state-authorized SIF. The authors conclude by distinguishing evidence-based health policy from "policy learning," where efficacy is a necessary but insufficient component of policy implementation. Real policy learning, which is more about providing a forum for the ongoing creation of consensual knowledge and agreed processes to guide policy, should not be forgotten in the case of the SIF
Beletsky, L., Davis, C. S., Anderson, E., & Burris, S. (2008). The law (and politics) of safe injection facilities in the United States. *American journal of public health,* 98(2), 231-237.	United States	Discusses legal challenges with launching SIFs in the U.S.. Addresses two key legal issues: under which jurisdiction would a SIF be governed? And, how would a SIF be treated under federal law? They conclude that there is a difficult legal path for SIFs but potentially worthwhile. The authors describe possible legal steps to take in launching a SIF
Hathaway, A. D., & Tousaw, K. I. (2008). Harm reduction headway and continuing resistance: Insights from safe injection in the city of Vancouver. *International Journal of Drug Policy,* 19(1), 11-16.	n.a.	Explores the moral platform behind SIFs. The authors dispute the suggestion that harm reduction strategies are irresponsible, dishonest, or immoral. Instead they state that the stance of harm reduction is inherently a moralistic stance that weighs costs and benefits of drug use and intervention. They suggest that a past muted stance on moral justifications for harm reduction has for the most part been useful, or politically expedient, allowing for some common ground between parties by sidestepping ideological disputes. By neglecting its core values, however, harm reduction severely undermines its inherent humanism and basis in respect for human rights. They contend that these moral justifications should be further cultivated and promoted by proponents
Wood, E., Kerr, T., Tyndall, M. W., & Montaner, J. S. G. (2008). The Canadian government's treatment of scientific process and evidence: Inside the evaluation of North America's first supervised injecting facility. *International Journal of Drug Policy,* 19(3), 220-225.	Canada	Reports the events around the Canadian government's rejection of the continuation of the Vancouver SIF study in 2006, following several years of its operation. The authors express concerns regarding the new Canadian federal government's handling of scientific processes and disregard for the outcome of peer review recommendations. The authors call for greater public scrutiny of the new Canadian government's handling of scientific evidence and wish to use the Canadian SIF experience as a lesson for researchers, drug policy-makers, and affected communities in other settings considering SIFs

Fischer, B., & Allard, C. (2007). *Feasibility Study on 'Supervised Drug Consumption' Options in the City of Victoria* Victoria: Centre for Addictions Research of British Columbia (CARBC), University of Victoria	Canada	This feasibility study was commissioned by the Vancouver Island Health Authority and the City of Victoria to facilitate the development of a possible SIF in an evidence-based and locally needs-responsive way for Victoria (Canada). Includes the epidemiology of drug use and harms in Victoria, the policy context, a review of SIF experiences worldwide, evidence for efficacy, and a stakeholder survey of attitudes, parameters and needs regarding SIF options in Victoria. They recommend that a SIF under a 'low threshold' service model be implemented, with the principal objective being to reduce health-related harms for IDUs; offered in close integration with a range of core additional health and social services; with a meaningful and active role to be played by community stakeholders and police
Rhodes, T., Kimber, J., Small, W., Fitzgerald, J., Kerr, T., Hickman, M., & Holloway, G. (2006). Public injecting and the need for 'safer environment interventions' in the reduction of drug-related harm. *Addiction,* 101(10), 1384-1393.	n.a.	This commentary considers the micro injecting environment as a critical dimension of risk for IDUs, focusing on the importance of reducing public drug injecting in mediating risk. The authors raise a need for safer injecting environment interventions, including establishment of SIFs, making current injecting sites safer (e.g., equipment vending machines, improved hygiene in known injecting areas), and prevention through urban design. The authors conclude that SIFs should be accompanied by interventions embedded within existing sites, and caution against prevention through urban design as it may serve to displace and further marginalise IDUs
Christie, T., Wood, E., Schechter, M. T., & O'Shaughnessy, M. V. (2004). A comparison of the new Federal Guidelines regulating supervised injection site research in Canada and the Tri-Council Policy Statement on Ethical Conduct for Research Involving Human Subjects. *International Journal of Drug Policy,* 15(1), 66-73.	Canada	This commentary provides a critical analysis of the new Canadian Federal Guidelines regarding the legal basis for a SIF in Canada and compares them to the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (TCPS), the established standards for scientific research ethics. The authors state that by giving a purely 'scientific' justification for SIFs' legal exemption, the Canadian government should defer to the standards in the TCPS rather than the new Federal Guidelines
Fischer, B., Turnbull, S., Poland, B., & Haydon, E. (2004). Drug use, risk and urban order: examining supervised injection sites (SISs) as 'governmentality'. *International Journal of Drug Policy,* 15(5-6), 357-365.	n.a.	This paper examines SIFs under the socio-theoretical framework of 'governmentality' which shifts the definition and control of substance use from the traditional, punitive state basis to a self-governing drug user who manages his/her own risks. The authors propose that SIFs are best understood in the context of their aim of spatially regulating (concealing or displacing, rather than eliminating) the activities of IDUs. SIFs act as a disciplinary mechanism to shape an 'informed, responsibilised and well disciplined drug-using agent' in an insidious post-modern form of social control that may serve to further repress some IDUs. The authors request decision-makers have a reflexive stance regarding these possibly counter-intuitive dimensions of SIFs
Malkin, I., Elliott, R., & McRae, R. (Writers). (2003). Supervised injection facilities and international law, *Journal of Drug Issues*. Tallahassee, United States, Tallahassee.	n.a.	This article considers the position of supervised injection facilities in international law. The authors state that under international legal obligations such as the legal imperative to act, to protect human life, and the right to the highest attainable standard of health, implementing SIFs is an appropriate measure. Further, they suggest that SIFs are permissible (i.e., not blocked) by international drug laws. The authors conclude that SIF trials should be implemented in other parts of the world, in accordance with ethical and legal obligations
Broadhead, R. S., Kerr, T. H., Grund, J.-P. C., & Altice, F. L. (2002). Safer injection facilities in North America: Their place in public policy and health initiatives. *Journal of Drug Issues,* 32(1), 329-355.	North America	This commentary addresses several policy questions: What specific problems do SIFs address over other services in responding to drug-related harms? What agreements need to be considered and negotiated in order to implement an SIF within a municipality? What rules of operation do SIFs generally follow? They state that SIFs target several problems and that in order to successfully negotiate a SIFs' place in a community, the active involvement and support of law enforcement, city officials, drug assistance agencies, and injectors themselves is essential. They suggest that the time has come for more North American municipalities to begin considering SIFs, and to provide support for research of SIFs operating in IDU communities
Elliott, R., Maklin, I., & Gold, J. (2002). *Establishing safe injection facilities in Canada: Legal and ethical issues*: Canadian HIV/AIDS Legal Network.	Canada	This feasibility study from the Canadian HIV/AIDS Legal Network, sought to contribute to the informed development of Canadian law and policy that supports harm-reduction measures. Includes the epidemiology of drug use and harms in Canada, the policy/legal context, a review of SIF experiences worldwide, arguments for/against SIFs (with evidence), and recommendations. They conclude that there are ethical and legal obligations to introduce SIFs in Canada and that the government should take the necessary measures to support this

