

Alberta

Opioid
Response
Surveillance
Report

Q1 2020

June 2020

Alberta 

Health, Government of Alberta

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Alberta Opioid Response Surveillance Report: Q1 2020

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Highlights

- The most up-to-date data shows that 142 people have died from an apparent accidental opioid poisoning so far in the first three months of 2020.
- By comparison, in same time period in 2019, there were 161 apparent accidental opioid poisoning deaths (135 fentanyl deaths and 26 non-fentanyl opioid deaths from January to March, 2019). This is a 11.8 per cent decrease in the number of accidental opioid deaths in the first quarter of 2020 compared to the same time period in 2019.
- On average, in the first three months of 2020, 1.6 individuals died every day in Alberta as a result of an apparent accidental opioid poisoning.
- In the most recent quarter, 127 people died from an apparent accidental fentanyl-related poisoning, compared to 105 people in the previous quarter.

Key points

Apparent accidental poisoning deaths related to fentanyl

- In the first quarter of 2020, there were 127 apparent accidental poisoning deaths related to fentanyl in Alberta. By comparison, there were 105 of these deaths in the last quarter of 2019.
- From January 1, 2020 to March 31, 2020, 85 per cent of deaths occurred in larger urban municipalities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the first quarter of 2020, the Edmonton (45) and Calgary Zones (49) had the highest number of fentanyl deaths. In the first quarter of 2020, the South Zone had the highest rate per 100,000 person years at 14.1. The Edmonton and Central Zones had the second highest rates at 12.4 per 100,000 person years. The provincial average was 11.4 per 100,000 person years.

Apparent accidental poisoning deaths related to non-fentanyl opioids

- In the first quarter of 2020, there were 15 apparent accidental poisoning deaths related to an opioid other than fentanyl in Alberta. By comparison, there were 19 of these deaths in the last quarter of 2019.
- In the first three months of 2020, 53 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 first quarter of 2020, the South (4) and Edmonton Zones (4) had the highest number of these deaths. In the first quarter of 2020, the South Zone had the highest rate at 5.1 per 100,000 person years, compared to a provincial average of 1.3 per 100,000 person years.

Confirmed drug poisoning deaths

- Among all confirmed drug and alcohol poisoning deaths (accidental and suicide) in 2020 opioids (fentanyl or non-fentanyl) were directly involved in 77 per cent of deaths. 23 per cent of all confirmed drug and alcohol poisoning deaths (accidental and suicide) 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, 80 per cent of accidental fentanyl related deaths listed at least one other substance as contributing to death, the most frequent being methamphetamine (50 per cent) and cocaine (22 per cent).

Emergency department visits

- In the fourth quarter of 2019, there were 2,471 emergency and urgent care visits related to opioids and other drug use. In the previous quarter, there were 2,778 emergency and urgent care visits related to opioids and other drug use.
- In the fourth quarter of 2019, emergency and urgent care visits related to opioid and other drug use occurred among 2,060 unique individuals, of whom 13 per cent had more than one visit.

Supervised consumption services

- In the most recent quarter (January to March 2020), there were 115,809 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 120,260 visits to these sites. In the first quarter of 2020, there were on a monthly average, 2,497 unique clients who attended these sites, and 1,109 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 accidental and undetermined deaths grouped together as "accidental 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.

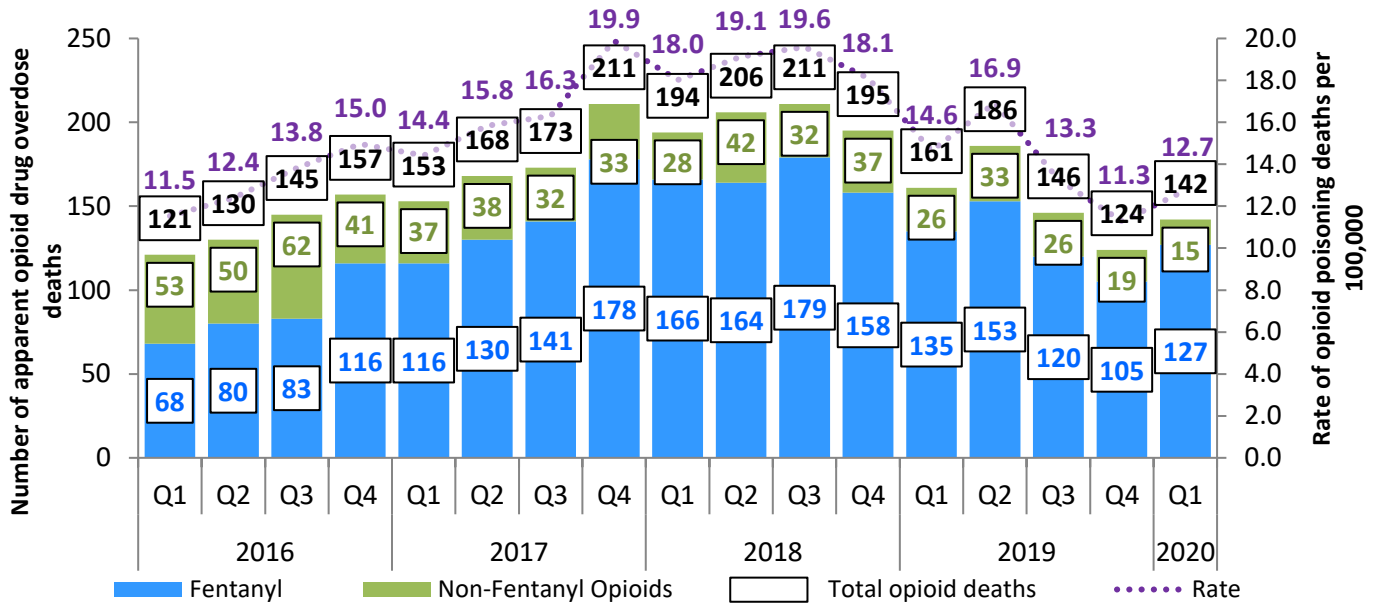
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Mortality data: Apparent accidental opioid poisoning deaths

