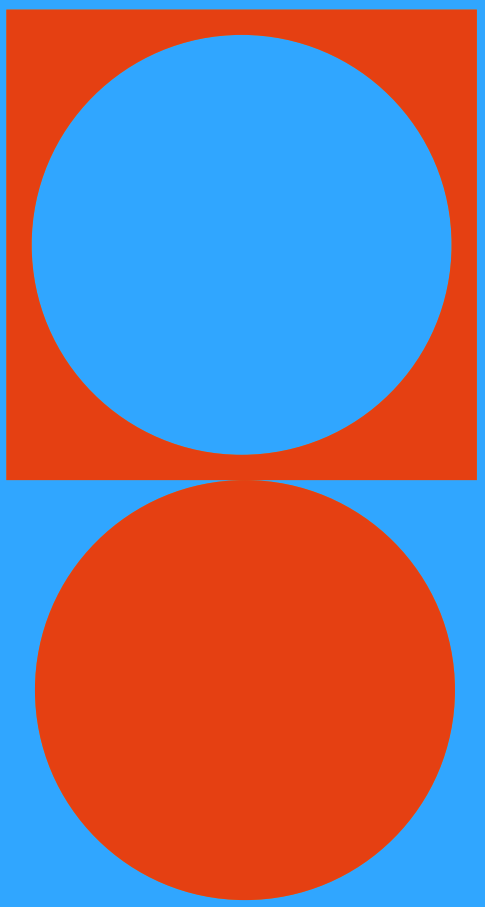

DRUG CONSUMPTION ROOMS
SERVICE MODELS AND EVIDENCE

HARM REDUCTION INTERNATIONAL

Drug Consumption Rooms –
Service Models and Evidence
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Executive Summary

Drug consumption rooms (DCRs), also known as supervised consumption sites, safe injection sites, and overdose prevention centres, are facilities where individuals can consume illicit drugs under the supervision of healthcare professionals, or people with lived experience of substance use. Typically, these facilities offer a clean environment in which to consume drugs, access to sterile drug use supplies (e.g., syringes), immediate emergency response in the event of an overdose, some primary care, and referrals to internal and external services. In recent years, there has been a rapid increase in DCR implementation, including in settings in North America, Latin America and Africa.

DCRs vary immensely in design and operation. These include stand-alone DCRs, integrated DCRs, hospital-based DCRs, housing-based DCRs, mobile DCRs, and temporary emergency DCRs. Regardless of these differences, the objectives are similar across these DCR models. DCRs typically seek to reduce overdose morbidity and mortality, reduce infectious disease acquisition, increase access to a range of services and supports, and reduce public disorder associated with the consumption of drugs in public spaces.

DCRs have been subjected to rigorous evaluation in a range of settings. Despite differences in DCR models and settings, this body of observational, quasi-experimental, and mathematical modelling research has been remarkably consistent in detecting health and social benefits of DCR access. It has also been consistent in ruling out unintended negative consequences of DCR implementation (e.g., increases in crime). These findings have been summarised in three peer-reviewed systematic reviews. Specifically, evaluations undertaken in various settings internationally have generated a large, consistent body of evidence indicating that DCRs:

- Reduce overdose-related morbidity and mortality;
- Support adoption of safer drug use practices and reduce risk of infectious disease transmission;
- Facilitate uptake of addiction treatment and other services;
- Reduce public disorder concerns associated with drug use;
- Do not increase crime;
- Are cost –effective.

However, given that randomised controlled trials of DCRs have been deemed both impractical and unethical and therefore have not been undertaken, some decision makers have been reluctant to endorse DCRs. That said, the evidence concerning DCRs is consistent across a range of settings and service designs, and when considered within grading systems that accommodate evidence derived from non-experimental studies (e.g., Scottish Intercollegiate Guidelines Network) DCRs can be regarded as evidence-based interventions capable of producing a range of benefits.

1. Introduction

Drug consumption rooms (DCRs), also known as supervised consumption sites, safe injection sites, and overdose prevention centres, are facilities where individuals can consume illicit drugs under the supervision of healthcare professionals, or people with lived experience of substance use.[1] Typically, these facilities offer a clean environment in which to consume drugs, access to sterile drug use supplies (e.g., syringes), immediate emergency response in the event of an overdose, some primary care, and referrals to internal and external services.[1] DCRs are a form of harm reduction intervention that play a critical role in protecting and promoting health, while also serving as an entry point into the broader continuum of services offered to people who use drugs, including housing-based supports and substance use treatment programmes.[2] While DCRs have primarily focused on providing an environment for the injection of illicit drugs, a growing number of DCRs now also accommodate smoking or inhalation of drugs. Although DCRs vary considerably in their design and operation, the objectives of DCRs typically include:[1]

- Reducing morbidity and mortality associated with overdose;
- Reducing risk of infectious disease transmission;
- Promoting access to a range of services (e.g., substance use treatment);
- Reducing public disorder associated with the consumption of drugs within public and semi-public settings.

