COM-CAP
Community Opioid / Overdose Capacity Building

Public Health Ontario | Santé publique Ontario

AT A GLANCE

Harm Reduction Services for Anyone who Smokes or Inhales Drugs

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Introduction

Historically, harm reduction research and programs have focused predominately on injection drug use and oral consumption.[1] Consequently, people who use drugs by smoking/inhalation still face gaps in care as the field develops to further support their needs.[ibid] Provincially, the Ontario Harm Reduction Distribution Program (OHRDP) provides harm reduction materials to the 34 core Needle Syringe Programs (NSPs) for distribution to people who use drugs through community-based partner agencies. Single use inhalation supplies have been distributed through these programs since 2014 (initially straight stems, with bowl pipes added in 2018 and foil in 2019), totalling 30 million pieces of inhalation equipment distributed in the year 2022. Programs distributing safer smoking equipment have impacts on reducing pipe sharing, use of hazardous equipment, and binge use.

Regarding modes of drug use and mortality, coroner's data in Ontario suggest an increase in the number of opioid-related deaths related to smoking, with evidence of a pipe/foil for inhalation only present at the scene of death having risen from 22.5% in 2019 to 33.7% in 2020.[2] This was matched with a simultaneous decrease in the number of deaths with evidence of injection equipment only, from 17.6% to 14.1%.[ibid] These data are in line with trends from British Columbia, where BC Coroners Service Investigations reported that smoking has become the most common mode of consumption for drug toxicity deaths (commonly referred to as overdose deaths) since 2017.[3] Addressing the overdose risks associated with smoking/inhalation and supporting people who smoke drugs is particularly urgent as people may use non-injection modes of consumption as an approach to reduce their risk of overdose.

The aim of this report is to provide an overview of recent literature on the effectiveness of harm reduction services that address the needs of people who smoke/inhale drugs (these terms are used interchangeably below). The search strategy included international literature, however the focus was on Canadian jurisdictions. We summarize the interventions that have been implemented for this population, any relevant practice or technical guidance and available evidence on impact.

This document includes the key messages and highlights that emerged from a Community Opioid/Overdose Capacity Building (COM-CAP) project webinar on safer smoking. This component was completed in collaboration with event speakers, with the goal of reflecting on community-led efforts that may not have been included in other documents. Participants with living and lived experience were compensated for their time and contributions to the webinar and write-up of this document.

Methods

We conducted a rapid review of recent literature to determine how harm reduction services are meeting the needs of people who smoke drugs (e.g., evaluation and effectiveness), including an impact on drug use behaviours and outcomes such as morbidity and mortality.

With the help of a Public Health Ontario librarian, we searched four databases (MEDLINE, Embase, CINAHL, and PsychInfo) in August 2022. We also searched for non-academic (grey) literature using four custom Google search engines (Ontario's public health units, Canadian Health Departments and Agencies, US State government websites, international public health resources) and Google Canada in November 2022. We reviewed up to 100 records from each search engine.

To be eligible for our review, the studies had to include relevant information related to the population, setting, intervention characteristics, implementation factors, and outcomes of interest: (i) include people who smoke drugs as method of drug use, and (ii) describe community harm reduction services with an explicit aim of meeting the needs of people who smoke drugs. Harm reduction services may include providing drug use equipment, harm reduction education, supervised consumption services, or other interventions. , (iii) outcomes included health outcomes and behaviors such as adopting safer behaviors, reduced morbidity, and reduced mortality. Additionally, other relevant outcomes such as economic, social, and mental health factors were considered. While we limited our search to resources that used a formal study design, we did not require the inclusion of a comparison group. We also limited our search to resources that were written in English, occurred in an OECD country, and were published from 2011 onwards to ensure relevant, up-to-date Information.

After duplicates were removed, our database search yielded 409 results. Two team members screened sets of titles/abstracts. Twenty-seven articles were identified for full-text review, of which sixteen articles met the inclusion criteria. Of the eleven excluded articles, nine described services that were not directed towards people who smoke drugs, and two were excluded because they were not available in English.

The grey literature search was conducted by one reviewer on November 7, 2022. Thirty-one records were identified for full-text review, of which seven were included in the final review. The remainder were excluded because they did not focus on providing services to people who smoke drugs or did not describe the program in adequate detail. Data extraction was completed by two reviewers.

The terminology for supervised consumption services for people who smoke drugs varies, and includes both supervised smoking facilities and supervised inhalation rooms. For the remainder of this document, supervised consumption services for people who smoke drugs will be referred to as supervised smoking facilities (SSFs) as this terminology was used most commonly.

Evidence on harm reduction services for people who smoke drugs

We synthesized evidence from twenty-three primary studies and review articles (sixteen from published articles, and seven from grey literature). We grouped the findings of the review into three categories: the need for safer smoking programs/practices, evaluation of existing programs, and implementation considerations. Across interventions, some articles focused on safer smoking supplies while much of the literature during this time period focused on SSF.