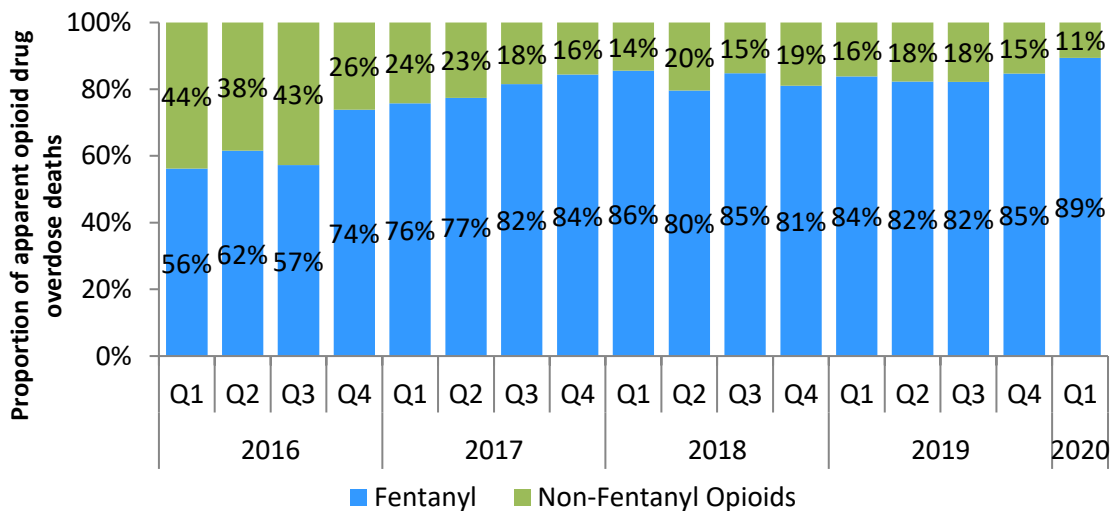
Fentanyl and non-fentanyl related deaths

Figure 1: Number and rate of apparent accidental opioid poisoning deaths related to any opioid, by quarter. January 1, 2016 to March 31, 2020.



- Since January 1, 2016 **2,823** individuals have died from an accidental opioid poisoning in Alberta. The per 100,000 rate of opioid poisoning deaths in the first quarter of 2020 increased to 12.7, following two consecutive quarters where the rate had decreased.

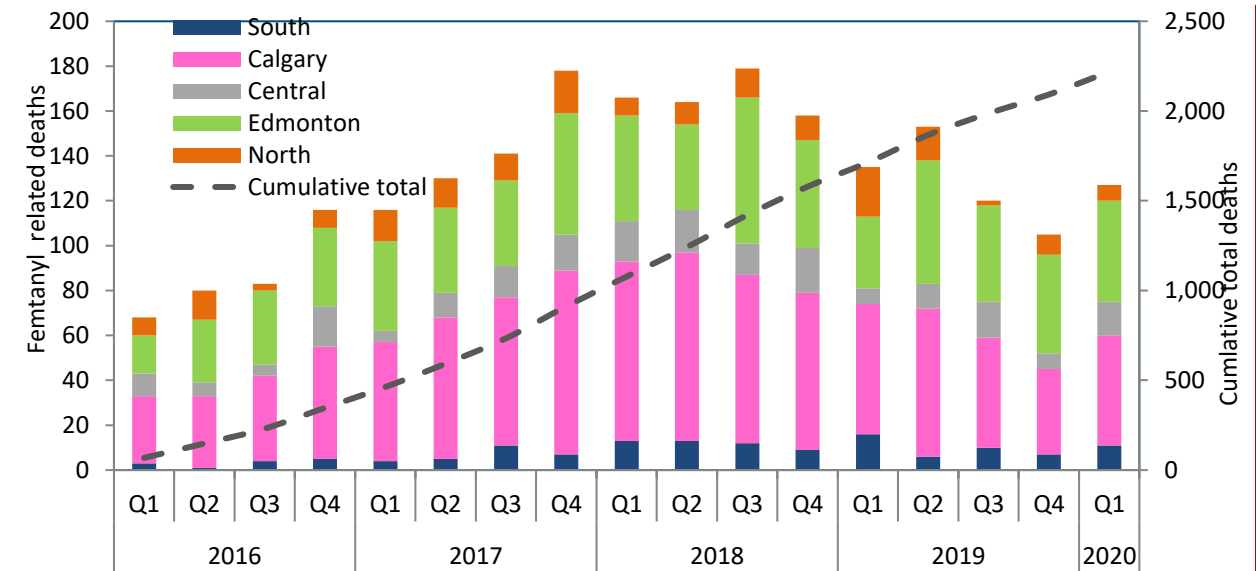
Figure 2: Proportion of fentanyl vs. non-fentanyl related apparent accidental opioid poisoning deaths, by quarter. January 1, 2016 to March 31, 2020.



- Almost all opioid poisoning deaths are now related to fentanyl. In the first quarter of 2020, 89 per cent of all opioid poisoning deaths were related to fentanyl.

Fentanyl related deaths

Figure 3: Number of apparent accidental fentanyl poisoning deaths, by Zone (based on place of death) and quarter. January 1, 2016 to March 31, 2020.



- Since January 1, 2016, 2,219 individuals in Alberta died from an apparent accidental drug poisoning death related to fentanyl (347 in 2016, 565 in 2017, 668 in 2018, and 523 in 2019). The number of fentanyl poisoning deaths in 2019 was 7 per cent lower than the number in 2017 and 21 per cent lower than the number of deaths in 2018.
- In 2019, on average, 131 individuals in Alberta died from an apparent accidental drug poisoning death related to fentanyl per quarter, while in 2018, on average, 167 individuals died from an apparent accidental drug poisoning death related to fentanyl per quarter.

