A Community-Based Report on Alberta's SCS Effectiveness

EXECUTIVE SUMMARY:

Alberta currently has six approved community-based SCS facilities operational in Calgary, Edmonton (three sites), Grande Prairie, and Lethbridge.[1] The model used in each SCS organization is a supervised consumption and treatment-based approach.

Funding has been halted for three future SCS locations in Medicine Hat, Calgary and Red Deer (temporary OPS currently in place) until a review is completed. As a collective, the SCS agencies requested that the Alberta Council on HIV (ACCH) provide a report summarizing the key outcomes from the SCS implementation for submission to the review panel. All sites support an evidence-based review and look forward to discussing their service in more detail.

Since 2016, 2,183 people have died in Alberta from opioids, with the vast majority (86%) now due to accidental fentanyl poisonings. The cost and burden of the opioid crisis on Alberta's health care system is extensive, with huge impacts on Emergency Medical Service (EMS) responses and Emergency Department (ED) visits and hospitalizations. SCS provides a cost-effective way for people who use drugs to improve their quality of life and reduce the burden on EMS and ED.

The recent 24% decline in fentanyl deaths in Alberta suggests that the harm reduction strategies are working, and their continued expansion into communities of need is a priority.

Out of the over 300,000 visits to the SCS so far, no one has died from drug use in Alberta. Healthcare staff have successfully reversed 4,305 overdose events with a 100% success rate. Unfortunately, there is a continued need for the service with an average of two people dying per day from opioids in Alberta (outside the SCS).

SCS play an essential role in supporting people who are ready for addiction and treatment services. Since opening over 29,000 health and social referrals have been through the SCS, including over 5,000 to addiction and treatment services. Contrary to misperceptions about the service, guiding people into recovery and support is a core part of the SCS mandate.
Key facts discussed in this report include:

- Over 300,000 people have visited an SCS, with over 400 unique monthly clients per site
- 4,305 overdose reversals with a 100% success rate
- A total of 3,709 averted EMS calls through the SCS (89% of overdoses are averted)
- Over 5,000 referrals to addiction and treatment services
- Prevention and reduction of HIV and Hepatitis C infections through access to new supplies, hygienic environment and access to treatment
- Prevention and reduction of other STBBI infections, like syphilis and gonorrhea through access to safe sex supplies
- Needle debris program is reducing needles around the SCS and improving response to community needle reports
- SCS services in Canada provide cost savings, with an estimated $5 dollars saved for every $1 spent according to recent estimates.

[1] Alberta's two other approved SCS locations – in-patient service at the Royal Alexander and the Drumheller Federal Correctional facility – are not included in this review.

Purpose:

This report provides an analysis of the effectiveness of the current SCS/OPS sites approved and operating in Alberta, including:

- Grande Prairie – administered by HIV North (opened March 2019)
- Edmonton – three SCS locations administered by Boyle Street Community Services (opened March 2018), George Spady Society (opened April 2018), and Boyle McCauley Health Centre (November 2018)
- Calgary – administered by Safeworks (opened on November 2017)
- Lethbridge – administered by ARCHES (opened on February 2018)
- Red Deer – administered by Turning Point (OPS opened October 2018)

Background:

On May 31st, the SCS agencies requested that the ACCH collect data from each agency and compile a summary report on the key outcomes from the SCS implementation. Data for this report is drawn from numerous public and internal sources, including:

- Public reports:
  - Quarterly Alberta Opioid Response Surveillance Reports
  - Alberta Medical examiner's review of opioid related deaths
  - Crime & Disorder near the Sheldon M. Chumir Health Centre's Supervised Consumption Services Facility 2019 Statistical Overview
- Monthly SCS site reports (internal data owned by the SCS)
- SCS Needs Assessments (internal data owned by the SCS)
- Media reports
- Peer reviewed academic studies

This report provides important data about the crucial role that SCS operations in Alberta play in preventing overdose death and improving quality of life for people who use drugs.

Who is dying from opioid poisoning in Alberta?

A profile is emerging from the recent "Opioid-related deaths in Alberta in 2017: Review of medical examiner data" report, which conducted a review of 653 cases. Key highlights include:

- Men are more likely to die (77%), and the average age is 38
- 18% were Indigenous, which is three times higher than the AB population (6.5%)
- 41% of cases involved people with a corrections history, which is 12 times higher than the AB population (3%)
  - 73% of incarcerations did not involve drug-related crimes
  - 69% had a length of stay of less than one month
- 83% had a psychiatric condition, about twice as likely as the general population
- 55% had at least one recorded ED visit in the six months prior to their death
  - 27% had a past ED visit related to a drug poisoning, which is 66 times more than the AB population (.04%)
  - 37% had at least one previous drug overdose
- 74% of drugs involved in death were illegal street drugs (non-pharmaceutical)
- 66% of individuals who died were using drugs alone
- 86% lived in an urban area

SUMMARY OF EVIDENCE

1. A 100% success rate with overdose reversals in Alberta SCS[2]

> "*Being safe and alive. Here you have a chance for a revival. Don't have much of a chance out there.*"
>
> *"A client disclosed to me today that he has not been using at home in about a week and is only using at the SCS. He wants to separate using from where he resides as well as this being a safe place to use, feel comfortable and be looked after."*

Since the first SCS site opened November 2017, the staff in SCS have a **100% success rate** in saving people from overdose – with zero fatal drug poisoning events across all sites. A total of **4,305 drug poisonings (overdoses)** have been reversed in the Province through community-based SCS health services.

City	Total # of overdoses reversed in SCS[3]	Time Period
Calgary	1,055	Nov. 2017 – May 2019
Edmonton (3 sites)	627	Mar. 2018 – May 2019
Grande Prairie	40	Mar. 2019 – May 2019
Lethbridge	2,102	Feb. 2018 – May 2019
Red Deer (OPS)	481	Oct. 2018 – May 2019
Alberta Total	**4,305**	NA

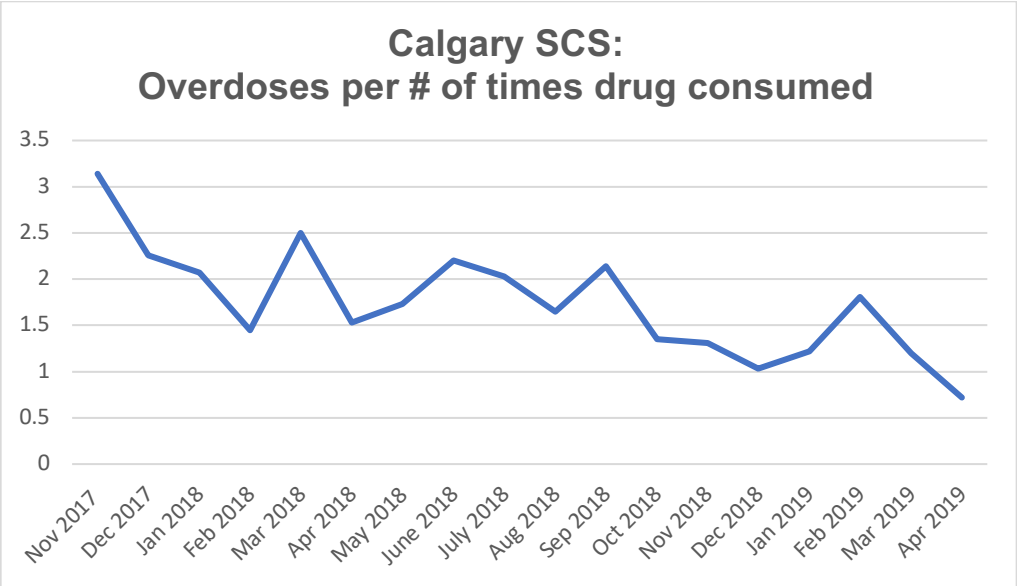
Each client who uses drugs at the SCS is under close monitoring by healthcare staff, who in addition to providing overdose prevention, also offer education, referral services, vein care, infection prevention, and harm reduction knowledge. This is why the Alberta SCS staff have a 100% success rate.

Is the SCS having an impact on reducing overdoses on site? Data from the Calgary SCS (the only site that collects this information) indicates that overdose events are declining – probably because the education and knowledge that clients are learning is working (e.g. don't use alone, do a tester, use less after breaks). This chart shows the monthly ratio of overdose events per

[2] Data is drawn from multiple sources. For Calgary, Edmonton, and Lethbridge, data from January 2018 to March 2019 is drawn from the Alberta Opioid Response Surveillance Report Quarterly reporting. Data for April and May 2019 is from internal monthly SCS reports. For Calgary, the data prior to January 2018 is obtained from the monthly Safeworks SCS reports. Data for Red Deer and Grande Prairie is drawn from their monthly OPS/SCS reports.