2. DCRs Worldwide

Photo by Swathi R. Srinivasan. Prindsen, Oslo, Norway. [A]

The first legally sanctioned DCR was established in Bern, Switzerland in 1986.[3] Over the 1990s, DCRs were set up in other Swiss cities, the Netherlands and Germany.[3] For about 15 years, the only DCRs that existed were in these Western European countries.[3] In 2001, one DCR opened in Sydney, Australia and another opened in Vancouver, Canada in 2003.[4] These DCRs opened after immense public and political debate, legal challenges and protests, including the operation of unsanctioned DCRs.[5,6] Unlike Western European DCRs, these two new DCRs were rigorously evaluated, which in turn supported the expansion of DCRs, particularly in Canada, but also in other countries.[7,8] Over time, the number of DCRs worldwide has grown considerably,

Figure 1

18 countries have legal and operational DCRs in 2024

Source: The *Global State of Harm Reduction 2024*

[A] More about Swathi R. Srinivasan's project at theroadstorecovery.org

with an increasing number of countries implementing such programmes, including Spain, Norway, Denmark, France, Greece, Portugal, Belgium, Iceland and Luxembourg.[9] In 2021, after decades of advocacy, two DCRs opened in New York City, USA.[10] This was followed by additional DCRs opening in Minnesota. There are also plans to open DCRs in Vermont and Rhode Island.[11–13] The Rhode Island site hosted its ribbon-cutting opening on 10 December 2024. In the case of Minnesota, rather than announcing the opening of an "overdose prevention center", officials there have said that "safer use sites", where individuals can consume drugs under supervision, will operate within existing services for people who use drugs. This is similar to the approach taken in San Francisco at the Tenderloin Linkage Center, which closed its doors on 4 December 2022, following substantial community backlash.[12] More recently, DCRs have been established in Mexico, Colombia and Sierra Leone.[14] It is estimated that there are now over 150 DCRs operating in 18 countries.[14] The first DCR in the United Kingdom opened in Glasgow, Scotland, in January 2025, and another site is expected to be established in Ireland later this year.[15,16]

Despite differences in design and operation, including staffing models, a large and growing body of evidence demonstrates the benefits of DCRs, as well as a lack of unintended negative consequences.[2] Despite this evidence, DCRs remain controversial in many settings, and have been subject to considerable misrepresentation and politicisation.[17] This report will seek to: (1) describe the global distribution of DCRs; (2) describe various DCR models; (3) provide a review of scientific evidence specific to DCRs and locate this body of evidence within existing evidence grading systems.

3. DCRs Models

DCR service models have evolved considerably over time. DCRs range from simple, relatively inexpensive and easy to establish services, to more elaborate, expensive services requiring considerable planning, infrastructure and time to implement.[18] There are also various staffing models employed within DCRs, ranging from highly medicalised approaches involving nurses, physicians, and psychologists as staff, to others staffed primarily by non-medical staff, including peers/people who use drugs.[1,18] There is also considerable variation in service delivery within DCRs, with some adopting a more medicalised approach involving formal assessments and the provision of medical care (i.e., infectious disease testing and treatment), and other DCRs requiring no assessments, and instead focusing exclusively on the supervision of consumption and emergency response to overdose events.[18]

The first DCRs operated primarily as "stand alone" services. However, over time, DCRs were increasingly implemented or "integrated" within existing service settings, including those that provide substance use care (e.g., opioid agonist treatment). Others were established within hospital and housing environments, and a small number of mobile DCRs have also been implemented in a limited number of settings.[18] While clear consensus on a nomenclature for different DCR models does not currently exist, the diverse forms of DCRs can be accommodated under the following headings:

3.1 Stand Alone DCR

The *"stand-alone"* or *"fixed stand-alone"* DCR model usually refers to a site that has been purpose built as a DCR and includes no other services beyond those typically offered by DCR programming.[18] These DCRs tend to be located in areas where higher numbers of people who use drugs live, congregate, buy and/or consume drugs. Over time, this model has been implemented less frequently as other DCR models have become preferred.

3.2 Integrated DCR

The *"integrated"* DRC is a model that is integrated within other services,[19] including those designed for people who use drugs. Some integrated DCRs include withdrawal management (i.e., detoxification) programmes, opioid agonist treatments, primary nursing and medical care, short-term housing, as well as programmes focused on fostering employment skills and opportunities.

3.3 Hospital-based DCR

"Hospital-based" DCRs are a newer type of model, and at this time few exist.[20] These DCRs are implemented within or in very close proximity to hospitals and are designed primarily to serve people who use drugs who have been hospitalised.

3.4 Housing-based DCR

"*Housing-based"* DCRs are also a newer model and include DCRs that are integrated within housing environments in which people who use drugs live.[21] These are often located within social/supportive housing or temporary shelters environments.

3.5 Mobile DCR

"*Mobile"* DCRs remain rare, but have been implemented in a few countries, and typically involve the operation of a small DCR (i.e., 2-3 spaces for consumption) within a mobile van, bus or other vehicle.[22,23] These are less costly to establish and can cover more than one location, but have typically been restricted to consumption via injecting.

Photo by Swathi R. Srinivasan. Berlin, Germany.

3.6 Temporary emergency DCR

The *"temporary emergency"* DCR is the newest form of DCR, and has been implemented in very few settings, primarily in North America.[24] Temporary or emergency DCRs originated in Canada in response to a rapid escalation in overdose deaths. In some instances, these DCRs were sanctioned, and in other cases opened without official approval but were tolerated by police and other officials.[25] Some have operated briefly as a form of protest calling for greater action to prevent overdose deaths, including in the US.[26] These DCRs often operate out of temporary structures (e.g., tents, small trailers, shipping containers), or within existing service environments or converted spaces. They also tend to be simple in physical layout, as a result of their rapid implementation into existing or makeshift spaces rather than purpose-built facilities. These DCRs typically have a primary focus on overdose prevention and response, and are generally staffed by people with lived experience. These lack many of the wrap-around services seen in other DCR models. These DCRs have often been established quickly and with minimal expense. Examples of each model of DCRs are provided below.