Table 1: Number of apparent accidental fentanyl poisoning deaths, by quarter. January 1, 2016 to December 31, 2019

South	3	1	4	5	4	5	11	7	13	13	12	9	16	6	10	7	11	137
Calgary	30	32	38	50	53	63	66	82	80	84	75	70	58	66	49	38	49	983
Central	10	6	5	18	5	11	14	16	18	19	14	20	7	11	16	7	15	212
Edmonton	17	28	33	35	40	38	38	54	47	38	65	48	32	55	43	44	45	700
North	8	13	3	8	14	13	12	19	8	10	13	11	22	15	2	9	7	187
Alberta	68	80	83	116	116	130	141	178	166	164	179	158	135	153	120	105	127	2,219
	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	

Table 2: Rate (per 100,000 person years) and number of apparent accidental drug poisoning deaths related to fentanyl, by Zone (based on place of death). January 1, 2016 to March 31, 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	11	14.1
Calgary Zone	150	9.3	264	16.2	309	18.6	211	12.4	49	11.4
Central Zone	39	8.1	46	9.5	71	14.5	41	8.5	15	12.4
Edmonton Zone	113	8.4	170	12.4	198	14.3	174	12.2	45	12.4
North Zone	32	6.5	58	11.8	42	8.5	48	9.9	7	5.7
Alberta	347	8.2	565	13.2	667	15.4	513	11.7	127	11.4

- The Calgary and Edmonton Zones continue to have the highest number of apparent accidental poisoning deaths related to fentanyl. In the first quarter of 2020, the South Zone had the highest rate per 100,000 person years at followed by the Edmonton and Central Zone. While the Calgary and North Zone saw a decrease in the rate of fentanyl poisoning deaths in the first quarter of 2020, the South, Edmonton, and Central Zone had higher rates in the first quarter of 2020, compared to the 2019 rate.

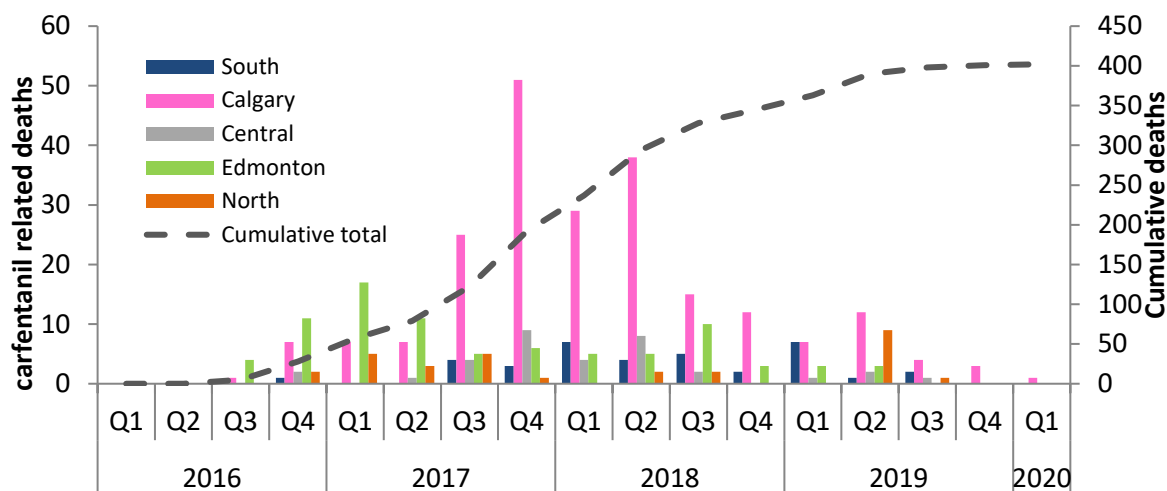
Table 3: Rate (per 100,000 person years) and number of apparent accidental drug poisoning deaths related to fentanyl, by municipality (based on place of death). January 1, 2016 to March 31, 2020.

	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	6	24.2
Medicine Hat	2	2.9	7	10.2	12	17.5	10	14.5	1	5.8
Calgary	144	10.9	239	18.0	289	21.7	195	14.3	48	13.9
Red Deer	23	21.1	23	21.4	46	42.8	17	15.6	8	28.9
Edmonton	99	10.2	136	13.7	179	18.1	153	15.0	42	16.2
Fort McMurray	9	11.1	14	17.6	11	13.9	8	10.1	0	0.0
Grande Prairie	10	13.5	27	36.4	23	31.0	24	32.2	3	15.9
Total	295	10.8	461	16.7	585	21.2	431	15.1	108	15.2

- The municipalities of Calgary and Edmonton continue to have the highest number of apparent accidental poisoning deaths related to fentanyl. In the first quarter of 2020, the Municipality of Red Deer had the highest rate of apparent drug poisoning deaths related to fentanyl per 100,000 person years, followed by Lethbridge. Only Edmonton, Red Deer, and Lethbridge had an increase in the rate of fentanyl poisoning deaths from 2019 to the first quarter of 2020.

