

Alberta

COVID-19

Opioid

Response

Surveillance

Report

Q2 2020 September 2020



Health, Government of Alberta

September 2020

Alberta COVID-19 Opioid Response Surveillance Report: Q2 2020

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COVID-19 Impacts on Unintentional Opioid Poisoning - Highlights

COVID-19 has had an unprecedented impact on the lives of Albertans, with the closure of businesses and the changes in our every day lives posing profound challenges to our mental health. For our vulnerable populations, including those struggling with substance use disorder, have faced even more adversity in accessing the supports and services they depend on, compounded by increasing stress and anxiety. This Q2 Report highlights the stark effect that COVID-19 has had when it comes to unintentional opioid poisoning. Alberta is not alone in this reality – British Columbia has reported similar findings and trends during the first few months of the COVID-19 pandemic and we anticipate similar findings in other jurisdictions, such as Ontario, which is in the preliminary stages of reporting.

Beginning in March 2020, the number of harms associated with opioid use began to increase significantly, reaching record levels not previously seen, in conjunction with a decrease in the utilization of treatment and harm reduction services. Some key findings include:

- The most up-to-date data shows that 449 people have died from an apparent unintentional opioid poisoning so far in the first six months of 2020.
- In the second quarter of 2020, 301 individuals died of an unintentional opioid poisoning.
- On average, in the first six months of 2020, 2.5 individuals died every day in Alberta as a result of an unintentional opioid poisoning.
- In the most recent quarter, 284 people died from an apparent unintentional fentanyl-related poisoning, compared to 130 people in the previous quarter.

Prior to the COVID-19 pandemic, provincial efforts to reduce unintentional opioid poisoning deaths had been having a positive impact. For example, there was an 8.6% decrease in the number of unintentional opioid deaths in the first quarter of 2020 compared to the same time period in 2019. Alberta's government is saddened to see the impact of the pandemic on opioid fatalities during Q2 2020 and remains committed to ensuring access to a world-class, publicly funded continuum of care, spanning from prevention, intervention, to treatment and recovery.

The investment of \$140 million over four years to implement a new addiction and mental health strategy that will improve access to a continuum of services includes \$40 million committed to address the opioid crisis. In addition, our government is proud to have recently announced that \$25 million has been allocated through Alberta's Recovery Plan to build five recovery communities throughout Alberta focused on holistic addiction recovery. In addition, more than \$53 million was allocated to support Albertans during and after the pandemic with the implementation of more online, phone and in-person mental health and addiction recovery support to make it easier for Albertans to access services from anywhere in the province.

We know this pandemic has caused challenges for many Albertans, for their mental health but also in terms accessing the supports and services they depend on. We also recognize that the pandemic is not over, which is why we will continue to closely monitor unintentional opioid poisonings in the province and make investments where they are needed most. We know people are struggling during these trying times and while we cannot predict what the next Quarterly Report will show, we remain committed to ensuring that services are available for any Albertan who needs treatment or recovery supports.

AHS Opioid dependency program – An Example of Impacts During Pandemic Peak

AHS Opioid dependency program (ODP) treatment adherence by month. January 1, 2018 to June 30, 2020.

Note: Clinic operations were disrupted starting in March 2020 due to COVID-19. As a result, only emergency and new patients who were not stabilized accessed the clinic services. The data for these months reflects this disruption.



Treatment followed: sample is positive for EDDP (methadone metabolite) or buprenorphine

- Adherence to opioid dependence treatment began to decline in April 2020, based on samples collected during these months. Samples collected from patients indicated that treatment followed declined from 86.0% in March to 52.6% in April, and 55.8% in May. However, starting in June 2020, treatment adherence returned to 84.2%.
- As a result of the decline in treatment adherence in April and May 2020, the annual average for treatment adherence in 2020 decreased to 75.4% from 89.8% in 2019, and 91.5% in 2018.
- The trend in treatment followed is likely due to the significant change in the population of patents accessing in-person services in April and May

Data source: AHS ODP clinics

Key points

Apparent unintentional poisoning deaths related to fentanyl

- In the second quarter of 2020, there were 284 apparent unintentional poisoning deaths related to fentanyl in Alberta. By comparison, there were 130 of these deaths in the first quarter of 2020.
- From January 1, 2020 to June 30, 2020, 82 per cent of deaths occurred in larger urban municipalities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the second quarter of 2020, the Edmonton (99) and Calgary Zones (115) had the highest number of fentanyl deaths. In the first half of 2020, the South Zone had the highest rate per 100,000 person years at 23.1. The Edmonton Zone had the second highest rates at 19.9 per 100,000 person years. The provincial average was 18.6 per 100,000 person years.

Apparent unintentional poisoning deaths related to non-fentanyl opioids

- In the second quarter of 2020, there were 17 apparent unintentional poisoning deaths related to an opioid other than fentanyl in Alberta. By comparison, there were 18 of these deaths in the first quarter of 2020.
- In the first six months of 2020, 23 per cent of non-fentanyl opioid-related deaths occurred in larger urban municipalities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the second quarter of 2020, the Edmonton Zones (6) had the highest number of these deaths. In the first six months of 2020, the South Zone had the highest rate at 3.9 per 100,000 person years, compared to a provincial average of 1.6 per 100,000 person years.

Confirmed drug poisoning deaths

- Among all confirmed acute unintentional drug and alcohol poisoning deaths in 2020 opioids (fentanyl or non-fentanyl) were directly involved in 80 per cent of deaths. 20 per cent of all acute unintentional confirmed drug and alcohol poisoning deaths did not involve an opioid.
- In addition to opioids, multiple substances often contribute to an opioid poisoning death. This may be a result of an individual using multiple substances including opioids, or through the contamination of non-opioid drugs with opioids such as fentanyl.
- In 2020, 82 per cent of unintentional fentanyl related deaths listed at least one other substance as contributing to death, the most frequent being methamphetamine (58 per cent) and cocaine (30 per cent).

Emergency department visits

- In the second quarter of 2020, there were 3,028 emergency and urgent care visits related to opioids and other drug use. In the previous quarter, there were 2,472 emergency and urgent care visits related to opioids and other drug use.
- In the second quarter of 2020, emergency and urgent care visits related to opioid and other drug use occurred among 2,530 unique individuals, of whom 13 per cent had more than one visit.

Supervised consumption services

- In the most recent quarter (April to June 2020), there were 40,755 visits to supervised consumption services sites in Edmonton, Calgary, Lethbridge, and Grande Prairie, and the Red Deer overdose prevention site (OPS). In the previous quarter, there were 114,430 visits to these sites. In the second quarter of 2020, there were on a monthly average, 1,450 unique clients who attended these sites, and 587 adverse events were attended to at these sites.

Disclaimer

This surveillance report presents emergency department visits, hospitalizations, prescription drug dispensing from community pharmacies, emergency medical services, naloxone kit dispensing, supervised consumption services visits, and mortality data associated with opioids and other drugs in Alberta.

Data sources are updated and verified at differing time periods. Results are subject to change based on differences in data submission schedules and updates from the various data systems. Data may change in later reporting as it is submitted by the medical examiner, health facilities, supervised consumption services, and pharmacies. **Recent data may be less complete due to delays in data submission.**

The number of drug overdose deaths related to fentanyl/opioids may change (including increases/decreases in previous numbers) as certification of deaths can take six months or longer, and certification of cause of death may lead to a change in classification.

Apparent deaths = Preliminary evidence suggests that the death was most likely a drug overdose.

Confirmed deaths = A Medical Examiner has determined the cause of death based on all available evidence, and listed the cause of death on a death certificate (including the substances directly involved in the overdose).

Fentanyl related poisoning deaths: Deaths in which fentanyl or a fentanyl analogue was identified as a cause of death (these may also have involved non-fentanyl opioids).

Non-fentanyl opioid related poisoning deaths: Deaths in which an opioid (not fentanyl or a fentanyl analogue) was identified as a cause of death. *Due to the added complexity of non-fentanyl opioid related poisoning deaths, there is a three-month delay in identifying these preliminary (apparent) cases for surveillance purposes compared to fentanyl related deaths.*

Manner of death is determined by Alberta's Office of the Chief Medical Examiner. Manner of death may be either accidental (i.e., unintentional), suicide (i.e., intentional), homicide, or undetermined. This report presents unintentional and undetermined deaths grouped together as "unintentional deaths". Suicide/intentional deaths are only reported for confirmed deaths. Homicide deaths are not included in this report.

Throughout this report: Q1 = January to March Q2 = April to June Q3 = July to September Q4 = October to December

Local Geographic Areas (LGAs) refers to 132 geographic areas created by Alberta Health and Alberta Health Services to support local health service planning, monitoring, public health surveillance, and deep dive analytics.

For more details on data sources and methods, please see the **Data notes** section at the end of this report.

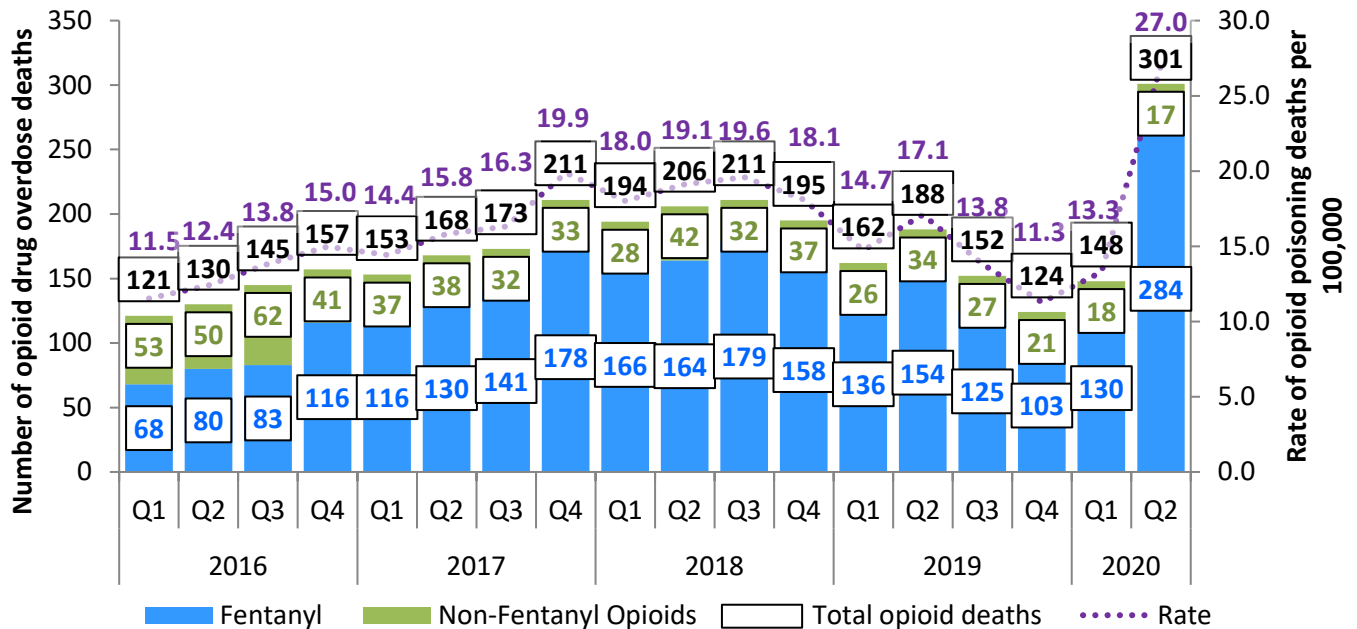
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Mortality data: Apparent unintentional opioid poisoning deaths

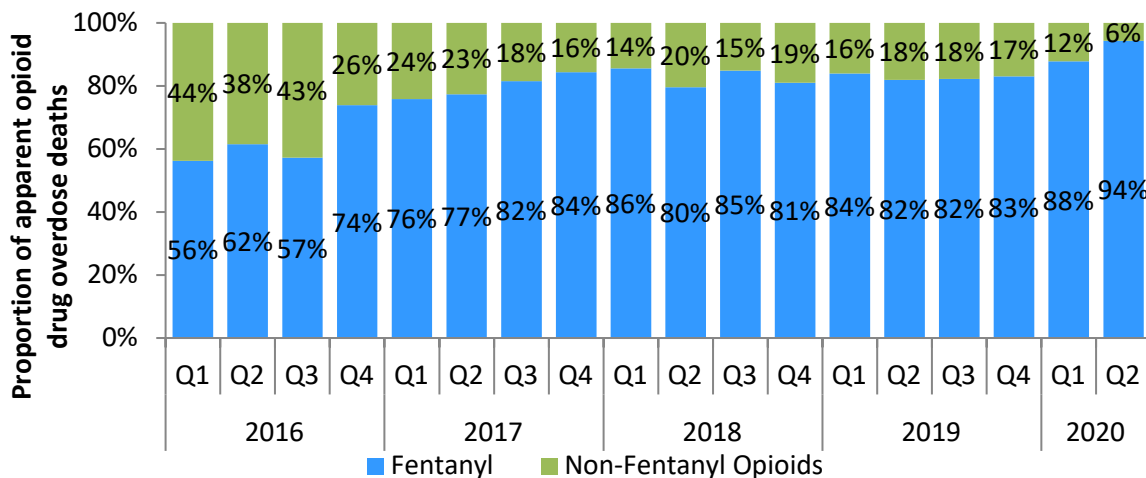
Fentanyl and non-fentanyl related deaths

Figure 1: Number and rate of apparent unintentional opioid poisoning deaths related to any opioid, by quarter. January 1, 2016 to June 30, 2020.



- Since January 1, 2016 **3,139** individuals have died from an unintentional opioid poisoning in Alberta. The number and per 100,000 rate of opioid poisoning deaths in the second quarter of 2020 was over 100 per cent higher compared to first quarter of 2020.

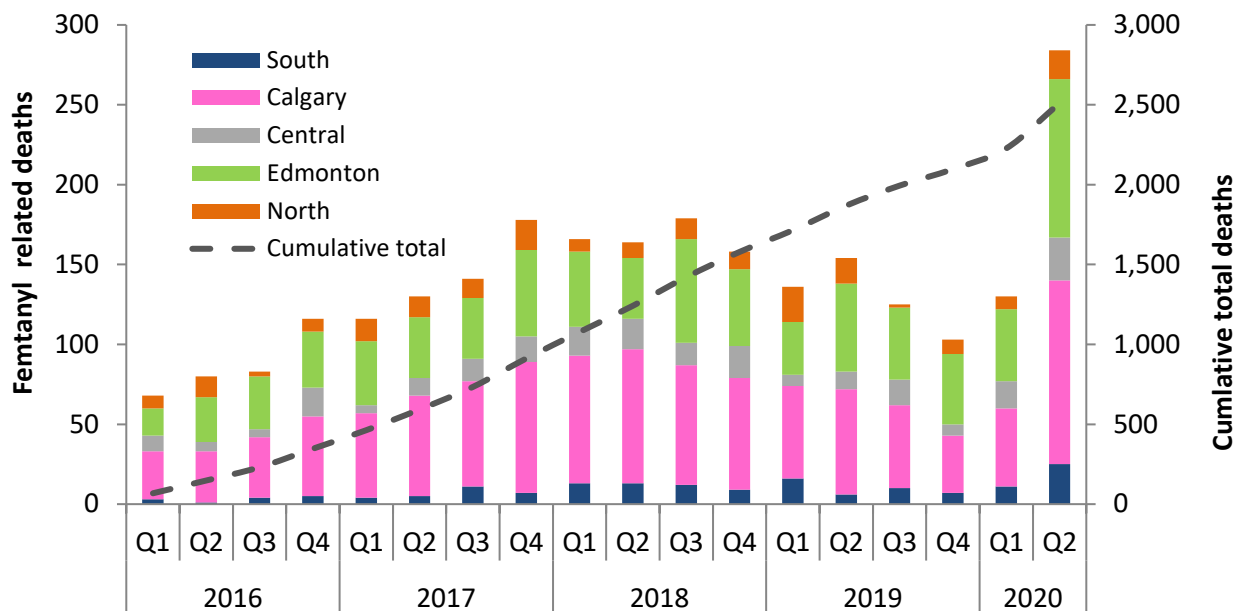
Figure 2: Proportion of fentanyl vs. non-fentanyl related apparent unintentional opioid poisoning deaths, by quarter. January 1, 2016 to June 30, 2020.



