Drug Science

Overdose Prevention Centres, Safe Consumption Sites, and Drug Consumption Rooms: A Rapid Evidence Review

Gillian W Shorter, Phoebe E. McKenna-Plumley, Kerry B.D. Campbell, Jolie R. Keemink, Benjamin D. Scher, Stephen Cutter, Zarnie Khadjesari, Alex Stevens, Adelina Artenie, Peter Vickerman, Philip Boland, Nicole M. Miller, Anne O. Campbell

Contact details of Lead Researcher:

Dr Gillian W Shorter, Drug and Alcohol Research Network, Centre for Improving Health Related Quality of Life, School of Psychology, David Keir Building, 18-30 Malone Road, Belfast, BT9 5BN

g.shorter@qub.ac.uk

Gillian W. Shorter, Phoebe E. McKenna Plumley, Kerry B.D. Campbell, Philip Boland, Anne O. Campbell
Drug and Alcohol Research Network, Queen's University Belfast, Belfast, UK

Jolie R. Keemink
Centre for Health Service Studies, University of Kent, Canterbury, UK

Alex Stevens
Social Policy, Sociology and Social Research, University of Kent, Medway, UK

Benjamin D. Scher
Department of Social Policy and Intervention, University of Oxford, Oxford, UK

Stephen Cutter
Release, London, UK

Zarnie Khadjesari
School of Health Sciences, University of East Anglia, Norwich, UK

Adelina Artenie, Peter Vickerman
Bristol Medical School, University of Bristol, Bristol, UK

Nicole M. Miller
School of Human and Social Sciences, University of West London, London, UK

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Glossary of terms

ACMD	Advisory Council on the Misuse of Drugs
BBV	Blood-borne virus
CI	Confidence Interval – this is a probability that an estimated value for a statistical test falls between a set of values a certain proportion of times
DCR	Drug Consumption Room
DTES	Downtown Eastside (of Vancouver, Canada)
EMCDDA	European Monitoring Centre for Drugs & Drug Addiction
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDU	Injecting drug use/user
M	Mean or the mathematical average of two or more numbers
MP	Member of (UK) Parliament
MSIC/MSIR	Medically supervised injection centre/room
NIMBY	Not in my back yard
n	Number
OPC/OPS	Overdose Prevention Centre/Overdose Prevention Sites
OR/aOR	Odds Ratio, a measure of how associated two variables are, it represents the odds that an outcome will occur given a particular exposure compared to the odds of the outcome occurring in the exposure's absence. An adjusted odds ratio controls for another variable when looking at the relationship
OST	Opioid substitution treatment
p	The p value or probability value tells you how likely it is that your data could have occurred under the null hypothesis (that there is no change or difference between two populations)
PWID	People who inject drugs
PWUD	People who use drugs
r	Regression coefficient which represents the strength of association between two variables
SCF/SCS	Supervised Consumption Facilities/Supervised Consumption Sites
SD	Standard Deviation
SIF	Safe Injection Facilities/Supervised Injection Facilities
SIS	Safe Injection Sites
SSF	Safe Smoking Facility
STI	Sexually transmitted infection
t	A t-value is a statistical test which compares the mean of two samples and determines if they are different to each other
TB	Tuberculosis
UK	United Kingdom
YIMBY	Yes in my back yard

1. Introduction

This rapid review on overdose prevention centres (OPCs) aims to collate and summarise existing evidence. It describes the impact of OPCs on individuals who use drugs, communities, and public health.

This is to support decision making and understanding of service provision for health departments, potential providers, researchers, and elected officials (1). This document also covers some practical matters of running a service including day-to-day matters, costs, and any cost savings from their operation. We conclude with information on evaluation; services should be robustly evaluated.

This review is largely based on existing resources provided by the International Network of Drug Consumption rooms who host a Zotero database of ~300 articles and resources, including linked papers identified through forward and backward searching of papers, and papers known to the author team. It is not a complete summary of the literature (any exclusions are unintentional), but it is the largest of its kind at present worldwide, with over 550 citations. We have not formally assessed the quality of research presented, and we encourage readers to access studies cited directly as part of their own critical appraisal. Whilst we designed this document in response to queries from those interested in OPCs in the UK, we hope it will have value to the international community. Authors of evidence (included and not) are warmly welcomed to contact the author team (via the email above) to continue the conversation.

2. What is an overdose prevention centre (OPC) and what do they do?

OPCs are community facilities which provide a safe, hygienic space for people to consume their own drugs in the presence of trained individuals who can intervene if an overdose occurs. They are non-judgemental environments which facilitate and promote voluntary access to social, health, welfare, and drug treatment services (2, 3).

An OPC operates under the logic that those who use drugs are safer and less likely to die of an overdose if observed when drugs are consumed and do not feel forced to rush drug use in public spaces. If there are any signs of an overdose, a swift and effective intervention by trained persons can occur, and a life can be saved (4, 5). Principally, this is a harm reduction service grounded in a public health model which aims to reduce individual, community, and societal harm and

to preserve life. These are very low threshold services; by this we mean that there are very minimal barriers to entry, that these are free at the point of access, and with few or no demands in exchange for the service aside from following some basic rules and guidelines (6) (see 4.1 and 4.3). OPCs often aim to:

Prevent overdose deaths through:

- Advice which minimises risk of overdose occurring,
- Overseeing drug use in the centre,
- Offering swift, immediate intervention using naloxone, high-flow oxygen, a calming environment, cooling, or other appropriate methods,
- Offering the time and space to avoid rushed and concealed drug use,
- In some cases, offering opportunities to check drugs before use.

Reduce the transmission of HIV, HCV, or other blood borne diseases and/or support those with existing infections through:

- Advice which minimises risk of transmission,
- Supplying sterile drug use equipment or other paraphernalia,
- Links to, or on-site testing services for HIV, HCV, STIs, and TB,
- Safe disposal of used drug use equipment or other paraphernalia.

Reduce public drug use and drug related litter through:

- Providing a safe and hygienic space for people to use drugs,
- Providing a space to deposit used drug use equipment and other paraphernalia,
- Providing a welcoming space that people who use drugs want to use,
- Having some place for police officers responding to community concerns to refer people to rather than simply moving people on e.g. (7).

Reaching the most marginalised members of our communities through:

- Providing a welcoming space to those who typically do not use other services potentially through stigma, lack of awareness of service offered, or services which do not meet their needs,
- Integration of people who use drugs in the design and operation of the service model and its evolution,

- Providing basic amenities including clothing, water, tea, coffee, snacks, washing facilities etc.

Supporting the uptake of voluntary access to relevant services through:

- Provision of specialised support and referral pathways to providers who understand the challenges facing the population who use the OPC as part of the wider service provision,
- Identifying and creating referral pathways that are external to the OPC including provisions for gender-specific services, sex workers, neurodiverse, or physically diverse individuals, provision of physical or mental health care, housing and shelter support, social welfare support, etc.

Create real-time surveillance data through:

- Understanding the nature of substance use in an area,
- Provision of and feedback from drug checking services,
- Feeding information to service providers, public health, non-governmental organisations, researchers, law enforcement, and community and voluntary sector organisations who would benefit from better and detailed knowledge of drug supply in a local area.

Various names exist for OPCs which include supervised injecting facilities, supervised consumption sites, safe injecting facilities, safe injecting sites, supervised injecting centres, medically supervised injection centres, overdose prevention services, and drug consumption rooms (8). We deliberately choose the term overdose prevention centres to mirror the international literature and identify their primary function as a place to save lives, provide healthcare, and provide wellbeing support engaging the most marginalised in society (9). We recognise internationally or amongst individuals there may be a preference for different terms, including important legal implications for their operation and permanence (e.g. in Canada see (10)), but for consistency throughout, we use only OPC here. Findings have shown public support increases for OPCs when described as reducing overdoses rather than other terminologies (11, 12). Using the term “overdose prevention” echoes the urgency of the ongoing public health emergency (13).

Today, there are over 200 OPCs worldwide, based in 17 different countries: France, USA, Germany, Netherlands, Canada, Australia, Denmark, Greece, Belgium, Spain, Portugal, Norway, Luxembourg, Switzerland, Mexico, Iceland and most recently Columbia (14). The number of countries, and facilities can vary as services open

and close, for an overview map see (15). Most are in a city-centre close to a population of individuals who use drugs (16). Services can host drug inhalation, injecting, or both. For those who have injecting spaces, it typically ranges between 7-12 injecting spaces at one time; for those with smoking capacity, they have between 6-7 smoking places on average. Services approximate between 20-400 visitors per day (17, 18). In unsanctioned services that operate without official permission, this may vary as a function of the resources available to those running the service (16, 17). Drugs used in OPCs are most often heroin, other opiates, cocaine, amphetamines, derivatives of these substances, and contaminants to the expected substance (19).

2.1 Why are OPCs needed?

The UK faces a severe drug-related deaths crisis with thousands of fatalities each year; it is estimated that people who use drugs in the UK are 13 times more likely to die from an overdose compared to the European average. OPCs can provide space, a safe and hygienic environment, reduce public drug use, help address unmet healthcare and welfare needs, and reduce overdose deaths.

The continued level of drug-related deaths in the UK remains a public health crisis (20-23). The most recent data which included all regions of the UK (2021) included drug-related death figures for England and Wales of 3060 related to 'drug misuse' (24), 1330 for Scotland (25), and 212 in Northern Ireland (26). These are not just numbers; each one of these deaths is someone's child, sister or brother, a relative or loved one, someone's someone (27, 28). In the UK, people who use drugs are 13 times more likely than the European average to die from a

fatal overdose (29). People who use drugs, or are working with people who use drugs, for example in treatment centres, as support workers, and as emergency personnel, have witnessed and felt considerable grief and trauma from overdose deaths (28, 30-34). The connected circumstances of drug use, poverty, criminalisation, and homelessness results in a life expectancy for some of the most vulnerable people between 45-49 years old (35). The impact of overdose deaths on family, friends, and witnesses (including bystanders and emergency service personnel) to those that died cannot be overstated; our inability to prevent or substantially reduce these deaths creates an extraordinary burden for many (36). OPCs can prevent some of these deaths, and Section 3 and 4 summarise this evidence.

In the UK, local authorities responsible for commissioning drug treatment services and relevant supports have seen consistent decreases in budgets (37). Priorities have shifted, and treatment facilities have often prioritised those who are engaged with treatment services, or those with long-term heroin use (38). There are often a group of high-risk people who use drugs who are missed in treatment and healthcare services, and these form the typical clientele for overdose prevention centres around the world (see Section 3.2.2 for a breakdown of the typical clients for OPCs). There are currently no facilities of this type in the UK. Following a review of evidence on OPCs in other countries, commissioned research, site visits, and consultations with drug users, a report from an Independent Working Group commissioned by the Joseph Rowntree Foundation recommended that OPCs should be piloted in the UK back in 2006 (39). Nearly 20 years later, there is no permanent facility although there has been one unsanctioned facility showing proof of concept. A mobile OPC operated in Glasgow in 2020-1; however, this closed due to lack of resourcing for the unsanctioned service including for the service users and facility volunteers (9). A Private Members Bill was brought before Scottish Parliament in 2018 by Alison Thewliss MP to introduce a pilot OPC and evaluation in her constituency of Glasgow Central. The Home Office response was to emphasise treatment and prevention in contradiction to its own advisory committee; the Advisory

Council on the Misuse of Drugs (ACMD). This is an expert panel which advises the government on drug-related issues, recommending that safe consumption spaces such as OPCs should be trialled to assess whether they can reduce overdose deaths (40). The European Monitoring Centre for Drugs & Drug Addiction (EMCDDA) and the Advisory Council on Misuse of Drugs support their use and note the significant body of evidence to show the effectiveness of these facilities, much of which is outlined below. Just at the time of press, the Lord Advocate for Scotland Dorothy Bain KC issued a ruling in relation to OPCs which stated:

> *"On the basis of the information I have been provided, I would be prepared to publish a prosecution policy that it would not be in the public interest to prosecute drug users for simple possession offences committed within a pilot safer drugs consumption facility." (41)*

As such, it would appear to be possible to pilot a facility in Glasgow; what this means for the rest of the UK and legislative support is unclear; however, delays in piloting facilities in the UK and elsewhere they are needed costs lives.

2.2 OPC models of care

There are typically four models of care for OPCs. These include integrated, fixed/specialised, mobile, and tent/temporary sites.

The different models share some common features; they are based in areas of high drug use or close to an open drug scene, service users register or otherwise "check in" when they use the service, and they use hygienic booths or similar spaces where drugs can be smoked, injected, or ingested under supervision by trained persons. Woods provides a helpful introduction to the different models of care and a logic model of their operation (17). They can provide a range of services (see Section 5 for an overview). In some cases, it can be a challenge to classify services, unsanctioned services for example may not provide enough detail to the reader to understand their type in order to keep a service running; and services can evolve e.g. Dogherty and colleagues describe an outdoor OPC integrated into a hospital setting for inpatients and outpatients, which was later relocated (42). We list a few of the worldwide facilities after the description of the service. Please note this is not an exhaustive list of all facilities or allied research papers.

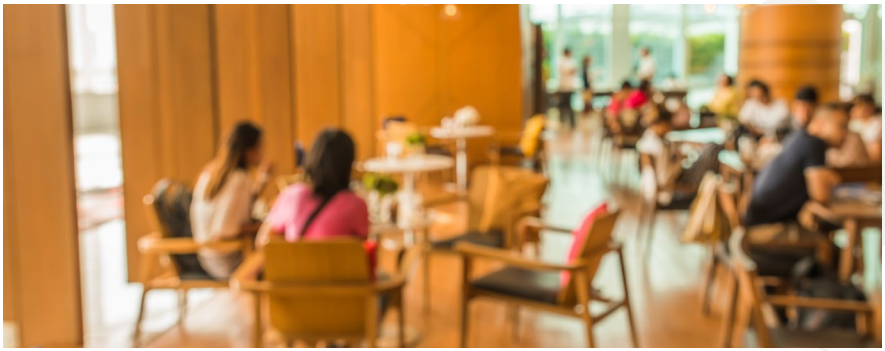
2.2.1 Integrated OPC

In this type, the OPC is integrated into a wider network of services and support at the same location.

These can be in or next to hospitals, in or next to treatment services, or in or next to socio-medical centres, which can provide a range of health or social care supports for OPC clients on site. They can offer a broad range of services such as drug and medication assisted treatments and medical services such as primary care, blood-borne viral infection testing, and wound care and as drop-in centres providing showers, laundry, case management, and employment programmes (14, 43, 44). A benefit of these types of facility is removal of barriers to access such as difficulties with travel, or a client finding out about a useful service they were not previously aware of (45).

However, for some, the provision of drug or medication assisted treatment in the same space as drug use can make these treatments challenging or less attractive, as service users attending to pick up medication may try to avoid spaces where drug use is occurring (46). Some services have physically separate consumption and treatment areas to counteract this (44). In addition, some have also showed some concerns about the loss of privacy and anonymity in integrated services (45).

Some papers which describe integrated services include the Ontario Integrated Supervised Injection Services which have onsite opioid agonist treatment (harm reduction sites) and community healthcare embedded OPCs (45). Others include in-hospital facilities (47, 48); housing services (49); services linked to primary care (50); or HIV/AIDS care facilities (51).



2.2.2 Specialised or fixed site OPC

A fixed, specialised site provides only the OPC service with needle and other relevant equipment exchange services.

Usually, fixed site services form alliances with health and social care support and are found close to other services, but the client would have to travel to these for the other support they require. Depending on the staffing model, they may provide some support on site. Fixed site OPCs usually serve an area where there is a high level of drug use, and often formerly an open drug scene. The single focus of these services reduces organisational complexity, making them less expensive, although they cannot facilitate direct access to a range of services which are available in integrated services (44). A fixed site may vary in cost. An expansion of an existing service may incur little cost, depending on the change. At the least, as with a mobile facility, a table, chair, and equipment are required. There may also be a reception area, and a place for individuals to be following use. Space in relation to smoking provision may also be provided, and many jurisdictions have anti-smoking legislation which would require ventilation to be costed in. Equipment provided should be not dissimilar to current needle exchange facilities. It is worth understanding the profile of the substances used by potential clients, as this will determine what equipment is required. It should also be kept under review as drug scenes and risks can change. Some have even converted bathrooms to OPCs; however, these can often lack formal support staff or checking on the person consuming substances (see examples of good practice and an evaluation (52, 53)). Other examples of fixed site OPCs include those in Frankfurt or Copenhagen (54, 55).

2.2.3 Mobile OPC

Specially designed mobile OPCs operate from vehicles such as specially fitted vans or repurposed ambulances to provide space for safe drug consumption. They can travel around specific areas or remain parked at a specific site in a single area.

These services can be useful in mobile drug markets or when drug scenes are geographically spread, as they can reach those in different locations in each geographic area. Other advantages include ensuring that a single building does not become the focus of activity in a locale, and some people who use these services have reported feeling less likely to be identified as an OPC user e.g. (56). This may be useful in areas where people who use drugs are under threat from local paramilitary organisations (57).

Mobile OPCs can be a complementary service to a fixed site or integrated OPC or run as an independent unit. Staff may offer a limited range of complementary services, such as referrals and syringe exchange. They may have a smaller capacity than a fixed site and are likely to service fewer daily clients e.g., Barcelona, Berlin, and Glasgow services hosted three booths each (9, 58). Seats, tables, and equipment should be comfortable but easy to clean, ensuring a hygienic space for each person who uses it. A mobile OPC is the lowest cost solution for initial costs; however, the cost per person may be higher. Any mobile vehicle will need to be roadworthy (e.g., in the UK, they must have a valid MOT or be new enough not to require one) and will need to be taxed and insured for travel. Most vehicles are not at least initially suitable for an OPC, and will need to provide seats, a table, and equipment for those who use it. Given the lower capacity of a vehicle, there may be queuing whilst individuals wait for a spot in the vehicle or as they wait for another to finish their administration (59). It may not eliminate street-based injecting as there may not be somewhere else for individuals to go. However, they should reduce street-based drug scenes (60). While cost per client may be higher for mobile sites because of their smaller capacity, they can function as first steps in setting up a fixed site service (56). The operation of mobile sites should be guided by a needs assessment including location, hours of operation, and other service provision (59). Some papers which describe mobile OPCs include (9, 58-62).

2.2.4 Tent or temporary structure OPC

Tent or temporary structure OPCs are agile and nimble services often arising because of delays in meeting the needs of people who use drugs in an area (63). These delays can often be in planning or other political blocks which de-prioritise the needs of people who use drugs.

Most tent or temporary OPCs are unsanctioned, grassroots services, but have demonstrable ability to engage with those people who are particularly marginalised in society and change their risk environment (64). Sometimes, tents can facilitate smoking facilities as an adjunct to another type of OPC, even if they are temporary structures (63). There is often limited evaluation of tent/temporary sites given they are at risk of closure, operated by local community activists, have fewer resources and services, and have limited funding to support evaluation (65). There are some notable exceptions such as the Moss Park OPS evaluation which described the site as very low threshold with few or evolving rules, operated by community members, and offering both smoking and injection options. The site later became permanent (64). Other temporary sites include an OPC for the duration of a conference where people who use drugs were in attendance (66) or repurposing of toilets (67).

2.3 Preferences for models of care

OPCs should provide a sense of social acceptance and community to support people who use drugs to use them more safely (55), and the atmosphere can vary from a clinical, hospital environment, to like a living room (54). The importance of surveying the local population of people who use drugs and who might use a facility in an area is essential to designing the right service.

It may be helpful to use GIS mapping to understanding where a service should be located using patterns of public substance use, or locations of drug related litter (68, 69). Three studies reported in a review suggested that between 61-93% of people who use drugs would prefer an OPC integrated with health or social services (70). The strongest preference was for a community/public health centre (70-90%) with less but still high support for primary care locations 50-73%. About 68% said they would access an OPC in a supervised injecting facility in a hospital (71), but other, earlier work noted a low proportion of agreement that a OPC near a medical facility would be helpful (18%; (72)). To prepare for a service in Alberta, Canada, people who used drugs showed a preference for an integrated service and one with a particular provider, e.g. 83% preferred one provider over 46% for another provider (73).

Studies on OPC implementation noted common preferences related to operational factors such as capacity, staffing, and opening hours, location factors such as proximity to existing health services and distance from schools and recreation areas, appropriate models of operation, and policing factors (70, 74-78). Indeed, poor policing practices can limit access to OPCs as established by a wide body of qualitative literature (47, 79-84) and quantitative literature (85). For more information on service detail, see Section 5.

There are some differences internationally between sanctioned and unsanctioned sites. As Davidson and colleagues note (86) there can be advantages and disadvantages to both. Sanctioned sites can link more closely to wider supports like treatment, social services, and welfare support. They typically have larger capacity. Unsanctioned sites more easily respond to the needs of people who use drugs, can set and change rules more easily, and are less at risk of direct challenge from political concerns, but can be isolated from support which can sustain the service (9, 64, 87, 88).

Location is very important, with research in London, Ontario suggesting that the following are important considerations (89); central location (to an existing public drug scene), close to a bus route, and discrete and minimal signage. The distance individuals can travel is a key consideration (90) with the maximum distance most commonly up to 1.1 miles (91, 92). Others, such as (75, 93) suggested a more conservative estimate of around 0.29-0.59 miles were distances individuals could walk to a facility. Public transportation may also be a barrier to accessing the service (94). There are additional challenges for OPCs opening in rural communities where OPCs and other harm reduction initiatives are less established. For a summary of issues raised by stakeholders, see (90). Others, such as (75, 93) suggested a more conservative estimate of around 0.29-0.59 miles were distances individuals could walk to a facility. Public transportation may also be

a barrier to accessing the service (94). There are additional challenges for OPC opening in rural communities where OPCs and other harm reduction initiatives are less established. For some issues raised by stakeholders, see (90). One study in Lethbridge, Canada described changes in OPC provision from a fixed site to a mobile site and this led to lower use of the site because of concerns about the location, a lack of smoking provision, and a lack of social space (95).

Some services such as those in Rotterdam provide passes to those who wish to attend their drug consumption rooms; this is almost like a 'members only' club approach (96). These have been seen as positive as they convey a sense of ownership and place, with the potential rebuilding of trust with addiction support and society, but also potentially negative, as those who qualify for these passes may feel marked as marginalised by society. All models of care must pay attention to potential marginalisation opportunities, OPCs should aim to support and develop community cohesion, not create division (97-99).

3. What is the evidence that OPCs are effective?

This section summarises evidence from reviews and individual studies to understand the landscape of evidence as it relates to OPCs.

It begins with a summary of existing reviews on OPCs and their conclusions. The following section subdivides the evidence into several parts; first we discuss who the clients of OPCs are, followed by the impact on health, communities, and costs. We acknowledge the varying quality of evidence on this topic, some by the design of the study, and some for which it is difficult to tell as the report lacks methodological detail.

3.1 Summary of existing reviews on OPCs

Many studies of overdose prevention centres in several countries, over many years have shown the effectiveness of these services in reducing drug-related harms for individuals and communities.

Individual studies are summarised in the below reviews which bring together the evidence from multiple studies to address a research question. Reviews have found improvements in health and wellbeing, and in access to drug treatment and other health services. Several authors have noted there is sufficient evidence they work, and asked the question of how much evidence is required to convince some e.g., (100, 101). However, some critics have argued that the evidence for OPCs is weak or even non-existent (102). This latter claim, by the Stanford-Lancet

Commission on the opioid crisis in North America, is referenced to a review published by RAND (4). However, this review did not find 'no evidence' on the population-level of impact of overdose prevention centres on drug-related deaths, as claimed by the Stanford-Lancet Commission. Rather, it showed an absence of the type of research that is often considered to be of the highest quality for attributing causal effects to medical interventions; randomised controlled trials (RCTs).

There are several reasons for the absence of RCTs on overdose prevention centres. Prime among them is the practical difficulty of randomising either individuals or sites to receive or not receive this intervention. OPCs are low threshold services, which create minimal barriers to access, often including no need to provide identifying information. It would be hard to prevent people who were randomised not to access the service from doing so, even if it were ethical to do so. On ethical grounds, it is unlikely we could claim equipoise, i.e. that we do not know if one treatment is safer than the other- this is an essential ethical prerequisite for a trial (100, 103). The opening of these services is the result of political decisions which are often not amenable to randomisation of the sites where they occur and/or it may be unethical to randomize if the community desires implementation (104).

Another reason for the absence of RCTs in this field is that such studies aim to isolate the effect of a particular well-defined intervention to study the causal effect on outcomes, such as the effect of a medicine in reducing a particular symptom. RCTs are less well suited to studying complex interventions with multiple, interacting outcomes. Just as OPCs cannot be abstracted from their environment to randomise them, they also form part of complex, interweaving systems of stigmatisation, deprivation, support, and care. The users of OPCs are often targeted by other services, including the police. They tend to have complex health and social needs. It is therefore very difficult to identify an 'independent', direct, linear effect of providing OPCs on a particular outcome (4).

As with other interventions that have not been randomised for theoretical, practical, or ethical reasons, we cannot just state we have no evidence on their effects (104). Many highly effective interventions have been established based on observational studies, from clean water, to smoking reduction initiatives, to parachutes (105). Whilst parachute analogies speak to equipoise, they can be misleading given the complexity of medical (or public health) interventions, and the effect size difference (106). OPCs may also open rapidly in crisis situations, and the varying level of resource (time, personnel, knowledge) may prohibit independent and complex evaluation. It may eventually prove possible to design randomised studies of OPCs, or to find instrumental variables that enable

rigorous causal inference of their effects. These studies may eventually provide support or contradictory findings to the published effects of OPCs. We can use existing observational, counterfactual, and quasi-experimental studies to gain a better understanding of what these effects may be.

Studies of the effect of overdose prevention centres on mortality are scarce. This may partly be due to the difficulty of creating studies that have sufficient statistical power to detect real, important but small changes in outcomes that are extremely harmful, but relatively rare. It is easier to study effects on more common outcomes, such as ambulance callouts (107, 108). Multiple studies have been done on OPCs, using various methods, looking at difference mechanisms and outcomes. This enables us to build up a suggestive picture of how these services work, and what they do. The positive results found for ambulance callouts and many other outcomes supports the idea that OPCs are effective in meeting their aims, as are the multiple reports from users of these services that they have saved their lives. These studies, as described below, create a compelling case that overdose prevention centres have beneficial effects for their users, local communities, and health systems.

This body of research does have limitations which make it difficult to prove causal links between OPCs and outcomes (4). These include the lack of baseline measures or comparator groups in many of the studies referenced in this report, and difficulties in defining and measuring internationally prioritised outcomes from a core outcome set for evaluation (109-112). Some potential outcomes are poorly defined such as the lack of a stable measurement of what constitutes an overdose. We need more studies to be carried out, ideally by researchers who are independent of service providers (101).

Considerable research in this field is qualitative, which tends to be thought of – by policy makers at least – as less persuasive than quantitative research (113). But observational and qualitative research can be extremely valuable – often more so than RCTs – in identifying the contexts, mechanisms and contingencies through which public health interventions produce their effects (114). The available evidence does not allow for definitive causal inference. However, across multiple studies, countries, and sites, it points towards generally positive effects caused by plausible generative mechanisms, in contexts where other services have failed to meet the needs of the people who are most vulnerable to drug-related deaths. Other research designs may provide better information such as cohort studies, especially in the study of complex interventions of which the outcomes are highly contingent on local contexts and features of implementation (114). Reviewed evaluations report favourable or null effects on most outcomes,

including overdose, ambulance callouts, access to healthcare or other support service referrals, public drug use, drug-related crime, and drug-related litter. One review ongoing is exploring how OPCs work, for whom they work, and for what circumstances (115). Economic studies have shown positive benefit: cost ratios from the provision of these services. Reviews from the past 15 years, which focused on OPCs, with a summary of their findings, are listed below in Table 1.

Table 1: Summary of reviews on OPCs in the past 15 years listed in alphabetic order

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Allen and NYC Health (6)* (Narrative review)	To summarise international literature and assess feasibility of setting up a New York OPC including public acceptability, potential benefits including cost savings, and how an OPC might legally operate.	Unclear	They described four main conclusions: 1) It was legally possible to open an OPC in partnership across New York city; 2) An OPC could avert 130 overdoses and save around 7 million USD annually in public health costs; 3) There was a recognition of the benefits of OPCs across key community leaders in reducing overdose events and crime; 4) OPCs were evidence based on a range of health and crime benefits.
Armbrecht et al. (116) (Narrative review with some meta-analysis)	To understand the net health and economic benefit of implementing an OPC with syringe service programs compared to syringe service programs alone to inform the opening of services in the US	48	They, like others, noted the lack of RCTs, and reliance on cohort, time-series, and other pre-post observational work. They acknowledged the importance of understanding communities, and what works for one community may not be for another. Benefits were incremental with improvements in overdose mortality, access to healthcare, blood-borne infections, and reduced unsafe injecting practices, public injecting, drug-related litter, and equipment sharing. OPCs did not change crime levels. In cost-effectiveness terms, it was more expensive to run an OPC than not to run one; however, these costs were offset by savings in avoiding costly healthcare (especially around overdose and BBV). The report aimed to provide some meta-analytic data, but inconsistent outcomes restricted the application to only economic impact.
Belackova and Salmon (117) (Narrative review)	To summarize international literature findings on all relevant papers and reports on OPCs internationally updating an earlier review (118)	219	The evidence summarised showed OPCs attract high-risk drug users, managed overdose and reduce drug-related deaths, improved injecting practices, reduced drug use and drug related litter, increased access to treatment and other services, prevented BBV transmission, saved money, did not increase drug use, and did not increase crime. Qualitative studies explored perceptions of staff and service users, and explored how OPCs could be established. Other findings have established health status, referral pathways, and attendance patterns and other characteristics of OPC users. The review described laws and regulations on OPCs with views from Canada, Australia, and US, and discussed implementation challenges including new sites and scaling up OPCs. Cost-effectiveness and acceptability concluded this comprehensive, readable summary.
Belackova et al. (119) (Systematic review)	To summarise the methodologies in literature on overdose prevention centres	219	Methods used to show effectiveness included ecological studies, modelling techniques, cross-sectional designs, service records, and cohorts of individuals followed over time. There was a call for more research to focus on OPC operational matters, implementation factors, and policy transfer. Recommended research designs to strengthen the literature included including a control group of individuals who would be eligible but do not currently use the OPCs, validation of self-reported data in some studies, and stepped-wedge or cluster trials comparing localities. We should only consider these where it is ethical to do so.

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Bouzanis et al. (120) (Systematic Review)	To identify programmes in Canada addressing the prevention and management of infectious disease in PWID including supervised injecting facilities	19	Of the studies on OPCs, most related to HIV prevention (53%), or HCV and HIV prevention (32%). Most studies were from British Columbia. Benefits of OPCs included improving access to infectious disease care, reducing healthcare costs, and reducing harms associated with drug use. All sites, despite their differences in service models, demonstrated cost savings in their Canadian context. They make several recommendations for future research including wider outcomes of effectiveness such as diagnostics, impact of extended hours etc, and recognise gaps in understanding street-involved youths and the intersection with social determinants.
Caulkins et al. (104) (Narrative review)	To summarise the nature and quality of evidence on implementing OPCs via the lens of decision makers and researchers	Unclear	The authors focused on 'high quality studies', the method of finding studies was unclear. They summarised millions of supervised consumption events with no reported overdose deaths. Support for OPCs was almost universal, and most evidence was from Canada and Australia. They recommend more work on spillover effects outside the OPC to the surrounding area, more focus on outcomes relating to other offered services including needle and syringe or naloxone programmes, distinctions between causation and association particularly since the effect of an OPC can be on multiple indicators, and more work on effectiveness and cost-effectiveness. They noted the importance of who was viewing the evidence base; politicians may be most convinced where their voters have sympathies, an interest in reducing drug-related deaths, and/or saving money.
De Vel-Palumbo et al. (118) (Narrative review)	To summarise the literature published on OPCs to date including reviews, outcome studies, policy analyses, and descriptive studies.	134	Authors found reductions in overdose, fewer risky injection episodes, improved access to treatment, health and welfare services, improvements in public amenity and crime reduction primarily from Sydney and Vancouver locations. It was later expanded, see (117).
Dow-Fleisner et al. (121) (Scoping review)	To examine the impact and effectiveness of OPCs in relation to individual, community, and cost-effectiveness outcomes	24	They summarised OPCs reduced blood-borne viruses and disease transmission, reduced overdoses, and did not increase drug use. There were increases in access to addiction treatment and other health services. They noted a delineation between qualitative studies which focused on community building and improved self-worth, whilst quantitative works focused on disease prevention or transmission, overdose, and public impact of drug use.
EMCDDA (2) (Narrative review)	To summarise drug consumption room provision and evidence of effectiveness	30 approx	Benefits were summarised as improvements in safe, hygienic drug use, increased access to health and social service, reduced public drug use and litter with no evidence of increasing drug use or injection frequency. OPCs facilitate access to treatment, and do not lead to increases in crime

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Garcia (122) (Narrative review)	To summarise literature on OPCs in Spain from 2000-2013	45	This review summarised the literature from two databases and known linked websites which focused on OPCs in Spain including articles, reports, and presentations. They aimed to describe OPC clients (primarily male, aged 30 years or over, and with a long history of injecting drug use), and the impact of different OPCs. They echoed international research in prevention of BBV, providing space, reducing overdose deaths, and improving the wider community through reduced public drug use and abandoned equipment. Several recommendations included feasibility studies to reduce challenges to implementation, evaluation of social and health impact, satisfaction with the service from the point of view of the service user, and greater support to specialised groups who may not have their needs met at present [Note: translated from Spanish]
Gehring et al. (123) (Scoping review)	To understand OPC provision for non-injecting drug use, describe the literature in this area, and develop a research strategy	40	Most studies were feasibility or needs assessment papers (80%). They found a strong willingness to use non-injecting OPC facilities where they were needed, a need to account for the social nature of non-injecting use and reduce risks of passive inhalation, and positive outcomes for those who used them. Provision supported improved health and safety amongst people who used drugs and reduced public drug use. The quality of the evidence was described as variable.
Ivsins et al. (124) (Scoping review)	To understand and summarise the findings from qualitative studies of people who use drugs in overdose prevention centres	42	From the 42 papers included they found four key shared themes across papers; 1) the influence of OPCs on health and wellbeing; 2) how the physical environment of OPCs can support or prevent their use; 3) the role of social resources; 4) the role of other intersecting forces or identities in the OPC experience. OPCs need to be agile to changing times and trends to support their clients and make it a welcoming space for all who attend.
Kennedy (103) (Systematic review)	To summarise the health and community aspects of OPCs	47	They found OPCs form a core element of the public health continuum of care for people who use drugs and meet their goals of service. The objectives of OPC include reducing harm, overdose morbidity and mortality, and drug related risk behaviour. They connect people with treatment, health, and social services. Other evidence included reducing public drug use and discarded equipment with limited impact on crime. They indicated cost-effectiveness from Vancouver studies. They also called for more research to optimise the effectiveness of OPCs to try and continually improve the service and understand the long-term impact of services.
Kerr et al. (125) (Narrative review)	To understand the role of OPCs in reducing the harm from HIV infection and how care could be optimised amongst people who use drugs	Unclear	They found OPCs can complement HIV/AIDS related services, are effective at reducing HIV transmission, and help people who use drugs improve their health. This was achieved by engaging those who are most at risk of harm, providing education and support, reducing syringe sharing, and promoting treatment services. They recommended including testing for HIV, HIV disease monitoring and treatment, and substitution therapies to enhance the OPC to realise the potential for improving HIV outcomes.

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Kerr et al. (76) (Narrative review)	To understand the Canadian experience of OPCs, how it began, the status in 2017, and recommendations for the future	Unclear	Authors concluded OPCs have been integrated into the continuum of care for people who use drugs in Canada, brought about in part by activism, radical action, research advocacy, and legal challenges. They emphasised the need to amend federal legislation to support OPC expansion where needed and to tackle the increasingly urgent overdose crisis. Although the authors concluded the services had positive impacts, they recommended other advances including peer-run models and services in other settings such as hospitals to maximise the potential of OPCs in Canada to tackle harm and health inequity.
Kryszaitys et al. (70) (Scoping review)	To summarise the literature on feasibility studies planning OPCs and show what service design stakeholders would prefer	26	The studies they included focused on location, hours, and waiting times. Fewer studies reported on security, space allocation for different ways to use drugs, and onsite opioid substitution therapy. People who used drugs preferred a harm-reduction orientation, while other interested parties (not people who used drugs) preferred a treatment goal for a service.
Lange and Bach-Mortensen (126) (Narrative review)	To summarise the perceptions of stakeholders on OPCs	47	Themes identified in this narrative synthesis included increased safety and education for and with OPC users, concerns about facilities including their location and rules of operation, and suggestions for improvement. They also separated out these stakeholder views to those which related to sanctioned, unsanctioned, and not yet developed services. Stakeholders were broadly defined but included people who used drugs, workers in substance use field (including OPC workers), advocates, health professionals, researchers, outreach workers, government and city employees, police, public, emergency services, OPCs, policy makers, businesses, and social services. Those who had first-hand experience of people who have used drugs were more favourable in their views, underscoring the importance of social integration for communities.
Larson et al. (127)	Understand literature on OPCs in relation to overdose deaths, infections, and community harm	Unclear	Literature was summarised to inform models in relation to developing a model of the likely impact of a Philadelphia OPC. They found OPCs reduced overdose deaths and lead to less blood-borne infections, fewer soft-tissue injuries, less discarded injection equipment, less perceived disorder, and cost savings.
Levengood et al. (128) (Systematic review)	To determine the effectiveness of OPC compared to control settings (e.g. areas without OPCs or comparing before and after OPC opening) focusing on community and harm-reduction outcomes	22	OPCs were shown to reduce morbidity and mortality, improve injecting behaviours and harm reduction practices, and improve access to treatment and did not change crime or result in an increase in 'public nuisance' compared to the control areas. They found the strongest evidence in reducing overdose morbidity and mortality and improving access to treatment. It focused only on injecting spaces.

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
MacArthur et al. (129) Review of Reviews	To identify and summarise reviews of the literature on reducing HIV and HCV including OPCs	1 core 6 other reviews	Literature from 2000-2007, with a core paper from Tilson et al. (130) (i.e. found in the search not linked to other papers) suggested there was tentative evidence of reduction in injecting risk behaviour. This was considered tentative as mechanisms of action were not clearly laid out (however, injecting in a sterile environment would automatically confer less risk). The authors found insufficient evidence at this time to support or discount the effectiveness in preventing HCV or HIV from these papers.
Magwood et al. (8) (Review of reviews)	To review interventions including OPCs and others which target those who are homeless and vulnerably housed	3	They summarised findings from three systematic reviews on OPCs (19, 103, 131) and summarised OPCs reduced drug-related deaths and high-risk of harm behaviours in people who were homeless without corresponding increases in harm. They were also found to increase access to healthcare and wider supports.
May (132) (Review of reviews)	To thematically analyse the findings of reviews found in the areas of effectiveness, cost-effectiveness, and summarise key findings	12	This was a review of reviews on the effectiveness of OPCs to prepare for the Advisory Panel on Substance Misuse for the Welsh Government in the UK. It concluded OPCs reduce overdoses, reduce equipment re-use and sharing, increase safer injecting behaviours, and improve access to treatment. The greatest gains in cost-effectiveness are found around HIV and HCV infection reduction. Other benefits include reduced crime, trafficking, public injecting, and discarded equipment. The political challenges in the UK around implementation are noted, with a recommendation that continued evidence for effectiveness particularly around overdoses, drug-related harms, public drug use and discarded equipment, and cost-savings may help convince those who are sceptical.
McNeil and Small (131) (Qualitative meta-synthesis)	To understand the effectiveness of safe environment interventions, which included OPCs amongst other harm-reduction interventions.	29 articles of which 11 were on OPCs	Findings included providing a haven from public drug use settings, reshaping the social and environmental context to enable safer drug use, being an intermediary for resource and healthcare access, and being constrained by legal position and legal enforcement by police.
Monico (133) (Narrative review)	To examine literature on OPCs and understand benefits and challenges of opening an OPC in the United States.	27	The review showed people who inject drugs wanted to use an OPC, particularly those at highest risk of health harm. There was evidence that overdoses could be prevented and/or successful interventions applied. Included studies showed that people who used drugs could improve their safe injecting practice and connect to wider services. They concluded that improvements in quality of life for people with living experience of drug use could benefit the quality of life of others in the USA.

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Pardo et al. (4) (Narrative review)	To summarise the evidence for OPCs	150	They identified several limitations from the literature, including lack of randomised control trials, which is understandable as they are often opened in response to crises not to test a research hypothesis. Natural experiments were commended but noted as rare, based in only Sydney, Vancouver, and Barcelona. They prioritised overdose, drug related litter, and crime as outcomes. They also noted Sydney and Vancouver were the only locations which had comparison groups comparing fatal population level overdoses with comparator areas summarising reductions in overdose for Vancouver, and emergency call outs in Sydney. They also raised questions on the size of the effect of reduced BBV transmission and other harms on OPC attendance as it is influenced by individual heterogeneity and risk practices, and the causal pathways are often unexplored.
Potier et al. (19) (Systematic review)	To summarise evidence of OPC benefits and harms to date	75	They summarised OPCs fulfilled their aims to attract the most marginalised individuals in communities, but noted how rules might exclude those who could benefit. Benefits of OPCs summarised included safer injecting conditions and equipment, overdose management and prevention, education, BBV virus prevention, and referral to other services including treatment. Communities benefit through fewer injections in public spaces and drug related litter, and no enhanced levels of drug use or trafficking. There is the potential for cost savings primarily through prevention of overdose and reduced BBV transmission. They noted the predominance of evidence from Canada and Australia although more facilities exist in Europe.
Schatz and Nougier (3) (Briefing review)	To summarise the background, history, objectives, and evidence for OPC	Unclear	Locations covered by this review include Switzerland, Germany, Netherlands, Australia, Canada, Spain, Luxembourg, and Norway, with helpful service summaries on the location, staffing, rules/ eligibility, services provided, nature of the consumption event and substances used, and outlined the findings and impact of each site. The political and policy challenges in diffusing policy beyond and within these countries is acknowledged, and the authors stress the importance of OPCs to adapt to the evolving needs of their clients.
Semaan et al. (134) (Narrative review)	To understand the public health need for OPCs in the USA and determine ethical and operational factors for implementation	Unclear	OPCs offer a hygienic space, provide sterile equipment, and allow disposal of used equipment. Trained staff provide on-site overdose intervention, support, counselling, and referral to treatment (healthcare or addiction). They can reduce transmission of HIV and viral hepatitis, bacterial infections, and overdose mortality without negative health or social consequences. People who use OPCs get their drugs before arriving at the centre, and may inject in public or inject frequently, or be unknown to other public health programs. The Kass framework which assesses the implications of public health activities illustrated the importance of dialogue between public health providers, law enforcement agencies, representatives of local communities, people who use drugs, and policy makers to implement services that work and are ethically appropriate.

AUTHORS AND TYPE OF REVIEW	AIM	INCLUDED STUDIES	MAIN FINDINGS AND CONCLUSIONS
Speed et al. (135) (Systematic scoping review)	To describe OPC models which incorporate non-injection routes of administration and describe their clients	39	Most of the facilities which permitted non-injection routes including oral, intranasal, and inhalation routes were in Germany, with similar models of care to OPCs who focus on injection spaces. Differences included shorter duration of consumption events and infrastructure differences including ventilated indoor spaces and covered outdoor spaces. Typical clients are males aged over 30 and facing housing instability. The review encouraged those who were running these spaces and evaluating them to describe them in greater detail to support the uptake of alternate routes of administration and facilitate innovation in services.
Tran et al. (136) (Systematic review)	To understand the long-term impact of OPCs five years or longer	4	Studies from Canada and Australia showed they facilitated access to drug treatment or other health service access, reduced use over time, reduced injecting related harms. Community and business owner evidence showed lower public drug use and drug related litter. Calls were made for more long-term research internationally to help strengthen and extend the evidence base of what works.
Vander Laenen et al. (137) (Narrative review)	To explore the context of OPCs as part of a wider feasibility project to inform the Belgian healthcare setting	Unclear	This was a narrative evidence review which explored the context as part of a wider feasibility project in Belgium. The review was one chapter of the report and summarised drug related harms, the nature of harm reduction, what drug consumption rooms are and how they work, their effectiveness, challenges to operation, and the importance of local acceptability. The rest of this extensive and comprehensive document focused on the Belgian context.
Xavier et al. (138) (Scoping review)	To understand stakeholders' opinions of rules and eligibility criteria	19	Criteria used to determine eligibility vary per location and OPC type but can include age, opioid substitution use status, and pregnancy. Behavioural recommendations included handwashing, how drugs were consumed (e.g., injecting, smoking, oral etc), assisted injection, drug sharing, pill injecting, supervision, number of consumption events, time limits, and children. The lowest possible number of rules are recommended to increase the likelihood of the OPC being used by those who need it most. People who use drugs must be centred in the setting of behavioural norms and rules, and in their maintenance over time; however, the role of jurisdiction, legal position, and application processes may reduce the likelihood of OPCs meeting the needs of their clients.
Yoon et al. (139) (Systematic review with thematic synthesis)	Summarised qualitative studies on the sustainability and implementation of OPCs	10	OPCs were described as facilities which could reduce public drug use scenes and support inclusion. They were also seen as places which could develop community relations between those who used the service and other community members and that they could be welcoming spaces for people who use drugs. They recommended additional works which include OPC staff and wider community perspectives particularly on service sustainability.

*Best approximation of report authors

3.2 OPCs are used by people who use drugs

This section reports on studies of who will use an OPC before the service is established, and whether, when a service opens, individuals most at risk attend the service. We cannot realise potential benefits unless **people will use the service when it opens** and continue to attend the service. To maximise the value of the service, **the service should support the rights of and meet the needs of the most marginalised in society who are often not served elsewhere in provision.** An OPC is a very low threshold community service that provides a broad spectrum of services beyond viewing the consumption event.

3.2.1 Willingness to use an OPC before it opens

Many studies suggest that well designed OPCs which meet the needs of communities will be used by people who use drugs. Willingness to use is particularly high amongst those who inject in public spaces, and amongst those most marginalized. OPCs are viewed as a safe haven to reduce risks including violence, police encounters, and stigma.

There is a considerable need for people who use drugs to have space in their communities. In Sydney, 66% of people who last injected in a private place and 83% who last injected in a public place reported being willing to use a OPC (140). Similarly, in Montreal, Canada, 76% of people who injected in public or semi-public places reported willingness to use a OPC if it were established (141). Of 400 people who inject drugs in Australia, 77% said they would use an OPC in Melbourne and thought it could help reduce personal and community harms (72). Those who were unwilling from this cohort described concerns about safety, privacy, and police presence (72). Those who routinely injected publicly were more willing to use an OPC, suggesting a need for space in communities that is not being met. This was echoed in Marseille, where the most vulnerable individuals were willing to attend primarily to use in more hygienic conditions (142). This proportion concurs with findings from Kerr and colleagues (143), with 71% of people who injected cocaine publicly willing to use an OPC if one was available. There is much evidence to suggest those who inject in public spaces are keen to try OPCs when they open.

Some studies have explored other reasons why individuals would use OPCs. In a survey of 602 people who inject drugs in San Francisco, 85% said they would use an OPC, with most suggesting they would use it three or more times per week. Those who would be most likely to use the service were those who injected in public or semi-public settings, and those who used stimulants

and heroin together (92). Park and colleagues in 2019 (85) surveyed 326 opioid users in Boston, Baltimore, and Providence with 77% stating they would use an OPC. Being female, engaging in public injecting, and being a racial minority was associated with increased willingness, and experiencing a prior arrest was associated with decreased willingness to use an OPC. In advance of the Lisbon OPC, there was a high level of willingness to use a mobile service specially those who are socially marginalized and unstably housed (144). In Massachusetts, those attending an inpatient opioid withdrawal management service were more likely to use OPCs if they provided safety from police intervention, supported withdrawal management, supplied sterile equipment, and provided a place to dispose of used equipment (145).

