

A review of supervised inhalation services in Canada

? Question

- What supervised inhalation services are available in Canada and what are their characteristics?
- What are the best practices that provide evidence supporting supervised inhalation services as a harm reduction approach?

🔑 Key Take-Home Messages

- Reports from different Canadian provinces (British Columbia, Ontario, and Alberta) indicate that more individuals overdose by inhaling opioids (including fentanyl) compared to those who overdose via injection drug use (1–3). This is an apparent shift from previous years, where injection was the route of drug consumption causing a greater proportion of overdose deaths (4, 5).
- Supervised consumption services (SCS) in Canada that receive a federal exemption to operate must also navigate provincial and municipal legislation required to maintain public health and safety if offering inhalation as a method of consumption at SCS (6). However, there is considerable regional variation in policies that guide these harm reduction services (7, 8).
- A safe place to smoke drugs may minimize an individual's exposure to violence (9, 10), offer protection from law enforcement (11), provide a place to inhale safely (12), foster a sense of recognition and create equity among people who smoke drugs as programs are mainly injection-focused (10), and engage people who smoke drugs with harm reduction services (13) or other drug treatment options (14).

Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers quick access to research evidence to help inform decision making, service delivery, and advocacy. In response to a question, the Rapid Response Team reviews the scientific and grey literature, consults with experts if required, and prepares a review summarizing the current evidence and its implications for policy and practice.

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- There appears to be a high degree of willingness to use SCS that include inhalation services, especially among individuals who are unstably housed and/or who identify as a racialized person and/or sexual minority (15).
- In Canada, quantitative data from SCS offering inhalation is limited; most available data is aggregate, describing the number of visits to these services and/or overdose statistics based on route of consumption (10, 13, 16, 17).
- More research regarding non-injecting routes of drug consumption is required to ensure high-quality harm reduction service provision (18), especially surrounding supervised smoking services (19). Additional program planning and evaluation outlining the risks and benefits of non-injecting drug use is necessary to promote the health and safety of people who inhale drugs (15).

! The Issue and Why it's Important

Supervised consumption services or sites are “...harm reduction programs that offer a range of low-barrier services to people who use drugs, such as hygienic and supportive spaces for drug consumption, sterile drug using supplies, peer support, and ancillary health and social services” (20). Much of the existing research on SCS is focused on injection drug use (15, 18), which has found that supervised injection facilities (SIF) can have public health benefits for clientele and surrounding communities (21). A 2022 systematic review of 22 studies found that SIF are associated with notable reductions in opioid overdose morbidity and mortality, improvements in injecting behaviours and harm reduction, increased access to addiction treatment programs, and no change in crime or public nuisance (21).

However, people who inject drugs represent only a subset of people who use drugs (18, 22, 23); furthermore, less is known about the applicability of SCS among people who consume drugs orally, intranasally, or via inhalation (18). Despite this, several studies document fatal drug overdoses occurring via non-injection routes in Canada (1-3) and across other high-income settings (24, 25). Typically, injection drug use is associated with greater harms compared to other routes of administration (24, 26-28) due to risk of acquiring HIV and/or hepatitis C (HCV) via unsafe injecting practices (4, 27). However, individuals who consume drugs via non-injection routes still experience drug-related harms (18, 29, 30). While the risk of contracting HCV through non-injection routes of consumption is reduced considerably when compared to injecting (31), HCV can still be transmitted by sharing equipment when inhaling or snorting drugs, as microscopic amounts of blood from cracked lips or minor nosebleeds can be found on crackpipes or cocaine straws (32). For example, one study among youth in Ottawa who smoked crack-cocaine found prevalence of HCV to be 15% (33). Additionally, a

📖 References

1. Government of Alberta. Opioid-related deaths in Alberta in 2017: Review of medical examiner data. 2019. Available from: <https://open.alberta.ca/dataset/f9912915-bd4f-4b57-93bf-2a963cb99038/resource/a2857fb6-6663-491c-b9df-686e348bb456/download/070519-me-chart-review-final.pdf> Accessed May 25, 2022.
2. British Columbia Coroners Service. BC Coroner's Service Death Review Panel: A review of illicit drug toxicity deaths. 2022. Available from: https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/review_of_illicit_drug_toxicity_deaths_2022.pdf Accessed May 25, 2022.
3. Gomes T, Murray R, Kolla G, Leece P, Bansal S, Besharah J, et al. Changing circumstances surrounding opioid-related deaths in Ontario during the COVID-19 pandemic. 2021. Available from: <https://www.publichealthontario.ca/-/media/documents/c/2021/changing-circumstances-surrounding-opioid-related-deaths.pdf?la=en> Accessed May 25, 2022.
4. Howell M. Smoking is the number one consumption mode tied to B.C.'s overdose deaths. Here's why. 2022. Available from: <https://www.vancouverisawesome.com/local-news/why-smoking-drugs-is-now-number-one-consumption-mode-connected-to-bcs-overdose-deaths-vancouver-fentanyl-5078020> Accessed June 17, 2022.

Toronto study observed that 29% of people who smoke drugs had HCV, compared to 70% among people who inject drugs (5). There are also other potential harms associated with smoking drugs, which include pulmonary and respiratory damage (15, 31, 34, 35).

At one time, harm reduction workers encouraged individuals to smoke (i.e. inhale) drugs opposed to injecting them; the reasoning was that it lowered the risk of potential overdose (31, 36) and viral infections (14, 31). However, this has been described as an “illusion of safety” by one study (37). It has been suggested that harm reduction workers need to share more information about the risks of inhalation (36).

There appears to be a shift in the route of drug consumption causing overdoses. A report published in 2012 found that in Toronto and Ottawa, overdoses were higher among people who inject drugs (29%) compared to overdoses in people who smoked drugs (12%) (5). In British Columbia in 2016, this was also the case: 39% of overdose deaths were a result of injection drug use, while 31% were a result of overdose via inhalation (4). In contrast, data from the past few years indicates that overdose from inhalation accounts for the largest proportion of drug overdoses in at least three Canadian provinces (1-3), a finding that will be discussed in more detail below. Transitioning from injection drug use to inhalation as a way to decrease blood-borne infections has also been discussed in the literature (14). For example, a 2014 German study describes SMOKE-IT, an intervention that motivated opiate users to change their method of drug use from injection to inhaling by making equipment available (e.g. new smoking foils), citing that inhalation is significantly less dangerous in terms of the risk of viral transmission (31).