[3] An overdose is defined as a drug poisoning event requiring intervention including (but not limited to) providing oxygen, administration of naloxone, and/or requesting medical attendance.

number of drugs used from November 2017 to April 2019: a drop from 3.14 to 0.72, which is a **336% decline in the overdose rate** since opening.



Outside the SCS, about **two people die per day in Alberta** from opioid poisoning. Since 2016, **2,183 people have died** (January 2016 to March 2019) in Alberta from opioids, and of those **79% were accidental fentanyl poisonings** (N = 1721). Opioid use has had a dramatic impact on Alberta's healthcare system:

- **39,148 Emergency Department visits** related to opioids (January 2015 to December 2018)
- **13,005 hospitalizations** as a result of harm associated with opioids (January 2015 to December 2018)
- **8,176 Emergency Medical Service (EMS) responses** for opioid-related events (January 2017 to March 2019)

Given the massive cost impact of the opioid crisis on Alberta's healthcare system, the SCS plays a significant role in reducing the burden on the tax payer dollar.

2. Huge demand for SCS: over 303,000 total visits and over 400 unique clients a month at each location

> "*We do not just come here to use drugs. We come here to catch up with friends.*"
>
> "*The staff is consistently respectful to me so that makes me want to respect myself.*"

The evidence is clear: people in Alberta want to use drugs in a safe, clean and supportive environment. During the time period January 2018 to March 2019, there have been a total of **303,555 visits** to sites in Lethbridge, Calgary, Grande Prairie and Edmonton sites.

Table 12: Number of visits per quarter and site. January 1, 2018 to March 31, 2019.

	2018				2019	
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Site total
Edmonton sites	390	8,974	7,975	11,959	17,433	**46,731**
Calgary site	7,469	12,854	13,548	17,921	16,623	**68,415**
Lethbridge site	2,375	26,464	42,450	56,562	60,260	**188,111**
Grande Prairie site (March 2019 only)					298	**298**
Quarter Total	**10,234**	**48,292**	**63,973**	**86,442**	**94,614**	**303,555**

All the SCS have seen significant increases in their use since opening as seen in the number of visits and average number of unique clients. For the first year of the program from January to December 2018, the two charts below provide a visual snapshot of this increase in demand for the SCS in Lethbridge, Calgary and Edmonton (Grande Prairie only has one month of data).[4]

[4] Charts are page 25 and 26: Alberta Opioid Response Surveillance Report 2018 Q4. Alberta Health, Analytics and Performance Reporting Branch: March, 2019.

Figure 25: Number of visits per quarter and site. January 1, 2018 to March 31, 2019.

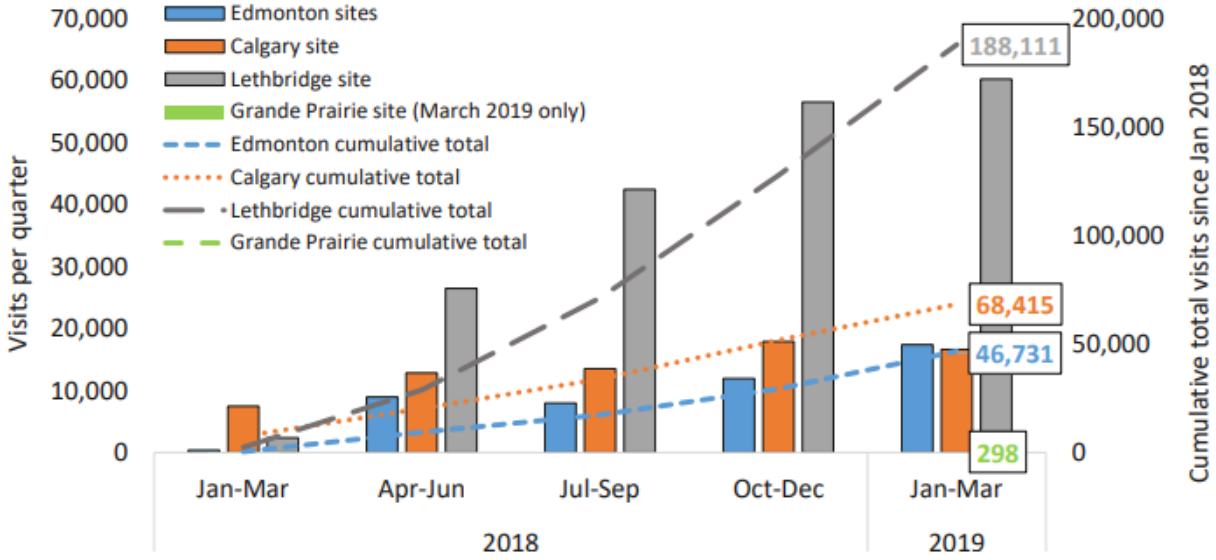
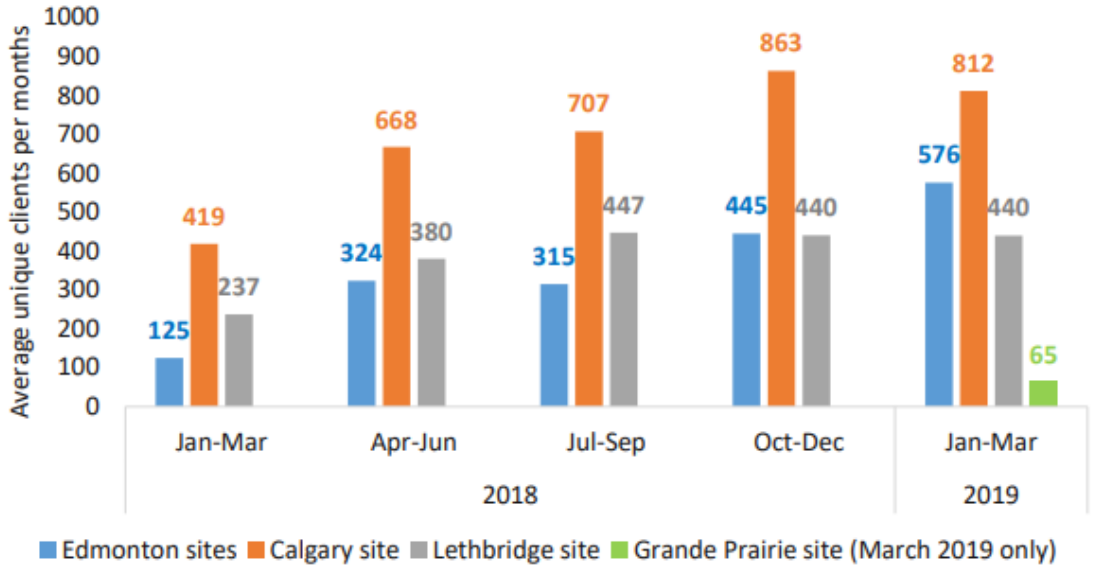


Figure 26: Average monthly unique clients per quarter and site. January 1, 2018 to March 31, 2019.



As the charts indicate, the number of visits and number of unique clients continues to increase each month. During this time period (January 2018 to March 2019), the average number of unique clients per month significantly increased at each site, including:

- Edmonton increased 360% (from 125 to 576 unique clients)
- Calgary increased 94% (from 419 to 812 unique clients)
- Lethbridge increased 86% (from 237 to 440)

The OPS in Red Deer has also seen huge demand with 20,828 visits since opening in October 2018, and they are now averaging over 200 unique visitors per month. They started with 600 visits in October 2018 and in May 2019 saw 3207 visits, an increase of over 400% since opening.

3. SCS provides a pathway for people to access treatment and health services: over 35,000 health service referrals, and 10,000 of those for addiction/treatment services

> *"We have one patient who we referred to detox and after a week at detox he was accepted to a center and is now in a year long treatment program."*
>
> "*A client came in and told us that they have been sober for over two months. The client came in to thank our team for helping support them over the past year. The client looks amazing and is looking forward to the future.*"

SCS facilities in Alberta primarily service two goals: overdose prevention and wraparound services to addiction, treatment, and referrals services such as housing, wound care, vaccination, and HIV/Hepatitis C testing and treatment. It is false to say that the only service provided at SCS is safe drug use, given the important role they play in improving the overall health and quality of life of their clients.