- Almost all opioid poisoning deaths are now related to fentanyl. In the second quarter of 2020, 94 per cent of all opioid poisoning deaths were related to fentanyl.

Fentanyl related deaths

Figure 3: Number of apparent unintentional fentanyl poisoning deaths, by Zone (based on place of death) and quarter. January 1, 2016 to June 30, 2020.



- Since January 1, 2016, 2,511 individuals in Alberta died from an apparent unintentional drug poisoning death related to fentanyl (347 in 2016, 565 in 2017, 667 in 2018, 518 in 2019, and 414 in the first half of 2020). The number of fentanyl poisoning deaths in the first half of 2020 was 43 per cent higher than the number in the first half of 2019.
- In 2020, on average, 207 individuals in Alberta died from an apparent unintentional drug poisoning death related to fentanyl per quarter, while in 2019, on average, 130 individuals died from an apparent unintentional drug poisoning death related to fentanyl per quarter.

Table 1: Number of apparent unintentional fentanyl poisoning deaths, by quarter. January 1, 2016 to June 30, 2020

South	3	1	4	5	4	5	11	7	13	13	12	9	16	6	10	7	11	25	162
Calgary	30	32	38	50	53	63	66	82	80	84	75	70	58	66	52	36	49	115	1,099
Central	10	6	5	18	5	11	14	16	18	19	14	20	7	11	16	7	17	27	241
Edmonton	17	28	33	35	40	38	38	54	47	38	65	48	32	55	45	44	45	99	802
North	8	13	3	8	14	13	12	19	8	10	13	11	22	15	2	9	8	18	207
Alberta	68	80	83	116	116	130	141	178	166	164	179	158	136	154	125	103	130	284	2,511
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	

Table 2: Rate (per 100,000 person years) and number of apparent unintentional drug poisoning deaths related to fentanyl, by Zone (based on place of death). January 1, 2016 to June 30, 2020.

	2016		2017		2018		2019		2020 YTD	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
South Zone	13	4.3	27	8.8	47	15.3	39	12.6	36	23.1
Calgary Zone	150	9.3	264	16.2	309	18.6	212	12.5	164	19.0
Central Zone	39	8.1	46	9.5	71	14.5	41	8.5	44	18.1
Edmonton Zone	113	8.4	170	12.4	198	14.3	177	12.4	144	19.9
North Zone	32	6.5	58	11.8	42	8.5	49	10.1	26	10.7
Alberta	347	8.2	565	13.2	667	15.4	518	11.8	414	18.6

- The Calgary and Edmonton Zones continue to have the highest number of apparent unintentional poisoning deaths related to fentanyl. In the second quarter of 2020, the South Zone had the highest rate per 100,000 person years at followed by the Edmonton Zone. All Zones had the highest per 100,000 rate of fentanyl poisoning deaths on record as of June 30, 2020.

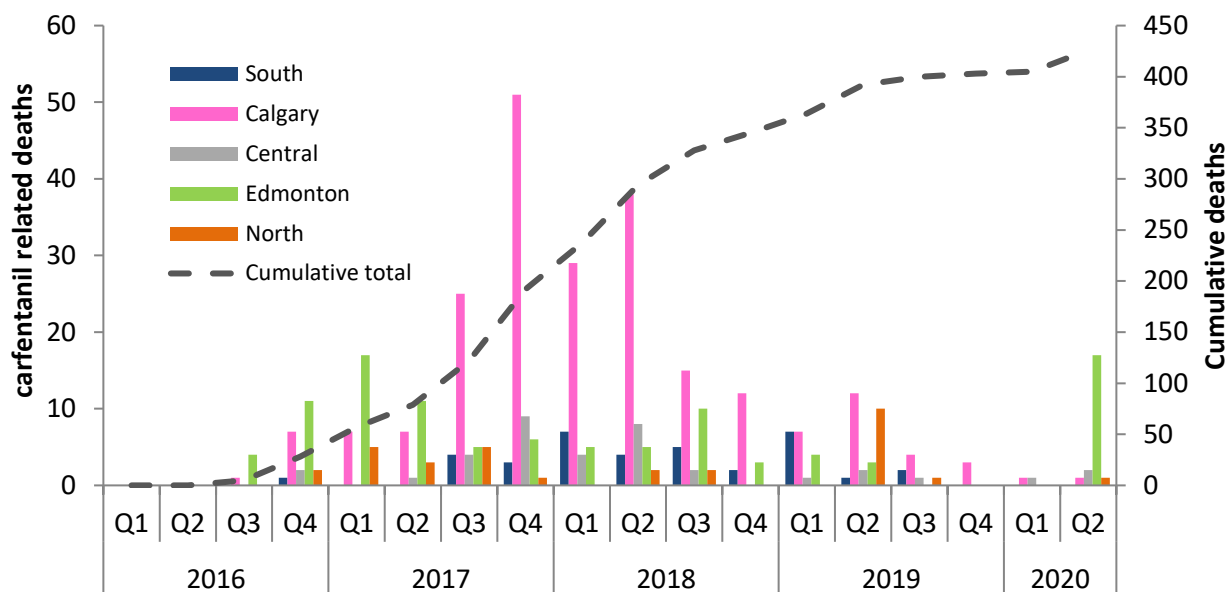
Table 3: Rate (per 100,000 person years) and number of apparent unintentional drug poisoning deaths related to fentanyl, by municipality (based on place of death). January 1, 2016 to June 30, 2020.

	2016		2017		2018		2019		2020 YTD	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Lethbridge	8	8.3	15	15.3	25	25.1	16	16.3	21	42.4
Medicine Hat	2	2.9	7	10.2	12	17.5	10	14.5	5	14.5
Calgary	144	10.9	239	18.0	289	21.7	197	14.5	148	21.4
Red Deer	23	21.1	23	21.4	46	42.8	17	15.6	17	30.8
Edmonton	99	10.2	136	13.7	179	18.1	156	15.3	135	26.0
Fort McMurray	9	11.1	14	17.6	11	13.9	8	10.1	4	10.1
Grande Prairie	10	13.5	27	36.4	23	31.0	24	32.2	10	26.5
Total	295	10.8	461	16.7	585	21.2	428	15.2	340	23.8

- The municipalities of Calgary and Edmonton continue to have the highest number of apparent unintentional poisoning deaths related to fentanyl. In the second quarter of 2020, the Municipality of Lethbridge had the highest rate of apparent drug poisoning deaths related to fentanyl per 100,000 person years, followed by Red Deer. Edmonton, Calgary, Red Deer, and Lethbridge all had noticeably higher rates of fentanyl poisoning per 100,000 in the first half of 2020 compared to 2019.

YTD = January 1 to June 30

Figure 4: Number of apparent unintentional drug poisoning deaths related to carfentanil, by Zone (based on place of death) and quarter. January 1, 2016 to June 30, 2020. *Subcategory of fentanyl deaths from Figure 3*



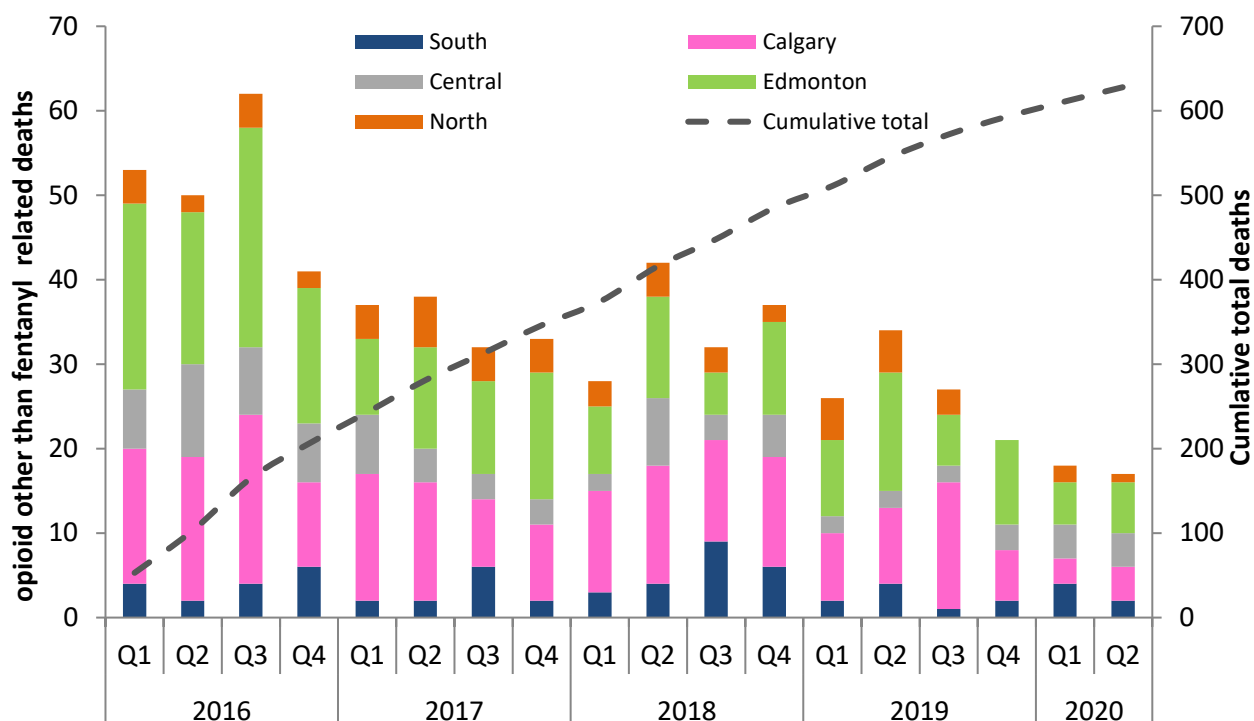
- The first Alberta carfentanil cases were detected in the third quarter of 2016, with 28 cases occurring in all of 2016. In 2017, 164 individuals in Alberta died from a drug poisoning related to carfentanil, 153 in 2018, 58 in 2019, and 23 in the first half of 2020.
- The number of carfentanil cases peaked in the last quarter of 2017 (70 deaths), and since then, the numbers per quarter have decreased, until the second quarter of 2020.
- In the second quarter of 2020, there were 21 carfentanil deaths, with 81 per cent of them occurring in the Edmonton Zone.

Table 4: Number of apparent unintentional carfentanil poisoning deaths, by quarter (Subcategory of fentanyl deaths from Table 1). January 1, 2016 to June 30, 2020.

South	0	0	0	1	0	0	4	3	7	4	5	2	7	1	2	0	0	0	36
Calgary	0	0	1	7	7	7	25	51	29	38	15	12	7	12	4	3	1	1	220
Central	0	0	0	2	0	1	4	9	4	8	2	0	1	2	1	0	0	2	37
Edmonton	0	0	4	11	17	11	5	6	5	5	10	3	4	3	0	0	0	17	101
North	0	0	0	2	5	3	5	1	0	2	2	0	0	10	1	0	0	1	32
Alberta	0	0	5	23	29	22	43	70	45	57	34	17	19	28	8	3	2	21	426
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	

Non-fentanyl opioid related deaths

Figure 5: Number of apparent unintentional drug poisoning deaths related to an opioid other than fentanyl, by Zone (based on place of death) and quarter. January 1, 2016 to June 30, 2020.



- Since January 1, 2016, a total of 628 individuals in Alberta have died from apparent unintentional drug poisoning related to an opioid other than fentanyl (206 in 2016, 140 in 2017, 139 in 2018, and 108 in 2019, and 35 in the first half of 2020).

Table 5: Number of apparent unintentional drug poisoning deaths related to an opioid other than fentanyl, by quarter. January 1, 2016 to June 30, 2020

South	4	2	4	6	2	2	6	2	3	4	9	6	2	4	1	2	4	2	65
Calgary	16	17	20	10	15	14	8	9	12	14	12	13	8	9	15	6	3	4	205
Central	7	11	8	7	7	4	3	3	2	8	3	5	2	2	2	3	4	4	85
Edmonton	22	18	26	16	9	12	11	15	8	12	5	11	9	14	6	10	5	6	215
North	4	2	4	2	4	6	4	4	3	4	3	2	5	5	3	0	2	1	58
Alberta	53	50	62	41	37	38	32	33	28	42	32	37	26	34	27	21	18	17	628
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	

Table 6: Rate (per 100,000 person years) and number of apparent unintentional drug poisoning deaths related to an opioid other than fentanyl, by Zone (based on place of death). January 1, 2016 to June 30, 2020.

	2016		2017		2018		2019		2020 YTD	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
South Zone	16	5.3	12	3.9	22	9.5	9	2.9	6	3.9
Calgary Zone	63	3.9	46	2.8	51	4.1	38	2.2	7	0.8
Central Zone	33	6.9	17	3.5	18	4.9	9	1.9	8	3.3
Edmonton Zone	82	6.1	47	3.4	36	3.5	39	2.7	11	1.5
North Zone	12	2.4	18	3.7	12	3.2	13	2.7	3	1.2
Alberta	206	4.9	140	3.3	139	4.2	108	2.5	35	1.6

- In the first half of 2020, the Edmonton and Central Zones had the highest number of these deaths. In the first half of 2020, the South Zone had the highest rate per 100,000 person years at 3.9, compared to the provincial average of 1.6 per 100,000 person years.

Table 7: Rate (per 100,000 person years) and number of apparent unintentional drug poisoning deaths related to an opioid other than fentanyl, by municipality (based on place of death). January 1, 2016 to June 30, 2020.