The majority of deaths caused by opioid overdoses in Canada occur in Ontario, British Columbia, and Alberta, with fentanyl accounting for 86% of all accidental apparent opioid toxicity deaths (38). Recent surveillance reports from these three provinces illustrate that smoking illicit drugs is leading to an increased proportion of drug toxicity deaths compared to drug toxicity deaths by injection drug use:

- In Alberta in 2017, 23% (n=149) of overdose victims died from opioid poisoning via inhalation (includes both smoking and snorting) compared to 16% (n=105) who died via injection drug use (1).
- In British Columbia, 44% (n=932) of overdose fatalities were due to smoking illicit drugs compared to 23% (n=487) who died via injection drug use (August 2017 to July 2021) (2).
- In Ontario between March and December of 2020, 33.7% (n=678) of opioid-related deaths had “evidence of pipe/foil for inhalation only”, while 14.1% (n=284) had “evidence of injection only” (3).

5. Bayoumi A, Strike C, Brandeau M, Degani N, Fischer B, Glazier R, et al. Report of the Toronto and Ottawa Supervised Consumption Assessment Study, 2012. 2012. Available from: <https://www.catie.ca/sites/default/files/TOSCA%20report%202012.pdf> Accessed June 20, 2022.
6. Health Canada. Application form: Section 56.1 Exemption for Medical Purposes under the Controlled Drugs and Substances Act for activities at a supervised consumption site. 2018. Available from: <https://www.canada.ca/content/dam/hc-sc/documents/services/substance-abuse/supervised-consumption-sites/apply/how-to-apply.pdf> Accessed June 10, 2022.
7. Wild TC, Pauly B, Belle-Isle L, Cavaliere W, Elliott R, Strike C, et al. Canadian harm reduction policies: A comparative content analysis of provincial and territorial documents, 2000–2015. *International Journal of Drug Policy*. 2017;45:9–17.
8. Kazatchkine C. Inhalation supervised consumption services and the law. 2021. Available from: www.hivlegalnetwork.ca Accessed June 10, 2022.
9. McNeil R, Kerr T, Lampkin H, Small W. “We need somewhere to smoke crack”: An ethnographic study of an unsanctioned safer smoking room in Vancouver, Canada. *International Journal of Drug Policy*. 2015;26(7):645–52.
10. Foreman-Mackey A, Bayoumi AM, Miskovic M, Kolla G, Strike C. ‘It’s our safe sanctuary’: Experiences of using an unsanctioned overdose prevention site in Toronto, Ontario. *International Journal of Drug Policy*. 2019;73:135–40.

Determining the mode of consumption that led to a drug overdose is multi-faceted, and in the case of the three provinces above, this included a combination of factors including but not limited to: medical records (2, 3), interviews with bystanders (1, 3), drug paraphernalia at the scene (e.g. pipe/foil as a proxy for inhalation) (1, 3), and toxicology testing (1, 3).

Not only is there a rise in overdose deaths via inhalation, but inhalation is also the most common method of consuming illicit drugs in Canada, according to the 2015–2016 Canadian Community Health Survey (39). In British Columbia, 2019 data shows that opioids are more often smoked than injected (40), and an Ontario report describes the prevalence of inhalation as rising (3). Similarly, a study in San Francisco observed a shift from injecting tar heroin to fentanyl between 2018 and 2020 (41). There could be several reasons why smoking drugs has risen in popularity when compared to injection drug use; in addition to the aforementioned market changes impacting the price and availability of fentanyl, inhalation may be a more attractive route of consumption for new drug users, who may not want to inject for various reasons (37). Having damaged veins (4, 41), avoiding the stigma surrounding injection (4), and the ease of receiving a high with simply a foil (4) are other factors individuals may consider when determining how to consume illicit substances.

While Canada has made considerable progress in establishing supervised injection sites across the country (42), the implementation of supervised inhalation rooms has been slow (43) despite a need for people who smoke or inhale drugs to have a safe consumption spaces (13, 44) and expressed willingness to use these spaces to varying degrees (5, 14, 15, 45, 46). As of July 2022, 37 SCS in Canada have obtained an exemption from Health Canada under section 56.1 of the Controlled Drugs and Substances Act (CDSA), though only two are authorized to offer supervised inhalation (47). Obtaining this exemption is a lengthy process, requiring community consultations, letters from the municipal government and other stakeholders, data that demonstrate need, and scientific evidence (48). For supervised inhalation specifically, applicants must also navigate provincial and municipal legislation required to maintain public health and safety (6).

This review examines safer smoking spaces at SCS, exploring the past and current landscape of select Canadian sites offering inhalation, a brief discussion of some of the relevant laws and policies, and the rationale and benefits of offering safer smoker rooms.

The terms inhalation and smoking are used interchangeably in this review, and refer to when an illicit substance is burned and inhaled. This review does not focus on “inhalants”, a term that specifically refers to psychoactive substances such as solvents, aerosol sprays, gases, and nitrites that are not manufactured with the intention of being inhaled to provide a high (i.e. products found in the home or the workplace). Additionally, inhalation of tobacco and marijuana,

11. DeBeck K, Buxton J, Kerr T, Qi J, Montaner J, Wood E. Public crack cocaine smoking and willingness to use a supervised inhalation facility: Implications for street disorder. *Substance Abuse Treatment, Prevention, & Policy*. 2011;6:4.
12. Pijl E, Oosterbroek T, Motz T, Mason E, Hamilton K. Peer-assisted injection as a harm reduction measure in a supervised consumption service: A qualitative study of client experiences. *Harm Reduction Journal*. 2021;18(1):5.
13. Bourque S, Pijl EM, Mason E, Manning J, Motz T. Supervised inhalation is an important part of supervised consumption services. *Canadian Journal of Public Health*. 2019;110(2):210–5.
14. Strathdee SA, Navarro JR. Commentary on Salmon et al. (2010): The case for safer inhalation facilities—Waiting to inhale. *Addiction*. 2010;105(4):684–5.
15. Gehring ND, Speed KA, Launier K, O'Brien D, Campbell S, Hyshka E. The state of science on including inhalation within supervised consumption services: A scoping review of academic and grey literature. *International Journal of Drug Policy*. 2022;102:103589.
16. British Columbia Centre for Disease Control. Overdose response indicators. 2022. Available from: <http://www.bccdc.ca/health-professionals/data-reports/overdose-response-indicators> Accessed June 21, 2022.

substances which can be legally smoked in Canada (49, 50), are not the focus of this review. Finally, while there is a body of literature describing the distribution of smoking kits and smoking supplies to reduce harm, evidence for this particular harm reduction practice is not covered.