Five research articles established the need for implementing supervised smoking facilities or distributing safer smoking kits (Appendix A, Table A1).[5-9] Nine sources evaluated existing supervised smoking facilities and five evaluated interventions involving the distribution of safer smoking supplies (Appendix A, Table A2 and Table A3).[1,10-14, 16-23] Fifteen articles and grey literature documents listed a total of eight factors to consider when implementing supervised smoking services (Appendix A, Table A4).[1,5,7,10-13, 16-19, 24-27]

The need for safer smoking services

One article examined the potential need and effectiveness of safe crystal methamphetamine smoking kits.[9] The study noted that these kits may reduce the negative health effects of this method of drug use, including decreasing transmission of Hepatitis C virus (HCV) by reducing the sharing of pipes, and decreasing injuries to the lips and mouth secondary to heated and damaged pipes.[ibid] The perceived demand for kits were highest for unhoused and street-involved youth without the means of purchasing pipes, gay men, and party scene goers (described as social events such as festivals, and can be a site where crystal methamphetamine is used).[9] Other relevant studies on service needs focused on SSF.

Three studies consulted people who use drugs to understand the role for SSFs. One study highlighted the need for integrating SSFs in hospitals in order to improve retention in hospital care, promote patient-centred care, and reduce the harms associated with in-hospital drug use (including fatal overdose).[5] In this study, over half of people who use crack cocaine reported willingness to use an in-hospital SSF, with the most commonly reported reasons including: to remain in the hospital, and to reduce the stress of being kicked out of the hospital for using drugs.[ibid] Similarly, another study found that 71% of people who smoke crack cocaine in public reported willingness to use supervised smoking facilities if available, particularly those who identified as women, engaged in pipe sharing, and those who had recent encounters with police.[6]

A third study conducted interviews and focus groups with key stakeholders in Ottawa and Toronto, including municipal employees, emergency personnel and people who use drugs, to identify reasons for establishing SSFs.[7] People who use drugs described the high prevalence of smoking as a method of drug use, the potential to reduce the number of publicly discarded crack pipes, and the need for safe communal drug-using spaces as reasons for establishing SSFs.[ibid]

Finally, public opinion in Ontario regarding implementation of SSFs was determined by surveying a representative sample of adults living in the province.[8] Significantly fewer participants reported prior knowledge of SSFs compared to supervised injection facilities, and support for SSFs was also lower than support for supervised injection facilities.[ibid] Participants with prior knowledge of SSFs were more likely to support their implementation than to those without such knowledge.[8]

Evaluation of existing programs

SAFER SMOKING SUPPLIES

Five articles investigated the need, usefulness, and effectiveness of distributing safer smoking supplies and equipment.[19-23] Safer crack use kits (SCUK) that included rubber mouthpieces and push sticks, but no glass stem centrepieces were underutilized by the study sample of one project, as there was an absence of crack pipe stems in these kits and limited knowledge about the program overall. [19] However, users of the distribution program perceived significant health, social, and economic benefits from SCUKs, including reduced need for sharing pipes limiting potential spread of disease, the ability to save money by not having to buy pipes from stores or other users, and being involved in, or witnessing less petty crime.[ibid]

On the other hand, another study demonstrated high uptake of SCUK among participants who received a study kit, which included Pyrex stems, lighters, mouthpieces, and condoms.[20] Moreover, 75% of recipients found the harm reduction tip card to be useful, suggesting a positive association between SCUK uptake and the availability of both safer smoking equipment and harm reduction education.[ibid]

Lastly, an evaluation of the harm reduction injection and smoking kit distribution and disposal program implemented by Casey House in Toronto found an increase in the number of kits distributed since operations began, an increase in demand for information about drug treatment, housing, social assistance, and naloxone kits, and improved training and confidence of staff members engaging with clients.[21]

Furthermore, two studies examined the availability and uptake of smoking equipment from needle and syringe provision (NSP) services.[22,23] One article examined NSPs across Canada in their program policies and uptake of best practices (including the distribution of harm reduction materials).[22] The majority of NSP services reported the provision of education to clients relating to safer use of smoking equipment and risks of using improvised smoking equipment or sharing pipes.[ibid] Moreover, 64% of managers reported that their NSP service distributes any safe crack cocaine equipment, including pipes.[ibid]

Another study found that participants who obtained foil from NSP services had significantly higher odds of having smoked or snorted heroin, and lower likelihood of some risky injecting behaviours in the past 6 months compared to those who had not obtained foil.[23]

