

Heroin-Assisted Treatment and Supervised Drug Consumption Sites

Experience from Four Countries

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Preface

Current levels of opioid-related morbidity and mortality in the United States are staggering. Data for 2017 indicate that there were more than 47,000 opioid-involved overdose deaths (roughly similar to deaths from AIDS at its peak in 1995), and 1 in 8 adults now report having had a family member or close friend die from opioids. There has been a near universal call from blue-ribbon commissions and expert panels for increasing access to Food and Drug Administration-approved medications for those with an opioid use disorder; however, jurisdictions addressing opioid use disorder and overdose may wish to consider additional interventions beyond increasing access to these medications. Two interventions that are implemented in some other countries but not in the United States are heroin-assisted treatment (HAT) and supervised consumption sites (SCSs). Given the severity of the opioid crisis, there is urgency to evaluate potential tools that might reduce its impact and save lives.

This working paper is part of a series of reports assessing the evidence on and arguments made about HAT and SCSs and examining some of the issues associated with implementing them in the United States. The target audiences include decision makers in rural and urban areas grappling with opioids as well as researchers and journalists. This document is a report on international experience with the implementation of HAT and SCSs. The other parts of this series of reports include: (1) a summary report of all the components of the research study; (2) a review of the HAT literature; (3) a review of the SCS literature, and (4) a report on key informant views on the acceptability and feasibility of implementing HAT and SCSs in selected U.S. jurisdictions heavily affected by the opioid crisis.

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Summary

Supervised consumption sites (SCS)¹ and heroin-assisted treatment (HAT)² are two interventions offering services to drug users that have been legally implemented in a range of international jurisdictions. However, they have so far not been legally sanctioned in the United States. The goal of this report is to provide insights about some of these international experiences, with a focus on barriers/challenges/implementation issues and how they were addressed. We hope the findings of this report will be useful to those who are considering and debating these options in the U.S. and other jurisdictions.

The report focuses on implementation of these programs in Canada, the Netherlands, Switzerland, and the United Kingdom. It draws on 29 key informant interviews conducted in the spring 2018 with stakeholders in these four countries (see Table 1).

Table 1. Overview of interviewees

	Policy representatives	Practitioner	Researcher	Total
Canada	2	3	3	8
Netherlands	0	3	3	6
Switzerland	0	2	2	4
United Kingdom	3	4	4	11
Total	5	12	12	29

The objective of the interviews was to gather insights on HAT and SCS initiatives and lessons learned from jurisdictions that have implemented one or both programs. Three types of stakeholders were invited to an interview with the research team: 1) policy representatives, 2) practitioners involved in the management or delivery of these programs, and 3) researchers conducting scientific work on these programs. These interviews were not intended as representative but rather to demonstrate the breadth of perspectives from a selected number of

¹ Supervised consumption sites refer to facilities where users can consume already-purchased street drugs in the presence of trained staff (sometimes volunteers, sometimes health professionals), who monitor for overdose or risky injection practices. Clients can sometimes test their drugs, acquire clean injection supplies, and engage with social services. Other terms used to describe the service include safe injection facilities and drug consumption rooms. This paper will use the term supervised consumption sites and the acronym SCS.

² Heroin-assisted treatment programs are intended for people who have failed treatment (e.g., methadone) multiple times with the objective of stabilizing their lives. They provide a legal, quality controlled, free or low-cost pharmaceutical opioid as an alternative to illicit market opioids whose potency and purity are not known to the seller or user. Other terms could be used to describe the program, including heroin prescription and heroin-supported treatment. This paper will use the term heroin-assisted treatment and the acronym HAT.

jurisdictions. Table 2 provides an overview of selected relevant indicators pertaining to each focus country.

Table 2. Key treatment, SCS and HAT indicators per focus country

Country	Start of formal provision ^a	Number of HAT clinics	Number of HAT clients	Number of MT clients	Estimated number of opioid users ^b	Number of SCS
UK	HAT in 1926	unknown	estimated in hundreds	138,000 (2016)	330,000 ^c (2016)	0
Switzerland	HAT in 1991; SCS in 1986	22	1,600 (2018)	18,000 (2018)	Less than 30,000 ^d	12
Netherlands	HAT in 1998; SCS in 1996	17	668 slots (2018)	5,241 (2015)	14,000 ^c (2016)	31
Canada	HAT in 2005; SCS in 2003	1	150 (2018)	more than 70,000 (2017) ^e	N/A ^f	20 ^g (11 more planned)

^aYear denotes the beginning of formal, government-sanctioned provision of HAT and SCSs. Unauthorized services preceding these dates have been documented in some contexts.

^bWe urge caution in working with estimates of the size of drug using populations as they face numerous methodological challenges (see e.g., Noor et al. 2016). We offer these numbers to provide an idea of the order of magnitude of the user population.

^cHigh-risk opioid users

^dHeroin users. Estimates of 30,000 users date back to the 1990s; the number is generally considered to have fallen since but new estimates are not available (Marzel et al. 2018). In surveys by Swiss Addition Monitoring, 30-day and 12-month prevalence of heroin use is indicated as 0.0% (Suchtmonitoring Schweiz 2017).

^eBased on Eibl et al.'s (2017) approximation of available information at the time of publication. Data from territories not available.

^fFischer et al. (2018) developed a "crude estimate" that there were early 350,000 people with prescription opioid disorder. This estimate was based on population survey data which did not include illegal or non-medical opioids.

^gBritish Columbia has also deployed low threshold SCSs in the form of "Overdose Prevention Sites". This count does not include such sites, which aim to reduce overdoses by allowing social workers and other injection drug users to set up facilities on the street to monitor injection drug use and distribute/administer naloxone.

Source: Eibl et al. (2015); EMCDDA (2017, 2018b,c); Fischer et al. (2018)

Summary observations

This paper presents a series of themes emerging from interviews with key informants who shared their insights on the implementation of HAT and SCSs in Canada, the Netherlands, Switzerland, and the United Kingdom. While HAT and SCSs represent two distinct interventions, several observations can be made that are applicable to both programs.

First, there is substantial heterogeneity across existing HAT and SCS programs in countries where they have been implemented. For instance, several types of SCSs can be distinguished depending on their relationship with other facilities (e.g., standalone facilities, SCSs embedded in other facilities). SCSs across the four countries also differ in how many and what services they provide in addition to supervising injections. Similarly, HAT programs may vary in their approaches to prescribing and participation requirements.

Second, in the run-up to their implementation, both HAT and SCSs have met some community concerns; however, opposition has tended to diminish over time as both programs

continued operating. Currently, both HAT and SCSs are generally accepted interventions in British Columbia, the Netherlands, and Switzerland. In the UK, HAT as a full service has not been implemented because of the program's costs, rather than community concerns. There are no SCSs in the UK.

Third, both programs as currently implemented serve a relatively small proportion of people who use opioids (PWUO), although with respect to HAT, this reflects the fact that it is intended for people with previous unsuccessful treatment experience. This is a particularly relevant limitation for jurisdictions with an urgent public health need to address opioid use and major drug supply issues caused by the emergence of synthetic opioids, such as Canada and the United States. Correspondingly, Canada has developed new models of both programs (injectable OAT programs [iOAT], overdose prevention sites) intended to increase the coverage of service provision.

Key heroin-assisted treatment (HAT) messages

While heroin-assisted treatment programs across the world share the same underlying premise and many characteristics, there is notable variability across the focus countries in how HAT programs have been implemented. Furthermore, other models beyond HAT clinics with supervised consumption of heroin must be recognized. The old “British system” of take-home heroin provided without a package of psychosocial support diverges from this model, although it is little used today. To some extent, iOAT programs in Canada represent a departure from the European models, particularly in relation to the use of hydromorphone rather than diamorphine, and in the variety of delivery models in use.

The introduction of HAT programs in the focus countries was met with concerns surrounding potential negative community effects as well as philosophical opposition to this type of treatment, which in some instances may mirror opposition to medication treatment (MT).

Compared to MT, HAT represents a costly program, which may be a source of opposition to its introduction or expansion, as evidenced by policy considerations in the UK. HAT also represents a treatment option that may have limited reach because it has historically only been offered to users who have tried conventional treatments multiple times but still use heroin, although this is a limitation self-imposed by the program. Furthermore, HAT may not be a very attractive option for eligible populations; it is typically a structured program with relatively onerous requirements for patients, particularly around being onsite two or three times a day for treatment. However, delivery models in Canada point to potential approaches which are more flexible and can adapt to user needs.

These characteristics also offer lessons for the U.S. context. First, interviewees generally felt that it is important to have established robust traditional MT programs before proceeding with HAT as an additional treatment option. For that reason, introducing HAT programs may not be a priority for some U.S. areas where MT is not already available. Second, particularly with respect

to clients residing in areas with smaller population density, it may be useful to explore greater flexibility in the program's structure and its participation requirements.

Key supervised consumption site (SCS) messages

SCS can take many forms with respect to their size, breadth of services, level of formality, and relationship with other services. Broadly speaking, several principal models can be recognized, ranging from fixed standalone facilities to SCSs co-located with other facilities (with various possible forms of integration or embeddedness) to mobile SCSs.

Historically, in addition to improving health outcomes for PWUO and addressing public health concerns, reducing public nuisance was an important objective behind efforts to introduce SCSs. This was particularly pronounced in the Netherlands and Switzerland. In some instances, the police were the driving force behind their introduction.

Proposals to establish SCSs gave rise to two types of concerns. First, communities and stakeholders expressed concerns about enabling drug use and general reservations surrounding harm reduction measures. A second group of concerns revolved around community-level impacts, such as negative impacts on crime, property values etc.

Key informants highlighted community engagement and consultations as key mechanisms to address community concerns. Furthermore, consultations with users preceding the opening of SCSs were noted by key informants as important vehicles to understand the needs of PWUO in their communities and learn about their preferences that could inform the design of a potential SCS. Another way to address community concerns may be to introduce an SCS as part of an already existing service. Needle exchange services or other harm reduction facilities represent possible candidate facilities for such an expansion.

As currently implemented, SCSs represent a relatively minor-scale intervention and may not be easily scalable. The biggest issues with respect to scalability are twofold. First, SCSs ultimately face capacity constraints and are able to serve only a part of potentially eligible population. Second, SCSs have relatively limited geographical reach and face difficulties attracting PWUO who do not already reside in their vicinity. Novel models of SCSs to address the scalability issue are being explored. These include the expansion of mobile SCS provision and the introduction of limited-service sites (e.g., OPS in BC). The existing SCS evidence base cannot yet inform the implementation of these alternative models.

Acknowledgments

We are deeply indebted to our interviewees who shared their experiences and opinions with us. We are also very grateful for the detailed feedback we received from Ricky N. Bluthenthal, Susan S. Everingham, Keith Humphreys, Paul Koegel, and Melinda Moore. We also thank Howard Shatz for the tremendous support and advice provided throughout the project. The views presented here are only those of the authors.

Abbreviations

AIDS	acquired immunodeficiency syndrome
BC	British Columbia
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
HAT	heroin-assisted treatment
HIV	human immunodeficiency virus
iOAT	injectable opioid agonist treatment
OUD	opioid use disorder
MT	medication treatment
OPS	overdose prevention site
PWUO	people who use opioids
SCS	supervised consumption site

1. Introduction

Supervised consumption sites (SCS)³ and heroin-assisted treatment (HAT)⁴ are two interventions offering services to drug users that have been legally implemented in a range of international jurisdictions. However, they have so far not been legally sanctioned in the United States. The goal of this report is to provide insights about some of these international experiences, with a focus on barriers/challenges/implementation issues and how they were addressed. We hope that the findings of this report will be useful to those who are considering and debating these options in the U.S. and other jurisdictions.

The report focuses on implementation of these programs in Canada, the Netherlands, Switzerland, and the United Kingdom and draws on insights gathered through a series of interviews with key informants in these four countries. These interviews were not intended as representative but rather to demonstrate the breadth of perspectives from a selected number of jurisdictions.

This report is part of a five-component report on HAT and SCSs that also consists of the following (1) a summary report of all components; (2) a review of the HAT literature; (3) a review of the SCS literature, and (4) a report on key informant views on the acceptability and feasibility of implementing HAT and SCS in selected U.S. jurisdictions heavily affected by the opioid crisis. All components can be found here: <http://www.rand.org/hat-scs>.

The report is structured as follows. First, brief country descriptions are offered, providing the context to the introduction of HAT and SCSs in each country and a description of the current scope of provision. Next, an overview of the methodology is provided. The next two chapters discuss the findings on the implementation of HAT and SCSs, respectively. Each of these main chapters describes how the services operate, discussions surrounding their introduction, concerns expressed by stakeholders, and efforts to address these concerns. Lastly, the main chapters discuss stakeholders' reflections on the implementation of the services, future plans, and lessons for the U.S. context.

³ Supervised consumption sites refer to facilities where users can consume already-purchased street drugs in the presence of trained staff (sometimes volunteers, sometimes health professionals), who monitor for overdose or risky injection practices. Clients can sometimes test their drugs, acquire clean injection supplies, and engage with social services. Other terms used to describe the service include safe injection facilities and drug consumption rooms. This paper will use the term supervised consumption sites and the acronym SCS.

⁴ Heroin-assisted treatment programs are intended for people who have failed treatment (e.g., methadone) multiple times with the objective of stabilizing their lives. They provide a legal, quality controlled, free or low-cost pharmaceutical opioid as an alternative to illicit market opioids whose potency and purity are not known to the seller or user. Other terms could be used to describe the program, including heroin prescription and heroin-supported treatment. This paper will use the term heroin-assisted treatment and the acronym HAT.

2. Country contexts

In this chapter we present information about the national contexts for the four focus countries. Table 3 summarizes key information related to the provision of substance use treatment, SCS, and HAT. Subsequently, we provide a brief narrative of the development of the current provision of HAT and SCSs in each country.

Table 3. Key treatment, SCS and HAT indicators per focus country

Country	Start of formal provision ^a	Number of HAT clinics	Number of HAT clients	Number of MT clients	Estimated number of opioid users ^b	Number of SCS
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^gBritish Columbia has also deployed low threshold SCSs in the form of "Overdose Prevention Sites". This count does not include such sites, which aim to reduce overdoses by allowing social workers and other injection drug users to set up facilities on the street to monitor injection drug use and distribute/administer naloxone.

Source: Eibl et al. (2017); EMCDDA (2017, 2018b,c); Fischer et al. (2018)

United Kingdom

Heroin-assisted treatment

Heroin prescription for the purpose of treating addiction has always been legal in the UK. It was officially sanctioned in the Rolleston Report 1926, in which drug addiction was defined as an illness and, as such, treatment for it was the responsibility of the patient's doctor. The Dangerous Drug Act of 1967 imposed a new requirement on doctors to obtain a license from the

Home Office before they were permitted to prescribe heroin for this purpose. This led to the creation of NHS addiction clinics, which were typically attached to hospitals. Due to a number of factors, including licensing requirements, and a reluctance on the part of doctors to prescribe heroin for this purpose, particularly given the increasing availability of opioid substitution treatments such as methadone, the practice of HP diminished in the 1980s and 1990s. Currently, the number of licensed doctors across England and Wales is estimated to be in the double figures, and the number of licensed doctors who actually prescribe heroin may be smaller still (EMCDDA 2012).

Heroin prescription delivered under this system has historically been governed by few specific or enforceable national policies, and treatment protocols have been known to vary widely by clinician (Metrebian et al. 2012). However, clinicians must comply with the relevant legal obligations in relation to the prescribing of controlled drugs such as heroin, as well as the terms of the Home Office licensing arrangements (Independent Expert Working Group 2017). Furthermore, the 2017 Clinical Guidelines on Drug Misuse and Dependence update set out the relevant standards and quality of care for the appropriate treatment of people who use drugs, including heroin prescription, and these guidelines are taken into account when assessing a clinician's professional performance. The 2002 UK Drug Strategy suggested that HP should be available to all patients with a clinical need (although this term was not defined).

The RIOTT trials, which introduced HAT with supervised consumption and psychosocial care to the UK, ran from 2005-2008 at three sites: Durham, Brighton, and London. The Department of Health continued to fund these sites until 2013. This pilot program is referred to as the IOT (injectable opioid treatment) pilot. These sites closed when the funding expired and have not been replaced.

Discussions around HP and HAT in the UK therefore fall into three strands: licensed prescribing (technically still available although rarely offered to patients), often referred to as "the old system" or "the British system"; the RIOTT trials; and IOT. These are/were all different in their delivery and are discussed in turn in this paper.

Supervised consumption sites

SCS are currently not permitted in the UK under the Misuse of Drugs Act 1971, due to the offenses of possession or supply in relation to potential SCS clients. A proposal to establish an SCS in Glasgow, Scotland, was turned down by the Home Office in June 2018, which declared that the law will not be changed for this purpose (The Scotsman 2018).

Switzerland

Heroin-assisted treatment

In 1991, the Swiss government adopted a new “Four Pillars” drug policy, which added harm reduction to the existing pillars of law enforcement, prevention, and treatment. One of the initiatives introduced under this new policy was a national HAT research study (Uchtenhagen 2017). The trial, organized as a prospective cohort study, took place from 1994 to 1996 (Fischer et al. 2007). Following the publication of the results of the study, the federal government issued an executive order allowing the continuation of the treatment and formalized HAT as an additional treatment for PWUOs in 2003 (Khan et al. 2014). HAT was also confirmed as an available treatment option in a referendum of the Swiss Narcotic Law in 2008. Currently, there are 22 HAT clinics in the country, two of which are located in prisons. Some clinics are administered by state authorities and the rest by non-governmental organizations which have applied for and received approval to run a clinic and need to adhere to federal guidelines (BAG 2015). The total capacity of HAT clinics in the country is approximately 1,600. HAT provision serves less than 10% of all users receiving agonist opioid treatment (Uchtenhagen 2017).

Supervised consumption sites

The very first official SCS was opened in Bern in 1986 (EMCDDA 2017), followed by the opening of rooms in Basel, St. Gallen, Luzern and Zurich in the late 1980s and early 1990s (Springer 2003). The operation of these early facilities was made possible by local authorities, which adopted new regulations allowing the operation of SCSs (de Jong and Weber 1999). At the national level, the legal basis for SCSs was laid out in federal judicial guidelines, which allowed drug consumption under medical supervision (Springer 2003). SCSs were further formally endorsed with the inclusion of a new harm reduction pillar in the national Swiss drug policy in 1991 (Uchtenhagen 2017). The first SCS in the French-speaking part of the country opened in Geneva in 2001; no SCSs have been established to date in the Italian-speaking part. Today, there are 12 SCS facilities in Switzerland in major Swiss cities (EMCDDA 2017).

Netherlands

Heroin-assisted treatment

The first HAT clinics were established in the Netherlands in 1998 as part of research trials recommended by the country’s Council of Health. These trials targeted patients who were severely dependent and had been unsuccessful with other available treatment options. The results of these trials were presented to the Ministry of Health in 2002, and the following year, a special advisory committee installed by the government recommended that 15 HAT clinics across 13 cities be established. The Netherlands Medicines Evaluation Board registered heroin as a

medicine for the treatment of this patient group in 2006. By 2009, HAT had become an established treatment option for users who had not benefited from methadone or buprenorphine maintenance treatment (Blanken et al. 2010). There are currently 17 HAT clinics across 15 cities in the Netherlands, serving around 650 patients every day (EMCDDA 2012).

Supervised consumption sites

Informal drug injection sites emerged in Dutch cities as early as 1974, and were tolerated by the police and other local authorities (Grund and Breeksema 2013). In 1996, the College van procureurs-generaal (the board of the Public Prosecution Service) developed legal guidelines around the operation of SCS, clarifying their status under the law and paving the way for the establishment of official SCSs in the country (Schatz and Nougier 2012). Four years later, the government issued a legal instruction declaring that users were permitted to consume drugs under professional supervision at these sites, and that the provision or sale of drugs at these sites was prohibited (International Network of Drug Consumption Rooms 2015). Currently, there are 31 sites in operation in 25 cities (EMCDDA 2018b).