What We Found

Supervised inhalation in Canada and other high-income settings

A 2020 scoping review by Speed *et al.* describing SCS models that offer non-injection routes of consumption concluded that more research is needed to ensure high-quality service provision and improve outcomes for people who consume drugs via alternate routes (18). This notion was supported in a scoping review from 2021 by Xavier *et al.* which examined stakeholder opinions in the SCS feasibility/pre-implementation literature: while the main finding was the necessity of establishing best practices for service delivery at SCS, authors also highlighted the need for more research on supervised smoking services (19).

The review by Speed *et al.* identified 48 sites worldwide that permitted non-injection routes of consumption, with the majority located in Europe (18), where smoking in SCS has been allowed since the 1990s (15, 51). The review included 34 studies from Germany, five from the Netherlands, three from Denmark, four from Canada, one from Australia, and one from Luxembourg (18). Of the 48 sites, 47 (98%) permitted inhalation (18). These 47 sites listed in the Speed *et al.* review include Canadian sites: 327 SIS (52), VANDU's inhalation facility (9, 53, 54), and a "pop-up" SIS (55) (all located in Vancouver). The fourth Canadian site included in the review is the Dr. Peter Centre, a palliative and supportive care in-patient facility for people living with HIV/AIDS (56) that has a valid exemption under section 56.1 of the CDSA and is authorized for injection (47). However, as of June 2022, the Dr. Peter Centre does not provide supervised inhalation services (57).

On April 14, 2016, a public health emergency in British Columbia was declared due to a considerable increase in drug-related overdose and deaths in the province (58). As various "pop-up" sites began to open in the province, these became formally known as overdose prevention sites (OPS), which have a primary goal of preventing and responding to drug overdoses (59); they can be established quickly and are a short-term response to address an immediate public health need (60). On December 9, 2016, a Ministerial Order (M488) was enacted to support the development of OPS (61), which gives "...regional health authorities the ability to provide overdose prevention services as necessary on an emergency basis"; thus, obtaining a federal exemption is not needed (62). Currently, several sites in British Columbia offer supervised inhalation under M488 (63).

17. Prairie Harm Reduction. Reporting from 01-Jan-21 to 31-Dec-21: Supervised consumption service range data report. 2022. Available from: <https://cdn.shopify.com/s/files/1/0269/3192/0962/files/2021.pdf?v=1641322767> Accessed June 13, 2022.
18. Speed KA, Gehring ND, Launier K, O'Brien D, Campbell S, Hyshka E. To what extent do supervised drug consumption services incorporate non-injection routes of administration? A systematic scoping review documenting existing facilities. *Harm Reduction Journal.* 2020;17(1):1-17.
19. Xavier J, Rudzinski K, Guta A, Carusone SC, Strike C. Rules and eligibility criteria for supervised consumption services feasibility studies—A scoping review. *International Journal of Drug Policy.* 2021;88:103040.
20. Livingston JD. Supervised consumption sites and crime: Scrutinizing the methodological weaknesses and aberrant results of a government report in Alberta, Canada. *Harm Reduction Journal.* 2021;18(1):1-5.
21. Levensgood TW, Yoon GH, Davoust MJ, Ogden SN, Marshall BD, Cahill SR, et al. Supervised injection facilities as harm reduction: A systematic review. *American Journal of Preventive Medicine.* 2021;61(5):738-49.

Representatives from Island Health, one of the five health authorities in the province, describe that smoking sites vary in services provided and configuration (63, 64): some sites are operating in covered areas that are not enclosed, such as tents or garages (64). There is one site in Victoria offering indoor inhalation (64, 65) equipped with a ventilation system (64). There are no established guidelines for providing this service, so Tobacco Control policies are used as a proxy where possible, and standards in the National Institute for Occupational Safety and Health are referred to (64).

The Overdose Emergency Response Centre, in partnership with the British Columbia Centre for Disease Control (BCCDC), provides provincial coordination of surveillance, monitoring, and evaluation regarding the overdose emergency (16). Indicators tracked for OPS/SCS include number of visits each month and overdoses survived (16). As of April 2022, there were 13 inhalation OPS/SCS locations across British Columbia, with a total of 18,871 visits to inhalation sites since January of 2021 (16).

The situation in Ontario with regards to legislation is different. In 2018, the provincial government terminated OPS and SCS models, and replaced these with a new model called Consumption and Treatment Services (CTS); the number of sites was originally capped at 21 (66). This new model does not allow for supervised inhalation (67). In order to receive provincial funding for CTS, currently operating sites had to reapply under this new model, demonstrate authorization at the federal level, and meet additional requirements (67). Under the CTS, sites are obligated to perform more rigorous data collection and adhere to extra compliance measures (66). This was preceded by Health Canada issuing an exemption in December 2017 to establish temporary Urgent Public Health Needs sites; thus, obtaining a federal exemption was not needed (68). These are established on a time-limited basis: three to six months, with the possibility for extension (68). However, these sites are not permitted to operate supervised inhalation services (68).