Joint Select Committee into Safe Injecting Rooms. (1998). *Report on the establishment or trial of safe injecting rooms*. Sydney: Parliament of New South Wales.	Australia	This feasibility study followed the recommendation by the Royal Commission into the New South Wales Police Service in the 1990's in NSW. Includes the epidemiology of drug use, services and harms in NSW, a review of SIF experiences worldwide, evidence for efficacy, arguments for/against SIFs (with evidence), the policy/legal context in NSW, models of SIF service and recommendations. They recommend that the establishment or trial of a SIF **not** proceed due to: safety concerns associated with administering and operating injecting rooms; impact on the local community; increased crime risks; condones drug use; and that resources would be better directed to expanding the range and capacity of drug treatment. However, there were a number of Committee members who dissented. The Sydney SIF since this time has been established
Jauncey, M. E., van Beek, I., Salmon, A. M., & Maher, L. (2011). Bipartisan support for Australia's supervised injecting facility: A decade in the making. *Medical Association Journal, 195*, 264.	Australia	This letter, marking ten years of the Sydney SIF's operation, gives a brief update on recent political events. Whilst public and medical opinion has been in support of SIFs, there has been entrenched political opposition, that has only recently been defeated.
Skretting, A., & Olsen, H. (2008). The Norwegian injection room trial: Politics and controversies. *Nordic Studies on Alcohol & Drugs, 25*, 269–283.	Norway	In December 2004 a provisional legislative proposal was passed by the Norwegian Parliament for the establishment of a SIF, however politicians took unusual pains to detail the practicalities related to how the injecting room should be organized. Dilemmas faced included whether only injecting of heroin should be permitted, how to decide who to admit, and more generally how far society should go in providing help that may also prolong substance abuse. The evaluation of the trial was unable to determine with certainty whether the objectives of the trial were achieved, partly because the targets are methodologically and practically difficult to measure. An injecting room arrangement in the form set out under the Norwegian trial scheme presents staff with several difficulties to overcome.

Table 5: Qualitative studies (n=12 papers)

