



HAMILTON SUPERVISED INJECTION SITE

Needs Assessment &
Feasibility Study

DECEMBER 2017



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ACKNOWLEDGMENTS

This study was conducted by the City of Hamilton Public Health Services in partnership with McMaster University's Master of Public Health (MPH) program.

Thank you to all of the community members and organizations who participated in consultations for the study. We would also like to thank the following individuals and organizations for their involvement in this study:

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Hamilton Paramedic Service

Hamilton Police Service

The AIDS Network

Wesley Urban Ministries

FUNDING

This study was funded by the City of Hamilton.

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EXECUTIVE SUMMARY

BACKGROUND

Drug and substance misuse is an important public health issue with significant impacts on the individual and the community. Health and social impacts include death from overdose, inability to work, family disruption and grief, crime, mental illness and addictions, unstable housing, degradation of public spaces, and concerns about neighbourhood safety. Specific to injection drug use, harms include the spread of infectious diseases such as hepatitis C virus (HCV) and human immunodeficiency virus (HIV), and the production of injection litter in the community.

Supervised injection sites (SISs) are locations where people take pre-obtained illicit drugs and inject them in a clean and supervised environment. Staff at SISs are able to respond quickly and effectively to overdoses and can link injection drug users to other health and social support services. As a harm reduction measure, SISs do not require the cessation of injection drug use, but work to minimize the risks associated with injection drug use.

In December 2016, the City of Hamilton Public Health Services (HPHS), the local public health authority for Hamilton, Ontario, was directed by its Board of Health to conduct a needs assessment and feasibility study on SISs in Hamilton in 2017.

STUDY OBJECTIVES

The objectives of the Hamilton Supervised Injection Site Needs Assessment and Feasibility Study (SIS NAFS) were:

1. To determine the need for one or more supervised injection sites (SISs) in the City of Hamilton;
2. To determine the feasibility of one or more SISs for Hamilton, including the recommended number, geographical location(s), and model type (integrated, stand alone, or mobile);
3. To involve the community and stakeholders in consultation and discussions about issues associated with drug use in Hamilton, and the feasibility of supervised injection sites as a measure to improve health among people who inject drugs.

STUDY METHODS

The SIS NAFS was a mixed-methods study comprised of quantitative and qualitative components. The quantitative portion aimed to describe the need for SISs in Hamilton by analyzing available health and crime information. Health information included data on drug use and misuse, fatal and non-fatal overdoses in Hamilton, bloodborne infections and drug-related risk factors, as well as harm reduction service demand.

The qualitative, community-based portion of the study aimed to consult community stakeholders about the need for, and feasibility of, SISs in Hamilton. The qualitative study had three major components: a survey of people who inject drugs (PWID); key informant interviews; and focus groups.

QUANTITATIVE FINDINGS

DRUG USE AND HEALTH IMPACTS

In Hamilton, one in eight adults reported using some type of illicit drug (which included marijuana) in the year previous to being surveyed in 2011/2012. Drug-related emergency department visits, hospital admissions, and overdoses have sharply increased in the past five years. In 2016, the emergency department visit rate was 211.4 visits per 100,000 population for drug-related mental and behavioural disorders and there were 43 opioid-related accidental deaths, which is four times higher than the number of deaths in 2007.

From the survey of PWID, it was found that only half of the respondents had an ambulance called at the time of their last overdose (46%). Between January and August of 2017 there were 235 paramedic responses to suspected opioid overdose, with a high concentration of the calls being made from the downtown areas of Hamilton. Based on the underreporting of overdoses through 911 calls, the paramedic responses are an underestimate of the total overdoses that occurred in Hamilton during this time.

Bloodborne infections spread easily with some drug use behaviours, such as sharing needles. In 2016, there were 230 newly diagnosed hepatitis C cases in Hamilton, which represents a rate of 40.9 cases per 100,000 population. This rate is 32% higher than the provincial rate of 31.1 cases per 100,000 population. Among those that were diagnosed between 2012 and 2016, nearly half (47%) reported injection drug use behaviour.

HARM REDUCTION SERVICE DEMAND

Harm reduction programs in Hamilton are being readily accessed by people who inject drugs and demand is increasing over time. In 2016, 1.2 million needles were distributed by Hamilton's Needle Syringe Program. Since the Hamilton Overdose Prevention & Education (HOPE) program began in 2014, there has been an increased demand in naloxone kits, which reverse opioid overdose. Between January and August 2017, 1,017 naloxone kits had been distributed, and 250 people were reported as being revived by the kits.

QUALITATIVE FINDINGS

SURVEY OF PEOPLE WHO INJECT DRUGS (PWID)

One hundred and six individuals participated in the survey. A third of participants reported daily injection use in the past six months. In Hamilton, the three most frequently reported injection drugs were crystal methamphetamine ("crystal meth") (62%), hydromorphone (61%), and cocaine (48%). Most survey participants (82%) reported that they had obtained a drug that they suspected was contaminated ("cut") with another substance, most commonly fentanyl and crystal meth.

Nearly half of respondents had experienced an overdose in their lifetime, and three in five that had overdosed indicated that an opioid was involved. Fear associated with being arrested if an

ambulance was called was the predominant reason why people didn't call an ambulance, and 47% were afraid of being arrested when they or someone else had overdosed. Only half of the respondents who overdosed had an ambulance called when they overdosed.

A majority of community members who inject drugs said that they had injected drugs in a public or semi-public place (67%), and that they had injected alone at least once (84%). Although 77% of survey participants had exchanged or obtained needles at a harm reduction program in the past six months, almost half of the respondents didn't know where to get clean needles when needed.

A significant question in determining need for an SIS in Hamilton was whether or not it would be used by community members who inject drugs. Survey responses indicated that 80% of participants would use an SIS, and 9% said they would maybe use an SIS. Common reasons for wanting to use an SIS aligned with the public health goals of SISs, namely preventing overdoses, the spread of bloodborne infections, and decreasing public injection and its consequences. For those who said they would not use an SIS (11%), the concerns, expressed in different ways, mostly related to privacy and confidentiality.

With an implementation of an SIS, there are quite a few general community concerns; however, community members who inject drugs did not believe that users would move to the area in and around an SIS, or that there would be a reduction in street crime or violence in the area. The benefits of an SIS included a reduction in overdoses, injection drug litter, and injection with used needles.

An SIS was widely supported by participating community members who inject drugs, who also gave their input on the logistics of an implemented SIS in Hamilton. Ninety per cent of respondents would visit an SIS if it was at a community health centre. Location was identified as important and 62% would be willing to walk more than 15 minutes to access an SIS. Responses of a preferred location for an SIS were concentrated in or near the downtown core, and four in 10 respondents said they would use an SIS every time they inject if it was located in a convenient area. Optimal hours of operation were identified as 8 a.m. to 12 noon (56%) and the 8 p.m. to 12 midnight (30%). Having an integrated SIS that offers other services was the preferred model for an SIS by 61% of survey respondents. One in 3 PWID survey respondents believes that Hamilton should have at least two or three SIS locations to meet the current need in the city.

COMMUNITY CONSULTATIONS: PERCEIVED BENEFITS AND CONCERNS

SISs were seen to have the potential to improve safety for people who inject drugs and the general community. Safety benefits for PWID included safer injection practices, being safe from police, and a reduction of fear and anxiety among users. Providing a space for individuals to inject drugs safely may have positive impacts on the community by lowering the amount of needle litter, public injection, crime and nuisance (e.g., loitering). SISs were seen as a benefit for PWID to have better access to health care and social services, and to create a bridge of engagement for an often marginalized and vulnerable population. With the decrease in potentially risky drug use behaviour, it was identified that SISs may reduce burdens on the

health care system and community services. Lastly, it was raised that SISs would address stigma towards PWID, and improve awareness of the drug issue and harm reduction.

Increased safety was seen as a benefit for PWID; however a risk of the user being targeted by dealers or other users was also identified. There was concern from the focus groups and key informant interviews that police may monitor or have high presence around the SIS, which may dissuade people from accessing the site. Stigmatization of service users may still occur, as there may be potential to be identified as using the SIS; this was seen as a barrier of access particularly for youth involved in drug use. Logistically, the wider community thought it was necessary that an SIS was located in area that would be convenient and accessible for users. There was lastly concern for PWIDs that an SIS may encourage an increase of drug use and first time drug use, instead of treatment.

Community consultations brought forward concerns for the community as a whole, including neighbourhood safety and a perceived risk of increase in crime. There were also concerns that the social perceptions of an SIS may create a negative image of Hamilton. Implementation of an SIS is thought to raise concerns of 'Not in My Backyard', with the location of an SIS needing to consider proximity to other organizations and services, such as schools or child care.

COMMUNITY CONSULTATIONS: ACCEPTABILITY OF SISs

As supervised injection sites are already an accepted harm reduction measure in several cities across Canada, some community members agreed that Hamiltonians will accept them as well. Three quarters of key informant respondents agreed that if not immediately, over time there would be community acceptance of SISs. Having buy-in from political figures and city leaders was mentioned as a strategy to help destigmatize the issue.

RECOMMENDATIONS

1. Hamilton would benefit from one or more supervised injection sites.

Epidemiological and community data describe a need for additional strategies to decrease death and disability as a result of injection drug use and its consequences. The Hamilton community largely supports SISs as a strategy to support people who inject drugs and community members who inject drugs would be willing to use an SIS.

2. Hamilton should implement one integrated supervised injection site located in the area flanked by Queen Street (west), Barton Street (north), Ferguson Ave (east) and Main Street (south).

- a. The site should be integrated within an existing health or social service agency that already provides harm reduction services to people who inject drugs.
- b. The lead organization of the site should determine optimal hours of operation based on resources, capacity, and need, understanding that surveyed users would prefer to access a site between 8 a.m. to 12 noon and 8 p.m. to 12 midnight.
- c. The site should provide harm reduction and basic health services.

3. Additional integrated sites should be considered based on implementation of the first site, monitoring for need, and the interest and willingness of service providers and users to have additional locations.

- a. Potential areas to monitor include the East End and Mountain.

4. Geographic areas outside of Hamilton's downtown core could be serviced with a mobile supervised injection site.

Injection drug use is a city-wide issue. While a fixed site in the downtown core will serve many, strategies to address equity of access should be considered.

- a. Further investigation should be conducted to understand the optimal route and timing
- b. Ways to incorporate integrated services into a mobile service delivery model should be further explored.
- c. The potential for additional mobile units should be considered based on monitoring for need and the interest and willingness of service providers and users to have additional units.

5. Implementation and evaluation plans should be developed by the lead service agency for the SIS in consultation with other service providers, potential clients, and the community.

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INTRODUCTION

DRUG AND SUBSTANCE MISUSE AND SUPERVISED INJECTION SITES

Drug and substance misuse is the harmful use of drugs or substances for non-medical purposes. Substances can be legal (e.g., prescription medications, over-the-counter medications, alcohol) or illegal (e.g., crack, heroin). A drug is one type of substance and is defined as a “medicine or other substance which has a physiological effect when ingested or otherwise introduced into the body.”¹ Harm can come in many forms, including negative health, social and environmental impacts.

Drug and substance misuse is an important public health issue with significant impacts on the individual and the community. Health and social impacts include death from overdose, inability to work, family disruption and grief, crime, mental illness and addictions, unstable housing, degradation of public spaces, and concerns about neighbourhood safety. Specific to injection drug use, harms include the spread of infectious diseases such as hepatitis C virus (HCV) and human immunodeficiency virus (HIV), and the production of injection litter in the community.

Supervised injection sites (SISs) are locations where people take pre-obtained drugs and inject them in a clean and supervised environment. Staff at SISs are able to respond quickly and effectively to overdoses and can link injection drug users to other health and social support services. As a harm reduction measure, SISs do not require the cessation of injection drug use, but work to minimize the risks associated with injection drug use. SISs do not promote drug use, but support health equity and health as a human right. SISs are an evidence-based harm reduction measure to decrease morbidity and mortality in people who inject drugs, as well as minimize harmful community impacts of injection drug use.

As of Oct. 5, 2017, seven cities in Canada have legally operating supervised consumption sites, located in British Columbia (Vancouver, Kamloops, Kelowna, and Surrey), Ontario (Ottawa and Toronto), and Québec (Montréal).² The majority of existing supervised consumption sites currently offer supervised injection services only. Many other Canadian cities, including Victoria, Thunder Bay, London, Calgary, Edmonton, and Lethbridge have completed or are actively pursuing studies or exemption applications to open supervised consumption sites.

¹Oxford English Dictionary. “Drug.” <http://www.oxforddictionaries.com/definition/english/drug> [Accessed 29 Sep 2017].

²Government of Canada. “Supervised consumption sites: status of applications.” <https://www.canada.ca/en/health-canada/services/substance-abuse/supervised-consumption-sites/status-application.html> [Accessed 5 Oct 2017]

HAMILTON CONTEXT

The City of Hamilton Public Health Services (HPHS), the local public health authority for Hamilton, Ontario, conducts community health assessment related to injection drug use as well as provides harm reduction services, including a needle syringe program. Since approximately 2011, fatal and non-fatal overdoses, particularly those due to opioids, have been increasing in Hamilton. Program data have also demonstrated an increasing demand for clean injection equipment over time, with approximately 1.2 million clean needles distributed in 2016. There is broad recognition in the community that Hamilton requires further strategies to support people who inject drugs, including the exploration of SISs.

HPHS is governed by the Board of Health (BOH) whose members include the Mayor and City Councillors. In February 2016, the Board of Health directed HPHS to report on supervised injection sites globally and provide information on their effectiveness. A report was brought to the BOH in September 2016 and included a literature review of the evidence supporting the effectiveness and global scan of SISs. In response to the report, the Board of Health directed HPHS to conduct a community survey and bring a report to request funding for an SIS needs assessment and feasibility study. The online survey, conducted in October 2016, found that 84% of community members were in support of SISs in Hamilton. In December 2016, the BOH approved funding for HPHS to conduct a needs assessment and feasibility study on SISs in Hamilton in 2017.

The Hamilton SIS Needs Assessment and Feasibility Study (NAFS) was a collaborative project undertaken by Hamilton Public Health Services and McMaster University's Master of Public Health Program. This final study report summarizes the study's findings and recommendations, and fulfills the Board of Health's requirement that a report be provided by the end of 2017.

STUDY OBJECTIVES

The objectives of the Hamilton SIS Needs Assessment and Feasibility Study were to:

1. Determine the need for one or more supervised injection sites (SISs) in the City of Hamilton;
2. Determine the feasibility of one or more SISs for Hamilton, including the recommended number, geographical location(s), and model type (integrated, stand alone, or mobile);
3. Involve the community and stakeholders in consultation and discussions about issues associated with drug use in Hamilton, and the feasibility of supervised injection sites as a measure to improve health among people who inject drugs.

Consumption by methods other than injection was out of scope for the study.

METHODS

STUDY DESIGN

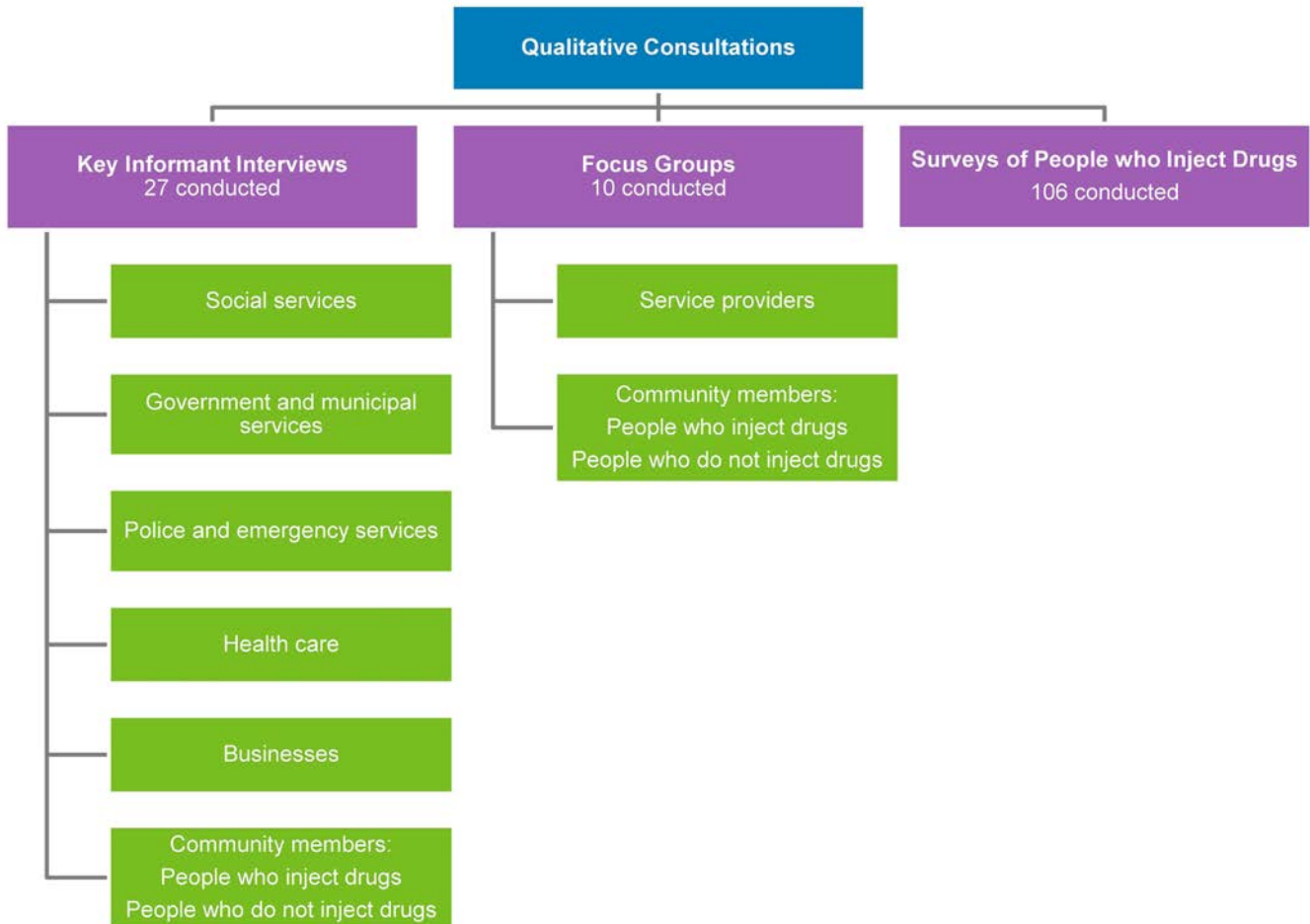
The SIS NAFS was a mixed-methods study comprised of quantitative and qualitative components. The quantitative portion aimed to describe the need for SISs in Hamilton by analyzing available health and crime information. Health information included data on drug use and misuse, fatal and non-fatal overdoses in Hamilton, bloodborne infections and drug-related risk factors, as well as harm reduction service demand. Some quantitative information was derived from the survey of people who inject drugs.