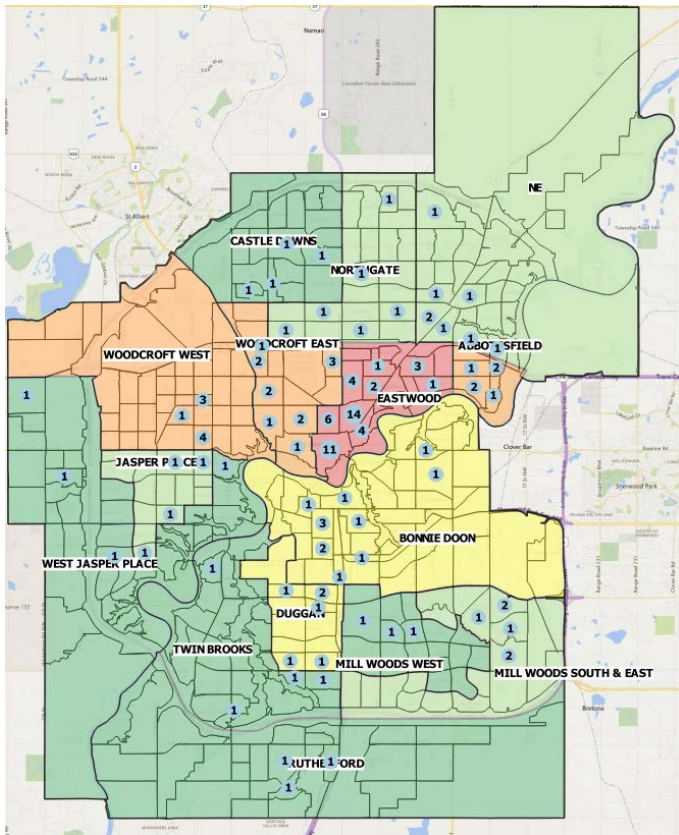
	2016		2017		2018		2019		2020 YTD	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Lethbridge	4	4.1	3	3.1	7	9.4	4	4.1	1	2.0
Medicine Hat	4	5.9	3	4.4	5	9.7	3	4.4	0	0.0
Calgary	47	3.6	35	2.6	32	3.2	32	2.4	2	0.3
Red Deer	12	11.0	7	6.5	7	8.7	5	4.6	0	0.0
Edmonton	66	6.8	41	4.1	30	4.0	30	2.9	4	0.8
Fort McMurray	1	1.2	2	2.5	1	1.7	2	2.5	1	2.5
Grande Prairie	1	1.4	4	5.4	2	3.6	2	2.7	0	0.0
Total	135	5.0	95	3.5	84	4.1	78	3.7	8	0.6

- The municipalities of Calgary and Edmonton continue to have the highest number of these deaths. In the first half of 2020, the Municipality of Fort McMurray had the highest rate of apparent unintentional drug poisoning deaths related to an opioid other than fentanyl per 100,000 person years.

YTD = January 1 to June 30

Municipalities of Edmonton and Calgary (opioid related deaths)

Figure 6: Rate (per 100,000 person years) and counts of apparent unintentional opioid poisoning deaths, in the Municipality of Edmonton, based on place of overdose, by LGA. January 1, 2020 to June 30, 2020.



	Count	Rate per 100,000
CITY of EDMONTON	132	25.5
EASTWOOD	46	121.1
ABBOTTSFIELD	6	79.1
WOODCROFT WEST	8	48.7
WOODCROFT EAST	12	38.1
DUGGAN	7	33.8
BONNIE DOON	11	22.0
NE	8	18.2
JASPER PLACE	4	16.0
MILL WOODS SOUTH & EAST	6	14.6
NORTHGATE	6	14.3
MILL WOODS WEST	3	11.5
CASTLE DOWNS	4	11.3
TWIN BROOKS	4	10.1
WEST JASPER PLACE	4	7.9
RUTHERFORD	3	5.9

Legend

Rate of opioid/fentanyl drug overdose deaths per 100,000 compared to city average

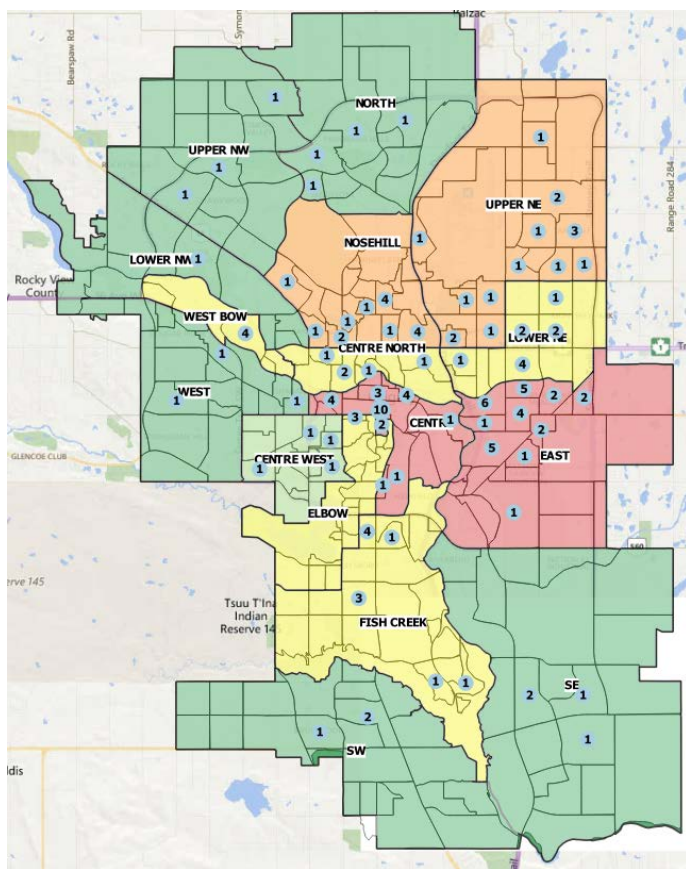
- Significantly lower
- Lower
- Average
- Higher
- Significantly higher
- No deaths

● Number in blue circle represents neighborhood level counts

- Within the Municipality of Edmonton, the LGAs with a **higher** rate of apparent unintentional opioid poisoning deaths **compared to the municipality average** were Eastwood, Abbotsfield, Woodcroft East, and Woodcroft West. However, 61 per cent of the total deaths occurred in LGAs outside of this area.
- The place where the overdose occurred was the same as the individual's home address for 68 per cent of fentanyl-related deaths in Edmonton.
- The neighborhoods that had five or more deaths were McCauley (14), Downtown (11), and Central McDougall (6).

Note: Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital and there was no record of where the overdose occurred. In Edmonton, a hospital was the place of death in 12 per cent of deaths.

Figure 7: Rate (per 100,000 person years) and counts of apparent unintentional opioid poisoning deaths, in the Municipality of Calgary, based on place of overdose, by LGA. January 1, 2020 to June 30, 2020.



	Count	Rate per 100,000
CITY of Calgary	140	20.3
EAST	29	75.9
CENTRE	26	78.2
NOSEHILL	15	37.3
UPPER NE	16	28.7
WEST BOW	4	36.1
CENTRE NORTH	5	21.3
LOWER NE	10	20.0
FISH CREEK	10	17.3
ELBOW	3	14.1
CENTRE WEST	4	11.8
WEST	3	6.3
NORTH	4	6.8
SE	4	5.9
SW	3	5.1
UPPER NW	3	4.9
LOWER NW	1	3.1

Legend

Rate of opioid/fentanyl drug overdose deaths per 100,000 compared to city average

- Significantly lower
- Lower
- Average
- Higher
- Significantly higher
- No deaths

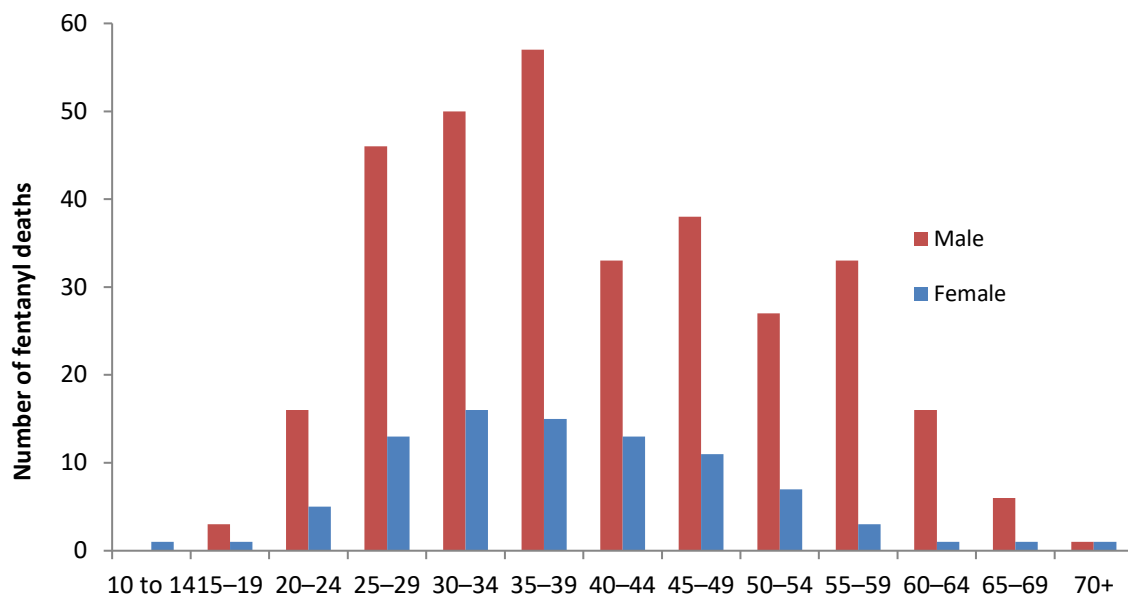
● Number in blue circle represents neighborhood level counts

- Within the Municipality of Calgary, the LGAs with **higher** rates of apparent unintentional opioid poisoning deaths **compared to the municipality average** were East, Centre, Nosehill, and Upper Northeast. However, 39 per cent of the total deaths occurred in LGAs outside of these areas.
- The place where the overdose occurred was the same as the individual’s home address for 51 per cent of fentanyl-related deaths in Calgary.
- The neighborhoods that had five or more deaths was Beltline (10), Alberta Park (6), Forest Heights (5), and Dover (5).

Note: Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital and there was no record of where the overdose occurred. In Calgary, a hospital was the place of death in 14 per cent of deaths.

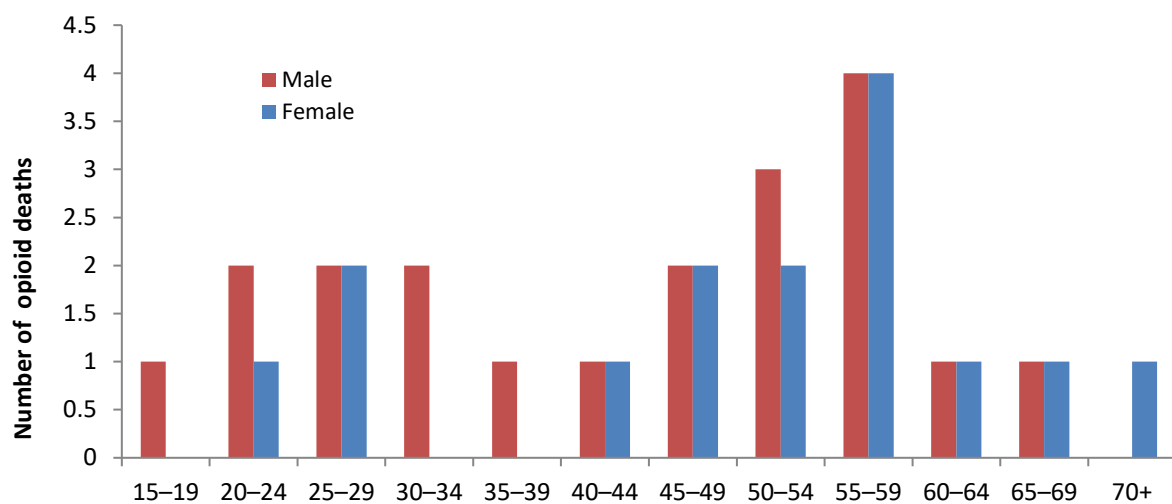
Demographics and recent medical history of apparent unintentional opioid poisoning decedents

Figure 8: Apparent unintentional poisoning deaths related to fentanyl, by sex and age. January 1, 2020 to June 30, 2020.



- 79 per cent of apparent unintentional drug poisoning deaths related to fentanyl were among males. Among males, the age group to see the highest proportion of deaths was 35 to 39 years, and among females, 30 to 34 years.

Figure 9: Apparent unintentional poisoning deaths related to an opioid other than fentanyl, by sex and age, January 1, 2020 to June 30, 2020.



- 57 per cent of apparent unintentional poisoning deaths related to an opioid other than fentanyl were among males. Among males and females, the highest number of deaths occurred among individuals spanning the ages of 55 to 59.

Figure 10: Proportion of apparent unintentional poisoning deaths related to fentanyl, by medical history within the 30 days before the date of death, January 1, 2020 to June 30,2020.

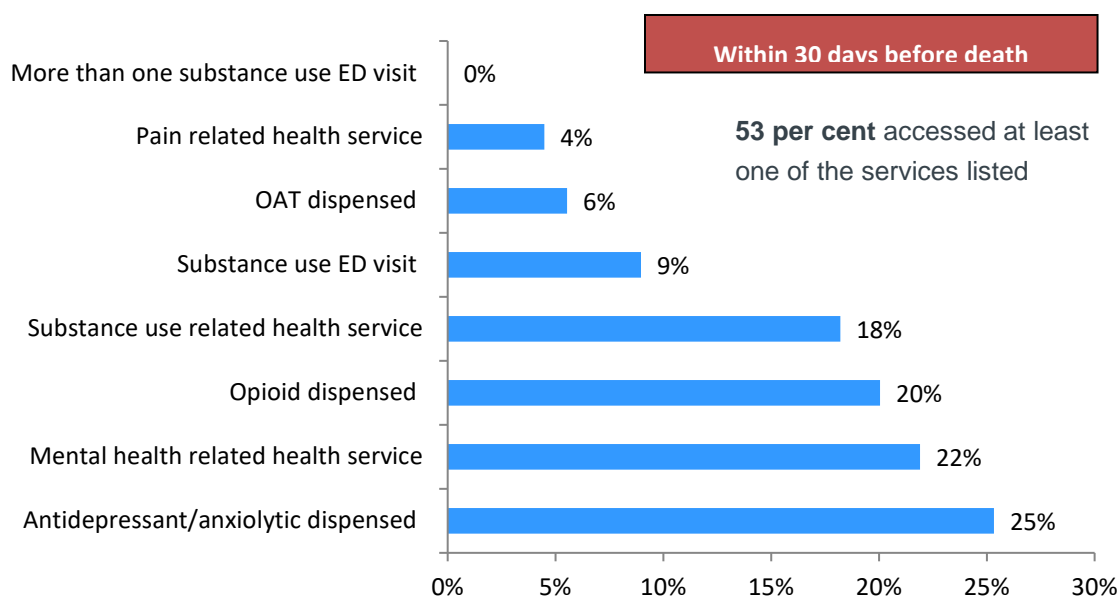
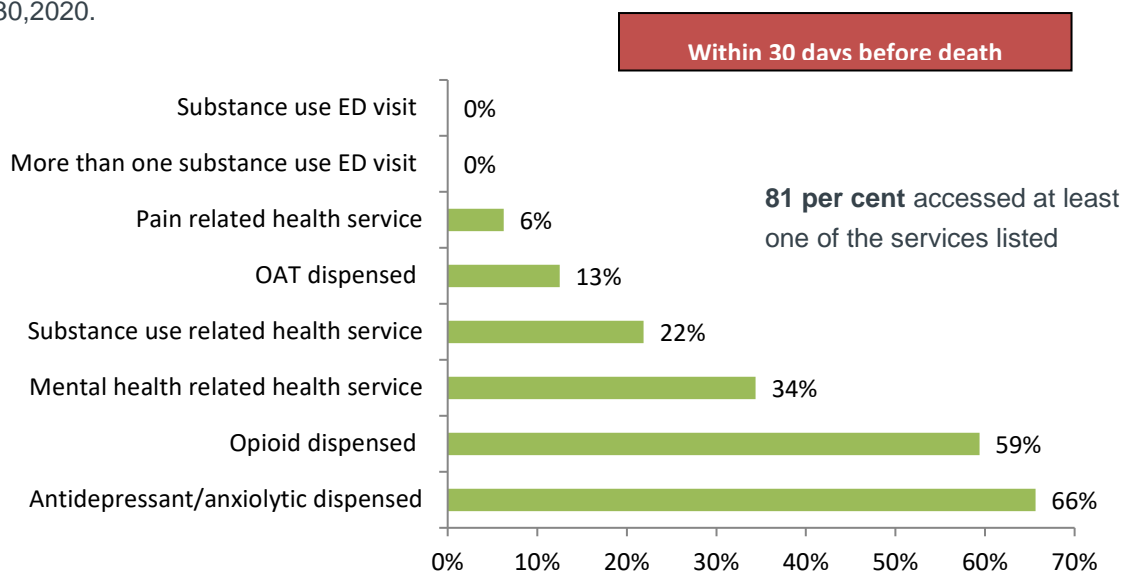


Figure 11: Proportion of apparent unintentional poisoning deaths related to an opioid other than fentanyl, by medical history within the 30 days before the date of death, January 1, 2020 to June 30,2020.