Shaw and colleagues in Ottawa, Canada reported that of 270 individuals who had injected drugs in the past 12 months, 75% said they would use an OPC, and 51% said they would use it daily. Those willing to use an OPC injected more frequently in public (OR(95%CI)=2.0(1.1-3.9)), were HCV positive (OR(95%CI)=2.1(1.2-3.9)), were from the LGBTQ community (OR(95%CI)=5.6(1.3-24.2)), or had experienced an overdose event in the past year (OR(95%CI)=2.0(1.0-3.9)) (146). In Thunder Bay, Ontario, 69% of 200 people who used drugs were willing to use an OPC; of these 64% said they would always or almost always use an OPC and 36% said they would occasionally use it (147). Of 2490 people who use drugs in a respondent driven sample of 11 major cities in Iran found that 53% had a high willingness to use OPCs and 24% had a moderate willingness to use a facility (148). Those with the highest risk both individually and structurally had greatest willingness. This was similar to Klein and colleagues findings from Washington, who also found that those of most risk were more likely to use, with overall 80% of their 377 participants willing to use a facility if one were available (149). Public injecting (aOR(95% CI)=4.2(2.1-8.3)) and being female (aOR(95% CI)=2.4(1.1-5.7)) was positively associated with willingness to use an OPC. Injecting alone (aOR(95% CI)=2.6(1.0-6.6)) was associated with higher intended frequency of use if an OPC was available. Using a similar analysis in London, Ontario, of 197 people who used drugs, 86% would use an OPC. Of these willing to use, they were less likely to be female (aOR(95% CI)=0.3(0.1-0.8)) and more likely to engage in public injecting (aOR(95% CI)=2.8(1.0-7.6)) (150). Scheim noted the core reasons to inject in public were predominantly convenience (70%) and vulnerable housing situation (40%) suggesting the right facility in the right place can make a difference to people who use drugs (151). As such, a range of factors make it more likely people will attend. Those who publicly inject, use alone, are seeking sanctuary or space in the case of vulnerable housing may be particularly likely. There can be gender differences in preferences to attend, and those in marginalised communities are also more likely to seek space at OPCs.

In Scotland, Trayner et al. (152) asked 1469 people with living experience of injecting drugs whether they would use an OPC. Three quarters said that they would (75%), highest in Glasgow city centre (83%), and other city centres. Willingness to use OPCs was positively associated with those injecting heroin (76%), or cocaine (79%), those who were homeless (86%), those who were public injecting (87%), and those who had experienced an overdose (80%). Those with increased risk of overdose (i.e. that had three or more on a cumulative risk variable) were significantly more likely to be interested in attending an OPC compared to those who had zero on the risk variable (85% vs 66% respectively).

This was echoed elsewhere in the UK, Hunt and colleagues (153) found that 84% of 301 intravenous drug users, most of whom were vulnerably housed and reported injecting in the past week, would use a OPC if one were available. Of 90 outpatients in London on a methadone prescription, 89% described a willingness to use a OPC and accepted the need for rules such as compulsory supervision, hand washing, no drug sharing, and no help with injecting Butler et al., 2016 (154). Qualitative exploration in the West Midlands described a strong interest in a well-designed service (82), firstly to save lives in their community, and also because they knew it has worked elsewhere; two quotes were key:

> *"People, my friends would use it...too many of my friends have died...its definitely gone up, I know four people who have died here." (Street-Based Interview 15, Male)*

> *"I've seen on documentaries how they do it in Amsterdam and Germany and Canada. It just makes me think why does our Government not care for us?" (Street-Based Interview 12, Male) pp.44 (82)*

Whilst there is evidence that people would attend a service if provided; others have found this willingness before a service opens often translates to use when it opens. Findings from Vancouver show that willingness to use an OPC predicted later attendance after controlling for other factors such as age and public injection (155). Of those who described a willingness to use the space, there were 72% of people who attended the facility once it had opened, as well as 54% of those who previously described themselves as unwilling to use it. Xavier and colleagues explored the influence of rules and stakeholder views on attendance reporting from six papers included that people were willing to be observed during, and after the injection event (138).

A qualitative synthesis (131) summarised OPCs as a place of safety which reduced the dangers from street-based drug scenes. This included violence and a feeling of safety for both males and females (156, 157). It was considered to reduce a

broader range of everyday threats in the environment associated with injecting drugs in open spaces such as police encounters (157), people disturbing them when using (156, 158) and real or perceived stigma (159). A potential OPC user in Ireland noted it solved a range of issues across the community – Frank, aged 24 stated:

> *"The government and the public, the working-class, middle-class, normal people out there, what they hate to see is junkies on the street, so they must be getting pretty pissed off, so I think it's about time that they did put something there, that we could use." pp.80 (160).*

We also have evidence that individuals would use specific types of service. From the perspective of hospital-based services, around 68% of individuals in hospital would use an OPC for inpatients, to support their retention in the healthcare pathway they were on (161). Cortina et al (162) showed patients were more committed to their healthcare plan when their regular substance use was acknowledged by healthcare personnel and accounted for in treatment plans. There was also willingness for the use of safer smoking provision at OPCs. One study in Canada (163) found that amongst 437 cocaine smokers willingness to use an OPC was associated with having recently injected drugs (OR(95% CI)=1.7(1.1-2.7); equipment taken or broken by police (OR(95% CI)=2.0(1.2-2.9), smoking crack in public spaces (OR(95% CI)=2.5(1.7-3.3), borrowing pipes (OR(95% CI)=2.5(1.9-3.4), and burns/injuries from rushing a smoke in public spaces (OR(95% CI)=4.4(2.7-8.6).

One study looked at reasons individuals stopped attending OPCs (164). The predominant reasons were cessation of drug use or wanting to inject in their own home. This study acknowledges that OPC users do not use the service for life, but that the most vulnerable groups in society are typically happy to use the service (see Section 4.1.2 for more information). This concurs with the predominant reasons for not wanting to use an OPC; the preference for using at home (64%) or wishing to cease drug use (14%)(143).

3.2.2 Use of OPCs by people who use drugs at the highest risk of harm

Harms facing people who use drugs are wide ranging and are influenced by many factors e.g. individual, physical, social, legal/policy, economic, and global factors. Typically, those who use OPCs are male, older, with long drug use histories, vulnerable housing and/or engaging in higher risk behaviours. They play a crucial role in harm reduction and community support in those at highest risk of harm.

Influences on whether someone experiences harm are shaped by physical, social, legal/policy, treatment, economic, and global environments at the macro, meso,

and micro levels (97, 98, 165). OPCs can provide safety and sanctuary from some of the harms and seek to reduce the impact of some others. Lack of high-quality support and advice, voluntary treatment which meets the needs of the person seeking treatment, supportive and sustainable housing, and enough money to meet the basic hierarchy of needs are structural and political factors which can change outcomes for individuals who use drugs.

We acknowledge the impact of poverty and lack of resource in blocking sustainable and long-term pathways to health and wellbeing (166). Goodhew echoed this (167). In their study of 50 regular clients of the Sydney Medically Supervised Injecting Centre, 82% reported a mental health diagnosis, and nearly all had experienced multiple traumatic experiences both systemic and at an individual level.

Injection can carry an increased risk of human immunodeficiency virus (HIV), hepatitis C, and overdose compared to those consuming drugs through other routes (168). Risks aligned with other methods of consumption include the sharing of equipment such as pipes, and although overdose risk may be lesser, there are still overdose risks from inhalation, intranasal, oral, and other routes of use. Drug contaminants from illegal supply also add additional complications that cannot be eliminated without decriminalisation (169). Being a person at risk of harm is not caused by individual factors alone, and that a more equal society could ease the size of the group of individuals who are 'at risk'.

Several reviews summarise who uses OPC services. There are some similarities at sites, and some unique characteristics in certain locations. Synthesising 14 articles, Potier et al. (19) summarised clients as those aged between 30-35 years of age, mostly male, and most experiencing housing insecurity. Sex work was also reported to be characteristic of between 10-39% of OPC attendees (19). Levengood et al. (128) summarised most were between 36-39 years, with a range of 66-75% male, and a quarter experiencing homelessness. Those who used OPCs in the Netherlands were typically disconnected with traditional 'treatment' services but happy to

engage with OPCs regularly in Amsterdam and Rotterdam (170). They found it to be a place of safety, for social interaction, and to avoid interaction with the police.

Bravo and colleagues (171) found those who used OPCs in Madrid and Barcelona had fewer structural or personal resources available to them than those who did not use the OPC. Vulnerable housing situations predominated (62). This is echoed in repeated bulletins in Melbourne e.g. (172). A comparison of those in the SuperMix cohort, found those who use the OPC were more socially vulnerable, homeless, engaged in risky drug behaviours, were in poorer health, and lived close to facilities (173). Similarly, those using OPCs were more often regular injectors who used weekly or more often compared to sporadic users (OR(95% CI)=4.9(2.7-8.8))(171). In Germany, there was a high proportion of criminal history, public injecting, equipment sharing, vulnerable housing, history of blood-borne infections, and history of sex work amongst those who attended an OPC as part of a primary healthcare facility (50). Canadian findings agree. In the Insite facility in Canada, clients attending the OPC from a wider cohort of 400 people who inject drugs were significantly more likely to report prior public use of drugs (OR(95% CI)=2.6(1.7-3.9)), vulnerable housing (OR(95% CI)=1.7(1.2-2.7)), daily heroin (OR(95% CI)=2.1(1.3-3.2)) or cocaine use (OR(95% CI)=1.6(1.1-2.5)), and to have experienced an overdose event recently (OR(95% CI)=2.7(1.2-6.1)) (174). Those at a facility in Germany had been using drugs for around 11 years (175). Tyndall and colleagues (176), in their study of 1035 individuals enrolled in a prospective cohort study who attended the OPC in Vancouver, Canada, found 17% of their participants were HIV positive. They stressed the importance of the OPC to connect individuals with appropriate HIV treatment. Dubois-Arber and colleagues (177) created profiles of those who used a low threshold facility in Switzerland of 1) standard clients, 2) heroin-orientated clients, 3) high cocaine consumption clients, 4) 1-day clients, and 5) newcomers. Each group had characteristics of substance use frequency, amount, type, and wider needs illustrating that the OPC needs to be agile and cater to a diversity of clients and their needs.

Studies focusing on younger individuals also show that young people at highest risk of harm will use an OPC. A study in Vancouver focusing on those 29 years

old and younger stated that those who had used the OPC were more likely to be vulnerably housed or homeless, public injecting, engaging in equipment and needle sharing, with greater likelihood of bingeing use, daily heroin use, and a history with the criminal legal system. Thus, those who used the OPC were amongst the highest risk of drug-related harm (178). A later Canadian study of a prospective cohort of at-risk street youth showed that high-frequency young drug users, most at risk of harms including infections and overdose, aged between 14 and 26 years old were willing to, or currently used the OPC (179). This was similar to a cohort of 395 people who are HIV positive in Vancouver. Those who used the OPC more regularly were more likely to be high-risk users, characterised as those who inject cocaine and/or heroin daily, be vulnerably housed, and to have experienced overdose events (180). Reddon et al. (180) considered OPC use could be enhanced by providing additional services to support people with HIV. One study of 31 young people who inject drugs noted that 87% would use an OPC in the USA, with 100% of those who injected daily willing to use a facility (91).

(50) investigated those attending an OPC in a primary care facility, and whether it could attract those typically underserved in local communities of Germany. Of the 129 individuals interviewed, 90% had some experience of drug treatment. On average, they had been using opioids for over 10 years, 22% shared injecting equipment, 53% used non-sterile equipment, 43% reported issues with stable housing, and 53% had consumed drugs outdoors. The type of OPC may lead to slight variations in use (45).

Those who use OPCs do so for a range of reasons. When resources are provided over time, and individuals are getting their needs met, service use tends to be sustained. Data trends from Frankfurt services showed a consistent number of drug consumption room users over time, not necessarily the same individuals. A consistent throughput of between 4000-5000 users annually showed consistency in meeting the needs of the clients from 2003 to 2019 across four services (181).

In summarising the clientele of several European OPCs, Peacey showed clients were an ageing cohort with extensive histories of vulnerable housing (170). They noted some of the main reasons to attend were to find a place of safety, somewhere to avoid police, and to provide important social interaction opportunities. Later work by Kerman and colleagues (182) and Oudshoorn et al. (183) also noted the that OPCs provide essential social connectedness and community. Even those in stable long-term housing often used the service to keep in contact with peers. A Toronto unsanctioned OPC described broad benefits of OPCs; that a range of crucial and immediate needs were being met. Their clients identified shelter, protection from violence, reduced overdose, ease

of access to hygienic equipment, food, connection with others, and links to health services as important and needed services provided on site (64).

Those who might be at elevated risk of harm may have potentially avoidable reasons they do not attend the service or only attend a service occasionally. In their interviews with 75 people who used drugs (81) wait times, time limits in the consumption area, restriction on injecting help, and client bans as operational barriers, and unnecessary use of naloxone and police surveillance as contextualisation barriers. Service co-design with potential or actual clients can help overcome these barriers, which may prevent access or lead to intermittent access (see section 4).

Whilst there may be the aim to record all consumption events at a location, it is not always possible to capture all (9, 178, 181). In these instances, it is likely that data collection is incomplete, deprioritised to make space for service provision. Percentages of who might use an OPC are indicative rather than absolute figures of use characteristics.

3.3 OPCs can prevent or manage overdose events

One of the core reasons for OPCs is to prevent fatal overdose. They do this by observing drug use and supporting people to manage overdose risks before, during, and after the consumption event.

The opening of the OPC in Vancouver was followed by a decrease of 35% in overdose events leading to death in the 500m near the OPC; this was a reduction from 254 to 165 deaths per person years between the years of 2001-2003 until the facility opened, and 2003-2005 during early operation (184). As there can be multiple factors at play during 'natural experiments', the sample catchment area was compared to other areas of Vancouver. There was only a nine percent decrease elsewhere in the city representing a 26% net reduction in the area around the OPC. Potier et al. (19) in their 2014 review, also noted in Vancouver, there were significantly more overdose episodes before the OPC opened than after (OR(95%CI)=2.7(1.2-6.1)), and a greater frequency of daily drug injection of heroin (2.1(1.3-3.2); cocaine (1.6(1.1-2.5)); and of public injecting (OR(95%CI)=2.6(1.7-63.9)) before compared to after opening. In France (185), of 665 people who are and are not using the OPC, those who attended OPCs were less likely to experience non-fatal overdose events. In an evaluation of temporary OPCs in Canada (186), staff described the value of being able to prevent overdose events. This included physical stimulation when someone is 'nodding' or using an oximeter to detect lowering levels of oxygen in the blood and intervening if

they dropped. This provided the opportunity to intervene sometimes without naloxone being required. Some have found that drug deaths did not change, and sometimes increased in Alberta; however, most of these deaths occurred alone within private residences (187).

Milloy and colleagues (188) found that OPCs did not increase the likelihood of recent past six-month non-fatal overdose experience. In addition, an exploration of 453 potentially fatal overdoses between 2004-2008, so defined as requiring naloxone administration, 911 call, or an ambulance, revealed between 2-12 averted deaths per year attributed to an OPC (189). This was illustrative of between 8-51 deaths during the study period had they occurred outside the OPC, or equivalent to between 6-37% of the overdose mortality burden during the study period.

It is often stated no individuals have died in an OPC worldwide despite millions of consumption events; however, there are three deaths recorded in OPCs none of which are due to overdose. One individual died in an OPC in Berlin in 2015, but this was not because of an overdose event (190). One died in Germany from anaphylactic shock, again not an overdose (54). Finally, one death was reported in the Netherlands in a locked toilet out of the range of OPC staff supervision. A formal investigation stated the OPC was not responsible for this death (191, 192). It would remain appropriate based on the literature to state no-one has died from an overdose in an OPC.

Rates of overdose per injection can vary between OPCs. In Melbourne over 18 months, there were 116,802 injections supervised and 2657 overdose events successfully managed, approximately one overdose for every 44 injections supervised or 22 per 1000 injections (193). Rates in a Canadian OPC were approximately 1.3 overdoses per 1000 injections, with a predominance of overdoses associated with heroin (70%) (194). Of these, 60% were managed without the need for external support, and naloxone was used in around 30%. In Sydney's Medically Supervised Injecting Centre (MSIC), there were 56861 episodes of use in an 18 month period by 3747 clients and 409 overdose events, so resulting in a rate of 7.2 overdoses per 1000

episodes of use (195). Of these overdose events 80% were associated with heroin use, 15% with cocaine, and 5% with other drugs. Of the heroin overdoses 25% required naloxone intervention. Risk factors of overdoses occurring at the facility included history of prior overdose, primary drug being heroin, experience of sex work, frequent attendance, and the other option for use being a public setting. Being in methadone maintenance treatment and a daily injector at registration were protective against use being an overdose event. A later study exploring the severity of overdose experience suggested that the OPC could reduce the severity of events by intervening early (196).

Glasgow's unsanctioned facility was somewhere in between these figures with one overdose event in every 99 recorded injections or 8 per 1000 injections (9), seven involving opioids and two involving cocaine. Two involved an ambulance call out, one of which was cancelled by agreement with the emergency service operator. During the first two months of OPC operation in OnPointNYC, there were almost 6,000 uses of the site by 613 individuals, and 125 overdose interventions a rate of 20.9 per 1000 uses of the site. Trained staff responded to opioid-involved symptoms of overdose, administering naloxone 19 times and oxygen 35 times, and monitoring respiration or blood oxygen levels 26 times. There were 45 stimulant-involved overdose interventions, providing needed hydration, cooling, and de-escalation. All overdoses were successfully treated on site with no fatalities (197).

It is difficult to understand and estimate the proportion of overdose events treated in OPCs that would definitively have resulted in death and thus estimate with accuracy deaths prevented. Not all overdoses have been treated in OPCs would have resulted in death, but many would. The precise ratio of overdoses treated to deaths averted is complex to calculate, as different services and staff members, despite training, will have different thresholds at which they decide to intervene in an overdose. Some indication is given by German data. In the 12 OPCs in North Rhine Westphalia, among a reported total of about 75,000 users of these services between 2001 and 2009, 3,271 drug emergencies were treated. In 710 cases, it was reported that an immediate death was averted by resuscitation measures (198).

OPCs can also influence the severity of an overdose event; in particular, OPCs can reduce ambulance call outs and save time and money in healthcare budgets. In Australia, Salmon and colleagues (107) reported on 20,409 ambulance attendances at opioid-related overdoses in the 36 months prior to the opening of the Sydney OPC, and the 60 months after it opened. Following the opening of the Sydney MSIC, there was a 68% decrease in the average monthly number

of ambulance attendances in the area near the Sydney OPC which was greater than that in the rest of the New South Wales areas surveyed (61%) – this was a statistically significant difference (X2(1)=9.5; p=.002). During operating hours, there was a 80% decrease in average number of monthly ambulance attendances in the immediate area around the OPC compared to 60% decrease in the rest of New South Wales (60%). Again this was statistically significant (X2(1)=68.0; p<.001). Evidence from Norway illustrated from 1054 opioid overdoses collected in 2014-2015, fewer OPC located overdoses required hospital treatment compared with other locations (public locations and private homes) despite similar scores on the Glasgow Coma Scale; most (85.6%) did not require ambulance transport at the OPC (199). Those that overdosed in public locations (OR(95% CI)=1.7(1.2-2.4)), and when the facility was closed (OR(95% CI)=1.4(1.0-1.9)) were significantly more likely to receive transport for further treatment at the hospital. The savings were also illustrated in hospital data. One Vancouver service followed up those who had experienced an OD in the OPC over five years using their hospital records (n=767; data on n=763) (200) All were treated with oxygen or ventilation, with 93% involving naloxone administration, none required chest compressions on scene. Of these events, only 25% were transported to hospital, 2% needed additional naloxone, 1 person was admitted, and 16 developed complications.

Scheim et al. (201) studied whether OPCs led to risk compensation, i.e. that individuals would use in a more risky fashion knowing that there would be people at the facility who could intervene in an overdose event (otherwise known as 'moral hazard'(202)). There was no significant difference between the prevalence of overdose events and the frequency of visits to the OPC suggesting no significant risk compensation. Several debates have occurred around naloxone availability and if it increases the chances of people engaging in higher-risk behaviour, for more information, see (202-205). There is no evidence currently that suggests this is true for OPCs which administer naloxone during opioid-involved overdose events.

At least one other person needs to be around at the time of the overdose to administer overdose support. It is a bystander intervention, requiring other people to be present (206). That connection with others is important to OPC users. A case study describes an individual who died from an overdose in Boston in an alleyway who was previously at services requesting someone to use with (207).

One additional critique of OPCs is that we do not necessarily know if they reduce overdose rates. An exploration of overdose rates in Canada illustrated highest risk in those who use heroin alone, or with other drugs; and that illicit fentanyl and adulterated supplies from an unregulated drug supply have increased the

risk and severity of life-threatening overdose events (208). Those who suspected or knew their substances contained fentanyl were more likely to inject alone according to one Canadian study suggesting the need for advice to help prevent and manage overdose events (209). Frequent OPC use is associated with a lower risk of death whilst controlling for other factors (210).

3.4 OPCs improve health and support access to treatment

OPCs improve health in several ways. They link service users to a range of supports including primary care, hospital care, and drug treatment options through integrated facilities, or links to other services from fixed, mobile, or tent sites. Another key role is facilitating access to healthcare equipment, the provision of practical advice, conversations, and mutual support.

Facilitators of improved access to treatment include frequency of use and strong partnerships between staff and service users. Barriers include lack of support options, and where people seek help, but services cannot or will not be able to meet the need requested.

3.4.1 OPCs support treatment access

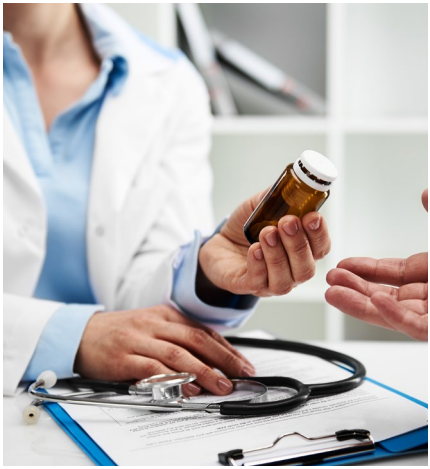
OPCs facilitate access to wider healthcare services including counselling, medical or nursing care, and addiction treatment including detoxification and opioid substitution therapies. They often improve awareness of various services and help reduce stigma and barriers to treatment access. These may be in integrated OPC settings, or through links to wider networks of services beyond the OPC.

Reviews and individual studies evidence that OPCs can facilitate access to a range of drug treatment options. In five studies in the Potier et al. review (19), from Sydney and Vancouver, there was an increase in referral to addiction treatment, initiation of detoxification treatment, and initiation of opiate substitution therapy (e.g. methadone). In Vancouver OPCs, 18% engaged in a detox programme, 57% engaged in an addiction treatment modality and 23% ceased injecting drugs altogether (211, 212). Between March 2004 and April 2005, of the 800 quarterly referrals about 40% were for addiction treatment (194). Those who attended the OPC more frequently were more likely to receive a referral and 16% had confirmed treatment uptake (213).

There are also gains in wellbeing which can lead to better prioritisation of health in people who use drugs. In a focus group in Ghent, one person who uses drugs emphasised the importance of OPCs to improve health in those who are not

connected to services. They stated:

> *"To connect with people who are not yet reached by existing services; the threshold for some people who use drugs is still too high, and these hard-to-reach users may come to such a drug consumption room. And if there's, besides using their drugs in a safe and controlled setting, additionally the opportunity to have a conversation or make use of social of medical services... For this group, such support would be extremely useful." (IV9) pp. 134 (137)*



The frequency and duration of OPC use appears to facilitate treatment engagement (211). One study in Catalonia reported 82% of frequent OPC users; 66% medium frequency users, and 55% low frequency users accessed drug dependence healthcare services in the prior six months ($p < 0{\cdot}001$) (214). Those who attended an OPC once or more frequently per week were more likely to enter detoxification services or use the addiction counselling support at the facility (215). Weekly OPC use was associated with higher likelihood of rapid entry to detoxification services (212). Of 3715 people who inject drugs, those who attended the OPC more frequently, who had written health referrals, written psychosocial health referrals, had used heroin, and completed high school were more likely to receive a referral to drug treatment (216). Those who were more likely to take up the treatment were daily injectors or who had recently engaged in sex work; those with mental health issues or history of self-harm were less likely to take up the treatment offered at the time of survey.

Frequency and duration of OPC use also appears facilitative of other treatment engagement. Zurhold et al., (217) in a study of 616 users of OPCs in Germany noted that frequency of use of the OPC was significantly associated with greater use of counselling (46% compared to 35%) and medical services (37% compared to 29%) compared to occasional/rare visitors of the facility. One Vancouver study found that after three months of engagement, service users have up to a 30% increased chance of accessing drug treatment services (184). OPCs also facilitate connections with counselling, medication assisted treatment, and withdrawal management services (218, 219) and increased access to auxiliary services (220-

222). In Melbourne, just less than a quarter were interested in alcohol and drug treatment and a third of clients seek support for other health services (193).

Lloyd-Smith and colleagues (223) explored use of injection-related skin infection healthcare, both at the OPC and when referred on to hospital. Around 27% received support at the OPC. A later study, (224) demonstrated that when a nurse referred individuals to the OPC for skin-related infections, this resulted in a shorter stay and used less hospital resources. OPCs can also improve access to primary care. Folch et al. (214) demonstrated the frequency of attendance at OPCs improves access to primary care, with 54% of the most frequent OPC attendees accessing primary care in the previous six months compared to medium (46%) and low attendees (35%). This was significant (p=.01).

Other factors facilitating access to treatment included support at the OPC. Whether the addiction counsellor in the OPC e.g. (211), or simply someone who could speak to an individual having a difficult day on site, conversational support was an important indicator of success for OPC clients (225). Staff in OPCs build bridges and liaise with outside staff to facilitate access to healthcare outside facilities (55). Toth et al. (226) found that those advised to seek help by one of five OPCs in Denmark were significantly more likely to do so than those not advised (51%-26%). Small et al. explain how the support can enhance health; they note those who use OPCs may have less knowledge of what services to access or how to access them, less resource to afford healthcare, experience long wait times, fear judgement or stigma, and/or have less time to identify and seek needed services (225).

OPC clients report how service provider attitudes of genuine concern, care, tailored services, efficient delivery or referral pathway, and non-judgemental support facilitate engagement (227). Qualitative work showed service users perceive nursing staff at OPCs as less judgemental, more experienced with intravenous drug use, and less discriminatory than staff in conventional care settings, facilitating connection with health services for those who need it (228). Familiarity with healthcare needs affecting those who use drugs can also enhance care provision and wider uptake of referred treatment options (225).

Integrated services can also be helpful in facilitating treatment access. Of fifty people interviewed who injected drugs at a Vancouver OPC (225), 44% used medical care at the site, and 94% used other non-medical services at the facility with one quarter stating they would not have accessed the services at the OPC had they not been available. Integrating services was valuable ***"It's great that they've got everything there, y'know?"*** (pp.343) and this facilitated timely access to treatments, even those not associated with substance use:

> *"Yeah, cervical cancer, and I didn't know that I was ill, y' know, until then. . . They brought me there [the hospital]... they [SIF staff] have the means to take care of all that, right? On the street, I didn't." pp.343 (225)*

Central to this was non-judgemental treatment:

> *"Cause I'm not judged and I'm not mocked for what I am. It's like, they open their doors to you. 'Come on in.' Whereas other people shut the doors." pp.343 (225)*

There was also strong recognition from stakeholders that a key function of an OPC is to reach individuals who are not being reached by services already:

> *"But we estimate that they can reach like 50 to 60% of injecting drug users in Finland." pp.5 (229)*

They also found this in the New York service. More than half of those using the OPC service (52.5%) received additional support during their visit including counselling, hepatitis C testing, medical care, holistic services such as auricular acupuncture, and naloxone distribution (197). In an HIV/AIDS centre in Vancouver, a qualitative study found that integrating OPC services into the facility mediated access to palliative and other healthcare services (51). The benefits included the open discussion of comprehensive health concerns and led to improved healthcare, medication adherence, and survival. Comprehensive integration of services (even if not in an integrated facility) seems to optimise the public health improvement (230). In Canada, amongst those enrolling in detoxification services, factors associated with the use of this service included residence fewer than five blocks from the service, enrolment in methadone maintenance therapy, public injection, binge injection, recent overdose, and regular OPC use (218).

Barriers to access to treatment identified at OPCs noted waiting lists as key. Other associated factors included recent imprisonment, daily heroin use, and reusing equipment (231). There was also some caution as those from Aboriginal ancestry were less likely to seek treatment (211). This suggests the importance of equity in healthcare planning and provision, and the need for multi-strategy efforts to reach diverse groups (232).

OPCs can also allow drug checking which may contribute to overdose prevention, given that a study of 1,714 samples in Vancouver found that only 18% contained the substance expected and many included contaminants such as fentanyl (233). Drug testing supports knowledge about the drug supply in each area to support public health and legal responses (227, 233). Betsos et al. (234), through ethnographic and qualitative interviews describe the co-production of knowledge

on harms that can occur through drug checking and how this can improve harm reduction practices. These forms of harm reduction techniques can facilitate the possibility, ability, and motivation to engage with treatment or positive change by meeting people where they are at, and tailoring the support as it matches their lived reality of unsafe drug supply (235). Nielsen and colleagues discuss rapid checking methods suited to OPC operations using examples from Australia (236).

There are a range of other health outcomes which may arise through improved trust in healthcare following discrimination and stigmatization (89). A qualitative study with 21 interviews explored the social determinants of health in relation to OPCs. They concluded OPCs are a bridge to build links with wider health systems, and played a crucial function in reducing homelessness and improving quality of life of people who use drugs (182). In Rotterdam, those using the OPC services reported more time and rest (67%), better attention to hygiene (49%), and more attention to physical health (30%) (96). Other improved health outcomes include the association of OPC use with an 8% increase in condom use during intercourse amongst 1090 people who inject drugs in Vancouver (8% in 2 years) (237). Injection related infection care in OPC users captured in a Vancouver cohort study showed that 27% accessed care for injection-related cutaneous lesions: most likely females, those in unstable housing, and those injecting heroin daily (223). Salmon and colleagues studied injecting related injury prevalence amongst 9552 people who inject drugs in the Sydney OPC (238). They found the lifetime prevalence of injection related injury or disease to be around 29% in an individuals' lifetime, most commonly difficulties finding a vein (18%), scarring or bruising (14%), swelling in hands or feet (7%), abscesses (6%), thrombosis (4%), septicaemia (2%), and or endocarditis (1%). In France (185), it was noted of 665 people who use drugs that those who attended OPCs were less likely to report abscesses compared to those who did not attend an OPC (adjusted r(95% CI)= -0.7(-1.1 to -0.4)).

3.4.2 OPCs support safer use practices

The advice and support function of an OPC can help individuals who may not be accessing other services at all, or accessing services which may not fulfil all their needs. The provision of advice from those who understand the realities of drug use can be an important driver of health.

Individuals who use OPCs who took part in qualitative interviews noted they had significant gaps in their knowledge of safer injecting practice, which affected their health; however, over time, OPC clients could adopt and learn safer practices (239). Similarly, the provision of high-quality sterile equipment, such as needles, syringes, swabs, sterile water, and other paraphernalia can reduce skin and soft-

tissue injury and infection, and the prevalence of blood-borne viruses. Reusing or sharing equipment (sometimes called 'works') can increase health risks and long-term damage. In addition, most equipment is single use by design. Multiple uses of single use items can damage the equipment, tear skin, and damage veins. Regular OPC use was linked to more frequent requests for education and support on how to inject more safely (aOR(95% CI)=1.5 (1.2-1.8))(240). This was also found in a US site; those who used an OPC in the past month had lower rates of syringe sharing and injecting in an isolated location (241). Sites host other harm reduction strategies such as take-home naloxone distribution or other injecting advice (242). People who use drugs can have gaps in knowledge on some harm reduction practices; as Fast and colleagues have described (239), there are advantages of education at the time of drug use when the harm is most acute. OPCs can be there to reduce health and wellbeing risks through education and tailored support.

3.4.2.1 Injecting

Syringe sharing can be the result of urgent realities of the need to use drugs and avoid withdrawal states or other negative consequences, and/or the lack of availability of suitable or timely equipment. Co-locating needle, syringe, or other equipment services where drugs are used with high quality advice and support can reduce the need for sharing. Potier et al. (19) summarised evidence on syringe sharing noting significant changes before and after an OPC opened. For example, syringe sharing was more common before the OPC opened in Vancouver (OR(95%CI)= 2.1 (1.5-3.1)) than following the OPC opening (219). Data from Vancouver and Sydney comparing before the OPC opened to after also revealed a reduction in regular sharing of syringe equipment (aOR(95% CI)= 0.3(0.1-0.8)) (243) and syringe reuse after the service was opened (aOR(95% CI)=2.0 (1.4-3.0)) (178). In a Vancouver cohort, around 10% of individuals who were HIV-negative engaged in syringe sharing, compared to around 17% of those who were HIV-positive (244). Those who used the OPC did not share syringes (e.g. 0%) and this did not differ by HIV status.

Attendance at the OPC in Copenhagen also reduced the likelihood of disposing of used equipment in harmful ways, e.g. dropping them on the ground, or giving them to another person (245). Before the OPC opened, 14 of 41 participants said they would return the syringe to a needle exchange after injecting, and after attendance at the OPC, this number increased to 36 of 41. These changes occurred with no significant increase in the frequency of injecting. A Spanish study found that the use of a OPC was associated with a reduction in sharing

some equipment, mostly syringes. However, indirect sharing behaviour – such as sharing cookers, filters, cleaning liquid and swabs – was still common, and people who used drugs showed resistance to reducing this, as they did not yet see it as a risk of the transmission of blood-borne infections (171). This highlights the importance of comprehensive education and support at an OPC to illustrate all the risks, not just those most known.

The above studies examined use of OPCs between those who used or did not use the OPC. However, there is also a relationship between equipment reuse or sharing and how often an OPC is used. Milloy and Wood (231) in their meta-analysis noted a significant decrease of syringe sharing amongst those who frequently used OPCs (pooled estimate=0.3 (95% CI=0.2-0.6). This corresponded to a reduction of 69%. Those who attended more regularly are also more engaged in safer use practices, e.g. 12% frequent attendees share needles or syringes in one Spanish centre, compared to 30% of those who attended less regularly. This difference was significant p<.001 (214). A statistically significant positive association was found between those who use who frequently use the OPC and reductions in needle and equipment sharing or re-use (171, 178, 214, 243). Additional studies found fewer instances of sharing or re-use amongst all who used the OPC but no significant difference between regular users compared to those who used less regularly (214, 223).

A qualitative review by McNeil and Small (131) considered OPCs could change social and physical settings to support safer injecting practices. These included some control over the injection process, including both time and space to inject and a removal of social, structural, and spatial barriers to safer injecting (156, 158, 159). From Kinnard and colleagues (245), three-quarters of the 41 interviewees in Denmark reported fewer injection risk behaviours, including taking more time over injections (63%) and cleaning injection sites before injecting more often (44%). As an example from Krüsi (159) one participant who had a long history of injection learned new skills and valued the provision of swabs to improve hygienic injection practices. OPCs, with their safer, sterile environments, can play an important role in reducing the transmission of blood-borne infections including HIV and Hepatitis C through sterile equipment provision (157).

3.4.2.2 Other routes

Typically, injection, ingestion, and nasal inhalation are the sole permitted modes of use in OPCs, but some facilities allow for supervised smoking where it can be safely accommodated in facilities (246). This can also facilitate less risky use of substances (168) and moving individuals down the risk continuum (247). There is evidence those who might use safer smoking services can represent some of the most structurally vulnerable individuals, with evidence gathered in preparing the first smoking facility in Canada showing those engaged in equipment sharing and sex work were significantly more likely to use a smoking service (248). Cortina and colleagues found factors associated with willingness to use an inhalation room as part of a hospital based OPC included a wish to remain connected with healthcare (162). McNeil and colleagues explored the needs of individuals who used an unsanctioned OPC designed specifically for safer smoking (249). The primary driver for use was to minimise exposure to policing, drug violence, and stigma in public settings, and to support safer use practice through the supportive environment and provision of crack-pipes and other supports.

Speed et al. (135) identified 28 articles reporting on 48 specific overdose prevention centres which supervised non-injecting routes of administration. Of those, 98% allowed inhalation, 94% injection and 25% intranasal. None permitted oral consumption. These were located across Germany (n=34), Netherlands (n=5), Canada (n=4), Denmark (n=3), Luxembourg (n=1), and Australia (n=1). Most were sanctioned sites, with five unsanctioned, and one for which the status was unknown. Those using sites which included alternate routes were most often male, over 30, and structurally vulnerable through living in unstable housing or experiencing homelessness. However, this is similar to general OPC clients (see Section 3.2.2).

Where these facilities are provided there may be outdoor areas, ventilated rooms, and other alternate layouts to facilitate consumption and maintain compliance with smoking legislation in a country. Researchers have noted time limits may be placed on clients who inject, but lower preparation time required for other administrative routes may allow for an efficient throughput of clients (see section 5.4). Indeed, Speed and colleagues' review notes non-injection routes required little in the way of increased resource to operate the service alongside the injecting facility (135). Physical infrastructure may be the primary challenge, including ventilation arrangements and space to comply with smoking legislation.

3.4.3 OPCs do not increase drug use

Studies from around the world have illustrated that drug use does not increase following the opening of an OPC. Rules typically prohibit first time drug use; instead, individuals are provided with support from staff. These are harm reduction facilities, for which the aim is not necessarily abstinence, however, those who wish to achieve this would be supported through referral to the necessary supports.

Two studies by Kerr et al (250, 251) illustrated no increase in the number of people who injected drugs, and no decrease in the number starting methadone therapy in 25 months following the opening of the OPC in Vancouver. Relapse rates, or use in those who were not currently injecting did not change between before and after OPC opening (250). There is no evidence in Vancouver that the OPC promoted relapse to drug use. There are some concerns that providing a safer environment may increase the likelihood of riskier drug use patterns (252). However, binge drug use considerably reduced in a study based in Vancouver comparing use patterns before and after the OPC opened (250).

Rules for OPCs across the world prohibit the first injection of drugs at the service; services are attuned to supporting those who are already injecting (16). Those who would turn up for this purpose would be supported; however, first use would not be facilitated. Those who use OPCs internationally typically are regular users of heroin or cocaine (2). Folch and colleagues (214, 253) found that frequent attendees had been injecting for around 19 years, with medium and low frequency attendees injecting for 15 years on average. Only one injection at an OPC amongst 1065 clients was considered to potentially be a first injection (251). In this study Kerr and colleagues asked the age of first use and the current age to determine the potential of a first injection on site (considering that social desirability may lead to denial).

A European report found no evidence of increased or riskier drug use at OPCs and no evidence of increased death (54). Drug dependence is not a simple matter of willpower. There are structural brain changes and disruption of neural pathways, including executive function, decision making and learning. This complex interaction with psychosocial factors can maintain use (168). There is no evidence that OPCs lead to the initiation of drug use or promote riskier drug use (2). One criticism is that OPCs prolong drug use careers (254). However, keeping people alive is the intention, those who die cannot be supported (255), and OPCs have an evidence base supporting their role in getting some into treatment (136). OPCs by design do not aim for abstinence, rather they aim to support individuals where they are currently at and provide healthcare. For more information on risk aligned with overdose events see 4.2.1

Some compare OPCs with public houses as somewhere you go to use substances. Whilst both spaces provide regulated environments to engage in substance use with peers and professionals, and intervene with unwanted or severe intoxication, authors such as Unlu et al. (229, 256) suggest this comparison should be avoided as the latter are healthcare facilities, whereas public houses or nightclubs are not. Similarly, drugs are not available for sale at OPCs compared to regulated alcohol supply at public houses.

Several researchers e.g., (257-261) highlight the significance of space, embodiment and practice in understanding pleasure and how it relates to public health framings. When considering OPCs, Duncan and colleagues question how the immediate environment (clinical/sterile, time/space limits, sound, sociality, etc) influences the drug consumption process (259). They also explored how the biomedical, neoliberal logics of risk reduction and personal responsibility within the OPC may affect clients' agency, capacity, and desire to access harm reduction services. For example, the drug user becomes acceptable by accessing an OPC and adhering to safer injecting practices. Offering a critical analysis to Vancouver OPCs, Fischer stated:

> *"Despite their positioning as progressive programmes for the urban poor, drug consumption room design appears strongly shaped by the interests and sensitivities of those who provide them and perhaps less so by the needs of those who use them." pp.360 (262)*

In this line of argumentation, these authors suggest OPCs are not passive spaces but in fact play a critical role in shaping the embodied drug use experience and practices of their clients. The overt narratives as described by Zajdow (263) are caring and humanitarian, elimination of public nuisance, the governance of the drug-using person, and the neo-liberal, utilitarian, and bureaucratic. They (and others) propose to engage with both the realities and needs of people who may access OPCs, pleasure should be considered and facilitated in the design, governance, and implementation of OPCs (264). Shorter (27) argues centralising the service user voice and empowerment models emphasise improved quality of life for people who use drugs. By investing in people and the experience, we can maximise social (and health) return on investment (265).

3.5 OPCs improve communities

OPCs have established practical benefits for health and communities. They do this in several ways:

- **Creating space for people who use drugs,**

- **Reducing public drug use and reducing drug related litter,**
- **Building partnerships in their communities,**
- **Impacting on crime and criminal legal systems,**
- **Reducing overdoses in community settings.**

3.5.1 Creating space for people who use drugs

Often linked to or near health and social care centres, OPCs are effective spaces for engaging marginalised and vulnerable members of the community with additional housing, health, and drug treatment services.

OPCs can be a community hub to support individuals in finding place in their community and providing access to a range of services (266, 267). They are more effective if they are located where there is a high level of drug use. They can move this away from public settings and into supervised health settings, limiting the occurrence of public injecting around businesses and homes (268). A lack of space or place has a strong influence on drug related harm (269).

As an OPC opens, and the space is used, there may be initial discussions and friction between communities and the OPC. As case studies in Denmark and France illustrated, we can avoid or address these through partnership between wider authorities, relevant community consultation before and after opening, and OPC staff and clients. The result is harmonious cohabitation of inclusive spaces and the added benefits of reduced stigmatisation of people who use drugs (270). One recent study suggested that house prices in Sydney dropped by around 6% in the 800m around the OPC, but that this was less of an issue 1km and beyond the site. This is also further complicated by gentrification of the surrounding areas (271). Most sites which operate an OPC are accepted by the public despite initial concerns (3).

Clua-García and Dumont (272) describe the issues for a person injecting cocaine; that they have to inhabit a range of spaces in the community, including alternate spaces, when the overdose prevention centre is closed. When there is no space, Din (68) summarised potential locations in which those who are structurally vulnerable inhabit. In the last six months, 63% of 100 participants in a survey in Romania reported injecting drugs in the stairway of a building, 49% used drugs on the street, 46% in deserted buildings, 45% in cars, 41% in parks, 33% in public bathrooms, 18% by a canal, 8% on trains, and 28% declared they did not use injecting drugs in public spaces in this period. Women were most likely to use stairwells. Others have summarised public spaces in which individuals use drugs as including parks, car parks, alleyways, abandoned buildings, public toilets, and

in cars (72). Those who have limited choice but to use these spaces acknowledge their use as problematic. There is also some recent evidence from Hunter and colleagues (273) that those who inject drugs in public or semi-public settings were more likely to have experienced a recent overdose compared to those using in private settings highlighting the at-risk nature of the population, the frequency of rushed consumption, and the urgent need for a safe space to be. Harms related to injecting or use in public could be alleviated by the provision of clean, private, and safe spaces (274).

3.5.2 OPCs decrease publicly observable use of drugs

Public drug use confers considerable additional health risks from infections to death from overdose. It occurs when people who use drugs are under-resourced in relation to space.

We can see shifts in the amount of public drug use when that space is provided as an OPC. In New York, 76% of those who attended the OPC in it's first two months of operation said they would use in a public or semi-public space if the OPC did not exist (197). The success of OPCs in reducing public use largely depends on their opening hours, capacity, and location (16, 154); most have to deal with queues, but this can be avoided in clever and agile design of OPCs (17).

No studies reported an increase in public drug use (128). Potier et al. (19) noted in Vancouver, prior to the opening of the OPC, there were significantly more episodes of public injecting than there were after (OR(95%CI)=2.6(1.7-63.9)) (219). Similar evidence was found by Stoltz and colleagues (178) who reported a reduction of injection in public spaces (aOR(95% CI)=2.8 (1.9-3.9)). In Wood et al. (275) there was a 44% reduction in the daily mean number of people who use drugs doing so in public 12 weeks after the OPC was opened compared to the six weeks prior. Salmon et al. (276) surveyed between 316-540 residents and 207-210 businesses in cohorts in 2000, 2002, and 2005 and found a significant decrease in witnessing public injecting (residents: 33% to 19%, $p < 0.01$; business operators: 38% to 28%, $p < 0.03$). Although the proportion of residents and business operators being offered drugs for purchase was trending downwards, this was not significantly different through the years, and the drug most offered for sale was cannabis, rather than something typically injected at the Sydney OPC. Of 41 interviewees who used the Vesterbro OPC, 56% stated they engaged in fewer public injections (245). Indeed, Leon and colleagues (277) report the number of individuals found street injecting decreased by 28% following the opening of a site in the first three months based on researchers walking a pre-defined route.

3.5.3 OPCs reduce drug related litter

Evidence illustrates that OPC use is linked with reduced drug-related litter in the local area. As a harm reduction space, it offers a centralised location where used equipment can be safely disposed of, and equipment used in the OPC remains at the OPC.

There is a wealth of evidence that regular OPC use leads to reduced drug-related litter and regular appropriate disposal of used equipment (178, 239). Statistics from Vancouver revealed a reduction of 53% in mean discarded syringes 12 weeks after OPC opening compared to the six weeks prior to opening (275). The opening of an OPC in Barcelona in 2004 was associated with a reduction in the number of unsafely discarded syringes in the city; in 2004 there were 13,132, this had declined to 3,190 in 2012 (278). Other evidence from Barcelona suggested a variable effect on drug related litter depending on the area (279). In Vesterbro, Denmark, of 41 interviewees who used the OPC there, 59% changed their syringe disposal practices. Of those, all but one reported changing from not always disposing safely, to always disposing safely (245). Salmon et al. (276) reported a significant decrease in discarded injecting paraphernalia following the opening of an OPC in the area among residents and business operators (residents: 67% to 40%; business operators: 72% to 57%, $p < 0.01$). The rate of unsafe disposal of syringes per number of injections in the past 30 years was significantly lower amongst people who used OPCs in a cohort of people who injected drugs (n=494) followed up at baseline, six months, and twelve months (incident rate ratio=0.4; 95% CI=0.2-0.9) (280). Finally, across sectors, local business and residents report decreases in drug-related litter (70, 78, 268)

Petrar and colleagues found of 1082 Insite users who considered the OPC to have changed their injecting behaviours, 71% said it led to fewer public injecting events, and 56% said it reduced drug related litter (94). As Wood and colleagues note (281), public injecting leads to major health risks including risk of assault, arrest, rushing the injection, and unhygienic spaces. Historically public drug use has dropped considerably, even from some of the earlier sites such as those in Frankfurt reported only 18.5% of the numbers of individuals using

drugs in public, from 800 in 1992 to 150 in 1993 (282). This finding is universal across international settings.

3.5.4 OPCs do not increase crime

Research data does not support the hypotheses that crime increases in areas where OPCs operate.

Vancouver and Sydney provide much of the evidence around crime. There was no increase in crime, violence, or drug trafficking around the OPC in Vancouver after it was opened (283). In a comparison of the monthly average one year before the OPC opened and one year after the OPC opened, there were no significant increases in recorded drug trafficking (M before (SD)=124(94) compared to M after (SD)=116(24); t(11)=0.3; p=0.80) and assaults/robbery (M before (SD)=174(25) compared to M after (SD)=180(21); t(11)=0.6; p=0.57). The study also found a significant reduction in vehicle break-ins/theft or robbery in police statistics (M before (SD)=302(57) compared to M after (SD)=227(48); t(11)=4.2; p=0.001). An adjusted time series analysis comparing weekly data in Vancouver in the area in which OPC is located found after the OPC opened there was:

> *"A significant abrupt, permanent change for total, violent, and property crimes. Violent crime decreased by six crimes per week, property crimes decreased by 35 crimes per week, and total crimes decreased by 42 crimes per week." pp.43 (284)*

This was distinct from the other districts in Vancouver, where similar trends were not reported, and is notable given the lasting nature of the change across the 89 weeks.

Crime data comparing the Kings Cross area of Sydney (where the OPC operates) with wider Sydney areas between 2001 when the OPC opened to 2012 revealed no difference in trends (285). They suggested the opening of the OPC had no negative impact on property crime levels or on illicit drug incidents between areas. This was echoed in an earlier time series analysis on data from May 2001-March 2010 by Fitzgerald et al. (286). Data from Alberta, Canada including Lethbridge, Edmonton, Calgary, Red Deer, and Grande Prairie showed minimal increases on crime and disorder around OPC communities, and no evidence for increased harm to the community with discarded needles (287). In the US, an interrupted time series analysis by Davidson and colleagues (288) showed a significantly greater drop in assault, burglary, larceny theft, and robbery in the OPC intervention area compared to a similar control area over a five year period when the OPC opened. A report focused on Calgary showed an increase in crime,

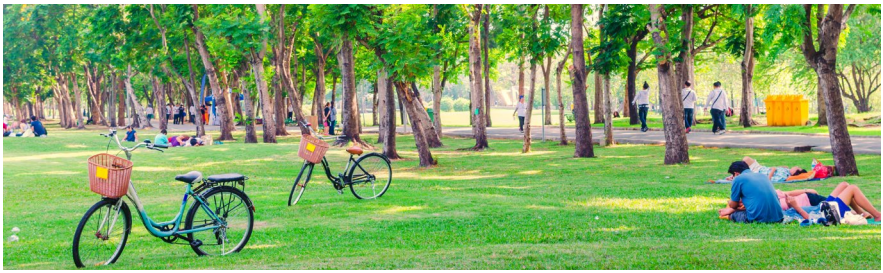
but the low numbers meant tiny changes corresponded to larger percentage changes (289). It also highlighted the importance of partnership with police when opening a facility and throughout its operation (287, 289, 290).