SUPERVISED SMOKING FACILITIES

Three published articles and three grey literature documents investigated the implementation and operation of SSFs.[1,10-14] The findings included several reasons for using the sites (i.e., minimizing harms of public drug use, reduced risk of overdose, feeling a sense of belonging and community, seeking information about health and social services); and ways in which the sites improved participants' access to harm reduction supplies and other supports (i.e., receiving nursing care for infections, having access to supervised smoking services unavailable in other places).[1,10]

Another article examined an outdoor smoking tent that was implemented in British Columbia to support those whose needs were not met by the existing supervised consumption site (SCS).[11] The major barrier to consumption site use listed by participants was the lack of smoking allowed on the site.[11]

One research article and one grey literature report sought to evaluate the implementation of SSFs, in addition to the existing supervised injection services in Alberta.[12,13] In its first four months of operation, the number of clients utilizing the smoking space increased, with the number of visits increasing every month.[12,13]One grey literature report evaluated the impacts of supervised consumption sites in Alberta through consultation with Alberta residents.[14] Findings demonstrated that people who use supervised smoking services primarily consumed methamphetamines, which have a lower risk of overdose than opioids, and no reversal agents.[ibid] However, some residents expressed that there have been an increased disposal of material for smoking drugs around the SCS and increased public intoxication. [Ibid] However, this evaluation had a significant critical response from the community and scientists, and some of the issues raised included: the lack of objective or scientifically credible evaluation, the biased scope of review, unclear data collection and analysis, and selection bias. [15]

In addition, three articles explored the effectiveness and need for expanding access to SSFs by evaluating the unsanctioned SSF operated by Vancouver Area Network of Drug Users (VANDU).[16-18] One article found that the SSF operated by VANDU was effective in reducing pipe sharing, violence, and

harassment of people who use drugs by the police or others, as well as facilitating educational dialogue between peers and people who smoke drugs (i.e. on safer use).[16]

A second study revealed that expanding SSF could decrease HCV cases, and that the number of HCV infections averted through the establishment and expansion of a SSF by VANDU could reduce health care costs.[17]

Lastly, participants of the third study expressed how social violence (which operates at the structural levels, including poverty and anti-drug laws) and stigma associated with smoking crack in public motivated them to access the SSF.[18] While accessing VANDU's SSF, participants highlighted the successful communication and enforcement of time limits for SSF by peer volunteers to help manage wait times and violent situations, and also that SSF prevented pipe-sharing practices.[ibid]

Negative outcomes of the closure of VANDU's SSF included: crowded alleys of people forced to smoke outside, the sharing of pipes, and hiding from the elements and unwanted visitors.[16]

Implementation considerations

Eligible articles on implementation of services for safer smoking focused on SSF, rather than safer smoking equipment. The most cited factor to consider when implementing supervised smoking services was heating, ventilation and air conditioning (HVAC) systems.[1,7,10-13,16-18,24-26] According to several sources and stakeholders, including: Health Canada, city bylaws, WorkSafe BC, healthcare providers, and local commercial HVAC companies; an indoor smoking space should have an HVAC system in compliance with Canada's occupational health and safety regulations to be operational. [Ibid] Lethbridge's smoking space was approved by Health Canada, and recommend these following HVAC strategies: the ventilation system for the smoking space should be completely separate from the rest of the facility, and it should have a high exchange rate (for example, 15 times per hour).[1,12] In the event of an emergency, the system should be able to quickly exchange all of the air in the room to allow staff to enter safely.[1,24]

Additional occupational health considerations, including minimizing staff entering the inhalation space and ensuring appropriate PPE is worn, were mentioned by four sources.[5,11,12,25] Related policies and procedures concerning supervised smoking services (i.e., overdose intervention, safe operations, and emergency evacuation procedures) were also considered to be significant to the implementation of supervised smoking sevices.[1,12,13,24-26]

Supervised smoking services require some legal considerations before they can be implemented. For instance, exemption to the *Controlled Drugs and Substances Act* (CDSA) is required from Health Canada in order to open a supervised drug use site.[1,11,16] Since provinces have the ability to apply for exemption under the *CDSA*, it is also critical to have support and willingness at the provincial level to implement supervised smoking services.[5,16,17]

Moreover, the implementation of supervised smoking services have been cited as difficult due to federal, provincial, and municipal tobacco ordinances and bylaws, delaying or hindering the provision of effective and essential harm reduction services.[1,7,12,24] Although smoking legislations and bylaws have posed as a challenge for some services, they are technically specific to tobacco and tobacco by-products. As a result of this specificity, it would mean that safe inhalation facilities would not contravene existing laws.[1, 12] To ensure that Canada's occupational health and safety regulations are upheld, some existing facilities were designed to include high quality ventilation systems. [Ibid]

Other implementation considerations cited by sources include obtaining adequate funding and ensuring appropriate design of facilities. Two research articles described the lack of funding of supervised smoking services that limited the program's availability and accessibility.[10,19] Moreover, the appropriate

design of smoking facilities were deemed imperative for effective implementation, including protection from weather and safety hazards, and strong consideration to physically separate different modes of consumption.[10,13,24-27]

Limitations

The recent evidence on harm reduction services that address the needs of people who smoke drugs is limited, and has an emphasis on SSF rather than safer smoking equipment. Several factors including smoking bylaws, provincial exemption applications, infrastructural challenges, and lack of funding have hindered the implementation of supervised smoking services.