3.1 Stand Alone DCR

Uniting Medically Supervised Injecting Centre (MSIC), Sydney, Australia

The Uniting Medically Supervised Injecting Centre (Uniting MSIC) opened in Kings Cross in Sydney, Australia in 2001, and was the first DCR established outside of Western Europe. The facility operates from 9:30am to 9:30pm, Monday to Friday (with a break on Tuesdays between 4:30pm-6:00pm), and from 9:30am to 5:30 pm on weekends. Potential clients enter a waiting and assessment area where their medical history, including use of drugs by injecting are discussed with a staff member. Beyond the entrance is an injecting room with eight boths that can each accommodate two clients. A clinician is present at all times in the injecting room and provides clean injecting equipment and advice on safer injecting practices, as well first aid and other health supports, including emergency response in the event of overdose. After injecting, clients then move into an “after-care”area where they can access snacks and beverages, and obtain referrals to other services such as housing, legal and social welfare support, as well as substance use treatment. The Uniting MSIC is one of more well-evaluated DCRs internationally, with a large body of evidence documenting its effectiveness in reducing drug-related harms, as well its lack of negative impacts on local communities. Approximately 1.28 million injections have been supervised at the Uniting MSIC since 2001, and 11,205 overdose have been successfully managed without a fatality. The facility has also provided over 22,000 referrals that have been accepted by Uniting MSIC clients.

Cambie, Bogotá, Colombia

The Cambie DCR was established in Bogotá in June 2023. While this DCR does not have official government approval to operate at this time, and therefore can be regarded as an unsanctioned DCR, the site has been tolerated and the operators expect to receive municipal and federal approval to operate in the coming year. The DCR is generally open from 12PM to 6PM each day, Mondays to Fridays but the hours can vary according to local need. The site includes 3 spaces for injecting and none for inhalation. There are on average between 5-12 consumption events per day, although this can rise to 17 in a day. During the first year of operation, there were 1564 visits by 67 unique individuals, an average of 130 visits per month or 32.5 per week. The DCR also offers some psychosocial support, food, and referrals to external services. Presently, plans exist to open two other DCRs in Cali and Dos Quebradas, Colombia.

Photo by David Moreno Gómez, DBC-Cambie de la Corporación ATS., Bogotá D.C., Colombia.

3.2 Integrated DCR

3.2.1 OnPoint, New York City, USA

In November 2021, OnPoint NYC opened the first sanctioned DCRs in USA with one site in the neighbourhood of East Harlem and the other in Washington Heights. Referred to as “overdose prevention centers”, each of the two OnPoint DCRs operates within a “Harm Reduction Wellness Hub” that includes a range of wrap-around services under a single roof (referred to as “closed-loop service provision”). In addition to the DCR programme, services at the Hubs include needle and syringe programmes, drug checking, clinical care, mental health services, case management, food and nutrition, and peer support. The OnPoint DCRs are open from 7:30AM to 11PM on weekdays, and from 10:30AM to 6PM (East Harlem DCR) or 9AM to 4:30PM (Washington Heights DCR) on weekends. Each of the facilities includes booths with tables for injecting (6-8 spaces), as well as enclosed communal ventilated rooms for inhaling/smoking. In the first year of operation, there were 48,533 drug consumption episodes at the DCRs among 2841 unique individuals.

3.3 Hospital-based DCR

3.3.1 The Royal Alexandra Hospital, Edmonton, Canada

The Royal Alexandra Hospital (RAH) DCR is a patient-only facility located inside the hospital, open 22 hours a day, 7 days a week. The RAH is located in a socioeconomically disadvantaged health services catchment and the facility sees the largest number of presentations for mental health and substance use disorders in the province of Alberta. This DCR opened in April 2018 to improve patient and staff safety and reduce the risk of overdose-related harms on hospital grounds. The DCR is staffed by nurses, and is made up of a waiting area, two injection rooms (with two booths each), and a post-consumption area. Patients can consume drugs orally, nasally or via injection. The site currently offers an integrated injectable opioid agonist treatment programme. All patients who have access to this DCR have the opportunity to receive wraparound services from the hospital's full-service, multidisciplinary substance use medical consultation team.

3.4 Housing-based DCR

3.4.1 idh – Integrative Drogenhilfe e.V – Eastside, Frankfurt, Germany

The "Eastside" DCR at Integrative Drogenhilfe has operated within a large, multi-service housing facility for people who use drugs since December 1994. The DCR has 8 spaces for injecting drugs and 2 spaces for inhalation of drugs. The DCR is open each day from 9:45AM to 12:30PM, and from 4PM to 9:30PM. This DCR operates in a large warehouse-like facility on the outskirts of Frankfurt that includes 71 overnight beds, which are available between 6PM and 9:30AM. The facility also allows daybed use between 9:30AM and 6PM. In addition to the DCR, the facility offers social and skills-based training, opioid agonist and heroin-assisted treatments, HCV- and HIV-related services, drug checking, psychosocial supports and counselling, as well as employment support and work integration programmes.

3.5 Mobile DCR

3.5.1 MDCR Lisbon, Portugal

Although DCRs have been legal under Portuguese law since 2001, the MDCR, Portugal's first DCR, opened in 2019. This DCR operates out of a van that includes two spaces for consumption of drugs via injection, as well as a separate space where people who use drugs can meet with staff and receive care. Staffed by a multidisciplinary team consisting of nurses, social workers, peer workers and psychologists, the MDCR also offers primary healthcare, HIV, HCV and syphilis testing, education, psychosocial support, and referrals to external services. The MDCR has been operating primarily in two neighbourhoods.

3.5 Temporary Emergency DCR

3.5.1 The Moss Park Overdose Prevention Site, Toronto, Canada

The Moss Park Overdose Prevention Site opened in Toronto's Moss Park in August 2017 – an area with high rates of public drug use and overdose. It was established as an unsanctioned DCR by activists from the Toronto Harm Reduction Alliance who were concerned about the slow progress with establishing sanctioned DCRs in the city despite rising overdose deaths. The site initially operated as three tents, with one for injecting, one for smoking, one for supplies, and was overseen by a team of volunteers, including people with lived experience of substance use. Later, a trailer was donated to replace the tent used for injecting. This site operated for 10 months from 4PM to 10PM each day. During its operation, there were 3734 visits to the injection service and 4890 visits to the smoking service.