Prior to this new model, Moss Park OPS was the first supervised smoking service in Toronto established in August 2017 (10). Members of the Toronto Harm Reduction Alliance formed the Toronto Overdose Prevention Society (TOPS), and set up an OPS outdoors in a public park as a response to increasing overdoses in the city (10, 69). A preliminary study described this OPS as providing “...grassroots emergency health services in the absence of government resources” (70). The unsanctioned site was set up quickly, with no funding, and initially consisted of an injection tent, a supply tent, and a smoking tent (10). A survey conducted between September and December of 2017 explored the perspectives of service users regarding how the OPS altered the risk environment (10). During this time frame, the injection service received 3,734 visits and the smoking service received 4,890 visits; there was no occurrence of deaths due to overdose (10). Semi-structured, qualitative interviews were conducted in December of 2017 with service users, volunteers,

22. Gehring N, Speed K, Hyshka E. To what extent do supervised consumption services allow oral, intranasal, and inhaled drug use? 2021. Available from: <https://uphns-hub.ca/product/to-what-extent-do-supervised-consumption-services-allow-oral-intranasal-and-inhaled-drug-use/> Accessed May 6, 2022.
23. United Nations. Global overview of drug supply and demand 2019. 2019. Available from: https://wdr.unodc.org/wdr2019/prelaunch/WDR19_Booklet_2_DRUG_DEMAND.pdf Accessed May 25, 2022.
24. Onyeka IN, Basnet S, Beynon CM, Tiihonen J, Föhr J, Kauhanen J. Association between routes of drug administration and all-cause mortality among drug users. *Journal of Substance Use*. 2016;21(6):559–65.
25. Darke S, Ross J. Fatal heroin overdoses resulting from non-injecting routes of administration, NSW, Australia, 1992–1996. *Addiction*. 2000;95(4):569–73.
26. Novak SP, Kral AH. Comparing injection and non-injection routes of administration for heroin, methamphetamine, and cocaine users in the United States. *Journal of Addictive Diseases*. 2011;30(3):248–57.
27. United Nations. World Drug Report 2021. 2021. Available from: https://www.unodc.org/res/wdr2021/field/WDR21_Booklet_2.pdf Accessed May 25, 2022.
28. Bridge J. Route transition interventions: Potential public health gains from reducing or preventing injecting. *International Journal of Drug Policy*. 2010;21(2):125–8.

and TOPS organizers (10). Fifteen individuals who used the smoking tent were included, 11 who identified as male (73%) and four as female (27%); of these 15, four identified as Indigenous (10). All 15 participants smoked crack cocaine within the past month (100%); of these, eight (53%) had also smoked other drugs (e.g. fentanyl, methamphetamine, cannabis) (10). Additionally, all 15 participants were unstably housed (10). In qualitative interviews, being able to access a supervised smoking service brought a sense of recognition, as it was felt that injection-focused services overlooked their needs (10). However, participants did identify two problems that occurred in the smoking tent: a dealer tried to take over the space, and women were harassed (10). Additionally, not all volunteers wanted to go into the smoking tent for several reasons: it was too hot, too smelly, or they thought supervision was not needed (10). This finding in particular may have other implications, as described in a study from Copenhagen (Denmark): because staff did not remain present in the smoking room due to health risks, they were unable to develop rapport with those who smoked (71). Authors found that this led to very few smokers being educated on safe inhalation practices (71).

Overall, authors concluded that the Moss Park OPS served an important role as a flexible, community-led initiative at a time of increased mortality that contributed to positive changes in the risk environment (10). This service no longer operates within Moss Park, but indoors at 134 Sherbourne Street as Moss Park CTS (47), where inhalation is not permitted (47, 67).

While the CTS program in Ontario currently does not allow for supervised inhalation (67), conversation around offering this service continues (72). A CTS site in Peterborough has recently been approved for operation (72, 73), and was slated to open in June of 2022 (72). In a May 2022 article from the Toronto Star, the manager of the Peterborough CTS was quoted as stating:

There's a lot of conversation provincially and nationally around how to implement inhalation services in safer consumption sites...There's concerns about safety of staff, safety of participants, so we will be at that table and will continue to advocate for the inclusion of inhalation services. (72)

Of the two sites in Canada authorized to offer inhalation, one site is located in Ontario, but is not under the provincially-funded CTS model: Casey House Day Health Program Supervised Consumption Services in Toronto (47). A registered charity, Casey House operates as a sub-acute hospital that offers inpatient and outpatient care for people living with and at risk of HIV and AIDS (74). Having received an exemption under section 56.1 of the CDSA, Casey House is authorized to offer supervised inhalation, but has not yet done so as they must ensure they are not in violation of other provincial and municipal bylaws, such as the Smoke-Free Ontario Act (75). The Smoke-Free Ontario Act has a general ban on indoor vaping as well as tobacco and cannabis smoking, though there are exemptions for

29. Bardwell G, Austin T, Maher L, Boyd J. Hoots and harm reduction: A qualitative study identifying gaps in overdose prevention among women who smoke drugs. *Harm Reduction Journal*. 2021;18(1):29.
30. Elkhalfi S, Jozaghi E, Marsh S, Thomson E, Gregg D, Buxton J, et al. Social network support and harm reduction activities in a peer researcher-led pilot study, British Columbia, Canada. *Harm Reduction Journal*. 2020;17(1):57.
31. Stover HJ, Schaffer D. SMOKE IT! Promoting a change of opiate consumption pattern—From injecting to inhaling. *Harm Reduction Journal*. 2014;11:18.
32. CATIE. How hepatitis C transmission happens. 2019. Available from: <https://www.catie.ca/hepatitis-c-an-in-depth-guide/how-hepatitis-c-transmission-happens> Accessed May 25, 2022.
33. Leonard LE, Wilson L, Germain A, Pelude L, Vannice S. The urgent need to respond to HIV- and HCV-related risk practices among youth in Ottawa who smoke crack. *Substance Use & Misuse*. 2021;56(1):1-10.
34. Prudenti J, Castaneda C, Centeno J, Perez E. Crack lung: A case report and review of the literature. *Chest*. 2019;156(4):A2120.
35. Radke JB, Owen KP, Sutter ME, Ford JB, Albertson TE. The effects of opioids on the lung. *Clinical Reviews in Allergy & Immunology*. 2014;46(1):54-64.

controlled areas (76). Casey House is currently seeking clarity from the government to determine if providing space for inhalation of illicit substances would be in violation of the Smoke-Free Ontario Act (75).