YTD = January 1 to March 31

Figure 4: Number of apparent accidental drug poisoning deaths related to carfentanyl, by Zone (based on place of death) and quarter. January 1, 2016 to March 31, 2019. *Subcategory of fentanyl deaths from Figure 3*



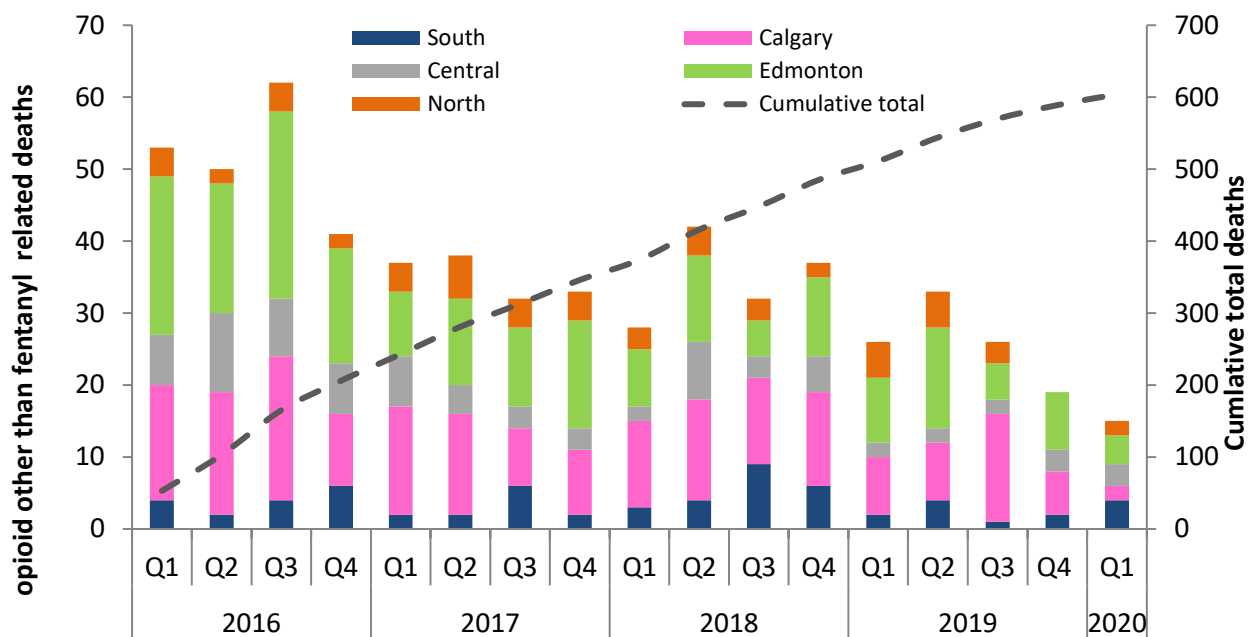
- The first Alberta carfentanyl cases were detected in the third quarter of 2016, with 28 cases occurring in all of 2016. In 2017, 164 individuals in Alberta died from a drug poisoning related to carfentanyl, 153 in 2018, 56 in 2019, and one in the first quarter of 2020.
- The number of carfentanyl cases peaked in the last quarter of 2017 (70 deaths), and since then, the numbers have decreased, with only one occurring in the first quarter of 2020.
- To date, 54 per cent of all carfentanyl deaths have occurred in the Calgary Zone. In the first quarter of 2020 all carfentanyl deaths occurred in the Calgary Zone (1 death).

Table 4: Number of apparent accidental carfentanyl poisoning deaths, by quarter (Subcategory of fentanyl deaths from Table 1). January 1, 2016 to March 31, 2020.

South	0	0	0	1	0	0	4	3	7	4	5	2	7	1	2	0	0	36
Calgary	0	0	1	7	7	7	25	51	29	38	15	12	7	12	4	3	1	219
Central	0	0	0	2	0	1	4	9	4	8	2	0	1	2	1	0	0	34
Edmonton	0	0	4	11	17	11	5	6	5	5	10	3	3	3	0	0	0	83
North	0	0	0	2	5	3	5	1	0	2	2	0	0	9	1	0	0	30
Alberta	0	0	5	23	29	22	43	70	45	57	34	17	18	27	8	3	1	402
	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	

Non-fentanyl opioid related deaths

Figure 5: Number of apparent accidental drug poisoning deaths related to an opioid other than fentanyl, by Zone (based on place of death) and quarter. January 1, 2016 to March 31, 2020.



- Since January 1, 2016, a total of 604 individuals in Alberta have died from apparent accidental drug poisoning related to an opioid other than fentanyl (206 in 2016, 140 in 2017, 139 in 2018, and 104 in 2019, and 15 in the first quarter of 2020).

Table 5: Number of apparent accidental drug poisoning deaths related to an opioid other than fentanyl, by quarter. January 1, 2016 to March 31, 2020

South	4	2	4	6	2	2	6	2	3	4	9	6	2	4	1	2	4	63
Calgary	16	17	20	10	15	14	8	9	12	14	12	13	8	8	15	6	2	199
Central	7	11	8	7	7	4	3	3	2	8	3	5	2	2	2	3	3	80
Edmonton	22	18	26	16	9	12	11	15	8	12	5	11	9	14	5	8	4	205
North	4	2	4	2	4	6	4	4	3	4	3	2	5	5	3	0	2	57
Alberta	53	50	62	41	37	38	32	33	28	42	32	37	26	33	26	19	15	604
	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	

Table 6: Rate (per 100,000 person years) and number of apparent accidental drug poisoning deaths related to an opioid other than fentanyl, by Zone (based on place of death). January 1, 2016 to March 31, 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	4	5.1
Calgary Zone	63	3.9	46	2.8	51	4.1	37	2.2	2	0.5
Central Zone	33	6.9	17	3.5	18	4.9	9	1.9	3	2.5
Edmonton Zone	82	6.1	47	3.4	36	3.5	36	2.5	4	1.1
North Zone	12	2.4	18	3.7	12	3.2	13	2.7	2	1.6
Alberta	206	4.9	140	3.3	139	4.2	104	2.4	15	1.3

- In the first quarter of 2020, the South and Edmonton Zones had the highest number of these deaths. In the first quarter of 2020, the South Zone had the highest rate per 100,000 person years at 5.1, compared to the provincial average of 1.3 per 100,000 person years.

Table 7: Rate (per 100,000 person years) and number of apparent accidental drug poisoning deaths related to an opioid other than fentanyl, by municipality (based on place of death). January 1, 2016 to March 31, 2020.