The first goal of the SCS is to keep people alive and improve their quality of life, and when people are ready the SCS staff provide an excellent pathway to help clients seek the best treatment option for their needs, ranging from:

- Opioid agonist therapy (OAT) – methadone and suboxone therapy to prevent withdrawal and reduce opioid cravings, allowing people to stabilize and reduce harms
- Addiction/substance use counselling – facilitates professional support and a personalized treatment plan
- Detoxification services – medically supervised reduction or withdrawal from drug use
- Residential treatment – in-patient addiction service, which varies considerably from abstinence-based to those that support OAT

Addiction treatment by its nature is never straightforward – even with world-class resources and best practice interventions, there is no guarantee people will stop using drugs or want to enter treatment. No single approach works for everyone and what counts as success will vary from person to person based on their capacity and circumstance. For some, success might mean using drugs more safely – such as carrying a naloxone kit, using a new needle, not using alone, doing a tester, reducing the amount taken, and not using multiple drugs at the same time. For others, using an opioid replacement (e.g. methadone or suboxone) empowers them to stabilize their lives, reduce the risk of overdose, and avoid withdrawal symptoms. Other people may prefer abstinence-based residential programs, which require a readiness and ability to manage withdrawal without medication.

OAT provides access to the best practice medication for opioid use that is supervised by medical professionals, safe, prevents withdrawal, and reduces overdose risk.[5] All community-based harm reduction organizations provide education and referral to OAT programs. OAT is considered the best evidence treatment for opioid addiction because people are less likely to die and it increases successful outcomes. Withdrawal management alone (e.g. detox without immediate transition to long-term care) is dangerous because it is associated with increased overdose, relapse and HIV infection. OAT should always be administered with naloxone to reduce overdose risk in community. The BC modelling study found that an estimated 590 lives were saved through OAT during a 21-month period.[6]

With all these caveats in mind, data from the first year of the program shows that SCS facilities play an essential role in addiction, treatment and referral to other services.

City	Total # of referrals	Addiction & Treatment services[7]
Edmonton (3 sites)	23,002[8]	1,631
Calgary	973	456
Lethbridge	5317	3185
Grande Prairie	199	24
TOTALS	**29,491**	**5,296**

[5] For extended evidence reviews see two recent reports: National Academies of Sciences, Engineering and Medicine (2019). *Medications for opioid use disorder save lives*. Washington, DC: The National Academies Press. Link: https://www.nap.edu/read/25310/chapter/1; and British Columbia Centre on Substance Use and B.C. Ministry of Health. (2017). *A Guideline for the Clinical Management of Opioid Use Disorder*. Link: http://www.bccsu.ca/wp-content/uploads/2017/06/BC-OUD-Guidelines_June2017.pdf.

[6] In Alberta, data from the opioid quarterly report found that the rate of methadone dispensing has slightly increased (1%) in the last 6 months, while the rate for suboxone medication has increased 7% in the last 3 months.

[7] Each organization provides different types of services grounded in their local community, so the implementation of addiction/referral services vary. Grande Prairie defines this as detox, treatment, methadone and suboxone programs. Calgary as referrals to detox, treatment, housing and urgent care. Edmonton combines internal and external referrals to substance counselling, substance detox, substance long-term, and methadone/suboxone. Lethbridge combines internal SCS addictions counselling and external referrals to detox and long-term treatment.

[8] The Edmonton site number is significantly higher because there is no standard definition for referral work within Alberta. This number also includes the combined referrals from three sites, as well as the internal referrals across the three harm reduction agencies who have interlocking programming.

On a human level, SCS healthcare staff and peer workers offer hope and compassion for people who may have had bad experiences using mainstream health services. Most staff at clinics and hospitals do not have the expertise and experience to support clients with complex social, health and addictions issues. Clients do not only visit the SCS to use drugs. For example, during the month of April 2019 in Calgary 13.7% of clients did not use drugs when they visited the SCS for harm reduction supplies, naloxone kits or health services. A persistent barrier is that there will never be enough beds to cover the number of people using drugs.[9]

Unfortunately, data collection on treatment is limited. Tracking the outcomes of referral from the SCS into other services is complicated because (a) you can't force people to attend treatment (only refer them); (b) people will quit drugs on their own without system support (this would never be reported); (c) SCS staff do not have access to other health databases, making it near impossible to track the long-term outcomes of referral; and (d) there is currently no dedicated resource/funding for a project manager to evaluate referral outcome.

The SCS is an essential *contact point* and *pathway* for vulnerable people who face many barriers to accessing better care. Removing the SCS as a contact point would increase their risk of isolation and opportunity to improve their overall quality of life. There is no other service in Alberta that has the capacity to provide over **29,000 health and social service referrals**, and over **5,000 to addiction and treatment services** specifically. SCS is an efficient 'one stop shop' for health services – helping clients navigate the fragmented and confusing health services they need.

For the three Edmonton SCS locations during the period from March 2018 to May 2019, clients were provided a total of **23,002 referrals** for services such as substance treatment, sexually transmitted and blood borne infections (like HIV and HCV), housing support, and primary health care. A closer look at some of the numbers shows:

- 91 total referrals for sexually transmitted and blood borne infections (29 for HIV and 25 for Hepatitis C)
- 1,631 total referrals for substance and treatment services, including:
  - 1,100 substance counselling
  - 263 substance detox
  - 168 substance long term
  - 82 methadone/suboxone (OAT)
- 5884 total referrals for housing services, including long-term housing, shelter and transition services
- 214 referrals for wound care, 98 for skin infection, and 21 for vaccinations

Lethbridge SCS have a total of **5,317 referrals** from February 2018 to June 2019, most of which were for addiction and treatment services:

- 2695 addictions counselling services provided:
  - 672 addictions counselling
  - 181 crisis intervention and safety planning

[9] For an in-depth review of Alberta's mental health and addiction services, see Wild, C. et al. (2014). *Gap Analysis of Public Mental Health and Addictions Programs (GAP-MAP)*. Government of Alberta.

- 272 mental health counselling
- 45 relapse prevention planning
- 1,144 support/advocacy
- 381 treatment application facilitation

➢ 490 external addiction/treatment referrals:
- 305 Detox
- 185 Long-term treatment

Safeworks had a total of **973 referrals** for the period October 2017 to April 2019:

➢ 132 social work
➢ 125 ODP referral
➢ 456 other referrals to detox, treatment, housing and urgent care

Although the Grande Prairie location has only been open for three months (data for March to May 2019), staff have already made **199 external referrals**, including:

➢ 24 of those to detox, treatment, methadone and suboxone programs
➢ 23 for housing supports

4. SCS health services provide cost-effective and efficient health service: annually each site is estimated to save between $200,000 to 6 million dollars, and about 89% of overdose events on site avert EMS calls

> "With nurses educating and building therapeutic relationships with our clients there's been a decrease in the frequency and severity of OD's on site; there's a lot of discussion around substance use and being safe on site. Being able to reverse OD's not requiring hospitalization, saving the huge bill it costs to be admitted to the ER and assessed for OD response."

SCS are a cost effective and efficient response to the opioid crisis. While it is too early to estimate the cost benefit and cost efficiency in Alberta, there is extensive evidence from Canadian peer reviewed studies on the existing Vancouver SCS, and potential cost savings in Victoria, Saskatoon, Montreal, Toronto and Ottawa (see ***Appendix A: Cost Savings Studies of Canadian SCS*** for list of peer review studies).

Studies of existing SCS locations in Canada estimate the annual cost savings at between **$200,000**[10] and **$6 million dollars**[11] per site – which considers direct and indirect costs such as prevented overdoses, prevented HIV and Hepatitis C cases, health care costs, lost productivity, and loss of life. Cost-benefit analysis has come to similar conclusions on the SCS, with the most conservative estimate being that at least **$5 dollars is saved for every $1 spent on SCS**.

[10] Pinkerton, S. D. How many HIV infections are prevented by Vancouver Canada's supervised injection facility? *Int. J. Drug Policy* **22**, 179–183 (2011).
[11] Andresen, M. & Boyd, N. A cost - benefits and cost - effectiveness analysis of Vancouver's safe injection facility. *Int. J. Drug Policy* **21**, 70–76 (2010).

The peer reviewed evidence is clear: SCS are fiscally prudent, life saving health services that save tax payers money through efficient health service delivery. Going forward, the SCS facilities in Alberta are committed to studying the cost effectiveness of the service.