4. The Evidence of Effectiveness

In recent years, the evidence concerning the effectiveness of DCRs has grown substantially.[2,27,28] Three peer-reviewed systematic reviews of the evidence specific to DCRs have been published in the last decade, all of which have reached the conclusion that DCRs are effective in achieving their primary objectives without producing unintended negative outcomes.[2,27,28] Specifically, evaluations undertaken in various settings internationally have generated a large, consistent body of evidence indicating that DCRs:

- Reduce overdose-related morbidity and mortality;
- Support adoption of safer drug use practices and reduce risk of infectious disease transmission;
- Facilitate uptake of addiction treatment and other services;
- Reduce public disorder concerns associated with drug use;
- Do not increase crime;
- Are cost effective.

DCRs reduce overdose-related morbidity and mortality

A key objective of DCRs is to reduce overdose-related morbidity and mortality, including by providing rapid, well-equipped intervention for on-site overdose events.[2] Further, DCRs often provide clients with additional support and resources to reduce overdose risks when using drugs on site and elsewhere, including safer drug use education, naloxone training and kits, drug checking services, sterile drug use equipment, and referrals to substance use treatment.[29]

There is compelling, high quality evidence to suggest that DCRs are effective in achieving this objective.[2,27–30] Importantly, no one has ever died of an overdose in a DCR anywhere, and peer-reviewed research indicates that the establishment of DCRs is associated with declines in overdose mortality at the neighbourhood level.[2,27–29] For example, a study in Vancouver, Canada found that the opening of Insite, North America's first DCR, was associated with a 35% reduction in the overdose death rate in the surrounding area, compared with a 9% reduction in the rest of the city.[31] Another study found that, after nine DCRs opened in Toronto, Canada, the overdose death rate decreased by 67% in the neighbourhoods surrounding DCRs, while no significant changes occurred in other neighbourhoods of the city.[29] Also noteworthy is a study of people who inject drugs in Vancouver, which found that frequent DCR users had about half the risk of all-cause mortality compared to infrequent and non-users.[32]

DCRs have also been shown to reduce the need for ambulance intervention and hospital care for overdoses.[2,27,28] For instance, the establishment of a DCR in Sydney, Australia was associated with a 68% decline in ambulance-attended opioid overdoses in the neighbourhood of the DCR, which was significantly greater than the decline that occurred in the rest of the state.[33] Similarly, a study of opioid overdoses attended by ambulance services in Oslo, Norway found that people who overdosed at the DCR were less likely to require transportation to hospital for treatment compared to people who overdosed elsewhere in the city, despite having similarly severe overdose symptoms upon ambulance arrival.[34] Further, overdoses that occurred when the DCR was closed were 40% more likely to be transported for further care in hospital.[34]

DCRs support safer drug use practices and reduce risk of infectious disease transmission

DCRs have been shown to be effective in reducing drug use practices that increase risk of infectious disease transmission and other harms.[2,27,28] Of note, peer-reviewed studies have found both establishment and use of DCRs to be associated with decreased syringe sharing.[2,27,28,35,36] This includes a meta-analysis of three studies from Canada and Spain, which estimated that DCR use was associated with a 69% decreased likelihood of syringe sharing among people who inject drugs.[37] Similarly, a recent study of people who inject drugs

in four cities in France found that the rate of sharing injection equipment was 90% lower among DCR users compared to non-users.[35]

Studies have also demonstrated associations between DCR use and declines in other unsafe injection practices, including syringe reuse, rushed injecting, and outdoor injecting.[2,27,28] Additionally, DCR use has been linked to increased likelihood of employing safer injection drug use practices such as using sterile water for injecting, cooking and filtering drugs before injecting, and safely disposing used syringes.[2,27,28] DCRs likely support these outcomes in several key ways, including by distributing sterile drug use equipment for onsite and external use, offering safer drug use education, and providing environments that minimise contextual pressures when using drugs.[2,27,28]

DCRs facilitate uptake of addiction treatment and other services

While some fear that DCRs may enable drug use and discourage people who use drugs from seeking addiction treatment, existing scientific literature does not support these concerns.[2,27,28] Studies have found that opening DCRs does not significantly change community-level drug use patterns, including rates of injection initiation, relapse and cessation.[38,39] Further, the effectiveness of DCRs in supporting uptake of substance use treatment has been widely documented.[2,27,28,36] For example, a study in Vancouver, Canada found that rates of entry into detoxification among people who inject drugs increased by more than 30% in the year after, compared to the year before the Insite DCR opened.[40] In a follow-up study, frequent Insite use and contact with a substance use treatment counsellor at Insite were associated with increased likelihood of enrolling in opioid agonist therapy and other types of treatment, which in turn increased the likelihood of injection cessation.[41] Similarly, a study in Sydney, Australia found that frequent DCR users were 1.4 times as likely as infrequent and non-users to be referred to treatment,[42] while a study in Catalonia, Spain found that frequent DCRs users were 2.6 times as likely to access drug dependence services as infrequent and non-users.[43]

Available evidence also indicates that DCRs effectively support linkages to a range of other co-located and external services and supports, including nursing care, counselling, basic support services (e.g., food, personal care facilities), other harm reduction services, and infectious disease testing, vaccination and treatment services.[2,27,28,44–49] For example, a report of data from the two OnPoint DCRs in New York City indicated that more than 75% of clients accessed wrap-around services (e.g., counselling, medical care, syringe services) in the first year that the DCRs were operating.[49] Additionally, one in five OnPoint DCR clients was referred to housing, treatment, primary care or employment.[49] Notably, DCRs have been found to facilitate early medical treatment of complex health conditions.[2,27,28,50] For example, studies of people with injection-related infections in Vancouver found that those who were referred to hospital by Insite DCR nurses were more likely to receive emergency department and hospital care, and to have shorter hospitalisation durations than those who were not referred.[51,52]