Canada

Heroin-assisted treatment

The origins of HAT in Canada date back to a sequence of clinical trials, which started in the mid-2000s (Boyd et al. 2014). A trial (called the North American Opiate Medication Initiative, NAOMI) was established in the Crosstown clinic in Vancouver and in Montreal, running from 2005-2008.⁵ From 2011-2014, the NAOMI trial was followed at Crosstown by the SALOME (Study to Assess Longer-term Opioid Medication Effectiveness) trial, which compared the effectiveness of diamorphine (another term for heroin; diacetylmorphine is also sometimes used) and hydromorphone provision. The Conservative government attempted to block the continuation of diacetylmorphine treatment after the conclusion of the SALOME trial but the BC Supreme Court issued an injunction, allowing the clinic to continue with the program out of trial.⁶ In August 2017, Crosstown expanded provision of injectable heroin to any clinically indicated patients, i.e. extending beyond the population of the SALOME trial. This step followed an earlier Health Canada's relaxation of rules on the importation of heroin for patients with exceptional needs. Currently, Crosstown continues to be the only clinic offering diamorphine treatment in North America. In addition to Crosstown, several other injectable opioid agonist treatment (iOAT) programs embedded in existing facilities opened recently in British Columbia,

⁵ The introduction of HAT precedes the approval of buprenorphine/naloxone for OUD treatment, which was done by Health Canada in 2007 (Ahamad et al. 2016).

⁶ Providence Health Care Society v. Canada (Attorney General), 2014 BCSC 936

which provide, among other services, injectable hydromorphone and slow release morphine. Another model of iOAT currently piloted in BC is pharmacy-based, intended for stabilized patients and offering a lower-intensity treatment model (BC Ministry of Health and BC Centre on Substance Use 2017a). iOAT programs have also been approved, although not yet implemented, in Alberta (Cameron 2018). There is also a small residential iOAT program operating in Ottawa, Ontario (“Residential Opioid Program Giving Drug Users Chance at New Life,” 2018).

Supervised consumption sites

In Canada, supervised consumption sites require an exemption from the federal Controlled Drugs and Substance Act (CDSA). Under CDSA’s Section 56, the Federal Health Minister can suspend the application of criminal penalties in the CDSA under medical or scientific exemptions. Operating an SCS is one of the purposes for which an exemption can be granted and the federal government specifies the criteria to determine whether an exemption will be granted (Health Canada 2017c).

The first formal SCS in Canada, Insite in Vancouver, was opened in 2003 as part of the city’s response to an HIV and overdose epidemic in Vancouver in the 1990s (Wood et al. 2004). Insite received a series of temporary exemptions from the CDSA. Faced with their expiration, litigation ensued. Ultimately, the Supreme Court of Canada ruled that the closing of Insite would threaten the safety and lives of its clients, thereby violating Canada’s Charter of Rights and Freedoms (BC Centre for Excellence in HIV/AIDS 2011). Insite was therefore allowed to continue operating, and remained until 2016 the only formally sanctioned North American SCS.⁷ Since then, following an increase in the number of opioid-related deaths, there has been a rise in the number of SCSs in the country. As of June 2018, there were 25 SCSs offering services in Canada’s four most populous provinces (Alberta, British Columbia, Ontario, and Quebec). In addition, two sites have received their exemption but have yet to undergo a final inspection and 11 sites have an open application with Health Canada (Health Canada 2018b). In addition to formal SCS, overdose prevention sites (OPS) have opened more recently in British Columbia and Ontario. These facilities represent a more informal way of supervising drug consumption (see Box 1 in Section 4). As of June 2018, there were more than 20 OPS operating in Canada (Health Canada 2018a).

⁷ The Dr. Peter clinic in Vancouver had been operating an SCS without a formal SCS exemption since 2002. The exemption was approved in January 2016 (Hayle 2017).

3. Methodology

This working paper draws on 29 key informant interviews conducted in the spring 2018 with stakeholders in Canada, the Netherlands, Switzerland, and the United Kingdom. The objective of the interviews was to gather insights on HAT and SCS initiatives and lessons learned from jurisdictions that have implemented one or both programs. Three types of stakeholders were invited to an interview with the research team: 1) policy representatives, 2) practitioners involved in the management or delivery of these programs, and 3) researchers conducting scientific work on these programs. The breakdown of these interviews by stakeholder type and country is provided in Table 4.

Table 4. Overview of interviewees

	Policy representatives	Practitioner	Researcher	Total
Canada	2	3	3	8
Netherlands	0	3	3	6
Switzerland	0	2	2	4
United Kingdom	3	4	4	11
Total	5	12	12	29

The interviews were semi-structured, following a standardized interview template (attached in Appendix C) but allowing for the discussion of additional unanticipated topics. The interviews were conducted by phone and were audio-recorded. The recordings were professionally transcribed and the resulting texts were uploaded to Dedoose, a mixed-method analytical software (dedoose.com).

Analysis

The data were analyzed by two members of the research team, following standard approaches for a thematic analysis of qualitative data (Jehn and Doucet 1996, 1997; Ryan and Bernard 2000, 2003; Miles and Huberman 1994; Willms et al. 1990). The researchers familiarized themselves with all transcripts to identify themes (overarching categories describing phenomenon under study) across all stakeholder interviews. They developed an initial listing of themes, organized in a codebook, and discussed inclusion/exclusion criteria, and typical examples for each theme. Next, using Dedoose, they marked areas of text pertaining to each theme. They practiced with a random transcript, reviewing and discussing together the application of codes to various sections of the text. Where their disagreement revealed ambiguity in the codebook, researchers clarified the definition of each code or refined the item. Next, both coders worked on a selection of

excerpts independently of each other and measured for coder consistency. This was done utilizing Cohen's Kappa, for which the researchers set a threshold of ≥ 0.70 as evidence of sufficient interrater reliability (Cohen 1960). Once the researchers met this threshold, they coded the remainder of the transcripts with consultations and amendments to the codebook as needed. Once all data were coded, researchers reviewed the coded excerpts and used those to develop the narrative analysis presented in this paper.

Limitations

Our approach has some limitations. The number of interviews this paper draws on is limited. Interviewees offered their insights on HAT clinics and SCS sites they were familiar with but these testimonies may not capture the full extent of the diversity in existing HAT and SCS arrangements. Furthermore, our key informants were primarily recruited from groups who were involved in or could comment on the operation of HAT and SCSs and therefore largely held a positive view of the interventions. It is plausible that representatives of other stakeholder groups may have more reservations about the two types of programs. In addition, it was beyond the scope of the study to interview clients of HAT clinics and SCSs in the selected focus countries; their perspective is therefore missing from this paper.

4. Insights from international HAT

Service details

Prescription Services

United Kingdom

Given the relative scarcity of heroin prescription delivered under the “old system,” UK interviewees had relatively few comments to make on its provision. However, these interviewees were able to speak in much greater detail about the supervised injectable heroin clinics set up initially under the RIOTT trials and subsequently extended for three years through funding from the Department of Health as a national clinical intervention (the IOT pilot).

In the UK, heroin prescription under the “old system” is unsupervised. Patients are provided with a prescription from the clinician, which the patient may take to specific pharmacies that have agreed with the clinician to fill it. Establishing an agreement with a pharmacist may entail a process of negotiation with the pharmacist to ensure that all parties are comfortable with the arrangement:

So it really depended on your relationship with that pharmacist, and whether they were nervous about doing it, and whether they thought they had the right facilities and the right staffing for handling people... And that's true of people of methadone as well, really, that you have to negotiate. But most NHS [National Health Service] pharmacies would see that as, normally, part of their responsibility. (UK4)

Initially, the prescription is picked up daily by the patient, but over time, assuming the clinician is ready to trust the patient with an increased supply, he or she may allow the patient to obtain two or three days' supply of heroin at a time (UK4). Previous research has found large variations in dosage by clinicians, with minimum daily doses ranging from 5mg to 500mg and maximum daily doses between 60mg and 1500mg (Metrebian et al. 2002). One interviewee noted that clinicians have tended to prescribe relatively small doses of heroin for their patients because of concerns that the patient may divert this supply onto the black market and concerns around the risk of overdose or other adverse results:

...[I]t's actually very difficult to prescribe a therapeutic dose if the person is going to take it home to use if, because you are always going to have to worry about diversion... So, that's a public order issue, if you like, but the other one is a safety issue. Prescribing heroin can lead to overdose, and there are huge safety issues. (UK6)

Under this system, heroin is typically prescribed in ampoules with unique registration numbers; these ampoules must be returned to the pharmacy before a new supply of heroin is provided to the patient (UK4).

In the RIOTT trials, patients who received injectable heroin did so under direct supervision at clinic sites. Two typically equal doses were provided each day, in the morning and afternoon. The clinics were open seven days a week. In addition to the injectable heroin, patients were encouraged to take oral methadone on a regular basis, particularly if they were unable to attend the clinic for their dose of injectable heroin (UK9).

Switzerland

Clinics provide injectable, and increasingly, inhalable diamorphine to HAT patients. In addition, for patients who wish to stop injecting, immediate-release and slow release oral diamorphine has also been introduced (SUI1). Patients attend the clinic at most twice a day (SUI2). All injections are made by patients at the clinic under strict visual control by nurses, caregivers, or occasionally doctors. Patients may be given up to two days' oral diamorphine to take home (SUI1, SUI4). At the same time, patients may also be treated with slow release morphine or methadone; patients can also take home enough of these substances for up to a week. However, patients may only be permitted to take any of these substances home if they have been participating in a HAT program for at least six months, have tested negative a number of times for illegal drugs, and their doctors feel sure that they are living in a stable social environment (SUI2, SUI4).

Clinicians may prescribe oral or injectable hydromorphone to patients, for example if they experience intolerance to opioid substitutes and refuse to enter into HAT, although it is off-label in Switzerland (SUI2). However, one clinician noted that, in Switzerland, hydromorphone is vastly more expensive in comparison to diamorphine; the federal government is responsible for negotiating the various prices for medications with pharmaceutical companies (SUI4). HAT clinics are also trialing nasal diamorphine, which can be sniffed through an atomizing device. Nasal diamorphine provides a rapid onset effect which some patients need, and circumvents health issues like collapsed veins (when injected) or chronic pulmonary disease (if smoked) (SUI4).

According to one interviewee, when a clinician is first deciding a dosage for a patient, there are two options. Firstly, a patient may already be in medication treatment (MT), in which case doctors can assess their tolerance for opioids from their methadone dosage. Alternatively, if a patient is not currently receiving opioid substitution treatment, a clinician may start the patient on a low dose of diamorphine, perhaps 30mg, then slowly increase the dosage to find the appropriate level (SUI4). There is no obligation for a patient to ultimately become abstinent. Rather, any change in dosage, such as tapering, is decided on a case-by-case basis in consultation with the patient. In practice, if a patient is seeking a less harmful way to receive their opioid agonist treatment, an interviewee reported that the clinic would support them to transition onto

another substitute. However, the interviewee stated that if a patient is stable in HAT, even with a high dosage, the interviewee would not recommend making a change:

We have patients that are working, that really come in the morning, inject heroin, and go to work, come back in the afternoon, inject heroin, go home, and that works fine. We're afraid that once they change that they would probably lose their jobs and re-start street drug use, and we wouldn't want that. (SUI4)

The Netherlands

Almost all HAT patients in the Netherlands receive a low dose methadone alongside diamorphine (NLD1, NLD2). Two interviewees stated that there is no take-home provision whatsoever (NLD2, NLD4), although one reported that on very rare occasions, a patient may take home oral methadone (NLD4). Patients may come to the clinic up to three times a day to use diamorphine, although most prefer to come twice a day (NLD1, NLD3). Only about 5% of patients inject heroin; the rest smoke, which has a lower risk of overdose than injection (NLD2).⁸ According to one interviewee, maximum permitted dosage per session is 400mg and up to 1,000mg per day. Within these parameters, there is variation in dosage:

In the beginning, they use a lot. They go up to the 800mg or 1,000 per day. With time they start to realize that higher dosing is not more effective in terms of getting your high and being able to function. What you see is voluntarily people taper themselves down from 800mg to anywhere between 400mg and 600mg, on average, 450mg per day, so they do start to use less. That's... still maybe a little bit more than they'd be able to use on the street on normal days. We do see patients who definitely want to reduce their methadone and quite a lot of them do. (NLD3)

Patients who choose to inhale use a separate room that is in a vacuum seal, to ensure that smoke does not escape the room. Five or six patients may use the smoking room at the same time. They are provided with the drug and aluminum foil, and are observed by a nurse outside the room while they inhale. Injection rooms typically have capacity for two patients at a time (NLD3).

Canada

The Crosstown clinic in Vancouver is currently the only facility in Canada which provides HAT. Diamorphine is not a licensed medication in Canada, and is controlled under Schedule 1 of the Controlled Drugs and Substances Act (1996). However, Health Canada introduced new regulations allowing access to the drug in a health emergency, and a local public health officer may order a year's supply for a specific number of patients. Access may be renewed annually if the emergency has been assessed to still be underway (CAN2). However, as hydromorphone is licensed under PharmaCare (a provincial coverage of prescription drugs and medical supplies for

⁸ This claim is also supported in previously published research: Stover and Schaffer (2014).

eligible populations), new patients are first started on hydromorphone. If they don't respond to this treatment, the clinic is able to access diamorphine for a small number of patients (CAN2). Three interviewees discussed the potential advantages that hydromorphone may offer as a treatment option, beyond its legal scheduling. Firstly, it is not as stigmatized as heroin, but is very close to it on a molecular level (CAN5). In British Columbia at least, hydromorphone is also much cheaper than diamorphine (CAN2, CAN8). Furthermore, the SALOME trial indicated that the majority of patients would accept hydromorphone as a treatment option (CAN2).

When a patient arrives at the Crosstown clinic, they are logged into the facility's electronic database. The patient's stress parameters are checked to ensure they are well enough to receive the treatment. If there is a possibility of intoxication, the patient is breathalyzed for alcohol and their dosage may be adjusted as appropriate. The patient is then given their specific dose, which varies widely across patients, as well as an injection kit: their particular syringe, a tourniquet, alcohol swab, and Band-Aid. The patient is given eight minutes in the injection room to find a vein; a nurse may assist them with this process. If the patient is not able to find a vein within this timeframe, the nurse will ask them to administer the dose intramuscularly (CAN2).

In relation to dosage, one interviewee stated that patients who are using fentanyl report they have a higher tolerance than those using street heroin or prescription opioids. As a result, the clinic adapted their initiation protocol to start the patient on a higher dosage. While the clinic used to start patients on 10mg of hydromorphone and go up to 90mg in two days, they now start at 20mg and go up to 130mg by the end of the second day. The interviewee commented:

We think that is essential. If we didn't do it, we found that people weren't having their needs met. It was harder to engage with them and they were continuing to use illicit opioids. (CAN2)

About 20% of the clinic's patients have transitioned to oral methadone, buprenorphine/naloxone, extended-release morphine, or less intensive treatments. In addition, a small number of patients receive oral liquid hydromorphone. The clinic has not considered allowing take-home doses of diamorphine, although an interviewee noted that patients may receive methadone, buprenorphine/naloxone, extended-release morphine, and other forms of opioid treatment from pharmacies in Canada. An interviewee stated that oral diamorphine is included on the emergency access list and could be ordered by the clinic staff if required, although this has not yet occurred (CAN2).

There are three other models of treatment in British Columbia, all of which are administered by a local nonprofit serving marginalized populations called Portland Hotel Society (PHS). First, PHS integrated a hydromorphone-assisted treatment program into one of their overdose response rooms in Vancouver (CAN3). Second, PHS established a link to a local pharmacy, which provides injectable hydromorphone to patients, as well as methadone and other opioids. This mode of treatment does not have the same degree of wraparound medical intervention and supervision provided by the HAT clinic (CAN2). Patients come to the clinic for titration and their maintenance dose, and are then transferred over to the pharmacy. The pharmacy has an

injection room which is set up with metal tables, mirrors, and a sink. Injections are supervised by the pharmacist. Stable patients come to the clinic once a month to refill their prescription; more unstable patients come every week (CAN3).

Third, another hydromorphone-assisted treatment program is based at three housing projects. A nurse is on site seven days a week, administering or supervising two injections a day for patients. Patients are then observed by a mental health worker for 15 minutes after injection. (CAN3) In addition to hydromorphone, all services run by PHS offer patients oral methadone, oxymorphone, and extended-release morphine (CAN3).

Non-Prescription Services

Under the old system in the UK, no psychosocial services such as housing and counselling are automatically provided to patients. However, prescribing clinicians have previously reported providing advice to patients on safe injecting practices; checking injection sites; and providing injecting equipment (Metrebian et al., 2002).

Under RIOTT and IOT, participants were provided with a program of psychosocial support. More information on these services is described in Smart (2018). Housing support was highlighted by several interviewees as a vital part of a treatment program. One interviewee noted that homeless patients consistently struggled to address their addiction issues until their housing is stabilized (UK5). A range of other health services were offered to patients. These included detoxification from alcohol or withdrawal from benzodiazepines, or prescriptions for antidepressants, although an interviewee that the latter typically did not benefit patients (UK5). In addition, the RIOTT reported clinics offered to facilitate patients' enrollment in practically- or vocationally-oriented training programs run by external agencies, such as computer skills (UK5). Psychological counselling was also provided, although one interviewee commented that "as in all opioid treatment programs, hardly anyone avails themselves of counselling on a voluntary basis, and mandatory counselling is no use" (UK5).

In relation to the RIOTT trials, a number of interviewees (UK1, UK2, UK5, UK6, UK7) commented on the relatively intense case management entailed in the service as an effective psychological intervention in itself. Case management in these trials focused on ensuring that patients complied with the treatment program, and injected carefully and hygienically. One interviewee commented:

It isn't just about the drug. It couldn't possibly be, because those individuals are getting a lot of attention. So that's one thing, and also they're getting a lot of structure. (UK6)

This argument was seconded by another interviewee, who stated:

Every day, people come in twice a day. We interact with people; we deliver a rapport with people. The structure itself means that people have to make changes to their lives... I think if we provide structure people will respond to it. Then

you'll find that all those other things will eventually, at some stage, actually happen. (UK7)

This interviewee went on to state that the demanding structure of the intervention, for the patients who found the treatment effective overall, produced a change of perspective towards themselves and their lives.

In Switzerland, HAT programs have always been delivered within the framework of psychotherapy and social therapy (SUI2). According to one interviewee:

The more you provide targeted psychosocial support, the more successful you'll be in reintegrating your patients. It's more than just dispensing medication or a substance. (SUI4)

Clinics typically offer psychiatric treatment options and psychotherapy such as cognitive behavioral therapy. Clinic staff are also trained in motivational interviewing, a method of counselling aimed at helping patients to address feelings of ambivalence and insecurities and find the motivation to change their behavior. Social workers offer a range of psychosocial services such as employment and reintegration support and helping patients find stable accommodation. Clinics also provide a vein scanner to help patients search for a vein (SUI4).

Interviewees from the Netherlands also reported provision of a range of psychosocial services for patients. At the start of treatment, a treatment plan is drawn up following consultation with the patient on the issues they face and how they may be addressed. Patients may receive advice on financial matters, support to find stable accommodation, and counselling for other problems. (NLD1, NLD2, NLD4) Patients are also offered psychiatric care (NLD4). Providing these non-prescription services was considered to be essential by one Dutch interviewee:

I think the whole concept of the integrated approach, not just providing the heroin or methadone, but having the integrated approach with counselling is very important. I think in the end you want somebody to work towards recovery. With addiction, it does a lot of harm on your social context, on jobs and financial situations, so you need to have that as well. (NLD1)

In Canada, nurses assist HAT patients with vein care, and help a patient find vein, if necessary. Nurses also provide advice on self-administration (CAN2). The hydromorphone-assisted treatment services run through PHS provide patients with full primary care, including internal medicine consultations, in-house Hepatitis C treatment, and HIV care. PHS also has a treatment center at its clinic (CAN3).

Relationship with and linkage to other services

In Switzerland, while HAT clinics were originally established as stand-alone facilities, they have more recently been integrated into local or regional opioid-based treatment systems (SUI1). HAT clinics share a facility with methadone, morphine, and buprenorphine services, although due to security protocols, HAT is delivered in a separate space from the other services. (SUI2) One interviewee spoke in favor of providing HAT in the same facility as other services offering

oral opioid-assisted treatment such as methadone, especially given that most HAT patients will typically have already undergone methadone maintenance treatment (MMT):

It really makes perfect sense to integrate these two treatments. You'd have no disruptions when patients change from intravenous treatment to oral treatment. You do not disrupt the relationship between you and the patient, because it takes very long, for our patients at least, took them very long to develop trust with us and we usually have a responsible person for the patients. That could be a nurse, or a social worker, or a doctor, for that matter, and you really work with the same patients for a long time, several years. So you develop a special relationship and, ideally, a good therapist/patient relationship, and you don't want to jeopardize that by making the patient change to another service just because he's now taking methadone instead of diacetylmorphine. (SUI4)

However, this interviewee noted that some patients receiving MMT or other forms of oral medication treatment find it difficult to see other patients injecting, and recommended having a separate space for injectors within the facility (SUI4).