As a result, detailed evaluation of the services by the included research articles and grey literature was limited. Moreover, the focus on documentation may have been a limitation, as there could be impactful work being done within communities that is not documented. Additional evaluation of existing programs and services is needed to increase the available data on use and effectiveness, and to inform best practice recommendations, particularly for SSF as a newer intervention.

Examples of safer smoking facilities

We recently hosted a webinar on implementing smoking rooms in supervised consumption sites. The event speakers and moderator shared their experiences with planning, implementing, and operating harm reduction services for people who smoke drugs. Table 1 below are the programs/services who contributed to the webinar, and their resources for more information.

Table 1. List of smoking services presented during the webinar

Organization	Location	Start date for smoking services	Additional information
Casey House[28]	Toronto, Ontario	November 2022	• Supervised consumption booths available for inpatient and outpatient spaces • A range of safer inhalation kits available for clients and community members 24/7
Blood Ties Four Directions Centre[29]	Whitehorse, Yukon	2022	• Inhalation sites were part of the initial planning and implementation of the supervised consumption program • Wrap-around services are co-located in the building, including wellness and housing programs, a drop-in centre, needle and pipe programs, and education and prevention programs.
Prairie Harm Reduction[30]	Saskatoon, Saskatchewan	October 2020	• Program funded through donations from the public and community • Wrap-around services are also available for individuals, families, and youth

Experiences and lessons from implementation

Many of the event speakers described strengths and challenges related to the implementation of safer smoking services and programs. Below is a description of the key themes from the discussion.

Strengths

- **Drawing on lessons and learnings from harm reduction services that offer smoking sites**: Having a model or guideline to draw from has helped with the planning, implementing, and operating of smoking sites (i.e. looking to services offered by Prairie Harm Reduction, Tweak Easy in Peterborough, and AIDS Outreach Community Harm Reduction Education Support (ARCHES)).

- **Collaborating with people with lived experience of drug use:** In the planning and preparation stages, it is important to understand the needs of the community. All speakers were in agreement that engaging people who use drugs in the development of services is necessary to create a program which meets their needs

    - Consulting with people with lived expertise provided harm reduction services with helpful feedback on layout of spaces, operating services, etc.

    - Tours and surveys with people who use drugs were instrumental in how smoking sites were rolled out. Interviews with people who use drugs and the creation/engagement of lived experience advisory groups led to the consistent messages for the need for smoking services.

- **Physical space and air quality:**

    - Choosing a physical structure that is already suitable for HVAC systems, including newer buildings with existing HVAC systems, was an important aspect of planning.

    - In addition, the appropriate space for smoking services meant considering being close to washrooms with existing ventilation or having a booth closest to the wall facing the exterior of the building so it is easy to have fumes extracted directly outside, for instance.

    - Look for specific locations that people already access and/or that work to reduce barriers to access. HVAC systems at safer smoking facilities that run on a rapid air exchange system have been used, and designed for smoking rooms with an independent exchange system from the rest of the building.

    - Having an emergency function which can exchange the air in the room within 30 seconds, allows staff to enter the room safely to respond to an acute overdose. Consulting with technical experts on HVAC systems and general site requirements were valuable, by reviewing sites to provide feedback on technical needs for the spaces.

- **Staff training:** In some sites, all staff were trained in basic life support and oxygen administration when healthcare providers were not available.

Challenges

- **Staffing and resources:** Extending the availability of smoking sites was challenged by pre-existing staffing levels (e.g. small number of staff, retention). Due to strong reliance on donations, services may need to change hours of operations to align with available resources. SCS are largely donor-

funded, with some SCS operating solely on donations and sales of merchandise. In rural areas, filling gaps that SCS can't fill with unsanctioned sites have been especially challenging without funding.

- **HVAC systems:** Implementing a filtration and exhaust system was a challenge at some sites due to a shortage of local contractors, local expertise, and delays in supply.

- **Air testing**: There was no consensus or standard for air testing methods for smoking sites, and conventional methods were unable to replicate smoke/fumes produced through drug smoking activities. Sites had to find a means for testing the air and air exchange and determined that the capacity of a fan was good, and closely emulated outdoor airflow.

    - Another factor that was not clearly and explicitly explained was whether differential air testing was done to account for different smoke/fume products from cigarette, crack, or fentanyl smoke. Questions surround how this would impact air testing would be valuable information for a best practices guideline.