Authors & Publication Year	Outcomes Examined	Study period & location	Aim/Description	Findings	Unresolved Issues/ Notable Limitations
Krüsi, A., Small, W., Wood, E., & Kerr, T. (2009). An integrated supervised injecting program within a care facility for HIV-positive individuals: a qualitative evaluation. *AIDS Care,* 21(5), 638-644.	* Access to prevention and care services for HIV-positive IDUs	May/Jun 2007 Vancouver	This qualitative study explored SIF staffs' and HIV-positive IDUs' perspectives on the effect of the SIF in relation to access to care services. Conducted a thematic analysis on recorded interviews	Participants and staff viewed the SIF as facilitating access to care by building more open and trusting relationships with staff, facilitating engagement in safer injection education and improving the management of injection-related infections. Feelings of shame and fear of judgment in relation to their drug use were identified as a barrier in service uptake	The study may not be representative, as there may have been over reporting of socially desirable views
Small, W., Van Borek, N., Fairbairn, N., Wood, E., & Kerr, T. (2009). Access to health and social services for IDU: The impact of a medically supervised injection facility. *Drug and Alcohol Review,* 28(4), 341-346.	* Access to health and social services	Nov 2005- Feb 2006 Vancouver	This qualitative study explored IDUs' perspectives on the effect of the SIF in relation to access to health and social services. Conducted a thematic analysis on recorded interviews. There was also a small descriptive supplementary qualitative analysis	Participants indicated that the SIF healthcare model is more accessible for IDU than conventional programs because of the nonjudgmental and integrated care, timely access to primary health care and referrals, and improved access to counselling and social services. The majority of participants indicated that the SIF facilitates access to care and services. The quantitative data showed that 44% of participants accessed medical care and 94% nonmedical services on-site. Lastly, 24% of participants reported that they would not have accessed the services they obtained at the SIF had Insite not been available	Uses the same data as Small, Wood, Lloyd-Smith, Tyndall & Kerr (2008), but addresses different questions. Unclear how much overlap there is in the results. Both studies use thematic analyses and the limitations of such a methodology should be taken into consideration when interpreting results
Small, W., Wood, E., Lloyd-Smith, E., Tyndall, M., & Kerr, T. (2008). Accessing care for injection-related infections through a medically supervised injecting facility: A qualitative study. *Drug and Alcohol Dependence,* 98(1-2), 159-162.	* Care for injection-related infections at the SIF	Nov 2005- Feb 2006 Vancouver	This qualitative study explored IDUs' perspectives on the effect of the SIF in relation to healthcare access and management of injection-related infections. Conducted a thematic analysis on recorded interviews	Participants indicated positive reports of assessment and care of injection-related infections on-site, and that the SIF connects IDU to off-site medical services by supplying referrals and transport. It was suggested that the presence of nursing personnel in the context of a SIF serves to address social and structural barriers that often impede IDU access to healthcare, such as prejudice encountered in conventional healthcare settings	Uses the same data as Small, Van Borek, Fairbairn, Wood & Kerr (2009), but the current study addresses infections specifically. Unclear how much overlap there is in the results
Kerr, T., Small, W., Moore, D., & Wood, E. (2007). A micro-environmental intervention to reduce the harms associated with drug-related overdose: Evidence from the evaluation of Vancouver's safer injection facility. *International Journal of Drug Policy,* 18(1), 37-45.	* Overdose risk	Nov 2005- Feb 2006 Vancouver	This qualitative study explored IDUs' perspectives on the effect of the SIF in relation to overdose risk and management. Conducted a thematic analysis on recorded interviews	Participants indicated that the SIF can address some of the risks associated with overdose, including rapid response by staff, being less rushed with injections, not being alone, and it also alleviates also fears about overdosing in public, such as getting robbed or arrested, and using substances of unknown purity/composition. They also identified some barriers to using the SIF, including the wait time and the restriction on level of intoxication (IDUs reported being roused by staff for being too intoxicated)	Socially desirable responding may have influenced results
DeBeck, K., Wood, E., Zhang, R., Tyndall, M., Montaner, J., & Kerr, T. (2008). Police and public health partnerships: Evidence from the evaluation of Vancouver's supervised injection facility. *Substance Abuse Treatment, Prevention, and Policy,*	* Referral by local police to SIF	Dec 2003- Nov 2005 Vancouver	Cross-sectional study of IDUs recruited from the SIF and examines what proportion of these were referred by Police	Approximately 17% of participants reported having been referred to the SIF by Vancouver police officers, and those engaged in sex work and frequent cocaine injection were more likely to be referred. They suggests that the SIF is providing Police with an avenue to promote public health.	The measures relied on self-report

3(11), 5.					
Fast, D., Small, W., Wood, E., & Kerr, T. (2008). The perspectives of injection drug users regarding safer injecting education delivered through a supervised injecting facility. *Harm Reduction Journal,* 5(32), 8.	* Safer injecting education	Nov 2005- Feb 2006 Vancouver	This qualitative study explored IDUs' perspectives on the effect of the SIF in relation to safer injecting practices through education at the SIF. Conducted a thematic analysis on recorded interviews	IDUs indicated significant gaps in knowledge regarding safer injecting practices, and that these knowledge deficits result in unsafe injecting practices and negative health outcomes. IDUs indicated that safer injecting education at the SIF allows clients to identify and address these gaps through educational messaging that occurs as a part of the drug use cycle and not outside of it, in situ demonstration of techniques during the process of injecting, and enhanced opportunities to seek help from healthcare professionals. IDUs indicated that the overall environment of the SIF promotes safer injecting practices both within and outside of the SIF	Socially desirable responding may have influenced results
Kimber, J., Hickman, M., Degenhardt, L., Coulson, T., & Van Beek, I. (2008). Estimating the size and dynamics of an injecting drug user population and implications for health service coverage: comparison of indirect prevalence estimation methods. *Addiction,* 103(10), 1604-1613.	* Use of SIF by IDU	Nov 2001- Oct 2002 Sydney	Used a set of indirect prevalence estimation methods to estimate Sydney's SIF coverage of King's Cross IDU population and their injections	Estimates of IDU coverage suggest that more than two-thirds of the resident IDU population had visited the SIF at least once, and it accounted for less than one in 10 injections occurring in Kings Cross.	There are some caveats around the indirect prevalence estimation, and some methodological challenges remain.
Fairbairn, N., Small, W., Shannon, K., Wood, E., & Kerr, T. (2008). Seeking refuge from violence in street-based drug scenes: Women's experiences in North America's first supervised injection facility. *Social Science & Medicine, 67*, 817—823.	*Reasons for using SIF, and impacts of SIF use on violence and associated risk	November 2005- March 2007 Vancouver	Semi-structured qualitative interviews conducted with 25 women recruited from the Scientific Evaluation of Supervised Injecting (SEOSI) cohort of SIF users in Vancouver.	Examines the opinions of women on how the SIF mediates the impact of violence on women. The perspectives of women participating in this study suggest that the SIF is a unique controlled environment where women who inject drugs are provided refuge from violence and gendered norms that shape drug preparation and consumption practices. Further, by enabling increased control over drugs and the administration of drugs, the SIF promotes enhanced agency at the point of drug consumption.	
Small, W., Ainsworth, L., Wood, E., & Kerr, T. (2010). IDU perspectives on the design and operation of North America's first medically supervised injection facility. Substance Use & Misuse, 46, 561—568.	*Discussion of the design and operation of the SIF, as well as potential barriers to accessing the SIF	November 2005 to February 2006 Vancouver	In-depth qualitative interviews with 50 IDUs aimed at discussing the design and operation of the SIF, as well as potential barriers to accessing the SIF.	Although the environment and operation of the SIF are well accepted, long wait times and limited operating hours, as well as regulations that prohibit sharing drugs and assisted injections, pose barriers to using the SIF. Modifying operating procedures and expanding the capacity of the current facility could address these barriers	