DCRs reduce public disorder concerns associated with drug use

A common objection to DCRs is that opening these services will exacerbate drug-related public disturbances and nuisances by attracting people who use drugs to the area.[53,54] However, studies undertaken in various settings worldwide have consistently found that DCRs do not contribute to increased public disorder.[2,27,28] In fact, establishment of these services has often been linked to improvements in key measures of public order and safety.[2,27,28,36,53,55] For example, a study conducted in Vancouver, Canada found that there were significant reductions in the amount of people injecting drugs in public, publicly-discarded syringes, and injection-related litter in surrounding area of Insite after its establishment.[54] Similarly, a study from Sydney, Australia found that there were significant declines in the proportion of residents and nearby business owners who reported observing public injection drug use and publicly discarded syringes in the neighbourhood of a DCR after the facility opened.[56]

Another study found that, after the opening of a DCR in Barcelona, Spain, there was a significant decrease in the number of publicly-discarded syringes collected by local services, while no significant changes occurred in two control districts in the city.[55]

Additionally, multiple studies have documented associations between DCR attendance and self-reported reduced public drug use and safer disposal of syringes among people who use drugs.[2,27,28,57] A study of people who inject drugs in Catalonia, Spain, estimated that frequent DCR users were 61% less likely to report injecting in public and almost 6 times as likely to report disposing used syringes in safe places compared to infrequent users.[43] In a study of people who inject drugs in an undisclosed city in USA, the self-reported rate of any recent public syringe disposal was similar between users and non-users of unsanctioned DCR.[57] However, DCR users had about half the rate of publicly disposed syringes per number of injections.[57]

DCRs do not increase crime

Despite concerns that DCRs may exacerbate criminal activity in the surrounding areas of these services, existing peer-reviewed research suggests that DCR implementation does not increase crime, and may actually contribute to decreases in some forms of crime.[2,27,28,58,59] For example, several studies of police-recorded crime data in Sydney, Australia found that the opening of a DCR was not associated with significant changes in theft, robbery, or drug-related offences in the neighbourhood compared to other areas of the city.[60–62] In a study of police-recorded crime trends in Vancouver, Canada, there were abrupt, sustained decreases in violent, property and total crime incidents in the district of the Insite DCR after its establishment, while no significant changes were observed in three control districts in the city.[63] A study conducted in an undisclosed city in USA examined trends in police incident report data before and after the opening of an unsanctioned DCR.[59] Compared to two control areas, drug possession and dealing incidents steadily declined over time in the area around the DCR, while trends for interpersonal crime (e.g., robbery, assault) in the area were similar to those in the control areas.[59] Another study compared police-recorded crime trends before the opening of the two OnPoint DCRs in New York City.[58] Compared to a control group comprised of areas near syringe exchange programmes in the city, there were no significant changes in violent crimes, property crimes, or 911 calls for crime in the areas surrounding the DCRs.[58] However, there were significant decreases in drug possession arrests, weapon possession arrests, and criminal court summonses in the DCR areas compared to the control group.[58]

DCRs are cost effective

Mathematical modelling and simulation studies of both existing and hypothetical DCRs have consistently indicated that the aversion of harms and healthcare expenses by these services generates cost savings that exceed DCR operational costs.[2,28,64–69] Of note, several studies have found the Insite DCR to be cost effective,[70–72] with one study estimating that the prevention of overdose deaths and new HIV infections by the DCR provides an annual net savings exceeding CAD 6 million after accounting for the facility's operating costs.[71] Similarly, a modelling study from France estimated that the prevention of various harms – including injection-related infections, overdoses, emergency department visits, and HIV and HCV infections – by two DCRs (in Paris and Strousberg) would yield €12.5 million in savings over 10 years after considering operating costs.[64] In addition, a number of studies have assessed the cost-effectiveness of proposed and hypothetical DCRs in the United States.[65–69] For example, one study projected that, compared to an existing syringe exchange programme only, operating a hypothetical DCR in Providence, Rhode Island would provide annual savings of more than USD 1.1 million due to prevention of ambulance interventions, emergency department visits, and hospitalisations for overdoses.[68]

The state of DCR evidence

The evidence specific to DCRs has grown considerably in recent years, with high quality peer-reviewed evidence generated in a number of countries. Despite differences in DCR models

and settings, this body of observational, quasi-experimental, and mathematical modelling research has been remarkably consistent in detecting health and social benefits of DCR access, and has also been consistent in ruling out unintended negative consequences of DCR implementation (e.g., increases in crime).[2,27,28]

At this time, virtually all of this evidence has been derived from evaluations undertaken in high-income settings. Further, experimental designs, such as randomised controlled trials are not possible with DCRs because they are not practically feasible, and more importantly, have been deemed to be not acceptable on ethical grounds.[4,73] The basic ethical requirements of randomised controlled trials include clinical equipoise: substantial uncertainty concerning the impact of the intervention in question.[74] However, non-experimental studies have provided clear evidence of the positive impacts of DCRs, including that they promote a range of benefits to those who access them.[2,27,28] Further, biological plausibility of benefit, a key component in Bradford-Hills' criteria for establishing causality,[75] is evident in the case of DCRs. In brief, this criterion is satisfied if a relationship between an exposure and outcome is clear and consistent with existing medical knowledge.[75] In the case of DCRs, it is obvious, for example, that providing immediate emergency response in the event of a life-threatening overdose produces better outcomes than providing no response.[76] Likewise, providing a sterile environment for injecting where only sterile injecting equipment can be used clearly produces better health outcomes than injecting in unsterile public spaces where injecting equipment is often reused or shared.