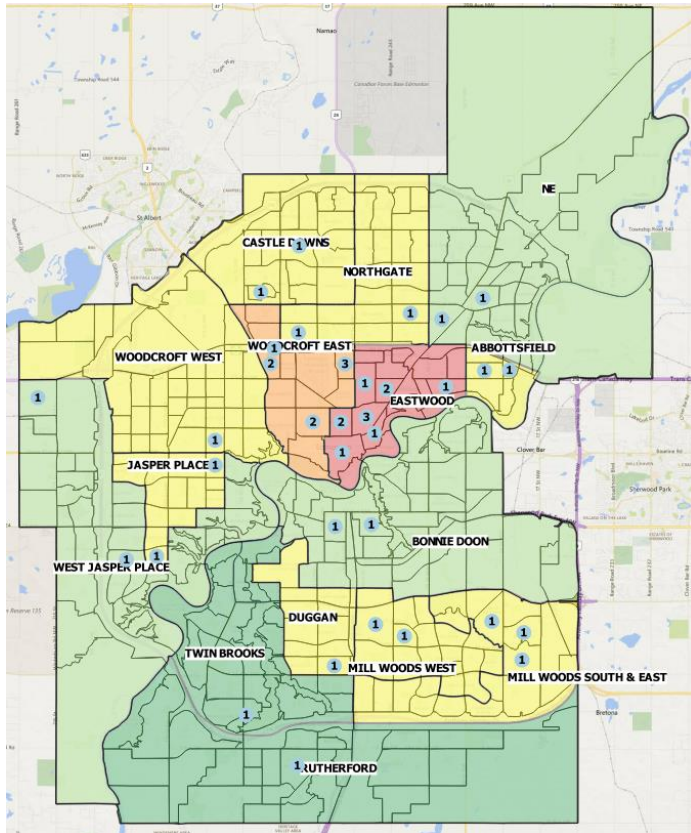
	2016		2017		2018		2019		2020 YTD	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Lethbridge	4	4.1	3	3.1	7	9.4	4	4.1	0	0.0
Medicine Hat	4	5.9	3	4.4	5	9.7	3	4.4	0	0.0
Calgary	47	3.6	35	2.6	32	3.2	32	2.4	2	0.6
Red Deer	12	11.0	7	6.5	7	8.7	5	4.6	0	0.0
Edmonton	66	6.8	41	4.1	30	4.0	30	2.9	4	1.5
Fort McMurray	1	1.2	2	2.5	1	1.7	2	2.5	1	5.0
Grande Prairie	1	1.4	4	5.4	2	3.6	2	2.7	1	5.3
Total	135	5.0	95	3.5	84	4.1	78	3.7	8	1.1

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

YTD = January 1 to March 31

Municipalities of Edmonton and Calgary (opioid related deaths)

Figure 6: Rate (per 100,000 person years) and counts of apparent accidental opioid poisoning deaths, in the Municipality of Edmonton, based on place of overdose, by LGA. January 1, 2020 to March 31, 2020.



	Count	Rate per 100,000
CITY of EDMONTON	42	16.2
EASTWOOD	11	57.9
WOODCROFT EAST	8	50.7
ABBOTSFIELD	2	52.7
JASPER PLACE	2	16.0
MILL WOODS WEST	2	15.3
MILL WOODS SOUTH & EAST	3	14.6
WOODCROFT WEST	1	12.2
CASTLE DOWNS	2	11.3
DUGGAN	1	9.7
NORTHGATE	2	9.5
NE	2	9.1
BONNIE DOON	2	8.0
WEST JASPER PLACE	2	7.9
TWIN BROOKS	1	5.1
RUTHERFORD	1	4.0

Legend

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

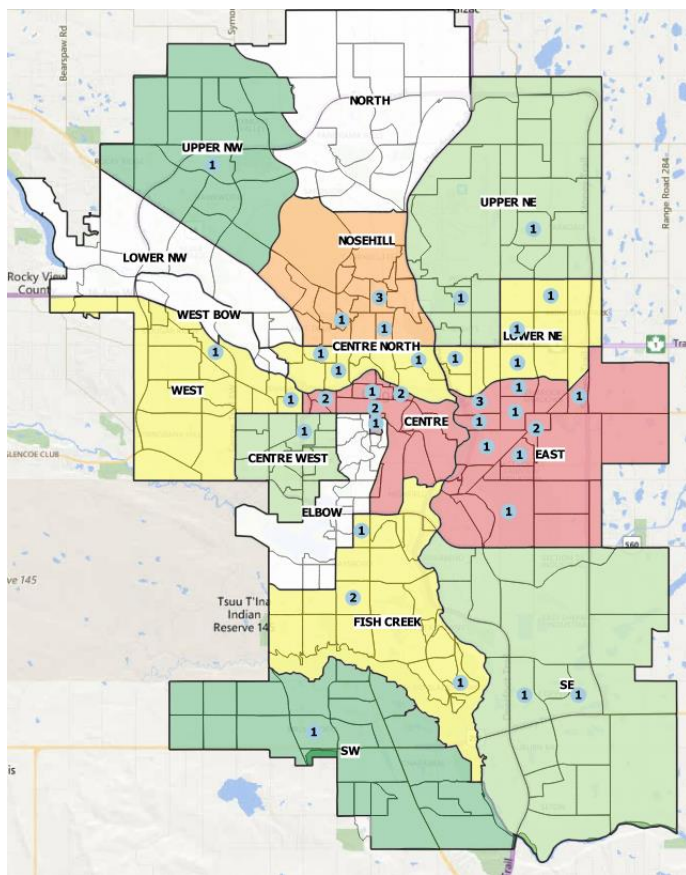
- Significantly lower
- Lower
- Average
- Higher
- Significantly higher
- No deaths

● Number in blue circle represents neighborhood level counts

- Within the Municipality of Edmonton, the LGAs with a **higher** rate of apparent accidental opioid poisoning deaths **compared to the municipality average** were Eastwood, and Woodcroft East. However, 55 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 three deaths were McCauley and Westwood.