Community level OPC evaluations do not evidence increased crime or public disorder (104, 288, 291, 292). No studies with a comparison area have reported an increase in crime when an OPC opened (128). There have been some concerns raised that the crime statistics in one country do not transfer to different jurisdictions (288); however, the almost universal finding of reduced crime in different legal systems and policing priorities, would not support this assertion. Crime statistics can vary depending on resourcing and priorities of policing and the willingness of victims to report their crimes; however, there is cumulative evidence overall that there are decreases in crime, and this is shown in more than one location around the world (19). The availability of OPCs allows police officers to divert individuals towards these facilities, away from riskier public use. Countries with OPCs have also reported improvements in trading areas around drug consumption sites according to business associations (7).

3.5.5 Views from the community around OPCs

Community consultation is essential to the successful planning and operation of an OPC. A community collaborative model with strong evidence based political leadership can help implementation and realise the benefits for all members of the community (293).

Community partners include those who live, work, or run businesses in the community who may or may not consume drugs. In Philadelphia, with one of the highest overdose rates in the US, Roth and colleagues found around 90% of residents were in favour of OPCs (294). The rates of support were a little lower at 63% amongst business owners and staff, but there was an emphasis of support if they could deliver benefits to reduce social problems and if researchers could adequately capture and evidence this with pre-post data.



Examples of pre and post data, i.e. before and after an OPC opens, include Thein et al. (295) who conducted telephone surveys with residents and businesses seven months before and 17 months after the Sydney Medically Supervised Injecting Centre (MSIC) opened. Around 1/3 businesses and ½ of residents could not correctly identify where the MSIC was located after it had opened. There was a 10% increase in the acceptability (to 78%) in residents, and there was a 5% increase in acceptability to 63% in businesspersons, but this was not significant between time points. Similarly, agreement that MSIC could reduce blood-borne virus risk significantly increased from 87% in 2000 to 92%, and agreement that it reduced needle and syringe litter increased from 80 to 82%. Agreement that it attracted drug users to the local area decreased significantly from 65% to 55%. Residents also significantly increased their disagreement with the statements that it encouraged drug injecting (62% to 73%), disagreement that it made law enforcement difficult (55-63%) and disagreed it encouraged people to consider heroin injection as legal (44% to 52%). For businesses, a similar picture emerged. There were significant increases in those who thought OPCs reduce public injection (67% to 72%), showed the dangers of injecting drug use require medical supervision (47% to 51%) and significant decreases in the likelihood people think it is legal to inject heroin because of OPC operation (55% to 63%).

Data from two Centre for Addiction and Mental Health monitor surveys in 2003 and 2009 showed a significant increase in strong agreement that OPCs should be made available to a) encourage safer drug injection, b) if they can show lower overdose deaths or infectious disease amongst users; c) if they can increase drug users' contact with health and social workers; and d) if they can reduce neighbourhood issues with injecting drug use. Those who strongly disagreed remained fairly constant between 2003 and 2009, suggesting those opposed did not change their views when the Insite OPC opened in 2003 (296). Subsequent findings using the data explored the difference between views on injecting and smoking facilities (safe smoking facilities SSF and safe injecting facilities SIF) (297). Of the 1035 individuals surveyed fewer were in support of smoking facilities than injecting facilities (20% vs 28% strongly agreeing) with most people stating they had little knowledge about smoking facilities. For additional information on acceptability of OPCs by the general population see section 5.10.2. In Portugal, Taylor and colleagues (298) reported positive views on the mobile facilities in two areas of Lisbon. These facilities, operating for around three years had recognisable benefits for community safety:

> *"It is a question of safety. Consuming publicly is dangerous, other people or(police can make it worse. It is a question also of hygiene and health - to avoid material sharing. Also, it will contribute to less litter. Less risk to the community, including kids." pp.3 (298)*

And for the people who use drugs themselves:

> *"The population doesn't have to see and the PWUD don't have to be afraid and hide." pp.3 (298)*

To negative changes, two individuals noted an increase in people in the area who were going to the van. One individual noted:

> *"Variation in the flow of consumers, with a slight increase, but it is not significant enough to be considered negative. Consumers will always exist, in one place or another." pp.4 (298)*

Most other concerns were distancing themselves from expected reactions of other people which may be negative. Some had also considered that the OPC represented:

> *"A way to have a place to sustain addictions." pp.3 (298)*

While OPCs in the Netherlands had a positive impact; there was no increase in nuisance related to drug dealing and neighbourhood degeneration (54). Public concerns around OPCs can involve the potential to attract drug users and dealers to the area but these are largely unsubstantiated (54). Individuals living around OPCs in Europe showed more resistance during set-up than once the OPC was established (17). In Vesterbro, Copenhagen, an online survey of 566 residents supplemented with interviews with 33 individuals showed residents were supportive of OPCs; they understood and accepted the role of the OPC and how it helped those who used it in their local area (268). In London, Ontario, 20 interviewees from healthcare, social services, emergency services, government, policymakers, and the business sector unequivocally were in support of OPCs, although these depended in some degree on how the service would be run (74). Of 38 residents and 17 business representatives in two large Canadian cities which might benefit from an OPC, most spoke of anticipating OPCs as both risk reducing (improved health and community) and risk producing (increased public nuisance) (299). The 'nuisance' concern often summarised as the 'honeypot' effect, attracting people to initiate use, attract more people who use drugs to an area, or to attract drug dealers to an area; 21 years of research on Sydney's Medically Supervised Injecting Centre would not support this concern (300).

Sherman and colleagues surveyed 149 business owners and employees in Maryland, USA (301) to understand their views on OPCs in their neighbourhood. Of those surveyed, 47% had witnessed an overdose event recently around their premises, with 38% having naloxone on their premises. Most (65%)

supported OPCs; correlates of support include working and living in the same neighbourhood (aOR (95%CI)=2.0(1.3-3.1)); a positive attitude towards people who use drugs (aOR (95%CI)=1.3(1.1-1.6)), and recently witnessing an overdose in/around the workplace (aOR (95%CI)=2.9(1.1-7.3)). This would suggest that 'not in my back yard' or NIMBY-ism is countered by the visible realities of individuals who have used drugs and the overdose risks seen first-hand. Owners were less likely to support an OPC (aOR (95%CI)=0.4(0.2-0.8)) compared to employees or managers. Local businesses who worry about the economic impact can lead community opposition; this is often a function of not understanding what an OPC is and how it might help their business (294). However, businesses can be key beneficiaries when we address public drug scenes. They can also be powerful advocates for evidence-based harm-reduction interventions (301).

Wolfson-Stofko and colleagues in two papers explored the experiences of business managers and service industry employees of the impact that public use in bathrooms may cause those working there (302, 303). The first of these (302), found that of 86 managers, 58% had experience of drug use in their bathrooms and 34% had found discarded equipment (syringes). Of these managers, almost none (90%) had any overdose recognition or response training (e.g., naloxone), and seven had encountered unresponsive individuals in their restrooms. Similarly, of 15 service industry employees, nearly all were in favour of an OPC when details of such a facility were provided to them (303). This is perhaps unsurprising given 14/15 had experienced drug use on their premises, 11/15 had found used syringes in their bathrooms, and 3/15 had found unresponsive individuals in their workplace. They had visual confirmation of the risks of public injecting but recognised that the opportunity for misperceptions on OPCs was exceptionally high and might impede their opening despite community benefits.

Families of individuals with loved ones who use drugs typically support OPCs, particularly those who know more about the services. Whilst some inevitably prefer drug use cessation, they saw benefits at the individual level (for them or their loved one) and at the societal level (to reduce stigma, and to provide a health led response)(36).

Another key group is police officers. Arredondo-Sánchez Lira and colleagues (304) found police officers in Mexico supported OPCs with around 82% in favour and 80% considering it would be a success. Two of five police interviewed in the Republic of Ireland following a change in legislation to facilitate OPC opening said it would benefit people who use drugs (305). This study found that the primary driver for the police was to reduce drug related litter, for example, one stated:

> *"...the reason I feel they [the Irish government] are setting up these SIFs is to take drug paraphernalia off the streets." (Police Officer 4) pp. 89 (305)*

In four focus groups with Toronto Police Officers, many were interested in developing co-operative relations with OPC staff despite some lack of clarity regarding their roles, duties, and policies around policing OPCs (306). An influential report from Police and Crime Commissioners in the West Midlands also lends support to the importance of piloting a site stating it:

> *"Could add significant value by working in tandem and co-ordinating with existing services." pp.7 (7)*

An important stakeholder group is that of emergency service personnel who respond to calls on overdoses. One such study in Vancouver of firefighter/ emergency medical personnel interviewed those who work near an OPC on their views. Of the 54 who gave open ended answers to questions, there were four themes identified. These included 1) sense of duty including taking a turn in working in the area with the OPC; 2) that the duration of working in the area has boundaries to minimise burn out and enable firefighters to thrive; 3) negative aspects including how tough it is mentally on staff especially witnessing extensive trauma; 4) positive aspects especially the resultant camaraderie, making a positive difference in communities, and growing professionally (33). In King County, Perlmutter et al. (34) found three themes using an inductive-deductive thematic analysis approach which summarised the views of the emergency services personnel on working with the OPC. The three themes included 1) their own safety when dealing with drug-related events; 2) the issues with emergency departments being a primary source of healthcare and support and a lack of alternate options; 3) the importance of a good working relationship between emergency healthcare providers and OPC staff.

3.6 OPCs save money

A core argument for OPCs is their ability to save money, principally by preventing or treating HIV/HCV infections, preventing deaths, and by reducing the use of emergency healthcare.

One of the strongest arguments for OPCs lies in the ability to save money (307). This section covers two key indicators of cost savings. This includes the cost associated with prevention of HIV or Hepatitis C infections, and the cost associated with emergency healthcare including ambulance call outs. While projections for cost savings in the UK and Ireland are unavailable, cost-benefit analyses from the USA and Canada suggest local savings of between $534,453 - $6.9 million USD annually (220, 222, 308-310). The Drug Policy Alliance report (311) suggest that a single supervised facility in Denver, Colorado would have an annual

operating cost of just over $1.5 million USD and generate approximately $8.6 million USD in health benefits via savings around HIV, HCV, overdose deaths, skin and soft tissue infections, and medication-assisted treatment. Projections around a similar pilot facility in Seattle, Washington additionally account for bacterial and viral infections suggests the annual reversal of 167 overdoses and prevention of 6 deaths, 90 emergency department visits, 45 hospitalisations, and 92 emergency service deployments for savings of $534,453 (309). Projections from Providence, Rhode Island suggest savings of over $1 million USD annually for a hypothetical service serving 400 service users per month compared to the existing provision of syringe services only (308). Positive projections of cost savings associated with expansion of services may also depend on changing the behaviour of those who do not currently attend; this may be possible due to waiting times reducing attendance etc (312). Data from an existing service in Calgary suggests savings of $1,600 CAD for each averted overdose and notes savings of over $2.3 million CAD in 27 months of operation (222). It is possible this is an over-estimate of the cost savings, as this study estimated on the basis that all the overdoses at the OPC would otherwise have led to an emergency medical response. It is also possible, it is an under-estimate, if any of these overdoses would have led to death if not reversed at the OPC. Even a very small number of averted deaths can give an OPC a positive benefit: cost ratio, due to the extremely high cost of death (313).

Prevention of HIV and Hepatitis C infections and savings around emergency healthcare are two key areas for cost savings. They estimated four hypothesised OPCs in New York to prevent 130 overdose deaths each year and could reduce costs to the city healthcare budget by up to 7 million USD. This figure did not include a reduction in crime, or the alleviation of chronic disease treatment costs associated with injecting drug use.

Projected figures provide evidence of potential benefits of an OPC opening in an area. In Philadelphia, up to 76 deaths could be averted annually (314). The estimate of these costs of overdose deaths averted in Philadelphia if they opened a service were thought to be between $12,462,213 and $74,773,276 annually (127). Another study suggested multiple sites with varying capacities which attended to racial and ethnic characteristics, provided education and harm reduction services, and a safe space would have the greatest

benefit (315). A review by Caulkins and colleagues (104) summarised even with potential errors in estimates of hypothesised services or actual costs of OPCs, the value of stopping a fatal overdose event or BBV infection is so high that it is highly likely that an OPC can save money. Enns et al. (316) noted 'no OPC' was not the most cost-effective option for Toronto and Ottawa. Instead, under a wide variety of assumptions from conservative to liberal, at least one OPC in each location was more cost effective than no OPC.

3.6.1 Prevention or treatment of HIV or Hepatitis C infections

At OPCs, transmission and impact of blood-borne infections such as Hepatitis C and HIV are reduced through the provision of sterile equipment, by averting the sharing of equipment, and by provision of appropriate support and treatment (157, 317).

In Vancouver, it was thought the OPC could prevent 35 new HIV infections and three drug-related overdose deaths per year (318). When the cost of operation of Insite is accounted for, this leads to societal savings of over 6 million CAD per year, with an average benefit-cost ratio of 5.1:1. The approximate cost of Insite operation was 1.5 million CAD annually at the time the paper was published which may have changed since. Pinkerton (319) who considered the estimated 19-57 prevented infections to be ambitious challenged the findings in Andresen and Boyd (318). Instead, they suggested a plausible range of 4-8 prevented infections. An earlier study by Pinkerton suggested that a hypothesised closure of INSITE would increase HIV infections by 84 individuals (from 179-263). This corresponds to 17.6 million CAD, considerably exceeding the cost of operation (320).

When the cost of decreased needle sharing over 10 years was considered, Bayoumi and Zaric (321) estimate the savings from Insite to be 14 million CAD, when this included the health effect of the increased use of safe injection practices, incremental net savings increased to more than 20 million CAD, and number of life years gained in 10 years was 1070. Modelling of existing services in British Columbia from April 2016 to December 2017 suggests that OPCs averted approximately 230 death

events, while an additional 1,580 were prevented by take-home naloxone and 590 by opioid agonist therapy (242). However, Valencia et al. (322) have cautioned that even high-quality harm reduction opioid agonist therapy does not prevent severe infection-related infections, and that these remain highly prevalent in their cohort study of people who use drugs without an OPC in Spain.

Estimates in Montreal, Canada by Jozaghi and colleagues (323) suggested that each OPC opened (maximum three) would prevent 11 cases of HIV and 65 cases of Hepatitis C per year with a net cost saving of 0.7 million CAD (HIV), and 0.8 million CAD (Hepatitis C) for each site opened. They estimated the net average benefit-cost ratio of 1.21:1 for both (323). Smaller cities also fare well in relation to cost savings. In a subsequent study by Jozaghi and colleagues (324), this time in Saskatoon, Saskatchewan, they found a conservative estimate of benefit-cost ratio of 1.4:1 for the first two potential facilities demonstrative of tax-payer savings even in smaller cities by averting HIV infection rates. And an additional study in Ottawa, Canada by the same authors showed two centres were seen as cost-effective when considering costs of HIV or HCV prevention (325). Estimates from Philadelphia consider there would be 1-18 averted cases of HIV infections annually and 15-213 averted cases of hepatitis C infections annually (127). There may also be a need to attend to differences in communities (e.g5315. based on LGBTQIA+ status) and develop support which respects diversity and promotes equitable healthcare (326).

3.6.2 Ambulance call outs and other healthcare

Efficient handling of overdose events at an OPC can avoid the need for an ambulance call-out and/or an emergency department visit.

Data from the Sydney OPC noted ambulance call outs for overdose were reduced by 68% during the time in which the OPC was open (107). Evidence from an OPC in Calgary found that the need for ambulance responses to overdoses had decreased over 20 months of operation, with around 98% of overdoses managed on site (222). The lower reliance on emergency department and ambulance services was projected as saving $2.3 million CAD over 20 months (220, 222). In Norway, although one third of all opioid overdoses occurred at the OPC in a period between 2014-2015, over 85% were assessed as stable on site and individuals did not need to be transferred to the hospital for further treatment (199). Lambdin et al. (327) found that of 494 individuals matched through propensity scoring comparing those who used OPCs and those who did not found that OPC users were 27% less likely to visit emergency departments 27% (95% CI: 12–46%), had 54% (95% CI: 33–71%) fewer emergency department visits, were 32% less likely to

be hospitalised (95% CI: 4–57%), and spent 50% fewer nights in hospital (95% CI: 1–85%). It is worth noting that a low proportion were using OPCs in the cohort n=59 (12%). During hours of OPC operation, there were fewer public overdoses (which might require ambulance support). In the Overdose Prevention Society facility in Vancouver, of the 2.8 overdoses per 1000 visits (of approximately 108,803 visits), there were no fatal overdoses. Most required naloxone 95%, 60% required a call to emergency services, but of these 21% patients were transferred to the emergency department (328).

Regarding a potential facility in Providence, Rhode Island, Chambers and colleagues (308) suggest that 46% of overdoses occurring outside of an OPC result in ambulance use and 43% in emergency department use, but project that less than 1% in an OPC would result in the same service usage. Similarly, in Baltimore, Maryland, it is projected to save $7.8 million annually, partially by averting a projected 108 overdose-related ambulance calls, 78 emergency room visits, and 27 hospitalisations (310). Reduced costs related to hospitalization for skin and soft tissue infections (SSTI) are estimated to be between $1,512,356 and $1,868,205 per year in Philadelphia, with a reduction in ambulance costs of $123,776, emergency department use of $280,683, and $247,971 from reduced hospitalisation (127).

Lloyd-Smith and colleagues (223) found rates of 9% admission for cutaneous injection-related infections (e.g., osteomyelitis and endocarditis) in a cohort of 1083 OPC users. Whilst undoubtably the OPC referred more clients to hospital healthcare, the typical length of stay for a client in the hospital referred by an OPC nurse was four days, compared to 12 for a similar client not referred by an OPC nurse. This represents a considerable healthcare saving and frees up hospital capacity (329).

In a time-series analysis of the year before and after an OPC opened in areas with and without OPCs there were significant decreases in paramedic required events (24% relative decrease 12 months after implementation) and emergency department visits (39% relative decrease) (10). The same study did not find any significant impact on hospitalisation rates. In France (185), in a cohort study of 665 people who use drugs who do and do not attend an OPC, those who attended OPCs were less likely to report emergency room visits compared to those who did not attend OPCs in the cohort (adjusted OR(95% CI)=-0.7 (-1.3 to -0.2)).

4. Considerations for running OPCs

There are several practical guides and information on how to run an OPC.

For example, Blyth et al., (330) provides a point-by-point outline of what is required to plan and safely open a new site. The guide by British Columbia Centre for Disease Control is also comprehensive on the detail (331), so too guidance from Toronto Drug Strategy (332) and the British Columbia Centre on Substance Use (333). There will be a need to remain agile to emerging changes, including those in relation to changing environments, profiles of people who use drugs, availability of different substances, and even pandemics (334). Central to success planning to ensure the continued involvement of those with living experience of drug use in the design and running of the facility (137). The example of COVID-19 also shows the importance of agility in maintaining healthcare services; OPCs can be and have been agile in the past albeit not all challenges arising from COVID-19 were overcome (335-341). A service model for OPCs with public health and public order objectives has been created by the EMCDDA which can support service design and planning Centre objectives (2).

Operation of OPCs are best served through partnership with people who plan to and use the service, and continually as the service evolves (69, 82). Evidence suggests improved outcomes following early and continued input from regular service attenders (171, 174, 178, 214, 223, 243, 250). Relationships can be built through consistent staffing, friendly conversations at the OPC, listening to the living experience of people who use the service, and highlighting the ownership of this safe space with clientele (89). The low threshold approach is important as we know some individuals fear formal services, have long histories of shame and judgement with services and service providers, and this can delay or be a barrier to care and support (159). Indeed, privacy and safety/confidentiality/trust concerns can be barriers to OPC use (85). Diversity of clients should be monitored, and services adjusted where needed for inclusivity (331, 342-344). The objectives of any service, according to Hedrich (54) are to:

1. Reach as many people in the target group as possible,
2. Provide few barriers to access and to create an accepting, non-judgemental, very low threshold environment,
3. Create a safe environment for lower-risk, more hygienic drug use,
4. Reduce morbidity and mortality through overdose prevention, health advice, and links to healthcare which does not stigmatise people who use drugs,

5. Stabilise and promote the health of service users,
6. Reduce public drug use, and drug related litter,
7. Prevent increased crime in and around OPC spaces.

4.1 Clinical guidelines and standard operating procedures

Standard operating procedures are necessary to guide activities at the OPC and to support evidence based, safe support.

Some resources to guide standard operating procedure include these appendices (331) and recommendations in (345). Where sites are nurse led, there are additional resources. Gagnon and colleagues (346) created an international consensus statement to guide the policy, practice, and training of nurses at OPC sites. Others have acknowledged the formal recognition that nursing work in OPCs falls under nurses' scope of practice, and this has led to additional OPCs (347).

Standard operating procedures for sites should be set prior to a service opening and be regularly reviewed. Standard operating procedures may or may not be supported by clinical guidelines depending on the location and legal context (i.e. sanctioned vs unsanctioned sites). Failure to do so can lead to wider community challenge (187). Based on those at the Sydney Medically Supervised Injection Centre (348) and Vancouver Coastal Health Guidelines (349, 350), a potential list of included items may incorporate:

- Aims of the facility,
- Memorandums of understanding including with police and/or communities,
- Location, hours of operations,
- Arrangements for visits including by police, public, other interested parties,
- Plans for overdose intervention,
- Staffing, staff support, and staff training,
- How clients progress through the site,
- What to do when drugs are left on site,
- Equipment disposal procedures,
- Codes of conduct for staff and clients,
- Safeguarding,

- Data collection and research,
- Contact people including community liaison, police, and OPC representative(s).

These would be alongside usual regulatory compliance e.g. health and safety procedures, fire evacuation plans, incident reporting, infection control/cleaning procedures, that would be expected in running premises or vehicles. There will also need to be procedures in place for differing equipment or service need, e.g., protocols should oxygen be available or around drug checking provision. There should also be support in place to support staff at OPCs.

The work at these centres is intense and emotionally taxing (351). Supporting staff of all kinds and those who use the service will be an important consideration. This is essential as there are likely to be challenges made to the opening of a service, continuation of a service, or expansion of a service; these challenges are often not based in evidence. This is likely to contrast starkly with the lived experience of those who provide and/or use the service. There should be procedures for staff and peer support as part of the standard operating procedures.

4.2 Services provided at OPCs

Services for sites are wide ranging depending on the nature of substance use in an area, resources available, and type of OPC. As part of developing the right service for an area, potential users of the OPC should be consulted in the design and provision planning to help ensure maximum use of the service.

The services provided either at an OPC or through referral to another location should be influenced by substances used at a site. For example, at the unsanctioned OPC in Glasgow, powder cocaine injection predominated at the time of assessment (9). This differs from Calgary, where crystal methamphetamine use was most common, followed by fentanyl (289); from New York, where heroin and fentanyl predominate the drugs used (197); or from Berlin or Frankfurt where heroin predominates (181, 352). Each drug will require different advice and equipment, and should determine the nature of provision, with a recognition that usage patterns can change over time and clinical guidelines may need to adapt (e.g., injected oxycodone pills in Sydney see (353)). Patterns of polydrug use may also be common (354) and will also require consideration for advice and equipment.

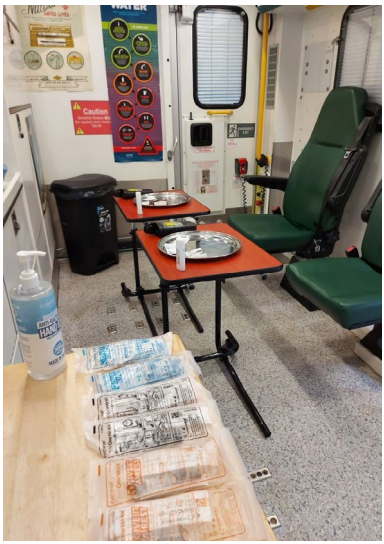
Services co-designed with potential or actual service users should minimise waste and maximise use of the service. Costs will be determined by location of service,

type of service model (see 2.2), capacity of the OPC, operational hours, training and staffing model, and range of services provided. Ideally service planning will occur in advance of opening, however, findings from the Netherlands have found that the political and policy pressures may require services to evolve when open (355). Whilst predominantly a health response (19), the importance of a supportive atmosphere is vital to the success of that health response (356). The client base may take some time to build when an OPC opens, e.g. at Insite, the first week of operation saw 200 visits, rising to a steady 500 daily visits in the following two months (357). Others note the importance of good design in positive healthcare outcomes (264).

4.2.1 Space for consumption and other support

An essential element of an OPC is space in which substances can be consumed. Other space might include consultation spaces, space to wait, washing facilities, food preparation areas, bathrooms, and storage space for hygienic equipment storage and disposal.

The Ministry of Health and Long-Term Care in Canada described the implications of a range of space sizes in terms of adequate provision and space to use substances in the appendix of their report (358). In brief, they recommended a non-porous, easily cleanable counter space of around 3ft per client; somewhere to dispose of used equipment, fixed mirrors, appropriate lighting and heating, staff monitoring area with communication system, supply cabinets, sink and foot wash facilities, security, ventilation particularly if cooking is permitted, space for post use and/or wrap around service provision. This should be provided alongside the following services: supervised consumption and overdose prevention; pathways to treatment (substance use, mental health, primary care, social or welfare services); harm reduction provision (education, first aid, wound care, distribution and disposal of equipment, naloxone, and oxygen), and public education programmes. Simple basic needs may also be provided including space for tea, coffee, toast, washing facilities, clothing, water, etc. They also provided a guidance document of how to pitch for a new OPC and the



considerations needed. The British Columbia Centre for Disease Control provided additional recommendations for the physical space (331). When sufficient space for demand is not available; rushed use and use back in public spaces is possible (183, 186). Homelessness and poverty often prohibit access to private spaces leaving limited options (124). Rhodes and colleagues concur and emphasise the importance of interventions in current spaces, and spatial programming and urban design interventions to minimise the harm (98). Opening hours and waiting times are also important- see section 5.5. Local need should dictate capacity and needs assessments, recognising that there may not be a 'typical' client (177).

Hedrich (54) note considerable variability and divergence in spaces ranging from living room style spaces to a more sterile and clinical space. Constraints of space available and funding may limit the implementation of preferred choices of people who use drugs. A range of suggestions were provided to Din (68) which included:

"water, light, heat and quiet",

"to have water, collection cans, sterile materials and a mirror",

"a room with table and chairs, places to relax after drug use",

"to be clean and have utilities",

"to be discreet, like a voting booth",

"where we can receive what we need to avoid getting ill",

"where we won't be harassed",

"a place with heat, that's all. Afterwards I can go out for a walk". pp.166 (68)

Furthermore, Duncan and colleagues (359) describe the importance of situating care alongside clinical provision with examples from their ethnographic works in La Strada. They note the importance of offering comfort, support, and a place of reduced stigma where people are met where they are currently at, not a sanitised

version of where people might want them to be. Olding and colleagues' (360) ethnographic works describe how OPCs sit within 'geographies of survival' and that they must overcome challenges because of the contaminated drug supply in Canada. They cautioned against tight governance in regulatory frameworks which stop a nimble response to the needs of individuals who often need shelter, drop in spaces, or temporary storage spaces.

Space may also be required for non-injection use. When Patterson et al. (361) conducted a needs assessment in response to the drug-related deaths of Fraser Health Authority, they noted only one-third of consumption events involved injecting. The recommendations for this service (a consumption, not injection only site) was to include oral and intranasal co-administration; the recognition that intervention early in the drug use trajectory can improve the service delivery and prevent harms. Other services concur, for example, the Overdose Prevention Society facility in Vancouver found about 37% were smokers (328). Other services, such as an unsanctioned site in Vancouver utilised a bathroom with a fan for smoking provision (249). We note the ability to transition from injecting to smoking can provide health benefits. Some OPCs provide this transition pathway as a programme (362). Typically, risks associated with non-injecting drug use include those through sharing paraphernalia, or risky/rushed use (363, 364). We can reduce risk through an effective OPC. For practical reasons injecting and other routes are often provided separately including the reduction of second-hand smoking, and smooth running of both spaces given differences in the use experience (75, 365).

Spaces summarised by a review on non-injecting routes showed a variation between outdoor spaces e.g. Australia and Canada, and indoor spaces Netherlands, Luxembourg, Germany, Denmark, and Canada. Some indoor spaces were booths, others were rooms with varying capacity, and others were toilet spaces with ventilation. Transition from injecting to smoking can help reduce the harm and improve health (168). One example from a Finnish study concluded:

> *"If there would be a facility for smoking, maybe some injection users would move on to smoking when they see some peers smoking... which may be less harmful." pp.9 (229)*

Place matters in both the prevention of illness and promotion of health (98, 366). There is an important but as yet under-researched role of the planning profession on creating that place. Boland and colleagues (367, 368) note planners make important decisions about place, the built environment and, the location of facilties that support those who use drugs. However, very little is known about how these planning processes operate, how planners manage societal

stereotypes, moral panic, and local barriers to harm reduction interventions. This represents an important space for partnership to bring planners, with their expert knowledge and technical skills on place management (369), and public health (370), into the processes of harm reduction.

4.2.2 Overdose intervention support

OPCs provide valuable intervention during an overdose with oxygen, naloxone, or other support. The overdose response can be greatly enhanced with training and involvement of peers (for example through peer-to-peer naloxone provision).

There are several ways in which overdose intervention support can be provided. Some facilities have both high flow oxygen and naloxone provision to support opioid overdose interventions. As Dietze and colleagues (371) note, intramuscular naloxone appears most efficient at managing overdose in an OPC, although there were no adverse events using intranasal alternates. Injectable naloxone is often easier to control the dose and minimise rapid withdrawal symptoms. This can be particularly important when used to reverse overdoses where the strength of the opioid(s) is unknown (372). Nasal can often be easier to carry on the person especially by friends and family of people who use drugs. A mixed model of provision can be helpful and for more information on how and why naloxone works see (57), and details on what it is, it's use, and it's impact see (373). Oxygen intervention can support overdose reversal, with qualitative interviews with staff and OPC clients illustrating this is more likely to reduce intense withdrawal symptoms and confusion (374). There is typically widespread support for overdose intervention as a service, as this is often the primary reason an OPC opens (72). However, the importance of practical knowledge of overdose response is important, so naloxone is not used unnecessarily, without acknowledging the dignity of the person, or where it may be used as a punishment (375). Effective training including peer involvement can support this aim (206) and prevent this becoming a barrier to use or regular use of services (81).

The key to effective peer-to-peer naloxone programmes is that they are determined by a peer's knowledge of where and when people use drugs and access to local drug supply networks (206). Peer education uses the social context of drug use as the vehicle for intervention (376). The European Network of People Who Use Drugs (EuroNPUD) (373) technical briefing on peer-to-peer naloxone features several programmes operating in the UK and internationally, and concluded that:

> *"The key argument for Peer-to-Peer Naloxone (P2PN) is that it is highly effective at driving the distribution of take-home naloxone (THN) through the privileged access that provides for the multiple entry points needed to reach both the treatment and non-treatment populations. As the case studies in this Technical Briefing show, peer educators and drug user activists bring a momentum and commitment to the roll out of THN that supports the strategic objective of saturating peer networks with naloxone and the supporting knowledge to manage opioid overdose." pp. 3 (373)*

Across the UK, substance use services have successfully provided naloxone alongside training to those people engaged in non- drug treatment services. Provision of naloxone to individuals in non-drug treatment a via partner agencies has proved more challenging (376). A range of initiatives have been implemented across the UK (377-380). While there are sufficient data to demonstrate naloxone supply, there is little data about carriage of naloxone kits once they have been supplied. Scottish data suggests that those in possession of naloxone at any one time is as low at 21% (381). OPCs provide a consistent supply point for Naloxone and appurtenant training, thereby helping to achieve the 'widening access' goal as recommended in the ACMD report.

Barriers to widespread naloxone provision are largely structural or systemic (57, 206). Most can be addressed through training, awareness-building, reducing stigma, and public health commissioners 'building in' to the system a requirement and resource for naloxone provision through their tender documents (376). The report Saving Lives (382) provided advice on how to overcome barriers at the individual, collective and structural levels. These focused on:

- Pathways to access THN for family and friends of people who may be at risk which does not require disclosure;
- Offering a choice between IM and intranasal;
- Working with key stakeholders to make carriage discrete;
- Normalising the administration of naloxone in all relevant services; and
- Encouraging positive messages about carriage and use (382).

There should also be provision for overamping (i.e., stimulant-based overdose). There is no naloxone equivalent for stimulant based overdoses, instead an individual is encouraged to relax, remain hydrated, and supported to cool down. It is worth noting there are unconventional symptoms of overdose; many of these are as a function of adulterated supply of the chosen substance. Overdose symptoms include pinpoint pupils, respiratory depression, blue-grey lips, low

oxygen saturation (hypoxia), and unconsciousness; with less typical overdose symptoms including muscle rigidity, dyskinesia, excessively fast, irregular, or slow heart rate, overheating, hypoxia manifesting as giddiness or excitability, confusion, or anisocoria (383). Dertadian describes three themes of overdose presentation, 1) 'blue-in the face' overdose with a clear discoloration present, 2) hypoxic, where oxygen is low, and 3) 'paradoxical' overdose which relies on the staff knowledge of client behaviour and when it deviates from the norm (384). Where fentanyl is likely to be used or is a likely contaminant of unregulated drug supply, the symptoms may appear rapidly including body and chest rigidity and persist over time. This places increased pressure on OPC staff to identify symptoms early, monitor closely, and provide oxygen and naloxone (385). Mayer and colleagues note, in many cases fentanyl involved overdose events are unpleasant, and often unexpected for the person who uses drugs (385). One audit of fentanyl at the Sydney OPC suggested that between 2012 and August 2015, around 8% of overdose events involved fentanyl (386). The severity of overdose may also be influenced by patterns of polydrug use (387).

4.2.3 Needle and Syringe Programme Provision

Needle, syringe, and other equipment provision is an essential facility of the OPC to support health and reduce harm.

Pauly and colleagues detailed the importance of integrating equipment in the OPC (186), without this provision an OPC would be "incomplete harm reduction". Fry and colleagues (72) illustrate over three quarters are in support of OPC needle and syringe programme provision in sites. This was 97% in Alberta (73). Even if services did not provide an inhalation service, it would be helpful to also distribute inhalation equipment such as pipes (73). The provision and disposal of sterile, appropriate equipment is an essential function of an OPC.

4.2.4 Opioid assisted therapy including heroin assisted treatment and wider health support including drug treatment

Integration with opioid assisted therapy and drug treatment can result in cost savings and improved wellbeing for users. These can be part of an integrated or linked service.

Glasgow proposed a co-located HAT and OPC model back in 2017 to help reduce the high health and social consequences of public injecting in the city centre (388, 389). Kilmer and colleagues also recommend the co-existence of OPCs and HAT where possible in the USA (390); the extent of the public health crisis requires the interplay of individual evidence-based harm reduction strategies. A low threshold

peer-led service in Vancouver, 'the Molson' provides either up to two daily doses of hydromorphone (max 400mg per day) via nursing staff, or hydromorphone tablets (up to 16 mg each hour; up to 80mg in one day) with on-site nursing staff next to the OPC (391). There are very tangible benefits of providing this facility, a recent service in Middlesbrough, UK demonstrated considerable cost savings and benefits to health and wellbeing amongst those who had tried many other treatment options (392).

Bardwell and colleagues explored the integration of OPCs into wider community healthcare settings (393). Integrating services together depends on building design, supporting privacy and anonymity, limits on hours of operation, and the optional nature of accessing services. Connections to wider networks of health e.g. community addiction teams, health and social care services, and other services to help address adverse life circumstances can be helpful (394). At a proposed integrated site in Alberta, 80% wanted referral to treatment, 75% wanted support with their substance use, and 85% wanted help with health concerns (73). In addition, there may be a need to support individuals who use drugs in hospital (161); without this provision there are risks of secretive use (and complications in the healthcare provision), use in bathrooms, early discharge without the treatment provided, or involuntary discharge.

It will be important to determine defined pathways to high quality addiction treatment services, primary care, mental health, housing, and other social supports that will likely welcome OPC clients (225, 358). Better healthcare and adherence to treatment pathways are more likely when there is collaboration and honesty between the healthcare provider and client, and the client feels their needs and wants are accommodated and valued (395). Others have identified issues in the provision of treatment support for those who seek it; availability of treatment such as detoxification and other services is central to the success (187).

4.2.5 HCV and HIV support

Training and support for HCV/HIV prevention and treatment is important (396), with the success of these support services relying on minimal waiting times and a non-stigmatising approach.

In a survey of OPCs the need was identified strongly amongst OPC clients, but most often available through referral to an offsite facility (397). The HCV and HIV support should also be complemented with access and pathways to wider addiction treatment given the association between abilities to access treatment and reduction of risky behaviours which might result in HIV/HCV (398, 399). This

becomes ever more important in ageing cohorts of OPC service users (400). Similarly, there is a recognition of the role of OPCs as a novel facility to support HIV treatment and prevention and widen access to support through pre-planned channels (401). As Milloy and colleagues attest, the success of HIV/HCV support is conditional on minimal waiting lists when provision is requested, and services taking a supportive, non-stigmatising approach (398). Integrated care models can be particularly helpful where there is a need (402).

4.2.6 Drug checking facilities

Drug checking is a harm reduction strategy which allows individuals to find out content and strength of substances that they are intending to consume. It is a knowledge forming process which can facilitate risk reduction.

Drug checking supports knowledge about the drug supply in each area to support public health and legal responses (227, 233). Drug checking is often accepted as a potential health intervention; Kennedy et al., (403) found of the 180 people who use drugs in their study, 43% said they would use drug checking frequently if available. Being female and homeless increased the likelihood of intention to use drug checking frequently.

Some OPCs offer drug checking. For example, in the Molson OPC, people liked the knowledge so they could adjust their dose (particularly around fentanyl levels), and those who used stimulants used the knowledge to avoid fentanyl exposure (404). This was echoed in a pilot drug checking system in Vancouver, where of the 907 samples expected to be heroin 91% tested positive for fentanyl (233). Whilst the exact composition of a substance can be helpful, as alternative substances are not always available, it is often impossible to get drugs which are not adulterated (403). In Mexico, women using a facility described how behaviour change in response to the results of drug checking is restricted as it was not possible to get a supply of heroin without at least some fentanyl on the US-Mexico border (405).

Photo credit of Newcastle SSDP

The nature of the drug supply in a region can be useful to health

authorities and wider stakeholder groups. They can anonymously communicate the findings with health authorities, who cascade it to providers and wider communities of people who use drugs (e.g. through communities of practice, and/or text messaging alerts). In 2017/8 Barratt and colleagues checked drugs for Fentanyl through urinalysis to establish if unintentional fentanyl use was occurring through the drug supply in Australia (406). Drug checking technologies each have their pros and cons, e.g. the Fourier transform infrared spectrometer performs well in accuracy and ease of use; however, it cannot always detect low concentrations of substances such as fentanyl, and so the use of immunoassay strips can add that capability (407). The legal position of holding substances at a facility for checking and the ease of checking samples may need to be considered in operational guidelines, and in discussions with police and policy makers before an OPC opens (229).

4.2.7 Food, drink, and other wellbeing services

It can be useful to provide space for basic needs including food, drink, clothing, and space to support holistic wellbeing and improved quality of life.

Some spaces provide basic tea, coffee, or toast/snacks provision, or clothing (9). Others, like La Strada have a café attached; this provides a welcoming atmosphere where individuals can relax and meet others (356). It can also provide a space for individuals to 'be', to spend time without expectation, before or after the consumption event. A survey of Rotterdam services showed the predominantly used options included coffee and a chat (73%), eating (57%), washing clothes and/or having a shower (46%), and talking about personal issues (45%) (96). In considering what clients would want in a service, one study noted a shower, telephone, television, washing machine, a hot meal, and/or a post box as useful additions (68). Din (68) also reported strong desire to have psychological support (88%) and support to find a job (91%). Richardson did not find a negative impact on employment for those who used an OPC in Canada, and recommended OPCs consider support for employment prospects where possible (408). Those in Lethbridge, Canada considered a lack of social space and activities as a reason not to use the OPC (95). An extensive list of potential services summarised from European facilities is available (16, 17).

4.2.8 Safety and support of clients and staff

To support the safety at OPCs several measures can be taken to minimise risks for all. These include clear signage and rules, de-escalation, training, support, communication, and peer involvement.

Some guidance documents describe a range of mechanisms to promote safety and security of clients and staff (358). The first and easiest is clear, visible signage of the rules of the site. Other options include walkie-talkies for communication and restricting access in exceptional circumstances. Some sites have security guards, others use de-escalation and crisis prevention training of staff and volunteers (89). These include the control of who has access to the OPC, reducing loitering, training staff if/when to contact emergency services (including police or ambulance staff), infection prevention and control, and use of standard operating procedures.

Olding and colleagues (409) also observed considerable burnout amongst staff at services, particularly those with lived/living experience of drug use. Working conditions and fair pay structures should mirror other staff in similar roles. Ideally, we should recognise the role not as a voluntary position but with a formal employment structure to avoid extending structural and economic disadvantage (although recognition of challenges for sites with minimal resource). As many sources attest, the role of those with lived or living experience can be a crucial determinant of an effective OPC service e.g. (375).

Staff may need access to counselling (404). Opening OPCs, whilst they may be stressful to operate, reduced trauma for staff and service users, even if the sites were temporary (186). One quote noted:

> *"I think it's created a huge relief for a lot of [staff]. And for [service users] as well because, I mean, we were getting to a point where we were responding to overdoses on a daily basis. And so, shifting from outreach workers to emergency response on a daily basis was putting a toll on all of us. Because not only could we not do our jobs, [service users] weren't feeling supported as much anymore because we're just putting out fires. Consistently. So, I think that kind of takes a toll on everybody." pp. 6 (186)*

In a study of staff running 'Quai 9' in Geneva, Switzerland, staff highlighted some ethical dilemmas faced in OPCs included problems around assisted injection, clients refusal of healthcare when in need, new injectors, age restrictions, pregnant clients, client self-harm, and lack of participation in initiatives designed to benefit clients as important elements of their work to consider and address in

their work (410). Reflection on practice and working together to resolve issues in a flexible, ethical framework helps to support staff and client autonomy and safety.

4.2.9 Relationship building and connection including high quality advice

Relationship building and connection is central to a successful and effective OPC.

Staff need a range of characteristics (345). These were thought to include the capacity to accept and respect individual differences; self-awareness, an open mind, and good boundaries; understanding of the local community; acceptance that all are on their own journeys, respect of individual choices and people working at their own pace; being a team-worker and adaptable; a sense of humour; and having a support network and self-care to help you stay well during the work (331). Staff can build relationships through not pushing too hard for change, recognising the challenges facing the whole person beyond their substance use, listening actively and inquiring about wellbeing, and asking open-ended questions (345). The importance of this humanity was well captured in an ethnographic study with people accessing a Sydney service who described their use of the service as creating a ***"sense of personhood, survivor-hood, community and belonging"*** pp.829 (411). This can provide the basis for healthful change, and help a client imagine a long-term future for themselves (27, 124, 412).

Rance and Fraser (413) describe the development of the relationship between staff and clients in OPC settings. They describe that as staff observe drug use, there is an accidental intimacy which leads to new realisations of self, belonging, and citizenship. This intimacy also allows for other 'overdose' events to be identified and treated, where individual staff can determine behaviour odd for a particular client at an OPC and intervene early to provide essential support (384). Pauly and colleagues describe a development of trust which can be enhanced when individuals have lived or living experience, but empathic individuals without lived/living experience can also develop strong relationships (186). These allow for conversations beyond use, to what is going on in a person's life beyond only consumption.

Peacey also described the role of peers and relationship building (170). Many individuals said that discussions with peers were a reason to attend regularly, and many heard about the OPC in Sydney through social networks and word of mouth. There are some good examples of innovative partnerships with peers to improve healthier injecting practice through innovative conversations on recordings of injecting practice (414). Clients rely on the social functions of the

OPC; many who have their own home or other private place to use their drugs still choose to maintain contact with friends made through the site and access services (170, 186).

Salmon and colleagues remind us of the importance of high-quality advice to promote health, with approximately 30% of their clients experiencing lifetime injecting related issues (238). In Vancouver, Wood and colleagues (415) describe how 34% received safer injecting education; this was also associated with requiring help to inject in the past six months (OR(95%CI)=2.2(1.6-3.0)). The strong link between requiring help to inject and HIV risk is illustrative of the importance of the advice function in an OPC to improve injecting practice and reduce HIV risks. Advice on equipment can also be helpful to reduce harms (416). There is also the opportunity for wider health prevention e.g. evaluated heart health in a Danish site (417), vaccine uptake (418), or smoking cessation (419, 420). A core OPC function is to provide thoughtful, empathic human support from staff and those using the service (344).

4.2.10 Opening hours and referral to OPCs

Opening hours need to be carefully planned as a balance of resources available and the need to provide a safe, supportive, harm reducing environment for OPC users.

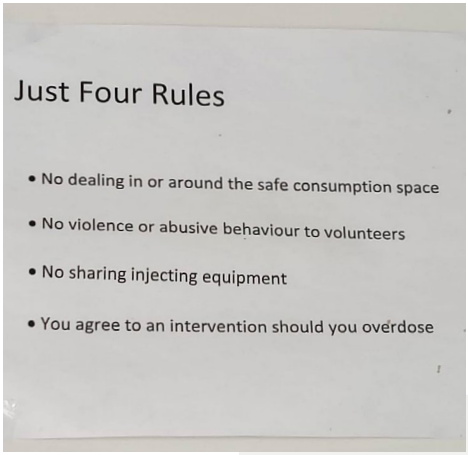
There are some 24 hour facilities such as Stanzetta in Italy which have seen improvements for people who use drugs including a reduced public drug use scene and drug related litter. However, as an unsanctioned site there are challenges to staffing and resources available (421). Opening for 24 hours is not typical; funding and other constraints often limit opening hours, and services open mostly during daylight hours. It is unlikely an OPC can facilitate every consumption event in an area for this reason (104). We also know that the risks of overdose increase outside of hours of opening (107, 184, 199, 422). Support can mitigate some of these such as Buddy Up which can support individuals using drugs alone, the provision of take-home naloxone, and risk-prevention measures. There are apps and wearable devices such as watches which show promise in helping profile overdose risk and improve self-efficacy to prevent overdose (423-425) and indeed some of these have been evaluated in OPCs as proof-of-concept (426).

The Ministry of Health and Long-Term Care in Canada recommend opening for seven days a week, the nature of substance use for people who use drugs who may attend an OPC reflects daily use (358). In Europe, all facilities are open on

weekdays with around two-thirds open on weekend days, often with shorter hours (16, 17, 217). The weather is also a primary consideration for opening hours, some countries have colder winters and as one person illustrated:

> *"it's very nice to be able to sit inside if you don't have a house and it's cold." pp.96 (96)*

Evening opening hours for one Netherlands facility were particularly welcomed. Depending on the substance(s) there may be additional risks at night-time. Those who used a Barcelona facility during a night-time period were more likely to be women, homeless, and injecting stimulants (422). Those who used heroin had a higher likelihood of non-fatal overdose during the night-time period.



As a core outcome for community stakeholders is to reduce public injecting, a careful balance of OPC opening hours can support this goal. However, as Pauly and colleagues have noted (186) there may be no choice but to use publicly when the time is restricted. Opening hours were thought to contribute to less public use in Germany over six months (175). The urgent realities of drug use may mean that a 10 minute wait feels like many hours (82). This concern was echoed in Rotterdam; whilst some facilities have no time limits, others restrict use (with a pass) to 15-60 minutes, with no return until after 30 minutes. No time limits might encourage people to stay longer but increase queues. And time limits might reduce the utility of the service (96), provide a barrier to access, or lead to intermittent access (81). It is not recommended to impose a time limit on how long a person should spend at a facility; however, limits may be unavoidable when a facility is busy (138).

McKnight et al. (427) in a retrospective cohort, found increased waiting time at an OPC was associated with significantly increased likelihood of public injecting (aOR(95%CI)=3.3(2.1-5.6)). This can be compounded if there is no 'chill out' space after individuals have left (186). Research by Small and colleagues illustrated around 10% of clients may leave whilst waiting for space to become available (428) and around 20% would prefer to wait at the OPC rather than injecting elsewhere

including in public spaces (429). The journey of persons using drugs through a proposed service should be carefully considered, noting adjustments may be required from the plans to when a facility opens with respect to opening hours, time restrictions, space offered, or resources available. It may be impossible to reduce queues, and where possible capacity should be carefully planned to minimise community impact and public drug use (17).