The qualitative, community-based portion of the study aimed to consult community stakeholders about the need for, and feasibility of, SISs in Hamilton. The qualitative study had three major components:

1. Survey of people who inject drugs (PWID);
2. Key informant interviews; and
3. Focus groups.

Consultation instruments for the survey, key informant interviews, and focus groups were adapted with permission from Dr. Thomas Kerr's toolkit used in British Columbia, London and Thunder Bay. During the course of the study, 27 key informant interviews, 10 focus groups, and 106 surveys with people who identified as injecting drugs in the past six months were conducted. Figure 1 describes the number of participants in the qualitative consultations and their affiliated sectors.

Figure 1: Distribution of community consultations, Hamilton SIS NAFS



The survey, key informant interviews and focus group components of the study were approved by the Hamilton Integrated Research Ethics Board (HiREB) on May 18, 2017. The other quantitative portion of the study did not undergo ethics review as the data was publicly available and/or belongs to the City of Hamilton departments and boards and was being used for program development.

STUDY OVERSIGHT

Community and Scientific Advisory Groups were formed to provide oversight to the study. The Scientific Advisory Group (SAG) consisted of experts from the fields of public health and epidemiology, healthy environments, geography, criminology, qualitative and quantitative research, community engagement, addictions research, infectious diseases, and Indigenous health research. This group provided scientific and technical advice on study methodology, analysis, and interpretation of results.

The Community Advisory Group (CAG) consisted of representatives from the local community including people with lived experience, neighbourhood and business representatives, government, supporting organizations, and health and social service providers. This group provided advice on study planning, methodology, conduct, and interpretation of results.

QUANTITATIVE DATA METHODS

To assess the individual-level and community-level impacts of drug misuse and injection drug use, as well as the health impacts supporting the need for supervised injection services in Hamilton, the following information were collected from secondary data sources and analyzed:

1. Prevalence of illicit drug use and misuse in Hamilton

- Emergency department visit rate (per 100,000 population) for drug-related mental and behavioural disorders, Hamilton residents, 2002-2016
- Proportion of total drug-related emergency department visits by hour of visit, Hamilton residents, 2016

2. Incidence of fatal and non-fatal overdose

- Number of accidental deaths related to opioids, by opioid type, Hamilton, 2002-2016
- Number of accidental deaths related to cocaine, Hamilton, 2002-2016
- Opioid-related hospitalization rate (per 100,000 population), Hamilton residents and Ontario residents
- Opioid-related emergency department visit rate (per 100,000 population), Hamilton residents and Ontario residents
- Number of suspected opioid-related paramedic incidents, Hamilton, 2017
- Drug-related emergency department visit rates (per 100,000 population) by forward sortation area³, Hamilton residents, 2016

³ First three postal code characters

3. Bloodborne infections and drug-related risk factors

- Number of cases, crude incidence rates and age-specific rates (per 100,000 population) of hepatitis C, Hamilton and Ontario
- Proportion of hepatitis C cases reporting drug-related risk factors, Hamilton and Ontario
- Number of deaths and crude mortality rates (per 100,000 population) due to hepatitis C, Hamilton and Ontario
- Number of cases, crude incidence rates and age-specific rates of HIV (per 100,000 population), Hamilton and Ontario
- Proportion of HIV cases reporting drug-related risk factors, Hamilton and Ontario
- Number of deaths and crude mortality rates due to HIV (per 100,000 population), Hamilton and Ontario

4. Harm reduction service demand

- Number of needles distributed and collected, Hamilton needle syringe program, 2000-2016
- Number of naloxone kits distributed by the Hamilton Overdose Prevention Education program, 2014-2017
- Number of people revived by naloxone, Hamilton Overdose Prevention Education program, 2014-2017

5. Map of rates of drug-related crime occurrences (per 1,000 population), Hamilton, 2012-2016

Following cleaning of the data sets, descriptive data analyses were conducted using Microsoft Excel 2010 and IBM SPSS Statistics 22. Analyses included the computation of proportions, rates, and tests for statistical significance to compare rates and trend comparison for rates across time. Mapping was performed using ESRI ArcGIS Desktop 10.5.

For technical notes about the data sources and analysis for each indicator, please refer to Appendix A.

QUANTITATIVE & QUALITATIVE METHODS: SURVEY OF PEOPLE WHO INJECT DRUGS (PWID)

A survey was conducted with people who self-identified as having injected drugs in the past six months. The survey instrument, adapted from Dr. Thomas Kerr's survey for people who inject drugs (PWID),⁴ included both single and multiple measure questions, with sections on (1) demographic information; (2) drug use and injection practices; (3) attitudes and opinions towards SIS; (5) potential community impact of an SIS; (6) overdose experience; and (7) drug treatment.

Participants were eligible for the survey if they met the following criteria:

- 16 years of age or older;
- Self-identified as injecting drugs at least once in the six months prior to participating in the survey;
- Understood English; and
- Capable of providing informed consent and understanding the information in the survey.

Survey participants were recruited through multiple methods:

- Posters – Placed in a number of locations city wide, including libraries, public posting areas, pharmacies, and social service agencies in the downtown core, and health services in the downtown core such as needle exchange programs or mobile outreach services. Posters were placed in all wards of the city, with an emphasis on areas where injection drug use is known to occur more frequently.
- Word of mouth – Through two peer research associates with lived experience who were hired in collaboration with The AIDS Network, via word of mouth, distribution of business cards and snowball sampling methods.
- Business cards – Distributed by peer research associates and outreach workers such as those staffing the needle syringe van for recruitment.

Participants were invited to book appointments with research assistants or to complete surveys on-the-spot with peer research associates. Surveys were also conducted through open drop-in sessions at social service agencies in the downtown core. The survey took approximately 45 to 60 minutes to complete. All survey participants were provided with a \$25 gift card honorarium for completing the survey, and were reimbursed for travel expenses, if requested.

Survey data were entered into an online survey tool (Simple Survey), exported to the Hamilton Public Health Services secure server as Microsoft Excel and SPSS compatible files, and summarized in aggregate form using descriptive statistics for quantitative data. Results with fewer than five respondents were suppressed to protect the privacy of respondents.

⁴ Dr. Thomas Kerr's feasibility survey for PWID can be found in Appendix C of the "Supervised Consumption Services: Operational Guidance" document by the British Columbia Centre on Substance Use, available at: <http://www.bccsu.ca/wp-content/uploads/2017/07/BC-SCS-Operational-Guidance.pdf>

QUALITATIVE DATA METHODS: KEY INFORMANT INTERVIEWS AND FOCUS GROUPS

Key informants were recruited using a standardized email script, sent to those identified by study investigators as key stakeholders, influencers, decision-makers, service providers, community members, and experts related to SIS policy and/or implementation. Following informed consent, a standardized set of questions, adapted from materials developed by Dr. Thomas Kerr, were used for each key informant interview.⁵ Interviews were on average one hour in length.

Focus groups were conducted with participants from the following sectors: community (people who inject drugs and people who do not inject drugs), and health and social service providers. Each focus group consisted of six to 10 participants, on average, and was about an hour in length. Recruitment was done by posters placed in community centres, libraries, public posting areas, schools, business improvement areas, pharmacies, and social service agencies across the city.

To ensure representation of PWID in focus groups, specific recruitment was conducted at local social and health service organizations, via posters, business cards, and verbal invitation using a standard script. Two peer research associates also recruited for focus group participants by distributing business cards, and through their informal networks.

Focus group participants and key informants were provided with a \$25 gift card honorarium⁶ and were also reimbursed for travel expenses, if requested.

With permission from the participant, interviews and focus groups were digitally recorded and notes were taken at the same time. Recordings and notes were then transcribed in Microsoft Word 2010 and coded by theme. Frequency of themes was recorded with multiple mentions of the same theme given by a single participant being recorded once. The Study Team accommodated requests for key informant interviews to occur with more than one participant. In these instances, the frequency of a theme mentioned was recorded as one instead of per participant. Themes were extracted and organized by question; due to resource constraints, thematic extraction was performed independently by three researchers.

⁵ Dr. Thomas Kerr's feasibility study interview guide for key stakeholders can be found in Appendix E of the "Supervised Consumption Services: Operational Guidance" document by the British Columbia Centre on Substance Use, available at: <http://www.bccsu.ca/wp-content/uploads/2017/07/BC-SCS-Operational-Guidance.pdf>

⁶ Participants from organizations who were present as part of their work were only offered an honorarium if the interview or focus group took place outside of work hours.

FINDINGS

QUANTITATIVE FINDINGS

The following information describes the current state of the individual- and community-level impacts of illicit drug misuse and overdose in Hamilton:

1. Prevalence of illicit drug use and misuse in Hamilton;
2. Incidence of fatal and non-fatal overdose;
3. Prevalence of drug-related risk factors among cases of transmittable bloodborne infections;
4. Demand for harm reduction services; and
5. Incidence of drug-related crime occurrences.

DRUG USE AND MISUSE IN HAMILTON

Key findings



1 in 8

Hamilton adults reported using some type of illicit drug in the previous year (2010-2011).



In **2016**,

hospital admission rates for drug-related mental and behavioural disorders were **16.7 per 100,000** population, and emergency department visit rates were **211.4** visits per **100,000**.



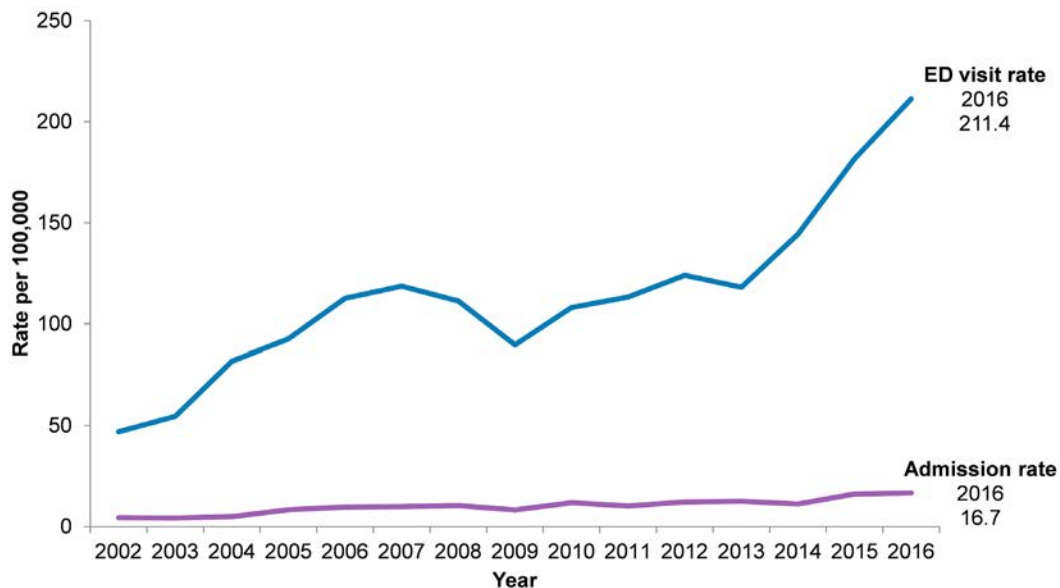
1 in 4

drug-related emergency department visits occur between **8 p.m.** and **12 midnight**.

According to the 2011/2012 Canadian Community Health Survey, about 1 in 8 Hamilton adults (12.3% ± 2.5%) reported using some type of illicit drug (cocaine/crack, speed (amphetamines), ecstasy (MDMA), steroids, glue, gasoline or other, heroin, hallucinogens, phencyclidine (PCP) or lysergic acid diethylamide (LSD), marijuana, cannabis, or hashish) in the previous year, with the most common drug being marijuana. Information about the prevalence of injection drug use in Hamilton is not available.

In Hamilton, emergency department visit and hospital admission rates for mental and behavioural disorders related to drug use have been increasing since 2002 (Figure 2). Drug-related emergency department visits and admissions include opioids, sedatives or hypnotics, cocaine, other stimulants, hallucinogens, volatile solvents, and other psychoactive substances, and disorders include acute intoxication, harmful use of substances, dependence syndrome, withdrawal state, and others. In 2016, the hospital admission rate was 16.7 per 100,000 population, and the emergency department visit rate was 211.4 per 100,000 population, which has been significantly increasing over the previous five years.

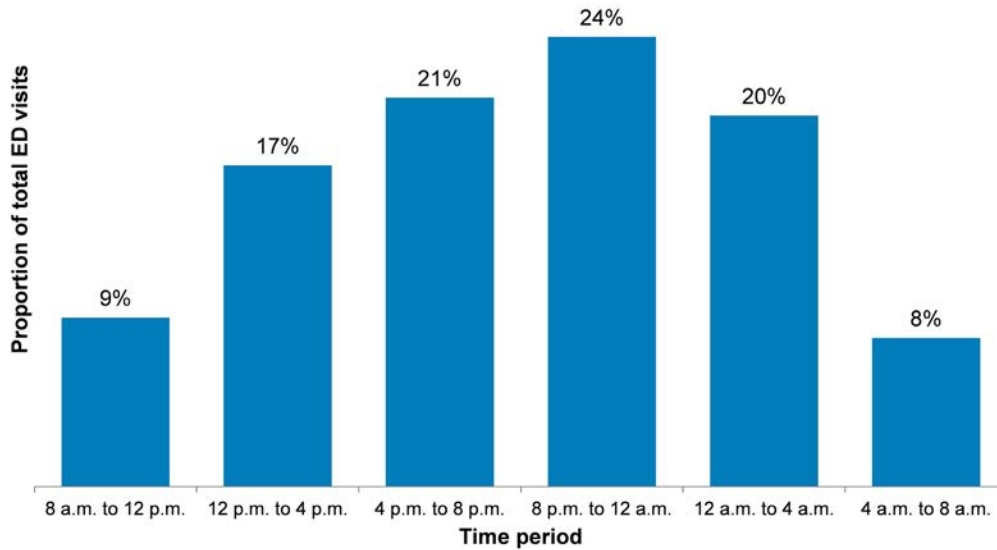
Figure 2: Emergency department visit and admission rates per 100,000 population for drug-related mental and behavioural disorders, Hamilton, 2002-2016



Notes: Drugs include opioids, sedatives or hypnotics, cocaine, other stimulants, hallucinogens, volatile solvents and other psychoactive substances.
 Source: Ambulatory All Visit Main Table, Population Estimates, and Population Projections table, Ontario Ministry of Health and Long-Term Care. IntelliHEALTH ONTARIO, extracted Jul. 2017.

From an analysis of drug-related emergency department visits at Hamilton hospitals by time of day, the majority of drug-related emergency department visits occur at nighttime, with a quarter of visits happening during 8 p.m. and 12 midnight (Figure 3).

Figure 3: Time of drug-related emergency department visits, Hamilton, 2016



Notes: Includes overdose, drug misuse, and opioid-related visits. Includes Hamilton residents visiting Hamilton hospitals.
 Source: Acute Care Enhanced Surveillance, Knowledge Management Division of Kingston Frontenac Lennox & Addington public health, extracted by Hamilton Public Health Services on Jun. 8, 2017.

FATAL AND NON-FATAL OVERDOSES IN HAMILTON

Key findings



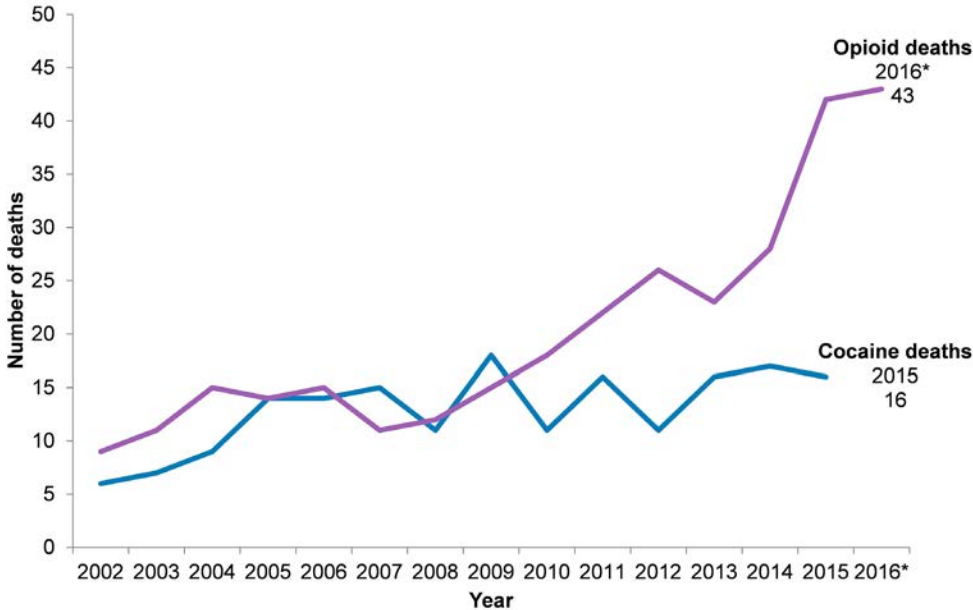
In **2016**, there were **43 opioid-related accidental deaths** that occurred in Hamilton.



Between **January and August 2017** there were **235 paramedic responses** to suspected **opioid overdoses**.

Accidental fatal and non-fatal overdoses due to opioid misuse are increasing yearly in Hamilton at an alarming rate. In 2016, 43 opioid-related accidental deaths occurred in Hamilton, which was four times higher than the number of deaths in 2007 and is three times higher than the number of cocaine-related deaths in 2015 (Figure 4). Half of opioid-related deaths in 2016 were associated with fentanyl.

Figure 4: Accidental deaths related to opioids and cocaine in Hamilton, 2002-2016



*2016 data are preliminary and are subject to change. Deaths due to cocaine are not yet available for 2016. Numbers include deaths where alcohol was also involved in combination with cocaine or opioids. Numbers represent deaths where the drug was believed to be a direct contributor to death, either in isolation or in combination with other drug(s).
 Source: Office of the Chief Coroner for Ontario, Sept. 2017.

In addition to fatal overdoses, non-fatal overdoses due to opioids have been increasing in Hamilton as shown by increasing emergency department visits, hospitalizations, and paramedic responses. Since 2003, the rate of opioid-related hospitalizations among Hamilton residents has increased by 86%, with a rate of 24.0 hospitalizations per 100,000 population in 2016. This rate is almost double the provincial value in 2016, which was 13.5 per 100,000 population. Similarly, the rate of opioid-related emergency department visits has more than doubled between 2003 (24.1 per 100,000 population) and 2016 (52.8 per 100,000 population), and is 67% higher than the provincial rate in 2016 (31.7 per 100,000).

Further, opioid overdoses contribute to a high number of paramedic responses. Between January 2017 and August 2017, there were a total of 235 paramedic responses to suspected opioid overdoses in Hamilton (average of 29 per month).

BLOODBORNE INFECTIONS AND DRUG-RELATED RISK FACTORS

Key findings



In **2016**, there were **230** newly diagnosed hepatitis C cases in Hamilton, corresponding to a rate of **40.9** cases per **100,000** population. This rate is **32%** higher than the provincial rate of **31.1** cases per **100,000** population.