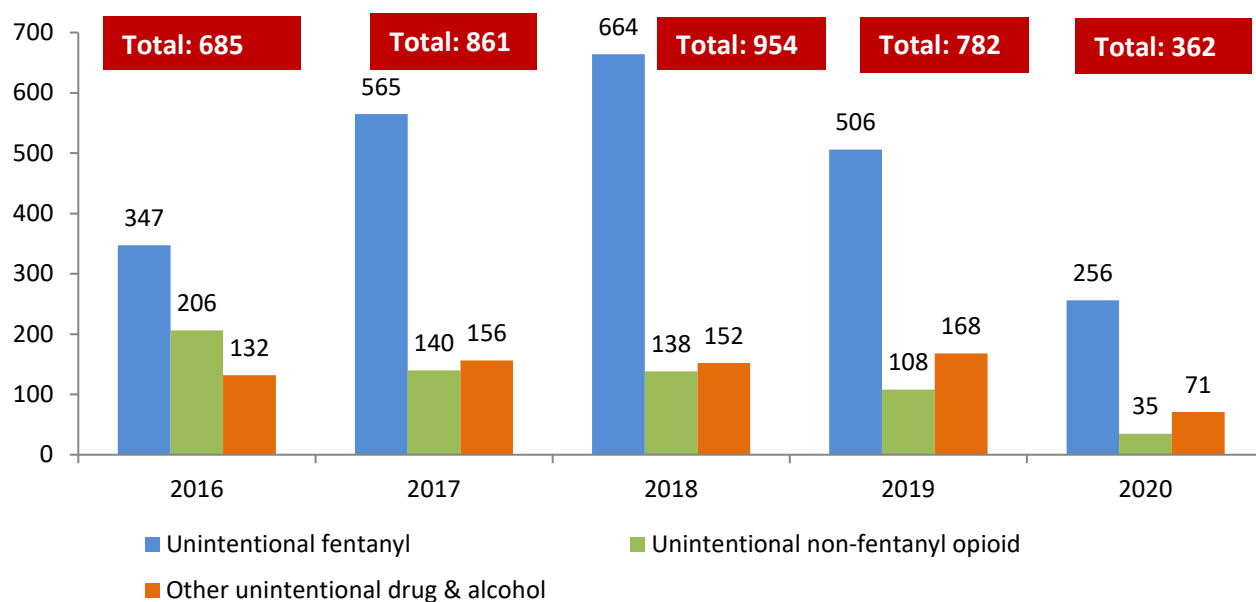
- Among apparent unintentional poisoning deaths related to fentanyl, the most frequent health care utilization within 30 days before the individual's date of death was having an antidepressant or anxiolytic dispensed, followed by a mental health related visit.
- Among apparent unintentional poisoning deaths poisoning related to an opioid other than fentanyl, having an antidepressant or anxiolytic, or an opioid dispensed from a community pharmacy was the most frequent health care utilization in the 30 days prior to death.

Note: 90% of individuals had their personal health number (PHN) available, and were included in this analysis. The above includes the number of individuals who sought one of the services at least once. Individuals can be counted in more than one category. Health service means a physician, inpatient, or emergency department visit. Dispensed means, a dispensing event from a community pharmacy.

Confirmed drug and alcohol poisoning deaths (unintentional and undetermined manner only)

Figure 12: Number of confirmed drug and alcohol poisoning deaths in Alberta, by drug causing death, and year. 2016 to 2020.

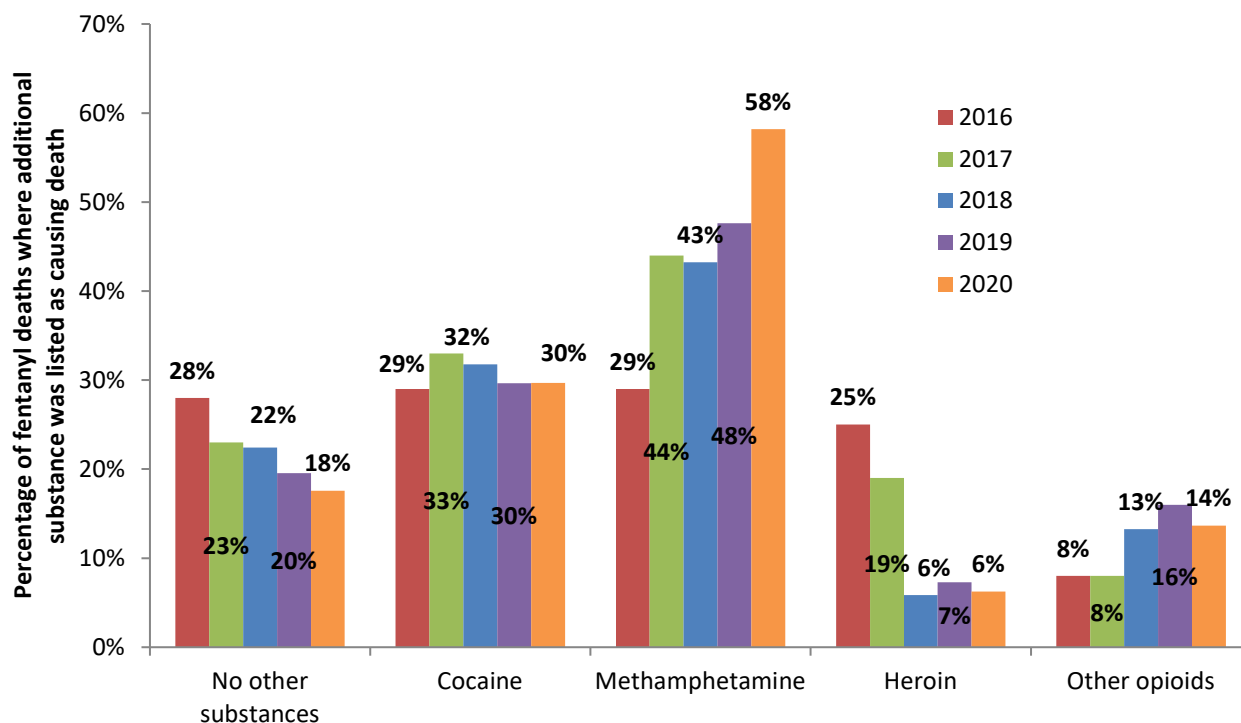
Some drug poisoning deaths in 2019 and 2020 are currently under review by the Office of the Chief Medical Examiner and have not been confirmed. Therefore, upon completion of all cases, the final number of total drug poisoning deaths in 2019 and 2020 will be higher than the current number.



- Compared to 2019, in 2020 so far, the proportion of unintentional (unintentional) drug poisoning deaths involving any opioid (non-fentanyl or fentanyl) remained similar, at 80 per cent of all unintentional drug poisoning deaths. In 2020 fentanyl occurred in 71 per cent of these deaths, higher than in 2019 (65 per cent).
- In 2020, approximately 21 per cent of all opioid related poisoning deaths (unintentional) also listed alcohol as contributing to the poisoning death. Alcohol was the only substance listed as causing death in 19 (4 per cent) of all unintentional drug and alcohol poisoning deaths in 2020.

Note: Certification of more complex drug overdose deaths involving less potent opioids and drugs may take longer than fentanyl related deaths to certify, and therefore, maybe underreported in more recent years. The above includes deaths where the cause was due to acute poisoning by an exogenous substance where the manner was unintentional (unintentional) or undetermined. "Other drugs" refers to non-opioid prescription drugs and illicit drugs such as cocaine.

Figure 13: Confirmed fentanyl poisoning deaths (unintentional) in Alberta, by most common additional substances causing death and year. 2016 to 2020.

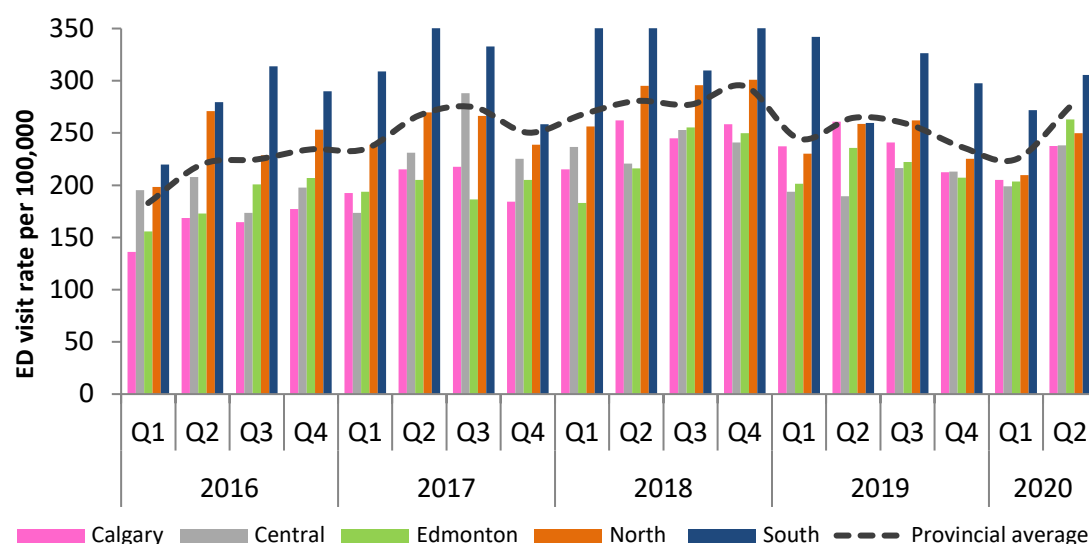


- In 2020, 18 per cent of all fentanyl poisoning deaths had no other substances listed on the death certificate as causing death, while 58 per cent had methamphetamine listed, 30 per cent had cocaine listed, and 6 per cent had heroin listed.
- The proportion of fentanyl poisoning deaths where methamphetamine was also listed as causing death was 10 per cent higher in 2020 compared to 2019 (58 per cent in 2020, 48 per cent in 2019).
- The proportion of fentanyl poisoning deaths where cocaine was also listed as causing death was the same in 2020 compared to 2019 (30 per cent in 2020, 30 per cent in 2019).
- The proportion of fentanyl poisoning deaths where heroin was also listed as causing death in has decreased from 7 per cent in 2019, to 6 per cent in 2020.

Note: “Other opioids” includes: morphine, oxycodone, codeine, and hydromorphone (ICD-10 T40.2). “Other synthetic opioids” includes: tramadol, buprenorphine, and illicit synthetic opioids such as U47700 (ICD-10 T40.4). Since multiple substances may be listed on one death certificate, deaths can be counted more than once in each category. Other substances contributing to death are taken from Part 1 of the medical certificate of death. This has changed from previous quarterly reporting, where substances contributing to death were taken from both Parts 1 and 2 of the medical certificate of death. In addition to changes resulting from more completed reviews of deaths, this change in methodology may have resulted in differences from previously reported proportions.

Emergency department visits

Figure 14: Rate of emergency department (ED) visits related to opioids and other drug use, by quarter and Zone, per 100,000 person years. January 1, 2016 to June 30, 2019.



- The provincial rate of ED visits related to opioids and other drug use increased by 22 per cent from the first quarter of 2020 to the second (3,028 visits in Q1 2020 and 2,472 visits in Q1 2020).
- In the second quarter of 2020, the rate of ED visits related to opioids and other drug use was the highest in the South Zone (306 visits per 100,000 person years); approximately 11 per cent higher than the provincial average over this period (275 visits per 100,000 person years).
- In the first quarter of 2020, the Calgary and Edmonton Zones had the highest number of ED visits related to opioids and other drug use (34 and 30 per cent of all provincial ED visits to opioids and other drug use respectively).

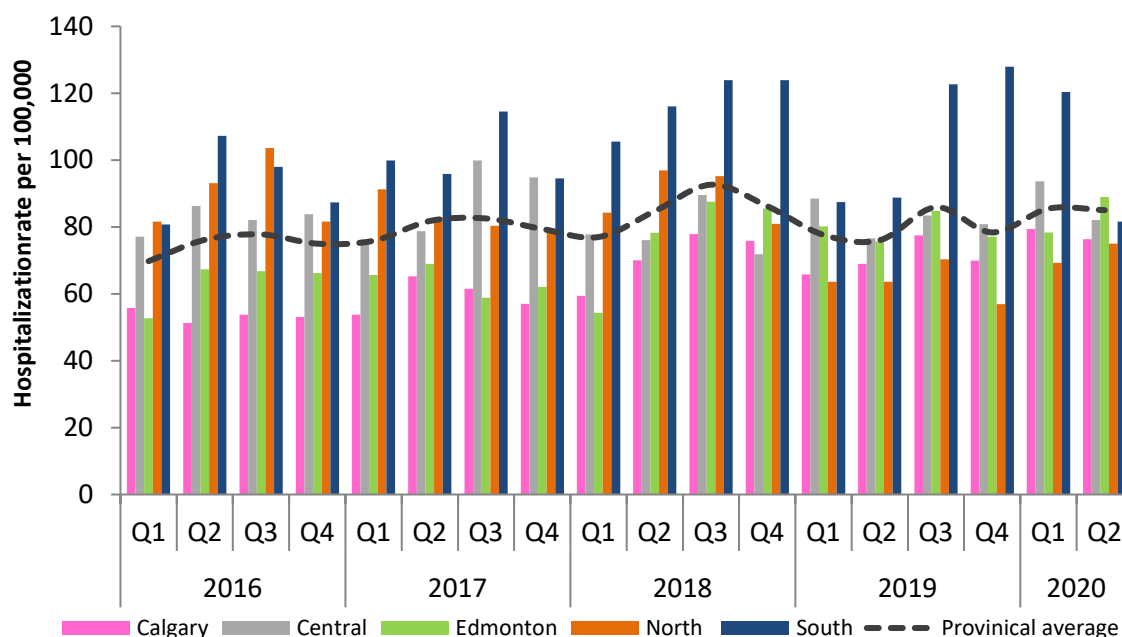
Table 8: Top 10 ED facilities utilized for emergency visits related to opioids and other drug use, January 1, 2016 to June 30, 2019

Rank	Facility	Count	% of all visits*	Rank	Facility	Count	% of all visits*
1	Royal Alexandra Hospital	6,891	14%	6	Sheldon M Chumir Center	2,096	4%
2	Peter Lougheed Centre	4,779	10%	7	South Health Campus	1,935	4%
3	Rockyview General Hospital	3,938	8%	8	Red Deer Regional Hospital	1,934	4%
4	Foothills Medical Centre	3,575	7%	9	Chinook Regional Hospital	1,784	4%
5	U of A Hospital	2,537	5%	10	Grey Nuns Community Hospital	1,716	4%

*Percentage of the total 48,011 ED visits related to harm associated with opioids and other drug use that occurred at the specified facility. Includes ED visits for all behavioural and mood disorders due to opioid use, and poisoning by all substances-all causes. (All F11 and T40 ICD-10 codes, any diagnosis field)

Hospitalizations

Figure 15: Rate of hospitalizations related to opioids and other drug use, by quarter and Zone, per 100,000 person years. January 1, 2016 to June 30, 2020.