In the Netherlands, HAT was originally located in separate facilities, but now at least some of the clinics are integrated with other services such as MMT. Although HAT is delivered in a separate space from other treatments, they are staffed by the same personnel (NLD2).

One Canadian interviewee also discussed the issue of providing a separate space for HAT treatment within a facility. The interviewee stated that it would not be appropriate to mix HAT patients with those using supervised consumption services, as the two interventions serve very different purposes (CAN8). The hydromorphone-assisted treatment service is provided in a small clinical space inside a supervised consumption site. In line with the comments from the Swiss interviewee above, a Canadian interviewee stated:

My retention there has been huge, almost more than 90%, because I went to the place where they already were, and started them there in a program that they were already participating in. That's been the most successful. That's the one I want to expand the most. (CAN3)

At that clinic, staff link the patients with local community clinics for care for health conditions such as Hepatitis C. The community clinic can then send the medical treatment to Crosstown and nurses can deliver it to patients when they arrive for their injection treatment (CAN3).

Capacity

In Switzerland, the total number of HAT patients in the country was estimated to be approximately 1,600, with individual clinics varying in size. At one Swiss HAT clinic, the reported capacity was 70 patients (SUI2); at another clinic, the capacity was 165 (SUI4). HAT clinics must register the number of patients in their care with the Federal Office of Public Health and seek permission if they are seeking to expand the number of available patient places (SUI2).

In the Netherlands, one interviewee estimated that 800 people were in HAT, about 6% of the total heroin-addicted population (NLD2). At each of the two Amsterdam clinics, there are around 55 patients in treatment (NLD4).

In Canada, the Crosstown clinic was reported to have a capacity of 150, with a waitlist of over 250 (CAN2). Of the patient cohort at Crosstown, only around 60 are provided with diamorphine. These patients consist of participants in the SALOME trial, who were subsequently allowed to continue on the program, and new patients, who the Crosstown clinic began accepting in August 2017 (CAN6, CAN2). For iOAT programs, capacity in the programs ranges from 25-50 patients (CAN6).

Costs

In Switzerland, the costs of participating in a HAT program are covered by the patient's compulsory health insurance, with patients paying a co-pay of approximately 10 Swiss francs a week in addition. If patients are unable to meet the payments, social services will cover them (SUI2). In the Netherlands, interviewees reported that the costs are completely covered by mandatory health insurance. HAT was estimated to cost €18,000 per patient per year, in contrast to MT, which was estimated to cost around €1,200 per patient per year (NLD3). Costs were associated less with the drug itself, but staffing and transportation of the drug from the pharmacy to the clinic (NLD4).

Operational arrangements

The HAT programs in the four focus countries vary in how they are delivered and who can use them under what conditions. Interviewees reported a range of rules and organizational arrangements governing the HAT programs; these are discussed in greater detail in Appendix B.

Introduction of the service

Interviewees were invited to discuss the circumstances surrounding the introduction of heroin prescription or heroin-assisted treatment in their country or city, including the context in which the service was proposed as well as the discussions among relevant stakeholders that took place in the process.

Factors behind proposals to introduce HAT

Several considerations played a role in the introduction of HAT programs in the focus countries. There are substantial overlaps across these considerations, which may be loosely themed as relating to public health concern, and crime and nuisance reduction. These are discussed in greater detail in this section.

Public health concerns

A primary objective of the UK's RIOTT trials was to investigate whether HAT could improve health outcomes for entrenched users who had not benefited from traditional substitution therapies. In the words of one interviewee:

So, setting up the heroin prescribing clinic was really in response to the fact that we had patients receiving methadone, which is of course their conventional treatment, who were really just not getting any better, i.e. it just wasn't really benefitting them, so this was a group of people who were in and out of treatment... and they had poor health, and really the question was, "What can be done to help these people?" (UK6)

Views within the health services field on heroin prescription before the RIOTT trials were reported to be largely supportive. In particular, many health workers who had witnessed the interactions that users had with the health services were reported to recognize that both their dire mental and physical health, and the strain it caused these services, needed a new treatment approach.

They were using acute medical services. The mental health services were getting used by these people because they were so unwell in terms of their entrenched heroin use. (UK2)

In Switzerland, the heroin epidemic which emerged in the early 1990s brought with it a high prevalence of HIV (SUI2, SUI3) and hepatitis B, which was associated with users who turned to sex work to pay for their drugs (SUI3), as well as an increase in fatal overdoses (SUI3). By contrast, health concerns in the Netherlands were less focused on risks associated with injecting heroin, such as the transmission of disease and overdose, given the relatively high prevalence of inhaling heroin (NLD2).

In Vancouver, Canada, heroin use was reported to have been a public health concern for decades, with the increasing rates of overdose deaths and mortality accelerated by the introduction of fentanyl into the drug supply. Indeed, a health emergency was declared in Vancouver in March 2016, as a result of the increase in heroin-related deaths in the city (CAN2). Hepatitis C among injection drug users was reported to be a serious concern, while considerable progress was reported to have been made in preventing the spread of HIV amongst users (CAN5).

Crime and nuisance reduction

The UK's Home Office has been interested in the potential of HAT as a crime reduction intervention, and one interviewee suggested that it had contributed some funding towards to RIOTT trials (UK3). The Home Office has subsequently endorsed HAT for the purpose of crime reduction (UK10), although it does not currently provide any funding for such a service (UK10). In the UK, law enforcement agencies were reported by four interviewees to be broadly supportive of HAT programs for this purpose (UK2, UK3, UK6, UK10). One interviewee stated:

The local police were very supportive, and the local commissioners were supportive because they knew the problems of heroin use. People were using, they were in and out of prison. They were in and out of the criminal justice system... it was having a devastating effect not only on the person themselves in terms of their physical and mental health, but also on the local community. (UK2)

In Switzerland, the emergence of an open drug scene in cities, and associated antisocial behavior such as dealing and sex work, was also a factor in the introduction of HAT. According to one interviewee:

We had this big open drug scene in the '90s, where we were seeing all sorts of problems, and it was really centralized to cities like Zurich or Bern, and people were travelling here to use these drugs here, and it was like a marketplace where people were buying and selling drugs... The first thing they did... was, when it came to be, this open drug thing, they closed it down. So what happened was that the people were basically going to another nearby place, which was an old train station... Then it was time to act, and even the politicians that were against had to admit something needs to be done... (SUI3)

Law enforcement agencies in Switzerland were reported to hold similar views to the introduction of HAT (SUI1). Police were reported to feel overwhelmed by the cycle of arresting and releasing users, only to find them again using heroin in public spaces:

...[O]nly a new police strategy could help them work more effectively. They were very much in support, and this did not change over time. They even made some progress in having joint patrolling of police and social workers in some areas. (SUI1)

In the Netherlands, discussions around the introduction of HAT were also based on its potential to reduce public nuisance and criminality (NLD1, NLD4). Similarly to Switzerland, open drug consumption and users congregating in public spaces caused concern (NLD1). Two interviewees reported that police were also very supportive of the introduction of HAT (NLD2, NLD4). Indeed, one interviewee noted that when the clinic team was looking for locations to set up a HAT facility, local police offered space within their own buildings (NLD2). Similarly, in Vancouver, Canada, one interviewee reported that opioid use has been a public disorder issue for decades (CAN2). The local police are generally very supportive of HAT programs as a crime and antisocial behavior reduction strategy (CAN6).

However, one UK interviewee expressed discomfort with the discourse around heroin prescription as an intervention expressly aimed at reducing crime and social nuisance. This interviewee described the prescribing of heroin, a serious medical treatment, to users for that purpose as “not entirely ethical” (UK5).

Stakeholder concerns regarding HAT

Stakeholder perceptions of users' concerns and preferences

Interviewees from the UK, Switzerland, the Netherlands, and Canada characterized the feelings of patients towards joining a HAT program as conflicted and generally negative (UK3, UK5, SUI3, NLD1, NLD4). Patients in the UK RIOTT trials were described as having a pervasive sense of hopelessness, with no expectation that the program would improve their lives (UK5). This interviewee also stated that the majority of patients, who are typically entrenched heroin users who have not responded to other treatment interventions, typically feel ambivalence upon entering a prescription program:

On the one hand, they like the idea of access to drugs. On the other hand, they hate the idea of being controlled and contained, and no longer free spirits. They like the idea of getting heroin, but they're fearful that if they get access to free heroin they'll never be able to come off it because there is no incentive... They are surrendering some of their identity. People who don't respond to other forms of treatment are those who have got an established addict identity. They see themselves as alienated, angry, separate from the rest of the world. They don't like the idea of surrendering that self-image by coming into treatment. (UK5)

Another UK interviewee commented on the doubts that heroin users expressed about prescription heroin having a positive effect on them, given their long and unsuccessful histories with other treatment programs:

Different users had different reasons for being reluctant to join the trial. Some thinking, "Oh well, it's not going to last, I'll be back on this trial and given huge doses of heroin, and it will all end abruptly and there is no way I'll be able to fund a habit at that elevated level." ... Others were just so disenchanted with drug treatment, thinking, "I've given it my best shot and it's not worked. Why do I think that this drug treatment will be any better than the last one? The people who run drug services, they've basically given up on people like me, so I'll give up on them." (UK3)

Similar feelings of ambivalence and mistrust were also identified by Swiss interviewees. One commented that:

... [T]hose who are severely dependent on heroin, on the street, their life is just different, and they are maybe not sure whether you really want to help them, or whether you are trying to take away the only thing they have in life. (SUI3)

An interviewee from the Netherlands stated that users who have already had unsuccessful treatment experiences view HAT as a last resort, and fear going into the program: "Some people don't want to go to treatment because they feel like, "Then I'm really lost if I go into that treatment" (NLD1). Another Dutch interviewee noted depression in some patients when they start HAT:

Some people are happy to be on the treatment, but there comes some [restlessness] in people that they don't have to run outside and do things to get

illegal heroin. Yes, there comes some [restlessness] in their bodies and in their thinking. A lot of them get a little bit depressed by thinking, “Wow, see me now. Here I am.” (NLD4)

This interviewee went on to note that over time, patients can move past these feelings and embrace the possibilities of establishing a settled living arrangement, restoring personal relationships, and spending time on new activities.

Concerns that HAT lead to a range of negative community effects

Communities where heroin prescription clinics were being planned were generally reported to be concerned about the potentially negative effects they would have on their neighborhoods (UK7, SUI1, CAN2). In particular, concerns centered on the risk of creating a ‘honeypot effect’, whereby users from outside the community would be attracted to the clinic, resulting in increased concentration of antisocial behavior and crime. In some instances, these fears were based on previous experience. For example, one UK interviewee noted that when the RIOTT clinics were being set up, there was also a supervised facility for methadone maintenance in operation. Users would congregate outside this facility while waiting to use the service, generating significant anxiety in the local community and attracting public criticism more widely (UK7). Anxiety from local communities about users lingering in the vicinity of the clinics was also reported by a Swiss interviewee (SUI1). Similarly, at Canada’s Crosstown clinic, one interviewee reported that the local business community were so concerned about heroin users and dealers loitering outside the facility that they demanded that the building have no awnings to provide cover from the rain (CAN2). The local community was also reported to be concerned about potential increases in crime in the neighborhood (CAN2).

Preference for other forms of treatment

In the UK, interviewees commented on polarized debates between what one interviewee termed “the abstinence lobby and the medical lobby.” According to one interviewee, in this interpretation, the latter group was generally supportive of heroin prescription, while the former argued that the focus should be on recovery, and that there was limited access to rehabilitation and abstinence-based pathways (UK4). In the UK, several high-profile politicians have spoken out on their opposition to medication treatment generally (UK3). Some interviewees reported a degree of ambivalence from their medical colleagues on HAT, particularly in the UK (UK7, UK5). Much of the opposition within the health sector came from practitioners who favored an abstinence-based approach to treating heroin addiction, but others simply had reservations about the suitability of the treatment. In particular, resistance to HAT was reported by some clinicians who work directly with heroin users: “It’s very easy, if people work with clients and there is no improvement, everyone gets demotivated in the end, the clinician and the client, and they’re like, ‘nothing works’” (UK7).

In Switzerland, opposition to the introduction of HAT was reported to come from a minority of clinicians and conservative politicians who favored instead residential abstinence-based

treatments, although in general most practitioners in addiction, and political parties, were supportive of HAT (SUI1). One UK interviewee, a licensed clinician, recalled his own initial wariness about HAT before his involvement in the RIOTT trials. This interviewee had originally felt that the treatment was extreme and clinicians who were involved in its delivery were “zealots and enthusiasts”, who lacked clinical detachment (UK5).

In Canada, one interviewee commented that while the health sector in Vancouver is generally open-minded about addiction treatments, some expressed concern that having injectables available to patients would undermine oral treatment programs and lead to patients abandoning services such as MMT. This interviewee noted, however, that this did not ultimately occur (CAN3).

How stakeholders' views on HP evolved following implementation

Interviewees were unanimous in their assessment of the evolution of local stakeholders' views of heroin prescription once clinics have been established. For example, one UK interviewee commented that:

Senior police officers had been so surprised by the good results we'd had. They thought people had died, but they'd actually just stopped committing crimes and had done so well. (UK2)

Similar views were expressed about local communities' response to heroin prescription clinics opening in their neighborhood. Across the four countries, interviewees reported that community concerns about the clinics, and potentially detrimental effects on the area, largely dissipated once the service was established (UK4, CAN2). In Canada, for example, while one interviewee reported that businesses were originally concerned about an increase in nuisance and antisocial behavior (CAN2), one interviewee stated that business associations are now very supportive of injectable programs because of the reduction in nuisance, violence, and public drug use (CAN3). It is important to note, however, that many interviewees attributed the change in community attitudes in large part to effective communication between the clinic and the community, particularly with regard to the results at patient- and community-levels (see below) (UK4).

In the UK, interviewees reported a “transformation” in the views of their colleagues in the health services sector as the intervention was implemented. As with community concerns, the concerns were reported to have abated as positive results of the program became apparent (UK5, UK7).

Efforts to address stakeholder concerns

Community concerns

Given the concerns that many communities feel about heroin prescription clinics opening in their local neighborhoods, interviewees stressed the importance of community engagement

before a clinic is established, and maintaining open and transparent communication channels once the clinic is established (UK4, UK6, UK7, SUI1).

I think the one thing that, early on, we found with the heroin pilot is that a lot of work needed to be done by the commissioners and providers to communicate with interested parties, and to be willing to go and explain how it works and why their fears might not be justified... The feedback we were getting was that they were having to do a lot of work to assuage concerns. My understanding was, once it was up and running, that essentially, largely disappeared. (UK4)

Continued community engagement once a clinic is established was also stressed by interviewees. For example, two Swiss interviewees noted that part of the role of clinic staff is to liaise with community members to discuss the running of the facility and any issues that emerge:

We also educated the staff that they were available for any inquiries or concerns coming from the neighborhood. They had to make it official how they could be reached, and they had discussions in the neighborhood explaining what they were doing and how they could be reached in any case of nuisance. [This] worked very well. (SUI1)

Furthermore, this interviewee reported that patients were instructed not to be in the vicinity of the clinic before or after their appointments (SUI1). A Dutch interviewee stated that when they settle patients into new accommodation, clinic staff follows up with local residents to check that there have not been any issues with their new neighbors (NLD4).

One interviewee also stressed the importance of demonstrating the results of the service to local stakeholders:

It can be considered a controversial treatment, so not everyone's going to agree with this type of treatment. However, if people who... [see] the results of how successful it can be when it's done well, good evidence driven by having real clinical protocols. You have psychosocial embedded in the service and it's safe, and it's effective. Actually, quite often the results are so good they speak for themselves in terms of patients doing so well. (UK2)

Several interviewees across all four countries were of the view that locating a heroin prescription service within an existing health care clinic preempted some of these concerns and facilitated an easier implementation, as it was not perceived by residents to be a radical change in the health services on offer locally (UK7, SUI2, NLD1). One Swiss interviewee also noted that clinic staff tend to use the label name (Diaphine) rather than heroin or diamorphine, to mitigate the stigma associated with street heroin (SUI2).

Health services concerns

Similarly, the value of demonstrating the results of a heroin prescription service to medical colleagues was emphasized by one interviewee. Reflecting on his own experience at a RIOTT clinic, the interviewee stated:

Clinicians, yes, there was definitely a transformation because people saw the benefits... [P]eople joined this program and they see these massive

improvements, physical health, mental health. If people actually see the benefits, it's the best thing you can have. (UK7)

This interviewee held the view that, similarly to preempting community concerns, it is preferable to co-locate a heroin prescription service with an existing health care clinic. The potential benefit of colocation in relation to health workers, however, is that more practitioners will have the opportunity to interact with patients in the program and be able to see the results first-hand (UK7).

Police concerns

In the Netherlands, one interviewee noted that keeping the police informed about and engaged with their work at the clinic was important to maintaining a positive, cooperative relationship. The interviewee commented that police also update them on concerns and issues relevant to the clinic and its patients (NLD4). A Swiss interviewee noted that if clinic staff observe drug dealing in the vicinity of the facility, they immediately alert the police (SUI2).

Service Results

A full review of results from heroin prescription trials (including from the four countries covered in this paper) is available in Smart (2018). Interviewees in this study also shared more anecdotal and high-level findings from their experience in this field. These comments focused on the trajectories that clients in their programs underwent, as well as broader positive and negative effects on the community.

Client trajectories

Interviewees from all four countries highlighted the variability in HAT client trajectories. They noted that while some patients stabilize and even become abstinent, a significant proportion continue to struggle with their addiction and even drop out of treatment. According to one UK interviewee:

Having seen people over a period of a couple of years, I was just blown away by the fact that a proportion of them really do respond so dramatically. They really do turn their lives around. Not the majority, but a third of patients I would have estimated. (UK5)

Another UK interviewee concurred that while HAT produced a variety of outcomes for patients, this should be considered in the context of the user group who is eligible for the treatment:

What HAT programs have shown is that with this extremely chaotic, dangerous, high-risk, high-cost group of patients who haven't responded to repeated attempts at high-quality methadone maintenance, if you then introduce the injectable methadone, but particularly injectable heroin, which is the most effective, you can stabilize this group. A significant number appear able to

transfer over to more standard treatments, or, in some cases, to go down an abstinence route, and some do not. (UK4)

Another UK interviewee reflected on the complexity of dealing with patients with such diverse trajectories:

Some people take to it straight away, and they do incredibly well. Sometimes just the structure and all of that was enough, the provision of diamorphine twice a day was enough, for people to get their lives back in order and to start making those changes themselves. Then there are a group of people that do incredibly well, but they don't necessarily make all those changes. The only reason they do well is because they're in the program. What do you do with that group? That is the problem really. We often noticed that if we were a bit more directive in reducing attendance sometimes that didn't work well, people would relapse and go back to old habits. Then there is a group of people that does not respond to it very well. They immediately have issues, because maybe there is other drug use involved or maybe there is alcohol use involved. Once alcohol is involved, and other drugs, you sometimes cannot administer diamorphine because of the safety aspect. So people start missing doses. Before you know it, the whole structure, there is no structure. That's why people do not do well. (UK7)

In the Netherlands, two interviewees drew similar conclusions about the trajectory of patients in HAT (NLD3, NLD4). One noted that for those who decide to participate in a treatment program, there are a number of likely pathways. Patients may find that they can better control their drug use, and at least some move to abstinence-oriented treatment; some patients succeed in that transition, but the majority does not. Alternatively, patients may undergo the treatment and start to feel that coming to the clinic two or three times a day is too onerous. They may ask to come into the clinic for injections less frequently, but supplement their treatment with methadone or buprenorphine maintenance (NLD3). Another Dutch interviewee commented that about two thirds of patients stabilized on HAT in terms of their health, behavior, and relationships. Those who do not benefit from the treatment are typically moved off HAT to other treatment programs (NLD4).