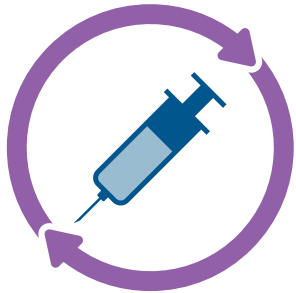


47% of individuals diagnosed with hepatitis C reported injection drug use behaviour.

PWID are more susceptible to contracting bloodborne infectious diseases, particularly hepatitis C and HIV. In 2016, there were 230 newly diagnosed hepatitis C cases in Hamilton, which corresponds to a rate of 40.9 cases per 100,000 population. This rate is slightly higher than the provincial rate of 31.1 cases per 100,000 population. The majority of hepatitis C cases in Hamilton between 2012 and 2016 were males (64%), and the highest rates occurred in the 30-39 years and 50-59 years age groups. Of those who had been diagnosed with hepatitis C in this timeframe, 47% reported injection drug use behaviour, 32% reported inhalation drug use, 19% percent reported sharing needles, and 24% reported sharing other drug equipment. In terms of mortality, between 2004 and 2012, an average of 11 Hamiltonians died due to chronic hepatitis C per year, with the mortality rate peaking in 2012 at 3.0 deaths per 100,000 population, which was higher than Ontario's rate (1.6 deaths per 100,000 population).

Rates of HIV in Hamilton have been increasing since 2012, with an average of 22 cases diagnosed per year since 2012. Among cases diagnosed since 2012, injection drug use was reported by 10% of cases. Although data is not available for the years of 2012 to 2016, in 2011, 4.6% of HIV cases in Ontario reported injection drug use. Further, between 2007 and 2011, an average of six Hamiltonians died yearly from HIV.

Key findings



In **2016**,
1.2 million needles were distributed by
Hamilton's Needle Syringe Program, double the
amount distributed in **2012**.



Between
January and August
2017,
1,017 naloxone kits
were distributed, **reviving 250 people**.

Hamilton's Needle Syringe Program provides clean needles to individuals and also accepts used needles for safe discarding. The number of needles provided to and received from clients by the Harm Reduction program has been increasing year by year. The year 2016 saw the highest number of needles out and in since 2000: over 1.2 million needles were distributed, which was more than double the amount distributed in 2012. Additionally, over 730,000 used needles were collected by this program.

The Hamilton Overdose Prevention & Education (HOPE) program, which began in 2014, provides naloxone kits as a harm reduction measure for individuals using opioids, as well as education to family and friends of people who use opioids. The number of kits distributed and people revived has been increasing since HOPE's inception; between January and August of 2017, 1,017 naloxone kits have been distributed and 250 people reported as being revived by the kits.

Key findings

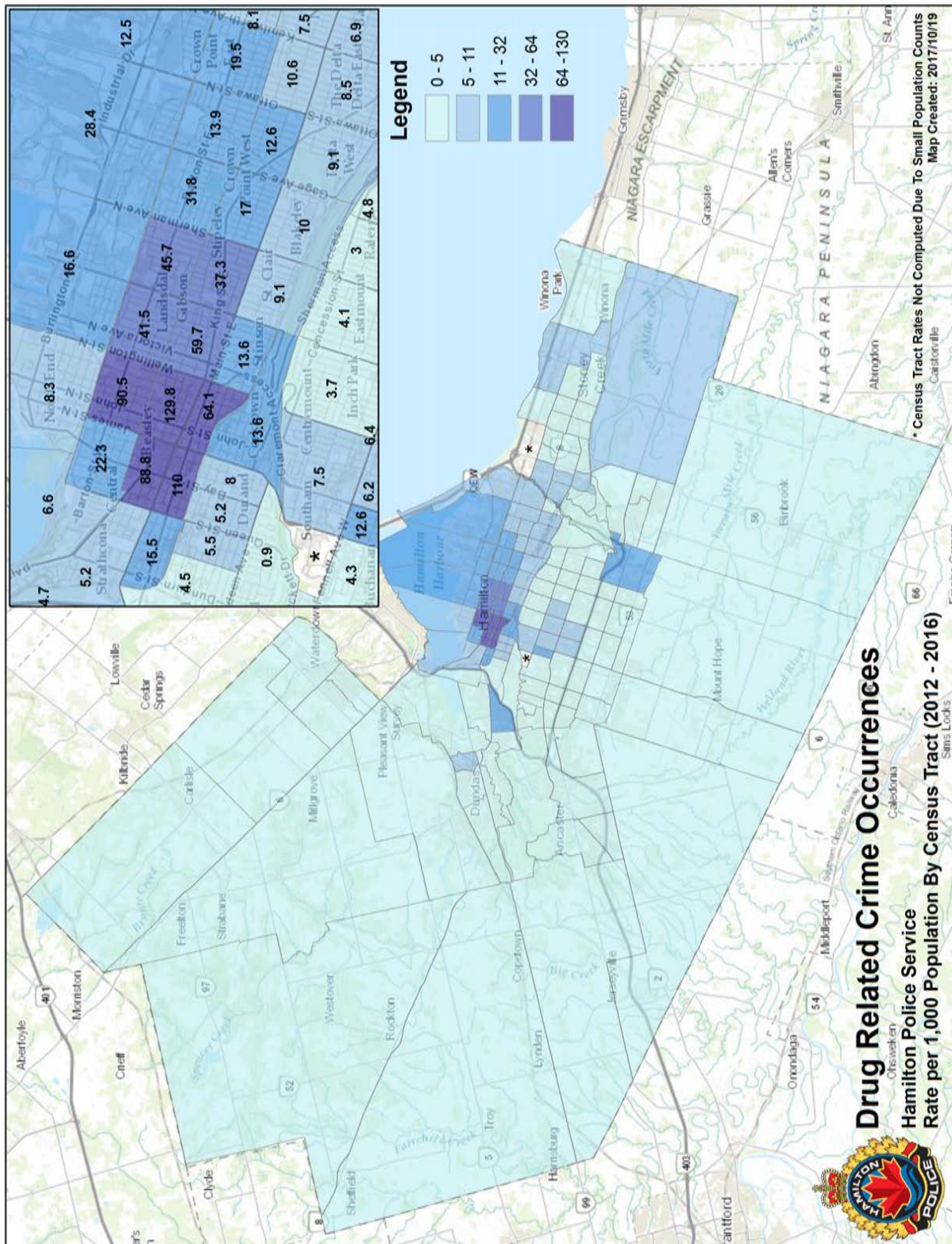


Between 2012 and 2016,

the highest rates of drug-related crime occurrences happened in downtown Hamilton, approximately north of Hunter Street, south of Burlington Street, and between Queen Street and Wellington Street.

Rates representing five years of cumulative drug-related crime occurrences (2012 to 2016) are mapped by census tract in Figure 6. Drug-related crime occurrences include possession, trafficking and loitering events related to controlled substances that do not include cannabis. During this five-year period, the highest rates of drug-related crime occurrences took place approximately in the region north of Hunter Street, south of Burlington Street, and between Queen Street and Wellington Street. Note that the 2011 Census population counts were used to determine rates; rates per census tract may change significantly if the 2016 Census population counts are used. Additionally, these rates represent five years of cumulative data and are not comparable to annual rates.

Figure 6: Map of rates of drug-related crime occurrences per 1,000 population, by census tract, Hamilton, 2012-2016 combined



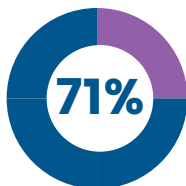
SURVEY OF PEOPLE WHO INJECT DRUGS

DEMOGRAPHIC INFORMATION

Key findings



Surveys were done with **106** recent injection drug users about their injection drug use practices and opinions on supervised injection sites.



The average age of survey participants was **44** years, and **71%** were male.



About three quarters of respondents reported their income in the previous year to be under **\$20,000**, which is below Ontario's median after-tax income of **\$29,417**.



20% of respondents reported living on the street in the past six months.

A total of 106 participants who self-identified as injecting drugs in the previous six months were surveyed between July 6 and August 11, 2017. For the full results of the survey, please see Appendix B. Nearly three quarters of respondents reported injecting drugs in the previous 30 days, and 39% lived with another current injection drug user at some point during the previous six months.

Table 1 summarizes the demographic information of survey participants. The average age of respondents was 44 years, with ages ranging between 22 and 64 years. The majority of participants (71%) were male, and most participants (88%) identified as being heterosexual. Nearly 90% of respondents reported English as their first language. Two thirds of respondents identified as being white, and a quarter identified as being Indigenous.

Table 1: Demographic information of Hamilton PWID survey participants (n=106)

Characteristic	Proportion (%)
Injected drugs in the past 30 days	73
Average age (range)	44 (22 – 64 years)
Sex	
Male	71
Female	28
Sexual orientation	
Heterosexual	88
Gay or lesbian	nr
Bisexual	9
First language	
English	90
French	5
Other	6
Ethnic group/cultural background	
White	67
Indigenous	25
Other	24
Highest level of education completed	
Primary school	27
High school	43
Any college or university	30

Characteristic	Proportion (%)
Income in the past year	
Under \$10,000	21
\$10,000 – 19,999	55
\$20,000 – 29,999	13
\$30,000 – 39,999	nr
\$40,000 – 49,999	nr
\$50,000 or more	6
Sources of income*	
Ontario Disability Support Program	51
Ontario Works	37
GST rebate	26
Temporary work	18
Self-employment	8
Regular job	7
Ontario Trillium Benefit	5
Selling drugs	9
Selling sex	6
Lives with another current injection drug user	39
Places of residence in the past 6 months*	
Own residence	71
Someone else's house/apartment	44
Shelter/welfare residence	34
Street	20
Hospital	16
Hotel/Motel	15
No fixed address	15
Prison/jail	12
Crack house	10
Rooming/boarding house	8
With parents	8
Rehab	6
Medical hostel	nr
Transitional housing	nr
Other	12

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

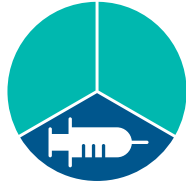
The majority of PWID survey participants reported completing at least high school (73%); however, over three quarters of respondents (77%) reported their income in the previous year to be under \$20,000, which is below Ontario's median after-tax income of \$29,417.⁷ The most commonly reported formal sources of income in the past six months included the Ontario Disability Support Program (51%), Ontario Works (37%), and Goods and Services Tax (GST) rebate (26%). A third of participants were employed either through temporary work (18%), self-employment (8%), and full-time work (7%). The most frequently reported informal sources of income were selling drugs (9%) and sex (6%). One third of female respondents disclosed receiving items or money in exchange for sex, compared to 8% of men.

In terms of a place to stay in the past six months, housing was often reported as unstable with 34% reporting staying at a shelter or welfare residence, 20% staying on the street, and 15% reported having no fixed address.

⁷ Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016131.

DRUG USE & INJECTION PRACTICES

Key findings



A third of surveyed participants reported injecting drugs daily.



Two thirds of respondents reported injecting drugs in a public or semi-public place in the past six months.

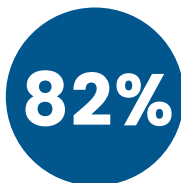


In the past six months,

84% of respondents reported injecting alone; however **43%** needed help with injection at least once.



The most frequently reported injected drugs among survey respondents were crystal meth (**62%**), hydromorphone (**61%**), and cocaine (**48%**).

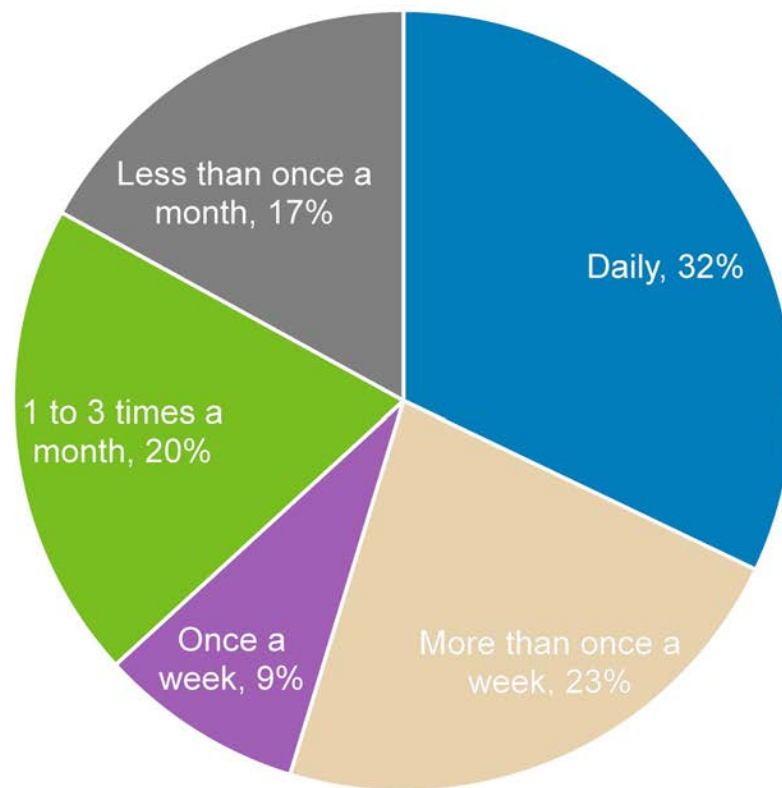


of respondents reported ever getting a drug they thought was cut with another substance. The most commonly suspected substances that were cut into their drugs were fentanyl and crystal meth.

FREQUENCY OF INJECTION DRUG USE

The majority of survey respondents (63%) reported injecting drugs once a week or more frequently in the past six months, with almost a third of all respondents injecting daily (Figure 7). On an average day that participants do inject, 23% would inject once, 31% inject twice a day, and 46% inject three times or more in a day. Half of respondents reported reusing needles for more than one injection at least once in the past six months. Among those who had reused needles, 58% did so occasionally (less than a quarter of the time).

Figure 7: Frequency of injection drug use in the last 6 months, Hamilton PWID Survey (n=106)

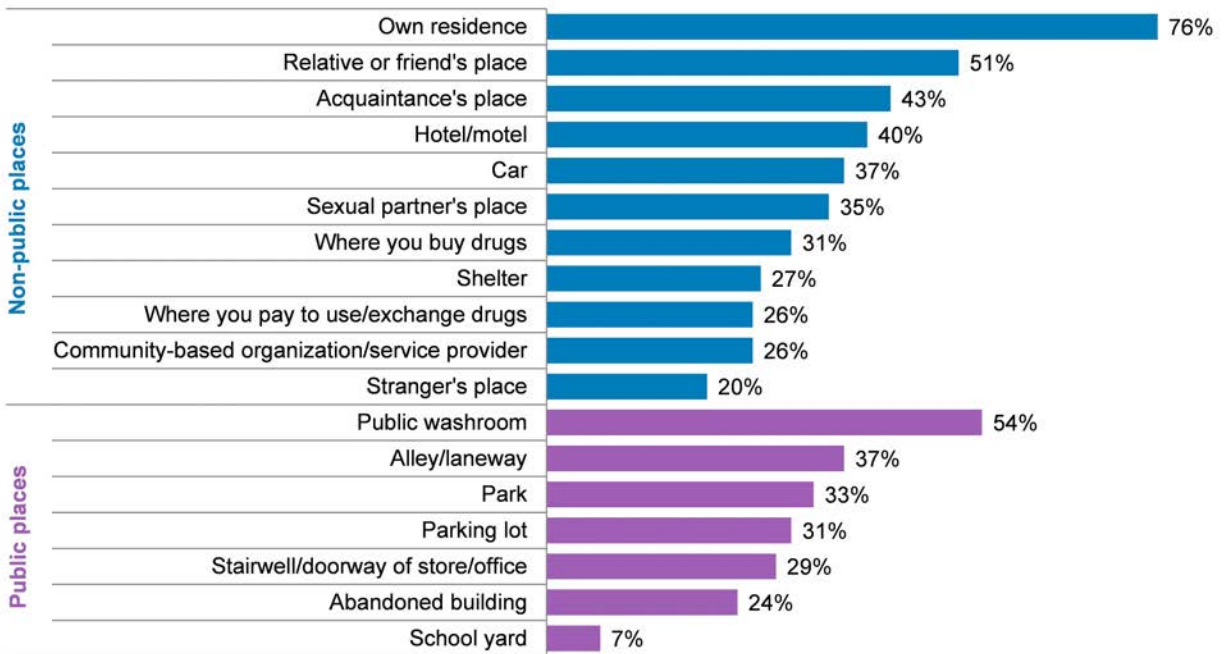


Note: 106 survey participants responded to this question.
Source: Hamilton SIS NAFS, Survey for People Who Inject Drugs, 2017

LOCATION OF INJECTION DRUG USE

The most common place for respondents to inject drugs was at their own residence (76% of respondents) (Figure 8). Other commonly stated places of injection were public washrooms (54%) and a relative or friend's place (51%).

Figure 8: Places of injection drug use in the last six months, Hamilton PWID Survey (n=106)



Note: 106 survey participants responded to this question. Respondents could select more than one answer, so the total proportions can exceed 100%.

Source: Hamilton SIS NAFS, Survey for People Who Inject Drugs, 2017

Two thirds of respondents reported injecting in public or semi-public areas such as parks, alleys or public washrooms at least once in the last six months. Among these respondents, half injected in public less than 25% of the time. Among the 70 respondents who reported injecting in public, the most common reasons for public injection were:

1. Being too far from home (53%);
2. Convenience to area where they were (49%);
3. Homelessness (43%);
4. Not wanting the person they were staying with to know about their drug use (36%); and
5. Having nowhere to inject safely where drugs were bought (33%).

INJECTION PRACTICES

Table 2 describes the prevalence of self-reported injection behaviours in the past six months among survey respondents. Notably, 84% of respondents injected alone, however 27% needed help preparing drugs at least once, and 43% needed help with injection at least once. Common reasons for needing help injecting drugs included inability to find a vein, preference for someone else to inject, and not liking injecting. Nearly half (45%) of respondents didn't know where to get a clean needle at a time when they wanted to inject, and 1 in 2 respondents had injected with needles that had already been used by themselves or by someone else. Additionally, a large proportion of participants reported reusing a cooker (53%), using unsterile water (33%), or using other injection equipment that had already been used (33%).

Table 2: Reported injection drug use practices in the past six months, Hamilton PWID Survey (n=106)

Behaviour	Proportion (%)
Reused needles for more than one injection	49
Injected drugs alone	84
Needed help preparing drugs	27
Needed help injecting drugs	43
Reasons for needing help (n=46)	
Unable to find a vein	63
Prefer someone else to inject	37
Do not like injecting	24
Reuse a cooker with drugs in it for an extra wash	53
Wanted to inject but didn't know where to get a clean needle	45
Knowingly injected with needles already used or being used by someone else	13
Used water from an outside source (e.g., puddle, public fountain) to prepare drugs or rinse needles (n=92)*	33
Used other injecting equipment (e.g., cotton, filter, spoon, cooker) that had already been used by someone else	33
Filled a syringe from another syringe that had already been used by some one else (back-loading or front-loading)	15

*14 of 106 respondents declined to answer this question.