The second site in Canada that offers inhalation is Prairie Harm Reduction (PHR) located in inner-city Saskatoon, Saskatchewan (47). PHR opened its doors in October of 2019 (77), and operates under the section 56.1 exemption of the CDSA (47); PHR has determined that smoking bylaws only apply to tobacco and marijuana, allowing for the establishment of a safer smoking space in the province (78). Currently, the site does not receive any government funding, but has plans to apply for federal support to stay open (79). While there is currently no peer-reviewed literature on PHR, two reports available on the PHR website offer some information regarding the service (80). A 2020–2021 satisfaction survey provides minimal information on inhalation services at the SCS, but does note that smoking/inhalation was the second most popular form of drug consumption after injection (77). A report presenting raw data for the SCS was also identified (17). In 2021, there were 3,673 instances of consumption at the SCS; of these, 752 were for smoking/inhalation, representing 20% of all visits (17). Additionally, the indoor inhalation space offered at PHR was used as a model when upgrading the ventilation system at an SCS in Whitehorse (Yukon), run by the Blood Ties Four Directions Centre (81). This facility offers inhalation services as of May 30, 2022 according to a press release (81) and a post on the facility's official Facebook page (82). While this Whitehorse SCS is seeking a federal exemption, it currently operates under a territorial exemption granted to the Yukon government as a result of the substance use health emergency (83) declared in January of 2022 (84).

While no longer in operation, the first regulated supervised inhalation site in North America should also be discussed (13). This “safer smoking room” was in operation from March 2018 until August 2020 in Alberta (13, 85). The service provider was ARCHES (AIDS Outreach Community Harm Reduction Education Support), a well-established harm reduction agency operating in Lethbridge (13). Authors describe the rationale for pursuing a federal exemption that accommodated inhalation as fourfold: a desire by people use drugs to use indoors; the fact that it is not the method of drug use that causes overdoses, but the drug itself; the ability to connect with a wider clientele, opposed to only those who inject drugs; and the belief that all people who use drugs deserve service regardless of their mode of use (13). In applying to Health Canada for an exemption under section 56.1 of the CDSA, ARCHES had to include several particulars:

In our application, we were required to include the additional policies and procedures relevant to supervised smoking. Policies unique to inhalation included overdose intervention, workplace health and safety, client-to-staff ratio for safe operation, and emergency evacuation procedures. We were also required to articulate the medical and health

36. CATIE, Boyce N, Kornberg N. Reframing Ontario's overdose crisis: Addressing inhalation and stimulant use. 2021. Available from: <https://blog.catie.ca/2021/11/01/reframing-ontarios-overdose-crisis-addressing-inhalation-and-stimulant-use/> Accessed June 14, 2022.
37. Krausz RM, Westenberg JN, Mathew N, Budd G, Wong JS, Tsang VW, et al. Shifting North American drug markets and challenges for the system of care. *International Journal of Mental Health Systems*. 2021;15(1):1–8.
38. Special Advisory Committee on the Epidemic of Opioid Overdoses. Apparent opioid and stimulant toxicity deaths: Surveillance of opioid and stimulant-related harms in Canada. 2022. Available from: https://health-infobase.canada.ca/src/doc/SRHD/Update_Deaths_2022-06.pdf Accessed: June 7, 2022.
39. Bragazzi NL, Beamish D, Kong JD, Wu J. Illicit drug use in Canada and implications for suicidal behaviors, and household food insecurity: Findings from a large, nationally representative survey. *International Journal of Environmental Research and Public Health*. 2021;18(12):6425.
40. Parent S, Papamihali K, Graham B, Buxton JA. Examining prevalence and correlates of smoking opioids in British Columbia: Opioids are more often smoked than injected. *Substance Abuse Treatment, Prevention, & Policy*. 2021;16(1):79.

benefits of supervised inhalation, since the exemption is based on the medical benefits of supervised consumption. Additionally, we needed to show that we were in compliance with all federal, provincial, and municipal smoking legislation. (13)

Authors also note that smoking legislations and bylaws were specific to tobacco and its by-products; thus, a facility offering inhalation of illicit drugs would “...technically not contravene existing laws” (13). Smoking rooms that complied with Canada’s occupational health and safety regulations in accordance with building codes for commercial spaces were designed: a local commercial heating, cooling, and ventilation (HVAC) company worked in consultation with a mechanical engineer to create rooms with acceptable ventilation (13). The technical design was guided by a standard set forth by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) to safeguard air quality and limit second-hand smoke (13). The mechanical ventilation system installed was connected to an uninterrupted power supply that replaced the air in the smoking rooms 15 times per hour, and over six times per hour within the site as a whole (13). An emergency smoke activation switch ensured that in the event of an emergency, the room rapidly cleared of smoke, thus allowing staff to intervene without exposure (13).

Authors describe the response upon opening on February 28, 2018 as overwhelming, with the need to increase inhalation rooms to reduce wait times; by May 2018, the service expanded to a 24/7 operation (13). Within the first four months of site operation, 654 unique clients attended the SCS, which also offered space for consumption via other routes; 58% were male and 61% identified as First Nations (13). In this time frame, eleven overdoses from inhalation occurred: seven were opioid-related, and were treated with oxygen administration and nurse supervision (n=5) or naloxone (n=2) (13). The remaining four overdoses were related to methamphetamine (13). Clients were also actively encouraged to choose forms of drug use other than injection; for example, if a client was unable to find a vein for injection, an alternate method of consumption, such as inhalation, was suggested (13).

Upon the closing of ARCHES by Alberta’s provincial government in August of 2020, a motor-home based consumption site was parked next to the Lethbridge’s shelter (86). A news article describes the circumstances surrounding the closure of the site, stating that “[t]he provincial government pulled funding for ARCHES after a financial audit found evidence of mismanagement and misuse of government funding” (85). The cited audit specifically notes instances of non-compliance regarding grant agreements and the policies and procedures manual, misuse of government funding, and inappropriate governance (87). However, in December of 2020, it was reported that some of the provincial funding, once considered unaccounted for, was located (88). Other SCS in Alberta continued to close after ARCHES was shut down (89). This was preceded by a