This diversity in client trajectories was also identified by Swiss interviewees. One commented:

We see a lot of change in patients, but we have some patients that keep on having problems, that keep on using street drugs. But then we also have patients that stabilize very well. They have a lot better social relations with their families or their friends, who are reintegrated. (SUI4)

In Canada, hydromorphone-assisted treatment patients were reported to follow similar trajectories as HAT patients. According to one interviewee, approximately half of their patients rapidly stabilize; of the rest, around half struggle with the program, and half are unsuccessful (CAN3).

Perceived positive results

Patient-level outcomes

Interviewees reported a number of positive impacts on patient health outcomes as a result of their participation in HAT. These were not necessarily linked to abstinence or even transitioning to other forms of treatment, but rather with improved general health and reintegration into social and working life (NLD1). This interviewee added:

I think HAT is really focused on recovering. Not so much on abstinence, but more on recovery as in getting more stable lives, being able to work on problems that lead to addiction, on a social level. (NLD1)

One Swiss interviewee highlighted in particular the reduction of HIV infections in their region among the opiate using population. In addition, the interviewee reported that fatal overdoses had become extremely rare (SUI2).

In the Netherlands, an interviewee reported that the clinics had seen very few serious adverse events, and no fatal overdoses. The interviewee also noted that the HAT clients nearly eliminated their use of street heroin (NLD3). In Canada, one interviewee reported having seen many patients complete their education and move into full-time work (CAN2).

Reduction in crime and antisocial behavior

Interviewees were broadly enthusiastic about the impact of HAT on criminal behavior in patients. Following the RIOTT trials in the UK, although an effect on crime was not detected in London as a result of the heroin clinic, police in Brighton were able to distinguish an effect on crime from the clinic at that site. Furthermore, the most striking effect was observed in Durham:

Initially, the police thought that a whole cohort of criminals had either died or migrated away from the area because there were people they had seen on a very regular basis – apprehending them for crimes – and suddenly they weren't on the police radar at all. Because the heroin-assisted treatment, under RIOTT, was so effective for them in reducing their criminal activity to fund their habit. (UK3)

Concerns expressed in some quarters about users congregating outside heroin prescription clinics during the RIOTT trials were alleviated during implementation. An interviewee commented that as the clinic was serving a relatively small cohort of patients, there was no need for them to queue outside and in practice, patients came and went without creating a negative impact on the community (UK7).

In Switzerland, one interviewee reported that instances of criminality within the patient group at his HAT clinic had fallen to almost zero (SUI2). Another reported that the drop in crime has deepened support for the program from police, who generally have a cooperative relationship with clinics:

The police have much more time to do other, more useful, stuff than follow drug addicts around. So we know that in general, the attitude is very positive by police towards our services... if they're looking for somebody and they know this

person is in treatment, they might drop by and see whether he's there, or they might hang around in front of the doors and look for a second, but it's not like they target our treatment center or anything. (SUI4)

Similarly, in the Netherlands, interviewees reported a substantial reduction in criminality as a result of HAT. One interviewee pointed to a number of evaluations indicating that the program's impact on crime rates produced a cost saving of about €13,000 per person per year. Another Dutch interviewee commented that in addition to a reduction in public nuisance in the neighborhoods around the clinics, there had been no observed violence within the clinics (NLD3).

Similar reports of reduction in criminality amongst HAT and hydromorphone patients were made by Canadian interviewees. One stated that approximately 80% of their patients had been in jail for at least a month, and some for many years. The interviewee described the (self-reported) easing of the burden on the criminal justice system as a significant component of the program.

It was one of the concerns that there would be crime, but we've got data – when people start with us... they were engaged in criminal activity at least 14 days out of that month, and after six months in care with us they're injecting illicit opioids a handful of days, less than four, and they're engaging in activities less than four days a month as well. (CAN2)

This interviewee reported that while increased crime was a concern in the local community at the outset of the project, in reality the neighborhood has continued to gentrify, with new businesses opening and successfully operating (CAN2). Another interviewee commented in relation to concerns about HAT clinics attracting new users to an area:

People aren't coming to the downtown eastside for services. They were already there... You pick your site based on where users already are. (CAN3)

Perceived negative results

Patient-level outcomes

Interviewees stressed the point that HAT is not an effective treatment option for a high proportion of users (UK2, UK3, UK5, CAN3). Indeed, interviewees in the UK found that some patients derived little to no benefit from the treatment, and continued to use illicit heroin alongside their prescription dose, relapsed into using illicit heroin, continued to engage in criminal behavior, or dropped out of the treatment program completely. The reasons provided by interviewees for this were complex and manifold. Some users felt the demands of the program, in particular, being required to be onsite twice a day, was “too much of a bind,” for example when trying to manage work or study commitments. It is important to note, however, that these patients did not necessarily disengage with treatment entirely, but rather pursued other, less onerous treatment options such as methadone maintenance (UK2).

Some users found the concept of engaging with such a structured and medicalized program confronting in terms of their understanding of their own identity, an issue that was raised by several interviewees, although not necessarily fully understood:

Regardless of the fact they were able to get as much heroin as they wanted on prescription, there was something about the way they understood their identity, the way they visualized themselves, that – even so – they used illicit street heroin. Even so, they would continue to commit crimes. We don't quite understand why that would be the case, but it was. (UK3)

As noted above, few serious adverse health events were reported by interviewees, but non-fatal overdoses and “epileptic-like seizures” were among these (SUI1). One Swiss interviewee noted that after such an event, the clinic developed an information protocol for patients advising them not to move around following their injection in order to reduce the risk of negative effects (SUI1).

Diversion risks

Amongst the Swiss interviewees, views on the occurrence of prescribed heroin diverted into the illegal market were mixed. One interviewee stated that no injectable heroin from a HAT clinic had ever been detected on the street (SUI1). Another interviewee said that one instance of heroin diversion had been established at another clinic, although the source of the diversion was quickly identified (SUI2). A third interviewee acknowledged that diversion of take-home oral diamorphine had occurred at his clinic, albeit on a small scale. This interviewee stated that if a patient has been discovered to be selling these tablets, the patient is placed back on supervised injectable heroin (SUI4). In the Netherlands, one interviewee reported that some prescribed heroin had been diverted by patients, although not by clinic or transport staff. The interviewee stated that the clinic does not notify the police if heroin is found to have been stolen, although police in the Netherlands would not typically prosecute such an offense in any case (NLD4).

Interviewees were generally opposed to providing take-home injectable heroin to patients in all but the rarest of cases, citing the risk of diversion onto the black market (UK5, CAN2, CAN5, CAN8). One UK interviewee pointed to the controversies in prescribing practices and allegations of overdoses from prescribed heroin in the 1960s as evidence of the risks that such an approach can carry. In particular, the interviewee noted that there had been considerable diversion of prescribed heroin onto the black market, and described it as an inevitable consequence of prescribing heroin to patients who were very stable and well-known to the clinician, adding:

Even in the old British system, there was loads of diversion of ampoules. The diversion happens because it's basic economics. You supply someone with something that's worth a lot of money, there is a good chance they will cash it in. (UK5)

In Canada, one interviewee reported that injectable hydromorphone had also been diverted, noting that one clinic had discharged four patients for stealing hydromorphone. The interviewee added:

That's been one frustrating thing. I didn't think that. I thought people would be so happy to be on the program they wouldn't want to risk getting discharged. But that's not what happened. (CAN3)

Interviewees also expressed concern about take-home injectable heroin due to the risk of an unsupervised overdose (SUI4, CAN3). In the UK, this concern translated to relatively small and potentially insufficient doses of take-home heroin being prescribed (UK6, UK10). In relation to take-home oral diamorphine, one interviewee expressed concern that patients would inject the drug (CAN2).

Patient dropout

A number of interviewees commented on the treatment structure of HAT programs. Even in clinics which do not require pre-arranged appointment times, the need for patients to attend the clinic twice a day, and stay for a certain period of time following injection, can lead to dropouts. In Switzerland, this situation has led to the introduction of take-home oral diamorphine to give patients more freedom in their treatment regime:

We have some people that we don't reach, or feel that the service is just too rigid or too tight. Basically you have to come in twice a day to inject heroin at our treatment center... 365 days a year. So, that's more than 700 times per year that they come to our treatment service. So for many patients they feel that it's limiting their autonomy too much and they don't feel free enough. So, now we have the possibility to give out heroin tablets which they can take home and then take at home. (SUI4)

Hydromorphone-assisted treatment in Canada was also reported to have an estimated dropout rate of between one quarter and one third of patients. One interviewee, reflecting on the challenges of delivering the program, commented:

Then, people just not liking it. For a lot of people, they were holding out for injectables for a long time, thinking this would be the thing that would cure them. Then when it doesn't work, it's quite emotional. Also, people don't like the side effects for hydromorphone. A lot of them are waiting for HAT, because hydromorphone can cause pins and needles and localized swelling, and sometimes people get flush from it. A lot of times, people would rather heroin. (CAN3)

Perceived unintended consequences

In Switzerland and the Netherlands, interviewees commented on the changing needs of their clients, related to the aging demographic of heroin users in their countries, and the health challenges associated with this issue. One Swiss clinician noted that when the clinics were first established, their main health challenges were dealing with overdoses and preventing and responding to HIV infection in patients (SUI1). With the mean age of Swiss patients currently around 50 years of age, and with many patients having used heroin and other substances for many years, one interviewee noted that HAT patients experience health challenges more

typically seen in patients in their sixties, which was not necessarily foreseen at the time of the establishment of the HAT program. Conditions such as HIV, diabetes, cancers, high blood pressure, and chronic obstructive pulmonary disease (COPD) must frequently be treated alongside the heroin addiction (SUI2, SUI4). Patients are also reported to be increasingly immobile, particularly due to problems with their veins (SUI4). In addition, many patients are still experiencing the psychiatric issues they presented with when they first engaged in addiction treatment (SUI4). Similarly, in the Netherlands, health issues such as lung problems, cancer (NLD4), HIV, and tuberculosis require chronic care (NLD3). According to Dutch and Swiss interviewees, a potential contributing factor to the ageing trend is the fact that in those countries, heroin has a poor image amongst drug users, who perceive it as a ‘loser’ drug (SUI1, NLD1). This image was associated with very low rates of new heroin users, particularly amongst the young (NLD1).

Relatedly, in all countries, interviewees linked health conditions with the high rate of smoking amongst patients. One Canadian interviewee estimated, albeit not in the context of an ageing client population, that about 90% of his patients smoke, and noted that they had lost many patients to diseases such as lung cancer, interstitial lung disease, and COPB exacerbations (CAN2). Furthermore, one interviewee noted the co-ingestion of benzodiazepine and alcohol was a serious health risk amongst patients (CAN3).

Lessons from implementation

Costs of service provision

The cost of HAT was raised by several UK interviewees as one of the most serious challenges to its provision. In the UK context, costs are associated with the drug itself, and for take-home heroin, the single-use ampoule. The costs of an ampoule of heroin was estimated to be around £7, adding up to more than £5,000 per patient, per year, in drug costs alone (UK5). For supervised consumption, the labor costs involved were described by one interviewee as “roughly equivalent” to the cost of take-home ampoules (UK4). A clinic may need to be staffed by two nurses, or a nurse and another professional such as a pharmacist, a prescribing clinician, and other personnel such as psychologists. Given that patients typically inject at least twice a day, the clinic would need to run at least two to three shifts. By comparison, methadone costs less than 50p per dose, and requires less intensive supervision, meaning that the overall treatment costs for prescribed heroin is many times the costs of methadone maintenance (UK5).

In the UK, while programs such as heroin prescription have historically been funded centrally by the Department of Health, policies around health resourcing moved funding on addiction services to local health commissioners, who face extremely stretched budgets and are typically unable to commission what is a relatively expensive treatment. As a result, there is

pressure on clinicians to aim to use cheaper treatment options even, according to one interviewee, if those cheaper treatments are ineffective (UK3).

Four UK interviewees noted that while heroin prescription has been demonstrated to offer the criminal justice and welfare systems substantial savings, particularly as a result of crime prevention, the service is currently paid for out of local health budgets which do not see those savings (UK2, UK3, UK6, UK10).

If there is less offending then costs to police and the criminal justice system decrease, if people are able to sustain employment then you have a net decrease to welfare budgets, if you have people better able to fulfil parenting responsibilities then again there is a reduction in the costs to budgets for child protection. These budgets are here, there, and everywhere. It requires some good local coordination to realize that. (UK3)

In Canada, one interviewee also noted that the savings of HAT or hydromorphone treatments are seen in the criminal justice system (CAN2). Among the reported costs of HAT provision were those entailed in creating a secure and safe treatment facility, such as bulletproof windows and double-door entry, which may amount to a seven-figure investment (CAN2). In Switzerland, one interviewee stated that although the drug itself is not expensive, costs are accrued by staffing, renting the space, and the logistics entailed in stocking and administering the substance (SUI2).

Limited appeal to patients

A number of UK interviewees (UK4, UK7) commented on the difficulties that the RIOTT trials faced in recruiting heroin users for the study. One interviewee described the outreach efforts by RIOTT staff as “highly focused and highly advertised” (UK4), and noted that the clinics were located in urban areas, with relatively high numbers of users based in the community. In the view of these interviewees (UK4, UK7), the difficulties in recruitment can be explained to some degree by the very small percentage of the total using population to whom this type of treatment would be directed – a high-risk, high-using population who may be reluctant to engage with the treatment. One interviewee, who noted that their clinic did not meet the patient targets agreed to at the outset of the study, stated that the challenges of recruiting enough patients to the trial caused issues with the Department of Health, which was funding the study (UK7).

A Dutch interviewee also commented on limited take-up from users, suggesting that the demands of the treatment program were a significant deterrent:

I would say I don't think that all heroin-addicted people are waiting for heroin prescriptions along the lines of heroin-assisted programs. You might think they all want the free heroin and it's definitely not the case. A lot of people don't want to start HAT because they see you have to come two or three times a day and they feel too much control then. It's just too much of an impact on their daily life and routine. (NLD3)

This view was echoed by two Canadian interviewees, (CAN2, CAN8), one of whom noted that HAT is “not an easy treatment to take.” This interviewee added:

There’s sort of a myth that if you open a HAT clinic you’re going to be treating addicts and people will be coming from all across the country to access it. But you don’t. (CAN2)

This view was seconded by a Canadian interviewee, who commented:

... a lot of people balk at the idea. “I need to use my drugs whenever I want to use them, and I’m not coming to your clinic to use them.” ... I would estimate that about 80% of people using opiates right now would not sign up for that program. (CAN6)

Demands of the treatment structure

Three interviewees discussed the challenges for patients in dealing with the relatively strict structure of a supervised service, with its requirements to be on site twice or three times a day (UK6, UK7, SUI4). In particular, given the challenges in recruiting patients for this treatment, one interviewee stated:

I think there is no reason why people shouldn’t be able to start on a less intensive program. Maybe, by being so rigid and full on right from the start, some people thought, “That’s not for me.” I think there should be a bit more flexibility there, to actually be able to attract people into treatment. Once they’re in treatment, you might be able to actually increase the frequency if clinically required or if people would like to do that. (UK7)

Two interviewees commented on the difficulties in reintegrating patients into the work market and into society while they are maintaining their commitment to onsite injection (SUI4, CAN6). One Canadian interviewee stated:

If you talk to the 140 people at Crosstown, most would say that this program has saved their lives and they’re very grateful for the program, but they haven’t been able to move on because their whole life is spent going to this clinic and having people watch them use drugs. (CAN6)

Furthermore, interviewees discussed the need to make the service more flexible for patients in regional or rural areas who may lack the ability to travel long distances multiple times per day (UK7, SUI4). An absence of public transport is also a potential barrier to participation in HAT, given that patients should wait at least an hour after injection to drive. (SUI4) Interviewees commented on the difficulties with reaching users based outside of major urban areas with this intensive form of treatment (UK6).

Communicating treatment goals effectively

One UK interviewee commented on the difficulties in managing the relationship with the funding agency and indicated that there had been a profound misunderstanding from the outset about the goals of the intervention, and what could reasonably be achieved within certain

timeframes. The interviewee noted that communication had subsequently improved, aided by the release of official guidelines which have increased understanding of the treatment amongst policymakers and other stakeholders (UK3).

Length of treatment

Three interviewees reflected on the appropriate length of a program of heroin prescription treatment, and though neither were in favor of imposing a strict timetable for patients to transition off the treatment, both felt that if the treatment was obviously not having a positive effect on the patient then the clinician should discontinue it and discuss other treatment options with the patient (UK5, UK7, NLD3). Both UK interviewees pointed to the expense of the treatment as a factor in discontinuing unsuccessful treatment, with one noting that heroin prescription clinics have limited spaces that may be needed by other patients (UK7) and another reiterating that typically 25-40% of patients will respond to the treatment (UK5). A Dutch interviewee stated that all patients are evaluated every six months and are consulted on how they would like to continue their treatment. This interviewee added:

We don't force them out of the treatment system as long as they're seen to benefit from it. We think we should bring up the issue that we have other options and we are willing to guide them into other options, but there's no limit. (NLD3)

Future plans

In the UK, the future for heroin prescription looks mixed. Interviewees felt that with health resources so stretched in England, there were few prospects for a significant expansion of the treatment (UK3), although police in Durham, in the north of England, are currently conducting a health needs assessment in their region to gather evidence on the need for a local supervised HAT program (UK10, UK11). Similar plans are also in motion in Glasgow, Scotland (UK8).

Swiss interviewees described the HAT program as well established, but doubted that it would be expanded further, citing the low rate of heroin use, the expense of the service (SUI1), and the introduction of slow release morphine as a substitution treatment option (SUI2).

In Canada, plans to increase the provision of HAT and particularly hydromorphone-assisted treatment are currently under consideration (CAN3). One Canadian interviewee discussed plans to increase the availability of hydromorphone via a hydromorphone pill program with the objective to increase the geographical coverage of the program and increase access to quality-controlled substances. Possible distribution methods include a network of pharmacies as well as vending machines using biometric identifiers for enrolled patients. With respect to the latter, these machines are proposed to be secure sites like cash machines, and located not only in harm reduction services such as overdose prevention sites and supportive housing projects, but also sites where users would not normally be accessing harm reduction services (CAN6). The interviewee acknowledged that diversion could be a problem for this type of provision but

opined that if the program was made sufficiently low-barrier, any prospective buyers of diverted drugs would be able to join the program instead (CAN 6).

Respondents' Opinions About Lessons for the US

Establish conventional opioid substitution programs before heroin prescription

Most interviewees stressed the importance of having a well-established and resourced MT regime in place before introducing a heroin prescription treatment option (UK4, UK5, UK6, SUI1, CAN3). Interviewees tended to share the view that heroin prescription is a treatment which should be offered to patients who have already tried and failed to benefit from more “standard” forms of treatment such as MT. For those patients to be identified, it is important that those forms of treatment are available and working effectively (UK6, CAN3). Furthermore, a number of interviewees stated that continuing to provide take-home oral methadone, or a long-acting morphine, was essential for patients in heroin prescription treatment:

...[Y]ou need to have take-home [opioid substitutes], because heroin is not long-acting enough, so you'd be setting people up to fail... [I]f they can only make it in twice a day, then if you don't give them something to take home, then you're setting them up to go into withdrawal, and of course, they're going to use whatever they can get hold of. So it's essential that you look at what their 24-hour needs are. (UK4)

Three UK interviewees also noted that the evidence base for heroin prescription is for users who have been offered and have not been able to benefit from methadone maintenance programs (UK4, UK6, UK10). Furthermore, one interviewee stated that without the availability of MT, it is difficult to justify heroin prescription, noting that “if you've got limited buy-in, then clearly, you've got to go for the strongest, most proven treatments, and the cheapest as well” (UK4).

However, two Canadian interviewees expressed the view that diamorphine should be a first option for patients (CAN6, CAN8). One expressed the view: “I don't think people should have to fail other treatments in order to get access to this one” (CAN8).

Offer more flexibility in treatment structure

Potential solutions to the issue of recruiting and retaining users in HAT were also discussed by interviewees. Many of these ideas centered on making the treatment more flexible in delivery.