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 8 per cent of deaths.

Figure 7: Rate (per 100,000 person years) and counts of apparent accidental opioid poisoning deaths, in the Municipality of Calgary, based on place of overdose, by LGA. January 1, 2020 to March 31, 2020.



	Count	Rate per 100,000
CITY of Calgary	45	13
EAST	12	62.8
CENTRE	8	48.1
NOSEHILL	5	24.9
CENTRE NORTH	3	25.5
LOWER NE	4	16.0
FISH CREEK	4	13.8
WEST	2	8.4
UPPER NE	2	7.2
CENTRE WEST	1	5.9
SE	2	5.9
SW	1	3.4
UPPER NW	1	3.3
NORTH	0	0.0
LOWER NW	0	0.0
WEST BOW	0	0.0
ELBOW	0	0.0

Legend

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

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

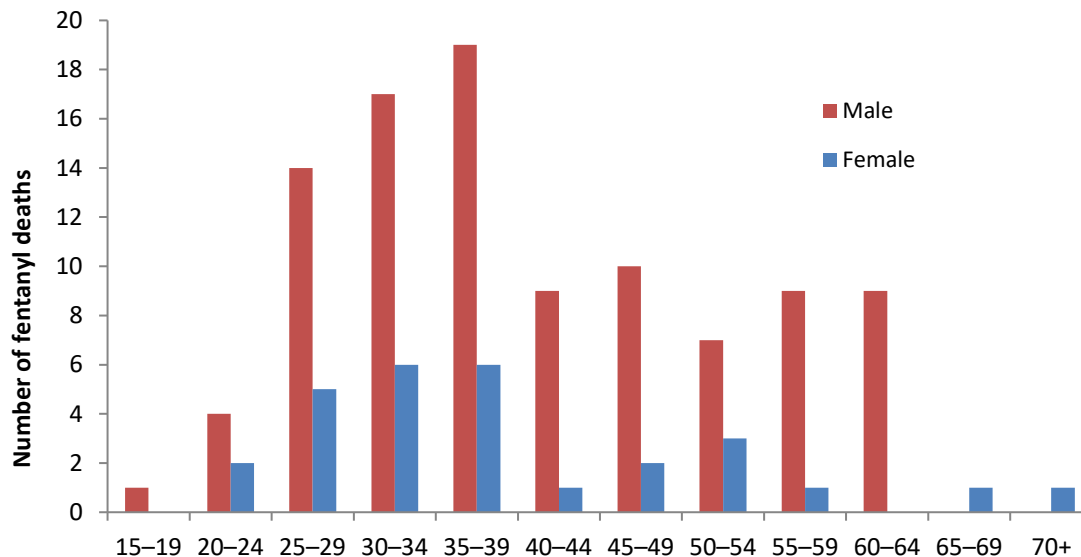
● Number in blue circle represents neighborhood level counts

- Within the Municipality of Calgary, the LGAs with **higher** rates of apparent accidental opioid poisoning deaths **compared to the municipality average** were East, Centre, and Nosehill. However, 44 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 44 per cent of fentanyl-related deaths in Calgary.
- The neighborhoods that had three deaths was Highland Park and Alberta Park.

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 27 per cent of deaths.

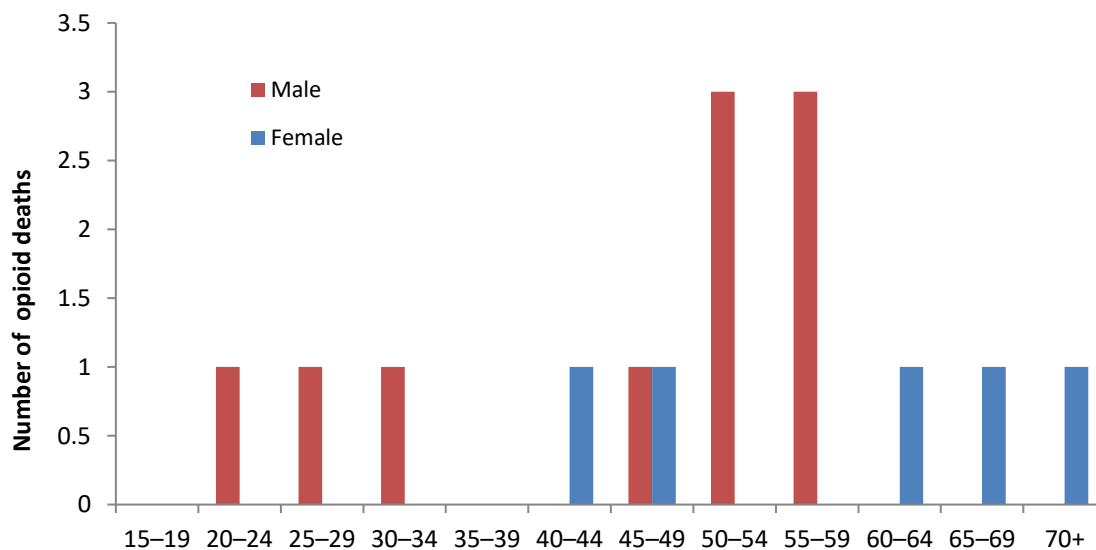
Demographics and recent medical history of apparent accidental opioid poisoning decedents

Figure 8: Apparent accidental poisoning deaths related to fentanyl, by sex and age. January 1, 2020 to March 31, 2020.



- 78 per cent of apparent accidental 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 39 years.

Figure 9: Apparent accidental poisoning deaths related to an opioid other than fentanyl, by sex and age, January 1, 2020 to March 31, 2020.