A range of systems for rating the quality of evidence currently exist. Many major health bodies rely heavily on the Grading Recommendations Assessment Development Evaluation (GRADE) Framework.[77,78] However, a growing number of criticisms regarding the overreliance on the GRADE framework have been offered.[79,80] In particular, GRADE privileges randomised controlled trials over other methodologies (e.g., case-control and cohort studies), even when those methodologies are the most appropriate methods to use in studies of clinical and community-based interventions.[80] The result of the over-privileging of randomised controlled trials is that "…a wide range of study designs have been at a disadvantage, potentially leading to inappropriately low grades being given for recommendations."[80] Related to this, a key limitation of GRADE that has been noted by the GRADE Public Health Group is the framework's limited effectiveness in "assessing certainty of evidence from diverse sources, including nonrandomised studies."[81] Further, relying on GRADE risks a failure to address the many well-noted limitations of randomised controlled trials, including limitations such as low external validity (i.e., real-world generalisability) and inability to capture long-term effects. As a result, there have been growing calls for the use of other grading systems, including those that are better able to account for non-RCT evidence, and a number of countries and public health/medical bodies now employ such systems. Examples include the Scottish Intercollegiate Guidelines Network (SIGN), the Graphic Appraisal Tool for Epidemiology (GATE), and the National Service Framework for Long Term Conditions (NSF-LTC) grading system.[80] Such grading systems may be more appropriate when assessing the evidence specific to DCRs. For example, the SIGN grading framework lists "well-conducted" systematic reviews with a low risk of bias and systematic reviews with a high risk of bias at a level 1+ and 1- evidence, respectively – the second and third highest possible ratings. With three systematic reviews and one meta-analysis demonstrating the benefits of DCRs, using SIGN, DCRs can be said to be supported by level 1 (+/) evidence Under its grading systems, SIGN states that an A grade recommendation – which represents the highest level of confidence in the effectiveness of an intervention – requires "*(a) body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating consistency of results.* Under SIGN, DCRs would likely receive an evidence recommendation grade of "A" (see Table 1).

A review of evidence grading systems published in Clinical Medicine by Baker et al., notes that the *"… decision on which grading system should be used for specialist society guidelines depends on the research area to which the guideline questions pertain.*"[80] This raises important questions regarding which system of grading should be applied to DCRs, given that RCTs have been deemed unethical in the case of DCRs.

Table 1.

Scottish Intercollegiate Guidelines Network (SIGN) Grades for Recommendations:

A	At least one meta-analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; or A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating consistency of results
B	A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 1++ or 1+
C	A body of evidence including studies rated as 2++, directly applicable to the target population and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 2
D	Evidence level 3 or 4; or Extrapolated evidence from studies rated as 2+

RCT = Randomized controlled trial

Adapted from Baker A, Young K, Potter J, Madan I. A review of grading systems for evidence-based guidelines produced by medical specialties. Clinical Medicine. 2010 Aug;10(4):358.

5. Conclusion

There has been a rapid growth in the implementation of DCRs worldwide, with an ever-increasing number of countries adding these services to the continuum of services offered to people who use drugs. DCRs vary considerably in design and operation, ranging from simple, easily implemented temporary programs, to more elaborate integrated medically-oriented services. These harm reduction programmes play a complimentary role within the broader continuum of services offered to people who use drugs, and have been shown to serve as critical entry points into a range of other programmes, including those focused on substance use treatment. The body of evidence specific to DCRs has also grown immensely in recent years, with three peer-reviewed systematic reviews all indicating that DCRs produce a range of benefits and do not generate unintended negative consequences. However, given that randomised controlled trials of DCRs have been deemed both impractical and unethical and therefore have not been undertaken, some decision makers have been reluctant to endorse DCRs. That said, the evidence concerning DCRs is consistent across a range of settings and service designs, and when considered within grading systems that better accommodate evidence derived from non-experimental studies, DCRs can be regarded as evidence-based interventions capable of producing a range of benefits.

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1. Broadhead RS, Kerr TH, Grund JPC, Altice FL. Safer Injection Facilities in North America: Their Place in Public Policy and Health Initiatives. *Journal of Drug Issues*. 2002 Jan;32(1):329–55.

2. 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 Oct 1;14(5):161–83.

3. Dolan K, Kimber J, Fitzgerald J, McDonald D, Frautmann F. Drug consumption facilities in Europe and the establishment of supervised injecting centres in Australia. *Drug and Alcohol Review*. 2000;19(3):337–46.

4. Wood E, Kerr T, Lloyd-Smith E, Buchner C, Marsh DC, Montaner JS, et al. Methodology for evaluating Insite: Canada's first medically supervised safer injection facility for injection drug users. *Harm Reduction Journal*. 2004 Nov 9;1:9.

5. 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 Jul;33(3):609–23.

6. Kerr T, Oleson M, Tyndall MW, Montaner J, Wood E. A description of a peer-run supervised injection site for injection drug users. *Journal of Urban Health*. 2005 Jun 1;82(2):267–75.

7. Wood E, Tyndall MW, Montaner JS, Kerr T. Summary of findings from the evaluation of a pilot medically supervised safer injecting facility. *Canadian Medical Association Journal*. 2006 Nov 21;175(11):1399–404.

8. Maher L, Salmon A. Supervised injecting facilities: how much evidence is enough? *Drug and Alcohol Review*. 2007 Jan 1;26(4):351–3.

9. European Monitoring Centre for Drugs and Drug Addiction. European Drug Report 2024. European Monitoring Centre for Drugs and Drug Addiction; 2024 [cited 2024 Nov 15]. Available from: https://www.emcdda.europa.eu/publications/european-drug-report/2024_en.

10. Rasool F, Klein AA, Leheste JR. Managing Addiction and Overdose Deaths: The Debate Over America's Safe Injection Spaces. *Cureus*. 2023 Dec 12;15(12):e50406.