Some researchers found variation in use across the week with a peak during week days (understandable as one service closes at the weekend), and most use occasions between 11am and 7pm (181). This survey of Frankfurt services also revealed differences in time spent in a consumption process from 19 minutes for nasal heroin use to 38 minutes for intravenous use of heroin and crack. Again, this highlights the importance of knowing the clientele of a facility and the usage patterns of potential service users. Each of the four services in Frankfurt differ in opening hours, demographic profile, and drugs used. Elsewhere, typically individuals use OPCs for on average 30 minutes, with a range between 15 -90 minutes (17).

Regarding referral to OPCs, 75% of emergency healthcare workers are in favour of OPCs, and 85% of physicians would refer their clients to an OPC service (430). There is a recognition amongst physicians and emergency healthcare workers that OPCs may be a valuable health service which could relieve some of their pressures at work through being a more appropriate facility to meet their needs (34). In interviews with policy and healthcare specialists in Romania, there was strong agreement that this could provide a valuable reduction in emergency care, overdose deaths, BBV transmission, injecting injuries, and poor injecting techniques (68). Peer-recovery coaches (living experience of recovery) also potentially play a role in support, with around half in support of OPCs (those less likely to support were females, non-white ethnicity, and preferred abstinence-based treatment) (431). Data suggests that the most common referrals to an OPC service are addiction treatment staff, shelter staff, police, outreach workers, and other OPC users (16, 17).

4.3 Setting rules

A range of rules govern activities at sites. Ideally these should be few, and balance needs of the service (including legal requirements) with needs of those who use the service. Rules should be justifiable and created in collaboration with staff and OPC users.

Intake staff can communicate the rules in written format, verbally discuss them,

or they can be presented through posters at OPCs (17). Sometimes rules are referred to as 'shared responsibilities' illustrative of partnerships rather than a hierarchical approach (404). This should be a balance of legal position, protecting staff, protecting service users, and ideally be as few as possible (9). Some have noted the inclusion of harm reduction practices and interventions in rules can both enable and constrain health (432). The challenge for OPCs is to balance a medical or public health model with creating the lowest barrier service to meet the needs of people who use drugs in our communities (63). We note cautions that OPCs should not become agencies of excessive control, surveillance, management, education or forced rehabilitation (262). Ultimately, rules should aim to co-exist with the conceptualisation of the OPC as 'safe sanctuary' (64, 433).

Rules should be set collaboratively. They should be reviewed with potential clients before a service opens, and then evolve with actual clients of the open OPC service to ensure maximum use and a sense of ownership (82, 87, 434). It is likely to involve compromise amongst individuals on what is most suitable (435). Some rules will put clients off attending, and thus, each rule needs to be carefully justified (especially to potential service users) and explained to maximise the harm reduction benefit (138, 434). Flexibility and agility to arising issues is key to a successful OPC operation (135, 138, 434). We are reminded the process of drug consumption is not just a 'technical act' but also one which has routines, rituals, pleasures, and group dynamics (436). The facilitation of these in the healthcare context will make OPC operation a success (259).

Rules can be very simple. The Glasgow unsanctioned service had just four: no drug dealing in or around the service, no violence or abusive behaviour towards volunteers or service users, no sharing of equipment, and agreeing to an intervention should there be an overdose event (9).

4.3.1 Injection and other use practices

There may be good reasons for the need for assisted injection, however, in many jurisdictions it is illegal. High quality advice may support but not completely alleviate the need. There are also considerations for smoking and other modes of administration including ventilation and transition between consumption modes.

Rules may govern injecting practices. Assisted injection rules in 11 studies were summarised by Xavier and colleagues (138). Often assisted injection was important to potential OPC clients, for example some have disabilities which makes it challenging to inject, and women more often require help given

physiological differences to men (437, 438). Hedrich (16) noted some facilities restrict locations of injecting; however, again, this is not recommended as some sites are the only viable locations due to long-term health issues or long injecting histories.

As one of the core functions of an OPC, the provision of high-quality of advice can help reduce the need for assisted injection and support for safer, independent injecting practices (439). Some successful programs exist to support peer assistance (440). Often those who received advice at one facility reduced the need for another to help with the physical injection (194). It does, however, require staff at a facility are knowledgeable and trained in injecting practices and with an understanding of the challenges faced by people who inject drugs.

We note work by Kolla et al. (441) who state that womxn, are at higher risk of overdose when injected by another; they estimated around 8% of those who used the Moss Park facility received an assisted injection. As such, where there are rules that prevent assisted injection and people who need this to avoid withdrawal states, this may increase risk of fatal overdose as individuals will be at higher risk of harm when denied access to the swift overdose response inside an OPC. Fairbairn and colleagues noted that there can also be harms associated with assisted injecting, and socio structural factors such as control and power dynamics (442). Again, a supportive environment may help reduce some of these negative impacts.

In the UK, there would be liability and legal issues in relation to direct injection support (443) and thus it is not recommended in the UK unless legal exemptions emerge (e.g. the federal exemption in Alberta for peer-assisted injections can help (444)). Similarly, although the Xavier et al review spoke of views on sharing drugs on site, summarising views on nine studies, this would not be legal in the UK and is similarly not recommended for sites (138).

Some sites also provide other routes of administration such as smoking services. Due to service demand, often there can be a time limit on the use of a space for smoking. In one facility in Vancouver, they applied a discretionary 5-10 minutes, that was expanded and contracted where needed to reduce the structural and everyday violence of public crack cocaine smoking. Ideally, again, equipment should not be shared (249). Watson and colleagues performed a broad consultation on smoking facilities with 236 fire, police, ambulance service personnel, city officials and people who use drugs included in a thematic analysis (365). Whilst there were considerable challenges in implementing a smoking space alongside an injecting space given the rules, there was an acknowledgement of the public health and safety benefits, particularly in

creating space for transition between injecting and smoking.

4.3.2 First-time consumption

First-time injections are not facilitated on site, instead individuals would be offered support.

Xavier et al. (138) reported on four studies which considered whether people should inject/use drugs for the first time in the OPC. Although there was some concern amongst these studies as to the need for the rule, people who are unclear on how to inject who approach an OPC may be easier to identify as using for the first time. Typically, those potentially experiencing their first injection would be supported in other ways (75, 77); perhaps redirected to support services rather than facilitating a first injection. This is typical practice see 3.4.3.

4.3.3 Gender

Although most clients of OPCs are males, there are considerations for OPCs in relation to gender and creating a safe space by design for all who visit.

Women and others who do not identify as male may have potential barriers to attending OPCs with those who use drugs more likely to experience trauma and violence, have problems with injecting, and potentially engage in sex work (445-447). Some suggest OPCs are predominantly masculine spaces; a qualitative study in Vancouver of women who use drugs noted that whilst OPCs are safer than street-drug use, safety can be enhanced through consultation with females on set-up and running of a service (64, 448). There are also practical realities such as privacy of injecting. For example, women or those who identify as trans/gender queer/non-binary may not feel comfortable undressing in an open space; this may need to be addressed to encourage attendance of these individuals (186). Fairbairn agrees (156). In this qualitative study of Vancouver OPC users, facilities could be a haven from violence and norms which governed the preparation of drugs and their administration. It was suggested that in OPCs, women could get more agency over their own lives and use more safely. However, other research suggested although OPC use reduced exposure to violence for men over four years (aOR(95%CI)=0.6(.5-.9)); the same significant finding was not found in women (aOR(95%CI)=1.0(.6-1.7)) (449). Violence, and particularly against womxn remains a strong concern.

It may be helpful to set up a womxn-only OPC such as SisterSpace (450) or Metzineres (451). Longer hours of operation appear to benefit females with a higher proportion of women using a 24-hour facility in Barcelona during the

night-time (422). Themes for women attending an OPC (n=33) suggested that OPCs offer 1) safety from violence, discrimination, and coercion; 2) a unique service access point; 3) a space which reduces marginalisation; and 4) gender-responsive protocols and frameworks (452, 453). Xavier et al (452) and Forteza (451) provide more details on the reality of womxn in injecting spaces often in their own words. These resources are helpful to create gender inclusivity and reduce inequities in OPC spaces. Collins et al. (49) highlighted some additional barriers including difficulty knowing who else may be accessing OPCs, leading people to choose to use alone. This was specifically in a housing based OPC.

Yet there are some policies which exclude womxn including those in relation to children. Four studies in a scoping review (452) explored whether pregnant persons should be able to attend an OPC. Legal frameworks underpinning the clinical care may need to be changed to avoid medical liability (77), but there is also an imperative to support people with children and people who are pregnant. The connection to other linked services may help to prevent harm in this population (75).

Regarding men, one study in Sydney interviewed males attending the medically supervised injecting facility acknowledging the OPC role in reducing continuous social marginalisation, criminalisation, and narratives of social nuisance and violence directed at them (454). Although evidence is limited on the detail of the male experience, OPCs would seem to play a role in reducing harm for males. Like research on womxn, fear of police interactions was common in this male population and would lead to less use of OPCs if not carefully managed through partnership (see 4.5).

4.3.4 Age

Most of those attending OPCs are adults in their 30s-50s. However, there may be important considerations for younger clients, particularly those who are vulnerably housed or lacking safe spaces.

Recommendations summarised from Xavier et al. (138) suggest a minimum age for OPC between 14 to 21 years old. Whilst some suggest age restrictions might shield youth from observing drug use (93, 435); exclusion based on age may also be problematic particularly for street-involved youth who may be reaching out to OPCs for support and safety (120). Young people can be at heightened risk for exploitation, vulnerability, and other challenges; excluding those who are injecting drugs who are young could increase the harm (77, 455). Working with young people at the earliest occasion gives an opportunity to reduce and prevent longer

term harms. As shown in 4.3.2 first time injection is not facilitated at OPCs, and as illustrated by (91, 178-180) in 3.2.2, there is a demonstrated need in young people for access to services. There are also successful exemplars of services which can support children on site e.g. Metzineres in Barcelona (456).

4.3.5 Substance use factors

The reality of consumption may involve the use of one or more psychoactive substance. The best assessment of risk for any OPC client will be facilitated through honest conversations and disclosure in a safe, stigma-free environment.

Only one study considered stakeholder views on whether those in opioid substitution therapy (OST) should be facilitated access to OPCs. The priority opinion was not to facilitate this (77). Indeed facilities in Germany and Luxembourg broadly exclude those on OST (3). However, this may require more careful consideration. Recently there has been a greater acknowledgement of opioid substitution as part of a wider profile of perception of risk. Around 65% of injections supervised in one facility in Glasgow had received methadone/ buprenorphine treatment; considerable harm could have resulted if they had been refused access (9). In Melbourne, one third of an OPC cohort were on opioid substitution therapy (457). To disallow those who are using OST may encourage people to hide behaviours which does not help save lives (9). If OPC clients are planning to use alongside their OST prescription, it is better that they do so in hygienic and supportive settings where staff are available to support (137). In addition, an exploration of factors predicting respiratory arrest in opioid overdose (n=222) found no significant association between the concomitant use of alcohol, cocaine, or methadone and the experience of respiratory arrest (458).

A similar perspective is appropriate for rules in relation to client intoxication. Again, where rules are imposed, it encourages hiding the truth of intoxication which could cause more harm than it saves (75, 77). For this reason, it is not recommended to create restrictions on substance use. Any facility must be prepared to discuss the true nature of all health risks a person who is using drugs may face, and all efforts should be made to reduce barriers to honest disclosure from healthcare or service providers so that informed, useful, and honest support can be provided by OPC staff (51).

4.3.6 Handwashing

In line with all healthcare settings, it is strongly recommended all in an OPC wash their hands regularly, and OPC users wash their hands prior to consumption.

People who use drugs strongly supported this rule (154, 434). All present at services (staff, people who use the service, visitors) should regularly wash their hands at the OPC as standardised good practice.

4.3.7 Registration and client anonymity

A continued service record for each client will help to provide continuity of effective support. In some cases, this may require careful planning on behalf of the OPC to alleviate any privacy concerns potential or actual OPC users might have.

A concern from potential service users is a loss of anonymity, and sometimes, individuals may choose not to register or use an OPC site if they must disclose more than they are comfortable sharing. As Wood remind us (459) the primary function of a site is to provide as low threshold a service as possible to maximise the use of the service and the benefits to the community (including people with living experience of drug use). Specific 'handles' or 'nicknames' can be used in replacement to full names, and other information can be searched from the registration data should these handles be forgotten (459). Those in San Francisco were happy for a range of rules, except for video-surveillance, and being required to show identification to use the service (92). Some have recommended using formal identification with OPCs supporting clients to obtain identification if they do not have it already (187); however, this may be a barrier to service use. Consultation with potential and actual service users is key to success (460).

4.4 Community liaison

Community liaison is essential before an OPC opens, during its operation, and beyond into the expansion of services where there is a need (139). Community is broad, it encompasses local businesses or civic centres, residents, people who use drugs; all who use the space (indoor or outdoor) in an area.

Involving civic and public health authorities is important to the success of OPC operation (44, 461). Communities have concerns about the running of the OPC and how it will affect their daily lives; concerns also exist about OPC proximity to homes, businesses, and schools (74, 462, 463). These concerns need to be taken

seriously. Community recommendations from a consultation process in Ontario, Canada include provision of information about the goals and benefits of OPCs, sharing evaluation of services, and the establishment of community feedback mechanism to respond to emerging issues (464). Some specific concerns that may be highlighted by a range of community stakeholders are explored below.

4.4.1 Increases of individuals who use drugs to an area and/or increases in people who use drugs (i.e. that more people will use now an OPC is available)

Often called the 'honeypot' effect, evidence does not support the conclusion that there will be an influx of people who use drugs when an OPC opens. People who use drugs are already members of communities.

Stakeholder groups often have concerns about an increase in the number of people using drugs locally if an OPC were opened (70, 76, 126, 462); however, these concerns are unsupported by the evidence (54). Qualitative research with people who use intravenous drugs shows injecting in public spaces can be a necessity which is not preferred, is unhygienic, and can invoke shame and fear (99). Functionally, Rhodes warns we may unwittingly contribute to the ghettoization of people who use drugs in public spaces through the provision of OPCs, and that OPC operators should know of this when designing community outreach plans (99). Those setting up OPCs should be mindful of tensions in setting up community regeneration projects particularly if they exclude those who are socially disadvantaged and unable to express their voice on changes. Again, consultation and service development with a wide range of stakeholders helps to ease these challenges, and particularly involving people who might use the service and need space in the environment. See also sections in the evidence review relating to community matters including improving communities, reducing publicly observable use of drugs, drug related litter, and not increasing crime (Section 3.5).

4.4.2 How the media represents OPCs perpetuates stigma and heightens concerns

Media representation of OPCs may raise concerns, particularly when a service opens. Preparation of evidence-based information can be helpful to counter incorrect narratives.

An exploration of media representation from 1990's to present which included 1735 articles suggest the focus has moved away from professional discussions, and towards the challenges facing communities who fear what might happen

if an OPC opened in their area (465). This leaves limited spaces for individuals who use drugs to join the conversation and advocate for their right to space. Policy exploration in the UK, Denmark, and France illustrated the importance of negotiating relations between those making or influencing decisions and those who would receive the consequences of those decisions (432). Wilkins has noted an increase in searches around OPCs when one opens citing key moments which prompted the search (466). This included when the sanctioned site was opened in New York City, and when a judge declared that an OPC could be opened in Philadelphia. This is illustrative of a curiosity around OPCs amongst the public and illustrates the importance of evidenced based information when OPC and related terms are searched for.

4.4.3 Businesses and overdose prevention

It is important to connect with local businesses and their staff in relation to overdose prevention interventions. They are key advocates and beneficiaries of good OPC operation.

Given the statistics around public injecting in and around businesses and the experiences of intervention by businesses and service employees (see (302, 303)), an OPC may provide dialogue and training on interventions involving communities where it is needed. This is likely to be important in the early days of the OPC as individuals find out it is open. Indeed businesses can be trained and hold naloxone to support overdose prevention; it is, like OPCs a 'community asset' (6, 379).

4.4.4 Education and liaison

OPCs can often be an education hub to reduce harm and stigma and to show OPCs are not to be feared. This function can sit alongside the primary functions of an OPC to provide healthcare and support.

As McCann and Temenos note, these are places for useful and persuasive

storytelling to reduce harm and stigma (467). OPC operators will need to support ongoing community engagement and liaison services (358). We can reimagine city and other spaces to include the most vulnerable members of our society and as a hub to promote wellbeing trajectories (468). There are some excellent examples of this at OPCs around the world, e.g. OnPointNYC invites community members and other stakeholders to view their work (within reason, and recognising the need for clients to have their privacy respected during their healthcare journey within the centre http://www.onpointnyc.org). Like OnPointNYC, external facing liaison work can successfully incorporate community clean-up of syringes and other equipment to help improve the public realm and community relations. This was also clear in a feasibility study in England; a cohort of individuals in West Midlands worked on a community clean-up of needles and other used equipment as part of the work (82). In Sydney, individuals can visit on appointment, on a prespecified day, and the service is closed to clients to protect their privacy and use of the space (469). Visits need to be thoughtful, respectful, and unobtrusive and protect the rights and privacy of service users.

4.5 Policing and emergency staff liaison

Creation of a positive working alliance with police is important for OPCs. Early interaction and involvement with the police and/or the production of memorandums of understanding before an OPC opens and throughout its operation can improve relations and protect both institutions. Emergency service personnel of all types working in areas around OPCs often need support or training on how OPCs and the surrounding area should be approached so that they can fulfil their mission as an organisation and ultimately keep people safe.

Named contacts in the OPC and in the local police can help to counter any issues that arise. Effective co-existence is possible and can be achieved through planning and collaboration from idea to long-term implementation (470). Policing liaison is likely to be most successful when:

- Engagement with police happens at the **earliest opportunity** when developing a service and continues when it opens as part of service planning,
- **Police chiefs** are in favour (or at least tolerant) of the OPC,
- There are dedicated, **named liaison** persons at the OPC and in the police,
- There are negotiated **boundary agreements**, and
- There is regular **face to face** contact (471).

Police officers often make the most referrals to an open OPC (73% of referrals to European services), equalled only by those in the addiction services (17). A study in Vancouver aimed to determine if local police affected use of Insite, and findings showed approximately 17% of participants reported having been referred to the facility by police officers when they were found to be injecting in public (472). Those engaged in sex work and frequent cocaine injection were more likely to be referred. Overall, this study suggests that local police gained a mechanism to address public injection drug use that promotes public safety. This also shows that police may play a role in OPC success and use. A study in Vancouver aimed to determine if local police affected use of Insite, and findings showed approximately 17% of participants reported having been referred to the facility by police officers when they were found injecting in public (472). Those engaged in sex work and frequent cocaine injection were more likely to be referred. Overall, this study suggests that local police gained a mechanism to address public injection drug use that promotes public safety. This also shows that police play a role in OPC success and use.

When an OPC opens, regardless of the nature of legislative change to support, the continued operation is contingent on police knowledge, respect of local agreements, and any exemptions for OPCs (86). Evidence from Bates (305) note police would welcome guidance on how to police OPCs, with confusion how to police possession and/or dealing in and around the centre. Training and support for officers on harm reduction in an area with an emerging OPC will be helpful to support both policing and OPC activities (304, 306, 473). For example, as part of Proyecto Escudo in Mexico, following training, 86.2% of police officers felt they would refer people who use drugs to the service. People who use drugs also thought training of police around OPCs and what they do would help improve relations, interactions, and prevent historical conflicts from (re-)occurring (304). In Alberta, there were some concerns about crime around OPCs, but it recognised that stronger collaboration between OPC personnel, community members, and policing would ease fears and allow co-occurrence of policing practices and OPC service provision (187).

A primary concern for those who use OPCs is potential threats posed by police including detainment for those who possess drugs or equipment for personal use (131). Bardwell and colleagues supported this conclusion; negative relationships with police and a lack of understanding of how they would interact with the facility and the surrounding area were a key concern of those who might benefit from attending an OPC (79). Qualitative work with prospective service users shows fear about police interactions were a barrier to engagement in a potential OPC; distrust of the police was common (82). Policing was also identified as a

primary barrier to accessing OPCs in Vancouver; the gentrification of areas, and policing priorities led to greater fear of arrest and deterred service users from benefiting from services (474). This was echoed in Alberta, in 28 interviews and ethnographic observations, there was fear that OPCs could not protect its service users from police hassle (47). DeBeck described how drug market policing strategies may reduce healthcare use in people who use drugs (472); however, this can be rectified, and in some cases police can benefit from increased referral of clients to OPCs reducing community tensions and supporting public health initiatives. Negotiation with police to minimise contact whilst tackling the most severe crimes, even in unsanctioned sites, facilitated access and preservation of life (64). One of the primary barriers to OPC use is fear of arrest, with 38% of 326 opioid users in Boston, Baltimore, and Providence expressing these concerns (85).

Several concerns may occur but can somewhat be mitigated by memorandums of understanding and acknowledgement of realities at an OPC. For example acknowledgement that those who attend the service to avail of the supervised consumption will be in possession of drugs for their own personal use and/or without a prescription (475), and that

- These drugs will be obtained elsewhere,
- They will be of the amount for personal use at the service but may include enough for more than one use of the site and incorporate polydrug use patterns,
- The provision of drugs to another at the service (e.g. injecting another person) or through supply is prohibited, with systems in place to monitor this,
- That this would not be unlike existing concessions for other well-established services (e.g., needle exchange provision) where clients may be in possession of drugs at the time of entry to and exit from the premises.
- OPCs do not provide the drugs to be consumed at the service and do not hold drugs at the service for the use of any other person.

The harm-reduction successes of policing are acknowledged by Graham (476). They illustrated tensions between some police officers and services will exist, but dialogue between service providers and officers is essential to a mutual understanding of challenges faced by each. Dramatic shifts in perspectives are achievable through dialogue, e.g. in Ontario in 2012, strong and impassioned opposition from police chiefs (477) to a position of support as part of a comprehensive set of solutions to prevent overdose, serious adverse health events, maintain community safety, and achieve policing objectives (478). Strike and colleagues in four focus groups of serving officers in Toronto (90% who were

Constables) explored themes underpinning officer concerns (306). The first was what discretion means in practice when balancing the interests of the public and the responsibilities of their role:

> *"And how do we explain it [i.e., keeping a distance away from SCS] to the public? Because we know how to use discretion, but how do we explain it to a pissed off mother who says that she's seeing drug dealing behind her house [...]and what are we doing about it. It's a hard sell?" (East-End Division) pp.1921 (306).*

Other concerns including not understanding how OPCs work could be easily overcome with a tour. Police have concerns about the willingness of OPC staff to work with them in partnership (306), tours can also Build towards a shared confidence in working together. Police concerns were described in several ways, refusal to answer police inquiries, being unable to park or be close to the OPC, or inability to pursue suspects. Police staff were keen to stress they were less interested in possession, but more serious offences such as trafficking or violence:

> *"We're concerned with the drug dealers that hang out around those sites and then there's turf wars and then they bring guns with them, and so on and so forth. That is the problem that we're concerned with, okay? Not the one person that comes in with a little baggie." (East-End Division) pp.1922 (306)*

And later:

> *"And the problem that we're coming with is they're [SCS staff] not seeing what's happening on the outside and how the two are intertwined. And I think that that leads to a lot of barriers that we, that's resulted in our frustrations, that we can't open up the communication. We're willing to communicate. And the other side isn't." (Central Division 1) pp.1922 (306)*

The hopes for better communication were outlined in the following quote:

> *"What I would hope is that we would have, maybe not a warmer reception, but we'd have a good working relationship with the actual staff at the sites[...]historically, we don't always have a great relationship with some of these places. Sometimes it's us, sometimes it's them; sometimes a combination of both. But hopefully, we can kind of forge something that would be a positive for everyone in the area, not just the people using that facility." (West-End Division) pp.1922 (306)*

In discussions with 18 police officers, Watson et al. (83) reported there was considerable opposition from police with a suggestion that OPCs do not solve the

issues with addiction, they send an ambiguous message about the acceptability of drugs, and they interfere with policing effort. Much of this stems from a lack of understanding, effective communication, and how it would work alongside policing efforts. Dialogue that acknowledged and listened to the realities of all sides, builds a broader picture of what is going on in a community which can include knowledge from harm reduction efforts, and policing knowledge (83). These collaborations lead to novel understandings, e.g., police officers understanding some challenges of the abstinence approach to drugs as they apply it in their daily work:

> *"Maybe it's time to look at it the other way around. . . treat people better ...I think the police organisation is always very against that kind of policy. But I believe that now in Helsinki, we are changing to thinking. . . because we see that this war is lost." pp. 5 (229)*

In comparing two policing approaches in Canada, and how police interacted with people who use drugs revealed that the approach of police officers on the ground was an essential ingredient in the success of an OPC; police officers hold considerable power. Both Edmonton and Calgary had concentrated policing approaches where one site people who used the service felt safe from police interferences, and in the other they feared harassment, arrest, and being displaced (479). The nature of the police response is important, and more heavy-handed approaches have a negative impact on OPC outcomes. For more information on legal matters (particularly as they relate to the UK context) see Section 4.8.7.

It is also important to consider the roles of emergency service personnel in the discussions around OPCs and how to respond. Many emergency services personnel will be a primary source of information and care in emergency settings. Good working relationships are likely to support preservation of life and especially positive outcomes to any overdose events (34). Perlmutter and colleagues discuss some key elements to consider including how best to interact with OPC staff, how to improve safety for emergency service personnel and communicating the safety provided at OPCs for all who attend, and clarification of roles to fully realise the potential in reducing emergency healthcare use (34). There was a recognition of the importance of care following an overdose event and in identifying gaps in provision. Suggestions included planning standard operating procedures with input from emergency personnel, shared practical guidelines, and training together, this was summarised in the following quote from a paramedic:

> *"I think that the best way that we partner with that safe injection site staff is just make sure that those lines of communication are wide open, and*

when…it gets started up, we introduce ourselves and we're all aware of what everybody's jobs and responsibilities and capabilities are." pp.6 (34)

4.6 Staffing at OPCs

OPCs are operated with a range of staffing models with staff who may include medical or nursing staff, social workers, counsellors, or peers (i.e., staff have living or lived experience of substance use).

Staff need to be knowledgeable about issues facing people who use drugs, non-judgemental, and their qualifications can vary including degrees and accredited positions, lived or living experience, or on the job learning (118). A medical model, i.e., a service led by an employed practicing Doctor is the costliest model to operate because of the higher salaries of medical personnel. Nurse-led facilities are less costly, and more common (480). These typically would have their standard operating procedures determined by medical and nursing staff, with interventions and day-to-day leadership from nursing staff (346). Trained drug workers can also staff the facility. Peer-led models are the least expensive to staff. However, it remains important that peer workers are appropriately compensated and supported in employment structures which value the difficult and important work of saving lives (481). Without such structures, the model becomes unsustainable (9, 375, 482). OPCs in New York operate on a 3:1 or 4:1 basis in the injecting space. Canadian recommendations recommend 2:1 to allow for breaks (331).

All staff should be trained at a minimum in overdose intervention and first aid (9). Staff prevent overdoses and reduce the likelihood of fatal outcomes from overdose events. This can be achieved through intervention in overdose events,

advising individuals, providing a safe haven, and supporting individuals when they use (55). Aside from overdose response, staff provide education, tailored support, and a host of additional services, and they build relationships with clients who can then improve their health (351). All staff models should incorporate compassionate harm reduction and practical supports needed whether this is through lived, living, or learned experience. Confidentiality is an important part of service provision (72); many who might use an OPC have a history of judgemental service provision, and trust may take some time to be earned by staff. The meaningful and supported involvement of peers can be vital to creating the trust and safety which supports a successful service (483).

There should be some acknowledgement that the staff at OPCs have an extremely challenging job. Staff have experienced considerable grief from the loss of clients when they have left the facility, and the constant threat on services despite a growing local and international evidence base also take their toll (63). Other concerns include physical exhaustion and stress due to under resourcing, concern about client wellbeing and supports available, being unable to perform other tasks to support clients, overwhelm from external partners and media coverage, and stress on the continuity of the site (89). We are reminded by Goodhew and colleagues (167) of the extensive trauma histories of the clients using OPCs, and thus the need for staff to be trauma informed and supported through these approaches. Staff support is another cost to be considered to reduce the likelihood of staff requiring time off because of burnout and exhaustion. The range of benefits of working in OPCs are also clear. These include job satisfaction, acting out values of harm reduction, improved knowledge of drug use practice, increased compassion, and improved knowledge of the barriers experienced by clients and creative ways to overcome these (467).

McCann and Vadivelu (89) found the key characteristics for high-quality service delivery were being warm and friendly, caring and compassionate, understanding client needs, non-judgemental, knowledgeable about drug use realities, and skilled at de-escalation. Ethnographic research on OPC operation has noted how important staff are in maintaining a supportive environment; and in particular, training needs of staff include not just in overdose intervention and prevention, but also an understanding of the lived, and often urgent realities of the lives of people who use drugs (375).

4.7 Costing a service

The costs associated with a service depend on several factors, including the initial set up costs, staffing the facility, included services, nature of facility (fixed site, integrated, or mobile services), and the location.

This section includes some issues for consideration, and a subsection including costs associated with existing or hypothetical OPC services. There should be partnerships and clinical pathways developed into compassionate, stigma free healthcare. Ideally, all healthcare should be stigma free for drug users, but facilities which link externally should aim to identify providers and services which can improve outcomes for drug users through compassionate care to refer OPC clients to if the service is not available on site. The location will depend on the needs of the local area. Ideally an OPC is in an area where people who use drugs spend time, and often in a street-based drug scene. Potential service users typically cannot travel too far away, for example for cost or mobility reasons (85). For some considerations by type of site, see 2.2.

4.7.1 Costs associated with existing and hypothetical facilities

Costs vary depending on jurisdiction and country, legal requirements, staffing, services provided, size and type of facility. Funders can be local, regional, or national governments, charities, crowd funded or additional sources.

Estimates of costs at Insite, a sanctioned supervised drug injection site in North America, range from 1.5-3million CAD per year (318). Insite user statistics from 2019 state there were 170,731 visits by 5111 individuals in a particular year, with 1314 overdose interventions, 3158 clinical treatment interventions (including wound care or pregnancy tests), and clients predominantly used opioids (60%), stimulants (15%) and mixed substances (24%). Insite is a nurse-led service (484).

A Canadian study of the Safeworks Harm Reduction Program, established in 2017 as a nurse-led service, estimates an average cost of $62.19 CAD per visit for drug consumption and had an annual cost of $3.7 million CAD for their full year of operation in 2019 (220). The report notes that costs have increased over time in line with an increase in service use and suggest $2,364,876 CAD in cost savings were produced by the centre through averting the need for emergency services. While this does not fully offset operating costs, the authors did not examine additional variables like reduced needle sharing which they suggest may have led to an underestimation of cost savings. This does not consider the reduced burden on healthcare and ancillary services. A further publication of the same program reports monthly costs ranging between 59,674 – 313,310 CAD (222).

In modelling the costs and benefits associated with a potential OPC in San Francisco based on Insite, Irwin and colleagues (485) suggest a conservative estimate of $2 million USD to set up a 13-booth facility operating 18 hours a day. They estimate annual costs of $2.6 million USD ($2.4 million for operating costs

and $220,000 for annualised upfront costs). The study estimates savings of $2.33 USD for every dollar spent from averted overdose deaths and healthcare savings. The authors also noted routes for potential savings, for example by not requiring ambulance calls for every overdose and not requiring doctors and nurses to be staffed in roles which would be better suited respectively to nurses and peers.

A further modelling study based on a hypothetical facility in Baltimore, Maryland estimated annual costs of $1.8 million USD and savings of $7.8 million USD through prevention of overdose-related deaths and ambulance calls, hospitalisations, and infection prevention (310). Base costs for an OPC including needle and syringe exchange for a range of US cities were given in the review by Armbrecht and colleagues (116). A range of costs were proposed per city including an OPC with needle and syringe exchange programme, compared to a needle and syringe programme (NSP) on its own. They estimated an example cost to run a facility in Boston to be 2,153,000 USD. This is around 511,000 USD more expensive than an NSP service on its own. However, this report estimated the overall costs of the facility, ambulance costs, emergency department visit costs, and hospitalisation costs in the overall figures (for fully detailed assumptions see (116)). The overall costs for OPC+NSP were 2,261,000USD compared to 6,270,000USD for NSP alone; although the OPC+NSP costs just over 500,000 USD, healthcare costs saved were in excess of 4,000,000 compared to NSP alone. Similar figures were found for other cities, including Philadelphia, San Francisco, Atlanta, Baltimore, and Seattle. Kilmer and colleagues (390) suggest that while no studies formally compare OPCs and treatment, “back-of-the-envelope calculations” show that supervising a month’s use of an Insite client may be similar to the costs of providing methadone at a United States rate for the same period, based on cited annual methadone costs per participant of $3,769 USD versus an annual cost of $5,500 CAD (around $4,036 USD) for someone attending Insite for drug consumption twice a day.

Estimates of annual costs of services which include non-injecting routes of consumption range from 108,000USD for an unsanctioned Canadian inhalation facility run by VANDU, to Indro in Germany approximate 187,000 USD, and 1,164,000 USD for Pauluskerk, Rotterdam in the Netherlands (135). Costs for a proposed New York OPC suggest that implementation could cost between 250,000 USD-3,000,000USD depending on the facility, whether a service could be repurposed, or was standalone for long hours (221).

In a survey of funders of OPCs, funding most commonly came from local government (71%), followed by regional or state government (36%), national government (13%), with 13% adding from additional sources. The overlap of co-

funding was not clear. Kimber and colleagues reported that the mean budget per annum across 15 European OPCs was 440K EUR, ranging from 164K EUR to 859K EUR (486).

4.8 What does the evidence say about common challenges of OPCs

This section will draw on findings elsewhere in this document, to address some typical challenges to OPC operation despite evidence of their positive outcomes.

OPC operation, for some sites, remains under continued and ongoing political challenge despite evaluations of their effectiveness e.g., (100, 117, 487). Persistent myths need to be challenged and addressed. Barry and colleagues (488) note the most pressing counterarguments are that OPCs do not encourage drug use, or initiation of injection, and to stress the importance of the facility alongside investment in other treatment options (which can be accessed through OPC referral or independently). Some critics of OPCs claim they encourage drug use and facilitate addiction, while others have concerns about the effect of these facilities on their communities in terms of potential increases in crime, drug-related public nuisance, and property value. These concerns are broadly unsupported by evidence from existing sites; there is less resistance to OPCs once they are open at some sites (17, 276, 489) although it has continued in Paris [personal communication with Marie Jauffret Roustide]. Sometimes, there is an increase in support, however, there typically remains a committed group of those who are not in favour (296). Where issues arise adjustments to OPC processes and dialogue amongst community partners may improve outcomes for all concerned (187).

Controversies with OPC operation and challenge can come directly from key stakeholder groups or the interactions between them including between levels of power and role (465). Sometimes, the application of evidence-based harm-reduction policy elsewhere in policy frameworks does not prevent challenge with OPC opening and operation e.g., Portugal (61). Realistic expectations should be stressed when a new service opens. As Vander Laenen et al. have stated (137), OPCs will not end all public drug use, facilitate treatment for all, or solve criminal legal aspects from drug related, and drug related lifestyle offences. They should not replace other strategies such as treatment services, health and welfare services, or community policing, but add an evidence-based component to drug strategies.

4.8.1 Sending the 'wrong message'

Some may feel OPCs opening or continuing to operate send the wrong message about drug use. OPCs do not take a moral position on drugs. Instead by applying harm reduction principles, we can recognise the complexity of addiction, the reality of drug use and life circumstances, reduce stigma and self-stigma, and provide compassionate care which can improve quality of life and help individuals build resources to improve their own lives.

A key challenge is that some feel OPCs send the wrong message about drug use; the nature of what the wrong message is can be debated (490). For some, there is a feeling that the wrong message relates to promoting an idea that 'drugs are safe', for others it is that 'drugs are acceptable', and/or that OPCs 'give legitimacy to drug use' (68). From some earlier OPC research, it has been suggested that acceptance of OPCs in communities in the long term offer the opportunity to reconsider policy from 'penal and criminal' to 'health and improvement' in the lives of those who use drugs (491). The 'wrong message' has been key to Irish policy debates as described by O'Shea (160). This is known and acknowledged by potential OPC users, as illustrated by this quote by Max aged 27:

> *"You'll probably hear—well you're encouraging them now because you're giving them rooms to come in and do it." pp.82 (160)*

Although typically most community members and other stakeholders are in favour, they may hold some concerns, often as a result of misunderstanding what an OPC does, and how their role fits in. For example, in Mexico, although key stakeholders were in favour overall (58%); healthcare professionals had concerns it would go against their principle of relieving sickness and promoting health to work at an OPC. Others later countered that education for key personnel including health workers would be useful to overcome this issue, particularly for those with limited experience of harm reduction interventions (492). A lack of knowledge was less of a barrier in other studies. Several emergency department staff surveyed did not feel like they know a lot about overdose prevention centres, yet between 75% and 85% approved or would send someone to an OPC (430). This was echoed in a quantitative cross-sectional survey of family doctors, pharmacists, emergency room doctors and other stakeholders in Paris who mostly considered OPCs would reduce risk behaviours and improve the health of people who use drugs (493). As expected those with prior experience of working with those who use drugs had more favourable views on people who use drugs (494).

Unlu and colleagues described the situation in Helsinki, that the moral frameworks prolong discussion and impede action, with deadly consequences

for people who use drugs (495). There was also some concern that a 24/7 health facility may be viewed by some suspiciously, as those who cannot access an OPC do not have the same freedom to access healthcare services. The polarisation of views on what those with living experience 'deserve' in scarce times can be overcome; if morality is the concern, the basic nature of the care can be stressed, if human rights is the concern, it may be worth stressing the improvement in quality of daily life.

A representative sample of US adults (n=1004) demonstrated 58% considered OPCs should be illegal as they believed we would better spend funding on treatment and recovery; 56% considered they should be illegal as opioids are illegal (488). In an earlier analysis of the same data, 29% of Americans supported OPCs, however, as respondents showed high levels of stigmatising attitudes to people who use opioids, this is a modifiable barrier to improving public support (496). This was also a concern of stakeholders in San Franscisco who expressed concern that harm reduction and abstinence based healthcare organisations in the same neighbourhood may send mixed messages (293).

Reducing public drug use is a key driver of positive opinion on OPCs (497). However, this negates the knowledge that many of those who attend an OPC are experiencing addiction and may have tried many times to change through treatment (498). It may also show a limited understanding of the complexity of addictions (498). OPCs are an extension of compassionate care rather than an encouragement of substance use (42). There are many complex reasons within and beyond an individual which may cause them to be unable or unwilling to consistently pursue treatment (27). Emphasising the nuance and context in which behaviour change occurs is complex and contingent on various influences including the social and physical environment (opportunity), our knowledge and ability (capability), and our beliefs, desires, habits, self-perceptions, and how we regulate our emotions (motivation) (499, 500). Behaviour change applied to harm reduction is no different (27).

Oudshoorn's exploration of what OPCs mean to their clients described four themes including enduring addiction, accessing safety, collecting and belonging, and transforming (183). They describe a journey of moving from despair to hope, inclusion, and better quality of life. Several quotes particularly support the concept that OPCs do not send the wrong message:

> *"They [the public] need to know what this place is offering people and how it's changing people's lives. It's not promoting use. It's providing a safe place if you choose to do so, and they have all the avenues to help you get out of your slump, and they have the connections to get you into treatment, they encourage you, if you choose to do so." Participant #27 pp.12 (183)*

Instead Oudshoorn and colleagues describe caring relationships with staff and peers as an intervention, and one that supports behaviour change. Three narratives, from three different users of the service encapsulate this growth and change:

> *"They help you find housing and stuff, and like they're just really nice, to have someone that, like I said, that's not judgmental, they actually listen to what you have to say, and they support you. They give you like hope which is something I never had before in my life." Participant #15 pp.10 (183)*

> *"Well coming to this place got me introduced to health and the first people I met here was able to find housing for me.... It meant a lot that someone actually cared for my wellbeing. It was good. It was a good feeling that there's people like that here that will help people." Participant #5 pp.12 (183)*

> *"The sky's the limit right, I can do anything... that's the hope I feel when I walk into these doors. Every time I walk in this door, this place saves my life, every time. Even if I didn't even realize I wasn't having a good day, this place will make me feel better. Every time." Participant #22 pp.13 (183).*

Indeed, the annual report of the Overdose Prevention Society peer-led site describes how INSITE and then the Overdose Prevention Society OPC was fundamental in the continued abstinence of a peer-worker, who had given up hope, and was expecting to die in the Downtown Eastside of Vancouver (501).

The focus on the individuals in the OPC ignores the social determinants of health, which play a key role in the lives of people who use drugs (502). It has also created a socio-political climate which enables and reproduces marginalisation, stigmatisation, and structural vulnerability of people who use drugs, blaming individuals for their situation and negating the wider context in which people exist (97, 165). Those who view drug use as a failing of individuals rather than influenced by wider financial, societal, or structural contexts, and those who do not know anyone who uses drugs tend to hold less favourable views (498). From an ethical perspective, we are reminded by Vearrier that:

> *"harm reduction promotes the autonomy of, prevents harms to, advances the well-being of, and upholds justice for persons who use drugs." pp.120 (503)*

4.8.2 Lack of public understanding of OPCs

Many do not know about OPC operation and outcomes. Despite this, most surveys show more are in favour of OPCs than those who are against. Effective

communication, education, and community engagement can help improve public perception and support for pilot OPCs. Addressing misconceptions, mockups/videos, or frequently asked question documents can help individuals understand and visualise what they do, so too, engaging respectfully with people's concerns and fears can support community buy-in for harm reduction and compassionate responses.

Most surveys show a greater proportion of the general population is in favour of OPCs (297, 489). The public opinion is crucial for the feasibility of pilots, the longevity of services, and the diffusion to additional sites (489). Those who were more likely to have a positive view of OPCs (60%) included those with higher levels of education; higher income; cannabis use in the last 12 months; were in favour of cannabis decriminalisation; supported needle exchange in prison; prioritised health or social service led support approach to people who use drugs; and agreed drug users need public support. Strike at al. (463) qualitatively explored views of 141 stakeholders in interviews or focus groups and found the following reasons for ambivalence or a lack of understanding. The seven reasons were:

- Lack of **personal knowledge** on the evidence they can make a difference,
- Concern the **goals are too narrow** and they should be broader,
- Not knowing enough about the **scale of the problem** and whether it justifies the investment in an OPC,
- Unsure where **OPCs should be located** to avoid community damage especially on business,
- Worry that it will **lead to problems** that existed prior to gentrification of an area,
- Concerns that it will cause **disinvestment from valued treatment options**,
- Concerns that it should be **piloted and closed** if there are negative outcomes.

There is also a limited level of support for smoking facilities (i.e. safer smoking facilities or SSF) in Canada, with one 2009 study identifying that the lack of agreement on the value of the facility is in part explained about the lack of knowledge about the facilities and what they can achieve (297). In France, the low acceptability of OPCs in some of the eyes of the public has been used to prevent the opening of services (504). However, Munoz Sastre and colleagues (505) explored acceptability of a planned OPC in a French town using vignettes. The most acceptable service would be run by health professionals which could

hold parallel aims of the supervision of consumption and goals for detoxification and rehabilitation of people who use drugs. A survey of views on OPCs in Canada found 83% of those surveyed were in favour of OPCs opening in Waterloo, Canada; this was significantly associated with knowledge about OPCs and favourable views on OPCs (506). Qualitative exploration of the views revealed the following to be important:

- **Logistics and co-ordination:** effective oversight/management; monitoring effectiveness and demonstrable change in the opioid crisis,
- **Considerations:** misperceptions of rules and roles, and concerns arising from those; whether alternatives are available e.g. detox/prevention, and
- **Humanitarian experience:** understanding the human rights and health, contributing factors such as adverse childhood experiences, and deprivation and the role of elected officials to do something about it.

Mrazovac et al. (506) also argue for the role of even brief education on logistics of OPCs how they work, and what they look like, and using effectiveness evidence to support their role in the community. Education materials should also consider the Not in My Back Yard (NIMBY) issue; and stress the importance to the community. One study in Canada suggested that an OPC in the location where they lived did not influence their support for an OPC; however, there was an association between compensation for an OPC in their area with approval of an OPC (507). Advocacy options include the development of frequently asked questions' documents, having a named reference person to contact with community concerns, meetings with residents and businesses, inviting community members from elsewhere to describe their experience (e.g. business owners, police, residents etc), and awareness raising sessions on what OPCs are and how they might benefit the community (508). In the "Yes in my backyard" (YIMBY) toolkit, the Pivot Legal Society describe how these actions could be implemented in practice (509). An example of this in practice was the parking of "Fixelance" outside the parliament buildings in Copenhagen to help destigmatise and demystify what a mobile OPC was and how it was not something to be feared (510).

In Finland, a key driver of support amongst 23 stakeholders was to emphasise how it would change the lives of the public (229). One individual interviewed who worked in policy settings acknowledged that whilst it was a human rights issue about access to healthcare, most members of the public would not know or understand the reasoning behind the site. They acknowledged that most members of the public are more convinced by messages around 'security, safety, cleanliness path and path to treatment' (pp.7). Safety is also a predominant

concern of potential users of OPCs, demonstrative of shared concerns (511). Rural communities with high overdose deaths are vulnerable with cultural, resource, and other barriers, particularly if there is a lack of acceptability or access to typically widely accepted harm reduction initiatives (90). Yoon et al. noted that framing OPCs as a tool to reduce visibility of drug use alongside community buy in for improved 'harm reduction infrastructure' were key to facilitating implementation of sites (139).

There are several frequently asked question documents to guide understanding, for some examples see (388, 512-517). The lack of public understanding of how the OPC planned for Ireland would reduce community concerns including proximity to schools and young people blocked its implementation through the planning process (513, 518). Planning challenges are not new or limited to Ireland e.g. (519). Business owners and service employees, most of whom had experienced drug use on or around their places of work could see the risks of public injecting in their day-to-day life (302, 303). For some, they have an acute understanding of the realities; and there is also a strong recognition that those who do not understand such a facility may wish for it not to be in their backyard. Again, providing clear information is useful to reduce the public misunderstandings (303). In a news and media review of over 100 news stories about OPCs, McCreedy (508) found Bostonians were most concerned about increased crime, appropriateness of public spending, effectiveness, and whether they encouraged drug use or illegal activities. Concerns about the Insite pilot raised in 2002 including from the United States Office of National Drug Control policy suggested that OPCs would lead to increased HIV transmission, and a migration of people who inject drugs into areas around OPCs (281). Despite no evidence then, or since that in support these conclusions, these myths echoed through the media, hindered the evaluation of services, and delayed progress (281).

4.8.3 How evidence is used (or not) in policy

There is a considerable body of research on OPCs at present; this document can attest to the range and variation of scholarship designed to understand OPC operation and outcomes. Evidence often plays a crucial role in shaping context and decision making in healthcare systems; for OPCs a range of additional factors may influence implementation rather than evidence.

Scholars have aimed to produce good quality research on OPCs to understand and explore valid concerns (520). Whilst the aim may be to follow the science in developing policy (521), this is often not practiced (522, 523). Politicians may feel it undesirable to rely on evidence from researchers in their decision making (524).

Debates over OPCs often involve a battle of claims and counterclaims on how best to address the opioid crisis (525). Hayle (526) has suggested the alignment of problems, policy options, and political circumstances as part of Kingdon's Multiple Systems Theory drive (or do not) drive change. This was echoed in Denmark and France (527). Even back in 2007, Maher and Salmon (100) concluded there was enough evidence to support OPC implementation. This evidence shows improvements relating to needle and syringe sharing, overdose reversal, public injecting, uptake of drug treatment, and public amenity. Locally, data associated with drug-related deaths, health harms, crime, public drug use, and drug-related discarded litter complemented the existing international evidence -base to justify the opening of local services (101, 528). This should be enough to open sites; however, often this does not persuade (525). For countries with long standing OPCs, much less evidence was required to open and continue site operation. As such, with evidence accumulating regularly, the evidence should be enough now to persuade, yet some countries or parts of countries remain resistant (e.g., US and UK).

Semaan and colleagues (134) applied the Kass (529) ethics framework for public health to OPCs which incorporates six elements (a) public health goals and need for OPCs, (b) effectiveness of OPCs in achieving public health goals, (c) potential concerns, (d) minimisation of concerns and role of other programs, (e) fair implementation of OPCs, and (f) fair balancing of OPC benefits and burdens. In this review, they conclude OPCs do advance traditional public health goals, reduce morbidity and mortality, and that burdens can be minimised (but not eradicated) in communities. Vearrier stated from a public health ethical perspective that harm reduction improves equity, addresses racial disparity gaps and serves disadvantaged populations in a cost-effective manner (503). Nevertheless, the opening of OPCs was not recommended in the Stanford-Lancet commission on the North American opioid crisis (530). This stated that there was 'no evidence' that OPCs had a beneficial impact on drug-related mortality at the level of the population; an over-interpretation of the review by Pardo et al (4) which was used to support this statement. There is growing evidence of impact of OPCs in reducing drug-related mortality (184), although it does not come from a randomised controlled trial.