- **Political climate**: Some sites are very well supported while others experience opposition to the opening of smoking sites

- **Outdoor smoking sites:** During the summer, people may want to smoke/attempt to smoke outside, and it can be a challenge for sites that do not have an outdoor space which could provide the same protection for people.

Lessons learned

- **Follow the lead of people who use drugs in planning, implementing, and operating smoking sites**: People who use drugs (PWUD) are the primary experts in substance use, and have historically and currently played leadership roles in all aspects of the planning, implementing, and operating of smoking sites. They have knowledge of their local histories and repeatedly call for the integration of smoking in harm reduction services. They are key partners in all of these efforts, and experts in community needs, innovations, and solutions, their work and labour should be compensated and organizations need a clear compensation policy in those collaborations (e.g., rates, methods of payment).

- **Recognize the constant evolution of conversations**: Harm reduction guidance around substance use has evolved significantly over the years, and so should services. For example, people who use drugs were advised to switch from injection to smoking in the past to reduce the harms associated with injecting drugs (e.g. HIV transmission), as well as smoking a small amount to test the strength of the drug. The introduction of fentanyl to the unregulated drug supply and smoking has changed this landscape. Providing consumption and treatment services that exclude smoking prevents a large portion of the opioid-using population from accessing life-saving services. Beyond opioid consumption, there has been an increase in use in methamphetamine and crack cocaine, but less services for these groups.

- **Services and supports need to be inclusive**: Services and supports need to be inclusive and creative in order to provide impactful and meaningful services. PWUD are continuing to experience overdoses on the premises of harm reduction spaces and many times, alone. Smoking services are a great way to begin to engage with PWUD from inception, through to implementation. This provides service providers with a unique opportunity to support and practice inclusivity, when historically, engagement has not been seen as meaningful.

- **The need for a design standards, including best practices for ventilation**: One of the delays in opening sites includes working with contractors to conduct air quality testing and figure out the right design for smoking sites. There is a need for a guideline that may expedite this process, as sites often rely on drawing from existing sites. A standardized document on this process would be helpful, as there have been a lot of requests for drawings and design standards of operational sites. Working with previously implemented services to establish best practices guidelines can help with constructing, but also ensuring the facility is safe.

Reflections from discussion

Table 2 below summarizes issues that were brought up by speakers and the audience. The key challenges in column one are paired with suggested solutions that were extracted from discussions on strengths and lessons.

Table 2. Round up of key challenges and potential solutions in implementing smoking facilities

Challenge	Potential solutions
Staffing and resources	• Establish a partnership with municipal and provincial governments to provide healthcare provision on-site and funding to maintain site • Support funding opportunities for local groups and PWUD who run smoking services for their communities
HVAC systems	• Use drawings from existing sites with HVAC systems, and outsource in consultation process. For instance, consulting with engineers and other technical experts who supported HVAC system inspection of existing sites • Choose relatively recent buildings that already have a suitable HVAC system
Air testing	• Establish a standard for air testing methods for smoking sites • Ensure that air testing methods adequately replicate smoke/fumes that are produced by smoking activities
Political climate	• Consider inter-sectorial collaboration to strengthen the demand and call for supporting smoking sites • i.e. highlighting the urgency with local council and other government partners
Outdoor smoking sites	• Open up an outdoor smoking tent during warmer seasons to provide options while maintaining the protection of individuals accessing the site

Appendix B includes supplementary resources related to safer smoking services.

Conclusion

The literature, standards, and guidance on harm reduction services for safer smoking/inhalation is emerging, particularly for SSF as an intervention, along with an increased demand for research on this service. This document has summarized existing documents/articles, including expertise of people who use drugs, and knowledge from community-based organizations. It synthesizes the recent literature on

the effectiveness of harm reduction services and programs for people who smoke drugs. It reflects community-led efforts and experiences of harm reduction programs discussed at a meeting focused on SSF as an intervention. The insights from the discussion provide key considerations that can be used for future service design and implementation.

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Appendix A

Table A1. Summary of records establishing the need for implementing supervised smoking facilities or distributing safer smoking supplies