41. Kral AH, Lambdin BH, Browne EN, Wenger LD, Bluthenthal RN, Zibbell JE, et al. Transition from injecting opioids to smoking fentanyl in San Francisco, California. *Drug and Alcohol Dependence*. 2021;227:109003.
42. Kerr T, Mitra S, Kennedy MC, McNeil R. Supervised injection facilities in Canada: Past, present, and future. *Harm Reduction Journal*. 2017;14(1):28.
43. Voon P, Ti L, Dong H, Milloy MJ, Wood E, Kerr T, et al. Risky and rushed public crack cocaine smoking: The potential for supervised inhalation facilities. *BMC Public Health*. 2016;16:476.
44. Small D, Drucker E. Return to Galileo? The Inquisition of the International Narcotic Control Board. *Harm Reduction Journal*. 2008;5:16.
45. Shannon K, Ishida T, Morgan R, Bear A, Oleson M, Kerr T, et al. Potential community and public health impacts of medically supervised safer smoking facilities for crack cocaine users. *Harm Reduction Journal*. 2006;3:1.
46. Collins CL, Kerr T, Kuyper LM, Li K, Tyndall MW, Marsh DC, et al. Potential uptake and correlates of willingness to use a supervised smoking facility for non-injection illicit drug use. *Journal of Urban Health*. 2005;82(2):276–84.
47. Government of Canada. Supervised consumption sites: Status of applications. 2022. Available from: <https://www.canada.ca/en/health-canada/services/substance-use/supervised-consumption-sites/status-application.html#a1> Accessed June 9, 2022.

report released by the government of Alberta earlier that same year, which found that SCS in Alberta had negative social and community impacts, was not focused on detoxification and/or referrals to treatment, and had few accountability protocols in place (90). A response in the peer-reviewed literature described the government report as having major methodological flaws (20).

There appears to be considerable variation across provinces regarding the operating of SCS in general. For supervised inhalation specifically, the application form for exemption under 56.1 of the CDSA states that applicants must also navigate provincial and municipal legislation required to maintain public health and safety (6). These differ across provinces, and may include adhering to Occupational Health and Safety Guidelines (WorkSafeBC) or the Smoke-Free Ontario Act, to name a few (8). This notion is supported by a study from 2017, which systematically described policy frameworks guiding harm reduction services across Canada's provinces and territories; in examining documents from 2000–2015, authors found "...wide regional variation in policies guiding the planning and organization of Canadian harm reduction services" (7).

Feasibility and outcomes

A scoping review published in 2022 by Gehring *et al.* synthesized the literature on non-injecting drug use and sought to describe the literature regarding feasibility and outcomes of such services (15). Forty studies were included in the review, and were a mix of peer-reviewed studies (n=23) and grey literature (n=17); 24 studies were based in Canada (15). While most studies did include inhalation, other routes of consumption, such as injection, oral, and intranasal, were also presented in various studies; thus, synthesized evidence did not always relate specifically to inhalation (15).

Thirty-two studies that conducted a feasibility or needs assessment on inclusion of inhalation or other forms of non-injection drug use were identified, with 18 from Canadian settings (15). Of the 17 studies that assessed willingness to use SCS (including inhalation and other forms of consumption), 28%–86% of participants were willing to use the services (15). Twelve studies assessed factors associated with willingness to use SCS (including inhalation and other forms of consumption); increased willingness was associated with public drug use, recent drug use, overdose history, unstable housing status, drug use practices, demographic characteristics, police involvement, involvement in sex trade, history with healthcare services, history of sexual violence, and in-hospital drug use (15).

The Gehring *et al.* review also identified a range of outcomes in eight studies, all of which included inhalation as a mode of consumption (15). The seven identified outcomes measured for evaluations of SCS were: drug use practices (e.g. experiences sharing equipment), public drug use (e.g. experiences of improperly discarded

48. Patterson T, Bharmal A, Padhi S, Buchner C, Gibson E, Lee V. Opening Canada's first Health Canada-approved supervised consumption sites. *Canadian Journal of Public Health*. 2018;109(4):581–4.
49. Government of Ontario. Cannabis law. 2019. Available from: <https://www.ontario.ca/page/cannabis-laws> Accessed May 25, 2022.
50. Ministry of Health. Where you can't smoke or vape in Ontario. 2018. Available from: <https://www.ontario.ca/page/where-you-cant-smoke-or-vape-ontario> Accessed May 25, 2022.
51. Hedrich D. European report on drug consumption rooms. 2004. Available from: https://www.emcdda.europa.eu/system/files/publications/339/Consumption_rooms_101741.pdf Accessed June 15, 2022.
52. Kerr T, Oleson M, Tyndall MW, Montaner J, Wood E. A description of a peer-run supervised injection site for injection drug users. *Journal of Urban Health*. 2005;82(2):267–75.
53. Jozaghi E, Vancouver Area Network of Drug Users. A cost-benefit/cost-effectiveness analysis of an unsanctioned supervised smoking facility in the Downtown Eastside of Vancouver, Canada. *Harm Reduction Journal*. 2014;11(1):30.

equipment), physical health (e.g. number of HCV cases prevented), participant safety (e.g. experiences of exposure to violence), access to services (e.g. experiences of connections to social services), cost savings (e.g. cost-benefit ratios), and population reach (e.g. reaching people who use drugs who are excluded by injection only services) (15). Five of these studies were conducted in Canadian settings, two of which have already been discussed: the Moss Park SCS (10) and ARCHES (13). The three other Canadian studies describe unsanctioned OPS operated by VANDU in Vancouver (9, 53, 54).

Possible benefits of supervised inhalation

One study in British Columbia among people who smoke drugs in public found that within their social networks, tangible aspects of social support were present: individuals were more likely to assist peers in the case of overdose and be trained in and/or carry naloxone (30). Other studies highlight reasons why individuals choose to smoke drugs, which include social benefits such as:

- easing social anxiety when collectively smoking (9);
- fostering sociability where participants engage in harm reduction together, share drugs, and respond in the event of an overdose (29).