Solai, S., Dubois-Arber, F., Benninghoff, F. & Benaroyo, L. (2006). Ethical reflections emerging during the activity of a low threshold facility with supervised drug consumption room in Geneva, Switzerland. *International Journal of Drug Policy, 17*, 17–22.	*Ethical conflicts at work	2003 Geneva	This study, including a questionnaire, observations, and focus groups, aimed to identify situations where SIF staff were presented with ethical dilemmas or conflicts.	Situations associated with ethical conflicts for staff were assisting clients to inject, client refusal to seek treatment in spite of poor health, new injectors, prohibition of access to minors, pregnant clients, client self mutilation, and non-participation in proposed activities. The study showed that despite Quai 9's clear objectives, expressed philosophy, and operational rules, the staff were frequently exposed to ethically conflicting situations. However, open and structured discussion of these situations using an ethical framework which allowed the identification of different norms and discussion of their respective importance in order to reach a common decision was feasible and useful in a DCR setting.	
Wegner, L. D., Arreola, S. G., & Kral, A. H. (2011). The prospect of implementing a safer injecting facility in San Francisco: perspectives of community stakeholders. *International Journal of Drug Policy, 22*, 239—241.	*Stakeholder concerns	June to October 2009 San Francisco	Qualitative in-depth interviews were conducted with 20 purposively sampled stakeholders including representatives from neighbourhood and business associations, politicians, law enforcement, religious leaders, school officials, community activists and service providers.	Stakeholders were concerned that implementation of a SIF would further degrade a community struggling with safety and cleanliness and questioned the efficacy of harm reduction strategies to address drug use. Stakeholders were open to dialogue about how a SIF might support neighbourhood goals, stressed the importance of respect and collaboration between stakeholders and those potentially implementing a SIF, and were interested in evidence of the impact SIFs have on communities. Government protection and political leadership would be necessary to implement a SIF.	Data are derived from a small sample of interviews, and participants were recruited through snowball sampling methods and were not a representative sample. In addition, the interviews were conducted during a time of economic crisis and political uncertainty in San Francisco, and may not reflect concerns in more stable times.
Fairbairn, N., Small, W., Van Borek, N., Wood, E., & Kerr, T. (2010). Social structural factors that shape assisted injecting practices among injection drug users in Vancouver, Canada: A qualitative study. *Harm Reduction Journal, 7*, 1—7.	*Injecting practices	June to July 2007 Vancouver	Examines a group of people who report needing help injecting. The study investigated the social structural factors that shape risks related to assisted injection, and the harms that may result.	Twenty semi-structured qualitative interviews were conducted with IDU enrolled in the ACCESS or Vancouver Injection Drug Users Study (VIDUS). Barriers to self-injecting included a lack of knowledge of proper injecting technique, a loss of accessible veins, and drug withdrawal. The exchange of money or drugs for assistance with injecting was common. Harms experienced by IDU requiring assistance injecting included theft of the drug, missed injections, overdose, and risk of blood-borne disease transmission. Increased vulnerability to HIV/HCV infection within the context of intimate relationships was represented in participant narratives. IDU identified a lack of services available for those who require assistance injecting, with notable mention of restricted use of Vancouver's supervised injection facility.	