Author (year)	Location	Population	About the paper and/or program	Key findings
Cortina et al. (2018)	Vancouver, BC	People who use crack cocaine	Program focused on integration of supervised inhalation rooms (SIR) in hospitals	• 59.4% (320/539) of people who use crack cocaine reported willingness to use an in-hospital SIR • Reasons for 'unsure/unwilling' responses (40.6%): attempting drug abstinence, privacy concerns, and concerns of drug use interfering with treatment
DeBack et al. (2011)	Vancouver, BC	People who smoke crack cocaine in public areas	Description of inhalation facility and risks associated with smoking crack cocaine in public areas	• 61% (382/623) of people who smoke crack reported using public areas in the last six months • 71% of public crack cocaine smokers reported willingness to use a supervised inhalation room if available • Factors associated with this willingness: gender (women), risky pipe sharing and recent encounters with police
Strike et al. (2016)	Ontario	General public in Ontario	Public perspectives on implementation of supervised smoking facilities (SSFs) (also in comparison to supervised injection facilities- SIFs)	• Significantly fewer participants were aware of SSFs than SIFs • 64.2% of Ontarians reported a mixed opinion on whether SSFs should be available (remaining 19.6% strongly agreed, and 16.1% strongly disagreed) • Participants who had prior knowledge of SSFs were more likely to strongly agree with SSF implementation than those who did not (28.4% vs 16.8%)
Watson et al. (2012)	Ottawa & Toronto, ON	People who use drugs, other stakeholders	Discuss the need for SSFs in Toronto and Ottawa, what the design may look, and	• Justifications for SSFs: High frequency of crack cocaine use, reduction in publicly discarded crack pipes, and

Author (year)	Location	Population	About the paper and/or program	Key findings
		(police, EMS, municipal staff, healthcare providers, residents, and business owners)	implementation challenges	safe communal drug-using spaces • Stakeholders emphasized the need for high-quality ventilation systems • Majority of service users had a strong preference for having supervised injection and smoking within one facility
Hunter et al. (2012)	Toronto, ON	People who smoked crystal methamphetamine in the past month	Describe safer smoking kit distribution as a means to reducing the potential negative health effects of smoking methamphetamines	• All but one participant indicated the wide use of pipe sharing • Demand for kits was perceived as highest for unhoused/street-involved youth without the means of purchasing pipes • Gay men and party scene goers expressed interests in free kits but indicated access and convenience were critical

Table A2. Summary of records evaluating existing supervised smoking facilities

Author (year)	Location	Population	About the paper and/or program	Key findings
Foreman et al (2019)	Toronto, ON	Service users, volunteers, and TOPS (Toronto Overdose Prevention Society)	Describe implementation of overdose prevention sites (OPS) in Toronto (an immediate, grassroots, overdose prevention program where people can use drugs with supervision from volunteers or staff)	• OPS provided a sense of community, reduced risk of living and using drugs outdoors, and a sanctuary from challenging aspects of their lives (i.e. weather; street violence and policing) • Participants found the environment to be welcoming and supportive, and shared that OPS reduced barriers to harm reduction supports
Ontario HIV Treatment Network Rapid Response	Canada	People who smoke unregulated drugs	Environmental scan of supervised inhalation services in Canada	• Benefits included minimizing harms of public drug use, reducing exposure to violence, protection from unwanted attention from law enforcement, benefiting from

Author (year)	Location	Population	About the paper and/or program	Key findings
Service (2022)				social services, engaging people who smoke drugs, reducing healthcare costs, and reducing publicly discard paraphernalia
Patterson et al. (2018)	Surrey, BC	People who use drugs	Describing an overdose prevention site- outdoor smoking tent (OPS) in Surrey operating under the BC Minister of Health	• Potential servicers users identified the lack of supervised smoking as the primary reason for not using the existing supervised consumption site • The OPS saw 590 visits in the first 11 days of operation
Bourque et al. (2019)	Lethbridge, Alberta	People who use drugs by inhalation	Describe service based on an application to Health Canada for an exemption to offer supervised smoking and injection services	• 11 overdoses from inhalation were reversed in the first 4 months (4.2% of the overall overdose rate) • Number of clients utilizing the inhalation space started at 967 and increased to 3,576 in three months • Number of visits for the inhalation room increased from at least one in March to 321 in June
CATIE (2019)	Lethbridge, Alberta	People who smoke unregulated drugs	Description of first regulated supervised inhalation site in North America (operates with multiple consumption options)	• Inhalation accounted for 41% of client visits in the first month of operation and increased over the first four months of operation • Eleven overdoses related to inhalation were reversed (4% of total overdoses in the service site) • 61% identified as Indigenous
Alberta Health (2020)	Alberta	Alberta residents	Evaluation of social and economic impacts of supervised consumption sites in Alberta, including ARCHES	• People using supervised inhalation services primarily consumed methamphetamines • Reported increases in disposal of paraphernalia in public spaces and public intoxication
Jozaghi (2014)	Vancouver, BC	People & peers who smoke(d)	Explored the roles of peers in harm reduction and	• The small inhalation room reduced sharing behaviour and violence, and provided