TYPES OF DRUGS INJECTED

The top five most commonly injected drugs reported by survey respondents were:

1. Crystal meth (62%);
2. Hydromorphone (61%);
3. Cocaine (48%);
4. Heroin (45%); and
5. Morphine (34%).

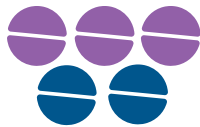
Eighty-two per cent of respondents reported ever getting a drug they thought was cut with another substance. Almost half of these respondents (43%) were unsure of the potential contaminant. Among those who had an idea of what the contaminant may have been, the most common suspected substances were fentanyl (31%), crystal meth (16%), and anti-depressants (6%).

EXPERIENCES OF OVERDOSE

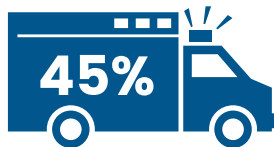
Key findings



Nearly half of respondents experienced an overdose in their lifetime.



Three in five indicated that an opioid was involved in the overdose.



Among those respondents who had overdosed in the past, only **45%** had an ambulance called.

Accidental overdose from injection drug use was reported frequently among survey participants: almost half of respondents (46%) reported ever having an accidental overdose and 41% had witnessed an overdose in the past 6 months. Among those who had ever overdosed, three in five indicated that an opioid was involved. The drugs that were most frequently reported as being involved in overdose were:

1. Fentanyl (37%);
2. Cocaine (24%);
3. Heroin (22%);
4. Hydromorphone (15%); and
5. Crystal meth (13%).

Of those respondents who had overdosed, only 45% had an ambulance called, and among all respondents, 47% had been afraid of being arrested if they or someone else had overdosed.

DRUG TREATMENT

Key findings



Four in five respondents reported ever being in a drug treatment or detox program during their lifetime.

16%

of survey respondents tried but were unable to get into treatment programs in the past six months.

Four in five survey respondents reported being in a drug treatment or detox program during their lifetime and about a third (32%) of these respondents were in a program within the past six months. The most common drug treatment and detox programs reported by recent treatment program participants were:

1. Out-patient counselling (39%);
2. Methadone maintenance program (27%);
3. Residential treatment (27%);
4. Detox programs with prescribed drugs (other than methadone) (19%);
5. Self-help group for drug use (19%); and
6. Addictions case management (19%).

Overall, 16% of survey respondents reported that in the past six months, they had tried but were unable to get into treatment programs.

SUPERVISED INJECTION SERVICES

Key findings



80% of PWID survey participants would use an SIS in Hamilton. **9%** said they would maybe use an SIS, and **11%** would not use an SIS.



Common reasons for using an SIS were: access to clean injection equipment, prevention of overdoses, and ability to inject indoors.



Common reasons for not using an SIS included not wanting to be seen, anonymity, and fear of a lack of confidentiality.



Generally, respondents did not believe that users would move to the area where an SIS would be located, or that crime or street violence would be reduced in the area.

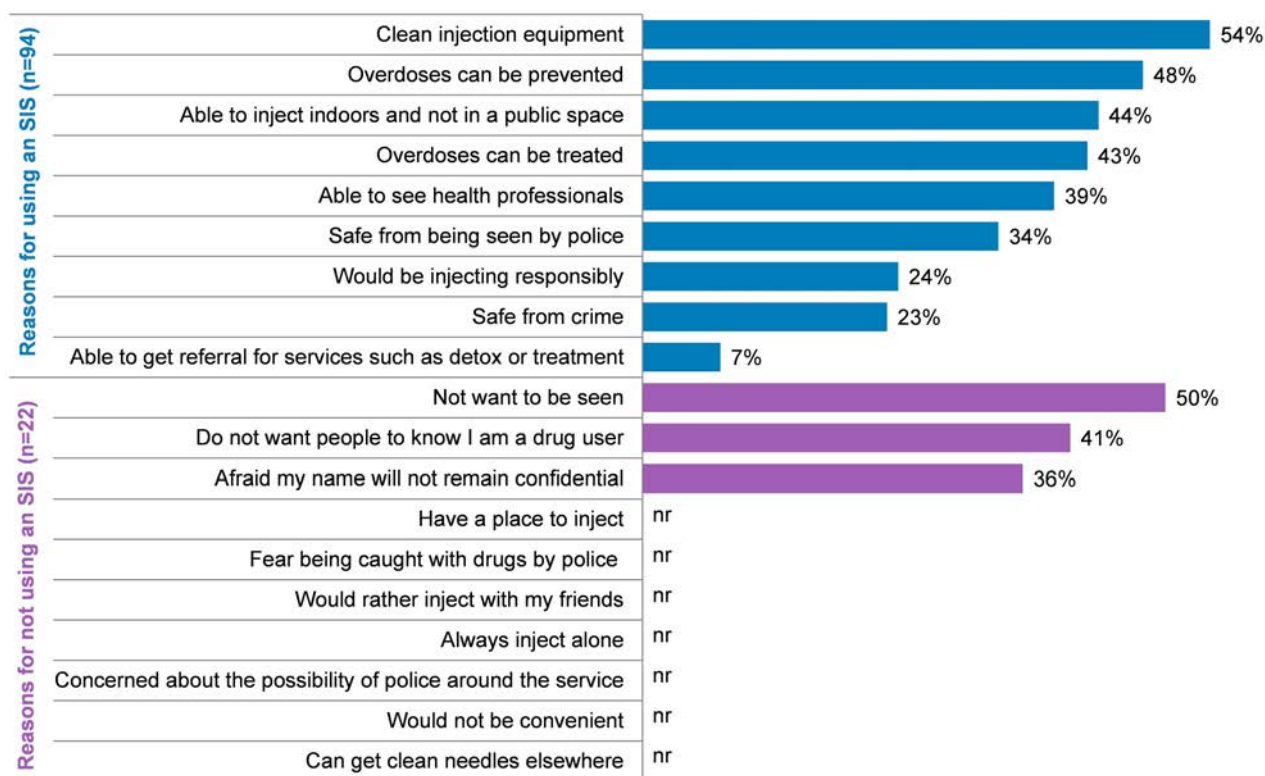


Most participants believed that overdoses, injection drug litter, and injection with used needles would be reduced if an SIS were implemented in Hamilton.

When considering if PWID would use an SIS in Hamilton, 80% of survey respondents agreed that they would use the SIS, and 9% said that they would maybe use an SIS in Hamilton. Among those who would use or maybe use an SIS, having access to clean injection equipment, prevention of overdoses, and the ability to inject indoors were the most commonly reported reasons for accessing an SIS (Figure 9).

Eleven per cent of survey participants stated that they would not consider using supervised injection services. The top reasons for not wanting to use an SIS amongst survey participants indicating they would not or would maybe use the service included not wanting to be seen, the desire for anonymity, and concerns about confidentiality.

Figure 9: Reasons for using an SIS (n=94) and not using an SIS (n=22), Hamilton PWID Survey



nr = not reportable due to fewer than 5 respondents

Note: 92 survey participants who responded "yes" or "maybe" to "Would you use an SIS in Hamilton?" answered the benefits question. 22 survey participants who responded "no" or "maybe" to "Would you use an SIS in Hamilton?" answered the question about concerns. Respondents could select more than one answer, so the total proportions can exceed 100%.

Source: Hamilton SIS NAFS, Survey for People Who Inject Drugs, 2017

When asked about the potential community impacts of SIS in Hamilton, survey respondents were asked to score statements on a scale from 1 to 5 to indicate how likely the impacts were to happen. The average rankings for each impact are shown in Table 3. On average, respondents did not believe that users would move to the area where an SIS would be located, or that crime or street violence would be reduced in the area. Most participants believed that overdoses, injection drug litter, as well as injection with used needles would be reduced if an SIS were to be implemented in Hamilton.

Table 3: Perceived probability of community impacts of SIS, Hamilton PWID Survey (n=102)

Potential impact of SIS	Mean Score	Interpretation
Users would move to the area	3.2	Neutral / No change
Crime would be reduced in the area	3.5	Neutral / No change
Street violence would be reduced	3.6	Neutral / No change
Drug dealers would be attracted to the area	4.1	Likely
Users would visit the area more	4.2	Likely
People would learn more about drug treatment	4.4	Likely
Number or people injecting outdoors would be reduced	4.5	Likely
Injection with used needles would be reduced	4.6	Likely
The number of used syringes on the street would be reduced	4.6	Likely
Overdoses would be reduced	4.7	Likely

Note: Statements were scored on a scale from 1 to 5 to indicate how likely each impact were to happen (1=very unlikely, 2=unlikely, 3=neutral, 4=likely, 5=very likely).

PWID survey participants were also asked their opinion on specific services that might be considered for SISs, and whether or not they thought they were important. The top five services considered as important were:

- Injection equipment distribution (98%);
- Preventing and responding to overdoses (96%);
- Needle distribution (96%);
- Access to health services (94%); and
- HIV and Hepatitis C testing (92%).

The least important services were:

- Special times for women or a women's only SIS (52%);
- Showers (44%); and
- Food, including takeaway (38%).

There was no difference by gender for wanting a women's only SIS or women-specific times. For those who self-identified as Indigenous (First Nations, Métis, or Inuit), having culturally sensitive services available was considered significantly important with 96% of Indigenous respondents saying that having an Indigenous counsellor was important.

Key findings



9 in 10

survey respondents would visit an SIS if it was at a community health centre.

62%

62% of survey respondents would walk more than 15 minutes to get to an SIS.



4 in 10

respondents would use an SIS every time they inject if it was located in an area convenient for them.



8 a.m. – 12 noon

is the first preferred time for using an SIS by 58% survey respondents, and 30% of respondents said their second preferred time for using an SIS was 8 p.m. – 12 midnight.

61%

of survey respondents preferred an SIS to be integrated with other services.



1 in 3

respondents thought that Hamilton needed at least 2 or 3 SIS locations to meet the current drug problem in the city.



The majority of preferred locations for an SIS (60%) were concentrated in the area flanked by the following streets: Bay Street (west), Barton Street (north), Ferguson Ave (east) and Main Street (south).

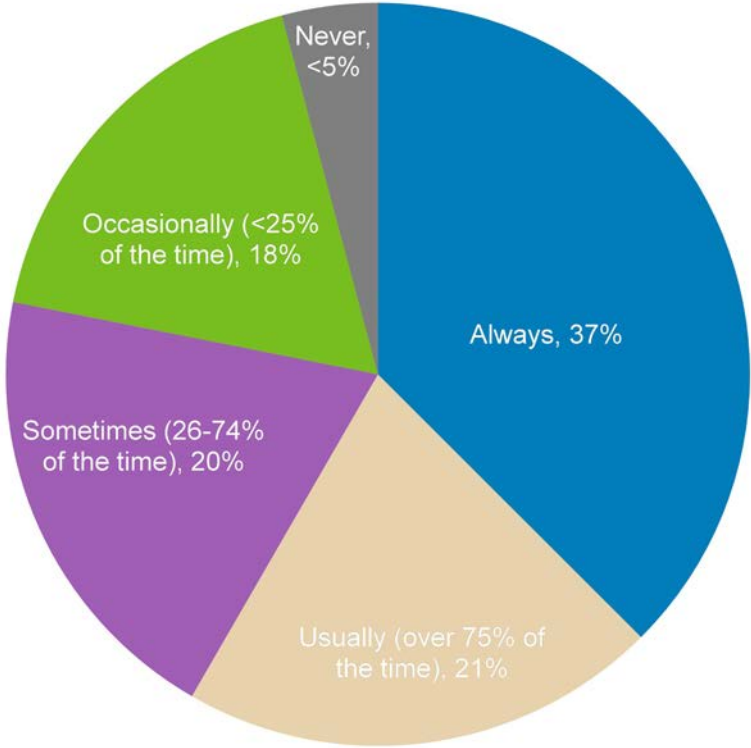
56%

of survey respondents would check their drugs for contamination if testing was available to them.

When considering where a supervised injection site may be housed, either for an integrated or stand alone model, respondents did have a preference based on comfort level with already accessed health or social services. When asked if the user would access an SIS if it was located in one of the following places, 89% said they would if it was located in a community health centre and 84% if it was located in a public health clinic. Fewer respondents said they would use it if an SIS was to be located in a walk-in or family doctor’s clinic (59%), and only about half of the respondents would be willing to attend an SIS if it was at a social service agency (51%).

The distance that an SIS is located from current drug users is important to consider, as urgency of drug use for PWID is a factor in whether or not an SIS is accessed. However, 62% of the participants did specify that they would walk more than 15 minutes to access an SIS. Among those who indicated that they would use the site, 37% would always use an SIS to inject if it was in a convenient location (Figure 10).

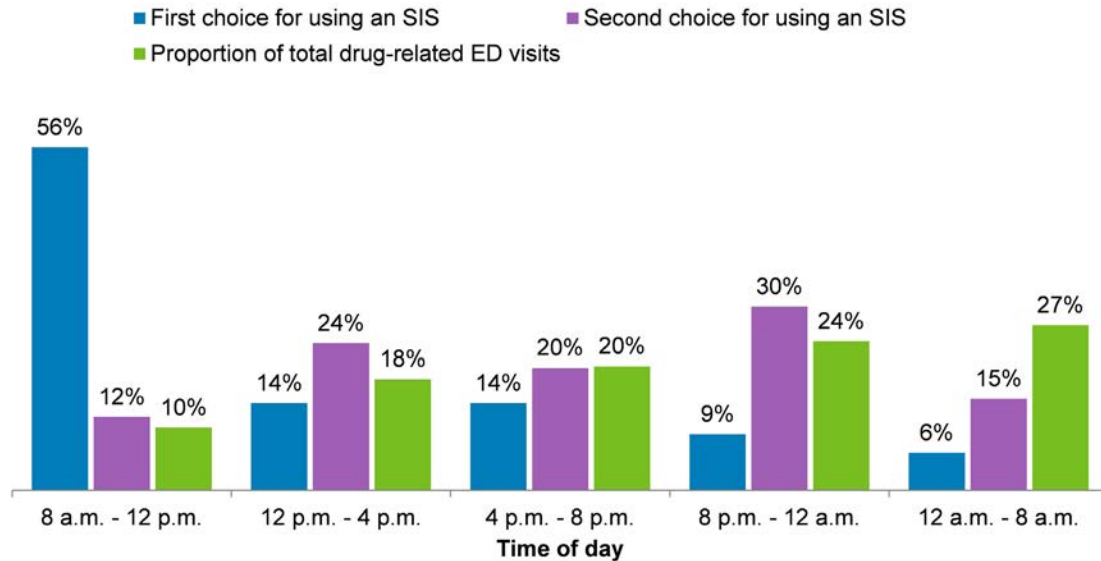
Figure 10: Frequency of use of an SIS if located in a convenient area, Hamilton PWID Survey (n=96)



Note: 96 survey participants responded to this question.
Source: Hamilton SIS NAFS, Survey for People Who Inject Drugs, 2017

PWID were consulted on their first and second choice of their preferred time of day to use an SIS. For the first choice, a majority (58%) of respondents said that the morning (8 a.m. – 12 noon) would be their preferred time. However, a relatively small proportion of emergency department visits for drug-related issues occur during this time period (Figure 11). Respondents' second choices for using an SIS were more closely matched with the amount of drug-related emergency department visits for each time period.

Figure 11: Preferred time of day to use an SIS, Hamilton PWID Survey



Notes: 98 and 95 survey participants responded to the first choice and second choice questions, respectively. Drug-related ED visits include overdose, drug misuse, and opioid-related visits for Hamilton residents visiting Hamilton hospitals.
 Sources: Hamilton SIS NAFS, Survey for People Who Inject Drugs, 2017; Acute Care Enhanced Surveillance, Knowledge Management Division of Kingston Frontenac Lennox & Addington public health, extracted by Hamilton Public Health Services on Jun. 8, 2017.

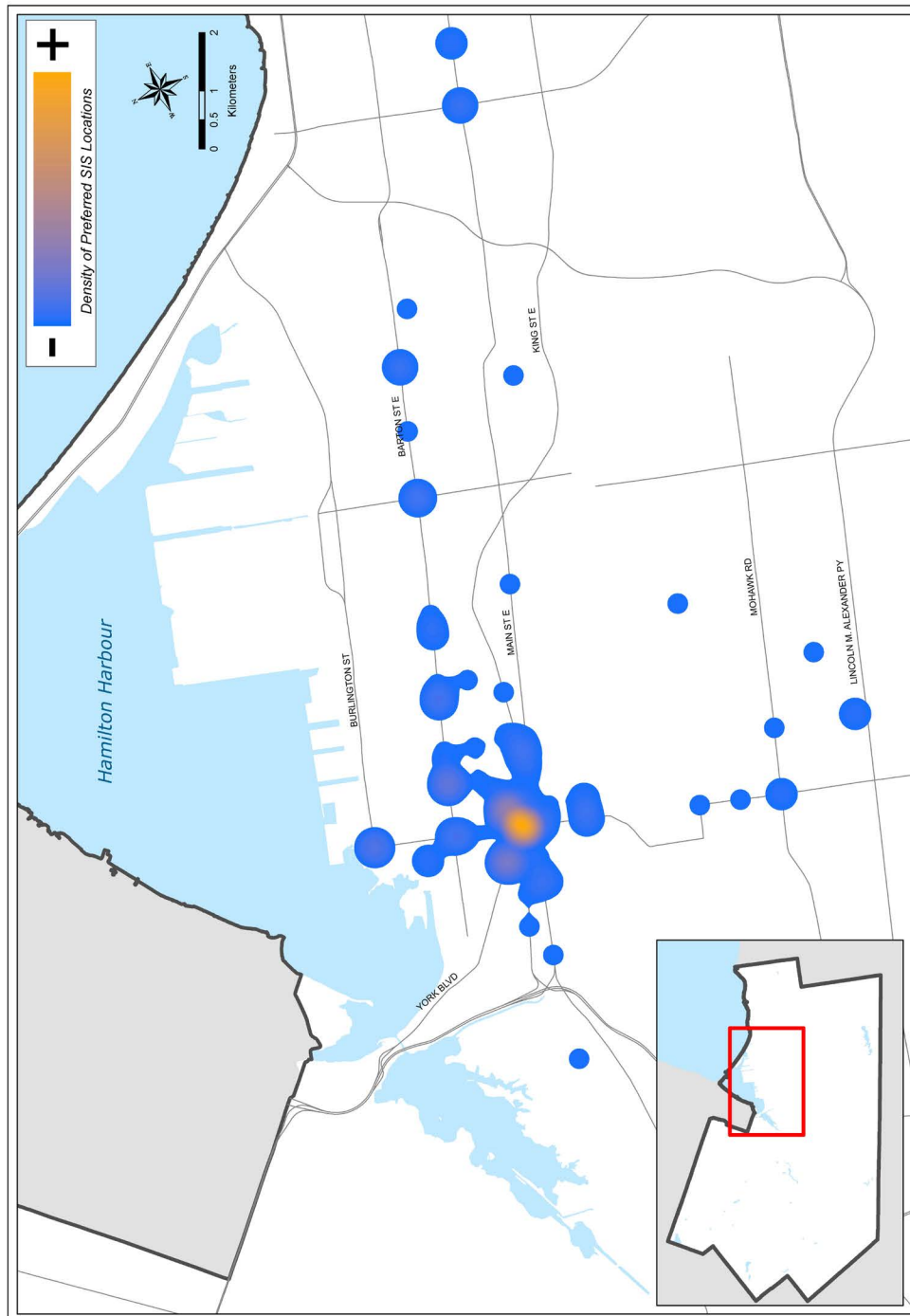
Participants were given standard definitions for each of the different SIS models (stand-alone, integrated, and mobile⁸), and asked which they would prefer to have in Hamilton. Participants could select more than one model. The majority of respondents stated they would prefer an integrated SIS with other services available (61%), followed by a mobile unit SIS (51%), and lastly a stand-alone model (29%). Many survey respondents felt as though having both an integrated model and a mobile unit (26%) would best serve Hamilton's large geographical span. When asked how many sites were necessary to meet the current drug use needs of Hamilton injection drug users across the city, only 6% of respondents said that one SIS was needed. Answers ranged from one to 100 SISs, with the most common responses being two to three sites (38%), five sites (11%), and 10 sites (11%).