- The provincial rate of hospitalizations related to opioids and other drug use decreased by half a percent from the first quarter of 2020 to the second quarter of 2020.
- In the second quarter of 2020 the rate of hospitalizations related to opioids and other drug use was the highest in the Edmonton Zone (89 hospitalizations per 100,000 person years); approximately 5 per cent higher than the provincial average (85 hospitalizations per 100,000 person years).
- In the first half of 2020, the Calgary and Edmonton Zones had the highest number of hospitalizations related to harm associated with opioids and other drug use (35 and 32 per cent of all hospitalizations related to harm associated with opioids and other drug use per quarter, respectively).

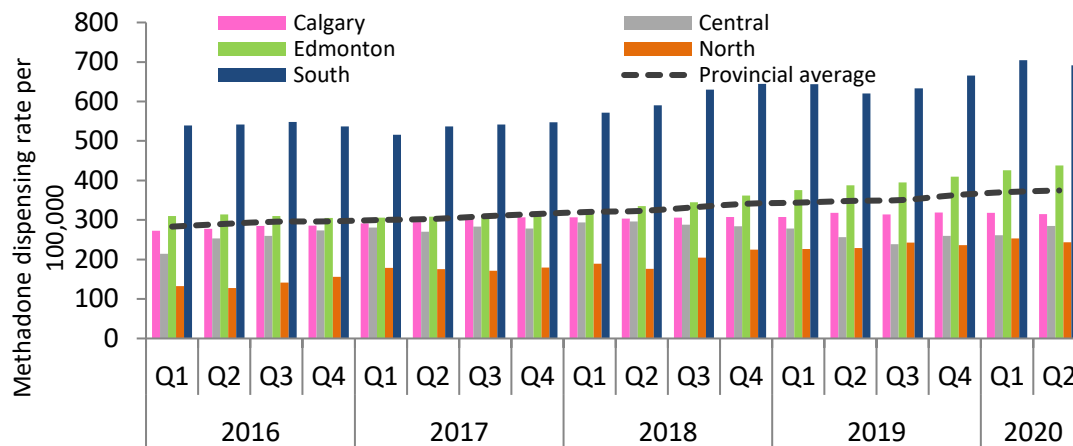
Table 9: Top 10 facilities utilized for hospitalizations related to harm associated with opioids and other drug use, January 1, 2016 to June 30, 2020.

Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	2,966	19%	6	Red Deer Regional Hospital	702	5%
2	Peter Lougheed Centre	1,837	12%	7	Chinook Regional Hospital	564	4%
3	Foothills Medical Centre	1,604	10%	8	South Health Campus	514	3%
4	Rockyview General Hospital	1,057	7%	9	Grey Nuns Community Hospital	476	3%
5	University Of Alberta Hospital	915	6%	10	Misericordia Community Hosp	440	3%

*Percentage of the total 15,400 inpatient stays related to harm associated with opioids and other drug use that occurred at the specified facility. Includes hospitalizations for all behavioural and mood disorders due to opioid use, and poisoning by all substances-all causes. (All F11 and T40 ICD-10 codes, any diagnosis field)

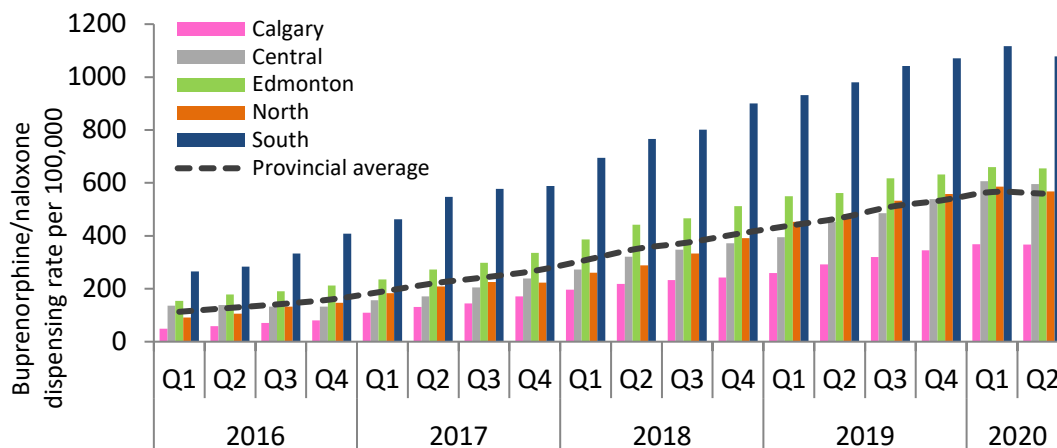
Methadone & buprenorphine/naloxone dispensing from community pharmacies

Figure 16: Rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000 person years, by quarter and Zone. January 1, 2016 to June 30, 2020.



- In Alberta, the rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000 person years increased from the first quarter of 2020 to the second quarter of 2020 by 1 per cent. The South Zone had the highest rate in the second quarter of 2020, 185 per cent higher than the provincial average (692 per 100,000 person years vs. 374 per 100,000 person years).

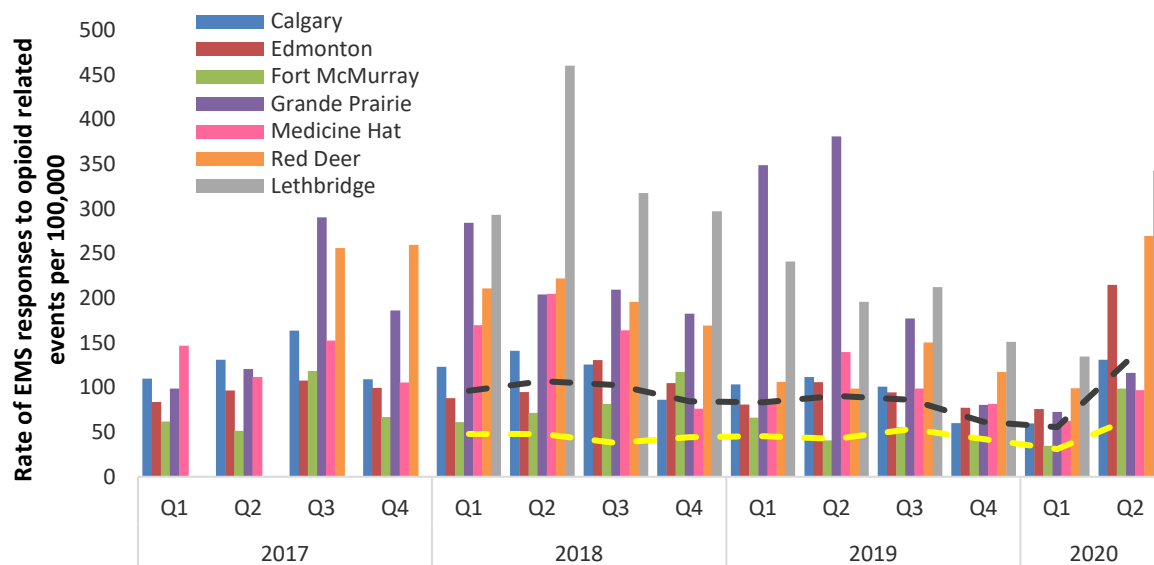
Figure 17: Rate of unique individuals dispensed buprenorphine/naloxone (generic brands and Suboxone™) indicated for opioid dependence from community pharmacies per 100,000 person years, by quarter and Zone. January 1, 2016 to June 30, 2020.



- In Alberta, the rate of unique individuals dispensed buprenorphine/naloxone indicated for opioid dependence from community pharmacies per 100,000 person years decreased for the first time, as seen by the 1 per cent decrease from the first quarter of 2020 to the second quarter of 2020. The South Zone had the highest rate in the first quarter of 2020, 193 per cent higher than the provincial average (1,078 per 100,000 person years vs. 560 per 100,000 person years).

Emergency Medical Services

Figure 18: Rate (per 100,000 person years) of Emergency Medical Services (EMS) responses to opioid related events, by quarter and municipality. January 1, 2016 to June 30, 2020. *Note: Red Deer EMS data reported starting July 2017, EMS data for Lethbridge and the majority of Alberta became available in 2018 (with the exception of a few smaller communities).*



- In the second quarter of 2020, the provincial rate of EMS responses to opioid related events per 100,000 person years was 140 per cent higher than the first quarter (133 vs. 56). There were 1,485 EMS responses to opioid related events in the second quarter of 2020 (the highest ever seen in a quarter), compared to 620 in the first quarter.
- In the second quarter of 2020, all major Alberta municipalities had an increase in the rate of EMS responses to opioid related events per 100,000 person years compared to the first quarter. All municipalities, except Grande Prairie and Medicine Hat, had increases of over 100 per cent.

Table 10: Rate (per 100,000 person years) and count of Emergency Medical Services (EMS) responses to opioid related events, by year and municipality. January 1, 2018 to June 30, 2020.

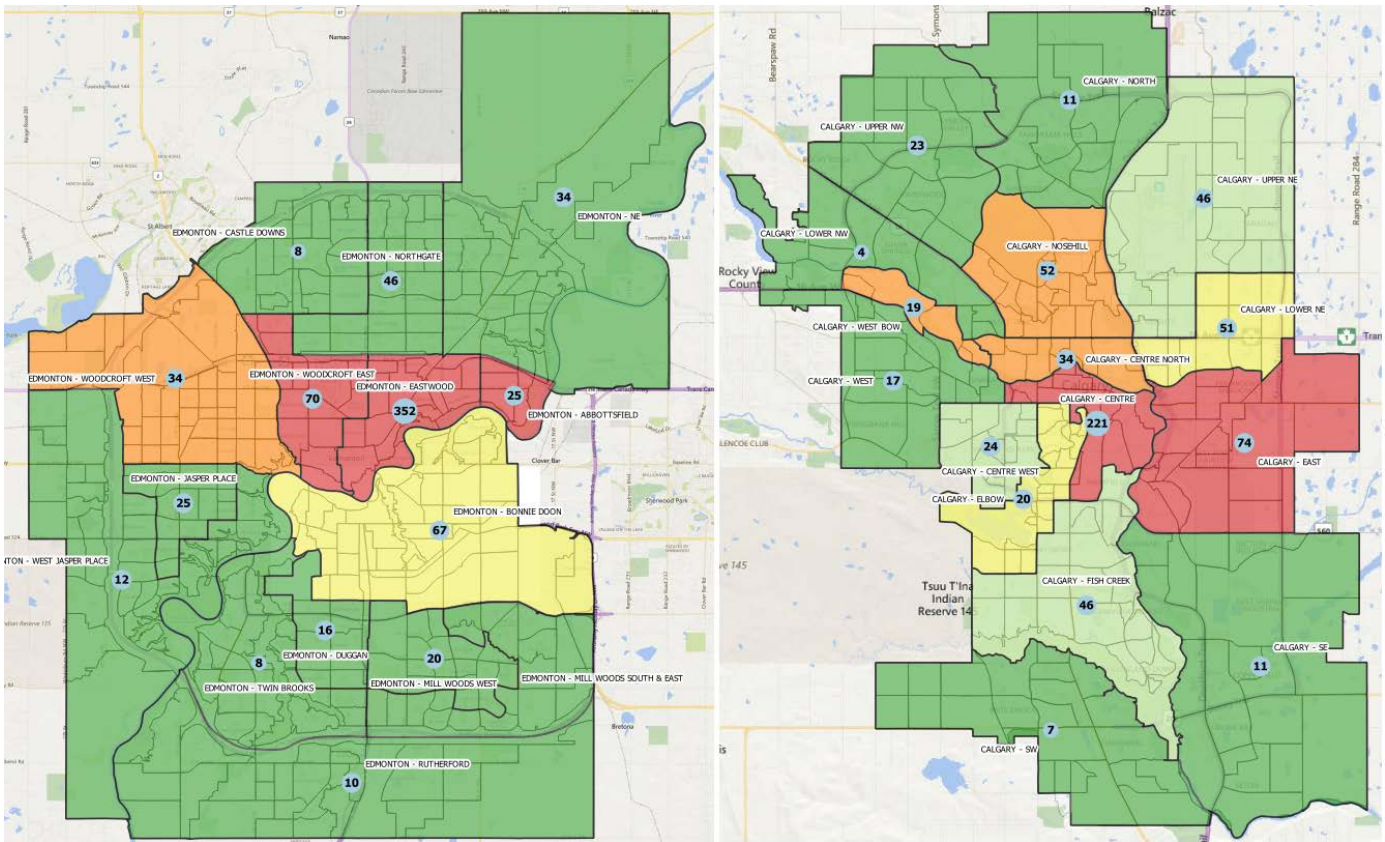
	2017		2018		2019		2020 YTD	
	count	rate	count	rate	count	rate	count	rate
Calgary	1,693	128	1,595	119	1,277	94	660	95
Edmonton	950	97	1,045	105	914	90	739	145
Ft. McMurray	58	55	65	61	41	38	27	46
Grande Prairie	127	164	164	209	184	233	39	96
Medicine Hat	88	121	105	141	69	93	28	68
Red Deer*	137	258	212	216	129	132	108	220
Lethbridge	-	-	336	491	196	285	117	333
Other AB locations*	-	-	684	44	726	46	387	48
All of Alberta	-	-	4,206	98	3,536	80	2,105	94

*Reporting of EMS data for Red Deer started July 2017. Count and rate is based on events from July to December 2017. YTD = January 1 to June 30, 2020.**Communities outside of the largest seven municipalities specified.

Figure 19: Rate (per 100,000 person years) and count of Emergency Medical Services (EMS) responses to opioid related events, by LGA. January 1, 2020 to June 30, 2020.