One suggestion was to allow patients to come in for injectable heroin once a day and take an alternative oral medication without supervision for the rest of the day, and gradually increase the length of time between injections. This interviewee also raised the idea of establishing satellite clinics within existing drug treatment clinics (UK6). Another interviewee proposed allowing stable patients to take several days' of oral or nasal diamorphine or hydromorphone home (SUI4).

5. Insights from international SCS

Service details

As documented in existing literature and supported by stakeholder interviews, the operations of existing SCSs vary across countries and locations within countries. The following section briefly discusses the variability among existing SCSs in the following two principal dimensions: 1) their service provision and relationship with other services, and 2) rules of operation and related arrangements.

Service provision

Consumption room

The core service provided by SCSs is a place where users can administer their street-purchased drugs under medically-trained supervision and utilizing sterile materials (e.g., needles, filters, water, pipes etc.). SCSs vary in terms of what forms of drug administration are accommodated. In addition to injecting, some SCSs allow users to swallow, snort, or inhale their drugs. A potential obstacle for introducing the smoking option are concerns surrounding exposure to second-hand smoke and workers' safety, which could be costly to address (CAN6). One interviewee commenting on an SCS that prohibits smoking noted that they would be interested in offering this possibility but the site does not have adequate ventilation (CAN7). According to the interviewee, this may be a particularly serious challenge where SCSs are opened in an old building and would require retrofitting (CAN7). Another interviewee commenting on a different SCS agreed that introducing smoking would require investment (in the form of additional real estate), which was currently not considered feasible (CAN8). In the Netherlands, some SCSs also allow consumption of alcohol onsite and some cater to alcohol users only (NLD3).

Box 1. Canadian overdose prevention sites

Canadian overdose prevention sites

In addition to formal supervised consumption sites, overdose prevention sites (OPS) opened in British Columbia and Ontario. These sites are a lower threshold form of supervised consumption sites. Typically, they offer fewer services than formal SCSs and focus on the core provision of supervision of injections, naloxone and oxygen administration, and calls to 911 services (CAN5). However, one interviewee noted that some may provide additional services similar to formal SCS, such as drug composition testing or other medical services where there is medical personnel present (for instance, if co-located with other medical facilities) (CAN3). They are run by non-governmental organizations, some of whom may receive partial support from the government. They tend to be less expensive than formal SCSs and are staffed by

people trained in overdose prevention and response. These can include volunteers as well as people who are either currently using or have used drugs in the past (CAN5, CAN3).

The introduction of overdose prevention sites increases the capacity for the supervision of injections in two ways. First, they can relieve existing SCSs that face capacity pressures; and second, their geographical dispersion may expand the catchment area of existing services (CAN5). In addition, their proliferation enables the introduction of services targeting specific populations: for instance, one site in Vancouver is for women only (CAN3). Two interviewees highlighted the community character of overdose prevention sites, noting that they reflect local needs and are appreciated by their communities (CAN5, CAN6). One interviewee suggested one way of thinking about overdose prevention sites is to view them as an extension of needle exchanges “with a few booths in the back where people could use onsite” (CAN6). The introduction of overdose prevention sites was a response to administrative requirements associated with the opening of formal SCSs and delays in obtaining federal approvals (CAN5).

The first OPS in Vancouver were set up in September 2016 in defiance of federal law (Boyd et al. 2016). The provincial government in BC followed suit shortly thereafter and announced the opening of further OPS as part of its efforts to address a public health emergency (CAN3, CAN6). The federal government subsequently recognized urgent provincial public health needs as the basis for allowing provinces to set up and operate OPS (Health Canada 2017a). Each province subsequently develops its own approval and permitting procedures to allow OPS to operate. One interviewee mentioned that Ontario established a very streamlined approval process with quick turnaround times, commenting that the regulatory burden does not have to be onerous (CAN6). In addition, some OPS are working to obtain or have obtained a formal exemption from the federal government, just like a formal SCS would (CAN5, CAN6).

According to one interviewee, the name “overdose prevention site” is somewhat of a euphemism, reflecting a desire to avoid highlighting the fact that they are not a formally sanctioned drug consumption site (CAN5). At the same time, one interviewee suggested that there are also potential downsides to getting OPS fully exempted by the federal government. Since the federal exemption requires compliance with a set of rules, this may increase the barriers to entry for such low-threshold services (CAN6).

Injection assistance

SCS clients are typically offered injection supplies and help with vein care and finding veins. For instance, one interviewee mentioned that one site had a vein viewer to help user find veins for injection (CAN8). This site did not have any limitations on high-risk injection sites, such as the jugular. According to the interviewee, this reflected a conviction that people would engage in this type of injecting and it was preferable that it happen in the SCS (CAN8). Two interviewees also mentioned sites offering advice with vein maintenance (NLD6, CAN8).

Though clients receive injection assistance as discussed above, they are required to administer the injection themselves. In Canada, this is explicitly required by Health Canada as part of the conditions set forth under an SCS’s Section 56 exemption (CAN4). One interviewee pointed out that this prohibition may potentially represent an accessibility challenge as it keeps away individuals who cannot self-inject due to a disability or are used to being injected by others (CAN4). In addition, one interviewee commenting on a concrete SCS explained that in their site

they are not comfortable having their staff do the injections because of the unknown contents of the drug. As an alternative, six sites in Canada, with permission of Health Canada, are currently piloting a peer-assisted injecting model, whereby clients would be allowed to bring somebody with them. This person would have to be pre-registered with the facility and would be able to do the injection (CAN8).⁹

Drug composition testing

In addition to supervising drug consumption, SCSs increasingly offer users the ability to have the composition of their street-acquired drugs tested and analyzed. Several Canadian interviewees confirmed the availability of this service (utilizing mass spectrometers) in both formal SCSs such as Insite as well as in some overdose prevention sites (CAN1, CAN 3, CAN4, CAN8).

That did arise very early on in the public health crisis, so probably mid 2016 people began to say, "Well we should be figuring out how much of this is contaminated with Fentanyl." (CAN 4)

In some contexts, the analysis itself does not have to take place on site. Under one arrangement currently under implementation described by a Canadian interviewee, samples submitted by SCS clients will be taken by a courier to a research lab nearby, where they will be analyzed and results telephoned back to the site. This is expected to take about 20 minutes (CAN1).

Several interviewees stressed that drug testing services are valued by SCS clients. A Canadian interviewee observed that SCS clients have been increasingly asking for drug testing services following the spread of fentanyl in the local market (CAN3). The desirability of a drug testing service was also identified as a need in an Alberta-based survey of users conducted to inform the implementation of local SCSs. Furthermore, one interviewee suggested offering drug testing services may be a way to attract user populations that would otherwise not be inclined to come to the facility, e.g., young people (CAN7).

Our concern is that there's a large portion of the population that will not use our clinic, and that would be, for example, young people. So, the high school party kids that want to take a pill and go to a party, they're not going to come to the clinic for supervised consumption, but they might come to the clinic if we have drug testing equipment. So, we're trying to think of creative ways to reach other populations, besides the groups of folks that will actually use the clinic as it stands now. (CAN 7)

In discussing the legal arrangements for drug testing services, one interviewee explained that Health Canada decided to no longer require a standalone Section 56 exemption application for drug testing (Health Canada 2017b). Instead, existing facilities can include drug testing as an

⁹ Three sites in Quebec, two in Ontario and one in Alberta (Health Canada 2018b).

amendment to the original exemption application filed by the SCS. While seemingly only a minor distinction, the interviewee felt this greatly expands the capacity for drug testing at sites in Canada (CAN1).

One interviewee added that drug testing services might serve as a useful research and public health monitoring tool for tracking supply trends and in general are more acceptable in the public discourse than supervised consumption (CAN1).

Other social services

In addition to services directly linked to drug usage, some SCSs provide additional social services. For instance, some (largely in the Netherlands) offer hygienic facilities (e.g., shower) and/or laundry facilities to their clients (NLD5, NLD6). One Canadian interviewee also mentioned that shower facilities are available on site if needed, though it is not regularly offered (CAN8). Some Dutch sites also offer free or discounted food and drink (NLD5, NLD6). As explained by one interviewee, the rationale behind the provision of these additional services is to improve hygiene, safety, and create a stress-free environment (NLD6). Relatedly, one interviewee commenting on a Canadian SCS mentioned the site offers light snacks but does not have a budget to supply more nutritious foods (CAN8).

Some sites also offer users a setting for socializing. For instance, Dutch SCSs frequently function as a drop-in cafe or are embedded in a drop-in center (NLD5). The social aspect of meeting others in the same situation was also mentioned by one Dutch interviewee who noted that even when previously homeless people find housing, they continue coming to the SCS for social engagement (NLD1).

It's also a facility that's very useful for homeless drug users. People with a home, they can still use at home. Homeless drug users really have no other choice than to use on the streets. We do see in the Netherlands even when people do get housing they do tend to keep coming to the drug consumption rooms because there's also a very social aspect. (NLD 1)

Similarly, two Canadian interviewees explicitly mentioned the provision of a drop-in space (CAN1, CAN8). To illustrate, one Canadian site using an integrated model (i.e., co-located with other facilities) offers a space where people can spend time—before or after--injection to engage with others; some even spend time there without utilizing the injection rooms. The drop-in space also offers educational and recreational activities (CAN8). At the same site, another feature appreciated by users was the installation of sockets where clients can charge their cell phones (CAN8).

However, one Dutch interviewee pointed out that the breadth of services provided by SCSs varies in the Netherlands and gave an example of a site that was not considered a very inviting place and where “once you have finished your business you're expected to leave” (NLD3). Similarly, another interviewee mentioned that the SCS models in other countries may not offer any additional services (NLD6).

Relationship with and linkage to other treatment, health and psychosocial services

Consistent with existing literature on SCS, several interviewees stressed that SCSs represent an opportunity to provide linkage to other services. For instance, one Dutch interviewee highlighted the importance of referrals as SCSs aim to be a first step for people on their way off the street into treatment (NLD3).

It's not a thing on its own, it's not an island on its own where you say, "We let these people use drugs and in the end they will die, and we'll have nothing to do with them." No, it's just a basic necessity for those people, after which you can maybe do some work with them. (NLD3)

Similarly, another interviewee noted that, besides having a safe place to use, SCSs also educate users on safe injection practices and inform them about additional services should they need them (NLD6). This was echoed by a Swiss interviewee who stressed that the objective of an SCS is to establish contact with users, educating them about basic injection practices and existing treatment options (SUI1).

Broadly speaking, there are several modalities under which this linkage can happen, depending on the organizational structure of the SCS in question.¹⁰ In some instances the SCS is a standalone facility and its staff can provide additional services (e.g., health care, social counselling) on site. For instance, one Dutch interviewee explained that SCSs in the country typically include a social worker as well as a nurse or a medical professional who can provide services to clients (NLD5). In other cases, standalone SCSs (regardless of whether fixed or mobile) are able to provide information about and referrals to other services (e.g., psychosocial services, substitution therapies, etc.) (SUI1, NLD1, NLD3, NLD6, CAN7, CAN8).

Elsewhere, linkage is facilitated by the fact that the SCS is co-located with another service. In some instances, consumption rooms are in the same location as other facilities serving vulnerable populations. For instance, as mentioned above, most SCSs in the Netherlands are embedded in other services, such as a drop-in center (NLD1, NLD6). They help clients obtain housing, access social benefits, and direct clients to job or volunteering opportunities (NLD5). Similarly, in Switzerland, SCSs used to be standalone facilities but, according to Swiss interviewees, are increasingly moving to facilities that also address other issues, such as other forms of addiction (SUI1, SUI3). Insite in Vancouver is another example of a co-located facility, sited in a three-story building, with the consumption site on the first floor. The other floors house a detoxification clinic and a residential drug treatment facility (CAN4). Another SCS in Vancouver is located in an inpatient HIV clinic and serves people admitted to the facility

¹⁰ See also a typology of SCSs described by the EMCDDA (2018a). Similarly, BC's SCS guidelines recognize the following models of SCS provision: 1) fixed, standalone model, 2) integrated model, 3) embedded model, 4) mobile model (BC Ministry of Health and BC Centre on Substance Use 2017b).

(CAN4). Similarly, SCSs that exist on the premises of housing facilities are co-located with other services supporting their residents (CAN1).

SCS in Canada are also increasingly embedded in facilities (e.g., community health centers) serving the general population. As such, they provide SCS clients with additional services, including access to doctors, nurses, and counsellors (CAN1). One interviewee observed that in Ontario, all new SCSs are being integrated into existing facilities. For instance, four new sites in Toronto are designed to be co-located with community health clinics (two sites), a methadone clinic (one site), or an assisted housing facility (one site). According to an interviewee, this may reflect a more cautious embrace of SCS, as well as potentially lower support for a standalone site (CAN1).

With respect to [name of the site], it's really housing support for people who live there and there are psychiatrists who are on hand to support people, not in the actual supervised injection site but in the larger building. (CAN1)

With respect to linkage to services for special user populations, one interviewee noted their site provides automatic referrals to substitution treatment to pregnant women coming to the SCS so that they can initiate buprenorphine and users under 18 are automatically referred to case management services (CAN8).

Staff

Existing SCS personnel are trained in first aid and overdose response. In addition, further training and experience reported by interviewees varied and included: theoretical and practical background about SCS, basic cognitive therapy, specialization in handling HIV/HCV positive clients, and specialization in sex work and prison populations. (NLD6) Not all SCSs require staff to be professionals; some sites may rely on students and volunteers alongside professionals (NLD6).

Two interviewees also commented on efforts to integrate active users and users in recovery with SCS operation as staff. According to a Dutch interviewee, integrating users in recovery into SCS teams can be difficult. Most users in recovery do not stay with the SCSs long or turn down the job outright (NLD6).

We have been trying ourselves to integrate ex-users into becoming staff members, but some of them refuse, and most of them drop very quickly because they don't have enough distance yet with the product. It's very complex. If you're not very clear with your relationship with drugs, I would not advise to do this job. (NLD6)

By contrast, one Canadian interviewee commenting on the operation of overdose prevention sites reported positive results when involving users. According to the interviewee, the rationale behind employing peers is to make the space more welcoming to drug users. In addition, the sites can double as an employment program for people who use drugs (CAN3).

Eligibility and rules

While SCSs are intended to be low threshold services with few barriers to entry, rules govern who can use them and under what conditions. These are discussed in greater detail in Appendix A.

Introduction of the service

Interviewees were invited to discuss the circumstances surrounding the introduction of SCSs in their country or city, including the proposal process and stakeholder deliberations.

Factors behind proposals to introduce SCS

In Canada, the Netherlands, and Switzerland, interviewees noted that the introduction of SCSs represented a response to a visible public health crisis. As relayed by one Dutch interviewee, two main motivations lay behind the introduction of an SCS in the country: first, to provide a safe space for drug users and help prevent drug-related harms; and second, to reduce public nuisance related to street drug use. In the Netherlands, the second objective was particularly salient and, according to the interviewee, is reflected in local governments' support for these sites (NLD1). According to another Dutch interviewee, in the 1990s, the police were the driving force behind the introduction of SCS, recognizing the limits of using the criminal justice system to handle problem drug use (NLD5). This was seconded by another interviewee, who pointed out the first official SCS in the country was set up by the police (NLD3).

It was actually set up by police officers who were sick and tired of catching drug users in the railway stations, and in the end they said, "Well, we are not very effective in keeping these people from drugs so why not organize a space for them to use these drugs?" and to use the drugs not because they want it themselves, but also to get rid of the problem in the streets, so the public nuisance. (NLD3)

Similarly, Swiss interviewees noted that the introduction of SCSs was enabled by the fact that the drug issue became very visible in the 1990s and led to increased public concern. Eventually the public accepted such harm reduction efforts to reduce the visibility of street drug use (SUI1, SUI3). Even politicians generally opposed to harm reduction came to the realization that something needed to happen (SUI3).

Back then, we had basically a drug policy on three pillars, which were repression, therapy. and prevention. ... Then this big drug scene happened in Zurich, and also in Bern, and the drug policy was somehow not enough. So, they introduced a new pillar, which was harm reduction. ... and even the politicians that were against had to admit that something needs to be done, and this was the time where the consumption rooms were basically opened. (SUI3)

Consequently, in the Netherlands as well as in Switzerland, reducing public nuisance was recognized by interviewees as one of the main reasons behind political support for SCSs (NLD1, NLD3, SUI3).

In Canada, the origins of SCSs go back to the opening of Insite in Vancouver, which is in turn derived from the HIV epidemic of the 1990s. As highlighted by an interviewee, the Vancouver Area Network of Drug Users (VANDU), a local user coalition, played an important role in advancing harm reduction services. One of the organization's representatives won an election to a public health board and was instrumental in securing the declaration of a public health emergency. This development prompted the provincial and municipal governments to support stronger harm reduction programs shortly thereafter (CAN4). One interviewee also credited a strongly integrated network of front line providers, public health policymakers, and researchers in opening Insite (CAN1).

Following a similar pattern more recently, in Canada, multiple interviewees stressed that a tipping point was reached with the changes in drug supply and substantial increases in overdose numbers (CAN5, CAN7, CAN8). As a consequence, there appears to be “overwhelming support for expanding the supervision of consumption” (CAN5). According to one interviewee, the current political debate and substantial support for supervising consumption is similar to the conversations preceding the opening of Insite in the early 2000s, although the underlying factor then was an HIV epidemic (CAN5). This was seconded by another interviewee, who highlighted fentanyl's contribution to rising overdoses as a factor behind the increased support for SCSs across the country (CAN7).

Yes. I think the number of overdoses was the biggest driving factor. We know that there are a lot of young people in Canada that are using, and overdosing, without realizing they are taking fentanyl. (CAN 7)

This development provided advocates with additional impetus to establish additional consumption sites. To illustrate, in Toronto, these developments helped build on preliminary conversations about supervised consumption exemplified by the Toronto and Ottawa Supervised Consumption Assessment Study in 2012 (CAN1). Discussions surrounding the establishment of SCSs in cities in Alberta were spearheaded by local drug user advocacy groups, often comprised of local providers, street drug users in recovery, and authorities from provincial public health and safety agencies (CAN7).

Stakeholder concerns regarding SCS operation

Based on interview testimonies, various stakeholders expressed concerns about establishing an SCS in their jurisdictions. These can be grouped in three broad categories. The first two revolve around reservations expressed by various non-using populations and groups of stakeholders, the third covers concerns harbored by active drug users.

Concerns that SCSs enable use and attract drug users

By one interviewee's account, SCSs in Switzerland were met with some opposition on the grounds that they may enable and perpetuate drug use. According to the interviewee, this was the same kind of opposition mounted against other harm reduction measures such as needle exchange programs or the provision of naloxone to users and their families (SUI1).

It is the same kind of opposition against all harm reduction measures such as syringe exchange programs, which are very important and have a very important role for reducing our HIV and hepatitis infections. The same opposition is against providing naloxone to users and families of users to help prevent overdose deaths. These kinds of harm reduction measures have been heavily opposed, always by the same people. ... They thought this was inviting drug abuse. "We will have more drug problems if you do that." (SUI1)

Similarly, public concerns that SCSs would enable or recruit more people to use drugs were mentioned by several interviewees as part of discussions preceding the introduction of new SCSs in Canada, including in Vancouver in the run-up to the opening of Insite (CAN3, CAN4, CAN8). In one interviewee's assessment, the city of Vancouver was equally divided on the question of opening an SCS (CAN4). In contrast with testimonies from Europe, a few Canadian interviewees mentioned that in some cities concerns over a potential "honeypot" effect of an SCS was expressed by the police, i.e., a situation in which the SCS attracts new users or users not currently residing in its neighborhood (CAN2). To illustrate, police in one Canadian city were reported by an interviewee to be concerned about such an effect with regard to a new potential SCS, citing a perceived deterioration of the situation in Downtown Eastside in support of their stance (CAN8).

The police opposition was really around a perceived honeypot effect that they thought would get created. They kept talking about how things got worse in the Downtown Eastside after Insite opened up. (CAN8)

Two Canadian interviewees also recalled a slightly different formulation of political pushback faced by SCS proponents. This line of reasoning argued that the focus should be on expanding existing treatment options before any considerations, if at all, were given to supervised consumption (CAN5, CAN8). In this context, multiple Canadian interviewees noted opposition from the federal government when controlled by the Conservative Party, including efforts to close the already existing site in Vancouver (CAN8). By extension, the change in the control of the federal government following the 2015 election was seen as instrumental in facilitating the establishment of SCSs and the process of obtaining necessary federal exemptions (CAN8).