Table 6: Descriptive studies, other papers (n=63 papers)

Reference	Description
Anoro, M., Ilundain, E., & Santisteban, O. (2003). Barcelona's safer injection facility-EVA: A harm reduction program lacking official support. *Journal of Drug Issues, 33*, 689-711.	Documents the history of Barcelona's SIF, operation, service use, client characteristics, advantages and disadvantages and future proposals
Benninghoff, F., Solai, S., Huissoud, T., & Dubois-Arber, F. (2003). *Evaluation de Quai 9 "espace d'accueil et d'injection" à Genève: période 12/2001–12/2000.* Lausanne: Institut universitaire de médecine sociale et préventive.	Provides descriptive data on the SIF in Geneva, including some data on public syringes collected, hospitalisations, HIV infections, overdoses, and police activity
Beyrer, C. (2011). Safe injection facilities save lives. *Lancet, 377*, 1385—1386.	Comment preceding a study in journal; restates results
Broadhead, R. S. (2003). Safer injection facilities: Obstacles, proposals, policies, and program evaluations. *Journal of Drug Issues, 33*, 533–537.	Editorial introducing a SIF edition of the journal
Broadhead, R. S., Borch, C. A., Farrell, J., Villemez, W. J., & Altice, F. (2003). Safer injection sites in New York City: A utilization survey of injection drug users. *Journal of Drug Issues, 33*, 733—750.	Examines IDUs' perspectives on establishing a SIF in New York
De Jong, W., & Weber, U. (1999). The professional acceptance of drug use: A closer look at drug consumption rooms in the Netherlands, Germany and Switzerland. *International Journal of Drug Policy, 10*, 99—108.	Provides a historical overview of SIFs and inhalation rooms in Europe, including examining factors that seem to lead to their success
Dolan, K., Kimber, J., Fry, C., Fitzgerald, J., McDonald, D., & Trautmann, F. (2000). Drug consumption facilities in Europe and the establishment of supervised injecting centres in Australia. Drug & Alcohol Review, 19, 337-346.	Historical review of the development and impact of SIFs worldwide, including non-English papers. Also provides a review of the Australian context and developments
Dooling, K., & Rachlis, M. (2010). Vancouver's supervised injection facility challenges Canada's drug laws. *Canadian Medical Association Journal, 182*, 1440—1444.	Reviews the historical process that led to the Vancouver SIF's establishment, and provides an update on recent legal developments
Dubois-Arber, F., Benninghoff, F., & Jeannin, A. (2008). Typology of injection profiles of clients of a supervised drug consumption facility in Geneva, Switzerland. *European Addiction Research, 14*, 1–10.	Establishes a typology of different types of SIF clients in Geneva, using cluster analysis
Expert Advisory Committee (2008). *Vancouver's INSITE service and other supervised injection sites: What has been learned from research? Final report of the Expert Advisory Committee* [Government report]. Retrieved from http://www.hc-sc.gc.ca/ahc-asc/pubs/_sites-lieux/insite/index-eng.php#app_a	Provides data on service utilisation, client characteristics, and a range of outcomes, restated from other studies on the Vancouver SIF
Fischer, B., Rehm, J., Kim, G., & Robins, A. (2002). Safer Injecting Facilities (SIFs) for Injection Drug Users (IDUs) in Canada: A review and call for an evidence-focused pilot trial. *Canadian Journal of Public Health, 93,* 336–338.	Short commentary published before the opening of the Vancouver SIF, supporting the SIF but highlighting some obstacles to be overcome
Fortson, R. (2006). *Setting up a drug consumption room: Legal issues*. York: Joseph Rowntree Foundation.	Supporting evidence for the Independent Working Group (2006)
Fry, C., Fox, S., & Rumbold, G. (1999). Establishing safe injecting rooms in Australia: Attitudes of injecting drug users. *Australian & New Zealand Journal of Public Health, 23,* 501-504.	Surveys IDUs in Melbourne
Fry, C. L. (2003). Safer injecting facilities in Vancouver: Considering issues beyond potential use. *Canadian Medical Association Journal, 169*, 777–778.	Comments on Kerr, Wood, Small, Palepu & Tyndall (2003), in considering issues around house rules of SIFs
Fry, C. L., Cvetkovski, S., & Cameron, J. (2006). The place of supervised injecting facilities within harm reduction: Evidence, ethics, and policy. *Addiction, 101*, 465–467.	Short commentary considering the ethical and value dimensions of SIFs. Also see Fischer, Turnbull, Poland & Haydon (2004) and Hathaway & Tousaw (2008)
Hagan, H. (2002). Supervised injection rooms—prospects and limitations. *International Journal of Drug Policy, 13*, 449–451.	Short commentary considering issues around house rules of SIFs. Also see Fry (2003) and Kerr, Wood, Small, Palepu & Tyndall (2003)
Hall, W., & Kimber, J. (2005). Being realistic about benefits of supervised injecting facilities. *Lancet, 366*, 271–272.	Short commentary discussing limitations of SIF research and expectations
Hunt, N. (2006a). *Indicators of the need for consumption rooms in the UK.* York: Joseph Rowntree Foundation.	Supporting evidence for the Independent Working Group (2006)
Green, T., Hankins, C., Palmer, D., Boivin, J. F., & Platt, R. (2003). Ascertaining the need for a Supervised Injecting Facility (SIF): The burden of public injecting in Montreal, Canada. *Journal of Drug Issues, 33*, 713—731.	Provides descriptive data on the patterns of drug use consumption and risk-related characteristics of IDU in Montreal
Kemmesies, U. E. (1999). The open drug scene and the safe injection room offers in Frankfurt am Main 1995. Münster: Indro. Retrieved from http://www.indro-online.de/injection_room.htm.	Examines drug users in Frankfurt, assessing drug use patterns, demographics, SIF service use and suggestions for service changes