Supervised smoking facilities can potentially mitigate the numerous harms and risks associated with smoking drugs in public (43). Studies among people who use drugs (and among service providers) describe that a safe place to smoke drugs could:

- minimize exposure to violence that occurs in other smoking settings (9, 10);
- offer protection from unwanted attention from law enforcement (11);
- provide a place to inhale safely if unable to inject (12);
- reduce health-related harms resulting from “rushed” crack smoking in public places (43, 45);
- experience the benefits of some social services, such as housing-based OPS which did not allow inhalation of drugs but did allow injection drug use (91);
- foster a sense of recognition and equity among people who smoke drugs, as programs are mainly injection-focused (10);
- engage people who smoke drugs with harm reduction services (13) or other drug treatment options (14);

54. Jozaghi E, Lampkin H, Andresen MA. Peer-engagement and its role in reducing the risky behavior among crack and methamphetamine smokers of the Downtown Eastside community of Vancouver, Canada. *Harm Reduction Journal*. 2016;13(1):1-9.
55. Kerr T, Mitra S, Kennedy MC, McNeil R. Supervised injection facilities in Canada: Past, present, and future. *Harm Reduction Journal*. 2017;14(1):1-9.
56. McNeil R, Dilley LB, Guirguis Younger M, Hwang SW, Small W. Impact of supervised drug consumption services on access to and engagement with care at a palliative and supportive care facility for people living with HIV/AIDS: A qualitative study. *Journal of the International AIDS Society*. 2014;17(1):18855.
57. McDougall P. Inquiry re: supervised inhalation and DPC. [Personal communication]. June 24, 2022.
58. British Columbia Ministry of Health. Provincial health officer declares public health emergency. 2016. Available from: <https://news.gov.bc.ca/releases/2016HLTH0026-000568> Accessed June 13, 2022.
59. CATIE. Harm reduction in action: Supervised consumption services and overdose prevention sites. 2018. Available from: <https://www.catie.ca/prevention-in-focus/harm-reduction-in-action-supervised-consumption-services-and-overdose> Accessed June 13, 2022.

- reduce costs that would be incurred at healthcare services for treatment of HCV in the absence of a safer smoking facility (53);
- decrease the amount of publicly discarded smoking paraphernalia (92).

However, because of the dearth of scientific research regarding supervised inhalation services (compared to supervised injection facilities), “...scientific knowledge gaps remain regarding whether SCS including inhalation contribute to measurable reductions in overdose-related morbidity and mortality, infectious disease (e.g., HIV, HCV) transmission risk, drug-related public nuisance, and service use” (15).

Some research has indicated that participants using SCS would prefer having SCS that accommodate both injection and inhalation, but that there should be a physical separation based on type of drug being used or on route of drug administration (5, 92). Other research has examined the utility of including inhalation rooms in hospital settings (93, 94). However, SCS offering inhalation services likely needs infrastructure that supports this, such as ventilated rooms or outdoor smoking areas (18). Separate smoking rooms in SCS for inhalation can:

- accommodate different highs (92);
- reduce unwanted exposure to different routes of consumption (92);
- avoid exposure to other forms of drug use (92);
- avoid discrimination that may exist between different forms of drug use (91).

This evidence presented in this section is based on qualitative data, which has explored the benefits of offering supervised inhalation and potential design considerations for inhalation sites through interviews with people who use drugs. To ensure quality service programming for non-injecting routes of consumption, more research is needed (18, 19).

- Canadian Drug Policy Coalition. Questions and answers—Provincial/territorial class exemptions: For supervised consumption site operators. 2020. Available from: <https://www.drugpolicy.ca/wp-content/uploads/2020/04/Qs-and-As-Class-Exemption-April-20-2020-SCS-FINAL.pdf> Accessed June 13, 2022.
- Province of British Columbia. Order of the Minister of Health. 2016. Available from: <https://www.islandhealth.ca/sites/default/files/2018-04/overdose-prevention-services-health-ministry-order.pdf> Accessed June 13, 2022.
- British Columbia Ministry of Health. Ministerial order supports urgent overdose response action. 2016. Available from: <https://news.gov.bc.ca/releases/2016HLTH0094-002737> Accessed June 13, 2022.
- Germain S. Inquiry re: supervised inhalation in BC. [Personal communication]. June 10, 2022.
- Mackinnon J. Inquiry re: supervised inhalation. [Personal communication]. June 21, 2022.
- Island Health. Victoria—The Harbour Inhalation Site. 2022. Available from: <https://www.islandhealth.ca/our-locations/overdose-prevention-supervised-consumption-locations/victoria-harbour-inhalation-site> Accessed June 21, 2022.

Factors That May Impact Local Applicability

In Canada, the landscape of SCS that offer inhalation services is constantly changing; exemptions do not last indefinitely, changing political priorities and ideologies impact site operations, and drug markets can impact morbidity and mortality. Thus, the information included in this review reflects the current state of the evidence at the time of publication. Furthermore, this review does not include descriptions of all SCS providing inhalation services within Canada. Evidence on SCS that provide inhalation services is limited, and findings should be interpreted with caution.

What We Did

We searched Medline (including Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE® Daily and Ovid MEDLINE®) using terms (safer smoking or supervised smoking or safer inhalation or supervised inhalation) in titles or abstracts, or a combination of terms ([smok* or inhal*] and [Consumption and Treatment Service* or supervised consumption site* or supervised consumption facilit* or supervised injection site* or overdose prevention cent* or supervised injection facilit* or safe consumption room* or safe injection site* or safe injection room* or fix room* or fixing room* or safer injection facilit* or drug consumption facility* or drug consumption room* or harm reduction cent*]) in titles or abstracts. Searches were conducted on May 16, 2022 and results limited to English articles published from 2000 to present. Studies from low- and middle-income countries were excluded. Reference lists of identified articles were also searched. Google (grey literature) searches using different combinations of these terms were also conducted. Ten experts working in harm reduction were contacted. The searches yielded 148 references from which 94 were included.

66. South Riverdale Community Health Centre. Consumption Treatment Services at SRCHC: Frequently asked questions. 2022. Available from: <https://www.srchc.ca/news/consumption-treatment-services-at-srchc-frequently-asked-questions/> Accessed June 13, 2022.
67. Ministry of Health and Long-Term Care. Consumption and Treatment Services: Application guide. 2018. Available from: https://health.gov.on.ca/en/pro/programs/opioids/docs/CTS_application_guide_en.pdf Accessed June 13, 2022.
68. Ministry of Health and Long-Term Care. Overdose Prevention Sites: User Guide for Applicants. 2018. Available from: https://www.health.gov.on.ca/en/news/bulletin/2018/docs/hb_20180111_ops_user_guide.pdf Accessed July 19, 2022.
69. CTV News. Unsanctioned pop-up safe-injection site opens in Toronto. 2017. Available from: <https://www.ctvnews.ca/canada/unsanctioned-pop-up-safe-injection-site-opens-in-toronto-1.3544860> Accessed June 13, 2022.
70. Kolla G, Kenny K, Dodd Z, Boyce N, Ovens S, Chapman L, et al. Canadian Public Health Association Conference: Oral abstract program. Impacts of an unsanctioned overdose prevention site in Toronto: A preliminary analysis. 2018. Available from: https://www.cpha.ca/sites/default/files/uploads/conferences/2018/PH18_OralAbstractProgram.pdf Accessed June 13, 2022.