Responses to where to have an SIS located were extremely varied with 60 derived intersections; Figure 12 shows a map of preferred SIS locations. The most common responses were "downtown" which was given the intersection of King Street West and James Street North (27%), followed by York Blvd and Bay Street North (7%), and John Street North and Rebecca Street (5%). The majority of preferred locations (60%) were concentrated in the area flanked by the following streets: Queen Street (west), Barton Street (north), Ferguson Ave (east) and Main Street (south).

When surveyed, more than half of the respondents (56%) said they would test their drugs every time before injecting at an SIS. Furthermore, 32% would be willing to wait more than 15 minutes for test results if necessary. Only 5% of the respondents said that they would never test their drugs.

⁸ Note that at the time of surveying participants, no existing mobile SISs were in operation in Canada with only two globally in Europe, and a very general definition for mobile site was provided to participants. See study limitations for further information.

Figure 12: Map of preferred locations for a supervised injection site in Hamilton, Hamilton PWID Survey



Notes: Locations were derived from the PWID survey responses to a question asking for their first and second choices for a location for an SIS in Hamilton. These locations included intersections, neighbourhoods, and landmarks. 106 respondents completed the survey with a total of 171 SIS locations that were mapped. 44 additional locations were omitted due to non-specific answers such as “east end” or missing data. Responses of “downtown” were mapped to the intersection of King Street West and James Street North. Published by Spatial Solutions Services, IT, City of Hamilton, on Oct. 3, 2017.

KEY INFORMANT INTERVIEWS AND FOCUS GROUPS

FAMILIARITY WITH INJECTION DRUG USE ISSUE

Stakeholders widely acknowledged that there is an injection drug use problem in Hamilton, with each key informant stating that they were aware of the current complex issues that are associated with injection drug use for both the user and the community as a whole. The following themes arose from key informants when asked about their awareness of injection drug use in Hamilton:

- **Opioid crisis:** Current concerns for drug users are the opioid crisis and the rising trend in opioid-related deaths.
- **Transmission of blood-borne diseases:** There is a heightened concern for the health of drug users, with an increased transmission of blood-borne diseases such as hepatitis and HIV.
- **Mental health and stigma:** Mental health is a concurrent health issue, with stigmatization of drug users being a concern, as well as access to services for drug users with mental health problems.
- **Location of injection drug use in Hamilton:** Drug use is perceived to be concentrated in the downtown Hamilton core, because of the high visibility of drug use in that area. However, most regions of Hamilton were mentioned as being areas of concern, with the east end, north end, and the mountain being highlighted most frequently. Stakeholders did indicate hidden drug use in areas such as Ancaster and Dundas being a concern, and that these areas should be still considered a priority for harm reduction measures.

PERCEIVED BENEFITS OF SIS IN HAMILTON

When asked about the potential benefits of an SIS, key informants and focus group participants identified a range of benefits for people who inject drugs and for the community, including the public, businesses, and health and social services. The commonly discussed perceived benefits are described below:

1. SISs would improve safety of PWID and of the community

- Commonly discussed benefits concerning safety for PWID included safer injection practices, such as the use of clean equipment and the safe disposal of needles, being safe from police, the prevention of harassment and altercations, and the reduction of fear and anxiety among users.
- Benefits for the community included a reduction in needle litter on streets and near businesses, a reduction of injection in public, a reduction in crime and loitering, and the idea that Hamilton would be a safer place to live and work.

2. SISs would improve health and well-being

- Benefits for PWID included fewer overdoses and deaths, having trained medical staff available to respond to overdose, improved access to naloxone, reduction of risk of contracting infectious diseases, fewer abscesses and infections, and improvement of overall health.
- Benefits for the community included reduction of transmitting diseases such as HIV and hepatitis C, and decreasing community grief and trauma due to overdoses and deaths, including family members and first responders.

3. SISs would improve access to health care and social services for people who inject drugs

- SISs were perceived to provide more access for PWID to medical care, social services, and increase referrals to other services such as counselling, housing, and treatment, improving consistency in care.
- Furthermore, it was perceived that an SIS would help establish and develop relationships between PWID and care providers through engagement of marginalized and vulnerable populations accessing the site.

4. SISs would reduce burden on the health care and community services

- A commonly identified benefit of an SIS was a reduced burden on the health care system and community services due to fewer overdoses and deaths (e.g., decreased use in shelters, fewer 911 calls, emergency department visits, and hospitalizations, reduced demand on social services).
- Economic benefits raised included the cost savings as a result of reduced burden on services, and the creation of jobs to run the SIS.

5. SISs would address stigma and improve awareness of the drug issue and harm reduction

- An SIS was perceived to reduce the stigmatization of drug use by normalizing the discussion about mental health and addictions, increasing awareness of the issue, and addressing fears and misconceptions.
- Participants felt that an SIS would give dignity back to users, allowing them to develop trust in the system, connect to other users, and feel valued and secure.
- Some stakeholders expressed that an SIS would demonstrate that Hamilton is a leader in harm reduction.

PERCEIVED CONSEQUENCES OF SIS IN HAMILTON

While there were many benefits of an SIS discussed during the community consultations, several concerns were raised. The perceived consequences of an SIS in Hamilton are described in the following section.

PERCEIVED CONSEQUENCES FOR PEOPLE WHO INJECT DRUGS

With the supervised injection site being a proposed service for individuals who inject drugs, there were still perceived consequences for the client population.

1. Safety of the user

- There is potential risk of PWID being targeted by drug dealers as they are coming in or out of the SIS. If an SIS is in a fixed known location, there is threat that PWID would be victims of theft, violence or petty crimes. Community members also highlighted concern for women leaving the site after using and that they may be more vulnerable.
- Police presence and surveillance of the area surrounding the SIS was an emphasized concern of both community members and people who inject drugs. There was a perception that there will be increased monitoring of users and that arrests may be made for drug possession. There was also concern that individuals with a criminal record will be dissuaded from accessing the SIS to avoid run-ins with police.

2. Stigmatization of the user

- There are potential negative consequences for users accessing the SIS to be further stigmatized or marginalized by using the service, if they are being seen or identified coming in or out of the site. This is seen as a barrier of access for the user, especially for youth involved with drug use.
- Anonymity of the user and confidentiality must be a priority to reduce stigmatization of PWID accessing the SIS.

3. Logistics of an SIS

- Current drug users were mostly concerned about people taking advantage of the site, and using it as a place to socially congregate. This raised the question of how long a person could stay to inject, and what policies would be in place to streamline use of services.
- Negative perception of an SIS and the potential for mistrust of the social service system will be a barrier for some users accessing the site. It is also important to highlight that some users will just want to access the harm reduction services, and that the peripheral services that may be included in an integrated model should not be forced.
- There is need for the SIS to be located in an area so that it will be used by PWID, and the site needs to be fully accessible for clients. Accessibility concerns included making resources available for every literacy level and make considerations for potential language barriers.

4. Change in drug use behaviours

- Community considerations included the possibility that there would be an increase in drug use and first time drug use if an SIS were to be implemented in Hamilton. There was also concern that an SIS encourages continued drug use instead of treatment, and there isn't an integrated mechanism for people to get out of the cycle of addiction. However, there was also opposing opinion that the SIS would pressure clients to seek treatment, or abstain from drug use, which does not align with the principles of harm reduction.

PERCEIVED CONSEQUENCES FOR THE COMMUNITY

Potential negative consequences for Hamilton as a community were brought forward from key informant and focus group participants.

1. Neighbourhood safety

- There were many concerns regarding safety of the neighbourhood where an SIS would be located, with an increase in crime being the main fear. Concerns included increases in break and enters, vandalism, theft, loitering, and more drug dealers targeting the area.
- As uptake of the supervised injection services increases, there was also worry that there would be line-ups and congregating of users in the surrounding areas. Some expressed concerns that an increased PWID presence and an SIS could lead to stigmatization of the immediate area, discouraging traffic to the neighbourhood and negatively affecting its reputation.

2. Social perception of an SIS

- Supervised injection services can be seen as a polarizing moral issue, and it can potentially go against personal and professional values and beliefs. Some participants saw it as a service that endorsed drug use and enabling the user, and went against the law.
- If an SIS is established in Hamilton, there was concern that there will be a stigmatizing effect for Hamilton, with people perceiving it as open to drugs which may cause a migration of drug users to the city.

3. SIS logistical concerns

- Location of an SIS was a common concern for participants, with 'Not In My Backyard' (NIMBY) being mentioned several times. In particular, there was a desire not to have an SIS in proximity to children.
- The costs associated with an SIS were also considered a potential negative aspect of the service, as it would be supported by tax payers.

ACCEPTANCE OF SISs

Supervised injection sites are anticipated to be widely accepted by people who inject drugs, as they are thought to bring many benefits for users. A majority of key informant respondents stated that PWIDs would accept an SIS (84%), as long as implementation of an SIS addressed barriers that may limit interest of the PWID community. As such, there was feedback from key informants and focus group participants that there may be a slow start to uptake of the service, as familiarity and credibility of the SIS grow within the community of users.

It is recognized by key informant and focus group respondents that drug use is a widespread problem that doesn't target one demographic. However, respondents were unsure if an SIS would draw in everyone, particularly people with addiction who are functioning well in society. There were also concerns that youth may not be attracted to the service, and there was a recommendation to make the SIS youth-friendly, by creating a welcoming, comfortable space that encourages interpersonal connection with staff. This would help mitigate the perceived mistrust of healthcare professionals that youth may experience.

As supervised injection sites are already an accepted harm reduction measure in several cities across Canada, some respondents agreed that Hamiltonians will accept them as well. However, it is still considered a very divisive social topic and there was recognition that acceptance for some individuals may be slow or lacking completely. Three quarters of key informants agreed that if not immediately, over time there would be community acceptance of an SIS. Although community support may be slow, having buy-in from political figures and city leaders would help destigmatize the issue. There was also the perception that the media tends to sensationalize SISs, and once media attention has decreased after a site is implemented, community members might not pay as much attention.

ADDRESSING CONCERNS

Stakeholders brought forward many ways to mitigate some concerns that were discussed during the key informant interviews and focus groups.

1. Education

- There are several misconceptions around what an SIS is and the services that they provide for injection drug users. Some myths include that SISs will be dispensing drugs for users, or that clients will have to pay for the service.
- Educating Hamiltonians on the purpose and benefits of SISs is the first step in addressing concerns that they may have. It was suggested that basic information on SISs be put in harm reduction supply kits in order to reach clients.
- Some respondents thought that drug education should start in schools, to ensure that youth know what harm reduction methods are available to them.

2. Information sessions

- Participants expressed a desire for town hall information sessions after this study report and recommendations are presented to Hamilton's Board of Health. Advertising of these town halls should be widespread and be done using flyers, posters and through media sources.

3. Consultation

- When implementing an SIS, the involvement of individuals who have lived experience was a common recommendation, especially for discussing operational and logistical concerns. However, it was suggested that community members, service providers, and everyone within a certain radius of the decided location should be consulted as well in preparation of implementing an SIS.

4. Proactive planning

- Respondents noted that a key way to address concerns about an SIS in Hamilton is to have a plan in place for the logistics of the SIS. The plan should demonstrate transparency of process and be shared openly with the public.
- The first thing that should be considered is the location of the SIS in Hamilton, which will lead to identifying what resources already exist to support the service and what else is needed.
- Well thought-out partnerships with all personnel involved, including police, hospitals and service providers is crucial to the planning process.
- There is a need in the planning stages to develop appropriate intake information, and harm reduction education that takes into consideration varying literacy levels.
- Stakeholders also suggest having staff go through trauma sensitivity training, as there may be clients who have been victims of trauma.
- Lastly, to help uptake of SIS services, respondents suggested offering transportation to and from the SIS.

PREFERENCES FOR SIS MODEL, NUMBER, HOURS OF OPERATION, LOCATION AND SERVICES

PREFERRED SIS MODEL

Key informants and focus group participants brought forward benefits and concerns for each SIS model type, which is summarized in Table 4. Generally, the integrated SIS model was the preferred model, due to its perceived acceptability among users and the community and the opportunity for clients to access multiple services in one place. The mobile SIS model was thought to improve accessibility and convenience for users across the city, but there was concern that clients would not wait for the mobile service to arrive before injecting. While some benefits were identified for a stand-alone SIS model, such as provision of supervised injection services without other services that a client may not be interested in accessing, the stand alone model was thought to be ineffective at addressing the larger issue of drug use.

Table 4: Benefits and concerns for integrated, mobile and stand-alone supervised injection sites

Model	Perceived Benefits	Perceived Concerns
<p>Integrated (located with other health and/or social services)</p>	<ul style="list-style-type: none"> • Access to other resources and services • Integrated into an already established service, which will result in better acceptance from community as well as protect confidentiality of users • Potential for clients to get into addiction treatment • Opportunity for service providers to build relationships with users • Great way to pilot an SIS 	<p>No concerns were raised.</p>
<p>Mobile (van or trailer)</p>	<ul style="list-style-type: none"> • Accessible to wider demographic and geographic distribution • Convenient • Private and anonymous point of contact for client • Able to address downtown core gentrification 	<ul style="list-style-type: none"> • Clients will not wait for the mobile service to arrive to inject • It is a limited resource spread over a large geographical area • Lack of consistency for clients • Other services not present
<p>Stand Alone (independent facility, not attached to health care or social services)</p>	<ul style="list-style-type: none"> • Smaller sites can be implemented in areas where drug use is not as visible • Provides a service without other resources that the user may not want to access • Ability to provide culturally or client specific sites 	<ul style="list-style-type: none"> • Not an effective model • Does not help solve the larger problem of drug use because of the lack of integrated services

NUMBER OF SISs NEEDED

There was a commonly stated recommendation to begin with implementing one SIS location in Hamilton. This would allow for evaluation of the site and collection of community and PWID feedback. Adding a mobile site after the first site is opened was the primary response for next steps after opening the first SIS.

If sufficient resources were made available, there was desire for three to five locations to be opened to target each major geographical region of Hamilton: East End, West End, North End, Downtown, and the Mountain. Recommendations were made to look at the prevalence of injection drug use, including the extent and geography of the issue.

DAYS AND HOURS OF OPERATION

When asked which days an SIS should be open if implemented in Hamilton, the only answer that was given was 7 days a week, 365 days a year. There was emphasis that the service has to be available all year round, especially on family-orientated holidays.

The most common answer to the question of when an SIS should be open was 24 hours a day. It was suggested that when an SIS is first implemented, having it open 24 hours a day at first would allow organizers to monitor when the most frequent times of use are. However, there was recognition that this may not be feasible with the current resources available. Other proposed times were given by stakeholders, focussing on evenings, overnight and weekend hours in order to offset other health and social services hours of 9 a.m. to 5 p.m.

SIS LOCATION

The most common response from key informants about a potential SIS location was downtown, where drug use is prevalent. However there was also mention that all areas of Hamilton are affected by drug use, and the Mountain, East End, and West End should be considered. It was also mentioned that for planning a location, distance from police stations should be taken into consideration for the comfort of clients.

ADDITIONAL SERVICES WITHIN AN INTEGRATED SIS

Key informants and focus group participants were asked which services should be considered if an integrated SIS was implemented in Hamilton. Their responses encompassed many areas and are described in Table 5.

Table 5: Suggested services within an integrated supervised injection site

Category	Services
Harm Reduction	<ul style="list-style-type: none"> • Clean injection materials including access to several sized needles, syringes, cookers, matches, ties, filters, vitamin C, sterile water, and alcohol swabs. • Education on sexual health, and general health • Training or help with safe intravenous drug use methods, not including injecting the client, but may be assistance with fixing drugs, finding a vein, and any other guidance • Referrals to methadone treatment • Drug testing to detect if fentanyl is present
Mental Health Services	<ul style="list-style-type: none"> • Having an onsite mental health counsellor • Referrals to psychologist or psychiatrist if needed
Health Services	<ul style="list-style-type: none"> • Access to a general physician • Nurses on staff • Basic medical care – including both injection drug use health problems like wound care and general health problems. • Communicable disease testing
Drugs and Addictions Services	<ul style="list-style-type: none"> • Drug counselling, including specific Indigenous services • Treatment • Detox • Peer support, including a sponsor role with past users
Social Services	<ul style="list-style-type: none"> • Social worker • Employment/income assistance • Assistance with filling out forms for government services, such as OHIP • Housing or shelter case worker • Information on site for other local social services, and ability to provide referrals for clients
Miscellaneous	<ul style="list-style-type: none"> • Food or snacks and water available to clients • Access to laundry facility, showers and bathroom • Chill out room to use after injection drug use

DISCUSSION

Quantitative and qualitative findings from our study support the need for at least one SIS in Hamilton as an additional strategy to prevent overdoses and decrease the spread of bloodborne infections and injection litter. There have been rising rates of deaths, emergency department visits, hospitalizations, and paramedic responses related to drug use. In particular, harms from opioid use are a growing urgent concern among the community. These drug-related harms occur across the City of Hamilton, but rates of emergency department visits and paramedic responses are highest in the downtown core. Nearly half of users who responded to the survey had experienced an accidental overdose in their lifetime. Two prominent reasons for using an SIS for survey respondents were that overdoses can be prevented, and clients would be seen by health professionals.

The health need for an SIS is also demonstrated by the prevalence of needle sharing among users, higher rates of hepatitis C compared to the rest of Ontario, and the demand for needle exchange services. Half of users reported that they had injected with used needles that had been used by themselves or someone else, and 33% reported using other injection equipment that had already been used. There is a pronounced risk of bloodborne infection transmission with the shared use of needles and equipment, as well as an increased risk for injection injury or harm with the reuse of needles. Nearly half of hepatitis C cases diagnosed in Hamilton between 2012 and 2016 reported injection drug use behaviour, and a one fifth reported sharing needles. The fact that 1.2 million needles were distributed by public health in 2016, coupled with the finding that the top reason for using an SIS among surveyed injection drug users was access to clean injection equipment, demonstrate that there is an increasing need for clean needles and injection drug equipment among users.