11. Du S. Drug use resource hub opens in north Minneapolis after state legalizes safe injection sites. 2024 [cited 2024 Nov 15]. Available from: https://www.startribune.com/minnesota-overdose-awareness-opens-drug-use-resource-hub-safe-recovery-site-in-north-minneapolis/600356054

12. Rosen JG, Thompson E, Tardif J, Collins AB, Marshall BDL, Park JN. "Make yourself un-NIMBY-able": stakeholder perspectives on strategies to mobilize public and political support for overdose prevention centers in the United States of America. *Harm Reduction Journal*. 2024 Feb 15;21(1):40.

13. Kerr T. Regional Overview: North America. Global State of Harm Reduction 2024. Harm Reduction International; 2024 [cited 2024 Nov 15]. Available from: https://hri.global/wp-content/uploads/2024/10/GS24_NA_AW.pdf

14. Harm Reduction International. The Global State of Harm Reduction 2024. Harm Reduction International. 2024 [cited 2024 Nov 15]. Available from: https://hri.global/flagship-research/the-global-state-of-harm-reduction/the-global-state-of-harm-reduction-2024/

15. Holland K. Medically supervised drug injection facility to open in Dublin. The Irish Times. 2024 [cited 2024 Nov 15]. Available from: https://www.irishtimes.com/ireland/social-affairs/2024/01/23/medically-supervised-drug-injection-facility-to-open-in-dublin/

16. Christie B. Safe space for injecting drugs is approved in Scotland. *British Medical Journal*. 2023 Sep 27;382:p2238.

17. Wood E, Kerr T, Tyndall MW, Montaner JSG. 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 Jun;19(3):220–5.

18. Canadian Research Initiative in Substance Misuse (CRISM). National Operational Guidance for the Implementation of Supervised Consumption Services. Version 1. Edmonton, Alberta: Canadian Research Initiative in Substance Misuse; 2023 Jul. Available from: https://crism.ca/wp-content/uploads/2023/09/scs-og-final-20-sept-2023-1.pdf

19. 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 & Place*. 2019 Nov;102245.

20. Dong KA, Brouwer J, Johnston C, Hyshka E. Supervised consumption services for acute care hospital patients. *Canadian Medical Association Journal*. 2020 May 4;192(18):E476–9.

21. 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 Feb;76:102641.

22. 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 Dec 1;1:100031.

23. 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 Dec;16(1):4.

24. 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 Jan;111:103929.

25. 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 Nov 1;73:135–40.

26. Kral AH, Lambdin BH, Wenger LD, Davidson PJ. Evaluation of an Unsanctioned Safe Consumption Site in the United States. *New England Journal of Medicine*. 2020 Aug 6;383(6):589–90.

27. 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 Preventive Medicine*. 2021 Jul;S0749379721002750.

28. Potier C, Laprévote V, Dubois-Arber F, Cottencin O, Rolland B. Supervised injection services: What has been demonstrated? A systematic literature review. *Drug and Alcohol Dependence*. 2014 Dec 1;145:48–68.

29. Rammohan I, Gaines T, Scheim A, Bayoumi A, Werb D. Overdose mortality incidence and supervised consumption services in Toronto, Canada: an ecological study and spatial analysis. *The Lancet Public Health*. 2024 Feb;9(2):e79–87.

30. Irvine MA, Kuo M, Buxton J, 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 Sep; 114(9):1602-13.

31. Marshall BDL, 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. *The Lancet*. 2011 Apr 29;377(9775):1429–37.

32. 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.

33. 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 Apr 1;105(4):676–83.

34. 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 Jul;40(3):383–8.

35. Lalanne L, Roux P, Donadille C, Briand Madrid L, Célerier I, Chauvin C, et al. Drug consumption rooms are effective to reduce at risk practices

associated with HIV/HCV infections among people who inject drugs: Results from the COSINUS cohort study. *Addiction.* 2024 Jan;119(1):180–99.

36. Kennedy MC, Hayashi K, Milloy M, 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 Apr;117(4):986–97.

37. Milloy MJ, Wood E. Emerging role of supervised injecting facilities in human immodeficiency virus prevention. *Addiction.* 2009 Apr 1;104(4):620–1.

38. 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. *British Medical Journal.* 2006;332(7535):220–2.

39. Kerr T, Tyndall MW, Zhang R, Lai C, Montaner JS, 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).

40. Wood E, Tyndall MW, Zhang R, Stoltz JA, Lai C, Montaner JSG, et al. Attendance at Supervised Injecting Facilities and Use of Detoxification Services. N*ew England Journal of Medicine.* 2006 Jun 8;354(23):2512–4.

41. 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 Jan 15;113(2–3):172–6.

42. 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 Jan 1;27(6):602–12.

43. Folch C, Lorente N, Majó X, Parés-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 Dec 1;62:24–9.

44. 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 Dec;3(1):9.

45. 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 Feb;30(2):160–71.

46. 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 Jul 15;5(7):e2222149.

47. 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 Dec;19(1):33.

48. 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 Sep;106:28–32.

49. Gibson B, See K, Vargas Estrella B, Rivera S. ONPOINT NYC - Making history. Saving lives: A baseline report on the operation of the first recognized overdose prevention centers in the United States. 2023.

50. Lim J, Panagiotoglou D. The effect of Montreal's supervised consumption sites on injection-related infections among people who inject drugs: An interrupted time series. *PLoS ONE.* 2024 Aug 27;19(8):e0308482.

51. 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.

52. Lloyd-Smith E, Tyndall M, Zhang R, Grafstein E, Sheps S, Wood E, et al. Determinants of cutaneous injection-related infections among injection drug users at an emergency department. *Open Infectious Diseases Journal.* 2012 Jan;6:5–11.

53. Davidson PJ, Wenger LD, Morris T, Majano V, Browne EN, Lambdin BH, et al. Impact of a high-volume overdose prevention site on social and drug disorder in surrounding areas in San Francisco. *Drug and Alcohol Dependence.* 2023 Nov 1;252:110969.