To some extent, the evidence provides the context and the reassurance for OPCs to proceed (100, 531). Barriers to adoption include identifying the right location, legal concerns, mistrust around diversity especially race, and financing. The evidence can support decision making around these elements and help local partners identify useful solutions. The opening of the OPC in New York was only possible through political will, support of policy makers, client buy-in,

and a service provider partnership resulting in OnPointNYC (532). Open drug scenes and overdose events are key drivers of the development of coalitions of police, politicians, treatment agencies, and policy makers (190). Longnecker (533) describes the continual threats of prosecution despite policymakers' acknowledgment of the severity of the situation.

Kryszajtys recommends using mock-ups or pictures/videos of potential or existing sites to help support those who decide to understand exactly what an OPC is (534). They noted evidence presentations and Question and Answer sessions with people who operate OPCs can also help. Those who are unfamiliar with OPCs are keen to ask questions, less hesitant on OPCs and better able to imagine what an OPC looks like. Sumnall and colleagues in a survey of 1591 individuals, also found that narratives and communication strategies should consider communications that address public concerns and mention harm to others indirectly (535).

Despite legal exemptions being in place to pilot OPCs in Canada (281), there has been interference in the ability to implement the pilot and evaluate the site, with governments in North America and elsewhere hesitant to support initiatives which are not zero-tolerant on drugs (536). Although three evaluators summarised the strength of the evidence produced as part of the evaluation, the Canadian government appeared to interfere in the subsequent funding for the cohort study to be suspended, and the researchers prevented from engaging with further pilots with no evidence why (536). Ultimately the research was funded elsewhere; however, this was a cautionary tale of the intersection of addiction research and drug policy.

Smith and colleagues (537) remind us that there is a political responsibility for OPCs as a health intervention. They recognised the role of local actors bringing about regional policy changes in the absence of national legal change. In Finland, there is some agreement; Unlu et al. (495) stress the importance of strong advocacy and effort to overcome the moral perspectives which hold health advances behind what they could be if evidence was used instead. Evidence plays a role, but policy makers can and occasionally do override the evidence when they wish to do so.

Ultimately, there are complex forces at work when opening OPCs (538). Evidence is important and has been weaponised both for and against the opening of OPCs internationally. The legal geography also plays a role. It spans from very local agreements and municipal governance to the influence of international public health treaties (521, 539). For a detailed discussion of drug policy adaptation and transfer as 'global models that travel' in relation to OPC operations, see (467).

4.8.4 Resistance to expanding service provision despite evidence

Despite evidence illustrating OPC effectiveness on a range of measures, resistance may arise when opening new facilities to meet unmet need. Political interference, administrative burden, and policy blocks can hinder service expansion.

Multiple author teams over time such as (540-542) noted requirements for new facilities across Canada to reduce the continuing opioid crisis. However, they note that the diversity in views and politics across the country makes policy diffusion difficult, and what works for one place may not work to open a needed facility elsewhere. This has been echoed elsewhere. For example in Sydney (543), although the Medically Supervised Injecting Centre (MSIC) has been in successful operation for well over 20 years, cities and their needs evolve over time. The MSIC continues to provide essential services to Kings Cross. However, with increases in overdose deaths elsewhere in the city and the limited resource that people who use drugs have to travel to Kings Cross, additional facilities are needed. It is proving challenging to open despite a strong (and independent) evidence base on the effectiveness of the MSIC. As Malkin (544) reminded us back in 2001, the prevention of expansion of services could be seen as a breach of international obligations on human rights in provision of health care standards. Extraordinary efforts are always required by service providers to continue the operation of a service (76). So too, extraordinary efforts are required just to open the service as per other, now well-established services such as needle exchange. In Dublin, the Director of Drug services acknowledged the considerable resistance to opening the first needle exchange, which just happened, became the daily reality in policy and community life, and is illustrative of the 'chipping away' policy strategy that is sometimes needed to bring about change (160).

We can see that the expansion of services into novel areas where there remains a need has additional benefits. An interrupted time series analysis by Kennedy and colleagues (545) noted following the expansion of OPCs in Canada, the monthly prevalence of OPC use immediately increased by about 6.4% and then 0.7% monthly thereafter. Similarly, there was an expansion in treatment use by 4.5% and public injection and syringe sharing decreased by 5.5% and 2.5%. Where need exists, there is evidence service expansion improves health and engagement. In addition, some have noted that they are unaware of the demand to expand services in potential OPC users (160).

There have been a range of services which have developed a proof of concept with an unsanctioned service e.g., in Glasgow, with the aim of wider adoption. Although operational for over 10 months, supporting over 1000 injections, and

intervening in nine overdose events, the lack of support forced closure, with no replacement since (to date September 2023). Another service running for a similar time ODYSSEAS in Greece, with 2500 approximate visits and intervention in 103 overdose events, this service was similarly 'stranded' in 2014 because of policy blocks and increased bureaucracy (546).

Russell and colleagues (547) noted in Ontario that deliberate and active changes in policy to increase bureaucracy and administrative burden following the appointment of a new provincial government reduced the capacity to support those who use drugs and reduce the overdose death rate. Services remain at the mercy of political interference. Pauly et al. (186), in their evaluation of outcomes for OPCs in Canada talk of the challenges associated with OPC implementation in a climate of scarcity. Ziegler (525) also describe how one federal government cited a lack of evidence to prevent changes in laws to expand service provision; whilst there was enough evidence to expand existing services in terms of reach and number of sites. Federal law is also a potential block in the US, with an exemption against application of Section 856 of the Controlled Substances Act to OPC operations thought to be a useful way to support OPC operation in cities where they are needed to address harm (548). Often blocks are not a refusal to expand sites in number or size, but the creation of almost impossible conditions for operation, in one instance 26 different conditions (76).

There was also some sign that the public health investment around COVID-19 is a barrier to new and extending OPC provision. In one Finnish study, COVID-19 was cited as a barrier to progress (256). However, suggestions included stressing the impact on drug-related deaths, the potential cost savings, effects on street safety or public order, motivation to catch up with other EU country standards, and the importance of this being a tailored local solution to the issue.

4.8.5 Prioritising abstinence treatment and not harm-reduction services such as OPCs

In discussions about OPCs, there can be an emphasis on abstinence and recovery, rather than acknowledgement that an OPC is principally a harm reduction intervention. An OPC is part of a continuum of care, offering harm reduction and support in a non-linear process which supports healthful behaviour change, whilst recognising and facilitating journeys to treatment if people are ready. Prioritising only abstinence narratives can affect how individuals are perceived, and how they perceive themselves reducing capability to change and opportunities to improve quality of life.

This is often a prevailing view in the media. A review of 174 articles which referred

to proposals to pilot an OPC in Glasgow evidenced an abstinence and recovery rhetoric underpinned most press articles (549). The implication of this emphasis affects how people who use drugs feel about themselves and their place in society, and how other community members perceive and treat them (488). Pauly and colleagues (186) noted even the temporary OPS services (the name for agile non-permanent services opened in response to the overdose crisis in Canada) helped move society from shame and blame of individuals for their situation to one of acceptance of OPCs roles in communities. They seemed to reduce stigma. As de Gee et al. (191) note as they describe the evolution of OPCs in the Netherlands since 1994, the nature of recovery has changed. Instead of the limited abstinence view being the predominating view, a broader and more useful consideration is a definition of recovery encompassing societal, social, and personal recovery. Treatment, which aims only for total abstinence for all, has led to mistrust and stigma, and ultimately puts lives at risk (432). People feeling stigma conceal their true realities, and this can amplify the risks they face (186). The recognition of a range of options to reduce risk in individuals who use drugs, and a graduated range of solutions to improve health in those who are dependent can to some extent ease the all-or-nothing debate, and account for more nuanced needs whilst still offering ways to cease drug use for those with that goal (504). Indeed, others have noted that harm reduction accounts for the knowledge that behaviour change involving substance use is a non-linear process, and even where abstinence may be the end goal, harm-reduction can support that journey (550). Similarly, the public health approach to substance use acknowledges a role of OPCs in a continuum of care from primary prevention efforts to tertiary treatment services (551).

There are also challenges from other interested parties, e.g. a Judge in Philadelphia considered that the goal of an OPC is to reduce drug use, not facilitate it (552). Wodak and colleagues (553) note how important those with zero tolerance to drug use attitudes were in prohibiting progress on the medically supervised injecting centre in Sydney. It was civil disobedience by people who could no longer watch the consequences of inaction that led to change. This was echoed in early qualitative work with Canadian police officers (83) who had a clear preference for treatment and rehabilitation compared to harm reduction. Later explorations reflected a change in attitudes with a preference for treatment, with the acknowledgement that some are not ready for this step (306). More recent work in Alberta suggests that OPCs should be “entry points into a recovery-orientated system of care” (187). Treatment, harm reduction, and prevention can co-exist in healthcare, community and policing, although a study of five European cities found we should expect some initial conflicting views when policies change

(470). They found understanding and co-existence can be enhanced through dialogue with stakeholders.

The findings of the many papers on INSITE in Vancouver were critiqued extensively by Mangham (554). Their recommendation was for a greater focus on treatment and prevention rather than the healthcare provided at INSITE. However, primary prevention (i.e., encouraging people not to use drugs) is not the focus of an OPC. Whilst there were calls for mandatory treatment instead of OPC based healthcare, there no evidence to suggest forcing people into drug treatment who do not want it works, is compatible with human rights of people who use drugs, or would be appropriate for regulated healthcare providers to apply when there is no consent given. This was echoed in part by the former Vancouver police chief Jamie Graham, who recommended abstinence as the first step for people using drugs not the last (476). Their position expressed concern about the independence of evaluators and called for mandatory treatment instead. These positions do not seem to acknowledge realities of some not being ready for treatment, that many have tried treatment in the past which has not worked, the importance of saving lives, and that of cost savings (27). Indeed, Kerman noted that social connectedness, emotional support and stress reduction, safety and security, housing/shelter provision, and facilitated health access improved their social determinants of health and facilitated better lives and wellbeing (182). This may or may not have resulted in cessation of use.

Some do progress into treatment from OPCs. Substance use can have a serious impact on health, and drug overdoses are a consistent risk. By keeping people alive, OPCs allow individuals to connect with treatment; if someone suffers a fatal overdose, it will never be possible for them to seek treatment or other support (255). The relationships with the staff can make a big difference. Behaviours that show trusting, respectful, and non-judgmental approaches include not pushing too hard for change, allowing individuals to set their own health priorities, being patient and sympathetic, listening actively, inquiring about wellbeing, offering practical supports, and asking open-ended questions (345, 514). These can keep people healthy and well (and sometimes lead to treatment)(514).

4.8.6 Stigma preventing service provision

Stigma, poverty, homelessness, criminalisation, and political resistance to harm reduction can contribute to opposition to OPCs. Despite evidence of effectiveness and fiscal soundness of OPCs, opposition may arise from moral frameworks and lack of information rather than evidence-based concerns. Addressing challenges and focusing on keeping people healthy and safe is

crucial in the context of drug-related deaths and resultant grief and trauma.

There can be community opposition to harm reduction services because of stigma associated with drug use (555). Goffman (556) in their work on blemishes of character and tribal stigmas emphasise that those who use drugs are 'other to us'. It can be cognitively more comfortable to 'other' people who use drugs in our assessment of their need as it allows us to legitimise discrimination and ignore that need (557). Doing this dehumanises people who use drugs leading to overlooking their equal social status as a member of the community (544), and are deserving of compassion and consideration of their needs as much as any other community member (558). In Ireland, a recent investigation illustrated stigma within media, health centres, and communities was a significant barrier to implementation of OPCs and naloxone (57). This includes recognising the complex and heterogenous circumstances in which drug use arises and continues. Many addiction treatments do not sufficiently consider the desired outcomes of the person using drugs and their specific needs around stopping or altering their patterns of use (559).

A better understanding of the life circumstances of individuals can lead to less stigmatising attitudes towards those who use drugs (535). Sumnall and colleagues' survey of 1591 individuals illustrated that there was greatest support for OPCs when messages communicated address public concerns about drug use and mention the indirect harm to others caused by substance use. Regrettably, this 'othering' of the issue away from meeting the needs of the person using drugs can perpetuate stigma (535). Similarly, Dupree considered stigma to be a central limiting factor regarding access to support and treatment, and it's effectiveness (560). Poverty, homelessness, criminalisation and other social-structural determinants of health, and political resistance to harm reduction programming, are additional contributing factors (561). So too a comprehensive response to overdose should include low threshold opioid substitution treatment, needle and exchange programmes, naloxone distribution, unsanctioned OPCs, and drug checking services (562).

The narrative by Smith illustrates the importance of reducing labels, and that they are unnecessary to care for people who use drugs (559); unintended consequences of the label of addiction/disease are often not considered. We should ask people who use OPCs or plan to use OPCs what they intend and want to get from a service and consult on research and clinical outcomes that reflect these priorities. There are also concerns from OPC site users about the closure of sites and losing the valuable benefits, and that many of these cases to close sites arise from ideals that continue and extend stigmatising narratives (89).

The opposition to OPCs can be a question of values; concerns arising from prejudice and ignorance, and not based in evidence, should be set aside (520). Predominant positions against OPCs centre on enabling drug use, sending a message that society has given up on their abstinence, taking money from abstinence-based treatment, and that drug use is a moral failing best tackled through punishment and control. These are not evidence based. The right thing, to open an OPC in an area of need, is fiscally sound, promoting healthcare, and backed by high-quality scientific research. Unlu et al., (229) in exploring the issues stakeholders have with OPCs in Finland found stigmatisation of people who use drugs emphasised the moral framework which limited harm reduction services and improvements in health.

Drug related deaths are complex. One benefit of OPCs is the ability to look at individual level risks and develop skills through partnerships to reduce these (563). The role of living including poverty, housing, education, discriminatory laws, marginalised attitudes, and structural factors all play a role at perpetuating the deaths. As Wakeman (564) reminds us, drug use is:

> *"...soaring unassisted. The time has come to think instead about how we can enable people to stay alive" pp. 1013.*

4.8.7 Legal issues in the UK around OPCs

Human rights treaties and international legal obligations call for the protection and promotion of health, however, their interpretation and application to people who use drugs may differ in practice. In the UK, the Misuse of Drugs Act 1971 presents several legal considerations principally those related to possession, supply, production, and administration of controlled substances. Policy clarification, good standard operating procedures, and local memorandums of understanding with policing could go some way to alleviate legal risks for OPC operation. However, changes to regulations or wider legal frameworks would be preferred to safeguard OPC operation and allow pilot sites to be trialled in areas of need.

The overarching legal framework from the UN Drug Conventions does not prevent the opening of OPCs. Whilst respecting the prohibitionist stance of these conventions and frameworks, they are health-orientated requirements, and do not stand in the way of OPC operation, so long as the aim of an OPC is to reduce the adverse health consequences of drug use (137). This is reflected by the International Narcotics Control Board who view the existence of OPCs to be permissible within the treaties so long as they reduce the negative effects of drug 'abuse' and contribute to 'treatment, rehabilitation and reintegration'

of individuals. The UK has signed three conventions; however, so too have the sixteen countries which currently operate OPCs (at least some, if not all).

Human rights treaties and international legal obligations require the protection and promotion of health, and to adopt measures within a state's means to achieve these goals (565). Malkin and colleagues stressed these obligations require states to remove barriers, and facilitate trials of interventions that are workable to support the legal obligations to maintain the health of people who use drugs (566). However, this is of course the ideal, and reality suggests that there is variation in how this is interpreted and applied in practice (539). In Canada especially, Longnecker considered the federal challenges to either temporary or long-standing OPC facilities are indeed against these international legal obligations (533).

The role of the police in many international jurisdictions is to preserve life. Gostin (567) outlines the importance and power of the police under their authoritative powers to respond to health crises. Memorandums of understanding and partnership working to support disease control measures or responses to public health emergencies are important to justify local actions (461). Evidence can support the action of police, and statistics should be gathered to support policing efforts. Later work from the same author holds the position of the importance of partnership with local police, stressing how important it is that potential new services stress that drugs are obtained elsewhere, that injections are performed by the person who uses drugs themselves, and that these are vital healthcare services for some of the most vulnerable in society (568). It is possible for local areas to develop a discretionary model where there is public health need; waiting will lead to more preventable deaths (569). See also 4.5.

Opponents of OPCs state concerns they may attract drug dealers and users to the area around a facility but Hedrich (54) argues that this claim is unsupported. However, OPCs operate close to drug markets so they can meet existing need

in an area, so some drug dealing is consequently reported near to them (54). Indeed, evidence from Vancouver found no increase in drug trafficking in the year following the opening of an OPC compared to the year prior (283). This is supported by a study of crime around a Sydney OPC; some increase in loitering was noted by people in the area, but this was not attributed to new drug dealers or users (570).

The UK Government has consistently opposed OPCs on legal, ethical, and moral grounds. Legislatively, sections 4, 5, 8, and 9A of the Misuse of Drugs Act 1971, are those likely to provide the most concern. The Misuse of Drugs Act 1971 does not prohibit the operation of an OPC but what it does prohibit would make the lawful operation of one most difficult. Section 5 prohibits the possession of controlled drugs and would be impossible to avoid; without the drug, visitors of the OPC would be unable to take them. This also presents a risk to staff of the OPC as there is no lower limit when considering the amount of a drug that someone can be found in possession of. The test is only that it must be visible, tangible, and quantifiable. A used wrap with only a trace amount may be sufficient, or residue in a syringe. Staff at the OPC would therefore be at risk themselves of coming into possession of these amounts, for example when cleaning or collecting any drugs a visitor has accidentally dropped and left behind. There should be clear procedures in place for any drugs found on the premises e.g. an amnesty bin, clear pathways to destroy the drug, or pathways to transfer custody to a police officer to destroy the drug.

In England and Wales, the Crown Prosecution Service have considered this issue historically, when charges were brought against users of Needle and Syringe Programmes, who were returning used needles and collecting new ones. It was recognised that it would not normally be in the public interest to prosecute people keeping used needles, sterile needles, or ‘bona fide’ operators of schemes. This recognition was specifically because of the dangers posed by blood-borne viruses, however, and it is far from certain whether similar discretion would be provided to the operators of any OPC. If a local arrangement was reached with a police force, then policies should make clear how the handling of any controlled drugs will be managed, and if the police will be invited to collect them to dispose of them.

Section 4 prohibits the supply and production of controlled drugs and policies would have to be in place to make visitors of the OPC aware that the supply of controlled drugs in the OPC or any external area under its control was unacceptable. There is no requirement for a supply to involve money, or any benefit, and so the policy would also need to be clear that sharing of any drugs

by visitors is unacceptable. The offence is not only treated far more seriously than possession, but is also a prohibited activity under Section 8, and could give rise to criminal liability against staff of the OPC.

Section 8 prohibits occupiers of premises, or those concerned in the management of premises, from permitting or suffering activities taking place on them. There are four subsections, which prohibit the following activities:

1. The production of a controlled drug (e.g., an offence under Section 4);
2. The supply or attempt to supply a controlled drug, or offering to supply a controlled drug (e.g., an offence under Section 4);
3. The preparation of opium for smoking; and
4. The smoking of cannabis, cannabis resin or prepared opium on site.

Heroin is controlled separately as Diamorphine, and most other opioids have their own separate definitions, and are not included within the above restrictions on opium. The smoking of cannabis and cannabis resin poses more of a risk, and the policies of the OPC should be clear that it must not be smoked on-site. What will certainly pose a risk is the danger that visitors of the OPC may supply other visitors or offer to do so. Staff will need to be vigilant against this to minimise the risk of them incurring criminal liability themselves. Convictions have been secured against staff at services who have failed to take all reasonable steps to prevent these activities taking place, with these failures being viewed as an unwillingness to intervene.

Finally, while a strict interpretation of 'producing a controlled drug' could be argued to extend to preparing heroin for injection, the risk of this is thought to be low. Prosecutions are not thought to have been brought against people who inject drugs under this provision for many years, with alternatives such as Closure Orders instead being used. There would be strong arguments, though untested, that it would not be in the public interest to pursue such a prosecution against someone for this. Any local arrangements made could mitigate against this risk by ensuring that preparation of controlled drugs for personal use would not be treated in this manner.

These restrictions only apply to those who are occupiers or managers of premises, and who have some form of knowledge they are taking place. An occupier, or manager, will be someone who has a sufficient degree of control of the premises, which in an OPC could range from the Director or the organisation, a shift manager, or other members of staff. The definition of premises has been left

open, but it has been found to include venues such as day centres for individuals who are vulnerably housed and nightclubs, and it would be both prudent and reasonable to believe that it would extend to most arrangements necessary for a viable OPC to be based in.

There must also be knowledge of the activity taking place. The creation of clear policies and staff practices should entirely avoid the risk of the OPC being seen as a venue which permitted activities such as the supply of controlled drugs. However, to 'suffer' the activity taking place is failing to act when there are reasonable grounds for believing something prohibited may take place. This creates a positive obligation to investigate suspicious behaviour, and for staff not to turn their eyes away from it. Workers in the voluntary sector have been prosecuted for failing to act when the supply of heroin was seen taking place in the open by undercover police at a day centre for people who were unhoused.

The prosecution in that case also found while there were policies that could involve banning visitors to the day centre they were not strictly enforced, to the extent there was not real disincentive or sense of risk. The importance of local agreements for any OPC is also emphasised as it was also found it is not relevant if the defendant believes they are acting reasonably, but instead a key consideration will be whether they have failed to take all reasonable steps available to them to prevent the activity taking place. It will be of vital importance for protecting all staff that local agreements are in place based on clear policies, and that these policies are in place, clearly communicated to all staff, and properly enforced to manage this risk.

Section 9A prohibits services, or individuals, from supplying any article which may be used or adapted in the administration of a controlled drug if it is believed that is why it will be used. It also prohibits the supply of articles which may be used to prepare a controlled drug for administration. Hypodermic needles are explicitly exempt from this prohibition. Further exemptions can be found in the Misuse of Drugs Regulations 2001. It is now possible for practitioners, pharmacists and those employed in the legal provision of drug treatment services to provide swabs; utensils for preparing a controlled drug; citric acid; a filter; ampoules of up to 5ml of water for injection and ascorbic acid.

In certain circumstances it is also allowable for people employed or engaged in the lawful provision of drug treatment services to supply aluminium foil in structured steps to engage someone in a drug treatment plan, or if this forms part of their drug treatment plan. Unhelpfully, there is no set definition of 'lawful provision of drug treatment services', and while it could arguably apply

to services set up by an organisation commissioned to provide treatment services it is uncertain this would extend to services operating only through local arrangements. If the latter is covered then it is certainly the case that an expansion of these articles would be helpful in securing better health for people who use drugs in a healthcare setting and ideally allow for other paraphernalia including pipes, tourniquets, etc. Local agreements for additional paraphernalia have been possible in the context of academic studies, but whether similar discretion would be exercised without this is less clear.

Beyond the Misuse of Drugs Act 1971 then an OPC must be vigilant that visitors to the service only inject themselves, and that direct help by staff and other visitors is unacceptable. The Offences Against the Person Act 1861 prohibits the unlawful administration of a noxious thing, with the intention to cause injury or endanger life. The Courts have established that heroin is a noxious thing for these purposes and that injection amounts to administration. While there may be reasonable grounds to argue there was no intent to cause injury or endanger life, and that the action was to help someone or increase their safety, the prospects of such an argument succeeding are unknown. The danger of this problem can be easily avoided by prohibiting the injecting of others at the OPC.

The Health Act 2006 prohibits smoking in smoke-free premises, and smoking is defined as 'smoking tobacco… or any other substance', which would include both heroin and crack cocaine being caught by the description. Without prior authorisation, in this case from the Local Authority, then it is difficult to envisage that enforcement of this offence would not take place. For more information on legal matters see (443, 461, 571, 572). Case law in relation to this section is available if required (contact corresponding author).

5. Evaluation of an OPC

OPC evaluation is essential to understand if a service is effective and to allow for service improvement and evolution over time. Evaluation may be at community (healthcare, policing, local authority, etc) level or individual (at service) level.

Careful evaluation of the effectiveness and cost-effectiveness of facilities must be undertaken in order to build an evidence base to understand what works, for whom, and in what circumstances (115). A realist review is underway authored by some of the team on this report to help explain why and how OPCs work, not just summarising the literature but also providing explanations. A rigorous evaluation is useful to determine service delivery and change over time and to ensure evidence to keep successful centres open (44). It supports international countries' legal obligations to promote and protect health, and gives evidence whether OPCs achieve that legal imperative (566). It should have several components, including statistical baselines of change in an area, and information on the service itself. Collection of data for evaluations should run alongside the requirements for regulatory standards/professional accountability, and ideally serve both functions (e.g. see (331)). It is unlikely it will be possible to carry out randomised trials of OPCs. In their absence, the best chance of identifying the causal effects of OPCs comes from quasi-experimental designs that compare trends in deaths, non-fatal overdoses, and other outcomes not only before and after the inception of an OPC, but with comparable groups of people who use drugs who do or do not have access to an OPC. There are existing guidelines for the development and evaluation of complex health interventions, including those provided by the UK's Medical Research Council (573). Outcome selection is essential to assess effectiveness, identify opportunities for service improvement, and support wider implementation (574).

5.1 Community evaluation

Community level evaluation would ideally collect data over time including prior to, and following OPC opening. There may also be a comparison between areas in which an OPC operates with areas where it does not. Measures might include healthcare data, policing data, council data, or other neighbourhood data.

Ideally, a baseline measure of statistics for the area in which an OPC site would be located is appropriate, with follow up at regular intervals following the opening of a site (461). This complements individual level data. This might also be compared

to an equivalent area in characteristics, e.g. different policing districts (285) or an equivalent service such as needle and syringe exchange providers (128). This might include some of the following areas of inquiry:

- **Healthcare data:** e.g., ambulance call-outs for overdose events, treatment data, uptake of screening services,
- **Policing data:** e.g., crime figures in the local area, call outs for drug-related complaints,
- **Neighbourhood data:** e.g., perceptions or activities reported by businesses or residents,
- **Local council data:** e.g., an understanding of drug-related litter and where it is located.

The need for a local service is often based on the assembly of the data on mortality (rate and number of drug-related deaths), morbidity (rate and number of emergency department visits, hospitalisations and healthcare utilisation), and proxy measures of substance use including needle and equipment use, naloxone distribution and use, and oxygen use (358). The evaluation needs may vary depending on the area size from large urban settings to smaller urban or urban/rural settings (575). Qualitative research may also provide important insights from stakeholders and help explain quantitative findings. It may also be useful to involve stakeholders in the design of any community evaluation to reduce concerns of bias towards the facilities and pre-registration of plans will mitigate the accusation researchers will not report negative outcomes (83).

5.2 Evaluation of OPC use and individual level data

There should also be an evaluation of a service, how it is used, and if those who use it are getting the service they need.

Any OPC service should seek to attract those who are not usually engaged with services, and those who are marginalised such as those vulnerably housed or using drugs on the streets or in otherwise unhygienic conditions. The report by Hedrich (54) outlined service objectives which can help determine evaluation plans:

1. Reach as many people in the target group as possible and keep them in the service,
2. Provide few barriers to access and create an accepting, non-judgemental, very low threshold environment,
3. Create a safe environment for lower-risk, more hygienic drug use,
4. Reduce morbidity and mortality through overdose prevention, health advice, and links to healthcare which does not stigmatise people who use drugs,
5. Stabilise and promote the health of service users,
6. Reduce public drug use, and drug related litter,
7. Prevent increased crime in and around OPC spaces.

Crucial to this is explaining to clients why the data is being collected and supporting questions on how and why this is being done (89). Good practice would also provide readable or visual summaries of data to those who use the service. We should assess OPCs on their ability to attract people who use drugs at risk of harm and link them to the support they request (2). The keeping of clinical records can be helpful for community learning and knowledge translation and facilitates the innovation of healthcare practice requiring minimal identifying information (383). It is also useful to understand visits by injection or other consumption event (576). Attention should be paid to ensuring that any evaluation of the service has a minimal burden on the OPC users (44) and there are exemplars of census information which can be anonymous, e.g. data from four Frankfurt services (181). It is essential to create a facility where people who use it feel able to be themselves, and tell the truth about their use (345). Whilst these are primarily numeric indicators, qualitative data can support better understanding of OPC operation. Other recorded information about visits by each injection or consumption event could include:

- Background information on the people who use the service (this could include gender identity, age, ethnicity, how long individuals had been using drugs),
- Types of drugs being used, and any other drugs ingested at the time of the injection,

- The nature and extent of any overdose intervention including the symptoms, what interventions occurred, any other service involvement, and outcome of the overdose event,
- Any other services used, or any referrals made to offsite services,
- Any security or safety incidents and how these were handled,
- Any use of emergency services and the reason why,
- Changes in health-related or other quality of life,
- Health and well-being,
- How satisfied individuals were with their experience at the OPC (e.g. how do they rate their care, would they recommend to others, and was there anything such as rules or regulations that may have impeded their using the facility).

Building evidence can help an OPC can weather the storm of challenge, maintain its operation, and adapt to changing needs of the population it serves (44). A comprehensive reporting framework for providers is given (358). Many evaluations use cohort studies both novel, and established to track the use and benefits of a service over time e.g. the Vancouver evaluation draws on SEOSI (Scientific Evaluation of Supervised Injecting) cohort established around the time of the service evaluation, and comparable data includes CHASE (Community Health and Safety Evaluation) and VIDUS (Vancouver Injection Drug Users Study) to understand and compare those who use a site and those who do not (459).

5.2.1 Ethical approval for potential services in the UK

Queen's University Belfast has outline ethical approval to independently evaluate planned services in the UK. This includes plans for data security and transfer, confidentiality, consent, and measurement of the components above in 5.2. This ethical approval can expand to include new services, and we encourage potential providers to get in contact at the earliest opportunity to facilitate their inclusion. This can be easily arranged with discussion on (anonymous) data transfer, and a letter of support from the provider and partnerships

with local expertise to understand the context. From this an ethical amendment can facilitate an additional site study. Good practice in OPC evaluation facilitates individuals to use the service without being part of any research or evaluation programme – this is a part of the outline approval (459).

An Independent organisation which operates
separately to a facility Ideally supported by an independent international advisory board should conduct evaluation (194). We can provide that service and use open science methodologies to ensure allowed external partners to scrutinise the science, whilst respecting the privacy of those who provided information, and the privilege of holding that data and telling the stories contained within.

6. Summary

This document aimed to summarise articles, reports, and other sources related to overdose prevention centres to understand and summarise the evidence, consider practical matters for OPC operation, and address frequent concerns from over 550 sources.

6.1 What OPCs are and what they do

Overdose prevention centres can also be referred to as drug consumption rooms, safe consumption/injecting/smoking sites, and/or other relevant names. These names can reflect legal distinctions e.g. in Canada, which relate to permanency or function of the site.

There are currently over **200 OPCs worldwide in 17 countries**, primarily in urban areas, and they cater to a range of drug types and visitor numbers.

Overdose prevention centres are **community facilities** which provide a safe, hygienic space for individuals to use their own drugs, supervised by trained staff, who can intervene in an overdose. They can be integrated facilities with other services, specialised sites which are primarily an OPC with limited other services, mobile sites, or tent/other temporary sites.

Collaboration and consultation before and after a service opens is central to successful OPCs. Potential and actual OPC users should be consulted on the design of and running of sites to support their use. Collaboration and consultation involving members of the local community, businesses, police, elected representatives, public health, or other local authority staff with OPC staff and operators can smooth over any issues before and after a service opens.

6.2 What is the evidence they are effective

OPCs reduce harm, save lives, and promote wellbeing with voluntary access to social health, welfare, and drug treatment services. There are 33 reviews summarising findings in this report.

Evidence suggests they can:

- **Prevent overdose deaths** through risk minimisation strategies, immediate intervention using naloxone and other methods, and a calming environment;
- **Reduce the transmission and impact of blood-borne diseases** by offering advice, sterile drug use equipment, testing services, and safe disposal options;

- **Minimise public drug use and drug-related litter** by providing a safe space for drug use and encouraging responsible disposal;
- **Do not increase crime** compared to control areas which do not have an OPC;
- **Reach marginalised community members** who may not access other services because of stigma, trauma, previous negative experiences, or lack of awareness;
- **Support the uptake of relevant services** by providing specialized support, referral pathways, and integration of drug users in the service model;
- **Save taxpayer money** primarily through preventing and treating HIV/HCV, facilitating earlier access to meet healthcare need, or reducing the need for emergency healthcare;
- **Contribute to real-time surveillance data** by understanding substance use patterns, providing drug testing services, and sharing information with various stakeholders.

Evidence can vary in quality with many well conducted studies including cohort or qualitative designs. Most evidence is associative in nature, with randomised control trials likely to be unethical given the scale of the public health crisis, and the lack of equipoise. Some studies lack comparative groups or longer follow up periods. These types of design are most expensive to conduct.

6.2.1 OPCs are used by people who use drugs

There is a **clear willingness to use OPCs in areas where they are needed,** particularly from those who use in public spaces with estimates from 66%-85% willing to use. There is evidence from the UK and Ireland including (9, 82, 152-154) in support of their use should one be available. Willingness to use was associated with certain groups including males and females depending on the facility, ethnic minority groups, LGBTQIA+ groups, those who are HIV affected, those who inject alone, and those who have overdosed in the past year. Those who have a history of police involvement are more reluctant to use facilities.

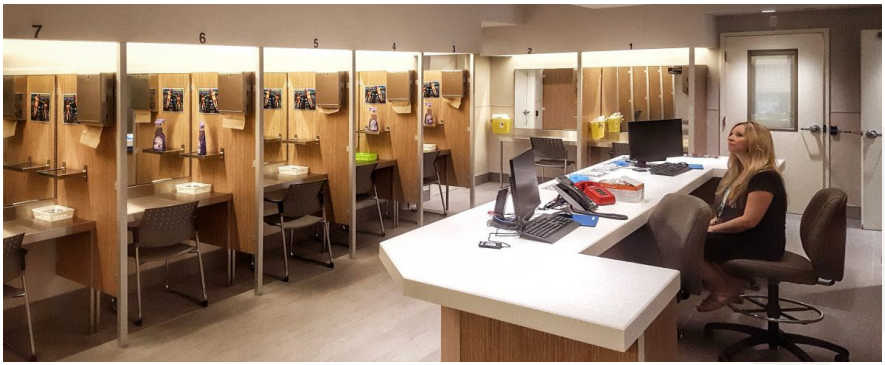
Those who used open OPCs included those at most risk of harm (including traumatic experiences). Other characteristics of typical service users include those aged 30-40, who are experiencing housing instability, have experience of sex work, engage in risky drug use practice, who are in poorer health, and who live near a site. Barriers to use include restrictive rules, time limits or long wait times, difficulty in accessing or commuting to a site, unnecessary use of naloxone, fears about police, or unfriendly/unknowledgeable staff.

6.2.2 OPCs help prevent overdose deaths

Overall, OPCs have shown promising results in **reducing overdose deaths,** preventing fatalities through **timely interventions**, and potentially saving healthcare resources by **reducing ambulance call outs and hospital admissions.** Additionally, there is no evidence to suggest that OPCs increase risky behaviour or risk compensation among their users.

6.2.3 OPCs improve health and support access to treatment and other support

OPCs play a crucial role in linking service users to health and other supports, including primary care, hospital care, and drug treatment options. They help individuals improve wellbeing and prioritize their health including the prevention and intervention in overdose events. The frequency of OPC use and strong partnerships between staff and service users are facilitators in accessing supports and in the provision and uptake of good quality advice. However, barriers may arise when treatment sought has long waiting lists or is otherwise unavailable due to the persons' situation. Improved trust in healthcare, reduced homelessness, and enhanced quality of life are among the positive health outcomes associated with OPC use.



6.2.4 OPCs improve communities

OPCs can create space for people who use drugs who have few other options of where else to go. They provide space for consumption which **reduces drug related litter and improves the safe and hygienic disposal of used equipment.** There is **little evidence they increase crime** with most studies illustrative of no change, even when compared to control areas which do not have an OPC. There

is evidence that OPCs can co-exist with other community services and businesses, although there may be a need for dialogue to smooth over early operational issues particularly amongst community representatives, those with lived and living experience of drug use, healthcare providers, OPC staff, and policing or other emergency personnel.

6.2.5 OPCs save money

One of the core arguments for the establishment of OPCs is their **ability to save money by preventing or treating HIV/HCV infections and reducing the use of emergency healthcare services.** Cost-benefit analyses from different countries, including the USA and Canada, suggest local savings of between $500K - $6.9M USD annually per facility. The potential health benefits of OPCs include prevention of HIV, HCV, overdose deaths, and skin and soft tissue infections, leading to significant cost savings in healthcare budgets. The efficient handling of overdose events may reduce the need for ambulance call outs, emergency department visits, and long hospital stays.

6.3 Considerations in operating an OPC

Services will need to consider the type of substances used and the nature of that use (e.g., smoking, injecting, etc) when considering the space. Several excellent guides to operating OPCs exist including sanctioned, unsanctioned, and the four different types (integrated, standalone, mobile and tent/temporary) sites. Services should consider provision for overdose intervention support; needle, syringe, and other equipment provision; opioid assisted therapy; HCV/HIV support; drug checking; food, drink and other necessities; protocols and codes of conduct for staff and client safety; clinical guidelines and standard operating procedures. Resources will often guide service provision including opening hours, referral pathways, and staffing. Rules should be as few as is practical but may need to consider operations around injection and other use practice, first-time injection, provision for gender, age, or other identity factors, substance use factors, handwashing, and client anonymity. Standard operating procedures should be identified before sites open and evolve with the service. Community and police liaison will support the successful operation of the service.

6.4 Common challenges to OPCs and the evidence

Sending the wrong message: There are concerns that OPCs may send the wrong message, such as encouraging or initiating drug use, or prolonging drug use careers. OPCs are part of a wider public health approach from primary

prevention to tertiary treatment to address harm from drugs. Moral frameworks and stigmatizing attitudes towards people who use drugs have blocked progress, highlighting the need for a nuanced approach to public opinion and policy. The focus on individuals using OPCs overlooks the significant role of social determinants of health, reduces sympathy, and maintains marginalisation and stigmatisation narratives of the 'worthiness' of people who use drugs. Emphasizing harm reduction alongside contextual factors can lead to more effective and compassionate approaches to supporting those in need and help keep people who use drugs improve their health.

Lack of public understanding of OPCs: Public opinion plays a key role in the feasibility, longevity, and expansion of OPCs, with most surveys showing a high level of support especially where individuals know someone who uses drugs. Educating the public about OPC logistics and evidence can address misunderstandings and concerns, while community engagement activities informed by people who use OPCs or plan to use them can shape strategies such as frequently asked question documents, awareness-raising sessions, and community consultation, can help gain support and address the "Not in My Backyard" (NIMBY) issue. Reframing stigmatized attitudes and emphasizing safety, cleanliness, and treatment pathways are essential for garnering public support and facilitating OPC implementation. Engaging compassionately with people's fears is also likely to help understanding.

The role of evidence in policy on OPCs: The implementation of OPCs often faces barriers including legal concerns, financing, and lack of political support, despite the extensive evidence that they can change outcomes internationally. Evidence-based strategies including mock-ups, pictures, and information addressing concerns can help policy makers develop support. Legal geography, ranging from local agreements to international public health treaties, also influences the process of establishing OPCs. Advocacy efforts, strong local actors, and the use of evidence-based strategies are essential for overcoming moral perspectives and promoting the benefits of OPCs in advancing public health interventions. However, policy makers can still override evidence-based approaches, highlighting the complex interplay of factors in the decision-making process.

Resistance to expanding service provision: There is an emphasis to expand new services in areas of need to address the opioid crisis, but the diversity in views, use of evidence, and political opinion makes policy diffusion challenging. Opening new OPCs often requires extraordinary efforts due to resistance and bureaucratic hurdles despite evidence showing improved health outcomes and engagement. There is evidence from UK, US, Greece, and Canada amongst others to illustrate

how political interference, increased bureaucracy, and policy activity or inactivity can impact OPC adoption and/or force closure.

That resources would be better spent on abstinence-based treatment: Media portrayal of OPCs often focuses on an abstinence and recovery rhetoric, which can lead to unnecessary stigmatization of individuals who use drugs. OPCs can play a role in a continuum of care, acknowledging the non-linear nature of behaviour change involving substance use. Indeed, there is a growing recognition that OPCs can be entry points into a system where treatment, harm reduction, and prevention can coexist. OPCs are harm reduction rather than primary prevention (encouraging people not to use drugs). They are essential in keeping people alive and providing an opportunity for them to connect with treatment when they are ready. OPCs with non-judgmental and supportive staff can foster relationships that keep individuals healthy, promote overall wellbeing, and reduce the impact of stigma.

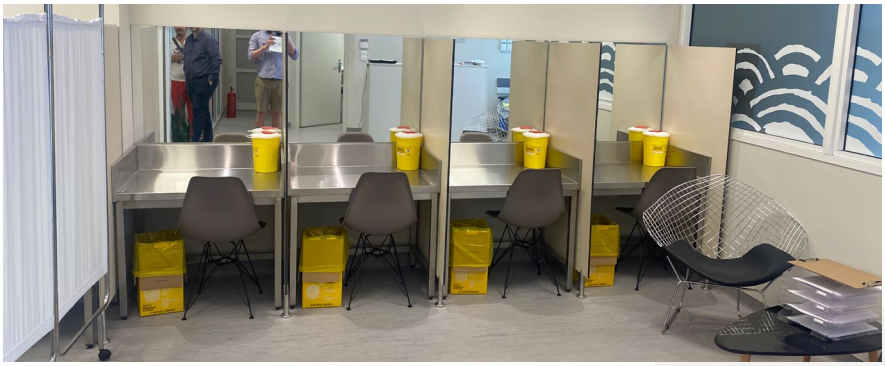
Stigma prevents service provision: Community opposition can arise due to negative stereotypes and emotional reactions associated with drug use. Treating people who use drugs as 'others' and 'undeserving' ignores their needs perpetuates structural stigma which manifests as limited access to life saving, evidence-based interventions. Reducing labels and consulting with whole communities including those who use drugs and those who do not is crucial to effective care. Drug-related deaths are influenced by structural stigma involving factors such as poverty, limited access to housing, education, legal discrimination and marginalisation. OPCs can address some of the individual-level risks which are increased through social stigma, and work in partnerships to reduce drug-related harm beyond the individual. Enabling people to stay alive through harm reduction services like OPCs is essential in combating drug-related deaths and improving public health.

UK legal issues and OPCs: The UN Drug Conventions do not prevent the opening of OPCs so long as they aim to reduce the adverse health consequences of drug use. Locally, the role of UK police forces incorporates preservation of life, and the partnerships with policing are important to the success of OPC operation. The Misuse of Drugs Act 1971 in particular poses significant challenges to OPC operation. Possession of controlled substances will certainly occur, and there will need to be standard operating procedures to address the potential criminal liability that could arise from the supply of controlled substances. Memorandums of understanding with police will be necessary in the absence of any legislative reform to mitigate these risks, as well as interpretations of what amounts to preparing a controlled substance for administration, and whether additional

articles or paraphernalia may be supplied by the OPC. Staff at OPCs must be clear about what has been agreed and vigilant in complying with the law and any local agreements. Proper procedures for handling drugs found on the premises are essential, and OPCs in the UK must prohibit the injecting of others.

6.5 Evaluation of an OPC

Any OPC should be independently evaluated to support the improvement of the service and to sustain the service provision. Evaluations can vary in nature, often as a function of funding and personnel available. Outcomes should ideally include community and service outcomes and where possible and ethical, researchers should engage in open science (such as pre-registration or open anonymised data). We recommend ethical approval from an appropriately experienced Ethical Committee to support the rights of all involved in the research.



7. References

1. Nastad. Supervised Injection Facilities: Recommendations for action. 2018: NASTAD. https://www.nastad.org/resource/supervised-injection-facilities-recommendations-action.

2. EMCDDA. Drug consumption rooms: an overview of provision and evidence (Perspectives on drugs). 2018: EMCDDA. https://www.emcdda.europa.eu/topics/pods/drug-consumption-rooms_en.

3. Schatz E, Nougier M. Drug consumption rooms: Evidence and practice. 2012: International Drug Policy Consortium. http://idpc.net/publications/2012/06/idpc-briefing-paper-drug-consumption-rooms-evidence-and-practice.

4. Pardo B, Kilmer B, Caulkins JP. Assessing the evidence on supervised drug consumption sites. 2018: RAND. https://www.rand.org/content/dam/rand/pubs/working_papers/WR1200/WR1261/RAND_WR1261.pdf.

5. Wood E, Tyndall MW, Spittal PM, Li K, Kerr T, Hogg RS, et al. Unsafe injection practices in a cohort of injection drug users in Vancouver: Could safer injecting rooms help? Canadian Medical Association Journal. 2001; 165(4):405-10, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC81364/pdf/20010821s00013p405.pdf

6. Allen B, NYC Health. Overdose Prevention in New York City: Supervised Injection as a Strategy to Reduce Opioid Overdose and Public Injection. 2017: NYC Health. https://www1.nyc.gov/assets/doh/downloads/pdf/public/supervised-injection-report.pdf.

7. West Midlands Police and Crime Commissioner. Out of harms way. 2020. https://www.westmidlands-pcc.gov.uk/wp-content/uploads/2020/03/Out-of-Harms-Way-DCR-report.pdf.

8. Magwood O, Salvalaggio G, Beder M, Kendall C, Kpade V, Daghmach W, et al. The effectiveness of substance use interventions for homeless and vulnerably housed persons: A systematic review of systematic reviews on supervised consumption facilities, managed alcohol programs, and pharmacological agents for opioid use disorder. PLoS One. 2020; 15(1):e0227298 https://doi.org/10.1371/journal.pone.0227298.

9. Shorter GW, Harris M, McAuley A, Trayner KM, Stevens A. The United Kingdom's first unsanctioned overdose prevention site; A proof-of-concept evaluation. International Journal of Drug Policy. 2022; 104:103670 https://doi.org/10.1016/j.drugpo.2022.103670.

10. Panagiotoglou D. Evaluating the population-level effects of overdose prevention sites and supervised consumption sites in British Columbia, Canada: Controlled interrupted time series. PLoS One. 2022; 17(3):e0265665 https://doi.org/10.1371/journal.pone.0265665.

11. Barry CL, Sherman SG, McGinty EE. Language Matters in Combatting the Opioid Epidemic: Safe Consumption Sites Versus Overdose Prevention Sites. American Journal of Public Health. 2018; 108(9):1157-9 https://doi.org/10.2105/AJPH.2018.304588.

12. Socia KM, Stone R, Palacios WR, Cluverius J. Focus on prevention: The public is more supportive of "overdose prevention sites" than they are of "safe injection facilities". Criminology & Public Policy. 2021; 20(4):729-54 https://doi.org/10.1111/1745-9133.12566.

13. Collins AB, Bluthenthal RN, Boyd J, McNeil R. Harnessing the language of overdose prevention to advance evidence-based responses to the opioid crisis. International Journal of Drug Policy. 2018; 55:77-9 https://doi.org/10.1016/j.drugpo.2018.02.013.

14. International Network of Drug Consumption Rooms. International Network of Drug Consumption Rooms Website 2023 [https://www.drugconsumptionroom-international.org/.

15. Bertrand B, cartographer Drug Consumption Rooms. The Netherlands: 2023. http://www.drugconsumptionroom-international.org/.

16. Hedrich D, Kerr T, Dubois-Arber F. Drug consumption facilities in Europe and beyond. In: EMCDDA, editor. Harm Reduction: Evidence, Impacts, and Challenges. Luxembourg: EMCDDA; 2010. p. 305-32.

17. Woods S. Drug consumption rooms in Europe: Organisational overview. 2014: Network EHR. http://idpc.net/publications/2014/12/drug-consumption-rooms-in-europe-organisational-overview.

18. Broadhead RS, Kerr TH, Grund J-PC, Altice FL. Safer Injection Facilities in North America: Their Place in Public Policy and Health Initiatives. Journal of Drug Issues. 2002; 32(1):329-55 https://doi.org/10.1177/002204260203200113.

19. Potier C, Laprevote V, Dubois-Arber F, Cottencin O, Rolland B. Supervised injection services: what has been demonstrated? A systematic literature review. Drug and Alcohol Dependence. 2014; 145:48-68 https://doi.org/10.1016/j.drugalcdep.2014.10.012.

20. Holland A, Harris M, Hickman M, Lewer D, Shorter GW, Horsley J, et al.

Overdose prevention centres in the UK. Lancet Public Health. 2022; 7(3):e196-e7 https://doi.org/10.1016/S2468-2667(22)00038-X.

21. Rae M, Howkins J, Holland A. Escalating drug related deaths in the UK. BMJ. 2022; 378:o2005 https://doi.org/10.1136/bmj.o2005.