In addition to addressing health issues that users face, an SIS would also address concerns about public injection and injection drug litter. Two thirds of PWID survey respondents reported injecting in public areas at least once in the past six months, and 44% said that a reason for using an SIS would be the ability to inject indoors and not in a public space. With public injection comes the concern about injection drug litter that was brought up by community stakeholders. Most survey respondents thought that implementation of an SIS would result in fewer used syringes on the street.

While it can be shown that there is a strong need for one or more SISs in Hamilton, it must also be considered whether the service would be accepted among potential clients of the service as well as other community members and stakeholders. The overwhelming majority (80%) of injection drug users surveyed indicated that they would use an SIS if it were conveniently located. However, due to the sampling limitations of our study, findings may not be representative of all Hamilton injection drug users. In particular, there was not a strong response rate from young people who inject drugs and the study was unable to determine if an SIS would be accepted in this population. Some stakeholders were concerned that youth may be not use the service due to a potential mistrust of health care professionals.

In terms of acceptance of supervised injection sites among the community, there was general support for a site. However, there were concerns raised, such as location of the site (“not in my backyard”) and increased crime and stigmatization of the area. Some concerns were due to a lack of understanding of the purpose of supervised injection services and education is required to address misconceptions in the community. Furthermore, with recent focusing events of increased opioid overdoses in Hamilton and interim supervised injection sites opening in Toronto and Ottawa, there is a shifting perception that an SIS is needed to respond to an increase in overdoses.

STUDY LIMITATIONS

LIMITATIONS OF KEY INFORMANT INTERVIEWS

Individuals who participated in the key informant interviews recognized their lack of expertise in answering some of the questions about the logistics of SISs. There were recommendations to speak to people with lived experience, and often opinions on days and hours of operation were generalized to 24 hours, 7 days a week without specific answers given. In addition, since drug abuse was seen as a city-wide problem, common suggestions about where an SIS should be located reflected broad areas instead of specific locations.

Time constraints were also a limitation while conducting interviews, as some respondents had very busy schedules and only had 15 to 30 minutes to complete an hour-long interview. This led to some of the interviews lacking depth in responses. Lastly, the key informants were decision-makers and focus groups had frontline workers. Implementation planning would benefit from additional input from frontline workers.

LIMITATIONS OF FOCUS GROUPS

Focus group recruitment was not targeted, and advertising for focus groups was done across the city. There was lower participation from various community groups where response may have been valuable (e.g., schools, youth). Some focus group participants were asked by their organizations to attend without fully understanding the purpose of the focus group. Therefore, some individuals thought that it was an information session for updating the public on the City of Hamilton’s progress in establishing an SIS rather than getting community feedback. The lack of understanding of the focus group purpose also came with the lack of understanding of participation in a focus group.

LIMITATIONS OF PWID SURVEY

The survey that was conducted with PWID had a few reporting limitations, as well as considerations with gathering information from a vulnerable population. Recruitment was the first limitation of the PWID survey, with women and youth being more difficult to reach and possibly underrepresented in the survey population. Given there are no baseline data on

the number and demographics of people who inject drugs in Hamilton, it was not possible to determine representativeness of the sample. Some potential participants also did not have the opportunity to participate in the survey due to limited staffing resources not always allowing for immediate surveys to be conducted. A small number of participants were also strongly suspected to have completed the survey previously; these responses were excluded from the analysis. Self-reported, interviewer-delivered surveys may also have introduced social desirability bias.

As there were no operating mobile supervised injection sites in Canada at the time of conducting the survey, participants were not given details and restrictions of a mobile site. Support for a mobile site could be based on knowledge of and experiences with the needle exchange van currently operating in Hamilton and engagement of potential users would be essential in the development of an implementation plan.

LIMITATIONS OF ANALYSIS

Due to time constraints of completing the needs assessment, there were challenges to scientific rigour in the analysis of the community consultation data. There were not enough resources to have two researchers review and analyze the qualitative data individually and then determine inter-rater reliability. Some participants did not allow for recordings to be made, so transcription could not be done, and analysis was done using written notes. In these instances, there was limited interpretation of comments and lack of context available for contributed responses. Once saturation of themes was reached, the qualitative analysis was expedited by looking for new ideas to be added, which resulted in an inability to include frequencies of themes in this final report. This decision was made because of the low number of people interviewed, and quantifying responses would not have a large impact on the final analysis of the data.

Despite these study limitations, the Hamilton SIS Needs Assessment & Feasibility Study demonstrated a compelling need for supervised injection services in Hamilton. Recommendations and next steps are described in the following section.

RECOMMENDATIONS

1. Hamilton would benefit from one or more supervised injection sites.

Epidemiological and community data describe a need for additional strategies to decrease death and disability as a result of injection drug use and its consequences. The Hamilton community largely supports SISs as a strategy to support people who inject drugs and community members who inject drugs would be willing to use an SIS.

2. Hamilton should implement one integrated supervised injection site located in the area flanked by Queen Street (west), Barton Street (north), Ferguson Ave (east) and Main Street (south).

- a. The site should be integrated within an existing health or social service agency that already provides harm reduction services to people who inject drugs.
- b. The lead organization of the site should determine optimal hours of operation based on resources, capacity, and need, understanding that surveyed users would prefer to access a site between 8 a.m. to 12 noon and 8 p.m. to 12 midnight.
- c. The site should provide harm reduction and basic health services.

3. Additional integrated sites should be considered based on implementation of the first site, monitoring for need, and the interest and willingness of service providers and users to have additional locations.

- a. Potential areas to monitor include the East End and Mountain.

4. Geographic areas outside of Hamilton's downtown core could be serviced with a mobile supervised injection site.

Injection drug use is a city-wide issue. While a fixed site in the downtown core will serve many, strategies to address equity of access should be considered.

- a. Further investigation should be conducted to understand the optimal route and timing
- b. Ways to incorporate integrated services into a mobile service delivery model should be further explored.
- c. The potential for additional mobile units should be considered based on monitoring for need and the interest and willingness of service providers and users to have additional units.

5. Implementation and evaluation plans should be developed by the lead service agency for the SIS in consultation with other service providers, potential clients, and the community.

NEXT STEPS

- **Selection of a physical location for an integrated SIS:** Existing health and social service providers interested in implementing an SIS should be sought in the downtown core and a lead agency identified.
- **Consultation on a fixed integrated SIS:** People with lived experience, community members and businesses located in close proximity to the selected location of an SIS should be meaningfully engaged in the planning, implementation, and evaluation processes.
- **Consultation on a mobile unit:** the interested agency should consult cities with mobile units regarding service delivery models and engage potential users in implementation discussions.
- **Proactive planning:** The agency leading the implementation of an SIS should partner with all relevant stakeholders including police, hospitals and service providers. The planning process should be transparent and the completed plan should be shared openly with the public. A comprehensive evaluation plan assessing client uptake and community impact should be developed. A mechanism to address community concerns in the planning and implementation phases should be developed.
- **Submit an application for a Section 56.1 Exemption for Medical Purposes under the Controlled Drugs and Substances Act for Activities at a Supervised Consumption Site.** The application includes details about policies and procedures, personnel / staffing structure, a community consultation report, and a financial plan; the submission would be done by the lead agency for an SIS.
- **Lead agency to submit an application to the Ministry of Health and Long-Term Care for funding of supervised injection services.**
- **Education:** Stakeholder feedback highlighted the importance of educating Hamiltonians about the purpose and benefits of supervised injection sites to increase community support for implementation.

APPENDIX A: DATA NOTES

List of indicators:

1. Prevalence of illicit drug use and misuse in Hamilton

- 1.1 Proportion of adults (18+) who have used illicit drugs in the past 12 months, by drug type (stimulants, depressants, hallucinogens, marijuana), Hamilton residents, 2011/2012
- 1.2 Emergency department visit rate (per 100,000) for drug-related mental and behavioural disorders, Hamilton residents, 2002-2016
- 1.3 Proportion of total drug-related emergency department visits by hour of visit, Hamilton residents, 2016

2. Incidence of fatal and non-fatal overdose

- 2.2 Number of accidental deaths related to opioids, by opioid type, Hamilton, 2002-2016
- 2.3 Number of accidental deaths related to cocaine, Hamilton, 2002-2016
- 2.4 Opioid-related hospitalization rate (per 100,000 population), Hamilton residents and Ontario residents
- 2.5 Opioid-related emergency department visit rate (per 100,000 population), Hamilton residents and Ontario residents
- 2.6 Number of suspected opioid-related paramedic incidents, Hamilton, 2017
- 2.7 Map of drug-related emergency department visit rates (per 100,000 population) by forward sortation area, Hamilton residents, 2016

3. Bloodborne infections and drug-related risk factors

- 3.1 Number of cases, crude incidence rates and age-specific rates (per 100,000 population) of hepatitis C, Hamilton and Ontario
- 3.2 Proportion of hepatitis C cases reporting drug-related risk factors, Hamilton and Ontario
- 3.3 Number of deaths and crude mortality rates (per 100,000 population) due to hepatitis C, Hamilton and Ontario
- 3.4 Number of cases, crude incidence rates and age-specific rates (per 100,000 population) of HIV, Hamilton and Ontario
- 3.5 Proportion of HIV cases reporting drug-related risk factors, Hamilton and Ontario
- 3.6 Number of deaths and crude mortality rates per (100,000 population) due to HIV, Hamilton and Ontario

4. Harm reduction service demand

- 4.1 Number of needles distributed and collected, Hamilton needle syringe program, 2000-2016
 - 4.2 Number of naloxone kits distributed by the Hamilton Overdose Prevention Education program, 2014-2017
 - 4.3 Number of people revived by naloxone, Hamilton Overdose Prevention Education program, 2014-2017
5. **Map of rate of drug-related crime occurrences (per 1,000 population), by census tract, Hamilton, 2012-2016 combined**
6. **Heat map of PWID survey respondents' preference for location of SIS**

1. PREVALENCE OF ILLICIT DRUG USE AND MISUSE IN HAMILTON

1.1 Proportion of adults (18+) who have used illicit drugs in the past 12 months, by drug type (stimulants, depressants, hallucinogens, marijuana), Hamilton residents, 2011/2012

Source: Canadian Community Health Survey (CCHS), 2011/12, Share File, Ontario Ministry of Health and Long-Term Care, extracted May 2016.

About the CCHS: The Canadian Community Health Survey (CCHS) collects information on health status and determinants, and health care utilization. It surveys a large sample of respondents 12 years of age and older living in private dwellings. Since the CCHS only collects information from community-dwelling residents, indicators do not represent the health status of all individuals living in the community (e.g. individuals living in institutions or those who are homeless). CCHS data are self-report and, as a result, are subject to error. Individuals may have difficulty accurately recalling their past behaviours or may 'adjust' their responses to align with what is seen as socially desirable.

Inclusion: This indicator captures respondents who used any of the illicit drugs within the specific classification of drugs in the past 12 months. For example, if the respondent used ecstasy and speed, they would only count as 1 response in the stimulant category. Stimulants include: cocaine/crack, speed (amphetamines), ecstasy (MDMA), and steroids; depressants: glue, gasoline or other, and heroin; hallucinogens: hallucinogens, PCP or LSD; marijuana: marijuana, cannabis, and hashish. Marijuana was separated into its own category since it is the most commonly used illicit drug in Canada and the most common hallucinogen. Categories of drugs were retrieved from: CAMH: A Family Guide to Concurrent Disorders - Part 1: What are concurrent disorders? (n.d.). Retrieved May 20, 2016, from http://www.camh.ca/en/hospital/health_information/a_z_mental_health_and_addiction_information/concurrent_disorders/a_family_guide_to_concurrent_disorders/substance_use_problems/Pages/types_substances.aspx

95% Confidence Intervals ("±"): Confidence intervals (CIs) are presented for CCHS data. The prevalence of a trait in the actual population is likely to be somewhat different than the estimate derived from the CCHS sample. CIs provide a range that one can be relatively (95%)

certain that the actual population prevalence falls within. Estimates that have wider CIs are less reliable than estimates that have narrower CIs. CIs also assist with identifying groups in the population that are 'different' from each other. If the CIs around two estimates do not overlap, then it can be assumed that they represent populations that actually differ from each other in terms of a trait, and that the differences are considered to be statistically significant. If the CIs overlap, the populations are deemed to be the same, even though the actual estimate (e.g., percentage) may be somewhat different. Unless otherwise stated, bootstrapping techniques provided by Statistics Canada were used to produce the 95% CIs for CCHS data, and used to compare the differences in outcomes for Hamilton residents between population groups and over time. Normal distribution was assumed.

Missing Data: The estimates include missing responses (i.e., 'don't know', 'not stated', or 'refusal') in the denominator. Use caution when interpreting 2011/12 Ontario data since the % of missing values falls between 5 - 10%. All other missing values for Hamilton and Ontario are below 5%.

1.2 Emergency department visit rate (per 100,000) for drug-related mental and behavioural disorders, Hamilton residents, 2002-2016

Sources: Ambulatory All Visit Main Table, Population Estimates, and Population Projections Table, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, extracted July 2017.

About Ambulatory All Visit Main Table: The "Ambulatory All Visit Main Table" describes information on emergency department (ED) visits in Ontario, and includes information on main diagnosis, principal treatment for all ambulatory care visits - 1 record per ambulatory visit - CIHI National Ambulatory Care Reporting System (NACRS). This data includes unscheduled ED visits only. Geographic information is based on patient's place of residence. Ambulatory care data (and inpatient data) are reported by fiscal year (April 1 - March 31). Any changes in the source data occur on a fiscal year basis and will affect reporting by calendar year.

Inclusion: Data are classified by the Chapters and codes of the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10). For mental and behavioural disorders due to psychoactive substance use, ICD10 code F11, F13-F16, F18-F19 were used to filter the data:

F11: Mental and behavioural disorders due to use of opioids

F13: Mental and behavioural disorders due to use of sedatives or hypnotics

F14: Mental and behavioural disorders due to use of cocaine

F15: Mental and behavioural disorders due to use of other stimulants, including caffeine

F16: Mental and behavioural disorders due to use of hallucinogens

F18: Mental and behavioural disorders due to use of volatile solvents

F19: Mental and behavioural disorders due to use of other psychoactive substances

Population Estimates: The current population estimates are based on the 2011 Census. Estimates are available by single year of age (up to 90+) and sex for Ontario's Census Subdivisions (CSD), beginning July 1, 1986. These estimates are produced by Demography

Division, Statistics Canada, and are based on the Census counts adjusted for net under coverage beginning with the 1986 census.

Population Projections: The current population projections are based on the 2011 Census. The county population projections data in IntelliHEALTH are provided by the Ontario Ministry of Finance. The complete methodology used by the Ministry of Finance in calculating population projections for Ontario and the 49 census divisions can be found in a report released by the Ministry of Finance in the fall of 2014, entitled, “Ontario Population Projections Update – 2013–2041 Ontario and its 49 Census Divisions”.

Calculation of Rates: Mortality, hospitalization and emergency department visit data are based on the rate per 100,000 population. Rates are calculated by: summing the number of events in a given time period; dividing the sum of events by the estimated population at the time period; and multiplying the resulting number by 100,000 to create the rate. The total population of individuals are based on population estimates for years 1996-2015 and population projections for 2016.

Trend Assessment: significant trend was determined with linear regression analysis by using the “least squares” method to fit a line through our set of observations to analyze how a single dependent variable (in this case the rate of emergency department visit) is affected by the values of an independent variable (in this case time expressed in years). No significant trend in Ontario was found.

Significant difference: significant difference was determined using method to determine significant difference between two dependent rates outlined in G. E. Alan Dever. Managerial Epidemiology: Practice, Methods and Concepts. Jones & Bartlett Learning; 1 edition (June 17 2005). Test only performed on most recent year crude rate.

1.3 Proportion of total drug-related emergency department visits by hour of visit, Hamilton residents, 2016

Source: Acute Care Enhanced Surveillance System (ACES), Knowledge Management Division of Kingston Frontenac Lennox & Addington Public Health, extracted by Hamilton Public Health Services on June 8, 2017.

About ACES: The Acute Care Enhanced Surveillance System (ACES) collects emergency department and hospital admission information for patients visiting hospitals, which are then classified into syndromes based on the patients’ chief complaints at triage. There are inherent limitations to emergency department triage data. Chief complaints recorded at patient intake may be different to the discharge diagnosis which can overestimate broad syndrome classifications like drug abuse.

Inclusion: In our analysis, for “drug-related” visits, we manually extracted and analyzed “TOX” and “OPI” emergency department visits occurring between January 1 to December 31, 2016 with the following inclusion criteria:

- Hamilton resident aged 15 years or older, visiting any hospital in Ontario
- Chief complaint had any mention of overdose, substance abuse or misuse, accidental overdose

We excluded the following from “drug-related” visits:

- Marijuana, acetaminophen, LSD, ecstasy, cocaine, antidepressants, and any type of medication overdose
- Intentional overdose / self-harm / suicide
- Requesting detox” as a chief complaint
- Withdrawals
- “Ingestion”

Analysis: Using Microsoft Excel 2010, ED visits were classified into six four-hour time periods using the time of visit field in the dataset (0000-0359; 0400-0759, 0800-1159, etc.). The number of visits per time category was then divided by the total number of ED visits for 2016 to derive a proportion of total ED visits for each time period. These proportions were also computed and compared for each month of the year to check for differences that may have been due to seasonality.

2. INCIDENCE OF FATAL AND NON-FATAL OVERDOSE

2.1 Number of accidental deaths related to opioids, by opioid type, Hamilton, 2002-2016

Source: Office of the Chief Coroner for Ontario, correspondence, September 2017.

Notes: 2016 data are preliminary and are subject to change. Numbers include accidental deaths occurring in Hamilton, regardless of the decedent’s residence, where an opioid was believed to be a direct contributor to death, either in isolation or in combination with other opioids, drug(s) or alcohol. The number of deaths was also provided by opioid type: codeine, fentanyl, heroin, hydromorphone, methadone, morphine, oxycodone; these numbers represent deaths where the drug was believed to be a direct contributor to the death, either in isolation, or in combination with another opioid or opioids.

2.2 Number of accidental deaths related to cocaine, Hamilton, 2002-2016

Source: Office of the Chief Coroner for Ontario, correspondence, September 2017.

Notes: Hamilton death data provided from the Office of the Chief Coroner for Ontario represent deaths which occurred in Hamilton, regardless of the decedent’s residence. The numbers provided represent deaths where cocaine was believed to be a direct contributor to the death, either in isolation or in combination with alcohol, another drug or drugs, opioid or opioids.

2.3 Opioid-related hospitalization rate (per 100,000 population), Hamilton residents and Ontario residents

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Interactive Opioid Tool. Available at: <https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx>, accessed Sept. 19, 2017.

Notes: Ontario data includes only Ontario residents who visited hospitals or died in Ontario; it does not capture individuals who went to hospitals or died outside the province.