54. Wood E, Kerr T, Small W, Li K, Marsh DC, Montaner JSG, 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 Sep 28;171(7):731–4.

55. Espelt A, Villalbí JR, Bosque-Prous M, Parés-Badell O, Mari-Dell'Olmo M, Brugal MT. 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 Dec 1;50:11–8.

56. 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.

57. 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 Dec;229:109075.

58. Chalfin A, Del Pozo B, Mitre-Becerril D. Overdose Prevention Centers, Crime, and Disorder in New York City. *JAMA Network Open.* 2023 Nov 13;6(11):e2342228.

59. 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 Mar;220:108521.

60. Donnelly N, Mahoney N. Trends in property and illicit drug crime around the Medically Supervised Injecting Centre in Kings Cross: 2012 update. 2013 [cited 2024 Nov 27]. Available from: http://www.bocsar.nsw.gov.au/Documents/BB/bb90.pdf

61. 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 [cited 2024 Nov 27]. Available from: http://www.bocsar.nsw.gov.au/Documents/BB/bb51.pdf

62. 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 Mar 1;24(2):173–84.

63. 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 Jan;48(1):36–49.

64. Cousien A, Donadille C, Madrid LB, Maradan G, Jauffret-Roustide M, Lalanne L, et al. Cost-effectiveness of drug consumption rooms in France: a modelling study. *BMC Public Health.* 2024 May 28;24(1):1426.

65. 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.* 2017 Apr;47(2):164–84.

66. 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 Dec;14(1):29.

67. 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 May;67:9–18.

68. 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 Oct;108:103820.

69. 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.

70. Bayoumi AM, Zaric GS. The cost-effectiveness of Vancouver's supervised injection facility. *Canadian Medical Association Journal.* 2008 Nov 18;179(11):1143–51.

71. 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.

72. Pinkerton SD. How many HIV infections are prevented by Vancouver Canada's supervised injection facility? *International Journal of Drug Policy.* 2011 May;22(3):179–83.

73. Hedrich D, Kerr T, Dubois-Arber F. Drug consumption facilities in Europe and beyond. In: Rhodes T, Hedrich D, editors. Harm Reduction: Evidence, Impacts, and Challenges. Lisbon: European Monitoring Centre for Drugs and Drug Addiction; 2010. p. 306–31.

74. Porzsolt F, Kliemt H. Ethische und empirische Grenzen randomisierter kontrollierter Studien. *Medizinische Klinik.* 2008 Dec 1;103(12):836–42.

75. Farewell V, Johnson T. Medical statistics, Austin Bradford Hill, and a celebration of 40 years of Statistics in Medicine. *Statistics in Medicine.* 2021 Jan 15;40(1):17–28.

76. Holland A, Harris M, Hickman M, Lewer D, Shorter GW, Horsley J, et al. Overdose prevention centres in the UK. *Lancet Public Health.* 2022 Mar;7(3):e196–7.

77. Ingold H, Gomez GB, Stuckler D, Vassall A, Gafos M. "Going into the black box": a policy analysis of how the World Health Organization uses evidence to inform guideline recommendations. *Frontiers in Public Healt*h. 2024 Mar 22;12:1292475

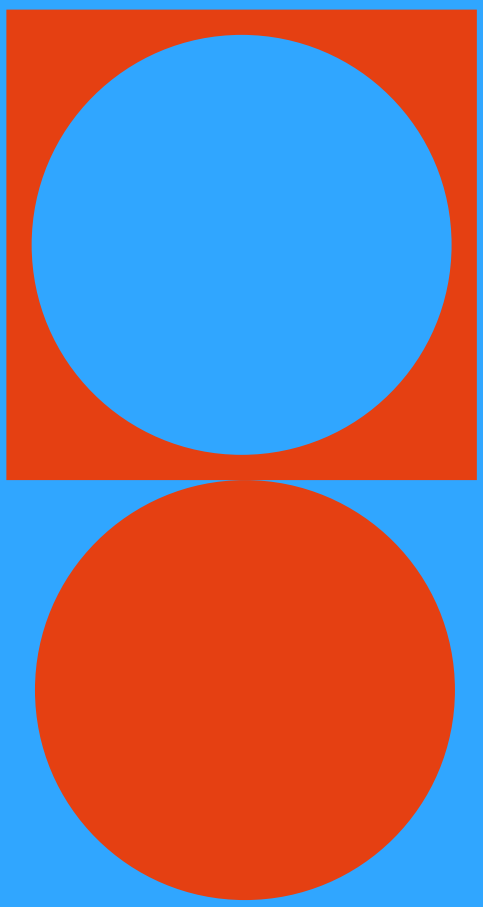
78. Moberg J, Oxman AD, Rosenbaum S, Schünemann HJ, Guyatt G, Flottorp S, et al. The GRADE Evidence to Decision (EtD) framework for health system and public health decisions. *Health Research Policy and Systems.* 2018 May 29;16(1):45.

79. Schünemann HJ, Fretheim A, Oxman AD. Improving the use of research evidence in guideline development: 9. Grading evidence and recommendations. *Health Research Policy and Systems.* 2006 Dec 5;4:21.

80. Baker A, Young K, Potter J, Madan I. A review of grading systems for evidence-based guidelines produced by medical specialties. *Clinical Medicine.* 2010 Aug;10(4):358.

81. Hilton Boon M, Thomson H, Shaw B, Akl EA, Lhachimi SK, López-Alcalde J, et al. Challenges in applying the GRADE approach in public health guidelines and systematic reviews: a concept article from the GRADE Public Health Group. *Journal of Clinical Epidemiology.* 2021 Jul;135:42–53.

DRUG CONSUMPTION ROOMS
SERVICE MODELS AND EVIDENCE



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