22. Kimber J, Hickman M, Strang J, Thomas K, Hutchinson S. Rising opioid-related deaths in England and Scotland must be recognised as a public health crisis. Lancet Psychiatry. 2019; 6(8):639-40 https://doi.org/10.1016/S2215-0366(19)30209-3.

23. Constance A. Safer Drug Consumption Facilites - Evidence Paper. 2021. https://www.gov.scot/publications/safer-drug-consumption-facilites-evidence-paper/.

24. Office for National Statistics. Deaths related to drug poisoning in England and Wales: 2021 registrations. 2022 [https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsrelatedtodrugpoisoninginenglandandwales/2021registrations.

25. National Records of Scotland. Drug-related deaths in Scotland in 2021. 2022: National Records of Scotland. https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/drug-related-deaths-in-scotland/2021.

26. Northern Ireland Statistics and Research Agency. Drug-related and drug misuse deaths registered in Northern Ireland (2011-2021) Belfast: NISRA; 2022 [https://www.nisra.gov.uk/statistics/cause-death/drug-related-deaths.

27. Shorter G. Room for Improvement. The Psychologist. 2023; 36(5):38-41, https://thepsychologist.bps.org.uk/room-improvement

28. Dyregrov K, Møgster B, Løseth H-M, Lorås L, Titlestad KB. The special grief following drug related deaths. Addiction Research & Theory. 2020; 28(5):415-24 https://doi.org/10.1080/16066359.2019.1679122.

29. EMCDDA. Drug-related deaths and mortality in Europe Technical Report: Update from the EMCDDA expert network. 2021: EMCDDA. https://www.emcdda.europa.eu/publications/meeting-reports-and-conference-proceedings/drug-related-deaths-and-mortality-europe_en.

30. Mamdani Z, McKenzie S, Pauly B, Cameron F, Conway-Brown J, Edwards D, et al. “Running myself ragged”: stressors faced by peer workers in overdose response settings. Harm Reduction Journal. 2021; 18(1):18 https://doi.org/10.1186/s12954-020-00449-1.

31. Schlosser AV, Hoffer LD. “I don’t go to funerals anymore”: how people who use

opioids grieve drug-related death in the US overdose epidemic. Harm Reduction Journal. 2022; 19(1):110 https://doi.org/10.1186/s12954-022-00693-7.

32. Snoek A. Addiction and living in the shadow of death: impact of the body on agency and self-control. Addiction Research & Theory. 2023:1-9 https://doi.org/10.1080/16066359.2023.2230874.

33. Pennington ML, Dupree J, Coe E, Ostiguy W, Kimbrel NA, Meyer EC, et al. Working near a supervised injection facility: A qualitative study of perspectives of firefighter-emergency medical responders. American Journal of Industrial Medicine. 2021; 64(4):296-300 https://doi.org/https://doi.org/10.1002/ajim.23224.

34. Perlmutter D, Wettemann C, Fockele CE, Frohe T, Williams W, Holland N, et al. "Another tool in the toolkit"—Perceptions, suggestions, and concerns of emergency service providers about the implementation of a supervised consumption site. International Journal of Drug Policy. 2023; 115:104005 https://doi.org/https://doi.org/10.1016/j.drugpo.2023.104005.

35. Thomas B. Homelessness kills: An analysis of the mortality of homeless people in crisis. 2012: Crisis. https://www.crisis.org.uk/ending-homelessness/homelessness-knowledge-hub/health-and-wellbeing/homelessness-kills-2012/.

36. Parkes T, Price T, Foster R, Trayner K, Sumnall HR, Livingston W, et al. 'Why would we not want to keep everybody safe?'The views of family members of people who use drugs on the implementation of drug consumption rooms in Scotland. Harm Reduction Journal. 2022; 19(1):1-14 https://doi.org/10.1186/s12954-022-00679-5.

37. Roscoe S, Pryce R, Buykx P, Gavens L, Meier PS. Is disinvestment from alcohol and drug treatment services associated with treatment access, completions and related harm? An analysis of English expenditure and outcomes data. Drug and Alcohol Review. 2022; 41(1):54-61 https://doi.org/10.1111/dar.13307.

38. Black C. Independent Review of Drugs. 2020: Home Office. https://www.gov.uk/government/collections/independent-review-of-drugs-by-professor-dame-carol-black.

39. Independent Working Group. Drug consumption rooms: Summary report of the Independent Working Group.; 2006: Joseph Rowntree Foundation. https://www.jrf.org.uk/report/drug-consumption-rooms-summary-report-independent-working-group.

40. Advisory Council for the Misuse of Drugs. Reducing opioid-related deaths

in the UK. 2016: Advisory Council for the Misuse of Drugs. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/576560/ACMD-Drug-Related-Deaths-Report-161212.pdf.

41. Crown Office & Procurator Fiscal Service. Statement on pilot safer drug consumption facility Scotland: Crown Office & Procurator Fiscal Service; 2023 https://www.copfs.gov.uk/about-copfs/news/lord-advocate-s-statement-on-pilot-safer-drug-consumption-facility/

42. Dogherty E, Patterson C, Gagnon M, Harrison S, Chase J, Boerstler J, et al. Implementation of a nurse-led overdose prevention site in a hospital setting: lessons learned from St. Paul's Hospital, Vancouver, Canada. Harm Reduction Journal. 2022; 19(1):13 https://doi.org/10.1186/s12954-022-00596-7.

43. Correlation European Harm Reduction N. Factsheet: Drug Consumption Rooms. 2020. https://www.correlation-net.org/wp-content/uploads/2020/12/DCR_factsheet.pdf.

44. Sherman S, Hunter K, Rouhani S. Safe Drug Consumption Spaces - Implications for Baltimore City. 2017. http://www.abell.org/publications/safe-consumption-spaces-strategy-baltimore.

45. Nassau T, Kolla G, Mason K, Hopkins S, Tookey P, McLean E, et al. Service utilization patterns and characteristics among clients of integrated supervised consumption sites in Toronto, Canada. Harm Reduction Journal. 2022; 19(33):33 https://doi.org/10.1186/s12954-022-00610-y.

46. Otter D. Safe Consumption Facilities: Evidence and Models. 2016: King County Heroin and Opiate Addiction Task Force. https://kingcounty.gov/~/media/depts/community-human-services/behavioral-health-recovery/documents/herointf/Safe_Consumption_Facilities_Evidence_Models.ashx?la=en.

47. 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 https://doi.org/10.1016/j.drugpo.2021.103275.

48. Nolan S, Kelian S, Kerr T, Young S, Malmgren I, Ghafari C, et al. Harm reduction in the hospital: An overdose prevention site (OPS) at a Canadian hospital. Drug and Alcohol Dependence. 2022; 239:109608 https://doi.org/10.1016/j.drugalcdep.2022.109608.

49. 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 https://doi.org/10.1016/j.drugpo.2019.102641.

50. Scherbaum N, Specka M, Bombeck J, Marrziniak B. Drug consumption facility as part of a primary health care centre for problem drug users—Which clients are attracted? International Journal of Drug Policy. 2009; 20(5):447-9 https://doi.org/10.1016/j.drugpo.2009.01.001.

51. 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 https://doi.org/10.7448/IAS.17.1.18855.

52. Migliardi P. Safer washroom evaluation: healthy sexuality and harm reduction, WRHA. 2019. https://professionals.wrha.mb.ca/old/extranet/publichealth/files/HSHRSaferWashroomEvaluation_2019.pdf.

53. Vancouver Coastal Health. Safer washrooms for people who use drugs. Overdose Prevention & Response in WASHROOMS: Recommendations for service providers (Version 7). 2021: Health VC. http://www.vch.ca/Documents/Washroom-Checklist-Service-Settings.pdf.

54. Hedrich D. European report on drug consumption rooms. 2004: European Monitoring Centre for Drugs and Drug Addiction. https://core.ac.uk/download/pdf/34710918.pdf.

55. Kappel N, Toth E, Tegner J, Lauridsen S. A qualitative study of how Danish drug consumption rooms influence health and well-being among people who use drugs. Harm Reduction Journal. 2016; 13(1):1-12 https://doi.org/10.1186/s12954-016-0109-y.

56. Schäffer D, Stöver H, Weichert L. Drug consumption rooms in Europe Models, best practice and challenges. 2014. http://www.drugconsumptionroom-international.org/images/pdf/dcr_europe.pdf.

57. Miller NM, Campbell C, Shorter GW. Barriers and facilitators of naloxone and safe injection facility interventions to reduce opioid drug-related deaths: A qualitative analysis. International Journal of Drug Policy. 2023; 117:104049 https://doi.org/https://doi.org/10.1016/j.drugpo.2023.104049.

58. Dietze P, Winter R, Pedrana A, Leicht A, Majo IRX, Brugal MT. Mobile safe injecting facilities in Barcelona and Berlin. International Journal of Drug Policy. 2012; 23(4):257-60 https://doi.org/10.1016/j.drugpo.2012.02.006.

59. Mema SC, Frosst G, Bridgeman J, Drake H, Dolman C, Lappalainen L, et al. Mobile supervised consumption services in Rural British Columbia: lessons learned. Harm Reduction Journal. 2019; 16(4):4 https://doi.org/10.1186/s12954-018-0273-3.

60. DelVillano S, de Groh M, Morrison H, Do MT. At-a-glance - Supervised Injection Services: a community-based response to the opioid crisis in the City of Ottawa, Canada. Health Promotion and Chronic Disease Prevention in Canada: Research, Policy, and Practice. 2019; 39(3):112-5 https://doi.org/10.24095/hpcdp.39.3.03.

61. Pinto de Oliveiraa A, Gautier D, Nunes P, Correia V, Leite A, Taylor H, et al. First year of implementation of a drug consumption room in Lisbon: the client's profile. European Journal of Public Health. 2020; 30(Supplement_5) https://doi.org/10.1093/eurpub/ckaa166.403.

62. Anoro M, Ilundain E, Santisteban O. Barcelona's Safer Injection Facility-EVA: A Harm Reduction Program Lacking Official Support. Journal of Drug Issues. 2016; 33(3):689-711 https://doi.org/10.1177/002204260303300309.

63. Wallace B, Pagan F, Pauly BB. The implementation of overdose prevention sites as a novel and nimble response during an illegal drug overdose public health emergency. International Journal of Drug Policy. 2019; 66:64-72 https://doi.org/10.1016/j.drugpo.2019.01.017.

64. 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 https://doi.org/10.1016/j.drugpo.2019.09.019.

65. 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 https://doi.org/10.1111/j.1360-0443.2010.02917.x.

66. Brooks HL, Husband C, Taylor M, Sherren A, Hyshka E. Supporting the full participation of people who use drugs in policy fora: Provision of a temporary, conference-based overdose prevention site. International Journal of Drug Policy. 2020; 84:102878 https://doi.org/10.1016/j.drugpo.2020.102878.

67. Wolfson-Stofko B, Curtis R, Fuentes F, Manchess E, Del Rio-Cumba A, Bennett AS. The portapotty experiment: neoliberal approaches to the intertwined epidemics of opioid-related overdose and HIV/HCV, and why we need cultural anthropologists in the South Bronx. Dialectical anthropology. 2016; 40:395-410 https://doi.org/10.1007/s10624-016-9443-4.

68. Din CT. The Role of Drug Consumption Rooms in HIV Prevention. Revista de Asistenţă Socială. 2014; 13(1):159-77, https://idpc.net/publications/2014/04/the-role-of-drug-consumption-rooms-in-hiv-prevention

69. Stevens AW, Southwell M, Scher B, Shorter GW, Kenth S. Reducing drug-related harms in Sandwell: the need and feasibility of an overdose prevention service. 2022: Drug Science. https://www.drugscience.org.uk/wp-content/uploads/2022/08/DS_Sandwell-Report_V3_Digital.pdf.

70. Kryszajtys DT, Xavier J, Rudzinski K, Guta A, Chan Carusone S, Strike CJ. Stakeholder preferences for supervised consumption site design, staff, and ancillary services: A scoping review of feasibility studies. Drug and Alcohol Dependence. 2022; 230:109179 https://doi.org/10.1016/j.drugalcdep.2021.109179.

71. Ti LP, Buxton J, Harrison S, Dobrer S, Montaner J, Wood E, et al. Willingness to Access an In-hospital Supervised Injection Facility Among Hospitalized People Who Use Illicit Drugs. Journal of Hospital Medicine. 2015; 10(5):301-6 https://doi.org/10.1002/jhm.2344.

72. Fry C, Fox S, Rumbold G. Establishing safe injecting rooms in Australia: attitudes of injecting drug users. Australian and New Zealand Journal of Public Health. 1999; 23(5):501-4 https://doi.org/10.1111/j.1467-842x.1999.tb01306.x.

73. Medicine Hat Coalition on Supervised Consumption. Supervised Consumption: A Report to the Community of Medicine Hat. 2018. https://static1.squarespace.com/static/5afbfccdcc8fed1c03b5a9f0/t/5b1ae4c370a6ad394e6d14e4/1528489159539/Medicine+Hat+Public+Document-v3+%281%29.pdf.

74. Bardwell G, Scheim A, Mitra S, Kerr T. Assessing support for supervised injection services among community stakeholders in London, Canada. International Journal of Drug Policy. 2017; 48:27-33 https://doi.org/10.1016/j.drugpo.2017.05.009.

75. Fischer B, Allard C. Feasibility study on 'supervised drug consumption'options in the City of Victoria. 2007. https://www.uvic.ca/research/centres/cisur/assets/docs/report-feasibility-supervised-drug-consumption.pdf.

76. Kerr T, Mitra S, Kennedy MC, McNeil R. Supervised injection facilities in Canada: past, present, and future. Harm Reduction Journal. 2017; 14(1):28 https://doi.org/10.1186/s12954-017-0154-1.

77. Laenen F, Nicaise P, Decorte T, De Maeyer J, De Ruyver B, Pierre S, et al. Feasibility study on drug consumption rooms in Belgium. 2018: BELSPO. https://www.belspo.be/belspo/fedra/DR/DR78_DRUGROOM_summary2018_en.pdf.

78. Lange BCL, Bach-Mortensen AM. A systematic review of stakeholder perceptions of supervised injection facilities. Drug and Alcohol Dependence. 2019; 197:299-314 https://doi.org/10.1016/j.drugalcdep.2019.02.006.

79. Bardwell G, Strike C, Altenberg J, Barnaby L, Kerr T. Implementation contexts and the impact of policing on access to supervised consumption services in Toronto, Canada: a qualitative comparative analysis. Harm Reduction Journal. 2019; 16(1):30 https://doi.org/10.1186/s12954-019-0302-x.

80. Greene C, Urbanik M-M, Geldart R. Experiences with compounding surveillance and social control as a barrier to safe consumption service access. SSM-Qualitative Research in Health. 2022; 2:100055 https://doi.org/10.1016/j.ssmqr.2022.100055.

81. Urbanik MM, Greene C. Operational and contextual barriers to accessing supervised consumption services in two Canadian cities. International Journal of Drug Policy. 2021; 88:102991 https://doi.org/10.1016/j.drugpo.2020.102991.

82. Southwell M, Scher B, Harris M, Shorter GW. The Case for Overdose Prevention Centres: Voices from Sandwell. 2022: Drug Science. https://drugscience.org.uk/wp-content/uploads/2022/12/DS_Coact-Report_V3_AW.pdf.

83. Watson TM, Bayoumi A, Kolla G, Penn R, Fischer B, Luce J, et al. Police Perceptions of Supervised Consumption Sites (SCSs): A Qualitative Study. Substance Use & Misuse. 2012; 47(4):364-74 https://doi.org/10.3109/10826084.2011.645104.

84. Watson TM, Kolla G, van der Meulen E, Dodd Z. Critical studies of harm reduction: Overdose response in uncertain political times. International Journal of Drug Policy. 2020; 76:102615 https://doi.org/10.1016/j.drugpo.2019.102615.

85. Park JN, Sherman SG, Rouhani S, Morales KB, McKenzie M, Allen ST, et al. Willingness to Use Safe Consumption Spaces among Opioid Users at High Risk of Fentanyl Overdose in Baltimore, Providence, and Boston. Journal of Urban Health. 2019; 96(3):353-66 https://doi.org/10.1007/s11524-019-00365-1.

86. Davidson PJ, Lopez AM, Kral AH. Using drugs in un/safe spaces: Impact of perceived illegality on an underground supervised injecting facility in the United States. International Journal of Drug Policy. 2018; 53:37-44 https://doi.org/10.1016/j.drugpo.2017.12.005.

87. Davidson PJ, Wenger LD, Lambdin BH, Kral AH. Establishment and Enforcement of Operational Rules at an Unsanctioned Safe Drug Consumption Site in the United States, 2014-2020. American Journal of Public Health. 2022; 112(S2):S166-S72 https://doi.org/10.2105/AJPH.2022.306714.

88. Kral AH, Davidson PJ. Addressing the Nation's Opioid Epidemic: Lessons from an Unsanctioned Supervised Injection Site in the U.S. American Journal of Preventive Medicine. 2017; 53(6):919-22 https://doi.org/10.1016/j.amepre.2017.06.010.

89. McCann M, Vadivelu S. Saving Lives. Changing Lives. Summary Report on the findings from an Evaluation of London's Temporary Overdose Prevention Site (TOPS), Ontario. Evaluation. 2019. https://t.co/mWIt9tRbv4.

90. Taylor J, Ober AJ, Kilmer B, Caulkins JP, Iguchi MY. Community perspectives on supervised consumption sites: Insights from four U.S. counties deeply affected by opioids. Journal of Substance Abuse Treatment. 2021; 131:108397 https://doi.org/10.1016/j.jsat.2021.108397.

91. Bouvier BA, Elston B, Hadland SE, Green TC, Marshall BD. Willingness to use a supervised injection facility among young adults who use prescription opioids non-medically: a cross-sectional study. Harm Reduction Journal. 2017; 14(1):13 https://doi.org/10.1186/s12954-017-0139-0.

92. Kral AH, Wenger L, Carpenter L, Wood E, Kerr T, Bourgois P. Acceptability of a safer injection facility among injection drug users in San Francisco. Drug and Alcohol Dependence. 2010; 110(1-2):160-3 https://doi.org/10.1016/j.drugalcdep.2010.02.009.

93. Bayoumi AM, Strike C, Brandeau M, Degani N, Fischer B, Glazier R, et al. Report of the Toronto and Ottawa supervised consumption assessment study, 2012. Toronto: St. Michael's Hospital and the Dalla Lana School of Public Health, University of Toronto; 2012. https://www.catie.ca/sites/default/files/TOSCA%20report%202012.pdf

94. Petrar S, Kerr T, Tyndall MW, Zhang R, Montaner JS, Wood E. Injection drug users' perceptions regarding use of a medically supervised safer injecting facility. Addictive Behaviors. 2007; 32(5):1088-93 https://doi.org/10.1016/j.addbeh.2006.07.013.

95. Greene C, Maier K, Urbanik MM. "It's just not the same": Exploring PWUD' perceptions of and experiences with drug policy and SCS services change in a Canadian City. International Journal of Drug Policy. 2023; 111:103934 https://doi.org/10.1016/j.drugpo.2022.103934.

96. van der Poel A, Barendregt C, van de Mheen D. Drug consumption rooms in Rotterdam: an explorative description. European Addiction Research. 2003; 9(2):94-100 https://doi.org/10.1159/000068807.

97. Rhodes T. Risk environments and drug harms: a social science for harm

reduction approach. International Journal of Drug Policy. 2009; 20(3):193-201 https://doi.org/10.1016/j.drugpo.2008.10.003.

98. Rhodes T, Kimber J, Small W, Fitzgerald J, Kerr T, Hickman M, et al. Public injecting and the need for 'safer environment interventions' in the reduction of drug-related harm. Addiction. 2006; 101(10):1384-93 https://doi.org/10.1111/j.1360-0443.2006.01556.x.

99. Rhodes T, Watts L, Davies S, Martin A, Smith J, Clark D, et al. Risk, shame and the public injector: A qualitative study of drug injecting in South Wales. Social Science & Medicine. 2007; 65(3):572-85 https://doi.org/10.1016/j.socscimed.2007.03.033.

100. Maher L, Salmon A. Supervised injecting facilities: how much evidence is enough? Drug and Alcohol Review. 2007; 26(4):351-3 https://doi.org/10.1080/09595230701373818.

101. Satel S. How much do we need to know about supervised consumption sites? It depends who's asking. Addiction. 2019; 114(12):2116-7 https://doi.org/10.1111/add.14787.

102. Humphreys K, Shover CL, Andrews CM, Bohnert AS, Brandeau ML, Caulkins JP, et al. Responding to the opioid crisis in North America and beyond: recommendations of the Stanford–Lancet Commission. Lancet. 2022; 399(10324):555-604 https://doi.org/10.1016/S0140-6736(21)02252-2.

103. Kennedy MC, Karamouzian M, Kerr T. Public Health and Public Order Outcomes Associated with Supervised Drug Consumption Facilities: a Systematic Review. Current HIV/AIDS Reports. 2017; 14(5):161-83 https://doi.org/10.1007/s11904-017-0363-y.

104. Caulkins JP, Pardo B, Kilmer B. Supervised consumption sites: a nuanced assessment of the causal evidence. Addiction. 2019; 114(12):2109-15 https://doi.org/10.1111/add.14747.

105. Smith GC, Pell JP. Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials. BMJ. 2003; 327(7429):1459-61 https://doi.org/10.1136/bmj.327.7429.1459.

106. Hayes MJ, Kaestner V, Mailankody S, Prasad V. Most medical practices are not parachutes: a citation analysis of practices felt by biomedical authors to be analogous to parachutes. Canadian Medical Association Open. 2018; 6(1):E31-E8 https://doi.org/10.9778/cmajo.20170088.

107. Salmon AM, van Beek I, Amin J, Kaldor J, Maher L. The impact of a supervised

injecting facility on ambulance call-outs in Sydney, Australia. Addiction. 2010; 105(4):676-83 https://doi.org/10.1111/j.1360-0443.2009.02837.x.

108. Madah-Amiri D, Skulberg AK, Braarud A-C, Dale O, Heyerdahl F, Lobmaier P, et al. Ambulance-attended opioid overdoses: an examination into overdose locations and the role of a safe injection facility. Substance Abuse. 2019; 40(3):383-8 https://doi.org/10.1080/08897077.2018.1485130.

109. Gorst SL, Gargon E, Clarke M, Blazeby JM, Altman DG, Williamson PR. Choosing Important Health Outcomes for Comparative Effectiveness Research: An Updated Review and User Survey. PLoS One. 2016; 11(1):e0146444 https://doi.org/10.1371/journal.pone.0146444.

110. Williamson PR, Altman DG, Bagley H, Barnes KL, Blazeby JM, Brookes ST, et al. The COMET Handbook: version 1.0. Trials. 2017; 18(Suppl 3):280 https://doi.org/10.1186/s13063-017-1978-4.

111. Williamson PR, Altman DG, Blazeby J, Clarke M, Gargon E. Driving up the quality and relevance of research through the use of agreed core outcomes. J Health Serv Res Po. 2012; 17(1):1-2 https://doi.org/10.1258/jhsrp.2011.011131.

112. Shorter GW. Core Outcome Set for Drug Consumption Rooms. 2023: COMET Initiative. https://comet-initiative.org/Studies/Details/2671.

113. Stevens A. Telling policy stories: an ethnographic study of the use of evidence in policy-making in the UK. Journal of Social Policy. 2011; 40(2):237-55 https://doi.org/10.1017/S0047279410000723.

114. Deaton A, Cartwright N. Understanding and misunderstanding randomized controlled trials. Social Science & Medicine. 2018; 210:2-21 https://doi.org/10.1016/j.socscimed.2017.12.005.

115. Keemink J, Stevens A, Shorter GW. A rapid realist review of the literature on overdose prevention centres: what works, for whom, in what circumstances?. PROSPERO Registration 2023 CRD42023414273 2023: Prospero. https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42023414273.

116. Armbrecht E, Guzauskas G, Hansen R, Pandey R, Fazioli K, Chapman R, et al. Supervised Injection Facilities and Other Supervised Consumption Sites: Effectiveness and Value. Final Report. 2020. https://icer.org/news-insights/press-releases/icer-publishes-final-evidence-report-and-policy-recommendations-for-supervised-injection-facilities/.

117. Belackova V, Salmon A. Overview of International Literature – Supervised Injecting Facilities & Drug Consumption Rooms. 2017. https://uniting.org/__data/assets/pdf_file/0020/153209/Overview-of-International-literature.PDF.

118. De Vel-Palumbo M, Matthew-Simmons F, Shanahan M, Ritter A. Supervised Injecting Facilities: What the literature tells us. 2013: National Drug and Alcohol Research Centre. https://dpmp.unsw.edu.au/resource/bulletin-no-22.

119. Belackova V, Salmon AM, Day CA, Ritter A, Shanahan M, Hedrich D, et al. Drug consumption rooms: A systematic review of evaluation methodologies. Drug and Alcohol Review. 2019; 38(4):406-22 https://doi.org/10.1111/dar.12919.

120. Bouzanis K, Joshi S, Lokker C, Pavalagantharajah S, Qiu Y, Sidhu H, et al. Health programmes and services addressing the prevention and management of infectious diseases in people who inject drugs in Canada: a systematic integrative review. BMJ Open. 2021; 11(9):e047511 https://doi.org/10.1136/bmjopen-2020-047511.

121. Dow-Fleisner SJ, Lomness A, Woolgar L. Impact of safe consumption facilities on individual and community outcomes: A scoping review of the past decade of research. Emerging Trends in Drugs, Addictions, and Health. 2022; 2 https://doi.org/10.1016/j.etdah.2022.100046.

122. García RC. Drug consumption rooms in Spain (2000-2013). Salud Colectiva. 2015; 11(2):261-82 https://doi.org/10.1590/S1851-82652015000200009.

123. 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 https://doi.org/10.1016/j.drugpo.2022.103589.

124. Ivsins A, Warnock A, Small W, Strike C, Kerr T, Bardwell G. A scoping review of qualitative research on barriers and facilitators to the use of supervised consumption services. International Journal of Drug Policy. 2023; 111:103910 https://doi.org/10.1016/j.drugpo.2022.103910.

125. Kerr T, Kimber J, DeBeck K, Wood E. The role of safer injection facilities in the response to HIV/AIDS among injection drug users. Current HIV/AIDS Reports. 2007; 4(4):158-64 https://doi.org/10.1007/s11904-007-0023-8.

126. Lange B, Bach-Mortensen A. A systematic review of stakeholder perceptions of supervised injection facilities. Drug and Alcohol Dependence. 2019; 197:299-314 https://doi.org/10.1016/j.drugalcdep.2019.02.006.

127. Larson S, Padron N, Mason J, Bogaczyk T. Supervised Consumption Facilities - Review of the Evidence. 2017. http://dbhids.org/wp-content/uploads/2018/01/OTF_LarsonS_PHLReportOnSCF_Dec2017.pdf.

128. Levengood TW, Yoon GH, Davoust MJ, Ogden SN, Marshall BDL, Cahill SR, et al. Supervised Injection Facilities as Harm Reduction: A Systematic Review.

American Journal of Preventative Medicine. 2021; 61(5):738-49 https://doi.org/10.1016/j.amepre.2021.04.017.

129. MacArthur GJ, van Velzen E, Palmateer N, Kimber J, Pharris A, Hope V, et al. Interventions to prevent HIV and Hepatitis C in people who inject drugs: A review of reviews to assess evidence of effectiveness. International Journal of Drug Policy. 2014; 25(1):34-52 https://doi.org/https://doi.org/10.1016/j.drugpo.2013.07.001.

130. Tilson H, Aramrattana A, Bozzette S, Celentano D, Falco M, Hammett T, et al. Preventing HIV infection among injecting drug users in high-risk countries: an assessment of the evidence.: National Academy of Sciences, Institute of Medicine; 2007. https://DOI:10.1136/bmj.e5945.

131. McNeil R, Small W. 'Safer environment interventions': a qualitative synthesis of the experiences and perceptions of people who inject drugs. Social Science & Medicine. 2014; 106:151-8 https://doi.org/10.1016/j.socscimed.2014.01.051.

132. May T. Medically Supervised Injecting Centres (MSICs): A Review of Systematic Reviews. Report submitted to the Welsh Government's Advisory Panel on Substance Misuse (APoSM). 2017: Welsh Government's Advisory Panel on Substance Misuse. https://www.gov.wales/sites/default/files/publications/2019-01/180320atisn12038doc2_0.pdf.

133. Monico D. Out of the alley: lessons from safe injecting facilities (SIF). Graduate Annual. 2015; 3(1):12, http://digitalcommons.lasalle.edu/graduateannual/vol3/iss1/12

134. Semaan S, Fleming P, Worrell C, Stolp H, Baack B, Miller M. Potential role of safer injection facilities in reducing HIV and hepatitis C infections and overdose mortality in the United States. Drug and Alcohol Dependence. 2011; 118(2-3):100-10 https://doi.org/10.1016/j.drugalcdep.2011.03.006.

135. 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):72 https://doi.org/10.1186/s12954-020-00414-y.

136. Tran V, Reid SE, Roxburgh A, Day CA. Assessing Drug Consumption Rooms and Longer Term (5 Year) Impacts on Community and Clients. Risk Management and Healthcare Policy. 2021; 14:4639-47 https://doi.org/10.2147/rmhp.S244720.

137. Vander Laenen F, Nicaise P, Decorte T, De Maeyer J, De Ruyver B, Smith P, et al. Feasibility study on drug consumption rooms in Belgium - Étude de faisabilité de salles de consommation à moindre risque en Belgique. 2018. https://dial.uclouvain.be/pr/boreal/object/boreal:194734.

138. 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 https://doi.org/10.1016/j.drugpo.2020.103040.

139. Yoon GH, Levengood TW, Davoust MJ, Ogden SN, Kral AH, Cahill SR, et al. Implementation and sustainability of safe consumption sites: a qualitative systematic review and thematic synthesis. Harm Reduction Journal. 2022; 19(73):73 https://doi.org/10.1186/s12954-022-00655-z.

140. van Beek I, Gilmour S. Preference to have used a medically supervised injecting centre among injecting drug users in Kings Cross, Sydney. Australian and New Zealand Journal of Public Health. 2000; 24(5):540-2 https://doi.org/10.1111/j.1467-842X.2000.tb00507.x.

141. Green TC, Hankins CA, Palmer D, Boivin J-F, Platt R. My Place, Your Place, or a Safer Place. Canadian Journal of Public Health. 2004; 95(2):110-4 https://doi.org/10.1007/BF03405777.

142. Briand Madrid L, Donadille C, Célerier I, Gutowski M, Grelli N, Maradan G, et al. Salles de consommation ā moindre risque: opinion et volonté d'utilisation des personnes injectrices de substances psychoactives ā Marseille, France. Revue d'Épidémiologie et de Santé Publique. 2023; 71(1): https://doi.org/10.1016/j.respe.2022.101421

143. Kerr T, Wood E, Palepu A, Wilson D, Schechter MT, Tyndall MW. Responding to an Explosive HIV Epidemic Driven by Frequent Cocaine Injection: Is There a Role for Safe Injecting Facilities? Journal of Drug Issues. 2003; 33(3):579-608 https://doi.org/10.1177/002204260303300303.

144. Taylor H, Curado A, Tavares J, Oliveira M, Gautier D, Maria JS. Prospective client survey and participatory process ahead of opening a mobile drug consumption room in Lisbon. Harm Reduction Journal. 2019; 16(1):49 https://doi.org/10.1186/s12954-019-0319-1.

145. Kenney SR, Anderson BJ, Bailey GL, Herman DS, Conti MT, Stein MD. Examining Overdose and Homelessness as Predictors of Willingness to Use Supervised Injection Facilities by Services Provided Among Persons Who Inject Drugs. American Journal on Addictions. 2021; 30(1):21-5 https://doi.org/10.1111/ajad.13065.

146. Shaw A, Lazarus L, Pantalone T, LeBlanc S, Lin D, Stanley D, et al. Risk environments facing potential users of a supervised injection site in Ottawa, Canada. Harm Reduction Journal. 2015; 12(1):1-9 https://doi.org/10.1186/s12954-015-0083-9.

147. Mitra S, Rachlis B, Krysowaty B, Marshall Z, Olsen C, Rourke S, et al. Potential use of supervised injection services among people who inject drugs in a remote and mid-size Canadian setting. BMC Public Health. 2019; 19(284):284 https://doi.org/10.1186/s12889-019-6606-7.

148. Khezri M, Karamouzian M, Sharifi H, Ghalekhani N, Tavakoli F, Mehmandoost S, et al. Willingness to utilize supervised injection facilities among people who inject drugs in Iran: Findings from 2020 national HIV bio-behavioral surveillance survey. International Journal of Drug Policy. 2021; 97:103355 https://doi.org/10.1016/j.drugpo.2021.103355.

149. Klein KS, Glick SN, Mauro PM. Anticipated use of a supervised drug consumption site among syringe services program clients in King County, Washington: assessing the role of opioid overdose and injection behavior. Drug and Alcohol Dependence. 2020; 213:108121 https://doi.org/10.1016/j.drugalcdep.2020.108121.

150. Mitra S, Rachlis B, Scheim A, Bardwell G, Rourke SB, Kerr T. Acceptability and design preferences of supervised injection services among people who inject drugs in a mid-sized Canadian City. Harm Reduction Journal. 2017; 14(1):46 https://doi.org/10.1186/s12954-017-0174-x.

151. Scheim A, Rachlis B, Bardwell G, Mitra S, Kerr T. Public injecting among people who inject drugs in a mid-sized Canadian city. Canadian Medical Association Journal Open. 2017; 6(2):E290-E4 https://doi.org/10.9778/cmajo.20160163.

152. Trayner KMA, Palmateer NE, Hutchinson SJ, Goldberg DJ, Shepherd SJ, Gunson RN, et al. High willingness to use drug consumption rooms among people who inject drugs in Scotland: findings from a national bio-behavioural survey among people who inject drugs. International Journal of Drug Policy. 2021; 90:102731 https://doi.org/10.1016/j.drugpo.2020.102731.

153. Hunt N, Lloyd C, Kimber J, Tompkins C. Public injecting and willingness to use a drug consumption room among needle exchange programme attendees in the UK. International Journal of Drug Policy. 2007; 18(1):62-5 https://doi.org/10.1016/j.drugpo.2006.11.018.

154. Butler G, Chapman D, Terry P. Attitudes of intravenous drug users in London towards the provision of drug consumption rooms. Drug-Educ Prev Polic. 2016; 25(1):31-7 https://doi.org/10.1080/09687637.2016.1252316.

155. DeBeck K, Kerr T, Lai C, Buxton J, Montaner J, Wood E. The validity of reporting willingness to use a supervised injecting facility on subsequent program use among people who use injection drugs. American Journal of Drug and Alcohol

Abuse. 2012; 38(1):55-62 https://doi.org/10.3109/00952990.2011.600389.

156. Fairbairn N, Small W, Shannon K, Wood E, Kerr T. Seeking refuge from violence in street-based drug scenes: women's experiences in North America's first supervised injection facility. Social Science & Medicine. 2008; 67(5):817-23 https://doi.org/10.1016/j.socscimed.2008.05.012.

157. Small W, Moore D, Shoveller J, Wood E, Kerr T. Perceptions of risk and safety within injection settings: Injection drug users' reasons for attending a supervised injecting facility in Vancouver, Canada. Health Risk Soc. 2012; 14(4):307-24 https://doi.org/10.1080/13698575.2012.680950.

158. Kerr T, Small W, Moore D, Wood E. A micro-environmental intervention to reduce the harms associated with drug-related overdose: evidence from the evaluation of Vancouver's safer injection facility. International Journal of Drug Policy. 2007; 18(1):37-45 https://doi.org/10.1016/j.drugpo.2006.12.008.

159. Krüsi A, Small W, Wood E, Kerr T. An integrated supervised injecting program within a care facility for HIV-positive individuals: a qualitative evaluation. AIDS Care. 2009 May;21(5):638-44. doi: 10.1080/09540120802385645.

160. O'Shea M. Introducing safer injecting facilities (SIFs) in the Republic of Ireland: 'Chipping away' at policy change. Drug-Educ Prev Polic. 2007; 14(1):75-88 https://doi.org/10.1080/09687630600911684.

161. Dong KA, Brouwer J, Johnston C, Hyshka E. Supervised consumption services for acute care hospital patients. CMAJ. 2020; 192(18):E476-E9 https://doi.org/10.1503/cmaj.191365.

162. 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 and Alcohol Review. 2018; 37(5):645-52 https://doi.org/10.1111/dar.12815.

163. 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):1 https://doi.org/10.1186/1477-7517-3-1.

164. Kennedy M, Klassen D, Dong H, Milloy M, Hayashi K, Kerr T. Supervised Injection Facility Utilization Patterns: A Prospective Cohort Study in Vancouver, Canada. American Journal of Preventive Medicine. 2019; 57(3):330-7 https://doi.org/https://doi.org/10.1016/j.amepre.2019.04.024.

165. Rhodes T. The 'risk environment': a framework for understanding and

reducing drug-related harm. International Journal of Drug Policy. 2002; 13(2):85-94 https://doi.org/10.1016/s0955-3959(02)00007-5.

166. Zobel F, Maier LJ. Switzerland: Moving Towards Public Health and Harm Reduction. In: Klein A, Stothard B, editors. Collapse of the Global Order on Drugs: From UNGASS 2016 to Review 2019: Emerald Publishing Limited; 2018. p. 277-88.

167. Goodhew M, Salmon AM, Marel C, Mills KL, Jauncey M. Mental health among clients of the Sydney Medically Supervised Injecting Centre (MSIC). Harm Reduction Journal. 2016; 13(1):29 https://doi.org/10.1186/s12954-016-0117-y.

168. Harris J, Shorter GW, Davidson G, Best P. Risk perception, changing social context, and norms prevent transition to regular injection among people who smoke heroin. Drug and Alcohol Dependence. 2020; 208:107878 https://doi.org/10.1016/j.drugalcdep.2020.107878.

169. Fischer B, Boyd N, Brochu S. Proposals for Decriminalization of Illicit Drug Use: Considering a Combination of déjà-vu, Diversion and Devil-with-many-details for Health-oriented Policy Reform. Canadian Journal of Psychiatry. 2022; 67(1):13-5 https://doi.org/10.1177/07067437211019656.

170. Peacey J. Drug consumption rooms in Europe: client experience survey in Amsterdam and Rotterdam. 2014: European Harm Reduction Network. https://www.drugconsumptionroom-international.org/wp-content/uploads/2021/10/dcr_in_rotterdam_amsterdam.pdf.

171. Bravo MJ, Royuela L, De la Fuente L, Brugal MT, Barrio G, Domingo-Salvany A, et al. Use of supervised injection facilities and injection risk behaviours among young drug injectors. Addiction. 2009; 104(4):614-9 https://doi.org/10.1111/j.1360-0443.2008.02474.x.

172. Fetene M, Hall C, Dietze P. Characteristics of people who used the Melbourne and Sydney medically supervised injecting facilities surveyed in the Illicit Drug Reporting System 2019: Drug Trends Bulletin Series. 2020: National Drug and Alcohol Research Centre. https://ndarc.med.unsw.edu.au/resource/characteristics-people-who-used-melbourne-and-sydney-medically-supervised-injecting.

173. Van Den Boom W, Del Mar Quiroga M, Fetene DM, Agius PA, Higgs PG, Maher L, et al. The Melbourne Safe Injecting Room Attracted People Most in Need of Its Service. American Journal of Preventative Medicine. 2021; 61(2):217-24 https://doi.org/10.1016/j.amepre.2021.02.018.

174. Wood E, Tyndall M, Li K, Lloyd-Smith E, Small W, Montaner J, et al. Do supervised injecting facilities attract higher-risk injection drug users? American

Journal of Preventative Medicine. 2005; 29(2):126-30 https://doi.org/10.1016/j.amepre.2005.04.011.

175. Scherbaum N, Specka M, Schifano F, Bombeck J, Marrziniak B. Longitudinal Observation of a Sample of German Drug Consumption Facility Clients. Substance Use & Misuse. 2010; 45(1-2):176-89 https://doi.org/10.3109/10826080902873044.

176. Tyndall M, Wood E, Zhang R, Lai C, Montaner J, Kerr T. HIV seroprevalence among participants at a Supervised Injection Facility in Vancouver, Canada: implications for prevention, care and treatment. Harm Reduction Journal. 2006; 3(1):36 https://doi.org/10.1186/1477-7517-3-36.

177. Dubois-Arber F, Benninghoff F, Jeannin A. Typology of injection profiles of clients of a supervised drug consumption facility in Geneva, Switzerland. European Addiction Research. 2008; 14(1):1-10 https://doi.org/10.1159/000110405.

178. Stoltz JA, Wood E, Small W, Li K, Tyndall M, Montaner J, et al. Changes in injecting practices associated with the use of a medically supervised safer injection facility. Journal of Public Health. 2007; 29(1):35-9 https://doi.org/10.1093/pubmed/fdl090.

179. Hadland SE, DeBeck K, Kerr T, Nguyen P, Simo A, Montaner JS, et al. Use of a medically supervised injection facility among street youth. Journal of Adolescent Health. 2014; 55(5):684-9 https://doi.org/10.1016/j.jadohealth.2014.04.013.

180. Reddon H, Wood E, Tyndall M, Lai C, Hogg R, Montaner J, et al. Use of North America's first medically supervised safer injecting facility among HIV-positive injection drug users. AIDS Education and Prevention. 2011; 23(5):412-22 https://doi.org/10.1521/aeap.2011.23.5.412.

181. Stöver H, Förster S. Drug Consumption Rooms (DCRs) in Frankfurt am Main/Germany. Annual Report of the Monitoring of 4 DCRs in 2019. 2020. https://www.researchgate.net/publication/341647889_Drug_Consumption_Rooms_DCRs_in_Frankfurt_am_MainGermany_Annual_Report_of_the_Monitoring_of_4_DCRs_in_2019.

182. Kerman N, Manoni-Millar S, Cormier L, Cahill T, Sylvestre J. "It's Not Just Injecting Drugs": Supervised Consumption Sites and the Social Determinants of Health. Drug and Alcohol Dependence. 2020; 213:108078 https://doi.org/10.1016/j.drugalcdep.2020.108078.

183. Oudshoorn A, Sangster Bouck M, McCann M, Zendo S, Berman H, Banninga J, et al. A critical narrative inquiry to understand the impacts of an overdose prevention site on the lives of site users. Harm Reduction Journal. 2021; 18(1):6 https://doi.org/10.1186/s12954-020-00458-0.

184. Marshall BD, Milloy MJ, Wood E, Montaner JS, Kerr T. Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study. Lancet. 2011; 377(9775):1429-37 https://doi.org/10.1016/S0140-6736(10)62353-7.

185. Roux P, Jauffret-Roustide M, Donadille C, Briand Madrid L, Denis C, Célérier I, et al. Impact of drug consumption rooms on non-fatal overdoses, abscesses and emergency department visits in people who inject drugs in France: results from the COSINUS cohort. International Journal of Epidemiology. 2022; dyac120(2):562-76 https://doi.org/10.1093/ije/dyac120.

186. Pauly B, Wallace B, Pagan F, Phillips J, Wilson M, Hobbs H, et al. Impact of overdose prevention sites during a public health emergency in Victoria, Canada. PLoS One. 2020; 15(5):e0229208 https://doi.org/10.1371/journal.pone.0229208.

187. Government of Alberta AH. Impact: A socio-economic review of supervised consumption sites in Alberta. 2020: Alberta Go. 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.

188. Milloy MJ, Kerr T, Mathias R, Zhang R, Montaner JS, Tyndall M, et al. Non-fatal overdose among a cohort of active injection drug users recruited from a supervised injection facility. American Journal of Drug and Alcohol Abuse. 2008; 34(4):499-509 https://doi.org/10.1080/00952990802122457.

189. Milloy MJ, Kerr T, Tyndall M, Montaner J, Wood E. Estimated drug overdose deaths averted by North America's first medically-supervised safer injection facility. PLoS One. 2008; 3(10):e3351 https://doi.org/10.1371/journal.pone.0003351.

190. Lloyd C, Stöver H, Zurhold H, Hunt N. Similar problems, divergent responses: drug consumption room policies in the UK and Germany. J Subst Use. 2017; 22(1):66-70 https://doi.org/10.3109/14659891.2016.1143049.

191. de Gee A, Woods S, Charvet C, van der Poel A. Drug Consumption Rooms in the Netherlands. 2018: Trimbos-instituut. https://www.trimbos.nl/aanbod/webwinkel/product/af1684-drug-consumption-rooms-in-the-netherlands.

192. de Gee A, Woods S, Charvet C, van der Poel A. Drugsgebruiksruimten in Nederland. Stand van zaken 2018. 2018. https://www.trimbos.nl/aanbod/webwinkel/product/af1647-drugsgebruiksruimten-in-nederland.

193. Department of Health and Human Services. Medically supervised injecting

room trial - Review panel summary. 2020. https://www2.health.vic.gov.au/about/publications/researchandreports/med-supervised-injecting-room-trial-summary?fbclid=IwAR34xgNPGfmxetqwK0NQ9BmJEjPZj58OMTvRYLqyyn4Pu_pV9Nfh6M9Zg2U.

194. Wood E, Tyndall M, Montaner J, Kerr T. Summary of findings from the evaluation of a pilot medically supervised safer injecting facility. Canadian Medical Association Journal. 2006; 175(11):1399-404 https://doi.org/10.1503/cmaj.060863.

195. van Beek I, Kimber J, Dakin A, Gilmour S. The Sydney Medically Supervised Injecting Centre: reducing harm associated with heroin overdose. Critical Public Health. 2004; 14(4):391-406 https://doi.org/10.1080/09581590400027528.

196. Stam NC, Cogger S, Schumann JL, Weeks A, Roxburgh A, Dietze PM, et al. The onset and severity of acute opioid toxicity in heroin overdose cases: a retrospective cohort study at a supervised injecting facility in Melbourne, Australia. Clinical Toxicology. 2022; 60(11):1227-34 https://doi.org/10.1080/15563650.2022.2126371.

197. Harocopos A, Gibson BE, Saha N, McRae MT, See K, Rivera S, et al. First 2 Months of Operation at First Publicly Recognized Overdose Prevention Centers in US. JAMA Network Open. 2022; 5(7):e2222149 https://doi.org/10.1001/jamanetworkopen.2022.22149.

198. Schäffer D, Stöver H. Drug consumption rooms in Germany: A situational assessment by the AK Konsumraum. 2011: Deutsche AIDS-Hilfe akzept. https://www.aidshilfe.de/sites/default/files/documents/DAH_akzept_DCR%20in%20Germany_2011.pdf.

199. Madah-Amiri D, Skulberg AK, Braarud AC, Dale O, Heyerdahl F, Lobmaier P, et al. Ambulance-attended opioid overdoses: An examination into overdose locations and the role of a safe injection facility. Substance Abuse. 2019; 40(3):383-8 https://doi.org/10.1080/08897077.2018.1485130.

200. Rowe A, Chang A, Lostchuck E, Lin K, Scheuermeyer F, McCann V, et al. Out-of-hospital management of unresponsive, apneic, witnessed opioid overdoses: a case series from a supervised consumption site. Canadian Journal of Emergency Medicine. 2022; 24(6):650-8 https://doi.org/10.1007/s43678-022-00326-9.

201. Scheim AI, Bouck Z, Tookey P, Hopkins S, Sniderman R, McLean E, et al. Supervised consumption service use and recent non-fatal overdose among people who inject drugs in Toronto, Canada. International Journal of Drug Policy. 2021; 87:102993 https://doi.org/10.1016/j.drugpo.2020.102993.

202. Greene J. Naloxone “Moral Hazard” Debate Pits Economists Against Physicians. Annals of Emergency Medicine. 2018; 72(2):A13-A6 https://doi.org/10.1016/j.annemergmed.2018.05.020.

203. Doleac JL, Mukherjee A. The Moral Hazard of Lifesaving Innovations: Naloxone Access, Opioid Abuse, and Crime. SSRN Electronic Journal. 2018; https://doi.org/10.2139/ssrn.3170278.

204. Gelman A. Statistical Modeling, Causal Inference, and Social Science [Internet]2018. Available from: https://statmodeling.stat.columbia.edu/2018/03/21/moral-hazard-quantitative-social-science-causal-identification-statistical-inference-policy/#comment-689531.

205. Erfanian E, Grossman D, Collins AR. The impact of naloxone access laws on opioid overdose deaths in the US. Review of Regional Studies. 2019; 49(1):45-72, https://researchrepository.wvu.edu/rri_pubs/37

206. Miller NM, Waterhouse-Bradley B, Campbell C, Shorter GW. How do naloxone-based interventions work to reduce overdose deaths: a realist review. Harm Reduction Journal. 2022; 19(1):1-13 https://doi.org/10.1186/s12954-022-00599-4.

207. Gaeta JM, Racine M. New Strategies Are Needed to Stop Overdose Fatalities: The Case for Supervised Injection Facilities. Annals of Internal Medicine. 2018; 168(9):664-5 https://doi.org/10.7326/M18-0258.