Kerr, T., Tyndall, M. W., Lai, C., Montaner, J. S. G., & Wood, E. (2006). Drug-related overdoses within a medically supervised safer injection facility. *International Journal of Drug Policy, 17*, 436–441.	Provides descriptive data on the incidence and features of overdoses at the Vancouver SIF and responses made by staff
Kerr, T., Tyndall, M. W., Zhang, R., Lai, C., Montaner, J. S. G., & Wood, E. (2007). Circumstances of first injection among illicit drug users accessing a medically supervised safer injecting facility. *American Journal of Public Health, 97*, 1228—1220.	Descriptive data about length of injecting career and circumstances surrounding initiation into injection drug use among users of Vancouver's SIF
Kerr, T., Wood, E., Small, D, Palepu, A., & Tyndall, M. W. (2003). Potential use of safer injecting facilities among injection drug users in Vancouver's Downtown Eastside. *Canadian Medical Association Journal, 169*, 759-63.	Builds on previous research by Wood et al. (2003) to assess the willingness of IDU in Vancouver to use a proposed SIF and how these attitudes are affected by federal restrictions on SIF design and operation, and police activities. For further comments see Fry (2003)
Kelly C, & Conigrave K. (2002). The Sydney medically supervised injecting centre: A controversial public health measure. *Australian & New Zealand Journal of Public Health, 26*, 552–554.	Short review of the history of the Sydney SIF and of its potential public health impacts
Kerr, T., Montaner, J., & Wood, E. (2008). Supervised injecting facilities: time for scale-up? *Lancet, 372*, 354–355.	Short commentary reviewing the political forces driving opposition to SIFs in various countries
Kimber, J., Dolan, K., van Beek, I., Hedrich, D., & Zurhold, H. (2003). Drug consumption facilities: An update since 2000. *Drug & Alcohol Review, 2*, 227–233.	Briefly reviews new literature about SIFs worldwide (supersedes Dolan et al. 2000) and discusses future directions. Includes non-English papers
Kimber, J., Dolan, K. & Wodak, A. (2005). Survey of drug consumption rooms: Service delivery and perceived public health and amenity impact. *Drug and Alcohol Review, 24*, 21–24.	Provides data from SIF and inhalation room senior staff members across Germany, Switzerland, the Netherlands and Spain regarding service delivery, overdose management and perceived impacts
Kimber, J., MacDonald, M., van Beek, I., Kaldor, J., et al. (2003). The Sydney Medically Supervised Injecting Centre: Client characteristics and predictors of frequent attendance during the first 12 months of operation. *Journal of Drug Issues, 33*, 639–648.	Provides descriptive information about client characteristics and service use, as well as predictors of frequent SIF attendance
Kral, A., Wenger, L., Carpenter, L., Wood, E., Kerr, T., & Bourgois, P. (2010). Acceptability of a safer injection facility among injection drug users in San Francisco. *Drug and Alcohol Dependence, 110*, 160–163.	See also Wegner, Arreola & Kral 2011
Lloyd, C., & Hunt., N. (2007). Drug consumption rooms: An overdue extension to harm reduction policy in the UK? *International Journal of Drug Policy, 18*, 5—9.	Summarises information from the Independent Working Group (2006) and how their recommendations were subsequently rejected by the UK government
Lloyd-Smith, E., Wood, E., Zhang, R., Tyndall, M. W., Montaner, J. S., & Kerr, T. (2009). Determinants of cutaneous injection-related infection care at a Supervised Injecting Facility. *Annals of Epidemiology, 19*, 404—409.	Provides data on the prevalence and factors associated with care related to injection related infection among SIF clients
Lloyd-Smith, E., Wood, E., Zhang, R., Tyndall, M. W., Montaner, J. S., Kerr, T., 2008. Risk factors for developing a cutaneous injection-related infection among injection drug users: A cohort study. *BMC Public Health, 8*, 405.	Provides data on the prevalence and factors associated with injection related infections among SIF clients
Maher, L., & Salmon, A. (2007). Supervised injecting facilities: How much evidence is enough? *Drug & Alcohol Review, 26*, 351–353.	Short commentary on the evidence limits for SIFs and how politicians and community members view this evidence
Mattick, R. P., Kimber, J., Kaldor, J., MacDonald, M., Weatherburn, D., & Lapsey, H. (2001). Six-month process evaluation report on the Medically Supervised Injecting Centre (MISC). *NDARC Technical Report No. 124.* Sydney: National Drug and Alcohol Research Centre.	Provides data on client characteristics and service utilisation. See MSIC Evaluation Committee (2003)
National Centre in HIV Epidemiology and Clinical Research (2005). *Sydney Medically Supervised Injecting Centre evaluation report no. 1: Operation & service delivery (November 2002 to December 2004)*. Sydney: UNSW.	This report provides descriptive data on service use, client characteristics, overdose events, referrals and the needle syringe program at the Sydney SIF
Philbin, M. M., Mantasios, A., Lozada, R., Case, P., Pollini, R. A., Alvelais, J., ...Strathdee, S. A. (2009). Exploring stakeholder perceptions of acceptability and feasibility of needle exchange programmes, syringe vending machines and safer injection facilities in Tijuana, Mexico. *International Journal of Drug Policy, 20*, 329–335.	Interviews with a range of stakeholders regarding the feasibility of introducing SIF (and other harm reduction interventions) in Tijuana.
Reddon, H., Wood, E., Tyndall, M., Lai, C., Hogg, R., Montaner, J., & Kerr, T. (2011). Use of North America's first medically supervised safer injecting facility among HIV-positive injection drug users. *AIDS Education & Prevention, 23*, 412—422.	Provides descriptive data on use and predictors of, and perceived barriers to, use of the Vancouver SIF for HIV-positive IDUs
Scherbaum, N., Specka, M., Bombeck, J. & Marziniak, B. (2009). Drug consumption facility as part of a primary health care centre for problem drug users: Which clients are attracted? *International Journal of Drug Policy, 20*, 447–449.	Examines client characteristics of a SIF in Germany and whether it attracts high-risk IDUs
Solai, S., Benninghoff, B., Meystre-Agustoni, G., Jeannin, A., & Dubois-Arber, F. (2004). Evaluation de l'espace d'accueil et d'injection "Quai 9" à Genève: Deuxième phase 2003. Lausanne: Institut universitaire de médecine sociale et préventive. Retrieved from http://www.iumsp.ch/Unites/uepp/files/Quai9GE_2.pdf	Provides descriptive data on client characteristics and SIF service use, barriers to use, reported staff problems, as well as some Police data on crime
Stöver, H. (2002). Consumption rooms: a middle ground between health and public order concern. *Journal of Drug Issues 32*, 597–606.	Provides descriptive data on SIFs in Germany, with an emphasis on Hannover. Explores goals and effects of SIFs in a qualitative manner
Tyndall, M., Kerr, T., Zhang, R., King, E., Montaner, J. G., & Wood, E. (2006). Attendance, drug use patterns and referrals made from North America's first supervised injection facility. *Drug and Alcohol Dependence, 83*, 193–198.	Provides descriptive data on attendance, demographics, drug use patterns and referrals made in the first 18 months of the Vancouver SIF's operation
Tyndall, M. W., Wood, E., Zhang, R., Lai, C., Montaner, J. S. G., & Kerr, T. (2006). HIV seroprevalence among participants at a supervised	Examines factors associated with HIV infection in SIF users