71. Toth EC, Tegner J, Lauridsen S, Kappel N. A cross-sectional national survey assessing self-reported drug intake behavior, contact with the primary sector and drug treatment among service users of Danish drug consumption rooms. *Harm Reduction Journal*. 2016;13(1):27.
72. Barker M. Health Canada gives final approval for Peterborough supervised drug consumption and treatment site. 2022. Available from: <https://www.thestar.com/pe/news/peterborough-region/2022/05/27/health-canada-gives-final-approval-for-peterborough-supervised-drug-consumption-and-treatment-site.html> Accessed June 7, 2022.
73. Taylor C. Progress being made on Consumption and Treatment Services site: Preparations underway to meet federal and provincial standards. 2022. Available from: <https://peterboroughdrugstrategy.com/wp-content/uploads/2022/03/Fourcast-CTS-Update-Media-Release-.pdf> Accessed June 13, 2022.
74. Casey House. Our health services. 2022. Available from: <https://caseyhouse.ca/our-health-services/> Accessed June 10, 2022.
75. Hodge L. Inquiry re: supervised inhalation. [Personal communication]. June 10, 2022.
76. Queen's Printer for Ontario. Smoke-Free Ontario Act, 2017, S.O. 2017, c. 26, Sched. 3. 2022. Available from: <https://www.ontario.ca/laws/statute/17s26> Accessed June 10, 2022.
77. Prairie Harm Reduction. Prairie Harm Reduction: 2020-2021 Satisfaction survey. 2021. Available from: https://cdn.shopify.com/s/files/1/0269/3192/0962/files/PHR_Report.pdf?v=1629501663 Accessed June 13, 2022.
78. Prairie Harm Reduction. Following the yellow brick road to the inhalation rainbow. [Personal communication].
79. Vescera Z. Saskatoon safe consumption site to seek federal money after province said no. 2022. Available from: <https://thestarphoenix.com/news/local-news/saskatoon-safe-consumption-site-to-see-federal-money-after-province-said-no> Accessed June 16, 2022.
80. DeMong K. Inquiry re: supervised inhalation. [Personal communication]. June 16, 2022.
81. The Canadian Press. Yukon supervised drug consumption site upgraded to allow indoor smoking. 2022. Available from: <https://nationalpost.com/pmn/news-pmn/canada-news-pmn/yukon-supervised-drug-consumption-site-upgraded-to-allow-indoor-smoking> Accessed June 7, 2022.
82. Blood Ties Four Directions Centre. Facebook post on official page: 30 May. 2022. Available from: <https://www.facebook.com/Blood-Ties-Four-Directions-Centre-128540223872322/> Accessed July 19, 2022.
83. Renwick-Shields B. Inquiry re: supervised inhalation. [Personal communication]. June 21, 2022.
84. Government of Yukon. Substance use health emergency declared in the Yukon. 2022. Available from: <https://yukon.ca/en/news/substance-use-health-emergency-declared-yukon> Accessed June 21, 2022.
85. Labby B. Lethbridge braces for closure of Canada's busiest supervised consumption site. 2020. Available from: <https://www.cbc.ca/news/canada/calgary/lethbridge-arches-supervised-consumption-site-closure-1.4434070> Accessed June 8, 2022.
86. Dryden J. At Canada's former busiest supervised consumption site, anxiety over what comes next. 2021. Available from: <https://www.cbc.ca/news/canada/calgary/lethbridge-supervised-consumption-site-alberta-1.6168733> Accessed June 14, 2022.
87. Alberta Treasury Board and Finance. Grant expenditure review for Alberta Health: July 14, 2020. 2020. Available from: <https://open.alberta.ca/dataset/90fb3c93-79e7-481b-8e1f-3dbe122f4f27/resource/ec2e9-1c42-4f72-8d88-4199daec44e5/download/health-grant-expenditure-review-arches-2020-07.pdf> Accessed June 10, 2022.
88. Vogt T. Missing ARCHES funds accounted for: Lethbridge police. 2022. Available from: <https://calgary.ctvnews.ca/missing-arches-funds-accounted-for-lethbridge-police-1.5241779> Accessed June 16, 2022.

89. Larose K. The fight for supervised consumption sites to remain open in Alberta. 2021. Available from: <https://blog.catie.ca/2021/08/30/4341/> Accessed June 16, 2022.
90. Alberta Health, Government of Alberta. Impact: A socio-economic review of supervised consumption sites in Alberta. 2020. Available from: <https://open.alberta.ca/dataset/dfd35cf7-9955-4d6b-a9c6-60d353ea87c3/resource/11815009-5243-4fe4-8884-11ffa1123631/download/health-socio-economic-review-supervised-consumption-sites.pdf> Accessed June 20, 2022.
91. Collins AB, Boyd J, Hayashi K, Cooper HLF, Goldenberg S, McNeil R. Women's utilization of housing-based overdose prevention sites in Vancouver, Canada: An ethnographic study. *International Journal of Drug Policy*. 2020;76:102641.
92. Watson TM, Strike C, Kolla G, Penn R, Jairam J, Hopkins S, et al. Design considerations for supervised consumption facilities (SCFs): Preferences for facilities where people can inject and smoke drugs. *International Journal of Drug Policy*. 2013;24(2):156-63.
93. Kosteniuk B, Salvalaggio G, McNeil R, Brooks HL, Dong K, Twan S, et al. "You don't have to squirrel away in a staircase": Patient motivations for attending a novel supervised drug consumption service in acute care. *International Journal of Drug Policy*. 2021;96:103275.
94. Cortina S, Kennedy MC, Dong H, Fairbairn N, Hayashi K, Milloy MJ, et al. Willingness to use an in-hospital supervised inhalation room among people who smoke crack cocaine in Vancouver, Canada. *Drug & Alcohol Review*. 2018;37(5):645-52.