- 67 per cent of apparent accidental poisoning deaths related to an opioid other than fentanyl were among males. Among males, the highest number of deaths occurred among individuals spanning the ages of 50 to 59, among females, 40 to 49, and 60 to 70+.

Figure 10: Proportion of apparent accidental poisoning deaths related to fentanyl, by medical history within the 30 days before the date of death, January 1, 2019 to December 31, 2019.

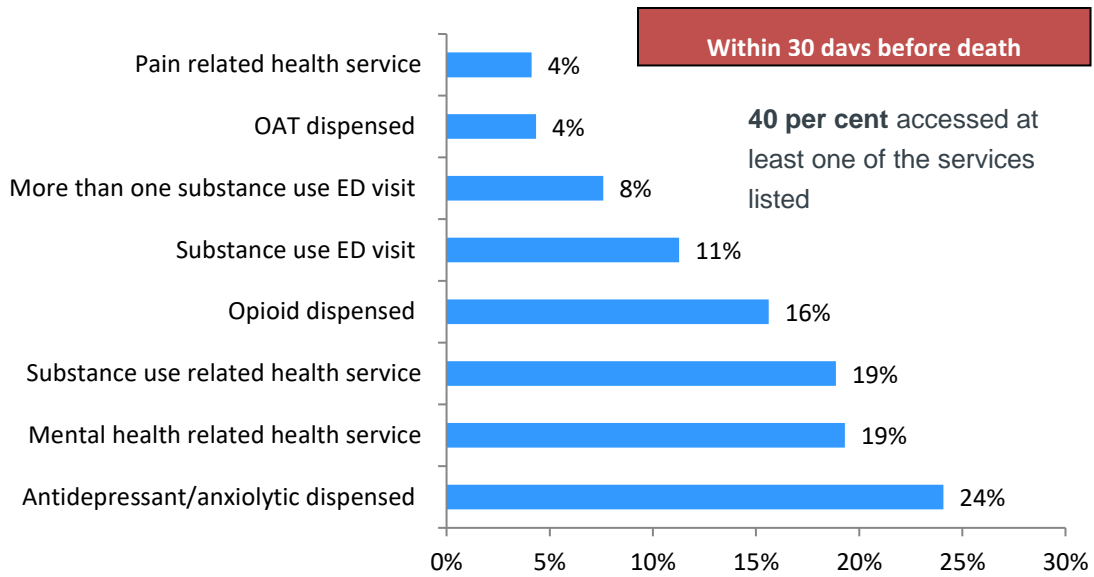
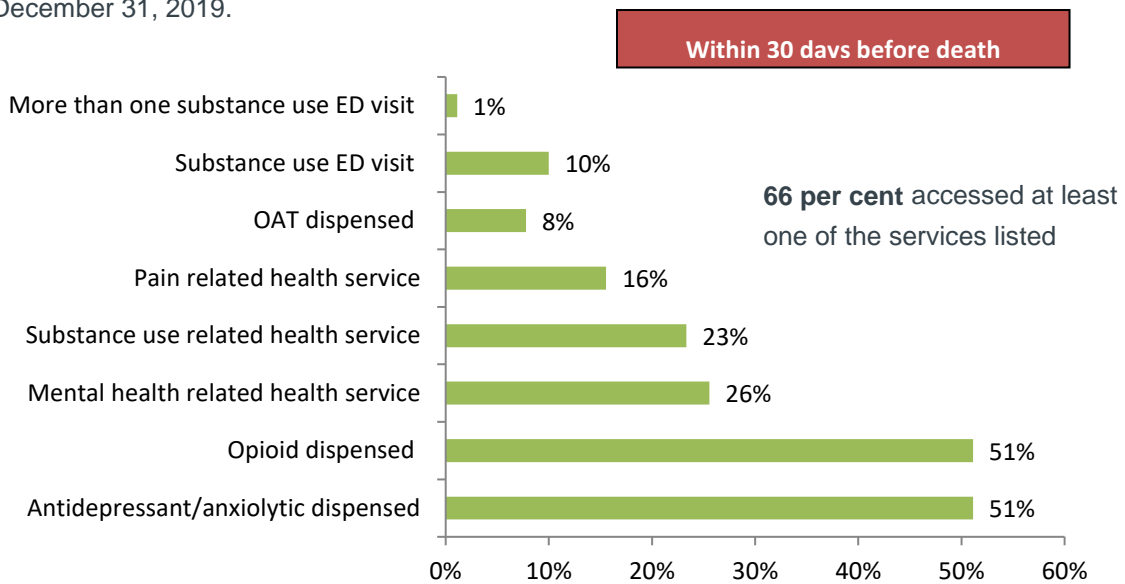


Figure 11: Proportion of apparent accidental poisoning deaths related to an opioid other than fentanyl, by medical history within the 30 days before the date of death, January 1, 2019 to December 31, 2019.