SCS also play a key role in reducing the drug overdose burden on the highly impacted healthcare system, which has seen a huge surge in EMS calls, emergency department visits, and hospitalizations related to opioid use in Alberta since 2015. The table below documents the number of EMS calls that have been averted (911 was not called for an overdose event) because the SCS staff have responded to overdose events with healthcare staff on site:

EMS Calls Averted through the SCS				
City	**EMS calls**	**# of ODs**	**EMS calls averted**	**EMS calls per OD**
Calgary	75	992	917	7.6%
Edmonton	102	646	544	15.8%
Grande Prairie	4	40	36	10%
Lethbridge[12]	327	2102	1775	15.6%
Red Deer	44	481	437	9.1
TOTALS	**225**	**4262**	**3709**	**11.6**

The data suggests that, on average across the sites, **89% of overdose events in the SCS do not require an EMS call** (N = 3709 averted 911 calls). This represents a significant saving in the EMS and emergency department in-take cost and resources. SCS organizations have an important role to play in reducing the impact of drug use on Alberta's already burdened healthcare system.

5. SCS health services prevent HIV, Hepatitis C, and other STBBIs

SCS are also cost prudent because they help prevent and treat HIV and Hepatitis C infections. People who inject drugs are 59 times more likely to contract HIV. In Alberta the HIV prevalence is 26% among people who inject drugs. and approximately 17% of Albertans living with HIV likely contracted it through sharing drug using equipment (e.g., needles).[13] In Canada, the most common way for new transmission of Hepatitis C is through sharing drug using equipment. There are an estimated 250,000 Canadians living with Hepatitis C, with 43% former or current people who inject drugs. An estimated 44% of people are unaware of their infection.[14]

Each HIV and Hepatitis C case costs a lot of money. In Canada, it estimated that each HIV case

[12] This is for the number of EMS calls per adverse event; at the time of reporting the number directly attributable to overdoses was not available.
[13] Public Health Agency of Canada. (2014). *HIV/AIDS Epi Updates: National HIV Prevalence and Incidence Estimates for 2011.* Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada.
[14] Challacombe, L. (2017). *The epidemiology of hepatitis C in Canada*. CATIE.

costs about 1.3 million per person (lifetime cost)[15] and direct Hepatitis C costs have been estimated at $1,850 (initial phase) and $6,000 (late phase) per person on a yearly basis.[16] There is massive value in preventing and reducing HIV and Hepatitis C through harm reduction strategies. Studies estimate that SCS health services can prevent between 2.8[17] to 152[18] HIV cases and between 6.8[19] to 81[20] Hepatitis C cases per year. Community-based SCS play a crucial role in reducing infections by:

- providing access to a safe and clean environment (e.g. not a dark alley)
- using sterile equipment at the site
- providing access to harm reduction supplies (e.g. needles, condoms)
- facilitating access to HIV and Hepatitis C testing and treatment

Preliminary data from the three Edmonton SCS locations is promising: they have made 91 total referrals for sexually transmitted and blood borne infections, including 29 for HIV and 25 for Hepatitis C.

SCS also prevent and reduce other sexually transmitted and blood borne infections (STBBIs), such as syphilis and gonorrhea through access to safe sex supplies. AHS recently sent out an alert on April 26, 2019 discussing the sharp rise in these infections in Alberta: syphilis cases are nearly 10 times higher than they were five years ago (1500 in 2018, 160 in 2014), and gonorrhea cases have more than doubled in the last five years (5000 in 2018, 1900 in 2014).[21] SCS staff provide free access to safe sex supplies and education – the main prevention mechanisms used to reduce the STBBI rate in Alberta.

SCS RESPONSE TO COMMUNITY CONCERNS

[15] Kingston-Riechers, J. (2011). The economic costs of HIV/AIDS in Canada. *Canadian AIDS Society*.
[16] Myers, R. & Lee, S. (2010). Pay now or pay (more) later: Tracking the costs of Hepatitis C infection. Can J *Gastroenterol*, Dec 24(12): 715-716.
[17] Pinkerton, S. D. Is Vancouver Canada's supervised injection facility cost-saving?: Insite supervised injection facility. *Addiction* 105, 1429–1436 (2010).
[18] Bayoumi, A. M. & Zaric, G. S. The cost-effectiveness of Vancouver's supervised injection facility. *CMAJ* 179, 1143–1151 (2008).
[19] Ibid (Bayoumi & Zaric, 2008).
[20] Jozaghi, E. & Vancouver Area Network of Drug Users. Exploring the role of an unsanctioned, supervised peer driven injection facility in reducing HIV and hepatitis C infections in people that require assistance during injection. *Health Justice* 3, 16 (2015).
[21] Junker, A. (May 3, 2019). Syphilis, gonorrhea cases in Alberta skyrocket. *Edmonton Journal*. Link: https://edmontonjournal.com/news/local-news/syphilis-gonorrhea-cases-in-alberta-skyrocket

People who use the SCS are members of their community who also wish to live in safe and healthy communities. The vast majority of people who use the SCS are respectful – they are not leaving needles in parks, vandalizing local businesses, or committing crimes. As part of the approved application to Health Canada, each SCS location has already undergone extensive consultations with communities, including residents, business owners, police, and community stakeholders.

Following SCS implementation, some community members (and city councils) have expressed concerns about the impact of SCS in their communities. These concerns are taken seriously. Three main issues have emerged from these conversations:

- Needle Debris
- Crime
- Community Engagement

This section of the report discusses how SCS staff are collaborating with local and provincial stakeholders in their communities to develop strategies to reduce the negative impact of the health service.

1. Significant action on Needle Debris

> **Greg Lane, president of the McCauley Community League:**
> "Without supervised consumption services, it would put an incredible burden on the entire city, it would be putting an incredible burden on our health services. There's no doubt that they're making an impact."

All SCS facilities are actively participating in the provincial **Needle Debris program**, which dedicates resources to respond to the needle debris issue around SCS locations. Each site now has staff and peer workers regularly involved in needle pick-up service on a daily or weekly basis around their facilities, providing safe supplies and sharp containers to clients, and responding quickly to reports about needle debris from community members. SCS staff continue to educate clients about the impact of drug debris on the ground and proper disposal.

To our knowledge, Edmonton is the only city with reliable public needle debris data. The first SCS locations in Edmonton opened in March 2018. Data comparing the nine-month period before and after the SCS opening (controlling for seasonal effects), reveals a **48% decrease in reported needle debris since SCS implementation**[22]:

[22] Wong, J. January 31, 2019. Reports of needles have dropped since opening of Edmonton's supervised consumption sites. *Global News*. Link: https://globalnews.ca/news/4894039/edmonton-needles-supervised-consumption-sites-reports/

Reported Needle Debris (Edmonton)	
April to December 2017 (Before SCS)	April to December 2018 (After SCS)
7455 needles reported	**3845 needles reported**

Early evidence suggests that in Edmonton the SCS is having a positive impact on reducing needle debris in the surrounding communities.[23] This is consistent with peer reviewed research that shows SCS facilities usually decrease public needle debris because people are (a) not using drugs in public and (b) returning needles.[24]

While it is still too early to assess the full impact of the needle debris program, preliminary data shows a strong response has been implemented to support improvement on this issue. The table below shows the preliminary needle pickup data:

Preliminary Needle Debris Pick-Up Data			
Organization	**Time Period of Data**	**Needle calls from the public received**	**Number of needles picked up**
Calgary (Alpha House)	6 months January to June 2019	90 calls on average per month (N = 541 total calls)	1,095 needles on average per month (N = 6,570 total needles)
Lethbridge (ARCHES)	28 months April 2017 to July 2019	153 calls on average per month (N = 4280 total calls)	365 needles on average per month (N = 9,961 total needles)
Grande Prairie (North Reach)	3 months March to May 2019	6 on average per month (N = 17 total calls)	97 needles on average per month (N = 291 total needles)

In addition to picking needles up, harm reduction staff are also involved in other activities in the community. Alpha House (Calgary) has connected with 301 businesses in the area to discuss

[23] Specific neighborhood breakdown shows that 3 of 4 surrounding communities saw a sharp decline in needle debris: McCauley (46% decline); Boyle Street (94% decline); Downtown (32% decline). The outlier was Central Mcdougall, where the Royal Alex in-patient SCS is located.