208. Notta D, Black B, Chu T, Joe R, Lysyshyn M. Changing risk and presentation of overdose associated with consumption of street drugs at a supervised injection site in Vancouver, Canada. Drug and Alcohol Dependence. 2019; 196:46-50 https://doi.org/10.1016/j.drugalcdep.2018.12.016.

209. Hayashi K, Wood E, Dong H, Buxton JA, Fairbairn N, DeBeck K, et al. Awareness of fentanyl exposure and the associated overdose risks among people who inject drugs in a Canadian setting. Drug and Alcohol Review. 2021; 40(6):964-73 https://doi.org/10.1111/dar.13261.

210. Kennedy MC, Hayashi K, Milloy MJ, Wood E, Kerr T. Supervised injection facility use and all-cause mortality among people who inject drugs in Vancouver, Canada: A cohort study. PLoS Medicine. 2019; 16(11):e1002964 https://doi.org/10.1371/journal.pmed.1002964.

211. DeBeck K, Kerr T, Bird L, Zhang R, Marsh D, Tyndall M, et al. Injection drug use cessation and use of North America's first medically supervised safer injecting facility. Drug and Alcohol Dependence. 2011; 113(2-3):172-6 https://doi.org/10.1016/j.drugalcdep.2010.07.023.

212. Wood E, Tyndall MW, Zhang R, Stoltz JA, Lai C, Montaner JS, et al. Attendance at supervised injecting facilities and use of detoxification services. New Engl J Med. 2006; 354(23):2512-4 https://doi.org/10.1056/NEJMc052939.

213. Kimber J, Mattick RP, Kaldor J, van Beek I, Gilmour S, Rance JA. Process and predictors of drug treatment referral and referral uptake at the Sydney Medically Supervised Injecting Centre. Drug and Alcohol Review. 2008; 27(6):602-12 https://doi.org/10.1080/09595230801995668.

214. Folch C, Lorente N, Majo X, Pares-Badell O, Roca X, Brugal T, et al. Drug consumption rooms in Catalonia: A comprehensive evaluation of social, health and harm reduction benefits. International Journal of Drug Policy. 2018; 62:24-9 https://doi.org/10.1016/j.drugpo.2018.09.008.

215. Boyd N. Lessons from INSITE, Vancouver's supervised injection facility: 2003–2012. Drugs: Education, Prevention, and Policy. 2013; 20(3):234-40 https://doi.org/10.3109/09687637.2012.755495.

216. van Beek I, Rance JA, Gilmour S, Kimber J, Mattick RP, Kaldor J. Process and predictors of drug treatment referral and referral uptake at the Sydney Medically Supervised Injecting Centre. Drug and Alcohol Review. 2008; 27(6):602-12 https://doi.org/10.1080/09595230801995668.

217. Zurhold H, Degkwitz P, Verthein U, Haasen C. Drug consumption rooms in Hamburg, Germany: evaluation of the effects on harm reduction and the reduction of public nuisance. Journal of Drug Issues. 2003; 33(3):663-88 https://doi.org/10.1177/002204260303300308.

218. Gaddis A, Kennedy MC, Nosova E, Milloy M-J, Hayashi K, Wood E, et al. Use of on-site detoxification services co-located with a supervised injection facility. Journal of Substance Abuse Treatment. 2017; 82:1-6 https://doi.org/10.1016/j.jsat.2017.08.003.

219. Tyndall MW, Kerr T, Zhang R, King E, Montaner JG, Wood E. Attendance, drug use patterns, and referrals made from North America's first supervised injection facility. Drug and Alcohol Dependence. 2006; 83(3):193-8 https://doi.org/10.1016/j.drugalcdep.2005.11.011.

220. Jackson J. A Cost Analysis of Overdose Management at a Supervised Consumption Site in Calgary, Canada. Qeios. 2020; https://doi.org/10.32388/j6mq0e.

221. Behrends CN, Paone D, Nolan ML, Tuazon E, Murphy SM, Kapadia SN, et al. Estimated impact of supervised injection facilities on overdose fatalities and healthcare costs in New York City. Journal of Substance Abuse Treatment. 2019; 106:79-88 https://doi.org/10.1016/j.jsat.2019.08.010.

222. Khair S, Eastwood C, Lu M, Jackson J. Supervised consumption site enables

cost savings by avoiding emergency services: a cost analysis study. Harm Reduction Journal. 2022; 19(1):1-7 https://doi.org/10.1186/s12954-022-00609-5.

223. Lloyd-Smith E, Wood E, Zhang R, Tyndall MW, Montaner JS, Kerr T. Determinants of cutaneous injection-related infection care at a supervised injecting facility. Ann Epidemiol. 2009; 19(6):404-9 https://doi.org/10.1016/j.annepidem.2009.03.007.

224. Lloyd-Smith E, Wood E, Zhang R, Tyndall MW, Sheps S, Montaner JS, et al. Determinants of hospitalization for a cutaneous injection-related infection among injection drug users: a cohort study. BMC Public Health. 2010; 10(1):327 https://doi.org/10.1186/1471-2458-10-327.

225. Small W, Van Borek N, Fairbairn N, Wood E, Kerr T. Access to health and social services for IDU: the impact of a medically supervised injection facility. Drug and Alcohol Review. 2009; 28(4):341-6 https://doi.org/10.1111/j.1465-3362.2009.00025.x.

226. 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):1-12 https://doi.org/10.1186/s12954-016-0115-0.

227. Karamouzian M, Dohoo C, Forsting S, McNeil R, Kerr T, Lysyshyn M. Evaluation of a fentanyl drug checking service for clients of a supervised injection facility, Vancouver, Canada. Harm Reduction Journal. 2018; 15(1):46 https://doi.org/10.1186/s12954-018-0252-8.

228. Small W, Wood E, Lloyd-Smith E, Tyndall M, Kerr T. Accessing care for injection-related infections through a medically supervised injecting facility: a qualitative study. Drug and Alcohol Dependence. 2008; 98(1-2):159-62 https://doi.org/10.1016/j.drugalcdep.2008.05.014.

229. Unlu A, Tammi T, Hakkarainen P. Stakeholders' Problematisation of Drug Consumption Rooms: A Case Study of the Policy Initiative in Helsinki. Journal of Drug Issues. 2022; 53(2):262-79 https://doi.org/10.1177/00220426221093609.

230. Marshall BD, Wood E. Toward a comprehensive approach to HIV prevention for people who use drugs. Journal of Acquired Immune Deficiency Syndromes. 2010; 55 Suppl 1(Suppl 1):S23-6 https://doi.org/10.1097/QAI.0b013e3181f9c203.

231. Milloy MJ, Wood E. Emerging role of supervised injecting facilities in human immunodeficiency virus prevention. Addiction. 2009; 104(4):620-1 https://doi.org/10.1111/j.1360-0443.2009.02541.x.

232. Dawson S, Banister K, Biggs K, Cotton S, Devane D, Gardner H, et al. Trial

Forge Guidance 3: randomised trials and how to recruit and retain individuals from ethnic minority groups-practical guidance to support better practice. Trials. 2022; 23(1):672 https://doi.org/10.1186/s13063-022-06553-w.

233. Tupper KW, McCrae K, Garber I, Lysyshyn M, Wood E. Initial results of a drug checking pilot program to detect fentanyl adulteration in a Canadian setting. Drug and Alcohol Dependence. 2018; 190:242-5 https://doi.org/10.1016/j.drugalcdep.2018.06.020.

234. Betsos A, Valleriani J, Boyd J, McNeil R. Beyond co-production: The construction of drug checking knowledge in a Canadian supervised injection facility. Social Science & Medicine. 2022; 314:115229 https://doi.org/10.1016/j.socscimed.2022.115229.

235. Miller WR, Rollnick S. Motivational interviewing: Helping people change. New York: Guilford press; 2012.

236. Nielsen S, Barratt M, Hiley S, Bartlett M, Latimer J, Jauncey M, et al. Monitoring for fentanyl within Australian supervised injecting facilities: Findings from feasibility testing of novel methods and collaborative workshops. International Journal of Drug Policy. 2023; 115:104015 https://doi.org/10.1016/j.drugpo.2023.104015.

237. Marshall BD, Wood E, Zhang R, Tyndall MW, Montaner JS, Kerr T. Condom use among injection drug users accessing a supervised injecting facility. Sex Transm Infect. 2009; 85(2):121-6 https://doi.org/10.1136/sti.2008.032524.

238. Salmon AM, Dwyer R, Jauncey M, van Beek I, Topp L, Maher L. Injecting-related injury and disease among clients of a supervised injecting facility. Drug and Alcohol Dependence. 2009; 101(1-2):132-6 https://doi.org/10.1016/j.drugalcdep.2008.12.002.

239. Fast D, Small W, Wood E, Kerr T. The perspectives of injection drug users regarding safer injecting education delivered through a supervised injecting facility. Harm Reduction Journal. 2008; 5(1):32 https://doi.org/10.1186/1477-7517-5-32.

240. Wood R, Wood E, Lai C, Tyndall M, Montaner J, Kerr T. Nurse-delivered safer injection education among a cohort of injection drug users: evidence from the evaluation of Vancouver's supervised injection facility. International Journal of Drug Policy. 2008; 19(3):183-8 https://doi.org/10.1016/j.drugpo.2008.01.003.

241. Suen LW, Davidson PJ, Browne EN, Lambdin BH, Wenger LD, Kral AH. Effect of an Unsanctioned Safe Consumption Site in the United States on Syringe Sharing, Rushed Injections, and Isolated Injection Drug Use: A Longitudinal Cohort Analysis. Journal of Acquired Immune Deficiency Syndromes. 2022; 89(2):172-7 https://doi.org/10.1097/QAI.0000000000002849.

242. Irvine MA, Kuo M, Buxton JA, Balshaw R, Otterstatter M, Macdougall L, et al. Modelling the combined impact of interventions in averting deaths during a synthetic-opioid overdose epidemic. Addiction. 2019; 114(9):1602-13 https://doi.org/10.1111/add.14664.

243. Kerr T, Tyndall M, Li K, Montaner J, Wood E. Safer injection facility use and syringe sharing in injection drug users. Lancet. 2005; 366(9482):316-8 https://doi.org/10.1016/S0140-6736(05)66475-6.

244. Wood E, Tyndall M, Stoltz J-A, Small W, Lloyd-Smith E, Zhang R, et al. Factors Associated with Syringe Sharing Among Users of a Medically Supervised Safer Injecting Facility. American Journal of Infectious Diseases. 2005; 1(1):50-4 https://doi.org/10.3844/ajidsp.2005.50.54.

245. Kinnard EN, Howe CJ, Kerr T, Hass VS, Marshall BDL. Self-reported changes in drug use behaviors and syringe disposal methods following the opening of a supervised injecting facility in Copenhagen, Denmark. Harm Reduction Journal. 2014; 11(1):29 https://doi.org/10.1186/1477-7517-11-29.

246. 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 https://doi.org/10.17269/s41997-019-00180-w.

247. Gledhill R. What is the current evidence for the efficacy of drug consumption rooms? ; 2019. https://ukhsa.koha-ptfs.co.uk/cgi-bin/koha/opac-retrieve-file.pl?id=9ae9fae9b094afc8c0656db4bccd44d5.

248. 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 noninjection illicit drug use. Journal of Urban Health. 2005; 82(2):276-84 https://doi.org/10.1093/jurban/jti051.

249. 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 https://doi.org/10.1016/j.drugpo.2015.01.015.

250. Kerr T, Stoltz JA, Tyndall M, Li K, Zhang R, Montaner J, et al. Impact of a medically supervised safer injection facility on community drug use patterns: a before and after study. BMJ. 2006; 332(7535):220-2 https://doi.org/10.1136/bmj.332.7535.220.

251. Kerr T, Tyndall M, Zhang R, Lai C, Montaner J, Wood E. Circumstances of first injection among illicit drug users accessing a medically supervised safer

injection facility. American Journal of Public Health. 2007; 97(7):1228-30 https://doi.org/10.2105/AJPH.2006.086256.

252. Hedlund J. Risky business: safety regulations, risk compensation, and individual behavior. Injury prevention. 2000; 6(2):82-9, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1730605/pdf/v006p00082.pdf

253. Arches. ARCHES Report to Mayor and City Council. 2019. https://lethbridgearches.com/wp-content/uploads/2019/08/Report-to-Mayor-and-City-Council-Final.pdf.

254. Davies G. A critical evaluation of the effects of safe injection facilities. Journal of Global Drug Policy and Practice. 2010, http://www.globaldrugpolicy.org/

255. MacMaster SA. Harm Reduction: A New Perspective on Substance Abuse Services. Social Work. 2004; 49(3):356-63 https://doi.org/10.1093/sw/49.3.353.

256. Unlu A, Tammi T, Hakkarainen P. Policy windows for drug consumption rooms in Finland. Nordic Studies on Alcohol and Drugs. 2022; 39(3):205-24 https://doi.org/10.1177/14550725211069287.

257. Duff C. The pleasure in context. International Journal of Drug Policy. 2008; 19(5):384-92 https://doi.org/10.1016/j.drugpo.2007.07.003.

258. Race K. Drug effects, performativity and the law. International Journal of Drug Policy. 2011; 22(6):410-2 https://doi.org/10.1016/j.drugpo.2011.09.007.

259. Duncan T, Duff C, Sebar B, Lee J. 'Enjoying the kick': Locating pleasure within the drug consumption room. International Journal of Drug Policy. 2017; 49:92-101 https://doi.org/10.1016/j.drugpo.2017.07.005.

260. Dennis F, Farrugia A. Materialising drugged pleasures: Practice, politics, care. International Journal of Drug Policy. 2017; 49:86-91 https://doi.org/10.1016/j.drugpo.2017.10.001.

261. Clua-Garcia R. [Managing pleasures and harms: An ethnographic study of drug consumption in public spaces, homes and drug consumption rooms]. Salud Colect. 2020; 16:e2481 https://doi.org/10.18294/sc.2020.2481.

262. Fischer B, Turnbull S, Poland B, Haydon E. Drug use, risk and urban order: examining supervised injection sites (SISs) as 'governmentality'. International Journal of Drug Policy. 2004; 15(5-6):357-65 https://doi.org/10.1016/j.drugpo.2004.04.002.

263. Zajdow G. The narrative of evaluations: medically supervised injecting centers. Contemporary Drug Problems. 2006; 33(3):399-426 https://doi.org/10.1177/009145090603300304.

264. Wright S. Designing the Debate: Assessing the Role of Design Practices in Safe Injection Sites [Senior Thesis for the Urban Studies Program]: Barnard College, Columbia University; 2019.

265. Crescenzi S. Measuring the social return on investment. A case study of Drug Consumption Rooms (DCRs) in Amsterdam. Bologna: Università di Bologna; 2020.

266. Jozaghi E. " A little heaven in hell": The role of a supervised injection facility in transforming place. Urban Geography. 2012; 33(8):1144-62 https://doi.org/10.2747/0272-3638.33.8.1144.

267. Luchenski S, Maguire N, Aldridge RW, Hayward A, Story A, Perri P, et al. What works in inclusion health: overview of effective interventions for marginalised and excluded populations. Lancet. 2018; 391(10117):266-80 https://doi.org/https://doi.org/10.1016/S0140-6736(17)31959-1.

268. Bancroft M, Houborg E. Managing Coexistence: Resident Experiences of the Open Drug Scene and Drug Consumption Rooms in Inner Vesterbro, Copenhagen. Contemporary Drug Problems. 2020; 47(3):210-30 https://doi.org/10.1177/0091450920912495.

269. Parkin S. Habitus and drug using environments: Health, place and lived-experience: Routledge; 2016.

270. Houborg E, Jauffret-Roustide M. Drug Consumption Rooms: Welfare State and Diversity in Social Acceptance in Denmark and in France. American Journal of Public Health. 2022; 112(S2):S159-S65 https://doi.org/10.2105/AJPH.2022.306808.

271. Liang J, Alexeev S. Harm reduction or amplification? The adverse impact of a supervised injection room on housing prices. Regional Science and Urban Economics. 2023; 98:103856 https://doi.org/10.1016/j.regsciurbeco.2022.103856.

272. Clua-García R, Dumont G. From the street to the drug consumption room. Injected drug use across consumption environments. Ethnography. 2022; https://doi.org/10.1177/14661381221113416.

273. Hunter K, Park JN, Allen ST, Chaulk P, Frost T, Weir BW, et al. Safe and unsafe spaces: Non-fatal overdose, arrest, and receptive syringe sharing among people who inject drugs in public and semi-public spaces in Baltimore City. International Journal of Drug Policy. 2018; 57:25-31 https://doi.org/10.1016/j.drugpo.2018.03.026.

274. Navarro C, Leonard L. Prevalence and factors related to public injecting in Ottawa, Canada: implications for the development of a trial safer injecting facility. International Journal of Drug Policy. 2004; 15(4):275-84 https://doi.org/https://doi.org/10.1016/j.drugpo.2004.03.003.

275. Wood E, Kerr T, Small W, Li K, Marsh D, Montaner J, et al. Changes in public order after the opening of a medically supervised safer injecting facility for illicit injection drug users. Canadian Medical Association Journal. 2004; 171(7):731-4 https://doi.org/10.1503/cmaj.1040774.

276. Salmon AM, Thein HH, Kimber J, Kaldor JM, Maher L. Five years on: what are the community perceptions of drug-related public amenity following the establishment of the Sydney Medically Supervised Injecting Centre? International Journal of Drug Policy. 2007; 18(1):46-53 https://doi.org/10.1016/j.drugpo.2006.11.010.

277. León C, Cardoso LJ, Johnston S, Mackin S, Bock B, Gaeta JM. Changes in public order after the opening of an overdose monitoring facility for people who inject drugs. International Journal of Drug Policy. 2018; 53:90-5 https://doi.org/10.1016/j.drugpo.2017.12.009.

278. Vecino C, Villalbí JR, Guitart A, Espelt A, Bartroli M, Castellano Y, et al. Apertura de espacios de consumo higiénico y actuaciones policiales en zonas con fuerte tráfico de drogas. Evaluación mediante el recuento de las jeringas abandonadas en el espacio público. Adicciones. 2013; 25:333-8, https://www.adicciones.es/index.php/adicciones/article/view/35/35

279. Espelt A, Villalbí J, Bosque-Prous M, Parés-Badell O, Mari-Dell'Olmo M, Brugal M. The impact of harm reduction programs and police interventions on the number of syringes collected from public spaces. A time series analysis in Barcelona, 2004–2014. International Journal of Drug Policy. 2017; 50:11-8 https://doi.org/10.1016/j.drugpo.2017.07.033.

280. Kral AH, Lambdin BH, Wenger LD, Browne EN, Suen LW, Davidson PJ. Improved syringe disposal practices associated with unsanctioned safe consumption site use: A cohort study of people who inject drugs in the United States. Drug and Alcohol Dependence. 2021; 229(Pt A):109075 https://doi.org/10.1016/j.drugalcdep.2021.109075.

281. Wood E, Kerr T, Montaner J, Strathdee S, Wodak A, Hankins C, et al. Rationale for evaluating North America's first medically supervised safer-injecting facility. Lancet Infectious Diseases. 2004; 4(5):301-6 https://doi.org/10.1016/S1473-3099(04)01006-0.

282. Kemmesies U. Final Report: The open drug scene and the safe injection room offers in Frankfurt am Main. Frankfurt, Germany: City of Frankfurt Municipal Department. 1999, https://indro-online.de/en/uwe-e-kemmesies-the-open-drug-scene-and-the-safe-injection-room-offers-in-frankfurt-am-main-1995/

283. Wood E, Tyndall MW, Lai C, Montaner JS, Kerr T. Impact of a medically

supervised safer injecting facility on drug dealing and other drug-related crime. Substance Abuse Treatment, Prevention, and Policy. 2006; 1(13):13 https://doi.org/10.1186/1747-597X-1-13.

284. Myer AJ, Belisle L. Highs and Lows: An Interrupted Time-Series Evaluation of the Impact of North America's Only Supervised Injection Facility on Crime. Journal of Drug Issues. 2018; 48(1):36-49 https://doi.org/10.1177/0022042617727513.

285. Donnelly N, Mahoney N. Trends in property and illicit drug crime around the Medically Supervised Injecting Centre in Kings Cross: 2012 update: NSW Bureau of Crime Statistics and Research Bureau Brief. 2013: Research NBoCSa. https://www.bocsar.nsw.gov.au/Publications/BB/bb90.pdf.

286. Fitzgerald J, Burgess M, Snowball L. Trends in property and illicit drug crime around the Medically Supervised Injecting Centre in Kings Cross: An update.; 2010: Research NBoCSa. https://apo.org.au/sites/default/files/resource-files/2010-10/apo-nid22857.pdf.

287. Alberta Community Council on HIV. A Community Based Report on Alberta's Supervised Consumption Service Effectiveness. 2019. https://acch.ca/media/1110/a-community-based-report-on-albertas-scs-effectiveness-2019-08-16.pdf.

288. Davidson PJ, Lambdin BH, Browne EN, Wenger LD, Kral AH. Impact of an unsanctioned safe consumption site on criminal activity, 2010-2019. Drug and Alcohol Dependence. 2021; 220:108521 https://doi.org/10.1016/j.drugalcdep.2021.108521.

289. Calgary Police Service. Crime & Disorder near the Sheldon M. Chumir Health Centre's Supervised Consumption Services (SCS) Facility: 2019 Statistical Overview: First Quarter. 2019: Calgary Police Service. https://fr.scribd.com/document/411838969/Crime-Disorder-Near-the-Sheldon-M-Chumir-Health-Centres-Supervised-Consumption-Services-SCS-Facility-Q1.

290. Alberta Health Services. FAQ: Supervised Consumption Services at Sheldom M. Chumir Health Centre. 2017. https://www.albertahealthservices.ca/assets/healthinfo/mh/hi-amh-supervised-faqs.pdf.

291. Kennedy MC, Kerr T. Overdose Prevention in the United States: A Call for Supervised Injection Sites. American Journal of Public Health. 2017; 107(1):42-3 https://doi.org/10.2105/AJPH.2016.303523.

292. 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(4):4 https://doi.org/10.1186/s12954-020-00456-2.

293. Wenger LD, Arreola SG, Kral AH. The prospect of implementing a Safer Injection Facility in San Francisco: Perspectives of community stakeholders. International Journal of Drug Policy. 2011; 22(3):239-41 https://doi.org/10.1016/j.drugpo.2011.01.001.

294. Roth AM, Kral AH, Mitchell A, Mukherjee R, Davidson P, Lankenau SE. Overdose Prevention Site Acceptability among Residents and Businesses Surrounding a Proposed Site in Philadelphia, USA. Journal of Urban Health. 2019; 96(3):1-12 https://doi.org/10.1007/s11524-019-00364-2.

295. Thein H-H, Kimber J, Maher L, MacDonald M, Kaldor JM. Public opinion towards supervised injecting centres and the Sydney Medically Supervised Injecting Centre. International Journal of Drug Policy. 2005; 16(4):275-80 https://doi.org/10.1016/j.drugpo.2005.03.003.

296. Strike C, Jairam J, Kolla G, Millson P, Shepherd S, Fischer B, et al. Increasing public support for supervised injection facilities in Ontario, Canada. Addiction. 2014; 109(6):946-53 https://doi.org/10.1111/add.12506.

297. Strike C, Rotondi NK, Watson TM, Kolla G, Bayoumi AM. Public opinions about supervised smoking facilities for crack cocaine and other stimulants. Substance Abuse Treatment, Prevention, and Policy. 2016; 11(8):8 https://doi.org/10.1186/s13011-016-0052-7.

298. Taylor H, Leite Â, Gautier D, Nunes P, Pires J, Curado A. Community perceptions surrounding Lisbon's first mobile drug consumption room. Dialogues in Health. 2022; 1 https://doi.org/10.1016/j.dialog.2022.100031.

299. Kolla G, Strike C, Watson TM, Jairam J, Fischer B, Bayoumi AM. Risk creating and risk reducing: Community perceptions of supervised consumption facilities for illicit drug use. Health Risk Soc. 2017; 19(1-2):91-111 https://doi.org/10.1080/13698575.2017.1291918.

300. Day CA, Salmon A, Jauncey M, Bartlett M, Roxburgh A. Twenty-one years at the Uniting Medically Supervised Injecting Centre, Sydney: addressing the remaining questions. Medical Journal of Australia. 2022; 217(8):385 https://doi.org/10.5694/mja2.51716.

301. Sherman SG, Rouhani S, White RH, Weicker N, Morris M, Schneider K, et al. Acceptability of Overdose Prevention Sites in the Business Community in Baltimore, Maryland. Journal of Urban Health. 2022; 99(4):1-10 https://doi.org/10.1007/s11524-022-00647-1.

302. Wolfson-Stofko B, Bennett AS, Elliott L, Curtis R. Drug use in business

bathrooms: An exploratory study of manager encounters in New York City. International Journal of Drug Policy. 2017; 39:69-77 https://doi.org/10.1016/j.drugpo.2016.08.014.

303. Wolfson-Stofko B, Elliott L, Bennett AS, Curtis R, Gwadz M. Perspectives on supervised injection facilities among service industry employees in New York City: A qualitative exploration. International Journal of Drug Policy. 2018; 62:67-73 https://doi.org/10.1016/j.drugpo.2018.08.016.

304. Arredondo-Sánchez Lira J, Fleiz-Bautista C, Baker P, Villatoro-Velázquez JA, Domínguez-García M, Beletsky L. Attitudes towards safe consumption sites among police and people with lived experience in Tijuana, Mexico: initial report from the field. Salud Mental. 2019; 42(4):185-9 https://doi.org/10.17711/sm.0185-3325.2019.024.

305. Bates C. Safer Injecting Facilities: Will They Work in an Irish Context? Irish Probation Journal. 2019; 16:184-97, https://www.pbni.org.uk/wp-content/uploads/2019/12/Safer-Injecting-Facilities.pdf

306. Strike C, Watson TM, Altenberg J, Barnaby L, Bayoumi AM, Challacombe L, et al. Challenges, Skepticism, and Recommendations from Police about Working in Collaboration with Supervised Consumption Services. Substance Use & Misuse. 2020; 55(12):1919-24 https://doi.org/10.1080/10826084.2020.1781177.

307. Lloyd C, Godfrey C. Commentary on Pinkerton (2010): Drug consumption rooms—time to accept their worth. Addiction. 2010; 105(8):1437-8 https://doi.org/10.1111/j.1360-0443.2010.03027.x.

308. Chambers LC, Hallowell BD, Zang X, Rind DM, Guzauskas GF, Hansen RN, et al. The estimated costs and benefits of a hypothetical supervised consumption site in Providence, Rhode Island. International Journal of Drug Policy. 2022; 108:103820 https://doi.org/10.1016/j.drugpo.2022.103820.

309. Hood JE, Behrends CN, Irwin A, Schackman BR, Chan D, Hartfield K, et al. The projected costs and benefits of a supervised injection facility in Seattle, WA, USA. International Journal of Drug Policy. 2019; 67:9-18 https://doi.org/10.1016/j.drugpo.2018.12.015.

310. Irwin A, Jozaghi E, Weir BW, Allen ST, Lindsay A, Sherman SG. Mitigating the heroin crisis in Baltimore, MD, USA: a cost-benefit analysis of a hypothetical supervised injection facility. Harm Reduction Journal. 2017; 14(1):29 https://doi.org/10.1186/s12954-017-0153-2.

311. Irwin A, Vasan T, Raville L. The Costs and Benefits of a Supervised Use Site in

Denver, Colorado. 2019. http://www.drugpolicy.org/sites/default/files/dpa-denver-scs-cost-benefit-analysis_0.pdf.

312. Andresen MA, Jozaghi E. The point of diminishing returns: an examination of expanding Vancouver's Insite. Urban Studies. 2012; 49(16):3531-44 https://doi.org/10.1177/0042098012443865.

313. Jozaghi E, Hodgkinson T, Andresen MA. Is there a role for potential supervised injection facilities in Victoria, British Columbia, Canada? Urban Geography. 2015; 36(8):1241-55 https://doi.org/10.1080/02723638.2015.1053200.

314. Fosnocht A, Hoffman JA, Wolfman SL. The Controlled Substances Act and safe consumption facilities. Journal of Science Policy and Governance. 2019; 14(2), http://www.sciencepolicyjournal.org/uploads/5/4/3/4/5434385/1-_upenn.pdf

315. Wares JR, Dong J, Gevertz JL, Radunskaya A, Viner K, Wiebe D, et al. Predicting the impact of placing an overdose prevention site in Philadelphia: a mathematical modeling approach. Harm Reduction Journal. 2021; 18(1):110 https://doi.org/10.1186/s12954-021-00559-4.

316. Enns EA, Zaric GS, Strike CJ, Jairam JA, Kolla G, Bayoumi AM. Potential cost-effectiveness of supervised injection facilities in Toronto and Ottawa, Canada. Addiction. 2016; 111(3):475-89 https://doi.org/10.1111/add.13195.

317. Des Jarlais DC, Arasteh K, Semaan S, Wood E. HIV among injecting drug users: current epidemiology, biologic markers, respondent-driven sampling, and supervised-injection facilities. Current Opinion in HIV and AIDS. 2009; 4(4):308 https://doi.org/10.1097/COH.0b013e32832bbc6f.

318. Andresen MA, Boyd N. A cost-benefit and cost-effectiveness analysis of Vancouver's supervised injection facility. International Journal of Drug Policy. 2010; 21(1):70-6 https://doi.org/10.1016/j.drugpo.2009.03.004.

319. Pinkerton SD. How many HIV infections are prevented by Vancouver Canada's supervised injection facility? International Journal of Drug Policy. 2011; 22(3):179-83 https://doi.org/10.1016/j.drugpo.2011.03.003.

320. Pinkerton SD. Is Vancouver Canada's supervised injection facility cost-saving? Addiction. 2010; 105(8):1429-36 https://doi.org/10.1111/j.1360-0443.2010.02977.x.

321. Bayoumi AM, Zaric GS. The cost-effectiveness of Vancouver's supervised injection facility. CMAJ. 2008; 179(11):1143-51 https://doi.org/10.1503/cmaj.080808.

322. Valencia J, Troya J, Lazarus JV, Cuevas G, Alvaro-Meca A, Torres J, et al. Recurring severe injection-related infections in people who inject drugs and the

need for safe injection sites in Madrid, Spain. Open Forum Infectious Diseases. 2021; ofab251(7):ofab251 https://doi.org/10.1093/ofid/ofab251.

323. Jozaghi E, Reid AA, Andresen MA. A cost-benefit/cost-effectiveness analysis of proposed supervised injection facilities in Montreal, Canada. Substance Abuse Treatment, Prevention, and Policy. 2013; 8(1):25 https://doi.org/10.1186/1747-597X-8-25.

324. Jozaghi E, Jackson A. Examining the potential role of a supervised injection facility in Saskatoon, Saskatchewan, to avert HIV among people who inject drugs. International Journal of Health Policy Management. 2015; 4(6):373-9 https://doi.org/10.15171/ijhpm.2015.73.

325. Jozaghi E, Reid AA, Andresen MA, Juneau A. A cost-benefit/cost-effectiveness analysis of proposed supervised injection facilities in Ottawa, Canada. Substance Abuse Treatment, Prevention, and Policy. 2014; 9(1):31 https://doi.org/10.1186/1747-597X-9-31.

326. Salmon AM, van Beek I, Amin J, Grulich A, Maher L. High HIV testing and low HIV prevalence among injecting drug users attending the Sydney Medically Supervised Injecting Centre. Australian and New Zealand Journal of Public Health. 2009; 33(3):280-3 https://doi.org/10.1111/j.1753-6405.2009.00389.x.

327. Lambdin BH, Davidson PJ, Browne EN, Suen LW, Wenger LD, Kral AH. Reduced Emergency Department Visits and Hospitalisation with Use of an Unsanctioned Safe Consumption Site for Injection Drug Use in the United States. Journal of General Internal Medicine. 2022; 37(15):1-8 https://doi.org/10.1007/s11606-021-07312-4.

328. Mann H, Walker J, Lau L, Lussier L, Kim P. Findings and Analysis for Overdose Prevention Society. 2018. https://dataforgood.ca/case-studies/overdose-prevention-society-findings/.

329. Ng J, Sutherland C, Kolber MR. Does evidence support supervised injection sites? Canadian Family Physician. 2017; 63(11):866, https://www.cfp.ca/content/cfp/63/11/866.full.pdf

330. Blyth S, Chapman L, Dodd Z, Gagnon M, Hobbs H, Westfall J. This Tent Saves Lives. How to Open An Overdose Prevention Site. 2017: Canadian Association of People who Use Drugs. http://capud.ca/images/files/This%20tent%20saves%20lives_CAPUD_20170831.pdf.

331. Prescott C, Thumath M, Durigon M, Lem M, Buxton J, Tyndall M. BC Overdose Prevention Services Guide 2019. 2019. http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/Other/BC%20Overdose%20Prevention%20Services%20Guide_Jan2019_.pdf.

332. Toronto Drug Strategy. Supervised injection services toolkit. 2013: City of Toronto. https://www.toronto.ca/legdocs/mmis/2013/hl/bgrd/backgroundfile-59914.pdf.

333. British Columbia Centre on Substance Use. Supervised consumption services operational guidance. 2017: British Columbia Ministry of Health. https://www.bccsu.ca/wp-content/uploads/2017/07/BC-SCS-Operational-Guidance.pdf.

334. Dietze P, Wilson J, Whiteside B, McLachlan J, Vella-Horne D, Clark N, et al. Changes in the use of Melbourne's Medically Supervised Injecting Room (MSIR) over the COVID-19 pandemic. Drug Trends Bulletin Series. . 2022: National Drug and Alcohol Research Centre US. https://ndarc.med.unsw.edu.au/resource/changes-use-melbournes-medically-supervised-injecting-room-msir-over-covid-19-pandemic.

335. Goodman-Meza D. The Case for Overdose Prevention Programs in California – Policies & Polling. 2020. https://tjcinstitute.com/research/the-case-for-overdose-prevention-programs-in-california-policies-polling/.

336. Zolopa C, Brothers TD, Leclerc P, Mary JF, Morissette C, Bruneau J, et al. Changes in supervised consumption site use and emergency interventions in Montreal, Canada in the first twelve months of the COVID-19 pandemic: An interrupted time series study. International Journal of Drug Policy. 2022; 110:103894 https://doi.org/10.1016/j.drugpo.2022.103894.

337. Chiappini S, Guirguis A, John A, Corkery JM, Schifano F. COVID-19: The Hidden Impact on Mental Health and Drug Addiction. Frontiers in Psychiatry. 2020; 11:767 https://doi.org/10.3389/fpsyt.2020.00767.

338. Henry BF, Mandavia AD, Paschen-Wolff MM, Hunt T, Humensky JL, Wu E, et al. COVID-19, mental health, and opioid use disorder: Old and new public health crises intertwine. Psychological Trauma: Theory, Research, Practice, and Policy. 2020; 12(S1):S111-S2 https://doi.org/10.1037/tra0000660.

339. Cassie R, Hayashi K, DeBeck K, Milloy M-J, Cui Z, Strike C, et al. Difficulty accessing supervised consumption services during the COVID-19 pandemic among people who use drugs in Vancouver, Canada. Harm Reduction Journal. 2022; 19(1):126 https://doi.org/10.1186/s12954-022-00712-7.

340. Gubskaya E, Kennedy MC, Hayashi K, Cui Z, Milloy M, Kerr T. The impact of the COVID-19 pandemic on access to supervised consumption programs. Substance Abuse Treatment, Prevention, and Policy. 2023; 18(1):1-7 https://doi.org/10.1186/s13011-023-00521-6.

341. Roxburgh A, Jauncey M, Day C, Bartlett M, Cogger S, Dietze P, et al. Adapting harm reduction services during COVID-19: lessons from the supervised injecting facilities in Australia. Harm Reduction Journal. 2021; 18(20):20 https://doi.org/10.1186/s12954-021-00471-x.

342. Jordens J, Higgs P. Couches vs Karaoke: Ethnic Vietnamese user views on safe injecting facilities in Melbourne, Australia. New Community Quarterly. 2005; 3(1):19-23, https://www.burnet.edu.au/publications/2168_couches_vs_karaoke_ethnic_vietnamese_user_views_on_safe_injecting_facilities_in_melbourne_australia

343. Kolla G, Penn R, Long C. Evaluation of the Overdose Prevention Sites at Street Health and St.Stephen's Community House. 2019: House SHaSSsC. https://www.streethealth.ca/what-s-up/ops-report-released?fbclid=IwAR3AjQ5gzmbOKI6pWWN1IqR4umuIZCMw0_6gUAOVWF2XJ7mug-UJqvFFprY#.XdjOi1RKhQL.

344. Marshall S, Migliardi P, Jamal A, Jalloh C, Ormond M. Consumption Spaces Consultation and Needs Assessment. Winnipeg. 2019. https://sunshinehousewpg.files.wordpress.com/2019/04/march2019_saferconsumptionspacesreport.pdf?fbclid=IwAR23whNyTHixmQzFijyWRNzfBN_kA1EyIU8cCb79s7bjGzxZEVQLAIxsEKY.

345. Registered Nurses' Association of Ontario. Best Practice Guidelines: Implementing Supervised Injection Services. 2018. http://rnao.ca/bpg/guidelines/implementing-supervised-injection-services.

346. Gagnon M, Gauthier T, Adán E, Bänninger A, Cormier L, Kathleen Gregg J, et al. International Consensus Statement on the Role of Nurses in Supervised Consumption Sites. Journal of Mental Health and Addiction Nursing. 2019; 3(1):22-31 https://doi.org/10.22374/jmhan.v3i1.35.

347. Hyshka E, Bubela T, Wild TC. Prospects for scaling-up supervised injection facilities in Canada: the role of evidence in legal and political decision-making. Addiction. 2013; 108(3):468-76 https://doi.org/10.1111/add.12064.

348. van Beek I. The Sydney Medically Supervised Injecting Centre: A Clinical Model. Journal of Drug Issues. 2003; 33(3):625-38 https://doi.org/10.1177/002204260303300305.

349. Vancouver Coastal Health. Overdose Prevention Site Manual. 2017: Vancouver Coastal Health. http://www.vch.ca/Documents/Overdose-Prevention-Site-OPS-Manual.pdf.

350. Vancouver Coastal Health. Housing Overdose Prevention Site Manual. 2018: Health VC. http://www.vch.ca/Documents/Housing-overdose-revention-site-HOPS-Manual.pdf.

351. Kolla G, Strike C. 'It's too much, I'm getting really tired of it': Overdose response and structural vulnerabilities among harm reduction workers in community settings. International Journal of Drug Policy. 2019; 74:127-35 https://doi.org/10.1016/j.drugpo.2019.09.012.

352. Stöver H, O´Reilly M-S, Förster S, Jurković L. Nutzende und Nicht-/Nicht-mehr-Nutzende Berliner Drogenkonsumräume im Vergleich. Suchttherapie. 2019; 21(01):32-8 https://doi.org/10.1055/a-0823-0849.

353. Jauncey M, Livingston M, Salmon AM, Dietze P. The impact of OxyContin reformulation at the Sydney Medically Supervised Injecting Centre: Pros and cons. International Journal of Drug Policy. 2018; 53:17-22 https://doi.org/10.1016/j.drugpo.2017.11.025.

354. Roncero C, Martínez-Luna N, Daigre C, Grau-López L, Gonzalvo B, Pérez-Pazos J, et al. Psychotic Symptoms of Cocaine Self-Injectors in a Harm Reduction Program. Substance Abuse. 2013; 34(2):118-21 https://doi.org/10.1080/08897077.2012.691446.

355. Wolf J, Linssen L, de Graaf I. Drug consumption facilities in the Netherlands. Journal of Drug Issues. 2003; 33(3):649-61 https://doi.org/10.1177/002204260303300307.

356. Duncan T, Sebar B, Lee J, Duff C. Atmospheres of engagement within a German drug consumption room. Social Science & Medicine. 2020; 253:112922 https://doi.org/10.1016/j.socscimed.2020.112922.

357. Wood E, Tyndall M, Qui Z, Zhang R, Montaner J, Kerr T. Service Uptake and Characteristics of Injection Drug Users Utilizing North America's First Medically Supervised Safer Injecting Facility. American Journal of Public Health. 2006; 96(5):770-3 https://doi.org/https://doi.org/10.2105/AJPH.2004.057828.

358. Ministry of Health and Long-Term Care. Consumption and Treatment Services: Application guide. 2018: Ontario's Ministry of Health and Long-Term Care. https://peterboroughcurrents.ca/wp-content/uploads/2022/03/CTS_application_guide_en.pdf.

359. Duncan T, Sebar B, Lee J, Duff C. Mapping the spatial and affective composition of care in a drug consumption room in Germany. Soc Cult Geogr. 2021; 22(5):627-46 https://doi.org/10.1080/14649365.2019.1610487.

360. Olding M, Boyd J, Kerr T, McNeil R. "We just don't have the space for it": Geographies of survival and spatial triage in overdose prevention sites. Health and Place. 2023; 83:103067 https://doi.org/10.1016/j.healthplace.2023.103067.

361. 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):1-4 https://doi.org/10.17269/s41997-018-0107-9.

362. Stöver HJ, Schäffer D. SMOKE IT! Promoting a change of opiate consumption pattern - from injecting to inhaling. Harm Reduction Journal. 2014; 11(1):18 https://doi.org/10.1186/1477-7517-11-18.

363. Voon P, Ti L, Dong H, Milloy M, Wood E, Kerr T, et al. Risky and rushed public crack cocaine smoking: the potential for supervised inhalation facilities. BMC Public Health. 2016; 16(1):1-9 https://doi.org/10.1186/s12889-016-3137-3.

364. DeBeck K, Kerr T, Li K, Fischer B, Buxton J, Montaner J, et al. Smoking of crack cocaine as a risk factor for HIV infection among people who use injection drugs. CMAJ. 2009; 181(9):585-9 https://doi.org/10.1503/cmaj.082054.

365. 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 https://doi.org/10.1016/j.drugpo.2012.09.003.

366. Fitzpatrick K, LaGory M. Unhealthy places: The ecology of risk in the urban landscape. New York: Routledge; 2002.

367. Boland P, Fox-Rogers L, McKay S. Planning, platforms, participation: city resilience and illegal drugs in Belfast. International Planning Studies. 2020; 25(4):320-39 https://doi.org/10.1080/13563475.2019.1609431.

368. Boland P, Fox-Rogers L, McKay S, Murtagh B. Illegal geographies and spatial planning: developing a dialogue on drugs. Territory, Politics, Governance. 2020; 8(2):177-203 https://doi.org/10.1080/21622671.2018.1503092.

369. McKay S. Continuity and change in development plans. Planning Law and Practice in Northern Ireland: Routledge; 2022. p. 117-36.

370. Tewdwr-Jones M. Health, cities and planning: using universities to achieve place innovation. Perspectives in Public Health. 2017; 137(1):31-4 https://doi.org/10.1177/1757913916677524.

371. Dietze P, Jauncey M, Salmon A, Mohebbi M, Latimer J, van Beek I, et al. Effect of Intranasal vs Intramuscular Naloxone on Opioid Overdose: A Randomized Clinical Trial. JAMA Network Open. 2019; 2(11):e1914977 https://doi.org/10.1001/jamanetworkopen.2019.14977.

372. Cho R, Purssell R, Joe R, Wang YE, O'Sullivan F, Lin K, et al. Opioid Overdose

and Naloxone Dosing at Insite Supervised Injection Facility in British Columbia: A Retrospective Cohort Study. Canadian Journal of Addiction. 2022; 13(4):22-31 https://doi.org/10.1097/CXA.0000000000000162.

373. Melhus J, Jefferys L, Southwell M, Durjava L. Peer to Peer Distribution of Naloxone (P2PN) Technical Briefing. Version 2. 2023: European Network of People who Use Drugs (EuroNPUD). https://static1.squarespace.com/static/58321efcd1758e26bb49208d/t/64ecf07e95d9150d0543b776/1693250091869/TB_P2PN+%28%29.pdf.

374. Suen LW, Wenger LD, Morris T, Majano V, Davidson PJ, Browne EN, et al. Evaluating oxygen monitoring and administration during overdose responses at a sanctioned overdose prevention site in San Francisco, California: A mixed-methods study. International Journal of Drug Policy. 2023:104165 https://doi.org/10.1016/j.drugpo.2023.104165.

375. Olding M, Boyd J, Kerr T, Fowler A, McNeil R. (Re)situating expertise in community-based overdose response: Insights from an ethnographic study of overdose prevention sites (OPS) in Vancouver, Canada. International Journal of Drug Policy. 2023; 111:103929 https://doi.org/10.1016/j.drugpo.2022.103929.

376. Advisory Council for the Misuse of Drugs. Review of the UK Naloxone Implementation: Availability and Use of Naloxone to Prevent Opioid-Related Deaths. 2022: Home Office. https://www.gov.uk/government/publications/acmd-naloxone-review/acmd-review-of-the-uk-naloxone-implementation-accessible.

377. Strang J, McDonald R, Campbell G, Degenhardt L, Nielsen S, Ritter A, et al. Take-home naloxone for the emergency interim management of opioid overdose: the public health application of an emergency medicine. Drugs. 2019; 79(13):1395-418 https://doi.org/10.1007/s40265-019-01154-5.

378. Scottish Families Affected by Drugs. Scottish Families Click and Deliver Naloxone Service – One Year On. 2021. https://www.sfad.org.uk/content/uploads/2021/05/Scottish-Families-Click-and-Deliver-Naloxone-Service-One-Year-On.pdf.

379. Shorter G, Bingham T. Service Review: Take Home Naloxone programme in NI Consultation with service users and service providers. 2016: Public Health Agency. https://www.drugsandalcohol.ie/25353/1/PHANI_Naloxone-service-evaluation-final-report.pdf.

380. Public Health Wales. Harm Reduction Database Wales: Take Home Naloxone 2016-17. 2017: Public Health Wales. https://cavuhb.nhs.wales/files/area-planning-board-apb/final-naloxone-hrd-report-2016-17-pdf/.

381. Public Health Scotland. Needle Exchange Surveillance Initiative: Prevalence of blood-borne viruses and injecting risk behaviours among people who inject drugs attending injecting equipment provision services in Scotland, 2008 to 2020. 2022: Public Health Scotland. https://publichealthscotland.scot/media/12421/2022-04-01-nesi-19-20-report.pdf.

382. Release. SAVING LIVES: Best practice guidance on the provision of naloxone for people who might experience or witness an opioid overdose. 2019: Release. https://www.release.org.uk/publications/saving-lives-best-practice-guidance-provision-naloxone-people-who-might-experience-or.

383. Kinshella M-LW, Gauthier T, Lysyshyn M. Rigidity, dyskinesia and other atypical overdose presentations observed at a supervised injection site, Vancouver, Canada. Harm Reduction Journal. 2018; 15(1):64 https://doi.org/10.1186/s12954-018-0271-5.

384. Dertadian GC, Yates K. "Overdose Has Many Faces": The Politics of Care in Responding to Overdose at Sydney's Medically Supervised Injecting Centre. Contemporary Drug Problems. 2023; 50(1):136-51 https://doi.org/10.1177/00914509221134716.

385. Mayer S, Boyd J, Collins A, Kennedy MC, Fairbairn N, McNeil R. Characterizing fentanyl-related overdoses and implications for overdose response: Findings from a rapid ethnographic study in Vancouver, Canada. Drug and Alcohol Dependence. 2018; 193:69-74 https://doi.org/10.1016/j.drugalcdep.2018.09.006.

386. Latimer J, Ling S, Flaherty I, Jauncey M, Salmon AM. Risk of fentanyl overdose among clients of the Sydney Medically Supervised Injecting Centre. International Journal of Drug Policy. 2016; 37:111-4 https://doi.org/10.1016/j.drugpo.2016.08.004.

387. Roxburgh A, Darke S, Salmon AM, Dobbins T, Jauncey M. Frequency and severity of non-fatal opioid overdoses among clients attending the Sydney Medically Supervised Injecting Centre. Drug and Alcohol Dependence. 2017; 176:126-32 https://doi.org/10.1016/j.drugalcdep.2017.02.027.

388. Glasgow City Health and Social Care Partnership. Frequently asked questions: Safer drug consumption facilities and heroin-assisted treatment. 2017. https://www.glasgow.gov.uk/CHttpHandler.ashx?id=38604&p=0.

389. Tweed EJ, Rodgers M, Priyadarshi S, Crighton E. "Taking away the chaos": a health needs assessment for people who inject drugs in public places in Glasgow, Scotland. BMC Public Health. 2018; 18(1):829 https://doi.org/10.1186/s12889-018-5718-9.

390. Kilmer B, Taylor J, Caulkins JP, Mueller PA, Ober AJ, Pardo B, et al. Considering Heroin-Assisted Treatment and Supervised Drug Consumption Sites in the United States. 2018. https://doi.org/10.7249/RR2693.