Hospitalization data:

- Data are classified by the Chapters and codes of the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10).
- Data was extracted using ICD-10-CA codes: T40.0 (includes poisoning by opium) T40.1 (poisoning by heroin) T40.2 (poisoning by other opioids), T40.3 (poisoning by methadone), T40.4 (poisoning by other synthetic narcotics), T40.6 (poisoning by other and unspecified narcotics)
- Hospitalization data are from the Discharge Abstract Database (DAD), which is managed by CIHI. The DAD includes administrative, demographic and clinical data on hospital discharges, such as transfers, deaths, and sign-outs. Data is retrieved from acute care facilities, as well as regional health authorities or ministries of health.

2.4 Opioid-related emergency department visit rate (per 100,000 population), Hamilton residents and Ontario residents

Source: Ontario Agency for Health Protection and Promotion (Public Health Ontario). Interactive Opioid Tool. Available at: <https://www.publichealthontario.ca/en/dataandanalytics/pages/opioid.aspx>, accessed Sept. 19, 2017.

Notes: Ontario data includes only Ontario residents who visited hospitals or died in Ontario; it does not capture individuals who went to hospitals or died outside the province.

ED visit data:

- Data are classified by the Chapters and codes of the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10).
- Data was extracted using ICD-10-CA codes: T40.0 (includes poisoning by opium) T40.1 (poisoning by heroin) T40.2 (poisoning by other opioids), T40.3 (poisoning by methadone), T40.4 (poisoning by other synthetic narcotics), T40.6 (poisoning by other and unspecified narcotics)
- ED visits data includes only unscheduled ED visits, and excludes cases with a query or suspected diagnosis
- Opioid-related hospitalizations includes hospitalizations for opioid poisoning, and excludes cases with a query or suspected diagnosis
- ED visit data are from the National Ambulatory Care Reporting System (NACRS): a database managed by the Canadian Institute for Health Information (CIHI). It includes data for all hospital - and community-based ambulatory care in Canada, such as day surgery, emergency departments, and outpatient and community-based clinics. Data is retrieved from regional public health authorities or ministries of health.

2.5 Number of suspected opioid-related paramedic incidents, Hamilton, 2017

Source: Hamilton Paramedic Service, City of Hamilton. Available at: <https://www.hamilton.ca/public-health/reporting/hamilton-opioid-information-system-opioid-overdoses>

Notes: Beginning January 10, 2017, Hamilton Paramedic Service implemented a new code to capture suspected opioid-related paramedic responses in Hamilton. Note that this only captures suspected overdose incidents where 911 was called and underestimates the true number of overdoses occurring in Hamilton. Incidents are coded as opioid-related if an opioid was suspected to be involved in the overdose incident, as judged by the paramedic responding to the incident. Note that these overdoses have not been confirmed to be associated with opioid use.

Analysis: The number of suspected opioid-related paramedic incidents were totaled per month (January to August, 2017). Available geographic information was mapped using ArcGIS Desktop 10.5 to show the concentration of suspected opioid overdoses.

2.6 Map of drug-related emergency department visit rates (per 100,000 population) by forward sortation area, Hamilton residents, 2016

Source: Acute Care Enhanced Surveillance System (ACES), Knowledge Management Division of Kingston Frontenac Lennox & Addington Public Health, extracted by Hamilton Public Health Services on Jun. 8, 2017.

About ACES: The Acute Care Enhanced Surveillance System (ACES) collects emergency department and hospital admission information for patients visiting hospitals, which are then classified into syndromes based on the patients' chief complaints at triage. There are inherent limitations to emergency department triage data. Chief complaints recorded at patient intake may be different to the discharge diagnosis which can overestimate broad syndrome classifications like drug abuse.

Inclusion: In our analysis, for "drug-related" visits, we manually extracted and analyzed "TOX" and "OPI" emergency department visits occurring between January 1 to December 31, 2016 with the following inclusion criteria:

- Hamilton resident aged 15 years or older, visiting any hospital in Ontario
- Chief complaint had any mention of overdose, substance abuse or misuse, accidental overdose

We excluded the following from "drug-related" visits:

- Marijuana, acetaminophen, LSD, ecstasy, cocaine, antidepressants, and any type of medication overdose
- Intentional overdose / self-harm / suicide
- "Requesting detox" as a chief complaint
- Withdrawals
- "Ingestion"

Analysis and mapping: Using Microsoft Excel 2010, ED visits were classified by forward sortation area (FSA). The number of visits per time category was then divided by the total number of ED visits for 2016 to derive a proportion of total ED visits for each time period. These proportions were also computed and compared for each month of the year to check for differences that may have been due to seasonality.

Figure 2 was derived from emergency department visit data from the Acute Care Enhanced Surveillance System (ACES). Visits with the “LOR” FSA were excluded since the geographic boundaries of LOR represented multiple rural enclaves throughout the City of Hamilton boundary, including locations outside of city limits. Emergency department visit rates per FSA were then computed by dividing the number of visits by the population count per FSA, using 2011 Census population counts in Microsoft Excel 2010. Using ArcGIS Desktop 10.5, a choropleth map was generated to display emergency department rates per FSA, using six classifications (five quintiles encompassing the range of 108 to 946 visits per 100,000 population, as well as one classification representing a rate of zero).

3. BLOODBORNE INFECTIONS AND DRUG-RELATED RISK FACTORS

3.1 Number of cases, crude incidence rates and age-specific rates (per 100,000 population) of hepatitis C, Hamilton and Ontario

Source: integrated Public Health Information System (iPHIS); Public Health Ontario Infectious Diseases Query, “Counts and crude rates by public health unit and year”, “Counts and crude rates by age and gender”, accessed at <https://www.publichealthontario.ca/en/DataAndAnalytics/Pages/Query-Introduction.aspx>

Notes: Since iPHIS is a dynamic database, case counts are subject to change due to case follow-up procedures and potential delays in reporting. Only confirmed hepatitis C cases were extracted, and were extracted based on episode date. Rates are per 100,000 population.

3.2 Proportion of hepatitis C cases reporting drug-related risk factors, Hamilton and Ontario

Source: integrated Public Health Information System (iPHIS), extracted by Hamilton Public Health Services, July 2017.

Notes: Risk factors were extracted for all Hamilton hepatitis C cases diagnosed between 2012-2016; note that cases may report more than one risk factor. Drug-related risk factors included: injection drug use, inhalation drug use, shared other drug equipment, and shared needles. The prevalence of a risk factor represents the number of cases reporting that risk factor, divided by the total number of cases in 2012-2016 reporting at least one risk factor. The latest available injection drug use risk factor information for Ontario was retrieved from the “Reportable Disease Trends in Ontario 2011” report, accessed at: https://www.publichealthontario.ca/en/eRepository/Reportable_Disease_Trends_in_Ontario_2011.pdf

3.3 Number of deaths and crude mortality rates (per 100,000 population) due to hepatitis C, Hamilton and Ontario

Source: Death Table, Population Estimates table, Ontario Ministry of Health and Long-Term Care. IntelliHEALTH Ontario, extracted by Hamilton Public Health Services Jul. 2016.

Notes: Information on deaths occurring in Ontario is from the Ontario Registrar General and Statistics Canada - from C1986-C2011 among Ontario residents. This data describes the main causes of death indicated by data from death certificates from the Ontario Office of the Registrar General. Geographic information is based on place of residence, not where the

death occurred. The data presented are based on underlying cause of death (i.e., the disease or injury which initiated the events leading directly to death or the circumstances of the accident or violence which lead to the fatal injury), classified by the Chapters and codes of the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10). For chronic Hepatitis C, ICD10 code of B182 was used to filter the data.

Calculation of Rates: Mortality data are based on the rate per 100,000 population. The total population of individuals is based on population estimates for years 1996-2011.

Population Estimates: The current population estimates are based on the 2011 Census. Estimates are available by single year of age (up to 90+) and sex for Ontario's Census Subdivisions (CSD), beginning July 1, 1986. These estimates are produced by Demography Division, Statistics Canada, and are based on the Census counts adjusted for net undercoverage beginning with the 1986 census.

Trend Assessment: trend significance was determined with linear regression analysis by using the "least squares" method to fit a line through our set of observations to analyze how a single dependent variable is affected by the values of an independent variable

Significant difference (between Hamilton and Ontario): difference significance was determined using method to determine significant difference between two dependent rates outlined in G. E. Alan Dever. Managerial Epidemiology: Practice, Methods And Concepts. Jones & Bartlett Learning; 1 edition (June 17 2005). Test only performed on most recent year crude rate.

3.4 Number of cases, crude incidence rates and age-specific rates (per 100,000 population) of HIV, Hamilton and Ontario

Source: integrated Public Health Information System (iPHIS); Public Health Ontario Infectious Diseases Query, "Counts and crude rates by public health unit and year", "Counts and crude rates by age and gender", accessed at <https://www.publichealthontario.ca/en/DataAndAnalytics/Pages/Query-Introduction.aspx>

Notes: Since iPHIS is a dynamic database, case counts are subject to change due to case follow-up procedures and potential delays in reporting. Only confirmed HIV cases were extracted, and were extracted based on encounter date. Rates are per 100,000 population.

3.5 Proportion of HIV cases reporting drug-related risk factors, Hamilton and Ontario

Source: integrated Public Health Information System (iPHIS), extracted by Hamilton Public Health Services, Jul. 2017.

Notes: Risk factors were extracted for all Hamilton HIV cases diagnosed between 2012-2016; note that cases may report more than one risk factor. Drug-related risk factors included: injection drug use, inhalation drug use, shared other drug equipment, and shared needles. The prevalence of a risk factor represents the number of cases reporting that risk factor, divided by the total number of cases in 2012-2016 reporting at least one risk factor. The latest available injection drug use risk factor information for Ontario was retrieved from the "Reportable Disease Trends in Ontario 2011" report, accessed at: https://www.publichealthontario.ca/en/eRepository/Reportable_Disease_Trends_in_Ontario_2011.pdf

3.6 Number of deaths and crude mortality rates (per 100,000 population) due to HIV, Hamilton and Ontario

Source: Death Table, Population Estimates table, Ontario Ministry of Health and Long-Term Care. IntelliHEALTH Ontario, extracted by Hamilton Public Health Services Jul. 2016.

Notes: Information on deaths occurring in Ontario is from the Ontario Registrar General and Statistics Canada - from C1986-C2011 among Ontario residents. This data describes the main causes of death indicated by data from death certificates from the Ontario Office of the Registrar General. Geographic information is based on place of residence, not where the death occurred. The data presented are based on underlying cause of death (i.e., the disease or injury which initiated the events leading directly to death or the circumstances of the accident or violence which lead to the fatal injury), classified by the Chapters and codes of the International Statistical Classification of Diseases and Health Related Problems 10th Revision (ICD-10).

For Human immunodeficiency virus (HIV) disease, ICD10 codes containing B20 - B24 were used to filter the data:

- B20: HIV disease resulting in infectious and parasitic diseases (mycobacterial infection, other bacterial infections, cytomegalovirus infection, other viral infections, candidiasis, other mycoses, Pneumocystis jiroveci pneumonia, multiple infections, other infectious and parasitic diseases, and unspecified infectious or parasitic disease)
- B21: HIV disease resulting in malignant neoplasms (Kaposi sarcoma, Burkitt lymphoma, other types of non-Hodgkin lymphoma, other malignant neoplasms of lymphoid, hematopoietic and related tissue, multiple malignant neoplasms, malignant neoplasms, unspecified malignant neoplasm)
- B22: HIV disease resulting in other specified diseases (encephalopathy, lymphoid interstitial pneumonitis, wasting syndrome, multiple diseases classified elsewhere)
- B23: HIV disease resulting in other conditions (acute HIV infection syndrome, persistent generalized lymphadenopathy, hematological and immunological abnormalities, not elsewhere classified, other specified conditions)
- B24: Unspecified HIV disease (acquired immunodeficiency syndrome [AIDS] NOS, AIDS-related complex [ARC] NOS)

Calculation of Rates: Mortality data are based on the rate per 100,000 population. The total population of individuals is based on population estimates for years 1996-2011.

Population Estimates: The current population estimates are based on the 2011 Census. Estimates are available by single year of age (up to 90+) and sex for Ontario's Census Subdivisions (CSD), beginning July 1, 1986. These estimates are produced by Demography Division, Statistics Canada, and are based on the Census counts adjusted for net undercoverage beginning with the 1986 census.

Trend Assessment: trend significance was determined with linear regression analysis by using the "least squares" method to fit a line through our set of observations to analyze how a single dependent variable is affected by the values of an independent variable

Significant difference (between Hamilton and Ontario): difference significance was determined using method to determine significant difference between two dependent rates outlined in G. E. Alan Dever. Managerial Epidemiology: Practice, Methods And Concepts. Jones & Bartlett Learning; 1 edition (June 17 2005). Test only performed on most recent year crude rate.

4. HARM REDUCTION SERVICE DEMAND

4.1 Number of needles distributed and collected, Hamilton needle syringe program, 2000-2016

Source: Hamilton needle syringe program, Mental Health & Harm Reduction Program, City of Hamilton Public Health Services

4.2 Number of naloxone kits distributed by the Hamilton Overdose Prevention Education program, 2014-2017

Source: Naloxone Database, Mental Health & Harm Reduction Program, City of Hamilton Public Health Services

4.3 Number of people revived by naloxone, Hamilton Overdose Prevention Education program, 2014-2017

Source: Naloxone Database, Mental Health & Harm Reduction Program, City of Hamilton Public Health Services

Note: Clients who are dispensed naloxone refills are asked whether the previously dispensed naloxone was used to revive people during an opioid overdose incident. Therefore, this indicator is self-reported and may underestimate the number of lives revived by naloxone in Hamilton.

5. MAP OF RATES OF DRUG-RELATED CRIME OCCURRENCES (PER 1,000 POPULATION), BY CENSUS TRACT, HAMILTON, 2012-2016 COMBINED

Source: Hamilton Police Service

Note: Drug-related crime occurrences include possession, trafficking and loitering events related to controlled substances that do not include cannabis marijuana. Rates of occurrences were calculated per census tract by dividing the total number of occurrences between 2012-2016 in each census tract by the 2011 Census population of the census tract and multiplying by 1,000 to get rates per 1,000 population. Note that the 2011 Census population counts were used to determine rates; rates per census tract may change significantly if the 2016 Census population counts are used. Additionally, these rates represent five years of cumulative data and are not comparable to annual rates. Rates for two census tracts (CTUID of 5370018.00 and 5370072.01) were excluded from the map due to low population counts and the production of unstable rates.

6. HEAT MAP OF PWID SURVEY RESPONDENTS' PREFERENCE FOR LOCATION OF SIS

Source: Hamilton Survey for People Who Inject Drugs (PWID), SIS NAFS Study, 2017

Note: The City of Hamilton accepts no liability for any loss, damage, or inconvenience resulting from the use of, or reliance on, the information contained herein. The map product is provided “as-is” without any warranties, guarantees, or representations of any kind. This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or surveying purposes.

Mapping: A heat map was generated using ESRI ArcGIS Desktop 10.5 to visualize respondents' preferences for a supervised injection site in Hamilton (Figure 12 in the study report).

- For this map, survey responses, consisting of intersections, neighbourhoods and landmarks, were geocoded. Responses of “downtown” were geocoded to the intersection of King Street West and James Street North.
- Forty-four responses were unable to be geocoded due to missing information or non-specific answers such as “east end”.
- Geocoding involved comparing the responses with an established list of addresses in a master geocoding database and giving each address a score for similarity. Then the address was joined to that associated geographic point for mapping in order to be displayed in a mapping environment.
- To create the heat map, a Kernel Density model was used to derive values from the proximity of each location, and how close they were to each other within a given area of interest or grid area. The geocoded point locations were loaded into the grid to conduct this geo-processing step.
- Then each pixel in that grid was given a calculated value determined by the presence of a point location and its proximity to other points. Those pixel values are stylized as colours and form out heat map areas. In order to display them in context to the city, some of the lower values of the output grid were discarded. This was done by adjusting the display thresholds of the values to only allow pixel values about a certain threshold to be visible on the map. The blue to orange scale provides context on values within the allowed range.

APPENDIX B: RESULTS OF THE SURVEY OF PEOPLE WHO INJECT DRUGS

Overview: 106 people 16 years of age or older who self-identified as injecting drugs in the past six months were surveyed between July 6 and August 11, 2017. Note that participants were not required to answer each question; the number of participants who responded to each question is indicated for each question.

Note on data suppression: To protect the privacy of participants, questions or categories with 1 to 4 responses are suppressed as “nr” representing “not reportable”.