Edmonton average: 145 per 100,000 person years (n =739)

Calgary average: 95 per 100,000 person years (n =660)



Legend

Rate of EMS opioid related responses per 100,000 compared to city average

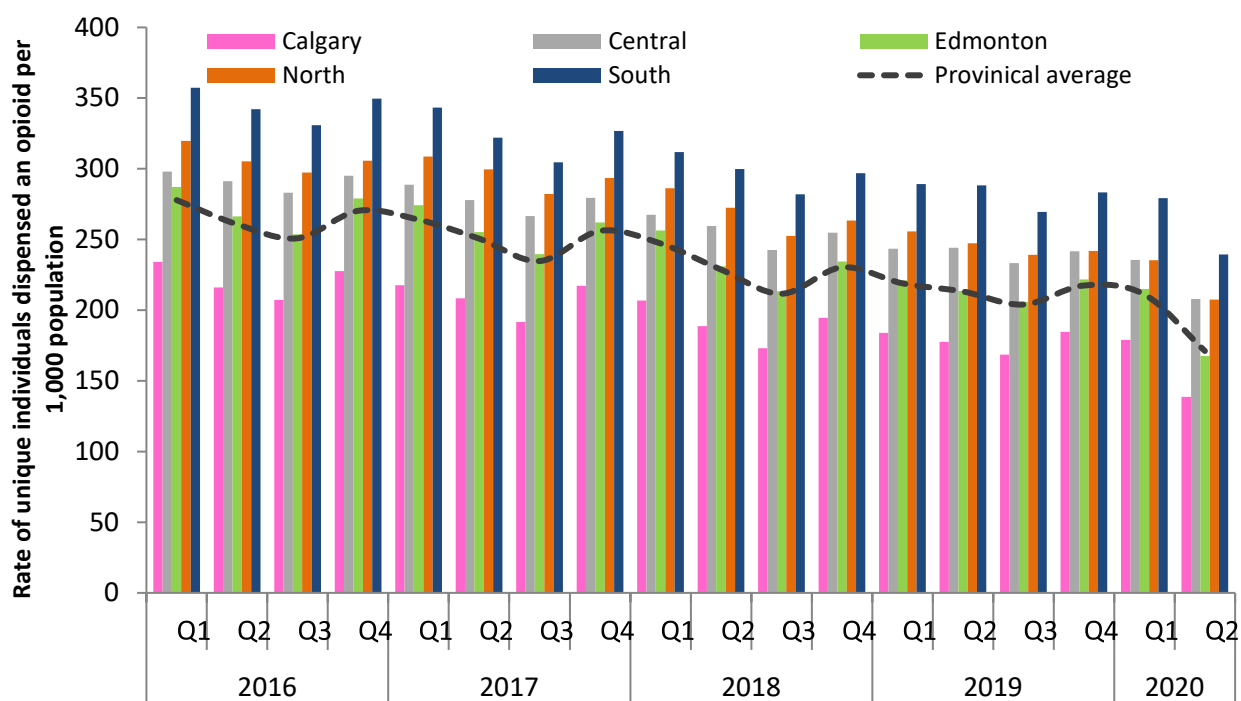
- Significantly lower
- Lower
- Average
- Higher
- Significantly higher

Number in blue circle represents counts (numerator)

- Of the opioid related EMS events that occurred in Edmonton in the first half of 2020 (739), the highest rate (927 per 100,000 person years) and count (352) was in the Eastwood LGA. The LGAs with significantly higher rates of opioid related EMS events compared to the municipality average were Eastwood, Abbottsfield, and Woodcroft East.
- Of the opioid related EMS events that occurred in Calgary in the first half of 2020 (660), the highest rate (665 per 100,000 person years) and count (221) was in Calgary Centre. The LGAs with significantly higher rates of opioid related EMS events compared to the municipality average were Calgary Centre and East.

Prescription opioid dispensing

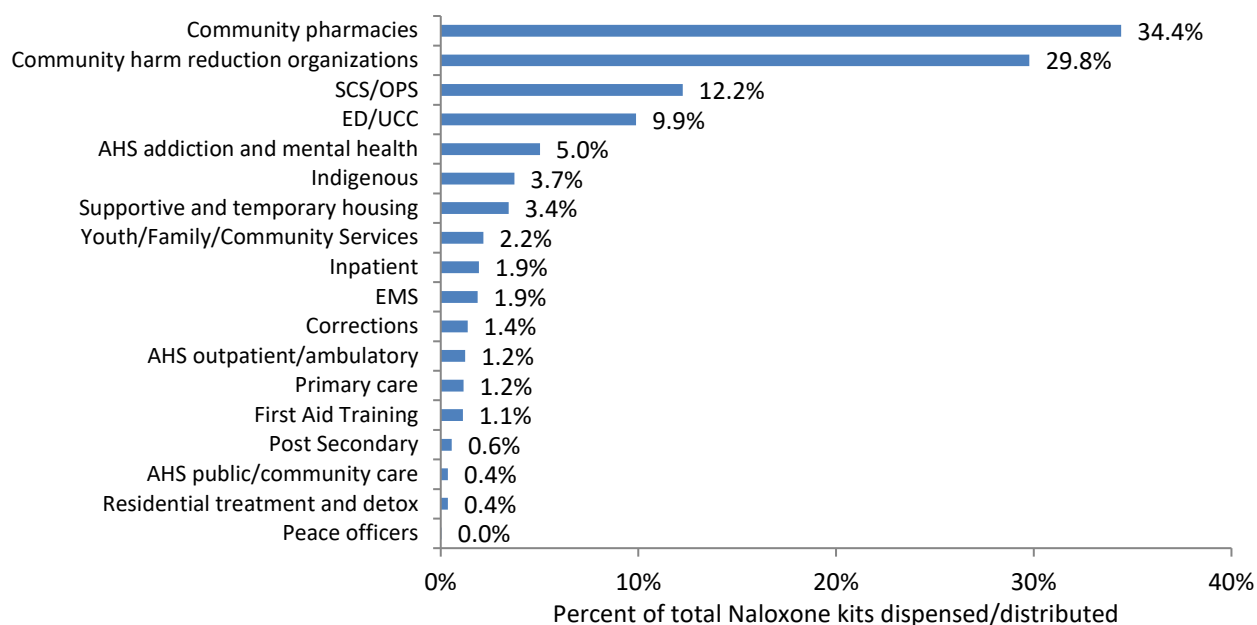
Figure 20: Rate of unique individuals dispensed an opioid from a community pharmacy per 1,000 person years, by Zone and quarter. January 1, 2016 to June 30, 2020.



- Comparing the first quarter of 2016 to the second quarter of 2020, the rate of unique individuals dispensed an opioid from a community pharmacy per 1,000 person years decreased by 38 per cent in Alberta. The average per cent decrease from quarter to quarter in this time period was 4 per cent. The rate decreased by 19 per cent in the second quarter of 2020 compared to the previous quarter.
- The rate of unique individuals dispensed an opioid decreased across all Zones in the second quarter of 2020 compared to the previous quarter, ranging from a 12 to 22 per cent decrease. The South Zone has the highest rate of unique individuals dispensed an opioid from a community pharmacy per 1,000 person years. In the second quarter of 2020, the rate in the South Zone was approximately 40 per cent higher than the provincial average (240 per 1,000 person years vs. 171 per 1,000 person years).

Community based naloxone kits

Figure 22: Naloxone kits dispensed/distributed by registered site type, January 1, 2016 to June 30, 2020.

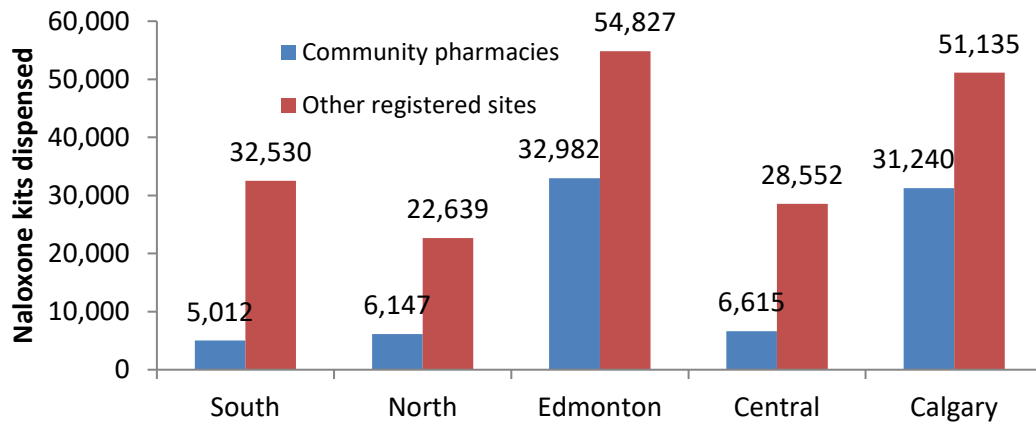


- From January 1, 2016 to June 30, 2020, 271,681 naloxone kits were dispensed in Alberta through Alberta Health Services' (AHS) naloxone program, and 18,374 reversals were self-reported. Approximately 3,250 naloxone kits were distributed in Alberta by the Alberta Community Council on HIV (ACCH) between July 2015 and January 2016. In January 2016, AHS began its naloxone program through registered distribution sites.

Table 11: Number of registered sites, January 1, 2016 to June 30, 2020.

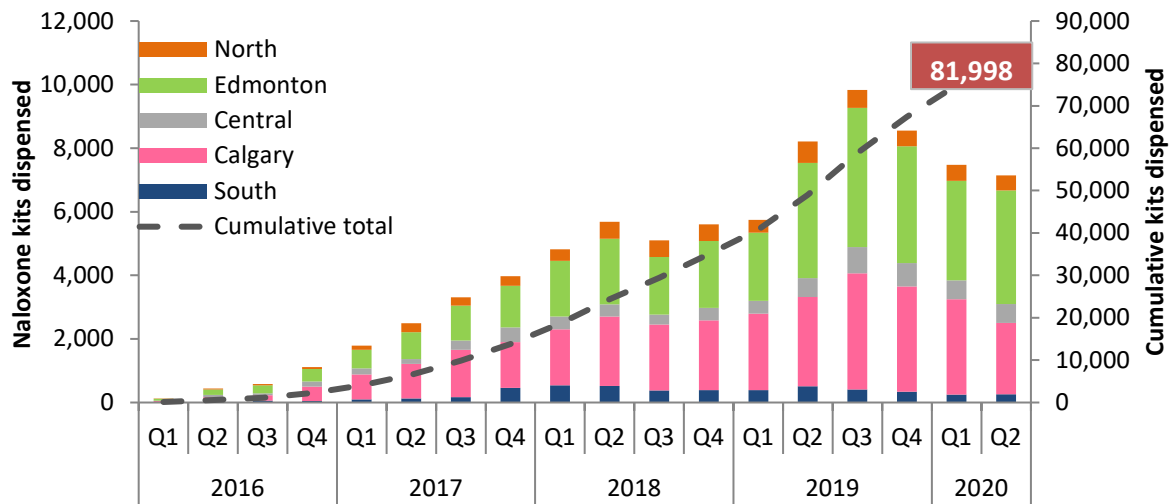
Site	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	97	430	155	439	131	1,252
Inpatient	13	14	21	12	33	93
AHS addiction and MH	9	30	22	34	20	115
ED	15	18	29	14	35	111
Medical First Response	17	18	29	10	32	106
Primary Care	14	14	12	24	7	71
AHS public/community health	5	6	10	28	33	82
Indigenous	4	5	5	5	28	47
EMS	8	8	16	14	7	53
AHS outpatient and ambulatory	3	22	4	6	9	44
Youth/family/community services	4	11	3	15	1	34
Supportive and temporary housing	0	7	3	4	1	15
Residential treatment and Detox	3	4	3	4	1	15
Post Secondary	0	5	2	4	2	13
Corrections	2	4	1	3	1	11
Community harm reduction organizations	2	3	1	1	3	10
SCS/OPS	1	1	1	4	1	8
First Aid Programs	0	2	5	1	0	8
Peace Officers	0	2	1	1	1	5
Total	197	604	323	623	346	2,093

Figure 23: Naloxone kits dispensed/distributed by community pharmacies and other registered sites, by Zone. January 1, 2016 to June 30, 2020.



- Throughout the province, non-pharmacy sites are dispensing more naloxone kits than community pharmacies (approx. 70 per cent of all kits given out are from non-pharmacy sites).
- While the Calgary and Edmonton Zones have dispensed the highest total volume of kits in the province (32 per cent in Edmonton, 30 per cent in Calgary), in the second quarter of 2020, the South Zone had the highest per 100,000 person years rate of kits dispensed from both community pharmacies and other registered sites, two times higher than the provincial average.

Figure 24: Naloxone kits dispensed by community pharmacies, by Zone and month. January 1, 2016 to June 30, 2020.



- Across Alberta, in 2020, community pharmacies dispensed an average of 7,309 kits per quarter, a decrease of about 10 per cent compared to 2019 (8,085 per quarter). Since January 1, 2016 81,998 naloxone kits have been dispensed from community pharmacies in Alberta.

Note: Naloxone kit dispensing data from community pharmacies comes from Alberta Blue Cross. All other kit distribution data comes from the AHS community based naloxone program.

Supervised consumption services

The following includes data from community supervised consumption services and the Red Deer overdose prevention site (OPS) only. For Edmonton, three sites, Boyle Street Community Services, Boyle McCauley Health Centre, and George Spady are included. Data from the Royal Alexandra inpatient site is not included.

Figure 25: Number of visits per quarter and site. January 1, 2018 to June 30, 2020.

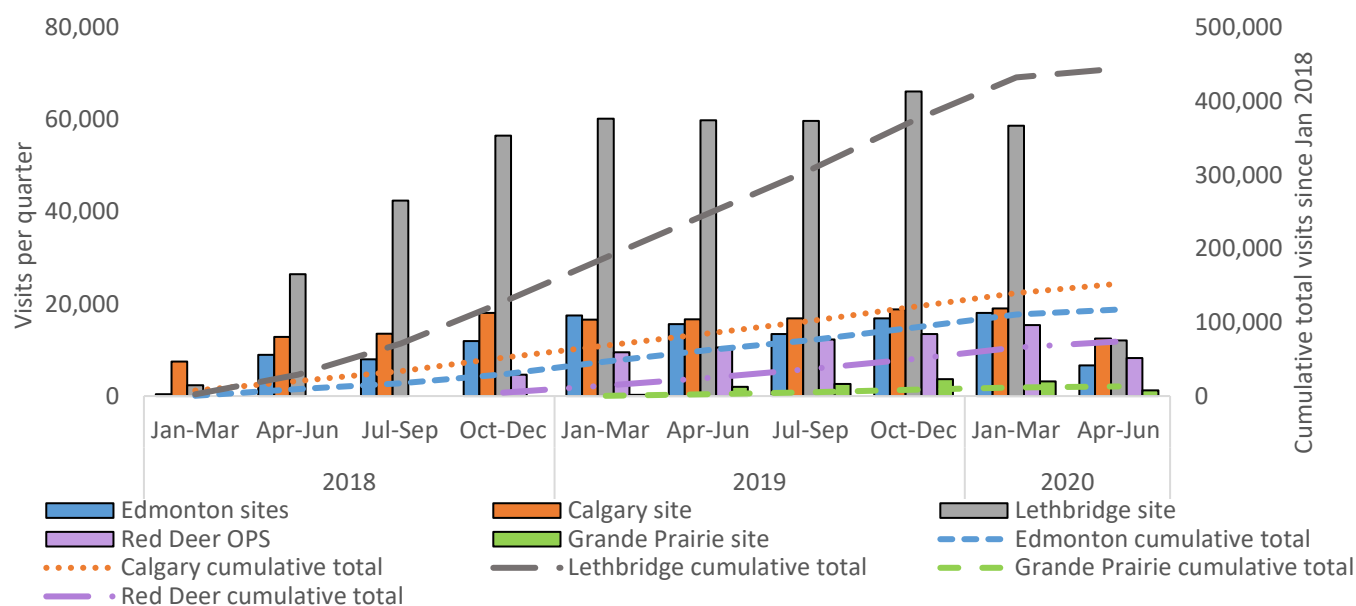


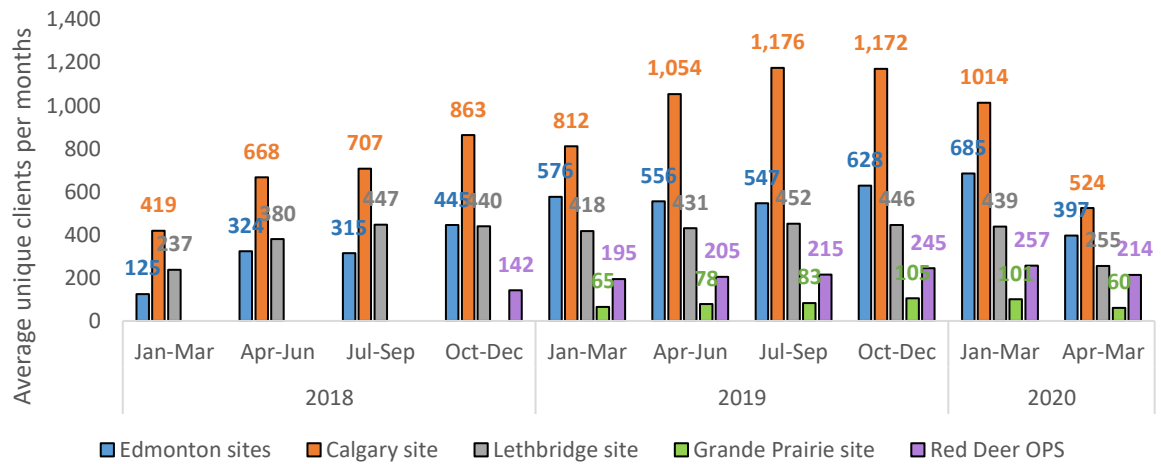
Table 12: Number of visits per quarter and site. January 1, 2018 to June 30, 2020.

