Summary

WHAT ARE SUPERVISED INJECTION FACILITIES?

A supervised injection facility (SIF) is a permanent or mobile place where people can inject drugs they have obtained elsewhere. If it permits use of drugs by routes other than injection (such as smoking or snorting), "supervised consumption site" (SCS) is a more appropriate term. SIFs are a form of harm reduction; other forms of harm reduction implemented in the opioid epidemic include improved access to the antidote naloxone, syringe service programs (SSPs) that allow people who inject drugs (PWID) to obtain or exchange equipment for injections, and drug checking services that screen for risky drugs such as fentanyl.

SIFs typically provide equipment to allow users to perform safe and sterile injections while being monitored by trained medical staff who can treat overdoses with oxygen, naloxone, and/or other first-responder care. While SIF model implementation seems to vary based on community needs, resources, and funding, interviews with stakeholders suggest that there are three core features: sterile equipment, trained personnel for supervision, and naloxone administration (along with other first-responder medical care). Additional services may be added to the core features, such as health screening, treatment for substance use disorders (SUDs), referral coordination for social support (e.g., housing), health care and mental health services.

KEY REPORT FINDINGS

- For communities that experience high rates of overdose, ICER has judged the evidence adequate to demonstrate that supervised injection facilities prevent overdose deaths and reduce overall costs by preventing emergency room visits and hospitalization.
- Evidence suggests that SIFs do not affect crime rates but may decrease public drug consumption and sometimes injection litter, although some communities have reported increases in needle litter near a SIF. We do not believe that this possible harm outweighs the overall benefits.
- The evidence suggests that SIFs actually prevent overdose deaths in the community rather than briefly delaying them, and these facilities also reduce expenditures on ambulance calls and hospitalizations.

KEY POLICY RECOMMENDATIONS

- The design of SIFs in different locations should be customized to meet local needs and opportunities, guided by needs assessment and community dialogue.
- SIFs should be seen as one part of a broader network of services that can reduce harm, in part by linkages to access medication-assisted treatment (MAT) programs.
- Research on SIFs should continue in order to generate both generalizable findings and evidence on the broader impact of specific SIFs in their own communities.

Clinical Analyses

How strong is the evidence that SIFs improve outcomes in patients?

ICER EVIDENCE RATINGS

ICER is highly certain that SIFs provide for the community at least a small net health benefit, and possibly a substantial one when compared to SSPs (ICER Evidence Rating: "B+").

KEY CLINICAL BENEFITS STUDIED IN CLINICAL TRIALS

How effective are SIFs?

Mortality: Published evidence and unpublished reports from stakeholders suggest that no client of a SIF has ever experienced death from overdose within a facility. However, PWID are at high risk of death from overdose, and reduction of mortality inside SIFs does not necessarily demonstrate a reduction in mortality in SIF clients. The evidence on community overdose mortality from Marshall et al. 2011 from Vancouver, Canada reported a significant reduction of 35% in overdose mortality within 500 m of the facility, compared to a 9.3% decline in the rest of the city.

Non-Fatal Overdose and Health Care Utilization for Overdose: Available evidence shows that SIFs reduce the use of emergency services. Evidence from Sydney over 36 months pre-SIF and 60 months post-SIF shows that post-SIF there was a reduction in ambulance calls for opioid-related overdose events in the vicinity of the SIF, compared to the rest of the city (68% vs 61% decline, p=0.002). This effect was even higher during operating hours of the SIF (80% vs 60% decline, p<0.001).

Injection Risk Behaviors: Available evidence demonstrates improvements in injection behaviors which in turn would be expected to reduce disease transmission. For example, a cross-sectional analysis of 431 PWID in Vancouver found that SIF use was associated with reduced syringe sharing (adjusted OR [aOR]: 0.30; 95% CI: 0.11 to 0.82; p=0.02). A meta-analysis combined results from three European studies (Wood 2005, Kerr 2005, and Bravo 2009) and found SIF use was associated with a 69% reduction in the likelihood of syringe sharing (pooled effect: 0.31; 95% CI: 0.17 to 0.55). For SSPs, a meta-analysis of 10 studies found that SSPs reduced HIV risk behaviors (weighted group means effect size: 0.28; 95% CI: 0.21 to 0.35).

Infection Prevalence, Incidence, and Health Care Utilization: Published evidence on the effects of SIFs on infection incidence and prevalence is very limited and less certain in terms of direct measurement of disease incidence. Also, most of these studies were not designed to detect differences, specifically in rates of HIV or HCV, due to variation in the baseline infection rates and lack of incremental data compared to the SSPs.

Clinical Analyses (continued)

Health-Related Quality of Life: No quantitative evidence directly measuring improvements in the health-related quality of life was identified. One qualitative study on people living with HIV who use drugs at Dr. Peter Center in Vancouver, Canada described the positive impacts on quality of life, noting the contributions of increased access to social, health, and broader environmental support services that led to an improvement in their overall health.

Other: Use and/or more frequent use of SIFs is generally associated with a higher uptake or more rapidentry into treatment and recovery services. SIFs have also demonstrated an ability to assist clients with accessing medical, mental health, and other social support services.

Community and Environmental: SIFs appears to reduce public injection and, sometimes, syringe and injection litter. Further, studies do not appear to show changes in crime when a SIF is opened.

HARMS

We do not believe that possible harms that have been reported – some communities report increases in needle litter near a SIF – could reduce the net benefit below incremental. There is good reason to believe the net benefit is substantial.