[24] Huey, L. (2019). What is known about the impacts of supervised injection sites on community safety and wellbeing? A systematic review. *Sociology Publications*, 48.

needle debris and what their team offers. ARCHES (Lethbridge) runs the hot line for the city and also manages the installation and debris removal for 26 boxes in the community. Needle debris teams are also involved in regular sweeps and outreach events in their community. For example, North Reach (Grand Prairie) conducted 53 needle outreach events during the first three months of the program. In Lethbridge, ARCHES has responded to the problem of drug debris by improving their client return rate. ARCHES dramatically increased their needle return rate by 83% from 2017 to 2019:

Needle Return Rate (Lethbridge)			
Year	**Average # of Needles Out Per month**	**Average # of Needles In Per month**	**Yearly Return Rate**
2017	19,573	6,299	32%
2018	17,477	18,021	103%
2019 (Jan to May)	9,269	10,460	113%

Quality needle debris data is limited because most municipalities do not merge needle debris reports into a single source (only Edmonton has made this data publicly available), which makes it challenging to identify trends before and after SCS implementation. We know that needle debris has declined after SCS implementation in Edmonton, and based on the action taken in other cities we believe needle debris has also declined (but without better data from Calgary, Lethbridge, Grande Prairie, and Red Deer this is impossible to know).

2. Responding to crime around the SCS locations

Police Inspector, Dan Jones:
"We haven't seen an increase of crime as a result of supervised consumption… We have very similar goals to supervised consumption, and that's helping people become healthy and stay off drugs."

Each SCS organization continues to work with police to develop community-based solutions for the issue of crime in and around the SCS locations as they emerge. This issue is taken seriously by each organization. All SCS locations have contracted security guards to provide safety and security around the facilities.

The scientific evidence has found that the SCS has no impact on serious crime. A review that compiled data from 13 SCS studies from 2000 to 2018 found that the implementation of SCS sites did not increase crime and disorder around the SCS communities; and they also found no evidence for increased harm to the community with needle debris.[25]

[25] Huey, L. (2019). What is known about the impacts of supervised injection sites on community safety and wellbeing? A systematic review. *Sociology Publications*, 48.

While the issue of crime is often directly linked to the SCS, crime and disorder have their own trends within cities that predate the SCS. Consider this data from the Crime Severity Index:[26]

- Lethbridge (CSI of 136.96) had a 13% increase from 2017. However, the CSI had already increased 75% from 2013 to 2017 (prior to the SCS opening), and while 13% is substantial it is actually below the 14.9% average growth rate Lethbridge has experienced since 2014
- Edmonton (CSI of 114.89) saw a slight increase in CSI in 2018 (1%), after having seen a slow increase since 2014, with a spike in 2015 (20%)
- Calgary (CSI of 88.10) had a 6% increase in 2018, after a huge spike in 2015 (it had gone up 50% that year)
- Red Deer had a CSI of 169.76, which was a decrease for 2017 (-11%), after having seen increases since 2014
- Grande Prairie had a CSI of 172.68. 2018 saw an increase of 7%. The CSI in Grande Prairie has been going up in Grande Prairie since 2014, with the exception of a notable decrease in 2016.

Against this complex backdrop, crime has emerged as a key concern with SCS. On May 29, 2019, the Calgary police released a report: "Crime & Disorder near the Sheldon M. Chumir Health Centre's Supervised Consumption Services (SCS) Facility 2019 Statistical Overview: First Quarter."[27] While the report suggests a small increase in crime around the Calgary SCS location, it cautions that the "volume of occurrences is low in the study area and that any change generates large percentage impacts" (2019: 2). A closer look at the analysis tells us to be cautious:

- January saw a spike in crime, but was followed by a decline in February and March after the police deployed more resources to the area; data indicates the police response is working
- For Q1 (January to March 2019), there was a 50% increase in public calls around the SCS service area (defined as 250 meters), but 66% of those were called in by AHS staff or security
    - Compared to other data, metrics like increased police calls around the SCS may not be the best way to measure the impact on crime
- Disorder events increased 35% compared to the three-year average, but declined in February and March since police added more resources
- A low number of violent incidents were reported (N = 7) for Q1; however, because this was 2 more than the average, it was reported as a 40% increase in violence, which is misleading given the low numbers

Safeworks (Calgary) is actively involved with the police, city council, businesses, and other community stakeholders to improve the crime situation around the facility.

[26] See this link for Alberta's 2018 data: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510019001&pickMembers%5B0%5D=1.1

[27] Link: https://www.660citynews.com/wp-content/blogs.dir/sites/8/2019/05/29/411838969-Crime-Disorder-Near-the-Sheldon-M-Chumir-Health-Centres-Supervised-Consumption-Services-SCS-Facility-Q1.pdf

The story in Edmonton is different: **criminal activity around the Edmonton SCS locations is trending down**.[28] A comparison of the 4 months before and after SCS implementation shows a small decline in criminal activity:

Criminal Activity Around Edmonton SCS		
Criminal Activity	**Before SCS Implementation (Nov. 2017 to Mar. 2018)**	**After SCS implementation (Mar. 2018 to July 2018)**
Violence-related calls	108	130
Property calls	45	42
Disorder calls	251	223
TOTALS	**404**	**394**

In Lethbridge, there has been a significant increase in crime since 2014 (four years prior to the SCS opening), which saw a significant increase (24%) in the crime severity index (CSI) that year. This increase coincided with the oil crash/recession and opioid crisis in Alberta. The CSI increased 76% in the five-year period prior to the SCS opening in Lethbridge. The SCS is not responsible for the increase in crime, which has seen huge increases since 2014. Even during the first year of operations (2018), when crime went up 13%, this increase was below the five-year average crime increase since 2014 (14.9%).

Discussion about crime and the SCS must be grounded in the reality of crime trends within each city. Sometimes SCS can become an easy scapegoat for broader anxieties about disorder in the community. As preliminary data from Calgary, Edmonton and Lethbridge shows, there is no clear link between crime and the implementation of SCS. Longer-term research from Canada and Australia has found that the SCS did not impact the crime rate.

3. Community Engagement

The implementation of the SCS locations was taken with careful consideration to community impact. Extensive community engagement has already been completed in each community as part of the Health Canada application process. A needs assessment survey of **1658 participants** (see table below) across Alberta was collected to identify demand for service in

[28] Data is drawn from the news article: Junker, A. (2019). Criminal activity calls around Edmonton's SCS shifting down: City police. *Edmonton Journal*. Link: https://edmontonjournal.com/news/crime/criminal-activity-calls-around-edmontons-safe-consumptions-sites-shifting-down-city-police

each city, using an adapted version of the Alberta Drug Use and Health Survey.[29]

SCS Needs Assessment Survey	
City	**# of participants**
Calgary	370
Edmonton	320
Red Deer	258
Medicine Hat	185
Lethbridge	207
Edson	55
Fort McMurray	63
Grande Prairie	200
TOTAL	**1658**

Key findings from the assessment (before SCS implementation) include:

- Before SCS: people reported a high likelihood of drug use in public spaces such as parks, bridges, alleys, washrooms, malls, libraries and parking lots
  - Since SCS implementation: over 300,000 visits to the SCS proves there is huge demand for using drugs in a safe and hygienic space, reducing the nuisance of public drug use in communities
- Before SCS: people reported sharing drug use equipment, increasing the risk of HIV and Hepatitis C infection rates
  - After SCS: low barrier access to harm reduction supplies and education from SCS staff about the risks of sharing equipment, decreasing infection risk
- Before SCS: people reported using drugs alone, putting them at great overdose risk (66% of the 653 cases reviewed in the medical examiner report were using drugs alone)
  - After SCS: access to supervised drug consumption – people never have to use drugs alone and disconnected from services
- Before SCS: people reported barriers to treatment, referral and health services
  - After SCS: over 10,000 referrals to addiction and treatment services

Based on the needs assessment and community consultations that have already taken place, a major reason the SCS implementations moved forward in Edmonton, Calgary, Lethbridge, and Grande Prairie – and approved for Medicine Hat, Red Deer and Calgary (mobile van) – was that people were overdosing and dying at unprecedented rates (two people die a day of opioid poisoning in Alberta), using drugs in public, sharing drug using equipment, using drugs alone, and not accessing treatment and other health services. The evidence clearly shows that the SCS improves all these issues, as it brings risky drug using behaviour into clean and supervised environment with trained and compassionate healthcare staff. It also creates a realistic pathway to treatment and better quality of life.