	2018				2019				2020		Total
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	
Edmonton	390	8,974	7,975	11,961	17,489	15,641	13,475	16,899	18,036	6,657	117,497
Calgary	7,469	12,854	13,548	18,051	16,623	16,694	16,880	18,831	19,071	12,535	152,556
Lethbridge	2,375	26,464	42,450	56,562	60,260	59,901	59,781	67,414	58,719	12,101	444,781
Grande Prairie					298	2,028	2,646	3,668	3,172	1,221	13,033
Red Deer OPS				4,639	9,504	10,537	12,295	13,448	15,432	8,241	74,096
Quarter Total	10,234	48,292	63,973	91,213	104,174	104,801	105,077	120,260	114,430	40,755	801,963

Note: The Lethbridge site opened in February 2018. In Edmonton, Boyle Street opened March 2018, George Spady opened April 2018, and Boyle McCauley Health Centre opened November 2018. The Grande Prairie site opened March 2019. The Sheldon M. Chumir site in Calgary opened in October 2017.

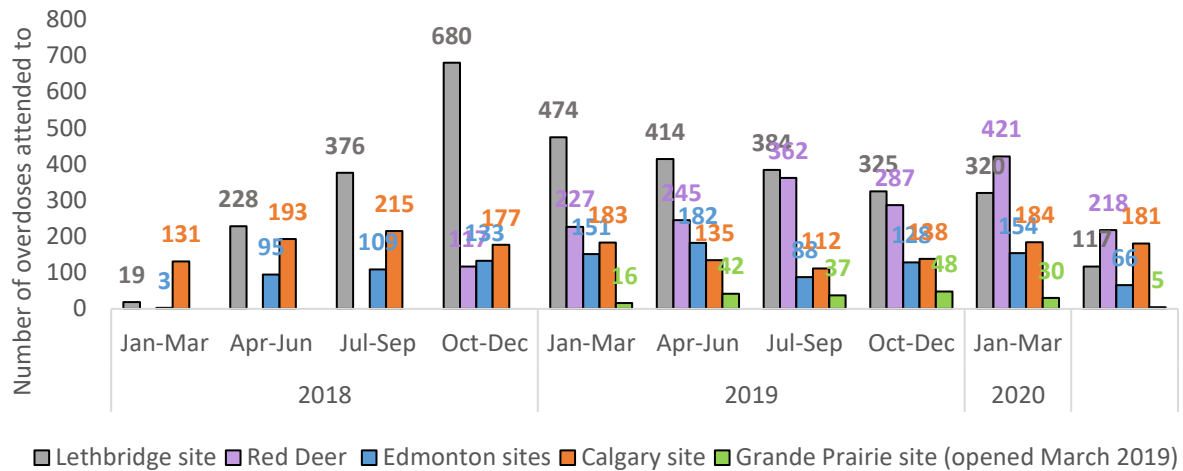
- Compared to the last quarter, in the most recent quarter, the Edmonton sites saw a decrease in visits of 63 per cent.
- Compared to the last quarter, in the most recent quarter, the Calgary site saw a decrease in visits of 34 per cent.
- Compared to the last quarter, in the most recent quarter, the Lethbridge site saw a decrease in visits of 79 per cent.
- Compared to the last quarter, in the most recent quarter, the Grande Prairie site saw a decrease in visits of 62 per cent.
- Compared to the last quarter, in the most recent quarter, the Red Deer OPS saw a decrease in visits of 47 per cent.

Figure 26: Average monthly unique clients per quarter and site. January 1, 2018 to June 30, 2020.



- Compared to the last quarter, in the most recent quarter (April to June 2020) Edmonton sites saw a 42 percent decrease in average monthly unique clients, the Calgary site a decrease of 48 per cent, the Lethbridge site saw a decrease of 42 per cent, the Grande Prairie site saw a decrease of 41 per cent, and the Red Deer OPS saw a decrease in average monthly unique clients of 17 per cent.

Figure 27: Total number of attended adverse events* per quarter and site. January 1, 2018 to June 30, 2020.



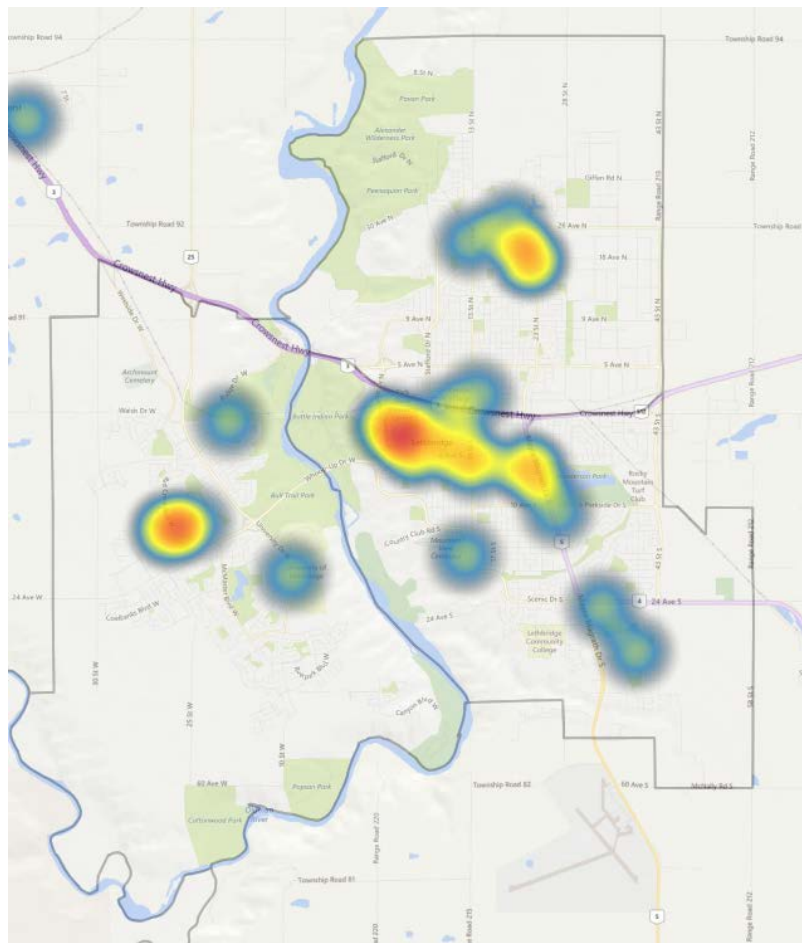
- From April to June 2020, 66 adverse events have been attended to at Edmonton sites, 181 at the Calgary site, 117 at the Lethbridge site, 5 at the Grande Prairie site, and 218 at the Red Deer OPS. There were zero fatal drug poisoning events across all sites.
- From April to June 2020, there were 10 attended adverse events for every 1,000 visits to the Edmonton sites, 14 attended adverse events for every 1,000 visits to the Calgary site, 10 attended adverse events for every 1,000 visits to the Lethbridge site, 4 attended adverse events for every 1,000 visits to the Grande Prairie site, and 26 attended adverse events for every 1,000 visits to the Red Deer OPS.

*drug poisoning event requiring intervention including, but not limited to, the provision of oxygen, administration of naloxone, and/or requesting medical attendance. Grande Prairie site opened March 2019.

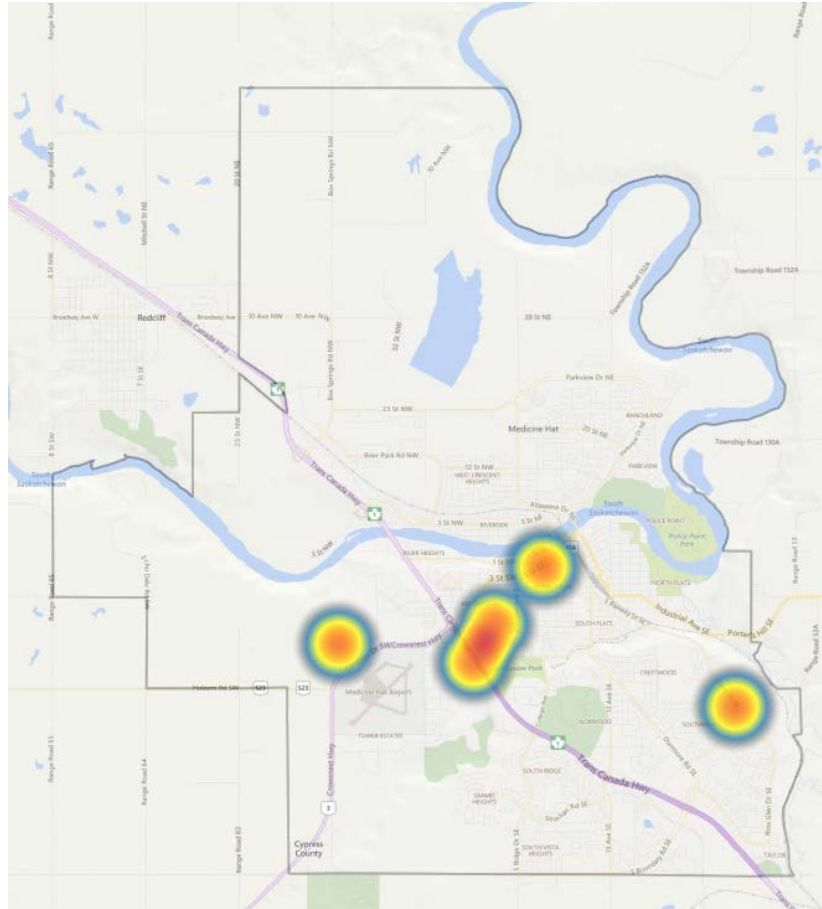
Appendix 1: Opioid related poisoning deaths in major Albertan cities

Apparent unintentional opioid poisoning deaths, by Municipality (based on place of overdose). January 1, 2020 to June 30, 2020.