SOURCES OF UNCERTAINTY

Study design: The available evidence about SIFs comes from studies with a cohort and cross-sectional design. It is difficult to establish temporality in some cases and make inferences about the causal association without a reference population or control group.

Generalizability: Many community factors vary considerably across cities in the world (e.g., background risk of bloodborne infection, community support, policing practices, access to primary medical care, treatment capacity and effectiveness), and the variance could impact the generalizability of findings.

Frequency of SIF use: Although published studies report a range of utilization statistics (e.g., percentage of injections per month occurring at a SIF). It is unknown what level of SIF utilization is required to achieve results for infection control, all-cause mortality, and overdose mortality.

Changes in drug supply: Our assessment of SIF effectiveness relies on many studies that are at least 10 years old. It is known that important community factors have changed since then, including global drug supply chains and user preferences.

Economic Analyses

LONG-TERM COST-EFFECTIVENESS

What is the long-term cost-effectiveness of SIFs?

ICER modelled long-term cost-effectiveness in six cities: Boston, Philadelphia, San Francisco, Atlanta, Baltimore, and Seattle. Operating a SIF was estimated to save lives and additionally to reduce medical care associated with overdoses in all locations. Please find the results for Boston below – for more detail on the remaining cities, please refer to our full report.

Outcome	Boston		
	SIF+SSP	SSP-Only	Incremental
Total Cost	$2,261,000	$6,270,000	-$4,009,000
Annual Cost of Facility	$2,153,000	$1,641,000	$511,300
Ambulance Costs	$7,100	$411,400	-$404,400
ED Visit Costs	$46,600	$1,947,000	-$1,901,000
Hospitalization Costs	$54,300	$2,270,000	-$2,215,000
Overdose Deaths	9	13	-3
Ambulance Rides	14	787	-773
ED Visits	14	564	-551
Hospitalizations	6	271	-264

HEALTH-BENEFIT PRICE BENCHMARKS

What is a fair price for SIFs based on their value to patients and the health care system?

As the assessment for this non-drug topic does not include estimates of incremental quality adjusted life years (QALYs) or equal value life years gained (evLYG), ICER did not produce health benefit price benchmarks as part of this report.

POTENTIAL SHORT-TERM BUDGET IMPACT

How many patients can be treated before crossing ICER's $819 million budget impact threshold?

As the assessment for this non-drug topic does not include price per treatment or estimates of cost effectiveness threshold prices, ICER did not produce potential budget impact analyses as part of this report.

Voting Results

The New England CEPAC deliberated on key questions raised by ICER's report at a public meeting on December 3, 2020. The results of the votes are presented below. More detail on the voting results is provided in the full report.

CLINICAL EVIDENCE

All panelists believe the evidence is adequate to demonstrate that the net health benefit of SIFs is superior to that provided by SSPs alone.

LONG-TERM VALUE FOR MONEY

A majority of panelists found the evidence is adequate to demonstrate that SIFs are cost-saving compared to SSPs.

OTHER BENEFITS AND CONTEXTUAL CONSIDERATIONS

ICER asks panelists to vote on whether specific potential other benefits, disadvantages, and contextual considerations are important to weigh in judging the long-term value for money of the intervention. A majority or plurality found:

- SIFs will differentially benefit a historically disadvantaged or underserved community.Economic model assumptions were neither too optimistic nor pessimistic.
- SIFs will significantly reduce the negative impact of opioid use disorder on family and caregivers when compared to SSPs alone.

Policy Recommendations

Communities and Policy Makers

- The evidence is adequate to demonstrate that SIFs save lives and save money. Community, state, and federal policy leaders should move forward to take the steps needed to launch pilot SIF programs in areas of established need and with strong local involvement of many sectors of the community, including, most importantly, people who use drugs themselves.
- The design of SIFs in different locations should be customized to meet local needs and opportunities, guided by needs assessment and community dialogue.
- SIFs should be seen as one part of a broader network of services that can reduce harm, in part by linkages to access medication-assisted treatment (MAT) programs.

Federal Regulators

- The White House and the Attorney General should clarify that SIFs will not be considered illegal and that healthcare workers and others involved in providing services will not suffer adverse legal or professional consequences.
- The White House should consider (re)creating a Cabinet-level national leadership position to guide policy development for substance use disorders and the opioid epidemic.

Researchers and Funders

- Research on SIFs should continue in order to generate both generalizable findings and evidence on the broader impact of specific SIFs in their own communities.
- New mechanisms should be developed to ensure the long-term financial sustainability of SIFs following early pilot funding.

About ICER

The Institute for Clinical and Economic Review (ICER) is an independent nonprofit research institute that produces reports analyzing the evidence on the effectiveness and value of drugs and other medical services. ICER's reports include evidence-based calculations of prices for new drugs that accurately reflect the degree of improvement expected in long-term patient outcomes, while also highlighting price levels that might contribute to unaffordable short-term cost growth for the overall health care system.

ICER's reports incorporate extensive input from all stakeholders and are the subject of public hearings through three core programs: the California Technology Assessment Forum (CTAF), the Midwest Comparative Effectiveness Public Advisory Council (Midwest CEPAC) and the New England Comparative Effectiveness Public Advisory Council (New England CEPAC). These independent panels review ICER's reports at public meetings to deliberate on the evidence and develop recommendations for how patients, clinicians, insurers, and policymakers can improve the quality and value of health care.

For more information about ICER, please visit ICER's website (www.icer.org).