[29] Hyshka, E., Anderson, J., Wong, Z. & Wild, C. (2016). Risk behaviours and service needs of marginalized people who use drugs in Edmonton's inner city: results from the Edmonton drug use and health survey. Link: https://crismprairies.ca/wp-content/uploads/2017/02/Edmonton-Drug-Use-and-Health-Survey-Dr.-Elaine-Hyshka-January-2016.pdf

While it is beyond the scope of this report to detail the community engagement work already undertaken, a brief example of this process from Grande Prairie highlights the extensive community consultation:

- Media release notifying the community
- 5000 postcards mailed out to residents and businesses in the surrounding area of the proposed location
- 117 participants in an online survey
- 3 public engagement sessions with 44 people
- Extensive consultation with key stakeholders, including:
    - Community members such as residents, churches and hotels
    - Emergency services like EMS, police and fire departments
    - Community agencies such as rotary house, drop-in centre, salvation army, crime prevention and Canadian Mental Health Association
    - AHS – addiction centre, zone lead and health professionals
    - Government – local city officials and elected politicians

Since implementation, the SCS organizations continue to engage regularly with community members in a variety of ways, including:

- Monthly committees have formed in each city to meet with key stakeholders and create action plans
- Open houses and site visits
- Community presentations and town hall meetings
- Answering phone calls from the public
- Check-ins and door knocking with business and community groups
- Social media (Facebook, email)
- TV, radio, and newspaper interviews

Because all the SCS locations are managed by civil society organizations, they continue to maintain close grassroots connection with their impacted communities.

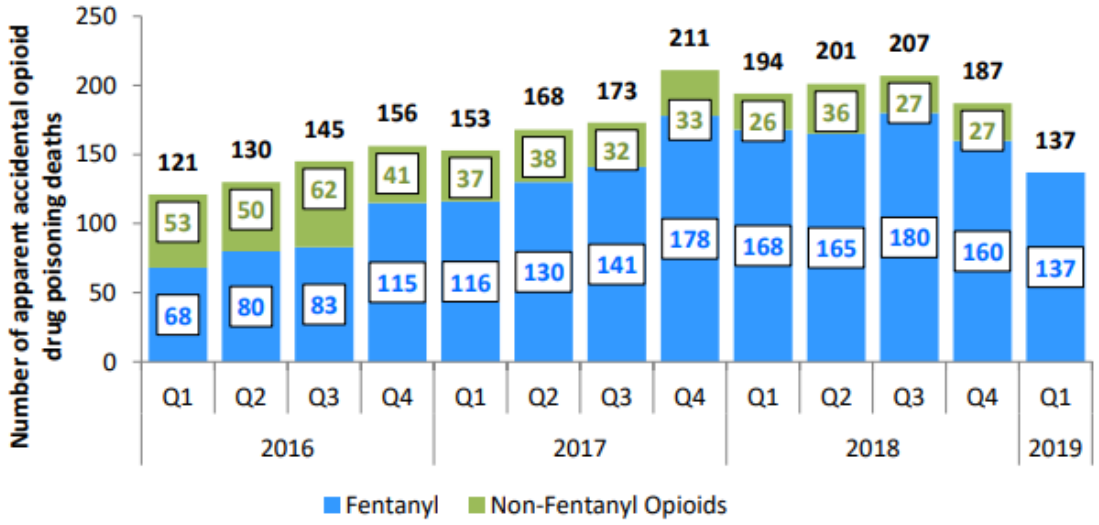
Proposed future SCS locations in Red Deer, Calgary and Medicine Hat have already undertaken a needs assessment and extensive consultation efforts within each municipality. Evidence supports their implementation.

IMPACT OF COMMUNITY HARM REDUCTION ON THE OPIOID CRISIS

Summary

Recently there has been a **24% drop in fentanyl deaths** in the last three quarters from 180, 160 to 137 deaths in Alberta.

Figure 1: Number of accidental opioid related poisoning deaths, by quarter. January 1, 2016 to March 31, 2019.



This is a real and significant decline in opioid death. Surveillance data[30] suggests that the community harm reduction interventions are reducing the opioid death rate because:

1. A similar decline in opioid-related responses is reported by ED and EMS data. The fact the same trend is occurring across three independent sources provides us confidence to say the decline in fentanyl deaths is real.

2. There has been no documented change in fentanyl within Alberta's drug supply, so that is not a factor in the decline in fentanyl deaths.

3. A ground-breaking 2019 study in BC looking at the same harm reduction interventions Alberta uses found an estimated 3030 deaths (or 144 deaths per month) were averted during a 21-month period.[31]

4. Data from the community harm reduction programs confirms that lives are being saved:

[30] Surveillance data for this report is drawn from three sources: (1) opioid death data is from the Alberta Opioid Response Surveillance Reports (https://www.alberta.ca/opioid-reports.aspx); (2) ED and EMS data is from the AHS Alberta Opioid Activity Dashboard; and (3) program data on Naloxone and SCS is from internal reporting, which sites have agreed to release publicly.
[31] Irvine, M. et al. (2019). Modelling the combined impact of interventions in averting deaths during a synthetic-opioid overdose epidemic. *Addiction.*

- ACCH members have reported over 7,500 reversals from naloxone kits since 2015
- Since opening in 2018, the community-based SCS have documented over 4,300 overdose reversals with a 100% success rate

Conclusion:

Given these interrelated facts – (a) significant decline in fentanyl deaths, (b) a similar decline in opioid-related responses in ED and EMS data, (c) stable proportion of fentanyl in the drug supply, (d) documented evidence that the same interventions used in Alberta are reducing opioid deaths in BC, and (e) data from the naloxone and SCS programs documenting over 10,000 reversals combined to date, we must conclude the following:

> The most likely explanation for the significant decline in opioid-related deaths in Alberta is that the community harm reduction strategies are saving lives. Evidence supports their continued expansion into communities in need.

Discussion of the Surveillance Data:

1. Opioid-Related Deaths, ED overdoses, and EMS responses are all declining

Overdose Deaths

Since Q3 2018, there has been a significant drop in the number of opioid deaths in Alberta. The most recent surveillance data shows a **24% drop in fentanyl deaths** in the last three quarters from 180, 160 to 137 deaths.

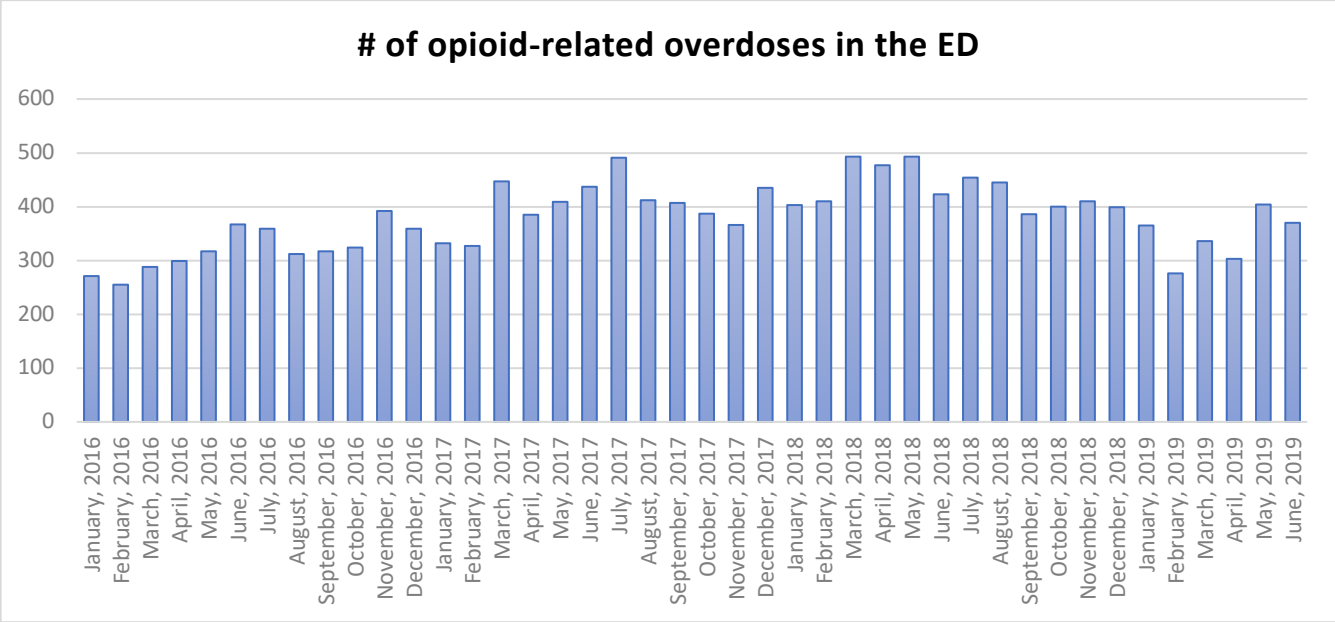
A similar trend is being observed by three independent data sources: medical examiner, ED and EMS reports. This provides us confidence to say the reduction in fentanyl deaths is a real and significant pattern. It is not due to a reporting anomaly.[32]