Author (year)	Location	Population	About the paper and/or program	Key findings
		crack and/or methamphetamine	education, as well as the changes in drug use after the forced closure of an unsanctioned supervised smoking room (SSR)	people who use drugs a safe place and employment • The closure of the SSR was linked to pipe sharing, and overcrowding by alleyways and back door entrances
Jozaghi et al.(2016)	Vancouver, BC	People who smoke crack and/or methamphetamine	Determined the cost-benefits and cost-effectiveness of an (initially) unsanctioned supervised smoking room	• Results demonstrated that the establishment of an SSF had saved health and public-related costs • Although the margin of savings decreases with additional locations, the cumulative result was cost-effective beyond the 7th potential location
McNeil et al. (2015)	Vancouver, BC	People who smoke crack	Explored how VANDU's safer smoking room (SSR) impacted crack smoking practices and exposure to harm	• SSR reduced barriers to safe spaces for smoking crack and decreased violence associated with smoking in public • SSR reduced pipe-sharing and related risks • Some participants reported borrowing or loaning pipes despite availability of free crack pipes • Peer volunteers communicated and managed time limits to improve SSR use

Table A3. Summary of records evaluating existing supervised smoking equipment

Author (year)	Location	Population	About the paper and/or program	Key findings
Ivsins et al. (2011)	Victoria, BC	People who smoke crack	Evaluated the impacts of safer crack use kits (SCUK) distribution on harms and behaviours	• Utilization of 2 SCUK programmes was low and likely driven by their unrecognized status (and police efforts to destroy paraphernalia), absence of crack pipe stems, and limited awareness about the program • Users perceived a diverse range of significant health, social, and economic benefits
Malchy et al. (2011)	Vancouver, BC	People who smoke crack	Examined the impact of safer crack use kit distribution on crack smoking practices	• Providers gave out 12,499 kits • In a post-distribution survey (n=106), 98% of respondents reported using the pyrex stems and lighters, 79% used the mouthpieces, 59% used the condoms, and 75% found the harm reduction tip card useful (n = 106)
Miskovic et al. (2018)	Toronto, ON	Clients who use drugs	Tracked progress on the 24/7 harm-reduction injection and smoking kit distribution and disposal program implemented by Casey House	• The program distributed 4907 smoking kits in 3.5 years • Clients requested information on social assistance, housing, treatment, gender based violence supports, and naloxone kits • Training increased staff confidence in initiating discussions with clients • Demand regularly exceeded the supply
Strike and Watson (2017)	Canada-wide	People who smoke crack cocaine	Recommended national best practice in NSPs based on survey of NSP managers across 80 programs	• 76% of programs provided client education on harm reduction, 64% distributed safer crack cocaine kits, and 50% reported providing clients with containers for safer disposal of used smoking equipment
Dunleavy et al. (2021)	Scotland, UK	People who inject drugs	To examine the association between foil uptake from	• Data from 1,453 people who inject drugs indicated that 36% obtained foil from NSP

Author (year)	Location	Population	About the paper and/or program	Key findings
			needle and syringe provision (NSP) services and smoking or snorting heroin among people who inject drugs (PWID)	services in the past 6 months. This group had significantly higher odds (70%) of having smoked or snorted heroin in the past 6 months • Foil uptake from NSP services, though low, was associated with increased likelihood of smoking or snorting heroin

Table A4. Summary of implementation considerations mentioned in records

Author (year)	Location	Implementation considerations
Watson et al. (2012)	Ottawa & Toronto, ON	• Harm reduction programs that specifically target people who smoke crack cocaine have been resisted or difficult to sustain due to complex factors including tobacco smoking bylaws, ensuring staff safety from second-hand smoke, the need for high quality ventilation systems
Patterson et al. (2018)	Surrey, BC	• A main concern has been the gaps in documented evidence (specifically RTCs) on the benefits of supervising other forms of consumption. Moreover, ventilation conditions in existing SCS spaces have led to the exclusion of smoking
Bourque et al. (2019)	Lethbridge, Alberta	• Support from HVAC companies and mechanical engineer(s) can enable room design with ventilation systems that comply with municipal, provincial, and federal regulations/laws/bylaws. • As required by Health Canada, site to include additional policies and procedures relevant to supervised smoking (i.e. overdose intervention, workplace health and safety, client-to-staff ratio for safe operation; emergency evacuation procedures) • Application articulated the medical and health benefits of supervised inhalation and collaborated with people who use drugs to determine on service design and considerations
Jozaghi (2014)	Vancouver, BC	• The SSR was based in a bathroom due to the availability of a ventilation system
Jozaghi et al. (2016)	Vancouver, BC	• Paper identified a need for the region's health authority to apply for an exemption under the Controlled and Substance Act of the Criminal Code of Canada to open a supervised smoking facility (SSF) in Vancouver's Downtown Eastside (DTES).
McNeil et al. (2015)	Vancouver, BC	• A small washroom was adapted into a SSR and equipped with a ventilation system
Cortina et al. (2018)	Vancouver, BC	• Paper pointed out that workplace safety regulations that prohibit smoking in hospitals will most likely make hospital-based SIR's difficult to establish at the federal level