injection facility in Vancouver, Canada: Implications for prevention, care and treatment. *Harm Reduction Journal, 3*, 36.	
van Beek, I. (2003). The Sydney Medically Supervised Injecting Centre: A clinical model. *Journal of Drug Issues, 33*, 625—638.	Describes the operation of the SIF and provides data on client characteristics and use
van Beek, I., Kimber, J., Dakin, A., & Gilmour, S. (2004). The Sydney Medically Supervised Injecting Centre: Reducing harm associated with heroin overdose. *Critical Public Health, 14*, 391–406.	Examines drug overdoses at the Sydney SIF and what risk/protective factors for this
Wolf, J., Linssen, L., & de Graaf, I. (2003). Drug consumption facilities in the Netherlands. *Journal of Drug Issues, 33*, 649—662.	Provides descriptive data on the functioning of SIFs and inhalation rooms in the Netherlands, including differences in physical layout, services offered and house rules. Information mostly from interviews
Wood, E., Kerr, T., Lloyd-Smith, E., Buchner, C., Marsh, D. C., Montaner, J. S., & Tyndall, M. W. (2004). Methodology for evaluating Insite: Canada's first medically supervised safer injection facility for injection drug users. *Harm Reduction Journal, 1*, 9.	Paper describing the methodology to be used to evaluate the Vancouver SIF
Wood, E., Kerr, T., Spittal, P. M., Li, K., Small, W., Tyndall, M. W., ...Schechter, M. T. (2003). The potential public health and community impacts of safer injecting facilities: Evidence from a cohort of injection drug users. *Journal of Acquired Immune Deficiency Syndrome, 32*, 2–8.	Conducted before the Vancouver SIF was established. Examines the willingness of IDUs in Vancouver to use a SIF and whether more high-risk IDUs were more willing to attend. Also see Kerr, Wood, Small, Palepu & Tyndall (2003)
Wood, E., Kerr, T., Stoltz, J., Qui, Z., Zhang, R., Montaner, J. S. G., & Tyndall, M. W. (2005). Prevalence and correlates of hepatitis C infection among users of North America's first medically supervised injection facility. *Public Health, 119*, 1111—1115.	Provides data on client characteristics and their relation to HCV infection
Wood, E., Tyndall, M. W., Li, K., Lloyd-Smith, E., Small, W., Montaner, J. S. G., & Kerr, T. (2005). Do supervised injecting facilities attract higher-risk injection drug users? *American Journal of Preventive Medicine, 29*, 126–130.	Paper decribes characteristics of a sample of IDU, and determines factors significantly associated with SIF use.
Wood, E., Tyndall, M. W., Qui, Z., Zhang, R., Montaner, J. S. G., & Kerr, T. (2006). Service uptake and characteristics of injection drug users utilizing North America's first medically supervised safer injecting facility. *American Journal of Public Health, 96*, 770–773.	Provides descriptive data on client characteristics from approximately the SIF's first year of operation
Wood, E., Tyndall, M. W., Stoltz, J., Small, W., Zhang, R., O'Connnell, J., ...Kerr, T. (2005). Safer injecting education for HIV prevention within a medically supervised safer injecting facility. *International Journal of Drug Policy, 16*, 281—284.	Examines the prevalence and correlates of receiving safer injecting education within the SIF
Wood, R. A., Wood, E., Lai, C., Tyndall, M. W., Montaner, J. S. G., & Kerr, T. (2008). Nurse-delivered safer injection education among a cohort of injection drug users: Evidence from the evaluation of Vancouver's supervised injection facility. *International Journal of Drug Policy, 19*, 183–188.	Examines whether high-risk clients at the SIF receive safer injection education
Hunt, A., Lloyd, C., Kimber, K., & Tompkins, C. (2007). Public injecting among UK needle and syringe programme (NSP) attendees and willingness to use a drug consumption room. *International Journal of Drug Policy, 18*, 62–65.	Provides descriptive data on prevalence and predictors of public injecting and willingness to use a SIF among IDUs in London and Leeds