Opioid-Related ED and EMS responses[33]

Recently there has been a significant drop in opioid-related ED responses:

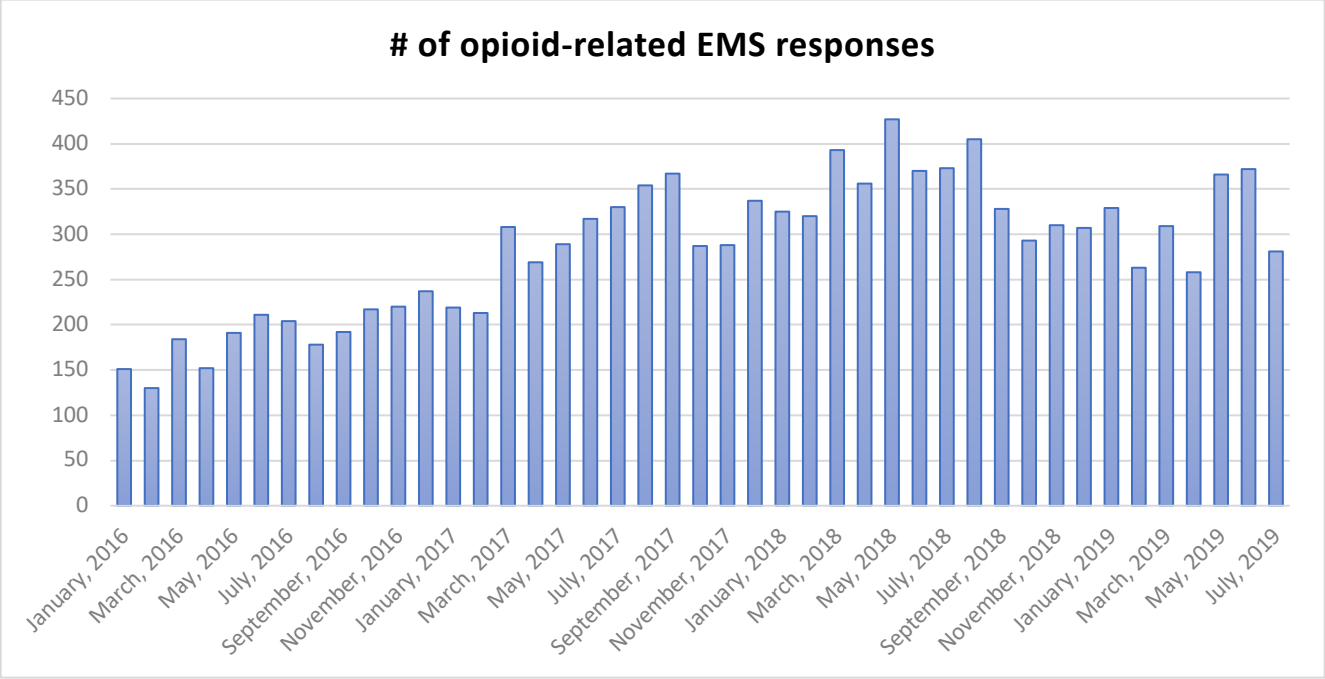
- **23% drop in opioid-related overdoses in the ED** since Q2 2018
  - Quarterly average of monthly overdoses has declined over the last five quarters from 464, 428 403, 326 to 359
  - Opioid overdoses in ED declined on average 5.6% per quarter

[32] Sometimes there are small changes in reporting made from the Medical Examiner. For example, the most recent quarterly report updated the Q4 2018 number from 159 to 160. These anomalies have no significant impact on larger quarterly reporting numbers.
[33] Percentage change based on the quarterly average of the number of opioid events in the ED and EMS.



There has also been a noticeable decline in opioid-related EMS responses:

- **14% drop in opioid-related EMS responses** since Q2 2018
  - Quarterly average for monthly opioid-related EMS responses has declined over the last five quarters from 384, 369, 303, 300 to 332
  - Opioid-related EMS responses declined on average 4.3% per quarter

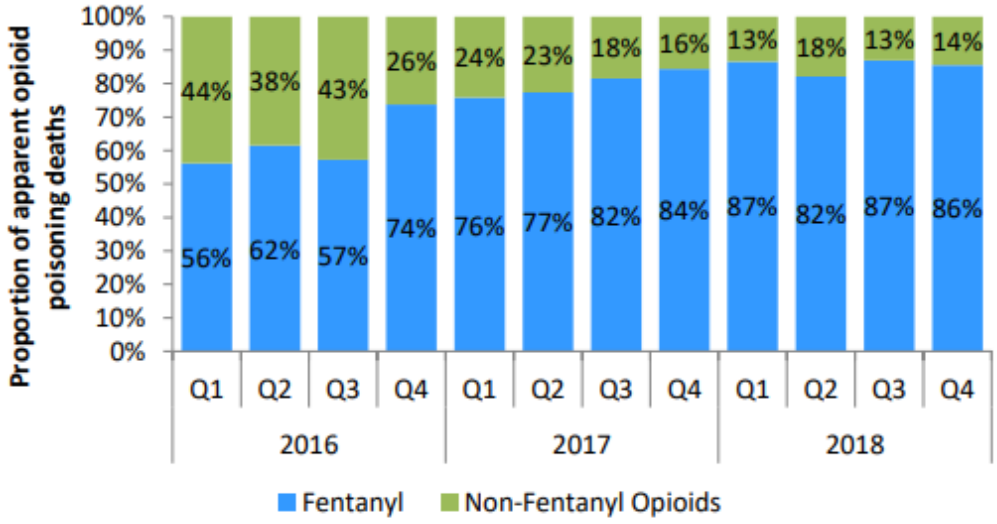


The same pattern across three independent data sources provides compelling evidence that the decline in fentanyl deaths is a real trend. While there has been a small uptick in opioid-related ED and EMS responses in Q2 2019 (April to June), the overall trend is still heading in the right direction.

2. No documented change in fentanyl within the drug supply

Almost all opioid deaths in Alberta are now related to fentanyl from the poisoned drug supply. The recent medical examiner review of 653 opioid deaths from 2017 found that 74% of deaths involved illegal street drugs.[34] As the chart below shows, since 2017 the proportion of fentanyl deaths has been relatively stable, increasing from 76% to 86% in that time period.

Figure 2: Proportion of fentanyl vs. non-fentanyl opioid related accidental poisoning deaths, by quarter. January 1, 2016 to December 31, 2018.



The decline in fentanyl deaths is therefore *not* due to changes in the drug supply (e.g., a reduction in fentanyl).

3. Alberta's community harm reduction interventions are contributing to the decline in opioid deaths

Evidence suggests that the decline in fentanyl deaths in Alberta is a result of community-based harm reduction strategies. These evidence-based practices are working as intended. We can say this with confidence because a ground-breaking 2019 modelling study from BC has

[34] Alberta Health, Government of Alberta. Opioid-related deaths in Alberta in 2017: Review of medical examiner data. July 2019. Report: https://open.alberta.ca/dataset/f9912915-bd4f-4b57-93bf-2a963cb99038/resource/a2857fb6-6663-491c-b9df-686e348bb456/download/070519-me-chart-review-final.pdf

documented the impact. The interventions used in BC are the same as Alberta. That study found that between April 2016 to December 2017, there were 2177 opioid overdose deaths in BC. During that same time period, however, the combined interventions **averted an estimated 3030 deaths** in 21 months (or approximately 144 lives saved per month), including through take-home naloxone (1580), overdose prevention site (230), and opioid agonist therapy (590).

Alberta is using the same harm reduction interventions as BC, and now we are seeing the impact on lives saved in the surveillance data. Programs run by community-based organizations have locally relevant supports for Alberta's most vulnerable population. Community-based harm reduction programs are a cost-effective use of tax dollars.[35] A complete list of the agencies involved in this work can be found in ***Appendix B: Community Response to the Opioid Crisis***.