Author (year)	Location	Implementation considerations
Foreman et al. (2019)	Toronto, ON	• Lack of funding and the volunteer model limited the hours of operation (4-6hrs/day) pose significant risks to services • Tents, though frequently used, have been unsuitable in cold weather, heavy rain, or wind storms, and during shorter daylight hours.
Ivsins et al. (2011)	Victoria, BC	• Lack of funding to the current main SCUK provider is a significant barrier
Guthrie et al. (2021)	Toronto, ON	• A recommendation to facilitate safer inhalation services has been to look for a covered courtyard space or an open air tent in a sheltered, private location that allows harm reduction/peer workers to witness from an appropriate distance
Kupp et al. (2022)	Vancouver, BC	• For outdoor smoking: The service should designate an area for people to smoke unregulated substances (not tobacco or cannabis) • For occupation health: Recommend limiting staff entering the inhalation space (i.e. only enter to respond to OD and other emergencies). Staff should also wear appropriate PPE (fit-tested elastomeric half facemask respirator with ov/p100 filters) • For the structure: Use a large covered area to contain fumes, protect from weather and provide privacy. Ensure clear, flame-retardant walls on 2 sides, at least one side open for ventilation, 6 meters from door/windows of neighbouring buildings, have stations for participants to sit, prepare drugs on a clear surface, and use drugs • Provide hand washing/sanitizing and biohazard containers • For fire prevention and safety: Include signage describing purposes of the site. No open flame or gas/propane in tents, keep electric heating sources away from combustible materials, provide ashtrays, accessible fire extinguishers. Ensure adequate electric lighting.
Interior Health (2022)	Kamloops, Kelowna, Nelson, BC	• Recommendations for indoor smoking areas: leave three sides open to air for adequate ventilation; ensure inhalation space is 6m from air intake of another building; do not use open flames/ propane to heat tents; place electric heaters away from flammable materials; use tents with flame resistant fabric; provide fire extinguishers; provide booths for users to site, prepare and use, then a separate cool down/relax area; provide a separate area for smoking tobacco and vaping, especially if the facility is part of a residence; consider sight lines for staff to monitor for overdose.
Ontario HIV Treatment Network Rapid Response Service (2022)	Canada	• Legal considerations in Ontario: Exemption under section 56.1 of the CDSA can allow for supervised inhalation, but also consider provincial and municipal by-laws, such as the Smoke-Free Ontario Act-SFOA (May obtain an exemption under the SFOA for a controlled area or conclude that by-laws do not apply to unregulated substances) • Ventilation considerations: Draw on lessons from ARCHES in Lethbridge (Alberta), which was the first safer inhalation site in North America. The HVAC system had an uninterrupted power supply to replace the air in the smoking rooms 15 times per hour, over six times per hour within the entire facility. An emergency activation switch allowed the room to be rapidly cleared of smoke in the event of an OD or other emergency requiring staff intervention.

Author (year)	Location	Implementation considerations
CATIE (2019)	Lethbridge, Alberta	• Safer smoking services will need specific policies and procedures related to inhalation overdose intervention, emergency evacuation and workplace health and safety • Ensure HVAC system with high air exchange rate and emergency smoke evacuation switch to quickly ventilate rooms for staff entering • Engage in community consultations and outreach to promote safer smoking • Provide physical separation of different modes of consumption (requested by clients), 24/7 service provision.
Lem et al. (2019)	Vancouver, BC	• Ensure all surfaces in the inhalation room are cleaned regularly with 5-10% hydrogen peroxide at least weekly to remove fentanyl residue. Furniture should have rounded edges and be easily cleaned. • Environmental sampling and testing should be done at predetermined intervals and would include an air sampler, surface accumulation testing, and testing HVAC system filters when changed • The air handling system for the inhalation room should be separate from the rest of the facility. In case of an emergency, the air system must be able to replace the air quickly. The inhalation room must have lower air pressure than the surroundings. Air in the inhalation room must be filtered before exhausting.

Appendix B

Table B1. Supplementary resources related to safer smoking services/programs

Resource	Reference
The Ontario HIV Treatment Network's review of supervised inhalation services in Canada	Ontario HIV Treatment Network. A review of supervised inhalation services in Canada. Ontario; July 2022. 15 p. Report No.: 171
CATIE's client brochure that provides information to support safer crack smoking	CATIE. Safer Crack Smoking [Internet]. Ontario: CATIE [cited 2023 Mar 02]. Available from: librarypdf.catie.ca/ATI-70000s/70216.pdf

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Disclaimer

Community Opioid/Overdose Capacity Building

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- The Ontario College of Art & Design University (OCAD U) - Health Design Studio
- University of Toronto- Strategy Design and Evaluation Initiative
- Black Coalition for AIDS Prevention
- Chatham-Kent Public Health
- NorWest Community Health Centres
- Drug Strategy Network of Ontario
- The Ontario Network of People Who Use Drugs

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