Le Ministère de la Santé (2010). CNDS –Tox-in: Structure d'accueil et d'hébergement / Salle de consommation pour toxicomanes. In Le Ministère de la Santé, *Rapport d'activité 2010* (pp. 215–220). Luxembourg.	Provides some descriptive data on the use of the SIF in Luxembourg between 2006-2010. This facility is located within a low-threshold facility offering other services to drug users
Malkin I. (2001). Establishing supervised injecting facilities: A responsible way to help minimise harm. *Melbourne University Law Review, 25*, 680—756.	A comprehensive review of the debate surrounding SIFs, international legal obligations, SIF experiences in Europe and the initiatives in Australia
Milloy, M. J., Wood, E., Lloyd-Smith, E., Grafsten, E., Tyndall, M., Montaner, J., & Kerr, T. (2010). Recent incarceration linked to cutaneous injection-related infections among active injection drug users in a Canadian setting. *Journal of Community Health, 35,* 660—666.	Examines the relationship between cutaneous injection-related infections and incarceration in a sample of people recruited from the Vancouver SIF
Salmon, A. M., Dwyer, R., Jauncey, M., van Beek, I., Topp, L., & Maher, L. (2009). Injecting related injury and disease among clients of a supervised injecting facility. *Drug & Alcohol Dependence, 101*, 132—136.	Provides descriptive data on prevalence and predictors of injecting-related problems, injury and disease among SIF users
Salmon, A. M., van Beek, I., Amin, J., Grulich, A., & Maher, L. (2009). High HIV testing and low HIV prevalence among injecting drug users attending the Sydney Medically Supervised Injecting Centre. *Australia & New Zealand Journal of Public Health, 33*, 280—283.	Provides descriptive data on the prevalence of HIV, history of HIV testing and associated risk factors among SIF users
Skretting, A. (2002) Public injection rooms, a help to heroin addicts? *Nordic Studies on Alcohol & Drugs, 19*, 33—49.	Reviews the history of, arguments for and against, and legal issues for SIFs in Norway
Strathdee, S.A., & Pollini, R.A. (2007). A 21st-century Lazarus: The role of safer injection sites in harm reduction and recovery. *Addiction, 10*2, 848–849.	Short commentary suggesting further directions for SIF research
van Beek, I. (2004). In the eye of the needle: Diary of a medically supervised injecting centre. Crows Nest: Allen & Unwin.	Sydney SIF Director van Beek's account of the first 30 months of the SIF
Wood, E., Kerr, T., Montaner, J. S., Strathdee, S., Wodak, A., Hankins, C. A., ...Tyndall, M. W. (2004). Rationale for evaluating North America's first medically supervised safe-injecting facility. *Lancet Infectious Diseases, 4*, 301—306.	Outlines the evidence and rationale in support of the Vancouver SIF
Wood, R.A., Zettel, P., & Stewart, W. (2003). Harm reduction nursing: The Dr. Peter Centre. *Canadian Nurse, 99*, 20—24.	Explores some of the legal and ethical issues for frontline nurses at a SIF

Glossary

SIF= Supervised Injecting Facility
IDU= Injecting Drug User
AHR= Adjusted Hazard Ratio
AOD= Adjusted Odds Ratio
95% CI= Ninety-five percent confidence intervals

The Scientific Evaluation of Supervised Injecting (SEOSI) study is a prospective cohort of IDUs randomly recruited from Insite, Vancouver's SIF

The Vancouver injecting drug users study (VIDUS) is a cohort of NON randomly recruited IDUs in Vancouver, some of whom access Insite

Notes

Search Terms used:

- Supervised inject*
- Inject* and (opiate, opioid, heroin)
- Consumption and (facility, site, centre, room)
- (Site, facility, centre, supervis*) and inject*
- Shooting or gallery
- (Harm NEXT reduction) and (opiate, opioid, heroin, inject*)

Databases included:

- MEDLINE
- Google Scholar (using backwards-citation sourcing)
- UNSW Library catalogue
- Targeted organisations, e.g., European Monitoring Centre for Drugs and Drug Addiction, Australian Drug Law Reform Foundation, Drug Policy Alliance, Harm Reduction Coalition, Transnational Institute, Transform Drug Policy Foundation, International Centre for Science in Drug Policy
- Following up on studies cited in grey literature/reviews