Alberta's community harm reduction strategy involves four life saving strategies:

- **Take-Home Naloxone Kit Program**
  The World Health Organization recommended in 2014 that naloxone should be easily accessible to high risk populations. The ACCH program has seven community-based organizations who provide low barrier access to naloxone training and kits to people at risk of overdosing. Despite having less than 1% of registered distribution sites (there are 1,950 in Alberta), ACCH members distributed **33% of the total kits in Alberta** (over 60,0000 kits in total). ACCH organizations have reported over **7,500 reversals** (lives saved) using naloxone kits since 2015. In addition to kit distribution, the naloxone staff (nurse and outreach workers) have trained over 20,000 community members to build awareness about naloxone and the opioid crisis, including non-profits, churches, businesses, health services, Indigenous communities, high schools and colleges.

- **Supervised Consumption Services**
  SCS provides low barrier access to supervised drug consumption, treatment services, and other services like infection testing. Alberta currently has six approved community-based SCS facilities operational in Calgary, Edmonton (three sites), Grande Prairie, Lethbridge and in Red Deer an OPS. Three more sites have been approved by Health Canada and are awaiting review in Calgary, Medicine Hat and Red Deer. SCS is a cost-effective service that has helped to reduce the impact of the opioid crisis, including:
  - Over 300,000 people have visited an SCS across Alberta, with over 400 unique monthly clients per site
  - **4,305 overdose reversals** with a 100% success rate
  - **3,709 averted EMS calls** through the SCS
  - Over **5,000 referrals** to addiction and treatment services

- **Harm Reduction Supplies**
  Low barrier access to new drug using equipment reduces the spread of sexually

[35] See for example: Andresen, M. & Boyd, N. A cost-benefits and cost-effectiveness analysis of Vancouver's safe injection facility. *Int. J. Drug Policy* 21, 70–76 (2010).

transmitted and blood borne viruses (e.g. HIV, HCV, syphilis) and connects people with education and referral services. Canadian estimates show that each HIV case costs about 1.3 million per person (lifetime cost)[36] and direct Hepatitis C costs have been estimated at $1,850 (initial phase) and $6,000 (late phase) per person on a yearly basis.[37]

People who inject drugs are 59 times more likely to contract HIV. In Alberta the HIV prevalence is 26% among people who inject drugs.[38] In Canada, the most common way for new transmission of Hepatitis C is through sharing drug using equipment. There are an estimated 250,000 Canadians living with Hepatitis C, with 43% former or current people who inject drugs.[39]

ACCH has supported the ongoing expansion of harm reduction supplies to people at risk as a highly cost-effective way to reduce infections. Data from the last five years of the program demonstrate its immense success:

- A 173% increase in needles distributed (2,913,800 in 2014, to 7,951,390 in 2018)
- A 100% increase in condoms provided (555,348 in 2014, to 1,118,376 in 2018)

- **Opioid Agonist Therapy (OAT) – methadone and suboxone prescription**
  OAT provides access to the best practice medication that is supervised by medical professionals, safe, prevents withdrawal, and reduces overdose risk.[40] All community-based harm reduction organizations provide education and referral to OAT programs. OAT is considered the best evidence treatment for opioid addiction because people are less likely to die than abstinence-based approaches, reducing overdoses in community among people with opioid addiction. The BC modelling study found that an estimated 590 lives were saved through OAT during a 21-month period. In Alberta, data from the opioid quarterly report found that:
  - The rate of unique individuals dispensed methadone for opioid dependence has increased slightly (1%) the last 6 months
  - The rate of unique individuals dispensed suboxone for opioid dependence has increased 7% in the last 3 months

[36] Kingston-Riechers, J. (2011). The economic costs of HIV/AIDS in Canada. *Canadian AIDS Society*.
[37] Myers, R. & Lee, S. (2010). Pay now or pay (more) later: Tracking the costs of Hepatitis C infection. Can J *Gastroenterol*, Dec 24(12): 715-716.
[38] Public Health Agency of Canada. (2014). *HIV/AIDS Epi Updates: National HIV Prevalence and Incidence Estimates for 2011.* Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada.
[39] Challacombe, L. (2017). *The epidemiology of hepatitis C in Canada*. CATIE.
[40] For extended evidence reviews see two recent reports: National Academies of Sciences, Engineering and Medicine (2019). *Medications for opioid use disorder save lives*. Washington, DC: The National Academies Press. Link: https://www.nap.edu/read/25310/chapter/1; and British Columbia Centre on Substance Use and B.C. Ministry of Health. (2017). *A Guideline for the Clinical Management of Opioid Use Disorder*. Link: http://www.bccsu.ca/wp-content/uploads/2017/06/BC-OUD-Guidelines_June2017.pdf.

Appendix A:
Canadian Cost Savings Studies of Supervised Consumption Services (SCS)

Peer reviewed studies of the SCS in Vancouver:

Andresen, M. A. & Jozaghi, E. The Point of Diminishing Returns: An Examination of Expanding Vancouver's Insite. *Urban Stud.* **49**, 3531–3544 (2012).

Andresen, M. & Boyd, N. A cost - benefits and cost - effectiveness analysis of Vancouver's safe injection facility. *Int. J. Drug Policy* **21**, 70–76 (2010).

Bayoumi, A. M. & Zaric, G. S. The cost-effectiveness of Vancouver's supervised injection facility. *CMAJ* **179**, 1143–1151 (2008).

Jozaghi, E. A cost-benefit/cost-effectiveness analysis of an unsanctioned supervised smoking facility in the Downtown Eastside of Vancouver, Canada. *Harm. Reduct. J.* **11**, 1–16 2014).

Jozaghi, E. & Vancouver Area Network of Drug Users. Exploring the role of an unsanctioned, supervised peer driven injection facility in reducing HIV and hepatitis C infections in people that require assistance during injection. *Health Justice* **3**, 16 (2015).

Pinkerton, S. D. Is Vancouver Canada's supervised injection facility cost-saving?: Insite supervised injection facility. *Addiction* **105**, 1429–1436 (2010).

Pinkerton, S. D. How many HIV infections are prevented by Vancouver Canada's supervised injection facility? *Int. J. Drug Policy* **22**, 179–183 (2011).

Peer reviewed studies of the potential cost-savings of SCS in other Canadian cities, including Victoria, Saskatoon, Montreal, Toronto, and Ottawa:

Enns, E. A. *et al.* Potential cost-effectiveness of supervised injection facilities in Toronto and Ottawa, Canada. *Addiction* **111**, 475–489 (2016).

Jozaghi, E., Reid, A. A. & Andresen, M. A. A cost-benefit/cost-effectiveness analysis of proposed supervised injection facilities in Montreal, Canada. *Subst. Abuse Treat. Prev. Policy* **8**, 25 (2013).

Jozaghi, E., Reid, A. A., Andresen, M. A. & Juneau, A. A cost-benefit/cost-effectiveness analysis of proposed supervised injection facilities in Ottawa, Canada. *Subst. Abuse Treat. Prev. Policy* **9**, 31 (2014).

Jozaghi, E. & Jackson, A. Examining the potential role of a supervised injection facility in Saskatoon, Saskatchewan, to avert HIV among people who inject drugs. *Int. J. Health Policy Manag.* **4**, 373–379 (2015).

Jozaghi, E., Hodgkinson, T. & Andresen, M. A. Is there a role for potential supervised injection facilities in Victoria, British Columbia, Canada? *Urban Geogr.* **36**, 1241–1255 (2015)

Appendix B: Community Response to the Opioid Crisis

Opioid Response Programming					
Community Organization	**City**	**Take-Home Naloxone Distribution Sites[41]**	**SCS locations**	**Provide Harm Reduction Supply Distribution**	**Provide OAT Referral**
ARCHES	Lethbridge	X X	X	X	X
HIV-Community Link	Medicine Hat, Calgary, Brooks	XX		X	X
Streetworks, Boyle Street, Boyle McCauley, George Spady	Edmonton	X X X X	X X X	X	X
Safeworks	Calgary	X X	X	X	X
North Reach	Grande Prairie, Fort McMurray	X X X	X	X	X
Options HIV West Yellowhead	Edson, Jasper, Hinton, Whitecourt	X		X	X
Turning Point	Red Deer	X X	(OPS)	X	X
TOTALS		**16**	**6**	**7**	**7**

X = yes to program

[41] Some organizations have more than one registered naloxone distribution site.