DEMOGRAPHIC INFORMATION

Characteristic (number of respondents)	Frequency	Proportion (%)
Injected drugs in the past 30 days (106)	77	72.6
Average age (range) (106)	44 (22 – 64 years)	
Sex (105)		
Male	75	71.4
Female	30	28.6
Sexual orientation (106)		
Heterosexual	93	87.7
Gay or lesbian	nr	nr
Bisexual	10	9.4
First language (106)		
English	95	89.6
French	5	4.7
Other	6	5.7
Ethnic group / cultural background* (106)		
White	71	67.0
Indigenous	26	24.5
Other	25	23.6
Lives with another current injection drug user (103)	41	39.8
Places of residence in the past 6 months* (106)		
Own residence	75	70.8
Someone else's house/apartment	47	44.3
Shelter/welfare residence	36	34.0
Street	21	19.8
Hospital	17	16.0
Hotel/Motel	16	15.1
No fixed address	16	15.1
Prison/jail	13	12.3
Crack house	11	10.4
Rooming/boarding house	9	8.0
With parents	8	7.5
Rehab	6	5.7
Medical hostel	nr	nr
Transitional housing	nr	nr
Other	12	11.3

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Education and income

Characteristic (number of respondents)	Frequency	Proportion (%)
Highest level of education completed (106)		
Primary school	29	27.4
High school	45	42.5
Any college or university	32	30.2
Income in the past year (103)		
Under \$10,000	22	21.4
\$10,000 – 19,999	57	55.3
\$20,000 – 29,999	13	12.6
\$30,000 – 39,999	nr	nr
\$40,000 – 49,999	nr	nr
\$50,000 or more	6	5.8
Sources of income in the past 6 months* (105)		
Ontario Disability Support Program	54	51.4
Ontario Works	39	37.1
GST rebate	27	25.7
Temporary work	19	18.1
Self-employment	8	7.6
Regular job	7	6.7
Ontario Trillium Benefit	5	4.8
Selling drugs	10	9.5
Selling sex	6	5.7
Received items or money in exchange for sex (106)		
Male	6	8.0
Female	10	33.0

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

DRUG USE & INJECTION PRACTICES

► Frequency of injection drug use and reusing of needles

Question (number of respondents)	Frequency	Proportion (%)
Frequency of injection drug use in the past 6 months (106)		
Daily	34	32.1
More than once a week	24	22.6
Once a week	9	8.5
1 to 3 times a month	21	19.8
Less than once a month	18	17.0
Frequency of reusing needles for more than one injection at least once in the past 6 months (106)		
Never	54	50.9
Occasionally (<25% of the time)	30	28.3
Sometimes (26-74% of the time)	11	10.4
Usually (75% of the time or more)	5	4.7
Always (100% of the time)	6	5.7
Average number of times of injection on an average day (106)		
1	24	22.6
2	33	31.4
3	21	20.0
4 or more	28	26.0

► Location of injection drug use and public use

Question (number of respondents)	Frequency	Proportion (%)
Location of injection drug use* (105)		
Own residence	80	76.2
Public washroom	57	54.3
Relative or friend's place	54	51.4
Acquaintance's place	45	42.9
Hotel/motel	42	40.0
Car	39	37.1
Alley/laneway	39	37.1
Sexual partner's place	37	35.2
Park	35	33.3
Where drugs are bought	32	30.5
Parking lot	32	30.5
Stairwell/doorway of store/office	30	28.6
Shelter	28	26.7
Where you pay to use/exchange drugs	27	25.7
Community-based organization/ service provider	27	25.7
Abandoned building	25	23.8
Stranger's place	21	20.0
School yard	7	6.7
Injected in public or semi-public areas at least once in the past 6 months (105)		
Never	35	33.3
Occasionally (<25% of the time)	37	35.2
Sometimes (26-74% of the time)	15	14.3
Usually (75% of the time or more)	11	10.5
Always (100% of the time)	7	6.7
Reasons for injecting in public* (73)		
Being too far from home	39	53.4
Convenience to area where they were	36	49.3
Homelessness	31	42.5
Not wanting the person they are staying with to know about their drug use	26	35.6
Nowhere to inject safely where drugs are bought	24	32.9
Need assistance to fix	19	26.0
Dealing/middling/steering	17	23.3
Prefer to be outside	12	16.4
Involved in sex work and don't have a place to inject	6	8.2
Don't want to pay guest fees at friend's	6	8.2

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Other injection use practices and assistance

Question (number of respondents)	Frequency	Proportion (%)
Used water from an outside source (e.g., puddle, public fountain) to prepare drugs or rinse needles (92)	30	32.6
Have ever injected alone (105)	88	83.8
Frequency of needing help when preparing drugs in the past 6 months (106)		
Never	77	72.6
Occasionally (<25% of the time)	13	12.3
Sometimes (26-74% of the time)	nr	nr
Usually (75% of the time or more)	nr	nr
Always (100% of the time)	11	10.4
Frequency of needing help when injecting drugs in the past 6 months (104)		
Never	59	56.7
Occasionally (<25% of the time)	18	17.3
Sometimes (26-74% of the time)	8	7.7
Usually (75% of the time or more)	5	4.8
Always (100% of the time)	14	13.5
Reasons for needing help when injecting drugs* (46)		
Can't find vein on own	29	63.0
Prefer someone else to inject	17	37.0
Don't like injecting self	11	23.9
Need help to prepare drugs	8	17.4
Partner prefers to inject	8	17.4
Unsafe to inject in the jugular vein alone	8	17.4
Don't know how	6	13.0
Would be willing to learn how to inject self (among 48 who didn't know how to inject themselves)	32	66.7

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Drug use behaviours and harm reduction service use

Harm reduction service use or drug behaviour (number of responses)	Ever		In the past 6 months	
	Frequency	Proportion (%)	Frequency	Proportion (%)
Exchanged or obtained needles at a harm reduction program (106)	90	84.9	82	77.4
Got new sterile needles from a friend (106)	70	66.0	61	57.5
Reused a cooker with drugs in it for an extra wash (106)	63	59.4	54	50.9
Had drugs but didn't know where to get a clean needle (106)	59	55.7	48	45.3
Used other injecting equipment that has already been used (105)	47	44.8	34	32.1
Got new sterile needles from a dealer or someone on the street (106)	45	42.5	41	38.7
Filled syringe from another used syringe (106)	23	21.7	15	14.2
Knowingly injected with used needles (104)	22	21.2	13	12.5
Had trouble getting enough needles from exchange program (98)	17	17.3	16	16.7
Had exchange program limit the number of needles given (98)	17	17.3	11	11.5

► Most frequently used drugs

Rank	Most frequently reported injected drugs (n=106)*	Most frequently reported drugs of choice (n=106)	Drugs that were reported to be injected the most in the past 6 months (n=106)
1	Crystal meth (61.5%)	Crystal meth (22.6%)	Crystal meth (31.1%)
2	Hydromorphone (61.0%)	Hydromorphone (21.7%)	Hydromorphone (28.3%)
3	Cocaine (47.6%)	Cocaine (17.0%)	Cocaine (17.0%)
4	Heroin (44.8%)	Heroin (15.1%)	Heroin (8.5%)
5	Morphine (34.3%)	Crack or rock cocaine (7.5%)	Morphine (nr)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Contaminated drugs

- 85 of 104 (81.7%) respondents reported ever getting a drug they think was **contaminated with another substance**.
- Of the 85 respondents who reported thinking that they had a drug that was contaminated with another substance, the most common substances they thought the drug was cut with were **fentanyl (30.6%)**, **crystal meth (16.3%)**, and **anti-depressants (6.1%)**. 43.4% of these respondents were **unsure** of what their drug was cut with.

DRUG USE & INJECTION PRACTICES

- Most of those surveyed had heard of supervised injection services before being questioned (n=88). When considering if PWID would use an SIS in Hamilton, 80% (85 of 106) of respondents agreed that they would use the SIS, and 9% (9 of 106) reported that they would maybe use an SIS in Hamilton. 11% (12 of 106) of participants stated that they would not consider using these services.

► Reasons for using an SIS

Reason	Mentioned this reason for using an SIS*		Identified this reason as the most important reason for using an SIS	
	Frequency	Proportion (%), 94 respondents	Frequency	Proportion (%), 88 respondents
Clean injection equipment	51	54.3	13	14.8
Overdoses can be prevented	45	47.9	13	14.8
Able to inject indoors and not in a public space	41	43.6	12	13.6
Overdoses can be treated	40	42.6	6	6.8
Able to see health professionals	37	39.4	10	11.4
Safe from being seen by police	32	34.0	9	10.2
Would be injecting responsibly	23	23.4	6	6.8
Safe from crime	22	24.5	6	7.0
Able to get referral for services such as detox or treatment	7	7.4	nr	nr
Other	43	41.7	18	20.5

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Reasons for not wanting to use an SIS

Reason* (22 respondents)	Frequency	Proportion (%)
Not want to be seen	11	50.0
Do not want people to know I am a drug user	9	40.9
Afraid my name will not remain confidential	8	36.4
Have a place to inject	nr	nr
Fear being caught with drugs by police	nr	nr
Would rather inject with my friends	nr	nr
Always inject alone	nr	nr
Would not be convenient	nr	nr
Concerned about the possibility of police around the service	nr	nr
Can get clean needles elsewhere	nr	nr
Other	8	38.1

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Acceptability of SIS policies

Policy (106 respondents)	Acceptable (%)	Neutral (%)	Unacceptable (%)
Injections are supervised by staff who can respond to overdoses	96.2	nr	0.0
Have to stay for 10-15 minutes after injecting to be monitored	85.8	5.7	8.6
May have to sit and wait until a space is available for injection	74.1	11.5	14.4
Required to show client number	70.5	14.3	15.3
30 minute time limit for injections	68.7	12.7	18.6
Not allowed to share drugs	68.2	7.7	24.1
Have to register each time client uses it	61.2	14.6	24.2
Video surveillance cameras onsite to protect users	55.7	10.6	33.7
Not allowed to assist in the preparations of injections	54.8	19.2	26.0
Not allowed to assist each other with injections	52.9	9.6	37.5
Required to show government ID	23.8	14.3	61.9
Have to live in neighbourhood to use the SIS	15.5	8.7	75.8

nr = Not reportable due to low counts (fewer than 5 responses)

► Importance of services available at an SIS

Services (106 respondents)	Important (%)	Somewhat Important (%)	Not that important (%)
Injection equipment distribution	98.0	nr	nr
Needle distribution	96.2	nr	nr
Preventing or responding to overdose	96.2	nr	nr
Access to health services	94.1	nr	nr
Nursing staff for medical care and supervised injecting teaching	93.2	5.9	nr
HIV and hepatitis C testing	92.3	4.8	nr
Washrooms	92.2	nr	nr
Referrals to drug treatment, rehab, and other services when you're ready to use them	89.2	7.8	nr
Drug testing	86.4	8.7	5.0
Social workers or counsellors	83.5	11.7	4.8
Drug counsellors	83.3	10.7	5.9
Harm reduction education	82.5	13.6	nr
Withdrawal management	81.4	6.8	11.8
A 'chill out' room to go after injecting, before leaving the SIS	80.5	14.5	5.0
Access to an opiate (methadone or buprenorphine) prescribed by a health professional	74.5	7.9	17.6
Assistance with housing, employment and basic skills	71.6	13.7	14.7
Aboriginal (Indigenous) counsellors*	67.0	14.0	19.0
Peer support from other injection drug users	66.0	23.3	10.7
Food (including take away)	61.7	15.7	22.5
Showers	56.3	26.2	17.5
Special times for women or a women's only SIS**	48.0	20.6	31.4

nr = Not reportable due to low counts (fewer than 5 responses)

*For those who self-identified as Aboriginal (First Nations, Métis, or Inuit) having culturally sensitive services available, like an Aboriginal counsellor was considered significantly important with 96% of Aboriginal respondents saying that having an Aboriginal counsellor was important ($p < 0.000$).

**There was no statistical significance for one gender wanting a women's only SIS or women specific times at the SIS.

SIS LOCATION AND SERVICE DESIGN PREFERENCES

► SIS integration/location within different types of places

The following proportion of respondents would not use an SIS if it was located in these places:

- Social service agency: 48.5% (50 of 103 respondents)
- Walk-in or family doctor's clinic: 41.2% (42 of 102 respondents)
- Public health clinic: 15.7% (16 of 102 respondents)
- Community health centre: 10.5% (11 of 105 respondents)

► Willingness to walk or travel to an SIS

Question (number of respondents)	Frequency	Proportion (%)
Longest time respondent is willing to walk to reach an SIS (100)		
Less than 5 minutes	10	10.0
5-10 minutes	11	11.0
10-15 minutes	17	17.0
15-20 minutes	24	24.0
20-30 minutes	21	21.0
30-40 minutes	8	8.0
More than 40 minutes	9	9.0
Willing to take a bus to an SIS (100)	84	84.0
Longest time respondent is willing to take a bus to reach an SIS (82)		
Less than 5 minutes	nr	nr
5-10 minutes	6	7.3
10-15 minutes	11	13.4
15-20 minutes	16	19.5
20-30 minutes	25	30.5
30-40 minutes	11	13.4
More than 40 minutes	12	14.6
Willing to use alternative methods of transportation to an SIS* (98)		
Bike	73	74.5
Carpooling	48	49.0
With a friend	80	81.6
Supporting transportation services	51	52.0
Taxi	8	8.2
Other	8	8.2

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Frequency of SIS use for injection & preferred setup

- 37.5% of 96 respondents would use an SIS always (in a convenient location to them) to inject; 20.8% would use it usually (over 75% of the time); 19.8% would use it sometimes (26-75% of the time), and 17.7% would use it occasionally (<25% of the time). Less than five per cent would never use it.
- After seeing photos of the three layouts for an SIS (private cubicles, and open plan with either benches or chairs at a large table or counter), a majority (77.4% of 100 respondents) preferred the private cubicle setup.

► Preferred time of day to use an SIS

Time of day	First choice to use an SIS (98 respondents)		Second choice to use an SIS (95 respondents)	
	Frequency	Proportion (%)	Frequency	Proportion (%)
8 a.m. – 12 p.m.	55	56.1	11	11.6
12 p.m. – 4 p.m.	14	14.3	23	24.2
4 p.m. – 8 p.m.	14	14.3	19	20.0
8 p.m. – 12 a.m.	9	9.2	28	29.5
12 a.m. – 8 a.m.	6	6.1	14	14.7

► PWID involvement in running an SIS

Over half of the respondents (60.4% of 101 respondents) thought that current or past drug users should be involved in running a supervised injection site.

Role for PWID in running an SIS* (64 respondents)	Frequency	Proportion (%)
Monitor entrance and surrounding area	47	73.4
Greeting clients	53	82.8
Registering clients	46	71.9
In the waiting room	53	82.8
In the injecting room	33	51.6
In the chill-out room	49	76.6
In the post-injection counselling role	45	70.3
Don't know or unsure	5	7.6

*Respondents could choose more than one answer; the total proportions for this question can exceed 100%

► Drug testing service

57 of 102 respondents (55.9%) would test their drug 100% of the time before injecting at an SIS if it was possible. 4.9% would never test their drug. 30 out of 93 respondents (32.3%) would wait more than 15 minutes for the drug test results.

► SIS model preference and number of SISs

61.0% of 100 respondents preferred an integrated SIS. The mobile unit was preferred by 51.0% of respondents; the stand alone model was the least preferred (29.0%).

37.8% of 106 respondents think that Hamilton needs 2 or 3 SISs.

- Range: 1 to 100 sites
- Most frequent: 2 sites (19.4%); 3 sites (18.4%); 5 sites (11.2%); 10 sites (11.2%)

SIS LOCATION AND SERVICE DESIGN PREFERENCES

When asked about community impact of an SIS, respondents were asked to score statements on a scale from 1 to 5 (1=very unlikely, 2=unlikely, 3=neutral, 4=likely, 5=very likely).

Statement (number of respondents)	Mean	Interpretation
Users would move to the area (102)	3.18	Neutral / No change
Crime would be reduced in the area (103)	3.53	Neutral / No change
Street violence would be reduced (103)	3.61	Neutral / No change
Drug dealers would be attracted to the area (102)	4.07	Likely
Users would visit the area more (102)	4.22	Likely
People would learn more about drug treatment (103)	4.40	Likely
Number or people injecting outdoors would be reduced (103)	4.50	Likely
Injection with used needles would be reduced (103)	4.60	Likely
The number of used syringes on the street would be reduced (104)	4.62	Likely
Overdoses would be reduced (103)	4.72	Likely

NALOXONE & EXPERIENCES OF OVERDOSE

► Naloxone take-home kit

- Most of the PWID survey respondents (91% of 104) had heard of Narcan/naloxone before, as well as the take-home kits that are available for opiate overdose (90% of 104).
- 82.0% of 100 respondents were aware of the Naloxone program in Hamilton, but only 46.5% of 99 respondents currently had a take-home kit.
- 24.8% of 101 respondents had administered Naloxone to someone before, and of those, 15 had administered it once or twice, and 8 had administered it more than 5 times.

Question (number of respondents)	Frequency	Proportion (%)
Source of information about naloxone take-home kit* (92)		
Needle exchange program	20	21.7
Friend	15	16.3
Methadone clinic	14	15.2
Wesley Urban Ministries	8	8.5
Public health	6	6.5
Doctor	6	6.5
The AIDS Network or VAN	6	6.5
Street nurse	5	5.4
Outreach worker	nr	nr
Jail	nr	nr
Pharmacy	nr	nr
Urban Core	nr	nr
Other	19	19.2
Source of naloxone take-home kit* (46)		
Wesley Urban Ministries	12	26.1
Methadone clinic	10	21.7
The AIDS Network or VAN	10	21.7
Pharmacy	8	17.0
Public health or Van	5	10.9
Friend	nr	nr
Needle exchange program	nr	nr
Other	7	15.0
Reason for not currently having a naloxone take-home kit* (50)		
Doesn't think needs one	24	47.1
Doesn't hang out with people who use opiates	13	26.0
Doesn't know where to get one	6	12.0
Doesn't know what Naloxone kit is	5	10.0
Hasn't picked up a new kit after using previous one	nr	nr
Never been offered one	nr	nr
Doesn't feel comfortable using it	nr	nr
Found difficult to access training	0	0.0
Other	6	6.3

nr = Not reportable due to low counts (fewer than 5 responses)

*Respondents could choose more than one answer; the total proportions for this question can exceed 10

► Accidental overdose

- 48 of 104 (46.2%) respondents had overdosed by accident in the past.
 - o Among these overdoses, 19 occurred in the past 6 months.

Question (number of respondents)	Frequency	Proportion (%)
Number of overdoses experienced (48)		
1	20	41.7
2	8	16.7
3	7	14.6
4	5	10.4
5 or more	8	16.7
Last time of overdose incident (42)		
2017	17	40.5
2016	8	19.0
2005-2015	12	28.6
Before 2005	5	11.9
Was alone at the time of their last overdose (48)	14	29.2

► Drugs involved in overdose

Question (number of respondents)	Frequency	Proportion (%)
Remembered which drug or substance was involved in their last overdose (45)	42	93.3
An opioid was involved in their last overdose (45)	27	60.0
Most frequent drugs involved in overdose (46)		
Fentanyl*	17	37.0
Cocaine	11	23.9
Heroin	10	21.7
Hydromorphone	7	14.9
Crystal meth	6	13.0

*Fentanyl was the most frequently involved drug in the overdoses reported by respondents. Of the 17 respondents who had fentanyl involved in their overdose, 82% had injected fentanyl at least once in the past six months.

► Place of last overdose

Location (48 respondents)	Frequency	Proportion (%)
My own place	17	35.4
Partner's place (if different from own)	nr	nr
Friend's place	13	27.1
Relative's place	nr	nr
Street	nr	nr
Public washroom	nr	nr
Abandoned building	nr	nr
Drop-in or social service	nr	nr

nr = Not reportable due to low counts (fewer than 5 responses)

► Calling an ambulance and use of naloxone during overdose

- Among 48 respondents that had overdosed, only 22 (45.8%) had an ambulance that was called when they overdosed.
- After an ambulance was called, 45.5% (10 of 22) had the police show up as well.
- 86.4% of respondents who had an ambulance called went to an emergency department or hospital (19 of 22) after overdosing.
- Among 48 survey respondents who had overdosed in the past, 15 (29.2%) had been given naloxone during their last overdose, 6 (12.5%) of those who had overdosed did not know or were unsure if naloxone had been administered.
- Among the 15 respondents who said that they had been given naloxone at the time of their last overdose, 11 (73.3%) indicated that a first responder or hospital employee had administered it.
- Overall, 47.1% of 87 respondents had been afraid of being arrested if they or someone else had overdosed.

► Response to last witnessed overdose

- In the past six months, 40 respondents (41.2% of 97) had witnessed an overdose.

Location (40 respondents)	Frequency	Proportion (%)
Ambulance came	20	50.0
I helped	16	40.0
Someone else called 911	15	37.5
I gave Naloxone	15	37.5
I called 911	12	30.0
Someone else helped	10	25.0
Person came to on their own	10	25.0
I left	8	20.0
Other person gave Naloxone	6	15.0
Other	10	25.0

DRUG TREATMENT

- 82 of 104 respondents reported being in a drug treatment or detox program during their lifetime. Of these, 31.7% (26 of 82) reported being in a treatment or detox program within the past six months.
- Out of these 26 respondents with recent treatment, the top 5 drug treatment and detox programs they reported being in the past 6 months were:
 1. Out-patient counselling (38.5%)
 2. Methadone maintenance program (26.9%)
 3. Residential treatment (26.9%)
 4. Detox programs with prescribed drugs (other than methadone) (19.2%)
 5. Self-help group for drug use (19.2%)
 6. Addictions case management (19.2%)
- 15.8% of 101 respondents reported trying but being unable to get into treatment programs within the past 6 months.



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