391. Ivsins A, Boyd J, Mayer S, Collins A, Sutherland C, Kerr T, et al. "It's Helped Me a Lot, Just Like to Stay Alive": a Qualitative Analysis of Outcomes of a Novel Hydromorphone Tablet Distribution Program in Vancouver, Canada. Journal of Urban Health. 2021; 98(1):59-69 https://doi.org/10.1007/s11524-020-00489-9.

392. Poulter HL, Moore H, Crow R, Ahmed D, Walker T. Diamorphine assisted treatment in Middlesbrough: a UK drug treatment case study. J Subst Use. 2022:1-7 https://doi.org/10.1080/14659891.2022.2120433.

393. Bardwell G, Strike C, Mitra S, Scheim A, Barnaby L, Altenberg J, et al. "That's a double-edged sword": Exploring the integration of supervised consumption services within community health centres in Toronto, Canada. Health and Place. 2020; 61:102245 https://doi.org/10.1016/j.healthplace.2019.102245.

394. Barker-Williams R. Drug Consumption Rooms: A Welsh Response. 2017. http://www.wcmt.org.uk/fellows/reports/drug-consumption-rooms-welsh-response.

395. Family H, Chater A, Linton M-J, Howlett N, Gittins R, Hines L, et al. Covid-19 public health road map: Opioid substitution treatment (OST) adherence. 2022. https://cms.bps.org.uk/sites/default/files/2022-08/Covid-19%20public%20health%20road%20map%20-%20Medication%20adherence.pdf.

396. Belackova V, Salmon AM, Schatz E, Jauncey M. Drug consumption rooms (DCRs) as a setting to address hepatitis C - findings from an international online survey. Hepatology, Medicine and Policy 2018; 3(9):1-11 https://doi.org/10.1186/s41124-018-0035-6.

397. Belackova V, Salmon AM, Schatz E, Jauncey M. Online census of Drug Consumption Rooms (DCRs) as a setting to address HCV: current practice and future capacity. 2017. http://www.drugconsumptionroom-international.org/images/pdf/INDCR_report.pdf.

398. Milloy M-J, Kerr T, Zhang R, Tyndall M, Montaner J, Wood E. Inability to access addiction treatment and risk of HIV infection among injection drug users recruited from a supervised injection facility. Journal of Public Health. 2010; 32(3):342-9 https://doi.org/10.1093/pubmed/fdp089.

399. Greenwald ZR, Bouck Z, McLean E, Mason K, Lettner B, Broad J, et al. Integrated supervised consumption services and hepatitis C testing and treatment among people who inject drugs in Toronto, Canada: A cross-sectional

analysis. Journal of Viral Hepatitis. 2023; 30(2):160-71 https://doi.org/10.1111/jvh.13780.

400. Belackova V, Silins E, Salmon AM, Jauncey M, Day CA. “Beyond Safer Injecting”-Health and Social Needs and Acceptance of Support among Clients of a Supervised Injecting Facility. International Journal of Environmental Research and Public Health. 2019; 16(11):2032 https://doi.org/10.3390/ijerph16112032.

401. Hodel D. The Case for Supervised Consumption Services. 2017. http://www.amfar.org/supervised-ib/.

402. Fernando S, McNeil R, Closson K, Samji H, Kirkland S, Strike C, et al. An integrated approach to care attracts people living with HIV who use illicit drugs in an urban centre with a concentrated HIV epidemic. Harm Reduction Journal. 2016; 13(1):1-5 https://doi.org/10.1186/s12954-016-0121-2.

403. Kennedy MC, Scheim A, Rachlis B, Mitra S, Bardwell G, Rourke S, et al. Willingness to use drug checking within future supervised injection services among people who inject drugs in a mid-sized Canadian city. Drug and Alcohol Dependence. 2018; 185:248-52 https://doi.org/10.1016/j.drugalcdep.2017.12.026.

404. Olding M, Ivsins A, Mayer S, Betsos A, Boyd J, Sutherland C, et al. A Low-Barrier and Comprehensive Community-Based Harm-Reduction Site in Vancouver, Canada. American Journal of Public Health. 2020; 110(6):833-5 https://doi.org/10.2105/AJPH.2020.305612.

405. Goodman-Meza D, Arredondo J, Slim S, Angulo L, Gonzalez-Nieto P, Loera A, et al. Behavior change after fentanyl testing at a safe consumption space for women in Northern Mexico: A pilot study. International Journal of Drug Policy. 2022; 106:103745 https://doi.org/10.1016/j.drugpo.2022.103745.

406. Barratt MJ, Latimer J, Jauncey M, Tay E, Nielsen S. Urine drug screening for early detection of unwitting use of fentanyl and its analogues among people who inject heroin in Sydney, Australia. Drug and Alcohol Review. 2018; 37(7):847-50 https://doi.org/10.1111/dar.12864.

407. Kerr T, Tupper K. Drug checking as a harm reduction intervention: Evidence review report. 2017: Use BCCoS. https://www.bccsu.ca/wp-content/uploads/2017/12/Drug-Checking-Evidence-Review-Report.pdf.

408. Richardson L, Wood E, Zhang R, Montaner J, Tyndall M, Kerr T. Employment Among Users of a Medically Supervised Safer Injection Facility. American Journal of Drug and Alcohol Abuse. 2008; 34(5):519-25 https://doi.org/10.1080/00952990802146308.

409. Olding M, Boyd J, Kerr T, McNeil R. “And we just have to keep going”: Task

shifting and the production of burnout among overdose response workers with lived experience. Social Science & Medicine. 2021; 270:113631 https://doi.org/10.1016/j.socscimed.2020.113631.

410. Solai S, Dubois-Arber F, Benninghoff F, Benaroyo L. Ethical reflections emerging during the activity of a low threshold facility with supervised drug consumption room in Geneva, Switzerland. International Journal of Drug Policy. 2006; 17(1):17-22 https://doi.org/10.1016/j.drugpo.2005.12.008.

411. Rickard G, Hart B. Survival, safety and belonging: An ethnographic study of experiences and perceptions of people who inject drugs accessing a supervised injecting Centre. Australian Journal of Social Issues. 2022; 57(4):829-46 https://doi.org/10.1002/ajs4.230.

412. Watson TM, Barnaby L, Bayoumi AM, Challacombe L, Wright A, Strike C. 'This is a health service. Leave it alone': service user and staff views on policing boundaries involving supervised consumption services. Addiction Research & Theory. 2021; 29(1):55-63 https://doi.org/10.1080/16066359.2020.1730821.

413. Rance J, Fraser S. Accidental Intimacy: Transformative Emotion and the Sydney Medically Supervised Injecting Centre. Contemporary Drug Problems. 2011; 38(1):121-45 https://doi.org/10.1177/009145091103800106.

414. Treloar C, Laybutt B, Jauncey M, van Beek I, Lodge M, Malpas G, et al. Broadening discussions of "safe" in hepatitis C prevention: A close-up of swabbing in an analysis of video recordings of injecting practice. International Journal of Drug Policy. 2008; 19(1):59-65 https://doi.org/10.1016/j.drugpo.2007.01.005.

415. Wood E, Tyndall MW, Stoltz J-A, Small W, Zhang R, O'Connell J, et al. Safer injecting education for HIV prevention within a medically supervised safer injecting facility. International Journal of Drug Policy. 2005; 16(4):281-4 https://doi.org/10.1016/j.drugpo.2005.07.004.

416. Steele M, Silins E, Flaherty I, Hiley S, van Breda N, Jauncey M. Uptake of wheel-filtration among clients of a supervised injecting facility: Can structured education work? Drug and Alcohol Review. 2018; 37(1):116-20 https://doi.org/10.1111/dar.12481.

417. Axelsson A, Soholm H, Dalsgaard M, Helweg-Larsen J, Ihlemann N, Bundgaard H, et al. Echocardiographic findings suggestive of infective endocarditis in asymptomatic Danish injection drug users attending urban injection facilities. American Journal of Cardiology. 2014; 114(1):100-4 https://doi.org/10.1016/j.amjcard.2014.04.010.

418. Scherbaum N, Timm J, Richter F, Bonnet U, Bombeck J, Lajos S, et al.

Outcome of a hepatitis B vaccination program for clients of a drug consumption facility. Journal of Clinical Virology. 2018; 106:28-32 https://doi.org/10.1016/j.jcv.2018.04.014.

419. Skelton E, Tzelepis F, Shakeshaft A, Guillaumier A, Wood W, Jauncey M, et al. Integrating smoking cessation care into routine service delivery in a medically supervised injecting facility: An acceptability study. Addictive Behaviors. 2018; 84:193-200 https://doi.org/10.1016/j.addbeh.2018.04.001.

420. Skelton E, Tzelepis F, Shakeshaft A, Guillaumier A, Wood W, Jauncey M, et al. Integrating Smoking Cessation Care into a Medically Supervised Injecting Facility Using an Organizational Change Intervention: A Qualitative Study of Staff and Client Views. International Journal of Environmental Research and Public Health. 2019; 16(11):2050, https://www.mdpi.com/1660-4601/16/11/2050

421. Bergamo S, Parisi G, Jarre P. Harm reduction in Italy: the experience of an unsanctioned supervised injection facility run by drug users. Drugs and Alcohol Today. 2018; 19(2):59-71 https://doi.org/10.1108/dat-03-2018-0011.

422. Montero-Moraga JM, Garrido-Albaina A, Barbaglia MG, Gotsens M, Aranega D, Espelt A, et al. Impact of 24-hour schedule of a drug consumption room on service use and number of non-fatal overdoses. A quasiexperimental study in Barcelona. International Journal of Drug Policy. 2020; 81:102772 https://doi.org/10.1016/j.drugpo.2020.102772.

423. Carra G, Crocamo C, Humphris G, Tabacchi T, Bartoli F, Neufeind J, et al. Engagement in the Overdose RIsk InfOrmatioN (ORION) e-Health Tool for Opioid Overdose Prevention and Self-Efficacy: A Preliminary Study. Cyberpsychology, Behavior, and Social Networking. 2017; 20(12):762-8 https://doi.org/10.1089/cyber.2016.0744.

424. Campbell A, Millen S, Guo L, Jordan U, Taylor-Beswick A, Rintoul C, et al. Reducing opioid related deaths for individuals who are at high risk of death from overdose: a co-production study with people housed within prison and hostel accommodation during Covid-19. Frontiers in Public Health. 2023; 11:1080629 https://doi.org/10.3389/fpubh.2023.1080629.

425. Foglia R, Kline A, Cooperman NA. New and emerging opioid overdose risk factors. Current Addiction Reports. 2021; 8(2):319-29 https://doi.org/10.1007/s40429-021-00368-6.

426. Chan J, Iyer V, Wang A, Lyness A, Kooner P, Sunshine J, et al. Closed-loop wearable naloxone injector system. Scientific Reports. 2021; 11(1):22663 https://doi.org/10.1038/s41598-021-01990-0.

427. McKnight I, Maas B, Wood E, Tyndall MW, Small W, Lai C, et al. Factors associated with public injecting among users of Vancouver's supervised injection facility. American Journal of Drug and Alcohol Abuse. 2007; 33(2):319-25 https://doi.org/10.1080/00952990601175102.

428. Small W, Shoveller J, Moore D, Tyndall M, Wood E, Kerr T. Injection Drug Users' Access to a Supervised Injection Facility in Vancouver, Canada: The Influence of Operating Policies and Local Drug Culture. Qualitative Health Research. 2011; 21(6):743-56 https://doi.org/10.1177/1049732311400919.

429. Small W, Ainsworth L, Wood E, Kerr T. IDU perspectives on the design and operation of North America's first medically supervised injection facility. Substance Use & Misuse. 2011; 46(5):561-8 https://doi.org/10.3109/10826084.2010.517714.

430. Katz N, Leonard L, Wiesenfeld L, Perry JJ, Thiruganasambandamoorthy V, Calder L. Support of supervised injection facilities by emergency physicians in Canada. International Journal of Drug Policy. 2017; 49:26-31 https://doi.org/10.1016/j.drugpo.2017.07.013.

431. Pasman E, Brown S, Agius E, Resko SM. Support for Safe Consumption Sites Among Peer Recovery Coaches. Journal of Behavioral Health Services & Research. 2023; https://doi.org/10.1007/s11414-023-09846-3.

432. Jauffret-Roustide M, Houborg E, Southwell M, Chronopoulou D, Granier JM, Frank VA, et al. Different Paths and Potentials to Harm Reduction in Different Welfare States: Drug Consumption Rooms in the United Kingdom, Denmark, and France. American Journal of Public Health. 2022; 112(S2):S99-S103 https://doi.org/10.2105/AJPH.2022.306790.

433. Scher B. Biopower, disciplinary power and surveillance: An ethnographic analysis of the lived experience of people who use drugs in Vancouver's Downtown Eastside. Contemporary Drug Problems. 2020; 47(4):286-301 https://doi.org/10.1177/0091450920955247.

434. Fry CL. Injecting drug user attitudes towards rules for supervised injecting rooms: implications for uptake. International Journal of Drug Policy. 2002; 13(6):471-6 https://doi.org/10.1016/s0955-3959(02)00076-2.

435. Atkin-Brenninkmeyer E, Larkan F, Comiskey C, Tong K-w. Factors concerning access to a potential drug consumption room in Dublin, Ireland. Cogent Social Sciences. 2017; 3(1) https://doi.org/10.1080/23311886.2017.1398207.

436. Paumier R. Between zero risk and harm reduction: An ethnography

of Montreal supervised injection services as a public policy instrument. International Journal of Drug Policy. 2022; 104:103694 https://doi.org/10.1016/j.drugpo.2022.103694.

437. Kennedy MC, Milloy MJ, Hayashi K, Holliday E, Wood E, Kerr T. Assisted injection within supervised injection services: Uptake and client characteristics among people who require help injecting in a Canadian setting. International Journal of Drug Policy. 2020; 86:102967 https://doi.org/10.1016/j.drugpo.2020.102967.

438. McNeil R, Small W, Lampkin H, Shannon K, Kerr T. "People knew they could come here to get help": an ethnographic study of assisted injection practices at a peer-run 'unsanctioned'supervised drug consumption room in a Canadian setting. AIDS and Behavior. 2014; 18(3):473-85 https://doi.org/10.1007/s10461-013-0540-y.

439. Bayoumi AM, Strike CJ. Making the case for supervised injection services. Lancet. 2016; 387(10031):1890-1 https://doi.org/10.1016/S0140-6736(16)30308-7.

440. 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 https://doi.org/10.1186/s12954-020-00455-3.

441. Kolla G, Kenny KS, Bannerman M, Boyce N, Chapman L, Dodd Z, et al. Help me fix: The provision of injection assistance at an unsanctioned overdose prevention site in Toronto, Canada. International Journal of Drug Policy. 2020; 76:102617 https://doi.org/10.1016/j.drugpo.2019.102617.

442. Fairbairn N, Small W, Van Borek N, Wood E, Kerr T. Social structural factors that shape assisted injecting practices among injection drug users in Vancouver, Canada: a qualitative study. Harm Reduction Journal. 2010; 7(1):1-7 https://doi.org/10.1186/1477-7517-7-20.

443. Fortson R. Setting Up a Drug Consumption Room Legal Issues. Queen Mary School of Law Legal Studies Research Paper. 2017; (262):1-55, https://www.rudifortson4law.co.uk/legaltexts/Rudi-Fortson-DCR-legal-issues-17thOct2017-v1.pdf

444. Oosterbroek T, Motz T, Mason E, Hamilton K, Bourque S, Manning J. Peer-Assisted Injection as a Harm Reduction Measure in a Supervised Consumption Service: A Qualitative Study of Client Experiences. Harm Reduction Journal. 2020; https://doi.org/10.21203/rs.3.rs-24831/v1.

445. Robertson AM, Vera AY, Gallardo M, Pollini RA, Patterson TL, Case P, et al.

Correlates of Seeking Injection Assistance among Injection Drug Users in Tijuana, Mexico: Correlates of Seeking Help Injecting in Tijuana, Mexico. American Journal on Addictions. 2010; 19(4):357-63 https://doi.org/10.1111/j.1521-0391.2010.00053.x.

446. Ickowicz S, Grant C, Nosova E, Boyd J, Brar R, Milloy M-J, et al. Factors Associated With the Use of Supervised Consumption Facilities Among Women Who Inject Drugs in a Canadian Setting. Journal of Addiction Medicine. 2020; 14(5):e226-e32 https://doi.org/10.1097/adm.0000000000000646.

447. Rouhani S, White RH, Park JN, Sherman SG. High willingness to use overdose prevention sites among female sex workers in Baltimore, Maryland. Drug and Alcohol Dependence. 2020; 212:108042 https://doi.org/10.1016/j.drugalcdep.2020.108042.

448. Boyd J, Collins AB, Mayer S, Maher L, Kerr T, McNeil R. Gendered violence and overdose prevention sites: a rapid ethnographic study during an overdose epidemic in Vancouver, Canada. Addiction. 2018; 113(12):2261-70 https://doi.org/10.1111/add.14417.

449. Kennedy MC, Hayashi K, Milloy MJ, Boyd J, Wood E, Kerr T. Supervised injection facility use and exposure to violence among a cohort of people who inject drugs: A gender-based analysis. International Journal of Drug Policy. 2020; 78:102692 https://doi.org/10.1016/j.drugpo.2020.102692.

450. Boyd J, Lavalley J, Czechaczek S, Mayer S, Kerr T, Maher L, et al. "Bed Bugs and Beyond": An ethnographic analysis of North America's first women-only supervised drug consumption site. International Journal of Drug Policy. 2020; 78:102733 https://doi.org/10.1016/j.drugpo.2020.102733.

451. Forteza AR. Metzineres: Sheltering and empowering women who use drugs, survivors of violence. 2020: America WOoL. https://womenanddrugs.wola.org/wp-content/uploads/2020/10/Metzineres-ENG.pdf.

452. Xavier J, Lowe L, Rodrigues S. Access to and Safety for Women at Supervised Consumption Services. 2021. https://cmha.ca/news/womens-access-to-supervised-consumption-services-a-study.

453. Kimber J, Dolan K, Van Beek I, Hedrich D, Zurhold H. Drug consumption facilities: an update since 2000. Drug and Alcohol Review. 2003; 22(2):227-33 https://doi.org/10.1080/09595230100011695l.

454. Dertadian G, Tomsen S. The experience of safety, harassment and social exclusion among male clients of Sydney's Medically Supervised Injecting Centre. International Journal for Crime, Justice and Social Democracy. 2022; 11(4):13-24 https://doi.org/10.5204/ijcjsd.2029.

455. Watson TM, Strike C, Kolla G, Penn R, Bayoumi AM. “Drugs don’t have age limits”: The challenge of setting age restrictions for supervised injection facilities. Drugs: Education, Prevention, and Policy. 2015; 22(4):370-9 https://doi.org/10.3109/09687637.2015.1034239.

456. Shirley-Beavan S, Roig A, Burke-Shyne N, Daniels C, Csak R. Women and barriers to harm reduction services: a literature review and initial findings from a qualitative study in Barcelona, Spain. Harm Reduction Journal. 2020; 17(1):78 https://doi.org/10.1186/s12954-020-00429-5.

457. Horyniak D, Higgs P, Jenkinson R, Degenhardt L, Stoové M, Kerr T, et al. Establishing the Melbourne injecting drug user cohort study (MIX): rationale, methods, and baseline and twelve-month follow-up results. Harm Reduction Journal. 2013; 10(11):11 https://doi.org/10.1186/1477-7517-10-11.

458. Anoro M, Ilundain E, Rodriguez R, Rossell L, Iglesias B, Guinovart C, et al. Factores asociados a presentar parada respiratoria en las sobredosis por opiáceos atendidas en un escenario abierto de consumo de drogas en Barcelona. Revista Española de Salud Pública. 2004; 78:601-8, https://scielo.isciii.es/pdf/resp/v78n5/original3.pdf

459. Wood E, Kerr T, Lloyd-Smith E, Buchner C, Marsh D, Montaner J, et al. Methodology for evaluating Insite: Canada’s first medically supervised safer injection facility for injection drug users. Harm Reduction Journal. 2004; 1(9):9 https://doi.org/10.1186/1477-7517-1-9.

460. Goodhew MA. Enhancing consumer participation in a medically supervised injecting centre through participatory action research (Thesis). 2019. http://hdl.handle.net/10453/137130.

461. Hunt N. Guidance on standards for the establishment and operation of drug consumption rooms in the UK. 2008: Joseph Rowntree Foundation. https://www.jrf.org.uk/sites/default/files/jrf/migrated/files/2266-drugs-services-standards.pdf.

462. Kerr T, Baltzer Turje R, Buchner C, Davis M, Johnson C, Lem M, et al. Supervised Consumption Services Guidelines. 2017: BC Centre on Substance Use. https://www.bccsu.ca/wp-content/uploads/2017/07/BC-SCS-Operational-Guidance.pdf.

463. Strike C, Watson TM, Kolla G, Penn R, Bayoumi AM. Ambivalence about supervised injection facilities among community stakeholders. Harm Reduction Journal. 2015; 12(26):26 https://doi.org/10.1186/s12954-015-0060-3.

464. Centre for Organizational E. Supervised Consumption Facilities: Community Consultation | London Ontario. 2018. https://t.co/out2dGf4L2.

465. Jauffret-Roustide M, Cailbault I. Drug consumption rooms: Comparing times, spaces and actors in issues of social acceptability in French public debate. International Journal of Drug Policy. 2018; 56:208-17 https://doi.org/10.1016/j.drugpo.2018.04.014.

466. Wilkins R, Perkins D, Weygandt J, Dunn K, Hartwell M. Search interest in supervised injection sites in the United States following the opening of two clinics. Journal of Osteopathic Medicine. 2022; 122(6):329-30 https://doi.org/10.1515/jom-2022-0019.

467. McCann E, Temenos C. Mobilizing drug consumption rooms: inter-place networks and harm reduction drug policy. Health and Place. 2015; 31:216-23 https://doi.org/10.1016/j.healthplace.2014.12.009.

468. Ivsins A, Vancouver Area Network Of Drug U, Benoit C, Kobayashi K, Boyd S. From risky places to safe spaces: Re-assembling spaces and places in Vancouver's Downtown Eastside. Health and Place. 2019; 59:102164 https://doi.org/10.1016/j.healthplace.2019.102164.

469. Uniting. Uniting Medically Supervised Injecting Centre: Accessing the service 2023 [https://www.uniting.org/community-impact/uniting-medically-supervised-injecting-centre--msic/accessing-the-service.

470. Waal H, Clausen T, Gjersing L, Gossop M. Open drug scenes: responses of five European cities. BMC Public Health. 2014; 14(853):853 https://doi.org/10.1186/1471-2458-14-853.

471. Watson TM, Bayoumi AM, Hopkins S, Wright A, Naraine R, Khorasheh T, et al. Creating and sustaining cooperative relationships between supervised injection services and police: A qualitative interview study of international stakeholders. International Journal of Drug Policy. 2018; 61:1-6 https://doi.org/10.1016/j.drugpo.2018.08.001.

472. DeBeck K, Wood E, Zhang R, Tyndall M, Montaner J, Kerr T. Police and public health partnerships: evidence from the evaluation of Vancouver's supervised injection facility. Substance Abuse Treatment, Prevention, and Policy. 2008; 3:11-6 https://doi.org/10.1186/1747-597X-3-11.

473. Strathdee S, Arredondo J, Rocha T, Abramovitz D, Rolon ML, Patino Mandujano E, et al. A police education programme to integrate occupational safety and HIV prevention: protocol for a modified stepped-wedge study design with parallel prospective cohorts to assess behavioural outcomes. BMJ Open. 2015; 5(8):e008958 https://doi.org/10.1136/bmjopen-2015-008958.

474. Collins AB, Boyd J, Mayer S, Fowler A, Kennedy MC, Bluthenthal RN, et al. Policing space in the overdose crisis: A rapid ethnographic study of the impact of law enforcement practices on the effectiveness of overdose prevention sites. International Journal of Drug Policy. 2019; 73:199-207 https://doi.org/10.1016/j.drugpo.2019.08.002.

475. Beletsky L, Davis CS, Anderson E, Burris S. The law (and politics) of safe injection facilities in the United States. American Journal of Public Health. 2008; 98(2):231-7 https://doi.org/10.2105/AJPH.2006.103747.

476. Graham J. Supervised injection sites-a view from law enforcement. British Columbia Medical Journal. 2008; 50(3):132, https://bcmj.org/premise/supervised-injection-sites%e2%80%94-view-law-enforcement

477. Ontario Association of Chiefs of Police Substance Abuse Committee, Taverner R. Supervised Injection Sites: A Position Paper by Ontario's Police Leaders. 2012: Committee OAoCoPSA. http://www.oacp.on.ca/Userfiles/Files/NewAndEvents/PublicResourceDocuments/Supervised%20Injection%20Paper%20Feb2012%20FINAL.pdf.

478. Ontario Association of Chiefs of Police Substance Abuse Committee, Huggins R, Walker J, Farquharson T. Ontario Association Chief of Police Statement Decriminalization for Simple Possession of Illicit Drugs 2020 [https://www.oacp.ca/en/news/oacp-statement-decriminalization-for-simple-possession-of-illicit-drugs.aspx.

479. Urbanik MM, Maier K, Greene C. A qualitative comparison of how people who use drugs' perceptions and experiences of policing affect supervised consumption services access in two cities. International Journal of Drug Policy. 2022; 104:103671 https://doi.org/10.1016/j.drugpo.2022.103671.

480. Gauthier T, Gagnon M. The role of registered nurses in Supervised Consumption Services. 2017. https://www.nursesforsis.com/uploads/2/5/3/6/25361002/nursing_practice_and_supervised_injection_final_draft.pdf.

481. Kennedy MC, Boyd J, Mayer S, Collins A, Kerr T, McNeil R. Peer worker involvement in low-threshold supervised consumption facilities in the context of an overdose epidemic in Vancouver, Canada. Social Science & Medicine. 2019; 225:60-8 https://doi.org/10.1016/j.socscimed.2019.02.014.

482. Unachukwu IC, Abrams MP, Dolan A, Oyekemi K, Meisel ZF, South EC, et al. "The new normal has become a nonstop crisis": a qualitative study of burnout among Philadelphia's harm reduction and substance use disorder treatment

workers during the COVID-19 pandemic. Harm Reduction Journal. 2023; 20(1):32 https://doi.org/10.1186/s12954-023-00752-7.

483. Mercer F, Miler JA, Pauly B, Carver H, Hnízdilová K, Foster R, et al. Peer support and overdose prevention responses: a systematic 'state-of-the-art'review. International Journal of Environmental Research and Public Health. 2021; 18(22):12073 https://doi.org/10.3390/ijerph182212073.

484. Vancouver Coastal Health. Insite user statistics 2019 [http://www.vch.ca/public-health/harm-reduction/supervised-consumption-sites/insite-user-statistics.

485. Irwin A, Jozaghi E, Bluthenthal RN, Kral AH. A Cost-Benefit Analysis of a Potential Supervised Injection Facility in San Francisco, California, USA. Journal of Drug Issues. 2016; 47(2):164-84 https://doi.org/10.1177/0022042616679829.

486. Kimber J, Dolan K, Wodak A. Survey of drug consumption rooms: service delivery and perceived public health and amenity impact. Drug and Alcohol Review. 2005; 24(1):21-4 https://doi.org/10.1080/09595230500125047.

487. Strathdee SA, Pollini RA. A 21st-century Lazarus: the role of safer injection sites in harm reduction and recovery. 2007; 102(6):848-9 https://doi.org/10.1111/j.1360-0443.2007.01859.x.

488. Barry CL, Sherman SG, Stone E, Kennedy-Hendricks A, Niederdeppe J, Linden S, et al. Arguments supporting and opposing legalization of safe consumption sites in the U.S. International Journal of Drug Policy. 2019; 63:18-22 https://doi.org/10.1016/j.drugpo.2018.10.008.

489. Firestone-Cruz M, Patra J, Fischer B, Rehm J, Kalousek K. Public opinion towards supervised injection facilities and heroin-assisted treatment in Ontario, Canada. International Journal of Drug Policy. 2007; 18(1):54-61 https://doi.org/10.1016/j.drugpo.2006.12.001.

490. Dolan K, Kimber J, Fry C, Fitzgerald J, McDonald D, Trautmann F. Drug consumption facilities in Europe and the establishment of supervised injecting centres in Australia. Drug and Alcohol Review. 2000; 19(3):337-46 https://doi.org/10.1080/713659379.

491. de Jong W, Weber U. The professional acceptance of drug use: a closer look at drug consumption rooms in the Netherlands, Germany and Switzerland. International Journal of Drug Policy. 1999; 10(2):99-108 https://doi.org/10.1016/S0955-3959(98)00072-3.

492. Philbin MM, Mantsios A, Lozada R, Case P, Pollini RA, Alvelais J, et al. Exploring stakeholder perceptions of acceptability and feasibility of needle exchange

programmes, syringe vending machines and safer injection facilities in Tijuana, Mexico. International Journal of Drug Policy. 2009; 20(4):329-35 https://doi.org/10.1016/j.drugpo.2008.09.002.

493. Cleirec G, Fortias M, Bloch V, Clergue-Duval V, Bellivier F, Dusouchet T, et al. Opinion of health professionals and drug users before the forthcoming opening of the first drug consumption room in Paris: a quantitative cross-sectional study. Harm Reduction Journal. 2018; 15(1):53 https://doi.org/10.1186/s12954-018-0260-8.

494. Iqbal N, McCambridge O, Edgar L, Young C, Shorter GW. Health-care professionals' attitudes across different hospital departments regarding alcohol-related presentations. Drug and Alcohol Review. 2014; 34(5):487-94 https://doi.org/10.1111/dar.12243.

495. Unlu A, Demiroz F, Tammi T, Hakkarainen P. The Complexity of Drug Consumption Room Policy and Progress in Finland. Contemporary Drug Problems. 2021; 48(2):151-67 https://doi.org/10.1177/00914509211002542.

496. McGinty EE, Barry CL, Stone EM, Niederdeppe J, Kennedy-Hendricks A, Linden S, et al. Public support for safe consumption sites and syringe services programs to combat the opioid epidemic. Preventive Medicine. 2018; 111:73-7 https://doi.org/10.1016/j.ypmed.2018.02.026.

497. Hall W, Kimber J. Being realistic about benefits of supervised injecting facilities. Lancet. 2005; 366(9482):271-2 https://doi.org/10.1016/S0140-6736(05)66476-8.

498. Sylvester SM, Haeder SF, Callaghan T. Just say no? Public attitudes about supportive and punitive policies to combat the opioid epidemic. Journal of Public Policy. 2022; 42(2):270-97 https://doi.org/10.1017/S0143814X21000155.

499. Atkins L, Michie S, West R. The Behaviour Change Wheel. London: Silverback Publishing; 2014.

500. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implementation Science. 2011; 6(1):42 https://doi.org/10.1186/1748-5908-6-42.

501. Overdose Prevention S. Overdose Prevention Society - Year End Report 2018. Annual report. 2018. https://drive.google.com/file/d/1yk_De44osGk-hSc-VW5k3vMrU9cNoo83/view.

502. Cohen A, Vakharia SP, Netherland J, Frederique K. How the war on drugs impacts social determinants of health beyond the criminal legal system. Annals of Medicine. 2022; 54(1):2024-38 https://doi.org/10.1080/07853890.2022.2100926.

503. Vearrier L. The value of harm reduction for injection drug use: A clinical and public health ethics analysis. Disease-a-Month. 2019; 65(5):119-41 https://doi.org/10.1016/j.disamonth.2018.12.002.

504. Jauffret-Roustide M, Pedrono G, Beltzer N. Supervised consumption rooms: the French Paradox. International Journal of Drug Policy. 2013; 24(6):628-30 https://doi.org/10.1016/j.drugpo.2013.05.008.

505. Munoz Sastre MT, Kpanake L, Mullet E. French People's positions on supervised injection facilities for drug users. Substance Abuse Treatment, Prevention, and Policy. 2020; 15(79):79 https://doi.org/10.1186/s13011-020-00321-2.

506. Mrazovac A, O'Boyle J, Watts C, Sharma T, Ciccarelli M, Leshuk T, et al. Public Knowledge of and Support for Supervised Injection Sites in a Metropolitan Canadian Region. Int J Ment Health Ad. 2020; 18(1):236-56 https://doi.org/10.1007/s11469-019-00130-0.

507. Berrigan P, Zucchelli E. Public preferences for safe consumption sites for opioid use: A discrete choice experiment. Drug and Alcohol Dependence. 2022; 238:109578 https://doi.org/10.1016/j.drugalcdep.2022.109578.

508. McCreedy K. Supervised Consumption Site. Opposition Response Paper & Advocacy Tool. 2021: Health in Justice Northeastern University School of Law. https://www.healthinjustice.org/_files/ugd/3bbb1a_ba0777f63ed54d0bb44a43c589d9b608.pdf.

509. Pivot Legal Society. Yes in my backyard! toolkit. 2011: Pivot Legal Society. https://www.clicklaw.bc.ca/resource/4465.

510. Ankjærgaard SK, Christensen I, Ege PP, Gotfredsen NW, Kjær J, Olsen ML, et al. From civil disobedience to drug users' well-being: grass-roots activity and the establishment of drug consumption rooms in Denmark. Drugs and Alcohol Today. 2015; 15(3):141-8 https://doi.org/10.1108/DAT-03-2015-0007.

511. Farmer N, McPherson A, Thomson J, Reilly F, Williamson A, Lowrie R. 'There's No Hope for Any Kind of Decent Life': A Qualitative Study to Explore the Perspectives of People Experiencing Homelessness with a Recent Non-Fatal Overdose in Scotland. The British Journal of Social Work. 2023:bcad160 https://doi.org/10.1093/bjsw/bcad160.

512. Health Service Executive. FAQ: Supervised Injecting Facilities 2017 [updated 2017. https://www.hse.ie/eng/about/who/primarycare/socialinclusion/addiction/supervised-injecting-centre/faqs/.

513. Merchants Quay Ireland. Medically Supervised Injecting Facility. Information

booklet. 2018: Ireland MQ. https://mqi.ie/content/uploads/2018/12/MSIF-Booklet.pdf.

514. Massachusetts Medical Society. FAQ: Supervised Injection Facility. 2017: Massachusetts Medical Society. https://www.massmed.org/Advocacy/Key-Issues/Opioid-Misuse/About-Supervised-Injection-Facilities-(pdf)/.

515. Drug Policy Alliance. Overdose Prevention Centres OPCs 2023 [https://drugpolicy.org/issue/overdose-prevention-centers-opcs/.

516. Transform. Overdose Prevention Centres: A proven way to save lives 2023 [https://transformdrugs.org/drug-policy/uk-drug-policy/overdose-prevention-centres.

517. Drug Science. Supervised Injection Facility (SIF). 2023: Science D. https://www.drugscience.org.uk/wp-content/uploads/2021/06/SIF.pdf.

518. McCann E, Duffin T. Empathy, Evidence, & Experience. 2022: Ana Liffey Drug Project. https://www.drugsandalcohol.ie/35514/.

519. Meridian Planning. Consumption and Treatment Services (CTS) Planning Study for the City of Cambridge. 2020. https://www.cambridge.ca/en/learn-about/resources/Supervised-Consumption-Services-Planning-Study-/2020-02-11_20_024CD-CTS-Planning-Study.pdf.

520. Zlotorzynska M, Wood E, Montaner JS, Kerr T. Supervised injection sites: Prejudice should not trump evidence of benefit. Canadian Medical Association Journal. 2013; 185(15):1303-4 https://doi.org/10.1503/cmaj.130927.

521. Zampini GF. Governance versus government: Drug consumption rooms in Australia and the UK. International Journal of Drug Policy. 2014; 25(5):978-84 https://doi.org/10.1016/j.drugpo.2014.03.006.

522. Gstrein V. Ideation, social construction and drug policy: A scoping review. International Journal of Drug Policy. 2018; 51:75-86 https://doi.org/https://doi.org/10.1016/j.drugpo.2017.10.011.

523. Stevens AW. Drug Policy Constellations: The Role of Power and Morality in the Making of Drug Policy in the UK. Bristol: Bristol University Press; 2023.

524. Humphreys K, Piot P. Scientific evidence alone is not sufficient basis for health policy. BMJ. 2012; 344:e1316 https://doi.org/10.1136/bmj.e1316.

525. Ziegler BR, Wray AJ, Luginaah I. The ever-changing narrative: Supervised injection site policy making in Ontario, Canada. International Journal of Drug Policy. 2019; 74:98-111 https://doi.org/10.1016/j.drugpo.2019.09.006.

526. Hayle S. Comparing drug policy windows internationally: Drug consumption room policy making in Canada and England and Wales. Contemporary Drug Problems. 2015; 42(1):20-37 https://doi.org/10.1177/009145091556972.

527. Houborg E, Frank VA. Drug consumption rooms and the role of politics and governance in policy processes. International Journal of Drug Policy. 2014; 25(5):972-7 https://doi.org/10.1016/j.drugpo.2014.01.008.

528. Nicholls J, Livingston W, Perkins A, Cairns B, Foster R, Trayner KM, et al. Drug consumption rooms and public health policy: perspectives of scottish strategic decision-makers. International Journal of Environmental Research and Public Health. 2022; 19(11):6575 https://doi.org/10.3390/ijerph19116575.

529. Kass NE. An ethics framework for public health. American Journal of Public Health. 2001; 91(11):1776-82 https://doi.org/10.2105/ajph.91.11.1776.

530. Humphreys K, Shover CL, Andrews CM, Bohnert ASB, Brandeau ML, Caulkins JP, et al. Responding to the opioid crisis in North America and beyond: recommendations of the Stanford Lancet Commission. Lancet. 2022; 399(10324):555-604 https://doi.org/10.1016/S0140-6736(21)02252-2.

531. Kennedy-Hendricks A, Bluestein J, Kral AH, Barry CL, Sherman SG. Establishing Sanctioned Safe Consumption Sites in the United States: Five Jurisdictions Moving the Policy Agenda Forward. Psychiatric Services. 2019; 70(4):294-301 https://doi.org/10.1176/appi.ps.201800398.

532. Giglio RE, Mantha S, Harocopos A, Saha N, Reilly J, Cipriano C, et al. The Nation's First Publicly-Recognized Overdose Prevention Centers: Lessons Learned in New York City. Advance Preprint. 2022; https://doi.org/10.31124/advance.20380434.v1.

533. Longnecker B. Federal Ignorance and the Battle for Supervised Injection Sites. University of Miami Law Review. 2020; 74(4):1145-78, https://repository.law.miami.edu/umlr/vol74/iss4/8

534. Kryszajtys DT, Rudzinski K, Chan Carusone S, Guta A, King K, Strike C. Do Mock-Ups, Presentations of Evidence, and Q&As Help Participants Voice their Opinions During Focus Groups and Interviews About Supervised Injection Services? International Journal of Qualitative Methods. 2021; 20:16094069211033439 https://doi.org/10.1177/16094069211033439.

535. Sumnall H, Atkinson A, Trayner K, Gage S, McAuley A. Effects of messaging on public support for drug consumption rooms in scotland, UK. International Journal of Drug Policy. 2020; 83:102855 https://doi.org/10.1016/j.drugpo.2020.102855.

536. Wood E, Kerr T, Tyndall M, Montaner J. The Canadian government's treatment of scientific process and evidence: inside the evaluation of North America's first supervised injecting facility. International Journal of Drug Policy. 2008; 19(3):220-5 https://doi.org/10.1016/j.drugpo.2007.11.001.

537. Smith P, Favril L, Delhauteur D, Vander Laenen F, Nicaise P. How to overcome political and legal barriers to the implementation of a drug consumption room: an application of the policy agenda framework to the Belgian situation. Addiction Science & Clinical Practice. 2019; 14(40):40 https://doi.org/10.1186/s13722-019-0169-x.

538. Elliott D. Debating safe injecting sites in Vancouver's inner city: Advocacy, conservatism and neoliberalism. Contemporary Drug Problems. 2014; 41(1):5-40 https://doi.org/10.1177/009145091404100102.

539. Williams S. Space, scale and jurisdiction in health service provision for drug users: the legal geography of a supervised injecting facility. Space Polity. 2016; 20(1):95-108 https://doi.org/10.1080/13562576.2015.1128152.

540. Young S, Fairbairn N. Expanding supervised injection facilities across Canada: lessons from the Vancouver experience. Canadian Journal of Public Health. 2018; 109(2):1-4 https://doi.org/10.17269/s41997-018-0089-7.

541. Foreman-Mackey A, Kazatchkine C, Elliott R, Ka Hon Chu S. Overdue for a change: Scaling up Supervised Consumption Services in Canada. 2019. http://www.aidslaw.ca/site/overdue-for-a-change-full-report/?lang=en.

542. Jozaghi E, Andresen MA. Should North America's first and only supervised injection facility (InSite) be expanded in British Columbia, Canada? Harm Reduction Journal. 2013; 10(1):1-9 https://doi.org/10.1186/1477-7517-10-1.

543. Dertadian GC, Tomsen S. The case for a second safe injecting facility (SIF) in Sydney. Curr Iss Crim Justic. 2019; 32(2):180-92 https://doi.org/10.1080/10345329.2019.1689787.

544. Malkin I. Establishing supervised injecting facilities: a responsible way to help minimise harm. Melbourne University Law Review. 2001; 25(3):680-756, http://www5.austlii.edu.au/au/journals/MelbULawRw/2001/23.html

545. Kennedy MC, Hayashi K, Milloy MJ, Compton M, Kerr T. Health impacts of a scale-up of supervised injection services in a Canadian setting: an interrupted time series analysis. Addiction. 2022; 117(4):986-97 https://doi.org/10.1111/add.15717.

546. Malliori M, Galinaki S, Papakonstantinou AK. ODYSSEAS: supervised use of drugs versus bureaucracy in Greece. Lancet Psychiatry. 2015; 2(2):e3 https://doi.org/10.1016/S2215-0366(15)00008-5.

547. Russell C, Imtiaz S, Ali F, Elton-Marshall T, Rehm J. 'Small communities, large oversight': The impact of recent legislative changes concerning supervised consumption services on small communities in Ontario, Canada. International Journal of Drug Policy. 2020; 82:102822 https://doi.org/10.1016/j.drugpo.2020.102822.

548. Naeem AH, Davis CS, Samuels EA. The Importance of Federal Action Supporting Overdose-Prevention Centers. New Engl J Med. 2022; 386(21):1965-7 https://doi.org/10.1056/NEJMp2119764.

549. Atkinson AM, McAuley A, Trayner KMA, Sumnall HR. 'We are still obsessed by this idea of abstinence': A critical analysis of UK news media representations of proposals to introduce drug consumption rooms in Glasgow, UK. International Journal of Drug Policy. 2019; 68:62-74 https://doi.org/10.1016/j.drugpo.2019.03.010.

550. Macias-Konstantopoulos W, Heins A, Sachs CJ, Whiteman PJ, Wingkun N-JG, Riviello RJ. Between Emergency Department Visits: The Role of Harm Reduction Programs in Mitigating the Harms Associated With Injection Drug Use. Annals of Emergency Medicine. 2021; 77(5):479-92 https://doi.org/10.1016/j.annemergmed.2020.11.008.

551. Mathis SM, Hagemeier N, Hagaman A, Dreyzehner J, Pack RP. A Dissemination and Implementation Science Approach to the Epidemic of Opioid Use Disorder in the United States. Current HIV/AIDS Reports. 2018; 15(5):359-70 https://doi.org/10.1007/s11904-018-0409-9.

552. Yang YT, Beletsky L. United States vs Safehouse: The implications of the Philadelphia supervised consumption facility ruling for law and social stigma. Preventive Medicine. 2020; 135:106070 https://doi.org/10.1016/j.ypmed.2020.106070.

553. Wodak A, Symonds A, Richmond R. The role of civil disobedience in drug policy reform: how an illegal safer injection room led to a sanctioned,'medically supervised injection center. Journal of Drug Issues. 2003; 33(3):609-23 https://doi.org/10.1177/002204260303300304.

554. Mangham C. A critique of Canada's INSITE injection site and its parent philosophy: implications and recommendations for policy planning. Journal of Global Drug Policy and Practice. 2007; 1(2), http://dfaf.org/wp-content/uploads/2018/11/Vol-1-Issue-2.pdf

555. Shoveller J, DeBeck K, Montaner J. Developing Canada's research base for harm reduction and health equity approaches to HIV prevention and treatment. Canadian Journal of Public Health. 2010; 101(6):442-4 https://doi.org/10.1007/BF03403960.

556. Goffman E. Stigma: Notes on the management of spoiled identity. New York: Simon and Schuster; 1963.

557. Neale J, Nettleton S, Pickering L. Recovery from problem drug use: What can we learn from the sociologist Erving Goffman? Drugs: Education, Prevention, and Policy. 2011; 18(1):3-9 https://doi.org/10.3109/09687631003705546.

558. Stoever H. Consumption Rooms — A Middle Ground between Health and Public Order Concerns. Journal of Drug Issues. 2002; 32(2):597-606 https://doi.org/10.1177/002204260203200217.

559. Smith KE. Disease and decision. Journal of Substance Abuse Treatment. 2022; 142:108874 https://doi.org/10.1016/j.jsat.2022.108874.

560. Dupree T, Wood CI, Brace AM. Understanding the stigma and feasibility of opening a safe injection facility in Baltimore City: a qualitative case study. The Qualitative Report. 2021; 26(6):1911-31 https://doi.org/10.46743/2160-3715/2021.4689

561. Dasgupta N, Beletsky L, Ciccarone D. Opioid Crisis: No Easy Fix to Its Social and Economic Determinants. American Journal of Public Health. 2018; 108(2):182-6 https://doi.org/10.2105/AJPH.2017.304187.

562. Strike C, Watson TM. Losing the uphill battle? Emergent harm reduction interventions and barriers during the opioid overdose crisis in Canada. International Journal of Drug Policy. 2019; 71:178-82 https://doi.org/10.1016/j.drugpo.2019.02.005.

563. Teles S, Moura H, Pinto M, João Oliveira M, Rodrigues C, Bernard C, et al. Preventing Avoidable Deaths: Essentials and Recommendations On Opioid Overdose. 2014. https://www.correlation-net.org/wp-content/uploads/2018/12/study_report_euroHRN_II.pdf.

564. Wakeman SE. Another Senseless Death — The Case for Supervised Injection Facilities. New Engl J Med. 2017; 376(11):1011-3 https://doi.org/10.1056/NEJMp1613651.

565. Burris S, Anderson ED, Beletsky L, Davis CS. Federalism, policy learning, and local innovation in public health: the case of the supervised injection facility. Saint Louis University Law Journal. 2008; 53(4):1089-154, https://ssrn.com/abstract=1430567

566. Malkin I, Elliott R, McRae R. Supervised Injection Facilities and International Law. Journal of Drug Issues. 2003; 33(3):539-78 https://doi.org/10.1177/002204260303300302.

567. Gostin LO. Public health law in a new century. Part II: Public health powers

and limits. JAMA. 2000; 283(22):2979-84 https://doi.org/10.1001/jama.283.22.2979.

568. Gostin LO, Hodge JG, Jr., Gulinson CL. Supervised Injection Facilities: Legal and Policy Reforms. JAMA. 2019; 321(8):745-6 https://doi.org/10.1001/jama.2019.0095.

569. McCulloch L. An investigation into the feasibility of establishing Drug Consumption Rooms. 2017. http://volteface.me/publications/back-yard/.

570. Freeman K, Jones CG, Weatherburn DJ, Rutter S, Spooner CJ, Donnelly N. The impact of the Sydney Medically Supervised Injecting Centre (MSIC) on crime. Drug and Alcohol Review. 2005; 24(2):173-84 https://doi.org/10.1080/09595230500167460.

571. Lord J. The War is Lost: A Proposal for Drug Consumption Rooms in the UK. 2021: Council B. https://www.barcouncil.org.uk/uploads/assets/177f2093-8924-45cf-80db1786adc0d860/The-War-is-Lost-A-Proposal-for-Drug-Consumption-Rooms-in-the-UK.pdf.

572. Fortson R, McCulloch L. Evidence and Issues Concerning Drug Consumption Rooms. 2018: Queen Mary University of London School of Law. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3182568.

573. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. BMJ. 2021; 374:n2061 https://doi.org/10.1136/bmj.n2061.

574. Samuels EA, Bailer DA, Yolken A. Overdose prevention centers: an essential strategy to address the overdose crisis. JAMA Network Open. 2022; 5(7):e2222153-e https://doi.org/10.1001/jamanetworkopen.2022.22153.

575. Bardwell G, Lappalainen L. The need to prioritize research, policy, and practice to address the overdose epidemic in smaller settings in Canada. Canadian Journal of Public Health. 2021; 112(4):733-6 https://doi.org/10.17269/s41997-021-00504-9.

576. Kral AH, Davidson PJ. Evaluation of an Unsanctioned Safe Consumption Site in the United States. New Engl J Med. 2020; 383(6):589-90 https://doi.org/10.1056/NEJMc2015435.

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drugscience.org.uk
info@drugscience.org.uk

@DrugScienceISCD
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