Furthermore, as recalled by one interviewee, in Vancouver, Insite faced some opposition from parts of the harm reduction community for fear its introduction would undermine the existing needle exchange provision as well as abstinence-based approaches to drug use (CAN4). However, another interviewee pointed out that even people who favor an abstinence-based

approach may support SCSs because people who are not ready to desist drug use are at least provided with a way to use drugs in a presumably safer environment (UK8).

Concerns that SCSs lead to a range of negative community effects

Another concern, reported by interviewees from the Netherlands, Canada, and Switzerland, revolved around effects that the SCS could have on the neighborhood where the proposed site was to be located. These concerns revolved around issues such as increased public nuisance, decreased property values, increases in crime, and parking scarcity (CAN5, CAN7, CAN8, NLD5, SUI4).

The other thing that neighbors got a little bit concerned about was the value of their homes and of their property – that’s associated with that. That was an issue that was raised. (CAN8)

This type of concern was expressed primarily by residents of neighborhoods identified as potential sites for an SCS as well as business associations from potentially impacted areas. Even locating a site in a non-residential area could give rise to neighborhood concerns. One Swiss interviewee recalled community concern surrounding the possibility of discarded injection material in rentable urban garden lots (SUI4).

Several Canadian interviewees offered concrete examples of how this local opposition manifested itself. In Vancouver, parts of the business community in Chinatown expressed opposition to the opening of Insite, for fear it would exacerbate existing problems associated with drug use in the area (CAN4). In one location in Canada, a local business association opposed the placing of an SCS at a downtown location of an existing harm reduction clinic, fearing it would lead to an increase in public nuisance. The association was successful in influencing the policy process and a decision was made to place the service in a different location, despite the fact that surveyed users expressed a clear preference for the downtown harm reduction clinic (CAN7).

The business reps for that business association have been a part of the conversations from the start, but only because they were in opposition to placing the clinic downtown, because they want the downtown cleaned up. (CAN7)

In another site, one interviewee noted that local opposition prevented one Canadian site from finding a suitable fixed location, prompting the city to start with mobile provision (CAN5). Along similar lines, discussions in Alberta noted concerns about the possibility of the drug dealing in and around the SCS (CAN7). According to two interviewees, two features have helped prevent large community opposition among the newly opened SCSs in Canada. First, the SCSs have been opening in locations that are already affected by the issue of public injection, making it difficult to argue the opening of SCSs will have a notable negative effect. And second, they have frequently been co-located with already established services, limiting the extent to which the opening of an SCS represents a new burden on the community (CAN1, CAN5).

It's harder to get really, really angry about an additional service being provided by an institution than the creation and imposition of a brand new institution. (CAN1)

Users' concerns and preferences

Several Canadian interviewees acknowledged concerns expressed by users over law enforcement arrangements associated with SCSs. For instance, in the survey of users conducted prior to the opening of SCSs in Alberta, respondents voiced concerns over the possibility that police would wait near the facility and arrest people exiting (CAN7). Another interviewee stressed that users' concern over law enforcement activities at or near an SCS could be a problematic deterrent. Still, based on lessons from newly opened Canadian sites, the interviewee added that this understandable concern does not appear to be borne out in reality (CAN6).

If you put one of these in an area that the police are hostile against it, they can certainly ruin it. If they feel that they've been forced into accepting something and they park their cruisers outside the front door, it's very problematic. (CAN6)

By contrast, however, in another province where an SCS was set up in an integrated model as part of a community health center, a public consultation did not identify police arrangements as a concern (CAN8). The center, which serves a drug using population, was aware that some clients were cautious of police presence in the neighborhood but these concerns were not exacerbated by the addition of the SCS (CAN8). One Dutch interviewee also recognized that some users may feel stigmatized if seen using the facility or may be reluctant to use the facility if they feel their job opportunities may be jeopardized by using the facility. For those users, visiting a needle exchange and using at home or another safe location may be preferable. At the same time, the interviewee stressed that in many instances, using an SCS may be a way of reducing stigma because users can socialize in an understanding and empathetic environment (NLD6).

Finally, I am recognized for who I am. I am an active user, and this is one part of my personality. (NLD6)

Furthermore, consultations undertaken in the run-up to the recent opening of an SCS in Canada shed further light on users' concerns and preferences. In Alberta, surveyed users expressed preference for having access to a safe space to use as well as linkage and access to other services, including housing programs, treatment, detoxification, and medical care. In this context, drug users viewed an SCS as a place where they could obtain information on and help with accessing support services. A few suggested it was desirable to have dedicated times for women only and raised the question of having a minimum age requirement (CAN7).

The consultations also revealed that when co-locating SCSs with an existing facility, users' willingness to use the supervised consumption service may at least partly reflect their experience with the broader health facility. For instance, in a survey informing the introduction of an SCS in Alberta, users expressed clear preference for co-location with a harm reduction clinic, rather than

with a general health clinic. According to one interviewee, users' experience and perception of both facilities in question played a role in this disparity (CAN7).

Efforts to address stakeholder concerns

Public consultation and engagement are key in addressing community concerns

Interviewees offered examples of steps taken by SCS implementers in an effort to address concerns expressed by various stakeholders and to help ensure successful implementation of the service. The most frequently mentioned aspect was the importance of community outreach and neighborhood consultation (CAN5, CAN7, CAN8, NLD3, NLD5, NLD6, SUI1, SUI4, UK8, UK9).

“If you start this process to open a room, of course, the neighborhood has to be with you.” (NLD5)

To illustrate, one Canadian interviewee explained that every jurisdiction in Canada that has implemented an SCS has undergone some form of a public process and consultation.¹¹ These consultations have not prevented any site from opening, although they have informed and shaped implementation plans (CAN5). Another Canadian interviewee noted that the involvement of local police in these community consultations was very helpful as police officers were able to underscore their commitment not to arrest anybody and explain their attitude towards the policy proposal. These pronouncements were successfully communicated to local drug users (CAN7). The community consultations were also an opportunity to present existing evidence on SCSs in response to concerns raised about potential neighborhood effects (CAN7).

When we did our community consultations, police came with us, and were able to tell that story. You know, to say, “We’re not here to arrest people. We’re here because we know that this is a problem that needs to be solved.” So, we were very lucky that we had the partnership right from the start. (CAN7)

One interviewee noted that another value of these stakeholder consultations is finding out the preferences of the drug user community. This process can help identify which features are key to making the site successful and which are not (e.g., is it necessary to be open 24 hours/day?) (NLD3). In another Canadian location, members of the public were invited to tour the proposed facility, breaking participants into small groups and discussing with them their reflections on the proposed model and any concerns it may give rise to (CAN8). In an additional effort to overcome opposition or address stakeholder concerns, the management of the site agreed to be the first point of call for neighbors' complaints. According to an interviewee, this has helped assuage law enforcement concerns (CAN8).

¹¹ A community consultation report is one of the required components of an exemption application to Health Canada (Health Canada 2017c)

What they [police] wanted is- If there was a complaint from the neighbors, they want the neighbors to call [the site] – not to call them – because there is nothing they can do about it. ... I think that really helped them to get on board. (CAN8)

Similarly, one Dutch interviewee noted that locations for SCSs are typically handpicked by local authorities, which may invite opposition from people living in the neighborhood. To address their concerns, the interviewee suggested site management needs to be as transparent as possible, offer community meetings and open days to invite people to visit, explain the functioning of the site, etc. (NLD3).

Drug consumption rooms used to have this image of being, I don't know, areas where everything that God forbids takes place. In order to have an effective drug consumption room you should be very open and transparent in what you do, and that includes the involvement of the neighborhood. (NLD3)

Similarly, another Dutch interviewee shared that their site reaches out to the community and hosts open houses, exhibitions, and screens documentaries. In addition, the site introduced a sweeping team, to pick up any litter on a daily basis (NLD6).

Nevertheless, not all efforts to overcome opposition succeed. One interviewee mentioned a Canadian site which failed to gain the support of the local law enforcement. As a consequence, the site's application for its Health Canada exemption included a negative statement from local police, although this did not stop the application from being approved (CAN8).

Formal or informal agreements with local police are necessary to address users' concerns

With respect to users' concerns about criminal justice risks, two interviewees explained that in the Netherlands municipalities typically have an agreement with the local police force regarding the operation of the SCS (NLD3, NLD6).

All the drug consumption rooms have a very clear agreement. The drug consumption rooms are created in the interest of cities to tackle the problem of public nuisance. It doesn't have, as a mission, to tackle crime, because we are talking about drug use. (NLD6)

The concrete details of these arrangements may differ by city but generally users understand they will not be arrested for drug possession in the vicinity of a consumption room. Users can typically demonstrate that they are registered with a consumption room or a drug treatment provider, prompting the police to let them use the room without any consequences. One interviewee reported never hearing of any issues arising from these policing arrangements (NLD3). According to the other interviewee, this arrangement works because the police are invested in the functioning and uptake of the SCS and were an important part of the coalition to introduce them in the country (NLD6). Similarly, a Swiss interviewee noted that police do not interfere with the operation of SCSs and that this fact is known to the user community. Commenting on a concrete example of a site the interviewee was familiar with, the police may patrol the main approach to the site (although not right in its immediate vicinity) to ensure there is no drug dealing taking place and this system appears to be working (SUI4).

The police are not waiting in front of the consumption rooms. Sometimes they're, kind of, on the main route to the room but they're not right in front of there. The patients appreciate that. (SUI4)

Design and implementation features

Furthermore, several implementation decisions and logistical features were also highlighted by interviewees as helping allay any concerns the public and other stakeholders may have. These included:

- In Switzerland, **SCSs tend to be located in a different part of town than HAT clinics** in an effort to mitigate any anxieties people in the neighborhoods may harbor (SUI1). The thinking behind this approach is an effort to minimize the perceived burden placed on a given neighborhood.
- The **decision to go with an integrated SCS model** was also seen by one interviewee as a way to address potential opposition as it reduces administrative burden and offers good connections to other services (CAN8). Two other interviewees agreed that embedding SCSs within existing services already serving the drug-using population made implementation easier (CAN1, CAN5). The benefit of piggybacking on an existing service may also lie in the fact that the existing service may have already addressed a range of logistical issues such as zoning (CAN7).

You're not introducing anything new if there's already a needle exchange there. The NGO or the service provider is already dealing with all of the people who are going to be coming to the injection site. It helps the service providers argue they're not really introducing anything new into the community that people should be afraid of, they're just dealing with the people they're dealing with. (CAN5)

- One interviewee stressed that the opening of Insite was accompanied by plans for a **peer-reviewed evaluation**, which, among other benefits, served as a defense mechanism against the pressure the site was under. According to the interviewee, these political considerations and the need to prepare for likely criticism may explain the reason why there is much more peer-reviewed evaluation literature available from Canada than from European countries (CAN5).
- Along similar lines, the introduction of new integrated models of SCSs presented an **opportunity to highlight a research dimension** as there is much less evidence on this type of a facility. This could help generate political support for new SCS, which could be viewed as pilot projects intended to demonstrate the effectiveness of a new model of care (CAN8).
- **Mobile site** was selected to overcome local opposition in one Canadian location (CAN5).
- Alternatively, part of the solution to any potential honeypot concern is to **have multiple sites open** so that users have multiple options where to go and do not congregate in or travel to a single location (CAN8).

SCS become more acceptable once operational

Numerous interviewees commented on the evolution of the acceptability of SCSs once they are operational. All interviewees who spoke on the topic observed that original sources of

opposition dissipated after the opening of an SCS (CAN3, CAN4, CAN5, CAN6, CAN7, CAN8, NLD3, NLD5, NLD6).

It happens quite often that drug consumption rooms are being implemented in locations picked by the government, by the local authorities, and, obviously, the people next door don't like it. You know, why would they like such a facility? So, they don't like it. But, usually their comments and their protests stop or come to a standstill whenever they see, after the rooms are open for several days or weeks, that they actually benefit from the consumption rooms themselves. (NLD3)

The communities, it's a fascinating natural experiment that somebody should write up in British Columbia how communities the year before would never have even considered opening one in their communities. They're, kind of, forced to open them and now most communities are very supportive. (CAN6)

This is because stakeholders either found it was beneficial to have the site in operation or at least did not see any of their concerns materialize. This observation is applicable across all stakeholder groups, including law enforcement (CAN8), business associations (CAN4), as well as neighborhood representatives (NLD5).

Especially when there are no dead people in the Starbucks bathroom, or people aren't injecting in your local library anymore. You are like, "Oh gosh, that's nice. (CAN3)

In an example of a shift in attitudes post-implementation, one interviewee mentioned that police officers offered to do a crime prevention by environmental design audit of an SCS in the city and offered recommendations on how to increase staff and clients' safety (CAN8). Similarly, another interviewee shared that business associations that had previously opposed the opening of an SCS in Vancouver regularly express their continued support for the site's operations (CAN6). One interviewee felt that decreases in the public visibility of the drug issue helped generate and maintain support for SCS, much more than any positive outcomes the sites may achieve for clients (NLD3). Furthermore, with the sites in operation, the police as well as residents of affected communities now direct users to the facility where they can consume substances in private (NLD3).

It's literally off the streets and there's a place where the police and also people living in neighborhoods can send people causing drug related problems in the street. They have a place they can send them because before there was nothing and they would just go somewhere else to use their drugs. But, now you can say, "You have a drug consumption room, you're allowed to use drugs there, so please go there." (NLD3)

Another Canadian interviewee observed specified business improvement associations are very supportive of SCSs in their respective neighborhoods due to positive effects such as less injection debris on the street and less violence (CAN3).

One exception to this observation is the government in Canada, the support of which seemingly continues to depend on the party in power. One interviewee pointed out that,

following the 2005 federal election, the Conservative-led government made an effort to close Insite, which had been operating for a few years (CAN4). Similarly, another interviewee noted that the recent issuance of SCS exemptions was made possible by a Liberal Party victory in 2015 (CAN8). At the provincial level, interviewees raised the possibility that Ontario-based SCSs may face pressure following the victory of the Conservative Party in the 2018 provincial elections (CAN8). At the mayoral level, one interviewee also noted that the establishment of SCSs in Toronto was possible only after the departure of a Conservative Mayor from office (CAN1). By contrast, interviewees from the Netherlands and Switzerland stressed that supervised consumption rooms are not a political topic any more (NLD3). One Swiss interviewee added that currently, SCSs enjoy broad support from the general population as well as political representatives (with the exception of one political party). Similarly, police as well as physicians agree on the merits of having SCSs in place (SUI4).

The general population is very accepting of this. The political consensus ... is that it's safe and necessary. The consensus of the police is that it's a good thing and, of course, the consensus of the physicians is that it's great. (SUI4)

Lastly, with respect to overdose prevention sites in Canada, one interviewee pointed out that their introduction was so quick that it did not leave time for any organized community opposition to be mounted. Any emerging sources of opposition, however, appear to have retreated, once they saw no negative impact on their communities (CAN6). According to one interviewee, the resulting lessons is that there may be little merit in waiting for input from all potentially relevant stakeholders who may not be familiar with the topic or model; instead, quick and successful implementation can overcome opposition (CAN6).

Reflections on implementation

Interviewees also offered reflections on the implementation process and the operations of SCSs. These reflections also included developments that interviewees considered surprising or unanticipated. Commenting on Insite, one interviewee expressed surprise that instead of using the facility for its intended purpose, many users came to obtain harm reduction supplies. The site documented instances of people travelling relatively long distances to pick up sterile injection material, compensating for the fact that there was no needle exchange service in their respective neighborhoods or their opening hours were not long enough (CAN4).

A lot of drug users ... who were living outside the Downtown Eastside reported to us that they would actually travel quite a distance, not to use drugs but to pick up harm reduction supplies to distribute in their own communities because it was difficult, if not impossible, to get clean needles. (CAN4)

The interviewee pointed out that many exurban or more rural communities have incorporated in their bylaws provisions prohibiting delivery of harm reduction services in their jurisdictions. Furthermore, some actively work to break up drug user and homeless encampments that may

periodically get established in these communities. While the source of the opposition is not necessarily formally defined, the interviewee suggested it reflects a belief harm reduction is inefficient and a preference for a 12 step-like approach to the drug issue (CAN4).

Two Canadian interviewees reflecting on recent openings of SCSs noted that uptake of services was relatively slow in the initial phases but started to increase after a certain period (CAN7, CAN8). One interviewee credited this trend with messages getting around via word of mouth that the site is safe, free from police interference, and able to connect people with other services (CAN7).

Once those messages started getting out to other participants through word of mouth, then the uptake started to really increase. (CAN7)

Other SCSs were reported by Canadian interviewees to have become busy shortly after their opening (CAN6, CAN8). The high uptake of SCS services was also mentioned by another interviewee, who pointed out that Insite generally operates at capacity, leading to waiting times. This situation is exacerbated in the event of on-site overdoses, which temporarily decrease capacity (CAN3). In the context of the rapid proliferation of overdose prevention sites in British Columbia, one interviewee noted that, unlike Insite, which opened with an evaluation plan, the newer sites rarely open with such preparation. As such, not much is done in terms of evaluation other than tracking the number of visits and (the absence of) deaths (CAN6).¹²

Several interviewees offered thoughts on what they considered to be important in making the service attractive to the client population. In line with the discussion of community consultations discussed above, one interviewee stressed the importance of listening to the needs of clients and of being open to different implementation models to accommodate any context-specific factors and preferences (CAN6). Two interviewees also highlighted that some sites try to make the facility feel welcoming and pleasant (CAN3, NLD5). By contrast, other sites have a much more clinical feel. However, one interviewee noted that the more relaxed, café-like arrangements may not be appropriate in high-volume settings with a higher number of expected overdoses (NLD5).

Our first room was really like a living room, with a bank, with a house cat and everything. Now, it moved ... but still, it is like a café. It works, of course, very well. But again, it is only because you work with a relatively limited number of people. If you see 500 people a day, of course you need a totally different concept. (NLD5)

A small number of interviewees also commented on the most integrated model of SCS provision, whereby a consumption room is established as part of a wider facility serving broad populations, i.e., not only active users. One interviewee stressed there are limitations and risks associated with this model. For one, potential SCS clients may not “feel comfortable walking

¹² However, one interviewee pointed out that outcomes of clients at OPS may be captured by VIDUS, a Vancouver-based cohort study of injecting drug users.

into a community health center with a pocket full of drugs and rubbing shoulders with mothers and their babies.” In addition, where the facility also offers services to people in treatment and recovery, this may expose individuals to new and undesirable triggers if there isn’t a sufficient separation between individual services, such as a segregated entrance (CAN6).

If people are going to the clinic to see their doctor to get a methadone prescription, I don’t think it’s particularly good to put them in the position where they have to walk past a whole bunch of people that they probably know, who are actively using. (CAN6)

By contrast, the interviewee opined that integrating an SCS in a clinic that primarily serves vulnerable populations may be a good modality, although a standalone entrance to the SCS may still be preferable. The concern about mixing active users and people in treatment and recovery was explicitly acknowledged by another interviewee, who noted that the opening of an SCS integrated in a community health center may cause some existing clients to stop coming to the facility (CAN8). In such an event, the facility would help them find a different service they can go to (CAN8). At the same time, one interviewee added that a benefit derived from an integrated model with one entrance for all services is the fact that SCS users will not feel stigmatized for being seen walking into an SCS (CAN8).

Limitations of SCS

Constrained capacity

A major limitation of SCSs as currently implemented is their limited capacity. This point was highlighted by Canadian interviewees, who stressed that the current extent of their provision does not match the scale of the opioid issue in the country. Reflecting on the situation in Vancouver, one interviewee noted that while the uptake of supervised consumption services has been surprisingly high, it is still estimated that about 80% of regular users in communities with SCSs never use the sites (CAN6). A similar point was made by another interviewee who pointed out that even Insite, a relatively large facility with strict capacity management rules, is able to cover only a fraction of the local need. As the interviewee explained, the capacity of Insite is approximately 600 unique injections a day. This compares with an estimate of between 3,000-7,000 injecting drug users living in its vicinity. Given the need to inject multiple times a day (particularly for people injecting stimulants), this demonstrates the limited population-level impact the site can have (CAN1).