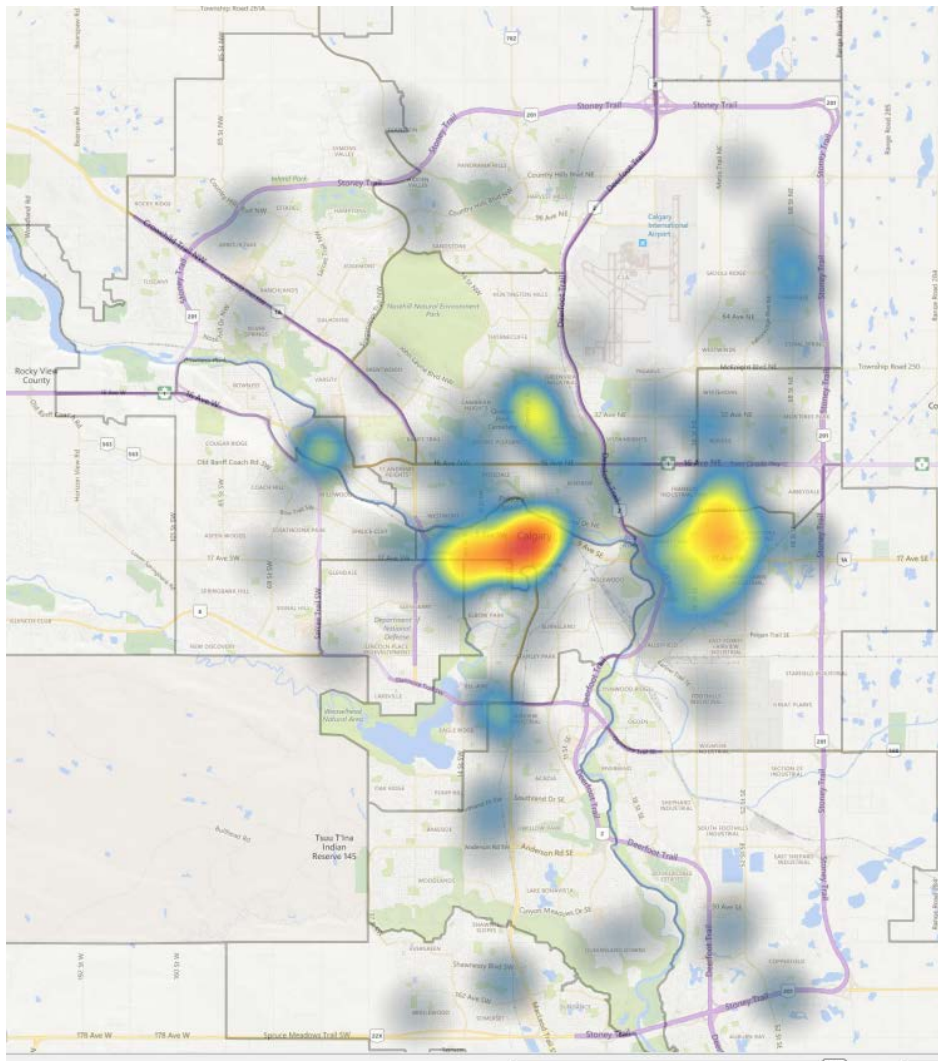
Lethbridge



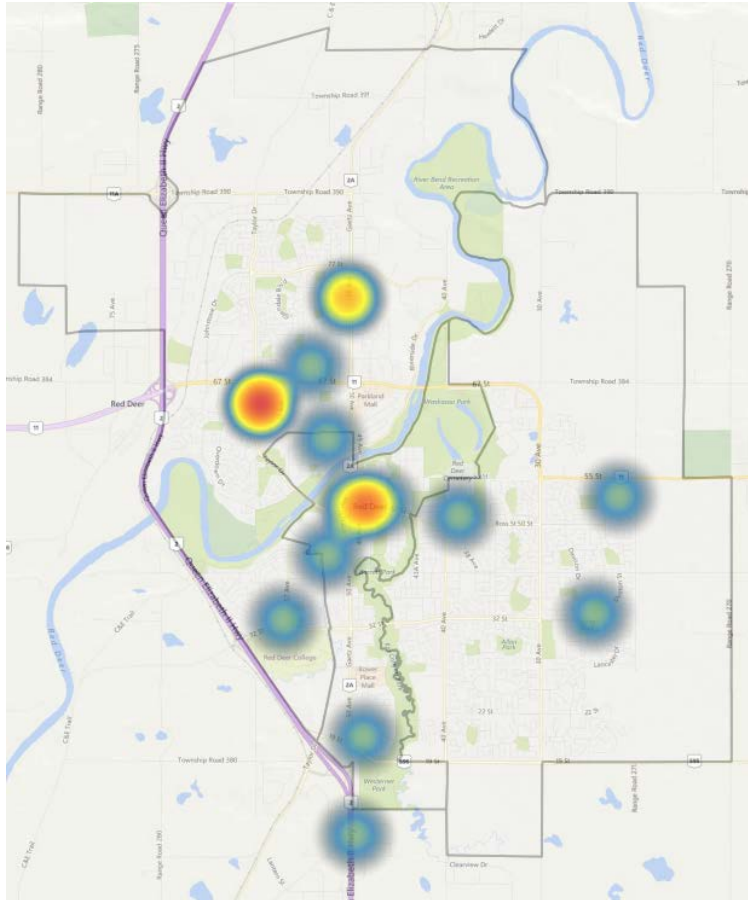
Medicine Hat



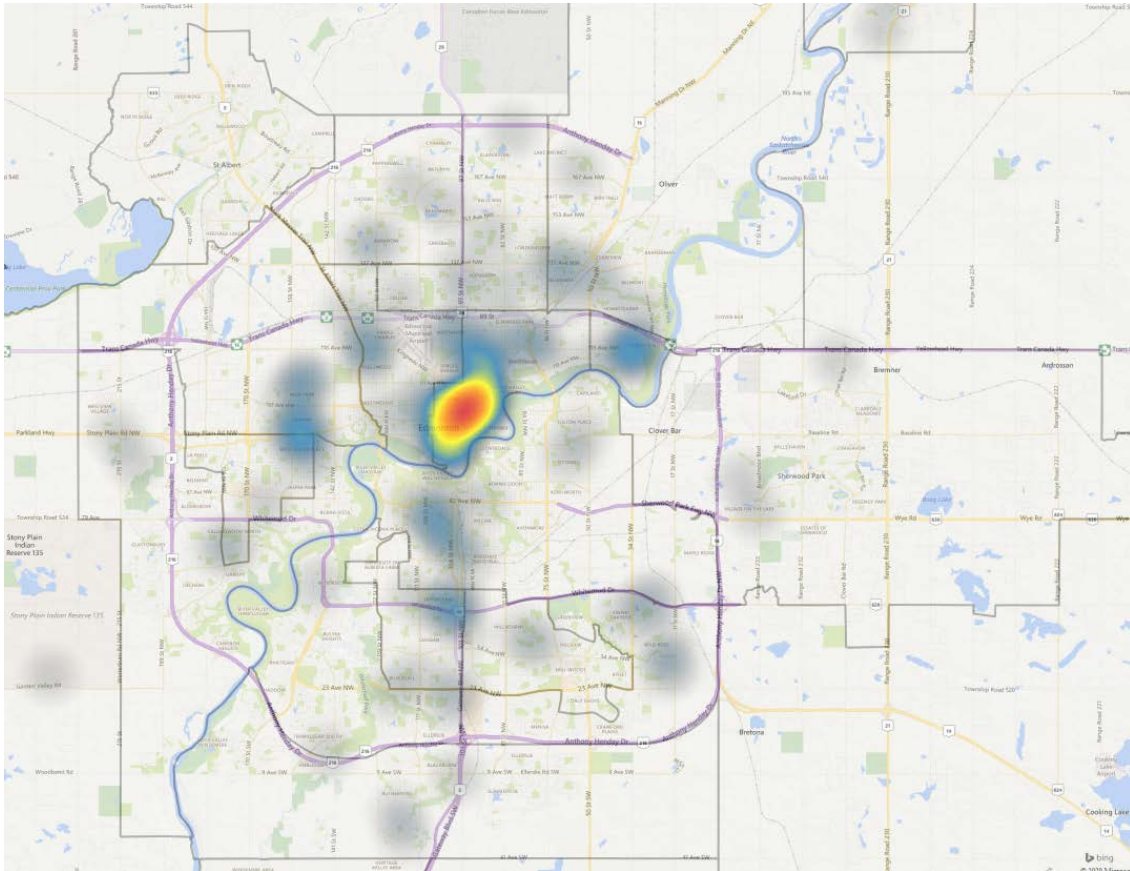
Calgary



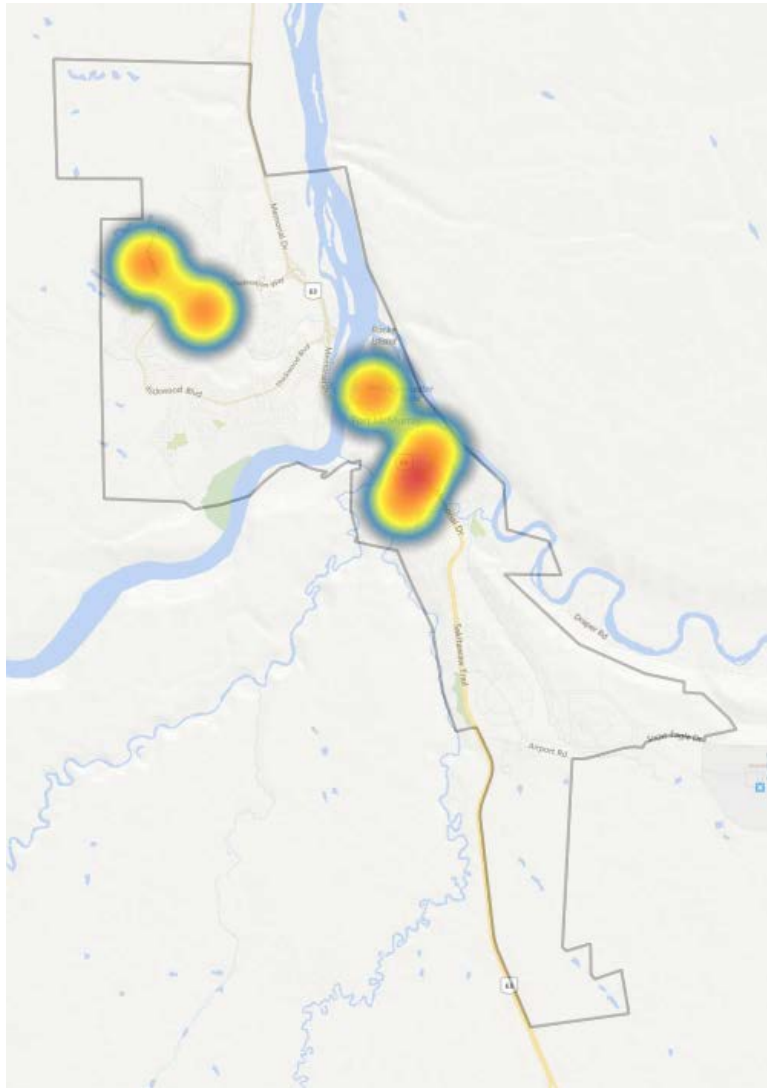
Red Deer



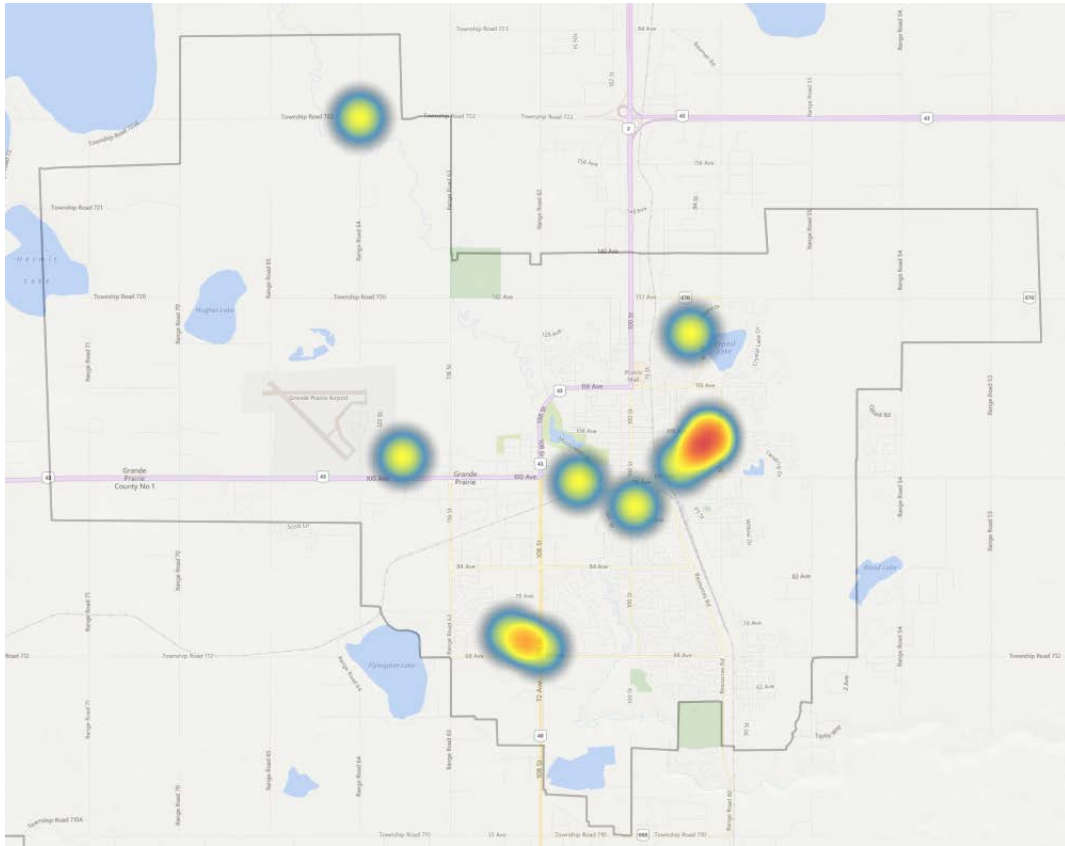
Edmonton



Fort McMurray



Grande Prairie



Data notes

Data source(s) for report

- Emergency department data-National Ambulatory Care Reporting System (NACRS)
- Hospitalization data -Discharge Abstract Database (DAD)
- Physician claims data –Supplemental Enhanced Service Event (SESE)
- Alberta Health Care Insurance Plan (AHCIP) Quarterly Population Registry Files
- Alberta Health Postal Code Translation File (PCTF)
- Pharmaceutical Information Network (PIN)
- Office of the Chief Medical Examiner (OCME) MEDIC data
- AHS EMS Direct delivery and AHS contractors-ground ambulance services data
- AHS ODP clinic data
- Community based naloxone kit program
- Alberta Blue Cross Data (community pharmacy naloxone kit dispensing)
- Supervised consumption services

Mortality data

The following substances are used to identify opioid poisoning deaths.

Fentanyl: fentanyl, 3-methylfentanyl, acetylfentanyl, furanylfentanyl, norfentanyl, butyrylfentanyl, despropionylfentanyl, acrylfentanyl, methoxyacetylfentanyl, cyclopropylfentanyl, fluoroisobutyrylfentanyl (FIBF), or carfentanil

Non-fentanyl opioids: non-specified opiate, heroin, oxycodone, hydromorphone, morphine, codeine, tramadol, illicit synthetic opioids (e.g., U-47700), buprenorphine, or methadone

Fentanyl-related deaths are any deaths in which fentanyl or a fentanyl analogue was identified as a cause of death (these may also have involved non-fentanyl opioids). Non-fentanyl related deaths are deaths in which an opioid other than fentanyl or a fentanyl analogue was identified as a cause of death.

Emergency Medical Services data

Emergency Medical Services (EMS) data comes from AHS EMS Direct delivery and most AHS Contractor – ground ambulance services. Air ambulance and Interfacility Transfers are not included. AHS direct delivery does 97 per cent of the operational responses in the Municipality of Edmonton, 99 per cent in the Municipality of Calgary, and approximately 82 per cent in the entire province of Alberta. EMS opioid related events refer to any EMS response where the Medical Control Protocol of Opiate Overdose was documented and/or naloxone was administered.

Emergency visits

Emergency Department (ED) visits are defined by the Alberta MIS chart of accounts. Specifically, the three Functional Centre Accounts used to define any ACCS (Alberta Care Classification System) visits into an emergency visit could be:

71310 – Ambulatory care services described as emergency

71513 – Community Urgent Care Centre (UCC). As of 2014, the UCCs in Alberta are listed below:

Airdrie Regional Health Centre, Cochrane Community Health Centre, North East Edmonton Health Centre, Health First Strathcona, Okotoks Health and Wellness Centre, Sheldon M Chumir Centre, South Calgary Health Centre

71514 – Community Advanced Ambulatory Care Centre (AACC). As of 2014, the only AACC in Alberta is La Crete Health Centre

Community pharmacy drug dispensing

The Pharmaceutical Information Network (PIN) Database is used to estimate dispensation events for the province only from community pharmacies. Variability can be dependent on the way the drug is prescribed.

PIN records can change due to data reconciliations, which may affect results. Results are more stable with older data.

Opioid dependency drugs are defined by the ATC code (Anatomical Therapeutic Chemical), as given in the table below.

ATC Code	Drug Name	ATC Grouping
N07BC51	Buprenorphine, combinations	Drugs used in opioid dependence
N07BC02	Methadone	Drugs used in opioid dependence

The following DINs were excluded since they are indicated for pain relief by Health Canada. 02247701, 02247700, 02241377, 02247699, 02247698, 02247694

Opioid dispensing data is obtained from the Pharmaceutical Information Network (PIN). PIN does not have information on the specific condition the opioid was prescribed for. Opioid types are defined by ATC Code, as given in the table below.

ATC CODE	DRUG NAME	ATC NAME
N02AA59, N02AA79, R05DA04, R05DA20 ¹ , R05FA02 ² , M03BA53, M03BB53, N02BE51, and N02BA51	CODEINE	CODEINE
R05DA03, R05DA20 ³ , R05FA02 ⁴	HYDROCODONE	HYDROCODONE
N02AB03, N01AH01	FENTANYL	FENTANYL
N02AA03	HYDROMORPHONE	HYDROMORPHONE
N02AA01	MORPHINE	MORPHINE
N02AA05, N02AA55, N02BE51, and N02BA51	OXYCODONE	OXYCODONE
N02AX02, N02AX52	TRAMADOL	TRAMADOL
N07BC02	METHADONE	METHADONE
N02AA	NATURAL OPIUM ALKALOIDS	OTHER
N02AA02	OPIUM	OTHER
N02AB02	PETHIDINE	OTHER
N02AC04, N02AC54	DEXTROPROPOXY PHENE	OTHER
N01AH03	SUFENTANIL	OTHER
N01AH06	REMIFENTANIL	OTHER
N01AX03	KETAMINE	OTHER
R05DA20	NORMETHADONE	OTHER
N02AD01	PENTAZOCINE	OTHER
N02AE01, N04BC51	BUPRENORPHINE	OTHER
N02AF01	BUTORPHANOL	OTHER
N02AF02	NALBUFINE	OTHER
N02AX06	TAPENTADOL	OTHER

The following DINs are excluded from the opioid dispensing data because they have been identified as drugs used to treat opioid dependence: 02244290, 02247374, 02394596, 02394618, 02295695, 02295709, 02408090, 02408104, 02424851, 02424878, 02453908, 02453916,

¹ The ATC name for R05DA20 is "combinations" which include drugs that contain codeine, hydrocodone, and normethadone hydrochloride. Classifications of codeine and hydrocodone were based on both drug identification number and ATC code.

² The ATC name for R05FA02 is "opium derivatives and expectorants" which include drugs that contain codeine and hydrocodone. Classifications of these drugs were based on both drug identification number and ATC code.

³ See footnote #1 ⁴See footnote #2

02468085, 02468093. The following DINs were excluded because they do not contain opioids:
02239141, 02254468