If Insite can only accommodate 600 unique injections per day, not clients but injections, then you can see the massive disparity with respect to its actual population level impact. That being said, a couple of years ago, when fentanyl started emerging on the scene in Vancouver, there were 40 overdoses at Insite over the period of 24 hours or 36 hours or something, none of which resulted in death. So, for the clients of the site, it had an impact. On the population level, it did not. (CAN1)

Constrained geographical coverage

A related limitation of SCS, noted by several interviewees, is that they are not likely to attract users that are not already present in the vicinity of a site (CAN4, CAN5, NLD3, SUI3). As relayed by interviewees, the limited catchment area of a single site and the desirability to place a site near the using population was evidenced via various user consultations. For instance, in discussions informing the opening of a site in Ontario, clients provided feedback that 15-20 minutes is about the limit of how far they were ready to walk to an SCS. As such, the site is placed near three men's shelters as well as a few social housing locations to maximize the number of people that can be reached (CAN8). Similarly, surveyed users in Alberta indicated that transportation was a potentially large barrier in accessing the service. In consultations prior to the introduction of the service, users indicated they would be willing to travel a small number of blocks or a couple of miles to reach a site but were unlikely to use public transportation (CAN7).

In line with users' stated preferences, one interviewee reflected on the lessons from Insite and stressed that the draw of the site will be limited to a relatively small radius around the facility. Clients, particularly dependent opioid users wishing to avoid withdrawal, will likely administer drugs shortly after purchase and will not spend substantial time travelling to an SCS (CAN4). Echoing a similar sentiment, two interviewees noted that the introduction of multiple sites in individual cities (e.g., in Amsterdam, which decided to go with multiple smaller rooms rather than one large facility) reflected an acknowledgement of the fact that users will not travel far to visit one (CAN1, NLD5). For that reason, interviewees invariably highlighted the importance of selecting a good location for an SCS to help ensure the success of the facility.

The idea in Amsterdam was to open these rooms in the different neighborhoods where this problem appears, on the drug scene. So, to keep it smaller and more linked to the particular neighborhood. (NLD5)

One interviewee observed a potential tension in discussions about selecting a location for an SCS. On the one hand, there is the objective of maximizing coverage. On the other, the community as well as the police may be interested in smaller, more discreet sites. In these conversations, the interviewee reiterated, the proximity to drug users needs to be an important consideration (CAN5). For that reason, the models employed in large cities, particularly comparatively large facilities such as Insite that are intended to capture users living in its vicinity, may not be appropriate for other contexts, such as more rural areas (CAN4).

Taking the two constraints discussed above, one interviewee observed that as implemented currently, SCSs represent an intervention of very limited scope. As such, it is important to be clear on what can be reasonably expected from the introduction of SCSs. According to the interviewee, their potential benefits as well as their potential negative impacts can often be exaggerated in advocacy campaigns around their introduction (CAN5).

These things tend to get overstated on all sides, including the health side I think, but it's not a reason not to do them. People against them think it's the end of their neighborhood. The people for them think it's going to solve all the problems. In fact, they're very modest interventions into very complex and big problems. Keeping the advocacy for and against tends to blow them out of scale in terms of what they really are. (CAN5)

Future SCS direction

The discussion above raises important questions about the scalability of SCSs as well as their transferability from urban centers to other localities, including suburban and rural areas (CAN7, NLD6). With respect to the latter, one interviewee added that the current state of science does not have an answer to the question of how the SCSs concept can be translated to non-urban environments while preserving its benefits (CAN4). Multiple interviewees commented on planned or possible future steps that could be taken to address these challenges. These revolved around two broad courses of action: 1) opening new sites, either in combination with existing facilities or standalone, possibly scaled-back, facilities, and 2) utilizing mobile sites. Perhaps unsurprisingly, most commentary in this area came from interviewees in Canada, which faces an opioid challenge not experienced in Europe and has seen substantial SCS activity in recent years.

Opening additional sites

A few interviewees pointed out that several cities with existing SCSs plan to open additional sites to increase the number of locations available to users and to reach more people (CAN7, CAN8). In total, 11 applications for Health Canada exemptions are currently open (Health Canada 2018b).

Reflecting on the importance of placing new sites, one interviewee suggested future focus should be on establishing supervised consumption microsites, located in places where active users are already accessing health care or harm reduction services. According to the interviewee, this model would enable better access to the community, help reduce any stigma associated with the use of the service, and possibly even help minimize local opposition as the proliferation of multiple sites would mean no single neighborhood could claim they were “unfairly” singled out as an SCS location (CAN8). Smaller sites may be particularly important in rural locations, where they are likely to face the dual challenge of community opposition and user stigma.¹³ The interviewee felt, however, that the current approval system in Canada favors the establishment of larger facilities for reasons of economies of scale. Due to the administrative requirements of the exemption application, SCS managers have an incentive to maximize the number of booths they could get per application (CAN8).

¹³ None of the three countries (Canada, the Netherlands, Switzerland) have opened an SCS outside of urban locations. In the Swiss context, the smallest cities with an SCS have slightly below 20,000 inhabitants.

Another interviewee agreed that the opening of smaller, but more numerous, sites may be a promising approach, pointing out the proliferation of overdose prevention sites and associated increase in SCS accessibility. The interviewee stressed that supervising consumption does not require many of the features seen in some formal SCSs and can be scaled back, i.e., offered with relatively limited resources and few or no professional staff (CAN6). This would be consistent, for instance, with the direction taken by the Canadian overdose prevention sites.¹⁴

The definition, really, of a supervised injection site is basically a healthcare worker in a tent. They don't really need to be that elaborate. (CAN6)

Also on the note of expanding the number of access points for users, one interviewee suggested hospitals as another type of location that may benefit from an introduction of a supervised consumption room to serve hospitalized drug users (CAN4).

Mobile sites as a solution?

In discussions with interviewees, mobile SCSs were frequently brought up as a potential solution, particularly since, in at least some locations, active user populations are increasingly less concentrated in urban centers (NLD6). To illustrate, one interviewee commenting on a recently opened SCSs mentioned that based on an analysis of police and health data in the city, it emerged that a notable share of overdoses were happening in suburban locations. Since these users are not expected to travel to a downtown SCS location, the city is exploring the possibility of introducing a mobile site (CAN7). The interviewee noted that it will likely be introduced in partnership with a local outreach team, who travel 24/7 responding to street-based users in need of assistance (CAN7). Another interviewee agreed and was convinced that the future of SCSs lies in mobile consumption rooms, which may address local opposition as well as geographical challenges in more rural areas or smaller towns (NLD6).

In thinking about the merits and challenges associated with mobile SCS provision, some Canadian interviewees brought up several issues for consideration. An interviewee commenting on the city currently exploring a mobile SCS noted that local police, while supportive of the city's existing fixed sites, have voiced concerns about a mobile site. These concerns revolved primarily around uncertainties how to ensure the police could be in the proximity of the mobile site if there is a need for their intervention. At the current fixed location, they have the option to drive by a few times a day to do a cursory check of the neighborhood; this may be more difficult with the introduction of a mobile site (CAN7).

Three interviewees expressed other reservations with respect to the effectiveness of mobile SCSs (CAN5, CAN6, CAN8). One cited an example from a Canadian city where their mobile

¹⁴ This is also explicitly recognized in BC's SCS Guidelines, which state that "in settings that are resource-constrained, SCSs can be run successfully by non-nursing staff" (BC Ministry of Health and BC Centre on Substance Use 2017b, p.7).

van ended up functioning as a needle exchange truck. It generated a lot of interest and uptake but few users actually came to inject in the van. Two interviewees felt that if the mobile SCS was on a schedule and a fixed route (e.g., spending several hours in each location), it was unrealistic to expect users to time their consumption to match the schedule. One interviewee also did not think it was feasible (or at least an efficient use of resources) to have the van travel to users as an on-call facility (CAN8). The interviewees did, however, acknowledge the potential benefits of a mobile van in situations where it is impossible to find a fixed location (e.g., due to local opposition) (CAN6). One interviewee pointed out that while mobile sites may attract users unable or unwilling to use a fixed site, mobile sites will likely have lower capacity. Therefore, the solution for smaller jurisdictions may be a combination of fixed and mobile provision (CAN5).

Interviewees' Observations About Lessons for the U.S.

Interviewees were invited to reflect on any lessons for U.S. policymakers who may be considering the introduction of SCSs in their jurisdictions. While numerous interviewees acknowledged the existence of legal obstacles, their reflections primarily revolved around political as well as technical considerations discussed below.

Considering the **political dimension**, one Dutch interviewee reiterated that SCSs are not a political issue in the country and suggested that, by contrast, they are likely to face political opposition in the United States as they may be seen as facilitating drug consumption (NLD5). To overcome this opposition, the interviewee stressed that SCSs need to be explained as part of a comprehensive or holistic way of approaching drug use. However, the interviewee also pointed out that some jurisdictions in the United States offer few or no harm reduction services such as needle exchange programs, suggesting there is a long way before an SCS is a realistic proposition in such areas (setting aside legal issues) (NLD5).

Along similar lines, one Canadian interviewee opined that in policy conversations around SCSs, it is important to emphasize the objective of SCSs to engage in people's drug use early on and keep them in contact with services. As part of this, it is important to reiterate that SCSs can incorporate many more services for people who inject drugs than just injection rooms, such as shelter, a place to congregate, have a shower, do laundry, and get other help (CAN5). Two Canadian interviewees suggested that, in line with the observation that opposition to SCSs disappears following their opening (with the exception of the Conservative Party), it may not be necessary to get every stakeholder on board in order to be able to open an SCS (CAN6, CAN8).

One Dutch interviewee also stressed the importance of cooperation with the police and suggested that with the severity of the opioid crisis in the United States, local police forces may be open to conversations about SCS, especially if these are presented as a way to lift some of the burden currently placed on them in terms of responding to overdoses (NLD6). Similarly, another

interviewee opined that the dire situation in the United States may lead to greater political acceptance for novel interventions, such as SCSs.

Unfortunately [things] have to get really bad before you can convince people you have to try some new things. (CAN5)

With respect to **technical considerations**, interviewees noted that the implementation lessons discussed earlier in this paper apply to any U.S.-based sites as well, although some challenges may be more exacerbated in the U.S. context. For instance, one interviewee wondered whether users' concerns surrounding stigma (and being seen using a SCS) may be more acute in the United States (NLD6). This would require taking extra care in communicating the purpose and operations of the site to ensure clients are not deterred from coming in.

Two interviewees also mentioned the risk of violence or threats thereof, particularly involving a gun, at a potential U.S. site. One Canadian interviewee added that Canadian sites cannot really offer a lesson how to tackle this because of the minimal proliferation of guns among the general public (CAN6). One Dutch interviewee noted this only underscores the importance of working with the police on finding an arrangement that both enables the police to provide assistance when necessary but at the same time does not discourage users from using the facility (NLD6).

Multiple interviewees also shared that the concerns surrounding the scalability and limited geographical coverage of SCSs apply to the U.S. context and are likely to be even more pronounced, due to issues such as limited public transit networks and the strong rural dimension of the opioid crisis in the U.S. (CAN6, SUI1, SUI3). Similarly to the situation in Canada, the solution may lie in being open to multiple models that would fit their respective contexts. For instance, in some areas mobile or scaled-back provision (i.e., a very rudimentary facility) may be a way to offer services to a greater number of people (CAN6).

6. Concluding thoughts

This paper presented a series of themes emerging from interviews with key informants who shared their insights on the implementation of HAT and SCSs in Canada, the Netherlands, Switzerland, and the United Kingdom. While SCSs and HAT represent two distinct interventions, several observations can be made that are applicable to both programs.

First, there is substantial heterogeneity across existing HAT programs and SCSs in countries where these have been implemented. For instance, several types of SCSs can be distinguished depending on their relationship with other facilities (e.g., standalone facilities, SCSs embedded in other facilities). SCSs across the four countries also differ in how many and what services they provide in addition to supervising injections. Similarly, HAT programs may vary in their approaches to prescribing and participation requirements.

Second, in the run-up to their implementation, both HAT and SCSs have faced some community concerns regarding the possibility that they enable drug use and may have negative community effects. However, opposition has tended to diminish over time as both programs continued operating. Currently, both HAT and SCSs are generally accepted interventions in British Columbia, the Netherlands, and Switzerland. In the UK, the reason for not implementing HAT as a full service is related to the program's costs, rather than community concerns. There are no SCSs in the UK.

Third, both programs as currently implemented serve a relatively small proportion of PWUO. This is a particularly relevant limitation for jurisdictions with an urgent public health need to address opioid use and major drug supply issues caused by the emergence of synthetic opioids, such as Canada and the United States. Correspondingly, Canada has developed new models of both programs (injectable OAT programs, overdose prevention sites) intended to increase the coverage of service provision.

Key HAT messages

While heroin-assisted treatment programs across the world share the same underlying premise and many characteristics, notable variability exists across the focus countries in how HAT programs have been implemented. Furthermore, other models beyond HAT clinics with supervised consumption of heroin must be recognized. The old “British system” of take-home heroin provided without a package of psychosocial support diverges from this model, although is little used today. To some extent, iOAT programs in Canada represent a departure from the European models, particularly in relation to the use of hydromorphone rather than diamorphine, and in the variety of delivery models in use.

The introduction of HAT programs in the focus countries was met with concerns surrounding potential negative community effects as well as philosophical opposition to this type of treatment, which in some instances may mirror opposition to MT. However, opposition to HAT programs has tended to dissipate following their implementation, due to the generally positive perceptions of the results of the programs.

HAT represents a comparatively costly program, which may be a source of opposition to its introduction or expansion, as evidenced by policy considerations in the UK. HAT also represents a treatment option that may have limited reach because it has historically only been offered to users who have tried conventional treatments multiple times but still use heroin. Furthermore, it may not be a very attractive option for eligible populations; it is typically a structured program with relatively onerous requirements for patients, particularly around being onsite two or three times a day for treatment. However, delivery models in Canada point to potential approaches which are more flexible and can adapt to user needs.

These characteristics also offer lessons for the U.S. context. First, interviewees generally felt that it is important to have established robust traditional MT programs before proceeding with HAT as an additional treatment option. For that reason, introducing HAT programs may not be a priority for some U.S. areas. Second, particularly with respect to clients residing in areas with smaller population density, it may be useful to explore greater flexibility in the program's structure and its participation requirements.

Key SCS messages

SCSs can take many forms with respect to their size, breadth of services, level of formality, and relationship with other services. Broadly speaking, several principal models can be recognized, ranging from fixed standalone facilities to SCSs co-located with other facilities (with various possible forms of integration or embeddedness) to mobile SCSs.

Historically, in addition to improving health outcomes for PWUO, reduction in public nuisance was an important objective behind efforts to introduce SCSs. This was particularly pronounced in the Netherlands and Switzerland. In some instances, the police were the driving force behind their introduction.

Proposals to establish SCSs gave rise to two types of concerns. First, communities and stakeholders have expressed concerns about enabling drug use and general reservations surrounding harm reduction measures. A second group of concerns revolves around community-level impacts, such as negative impacts on crime, property values etc.

Key informants highlighted community engagement and consultations as key mechanisms to address community concerns. Furthermore, consultations with users preceding the opening of SCSs were noted by key informants as important vehicles to understand the needs of PWUO in their communities and learn about their preferences as input into the design of a potential SCS. Another way to address community concerns may be to introduce an SCS as part of an already

existing service. Needle exchange services or other harm reduction facilities represent possible candidate facilities for such an expansion.

Key informants highlighted that community reservations about SCSs tends to dissipate after the sites are in operation. In British Columbia, the Netherlands, and Switzerland alike, they now represent an accepted part of services available to PWUO.

As currently implemented, SCSs represent a relatively minor-scale intervention and may not be easily scalable. The biggest issues with respect to scalability are twofold. First, SCSs ultimately face capacity constraints and are able to serve only a part of the potentially eligible population. Second, SCSs have relatively limited geographical reach and face difficulties attracting PWUO who do not already reside in their vicinity. Novel models of SCSs to address the scalability issue are being explored. These include the expansion of mobile SCS provision and the introduction of limited-service sites (e.g., OPS in BC). The existing SCS evidence base cannot yet inform the implementation of these alternative models.

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Appendix A. Additional details on international HAT provision

Clinic Staff

Any clinician in the UK who wishes to prescribe heroin for the purpose of treating addiction must obtain a license from the Home Office. The process of obtaining a license for this purpose was not described as onerous by interviewees; one policymaker stated that “the Home Office will willingly give licenses to people with good justification for doing so.” (UK3) Another policymaker interviewee stated that approval entailed obtaining assurances from the practitioner’s local care authorities that the clinician was an appropriate person for the task, with sound judgement (UK4).

Under the “old system”, it is typically psychiatrists who specialize in treating addiction who are licensed to prescribe heroin for this purpose (UK6). During the RIOTT trials and subsequent IOT pilot, clinics were staffed by a consultant psychiatrist, who would be very actively involved in the patient’s treatment regime, as well as a senior nurse team leader and nursing staff (UK9). The nurses would supervise the injection (UK2).

In Switzerland, some small variations in staffing at HAT clinics were reported. However, clinics typically have a small number of psychiatrists; a general physician; nurses; and a small number of psychologists providing cognitive behavioral therapy and other forms of therapy. Clinics also have social workers on staff offering psychosocial support (SUI4). Under rules set down by the Federal Office of Public Health, a HAT clinic must have one nurse for every seven patients (SUI2).

In the Netherlands, one interviewee explained that HAT clinics are staffed with medical teams of doctors and nurses, as well as social workers, who provide psychosocial support (NLD1). Doctors in the Netherlands must also be licensed to prescribe heroin; there are currently 20 to 30 licensed doctors. All licensed doctors specialize in addiction (NLD4).

In Canada, nurses supervise HAT patients in the injection room, offer vein care and help finding a vein, and provide education on self-administration (CAN2). The clinic has two social workers on staff, who provide patients with assistance in arranging housing and access to government benefits. The clinic also has a psychiatrist one day a week. An interviewee reported that while “on paper” the clinic does not provide primary care, about 80% of their patients were not connected to the healthcare system and require care for chronic diseases (CAN2). For hydromorphone-assisted treatment, the clinics are staffed by a large team of doctors, nurses, and social workers (CAN3).

User Profiles

In the UK, clinicians under the old system have typically prescribed take-home heroin for patients who the clinician believes is stable enough to be given a supply, but who has failed out of other treatment programs, including high-dose oral methadone (UK3, UK4, UK5). These patients have usually been very entrenched users, who were often of reduced mobility (UK3). The patient would most likely initially be treated with injectable methadone, and if unable to stabilize on that treatment, would undergo a risk assessment and in some cases be prescribed heroin:

I think it was more of a clinical assessment of how chaotic the individual was, and how much you felt it was worth risking seeing whether they could remain compliant. So there would be some kinds of measures of compliance: attendance at appointments, lack of multiple injection sites, or not injecting in the groin. And levels of chaos: polysubstance use, presentation with intoxication. You'd want to look for markers of suicidality and mental health problems that might make the person impulsive... Then you would closely review them and monitor them (UK4)

For the RIOTT trials, the patient cohort was markedly different. Interviewees stressed that the users targeted for this study were a very small proportion, perhaps 5-10%, of the entire using population (UK1). These patients were described as “the most desperate of addicts, who had typically been in treatment for many years, had been unemployed or had never worked, and had histories with numerous government agencies:

People went into the service and they're in and out of the police stations, of prisons. They had lost their children. They had been in an out of hospital, DVTs [deep vein thrombosis] and all sorts of physical health complications. (UK2)

Two UK interviewees (UK4, UK5) highlighted the difference in user profiles for those who were prescribed take-home heroin and those who received heroin to inject under medical supervision:

Those people who went on to traditional British prescribing of heroin were patients who were stable enough that a clinician felt safe enough to give them a take-home supply. So it's a completely different group of patients to those who can be treated with supervised-consumption clinics. Because you can take the most difficult, worst-risk client into a supervised-consumption clinic, it's a very different impact, because no practitioner is going to give to that kind of patient a take-home supply of injectables, and then be up before the GMC [General Medical Council] or the coroner for the consequences. (UK4)

HAT patients in Switzerland and the Netherlands were similarly reported to be a very small proportion of the overall user population, typically chronic users who had tried all other treatment options without success (SUI1, NLD1, NLD2). In Switzerland, a large rate of comorbidity was also reported (SUI1). Most patients have a criminal history and around one third are engaged in some form of employment. The mean age of patients has increased since

HAT clinics were first established in the country and is currently around 50 (SUI2, SUI4); around two thirds of the patients are male (SUI3).

Almost all Canadian HAT and hydromorphone patients were reported to have had interactions with the criminal justice system. According to one interviewee:

At intake when they started with us, 80% of our folks have been in jail for at least a month, with a huge amount of variation. Some have been in jail for many years. And virtually everyone has charges, has spent a few nights in jail. (CAN2)

Eligibility

For the UK's RIOTT trials, interviewees reported that patients were eligible to participate in the study if they had been receiving conventional oral maintenance treatment for over six months but were continuing to inject street heroin on more than 50% of days in the 3 months prior to enrollment (UK7). Only patients between the ages of 18-65 were eligible to participate in the study. (Strang et al., 2010)

In Switzerland, heroin users who wish to engage in HAT must meet a number of conditions. Firstly, they must have been opiate dependent for at least two years (SUI2) and submit to urinalysis before treatment begins, in order to confirm that they are using heroin (SUI4). They must have undergone at least two previous official treatments for heroin addiction. They should also be above the age of 18, although exceptions can be made to this rule. Patients must also live in the canton (state) where they are seeking HAT, although again, this rule is not strictly enforced (SUI2). They must register with the Federal Office of Public Health as an HAT patient, be supervised for every injection at their clinic (SUI1), and have to demonstrate that they are engaged in the HAT program and attend appointments regularly (SUI2).

Clinics are also required to conduct urinalysis twice a year, although one interviewee stated that as no sanctions are imposed on patients for testing positive for street drugs, his clinic no longer performs urinalysis for this purpose. Patients formerly were required to give up their driver's license when entering HAT, although this rule is no longer in effect (SUI4). In practice, a patient is only excluded from a HAT program for violent behavior, although one interviewee noted that violence in the clinic is extremely rare (SUI2).

In the Netherlands, users are eligible for HAT if they can show they are refractory to methadone or buprenorphine maintenance treatment, meaning that they have spent at least six months in treatment, using adequate dosages. For methadone, 80mg is considered adequate; for buprenorphine, 60mg is adequate. Patients must also be defined as regular illicit opiate users, and have a history of psychological and social problems (NLD2). According to an interviewee, there is a minimum age of 35 for eligibility, although this rule is not strictly adhered to (NLD2). A patient may be expelled from the program if they have been found to have stolen heroin from the clinic. However, criminal behavior outside the clinic usually does not make a patient ineligible for treatment (NLD4).

In Canada, there are a number of relevant clinical guidelines which set out eligibility criteria for HAT treatment. Health Canada's criteria, for patients under their non-insured branch, essentially follow the criteria used in the SALOME trial. This includes at least five years of injection heroin use; at least two attempts at treatment, one of which was methadone; using regularly in the past year; currently using; and at least 19 years of age. However, an interviewee commented:

“But using that criteria, we selected people who had been using on average for 15 years and had 11 attempts at treatment. So I think that is setting the bar too high.”
(CAN2)

British Columbia also has injectable opioid guidelines, as has the provincial ministry, which the clinic has adopted and softened. Under these softer guidelines, patients need to have tried standard oral treatment; be 18 years of age or older; be able to give consent and understand the risks and benefits of the treatment; and have a medical history serious enough to require such an intensive treatment (CAN2).

For hydromorphone-assisted treatment, one interviewee reported that the barrier for participation was low, with no requirements to register or maintain a level of engagement. However, relatively unstable patients must come to the clinic to refill their hydromorphone prescription on a weekly rather than monthly basis, as is the standard for more stable patients (CAN3).

Referrals

In the UK, under all strands of heroin prescription, patients must be based within the catchment area for local health services. For the RIOTT trials, patients were referred to the clinics from to local health trust or general treatment service (UK2, UK7). One interviewee stated that to be referred to the trial, the user had to be on an “adequate” dose of methadone and had been engaging with the local health body (UK2). In Switzerland, patients may be referred to a HAT clinic by staffs at other opioid treatment facilities, or from government authorities and non-governmental organizations which engage with users. Patients may also approach a HAT clinic directly and make an appointment for an assessment (SUI4).

Length of stay on premises

In Switzerland, interviewees reported that patients typically stay onsite for around 15 minutes. If clinic staff observe intoxication from alcohol or benzodiazepines, patients are asked to stay for 60-90 minutes, with oxygen controls and observation. SUI2) In the Netherlands, one an interviewee shared that patients who inhale diamorphine do not need to stay on site after their visit. However, injectors must stay for 30 minutes. Patients were reported to typically feel that the clinic is too sterile and medicalized, and not a place they wish to spend time (NLD3). For hydromorphone-assisted treatment in Canada, patients are observed for 15 minutes after injection (CAN3).

Opening hours

Swiss interviewees reported that HAT clinics have specific opening hours and patients may attend during those hours without requiring an appointment. Patients' attendance is monitored but regular attendance is not strictly required; if a patient has not attended the clinic for a week then staff try to make contact with them, although extended periods of non-attendance are very rare (SUI2). In the Netherlands, interviewees noted that patients come between two to three times a day; while the Amsterdam clinic requires appointments (NLD4), other clinics do not (NLD1, NLD3). Opening hours are generally from 08:00 to 12:00, and from 17:00 until 19:00 (NLD3), although one clinic was reported to be open all day from 08:00 (NLD4). While some patients may need to wait a short time if there are too many patients at the clinic at the same time, many have strong habits and come to the clinic at the same time every day (NLD3). In Canada, the Crosstown clinic is open 16 hours a day, with three treatment sessions available in the morning, afternoon and evening. Each patient is given a half-hour session by appointment; they must arrive five minutes early for administration and assessment (CAN2). If the patient does not arrive early, they will be slotted into a later session. The clinic has space for around 22 people at one time, and injection sessions occur on a group rather than individual basis. An interviewee commented:

We're a big clinic. We look after 130 to 150 people here at any time, so in order to manage that number, we have to run a tight ship. Some of the clinics are much smaller, and they can sort of show up and get a dose. But we have to be very stringent. (CAN2)

Security arrangements

In Switzerland, security protocols are imposed by the Federal Office of Public Health and Swissmedic, the Swiss equivalent of the US Food and Drug Administration. HAT clinics need a separate safe for the drug, and the clinic must be equipped with an alarm which is directly connected to the police. As noted above, the delivery of HAT must be in an area separated from other services in the facility (SUI2). Each injection at HAT clinics is made under visual control by clinic staff. There are also rigorous controls imposed by the federal government on the safe storage of heroin; how much heroin a clinic may order from a centralized service within the federal government; and how much heroin a clinician may prescribe to a patient (SUI1).

In the Netherlands, HAT clinics have separate entrances from other services offered at the facility. Patients pass through a metal detector to check for weapons, and there are often security guards by the entrance. Clinics may instead have security cameras which are monitored by security personnel (NLD1). One interviewee stated that the most important security measure was banning intoxicated persons in the clinic, noting that violent behavior is much more closely associated with alcohol consumption rather than heroin use (NLD3).

The pharmacist comes to the clinic to check their diamorphine stock against the paperwork every 14 days. Transport of the drug from the pharmacy to the clinic is secured, as is the storage.

All supplies must be signed for with a signature recognizable to the pharmacist. Clinic staff count the stock of diamorphine twice a day (NLD4).

In Canada, the Crosstown clinic has bulletproof windows and double-door entry. One interviewee was critical of the security requirements imposed on HAT clinics, arguing that while the facility needs to be secure, the drug does not need to be treated differently than any other opioid (CAN2). At the iOAT clinics, the pharmacy delivers the drugs on a daily basis, and two nurses must sign off on a stock check. There are also protocols around wastage and missed doses (CAN3). Despite this, an interviewee noted that there had been a small number of incidents of diversion, adding:

It's hard setting up for diversion, because it's not a lockdown place. It's like a community facility, so if someone has an open rig that's full of their allotted, and they are like, "Screw you, I'm walking out with this,"... We can't really stop them. (CAN3)

Appendix B. Additional details on international SCS provision

Age requirements

Interviewees commented on a range of rules associated with the provision of SCS services. Typically, sites are open to individuals aged 18 years and older. However, three Canadian interviewees commented on providing SCS services to minors. An interviewee commenting on an Ontario-based site noted there was no lower limit on age (CAN8). The age of consent in the province for accessing healthcare services is 12 years and while not many 12-year-olds are expected to use the service, the absence of a hard age limit reflects the fact young injectors are an at-risk population and could benefit most from supervision. Another site currently sets the restriction at 18+ but provides services for younger people and are working on addressing any associated legal questions (CAN7). In another SCS, people who appear younger than 18 are not turned away and staff attempt to offer services other than the consumption room (CAN4).

Registration

Though SCSs are low-threshold interventions, some form of registration requirements and procedures may be put in place. For instance, some Swiss facilities, faced with a surge in cross-border traffic from France, Germany and Austria, introduced the requirement to prove that the client resides in the city where the SCS was located (SUI1). In Netherlands, in some sites individuals need to be registered or known to a drug treatment service providers as a drug user (NLD3). Elsewhere in the Netherlands, SCS clients are not obliged to provide real names or dates of birth but are invited to do so for emergency contact purposes should they be hospitalized (NLD6).

In Canada, interviewees commented that services are generally anonymous. Clients are asked for a name but are free to provide a nickname for recordkeeping (CAN3, CAN4, CAN8). This can pose problems for long-term follow-up of individual clients (e.g., for research purposes) if clients do not remember their original nickname or if multiple clients provide the same nickname. Other screening questions that may be asked when clients arrive are intended to help tailor service provision (CAN4). One interviewee added that while their site does not share its records with other medical providers, keeping the service anonymous is desirable to allay any clients' fears of such a disclosure. For instance, SCS clients may not want their MT prescribers to know that they use the supervised consumption service (CAN8).

Length of stay on premises

According to a Dutch interviewee, individual sites in the country differ in their rules regarding how long users are allowed to stay on the premises (NLD6). The interviewee

mentioned an example of a site where users are expected to leave after 30 minutes, although they can return later in the day. The objective behind this rule is to get people moving and be more active (NLD3). By contrast, another Dutch interviewee described a room where users can stay as long as they like, unless another client is waiting to consume onsite. In such a rare situation, the staff will ask the client who arrived first to make space for the newly arrived (NLD6). In one Canadian site, staff place a limit of 30 minutes in the injection room, although the facility has a social room where clients can spend time before or after consuming (CAN8). Flow of clients through a facility can also be supported by design features. One interviewee recalled an arrangement at a Canadian site, which does not allow clients to go back from the injection room to the front. Instead, clients exit the facility without ever returning to the front check-in area (CAN3).

Denial of service and expulsion rules

A few interviewees also commented on the grounds on which people may be denied service or be expelled from the site. One interviewee explained that when intoxicated clients arrive in the SCS, staff attempt to dissuade them from using at the very moment. However, if the staff feel that the person would simply use elsewhere should they be denied entry, the client is allowed to use the SCS (CAN8). Two interviewees mentioned clients sign a user/service agreement, which specifies the rules for the site, such as prohibition of drug dealing on site, drug sharing, and the use and threats of physical violence (NLD5, CAN8). Similar rules generally apply at sites that do not have a formal agreement, including OPSs in Canada. All interviewees mentioned that they make an effort to keep the number of rules as well as resulting bans to a minimum, maintaining the service as low-threshold as possible. One interviewee pointed out that the decision to bar a client may represent an ethical conundrum for the site's management. This is much less of an issue in places that have multiple sites available as the person barred from one SCS can still visit another one (CAN3).

One interviewee shared that when a person who has never injected enters the site, members of staff discuss the risks of intravenous drug use but generally do not deny entry (CAN3).

Opening hours

Interviewees reported variability in SCS opening hours, ranging from 24/7 services to day-time provision only. Two interviewees stressed the importance of long hours of operation (including weekends) (CAN3, NLD5). One added that long hours (or at least multiple locations with staggered operating hours) helps serve different needs for different client populations – for instance, early morning hours may be particularly important for sex workers (CAN3). The desirability of long opening hours was also acknowledged by interviewees involved in SCSs with limited hours of operation, all of whom noted they would like to expand their opening hours.

Security arrangements

Interviewees reported on a range of approaches to ensure security on site. For instance, in the Netherlands, one interviewee noted that concrete arrangements differ across individual sites. Some sites have implemented stricter registration requirements controlling who has access. Some have additional security features such as a steel fence and 24/7 video surveillance (NLD3). Similar variability was reported in Canada. For instance, one site employs security cameras but no on-premise security personnel, preferring to focus on peer-based self-discipline (CAN4). In addition, staff at that location are trained at de-escalation techniques (CAN6). Elsewhere, one site has contracted private security services and another has incorporated a special “floater” position among its staff. This individual, one of the site’s harm reduction workers, monitors the premise for drug use just outside the facility and de-escalates conflicts. This staffer acts as a point of contact for the community in the event clients would like to report an adverse event or voice any concerns about the facility (CAN8). Two interviewees also mentioned that they are ready to call the police if necessary, for instance if clients are violent or threaten to use violence (NLD6) or if there is dealing around the site (CAN8).

Appendix C: Key informant interview protocol

Intro and situation in the country

1. Could you briefly describe your background in this field?
2. How would you describe the scope and nature of the opioid problem in [your country]?
[prompts:]
 - a. What is the estimated number of problem users?
 - b. What is the estimated number of opioid-related hospitalizations and emergency service calls?
 - c. Who are the most affected populations?
 - d. What are the most abused opioids?
 - e. How has the opioid problem evolved in recent years?
3. Are there any factors that exacerbate the impact of the opioid issue in [your country]?
[prompts:]
 - a. Resource-related factors
 - b. Geography-related factors (human and physical geography)
 - c. Policy-related factors
4. Are there any factors that mitigate the impact of the opioid issue in [your country]?
[prompts:]
 - a. Resource-related factors
 - b. Geography-related factors (human and physical geography)
 - c. Policy-related factors
5. Could you briefly describe services available to opioid users in your country?
 - a. Any notable strengths of existing service provision?
 - b. Any notable weaknesses of existing service provision?
6. [QUESTION WILL BE TAILORED TO SPECIFIC COUNTRY AND THEIR SUITE OF SERVICES] Are you familiar with the provision of SCS and/or HP programs in your country? [prompts:]
 - a. Supervised consumption sites → use questions on SCS
 - b. Heroin prescription → use questions on HP
 - c. Both → use all sections

SCS questions

Description of the service

7. What services are available at SCS sites?
 - a. E.g. advice on alcohol and drug treatment, vein care, safer injecting advice?
8. Where is the service available?

- a. How many sites?
 - b. How spatially distributed are they?
9. Who delivers and manages the service?
10. What are the costs associated with the program?
- a. Who pays for the service?
11. How does the SCS program link with other available services?
- a. Is it attached to other services? Are there automatic referrals?
12. Who is eligible for this service?
- a. In your estimate, how large a share of the eligible population engages with the services?
 - b. How does that compare with levels of uptake of other available services?
13. What are people's main entry points to the service?
- a. Who are the main referrers?
14. What are the key client characteristics?
- a. E.g. drug use, HIV and other drug-related infections, criminal history, homeless/in housing, overdose history, age?

Implementation of the service

15. What were the objectives of the service?
- a. What gaps, if any, did it aim to close?
16. How was the decision to introduce the service made?
- a. Was there any opposition to the introduction of the service?
 - b. Why was there opposition and from whom?
17. What were the biggest challenges in implementing the service?
18. What were the most important enablers of the service's implementation?
19. How, if at all, is the service linked with other services (treatment services, social services)?
20. Are there any other lessons from the service's implementation you would like to highlight?

Results of the service

21. Has this service been evaluated?
- a. If so, what are the results of the evaluation?
 - b. If not, are there plans to do so?
22. Have there been any positive results of the service's introduction? [prompts:]
- a. Reduced overdoses/deaths on- and off-site
 - b. Impact on client/public health
 - c. Lessening demand and supply

- d. Lower incidence of abuse
 - e. Improved relationships, employment status
 - f. Image of heroin as unattractive
 - g. Lower costs incurred by criminal justice and health systems
23. Have there been any negative results of the service's introduction? [prompts:]
- a. Higher incidence of abuse/ overdoses
 - b. Impact on client/public health
 - c. Image of heroin as safe/tacit approval of drug abuse
 - d. Increase in crime/disorder in neighboring environment?
 - e. Other community-level
24. What are the most important barriers or obstacles to access to treatment in [your country]? [prompts:]
- a. Users' awareness of available services
 - b. Availability/ costs of services and who bears these costs
 - c. Spatial distribution of available services
 - d. Cultural factors/stigma
 - e. Any other community-level outcomes, e.g., burglaries in the neighborhood, property values?
25. Has the service's introduction led to any unintended consequences?
26. How could the service be further improved?
27. Are there plans to make modifications to the service in the future?
- a. If so, what changes and why?

HP questions

Description of the service

28. Where is the service available?
- a. How many sites?
 - b. How spatially distributed are they?
29. Who delivers and manages the service?
30. What are the costs associated with the program?
- a. Who pays for the service?
31. How does the SCS program link with other available services?
- a. Is it attached to other services? Are there automatic referrals?
32. Who is eligible for this service?
- a. In your estimate, how large a share of the eligible population engages with the services?
 - b. How does that compare with levels of uptake of other available services?
33. What are people's main entry points to the service?
- a. Who are the main referrers?

34. What are the key client characteristics?
- a. E.g. drug use, HIV and other drug-related infections, criminal history, homeless/in housing, overdose history, age?

Implementation of the service

35. What were the objectives of the service?
- a. What gaps, if any, did it aim to close?
36. How was the decision to introduce the service made?
- a. Was there any opposition to the introduction of the service?
 - b. Why was there opposition and from whom?
37. What were the biggest challenges in implementing the service?
38. What were the most important enablers of the service's implementation?
39. Are there any other lessons from the service's implementation you would like to highlight?

Results of the service

40. Has this service been evaluated?
- a. If so, what are the results of the evaluation?
 - b. If not, are there plans to do so?
41. Have there been any positive results of the service's introduction? [prompts:]
- a. Reduced overdoses/deaths on- and off-site
 - b. Reduced use of street opioids/drugs
 - c. Impact on client/public health
 - d. Lessening demand and supply
 - e. Lower incidence of abuse
 - f. Improved relationships, employment status
 - g. Image of heroin as unattractive
 - h. Lower costs incurred by criminal justice and health systems
42. Have there been any negative results of the service's introduction? [prompts:]
- a. Higher incidence of abuse/ overdoses
 - b. Diversion of pharmaceutical heroin to street markets
 - c. Impact on client/public health
 - d. Image of heroin as safe/tacit approval of drug abuse
43. Could you comment on the program's patient outcomes?
- a. How long do people stay in HP treatment?
 - b. At what dose do they stabilize? And how long before reaching desired dose?
 - c. How are doses determined?
 - d. Proportion of patients that graduate to other treatments?
 - e. Proportion that fail out of HP?

44. What are the most important barriers or obstacles to access to treatment in [your country]? [prompts:]
 - a. Users' awareness of available services
 - b. Availability/ costs of services and who bears these costs
 - c. Spatial distribution of available services
 - d. Cultural factors/stigma
 - e. Any other?
45. Has the service's introduction led to any unintended consequences?
46. How could the service be further improved?
47. Are there plans to make modifications to the service in the future?
 - a. If so, what changes and why?
48. Do you think that the uptake of the HP service would be different if the local heroin supply was tainted with fentanyl? How much? Why?
49. Any thoughts on hydromorphone provision compared to heroin provision?
 - a. Is that a possibility in [JURISDICTION]? If so, what are the outcomes?
 - b. If not, what do you think this would mean in terms of the services' effectiveness and acceptability?

Closing questions

50. Are you familiar with SCS and HP programs that have been implemented in other international jurisdictions?
 - a. Could you comment on how, if at all, their design and implementation differs from those in your country?
 - b. Could you comment on, in your opinion, the relative merits of how these programs were designed and implemented in comparison with your country?
51. Do you have any thoughts on the applicability of these services to the US context?
52. Are there any other individuals you would recommend we speak to?
53. Is there anything else you would like to comment on?