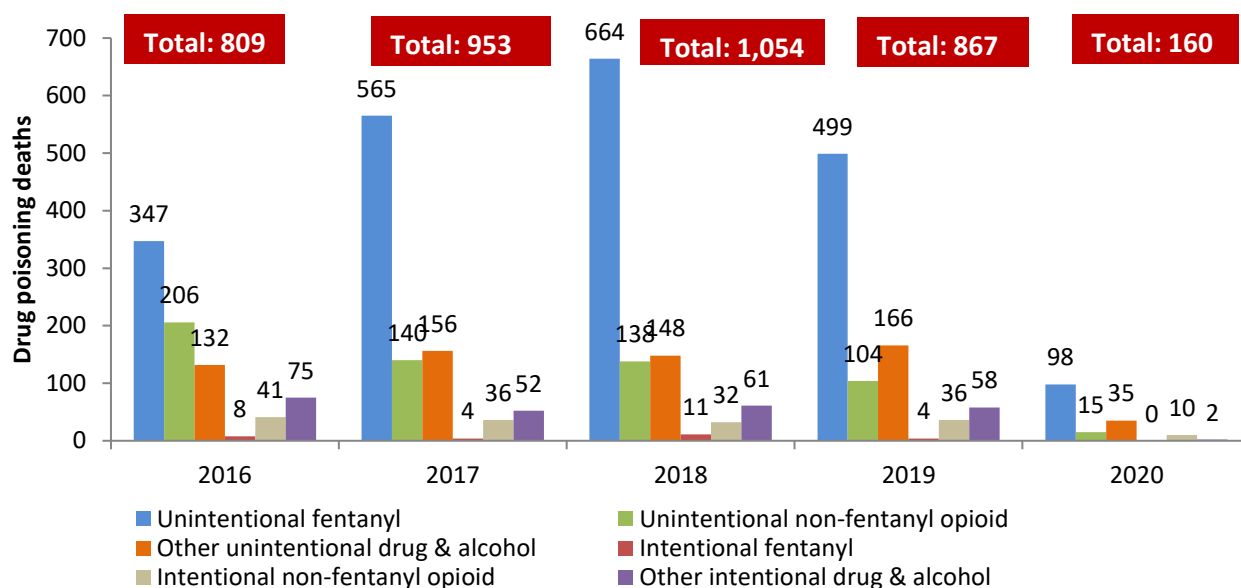
- Among apparent accidental poisoning deaths related to fentanyl, the most frequent health care utilization within 30 days before the individual's date of death was having an antidepressant or anxiolytic dispensed, followed by a substance use or mental health related visit.
- Among apparent accidental 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 (accidental and suicide)

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

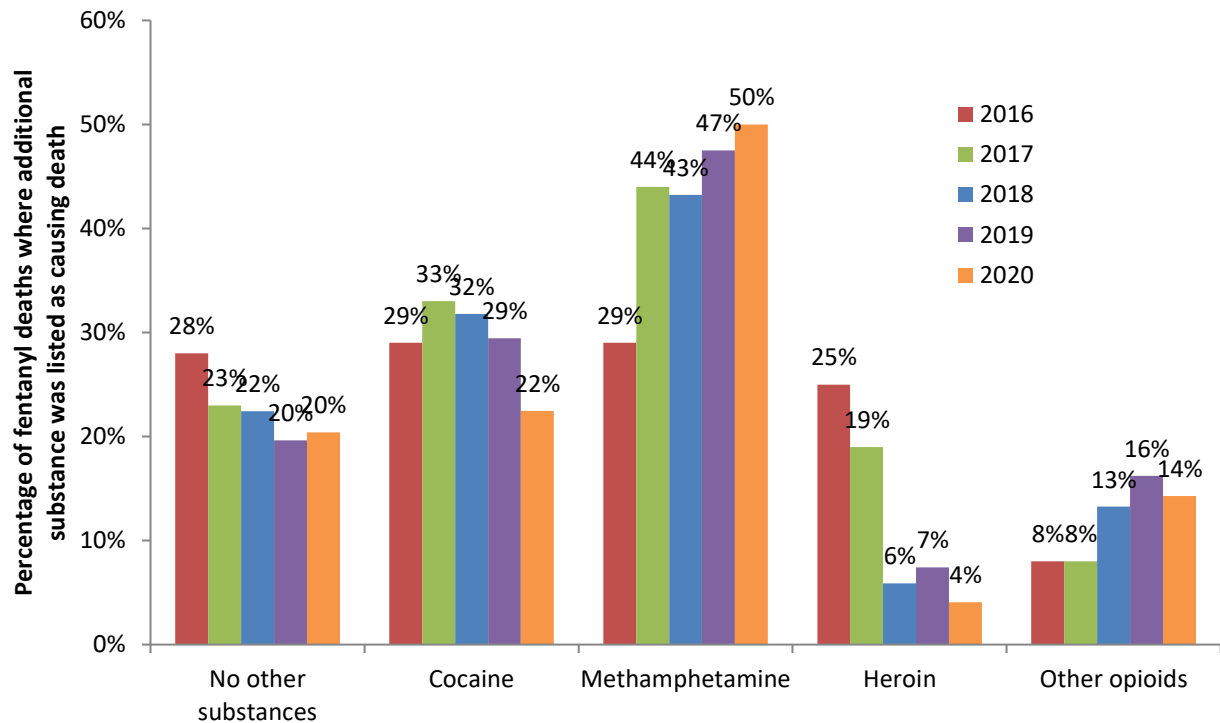
Some drug poisoning deaths in 2019 and 2020 are currently under review by the Office of the Chief Medical Examiner and have not been confirmed. Therefore, upon completion of all cases, the final number of total drug poisoning deaths in 2019 and 2020 will be higher than the current number.



- From 2016 to 2020, the proportion of all drug poisoning deaths that were unintentional (accidental) increased from 85 per cent to 93 per cent.
- Compared to 2019, in 2020 so far, the proportion of unintentional (accidental) drug poisoning deaths involving any opioid (non-fentanyl or fentanyl) remained similar, at 76 per cent of all accidental drug poisoning deaths, with fentanyl occurring in 66 per cent of these deaths.
- Compared to 2019, in 2020 so far, the proportion of intentional (suicide) drug poisoning deaths involving any opioid (non-fentanyl or fentanyl) increased from 41 per cent to 83 per cent.
- In 2020, approximately 20 per cent of all opioid related poisoning deaths (accidental and suicides) also listed alcohol as contributing to the poisoning death. Alcohol was the only substance listed as causing death in 10 (5 per cent) of all drug and alcohol poisoning deaths in 2019. 90 per cent were accidental poisoning deaths, and 10 per cent were undetermined manner of death.

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 intentional (suicide) or unintentional (accidental). "Other drugs" refers to non-opioid prescription drugs and illicit drugs such as cocaine.

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

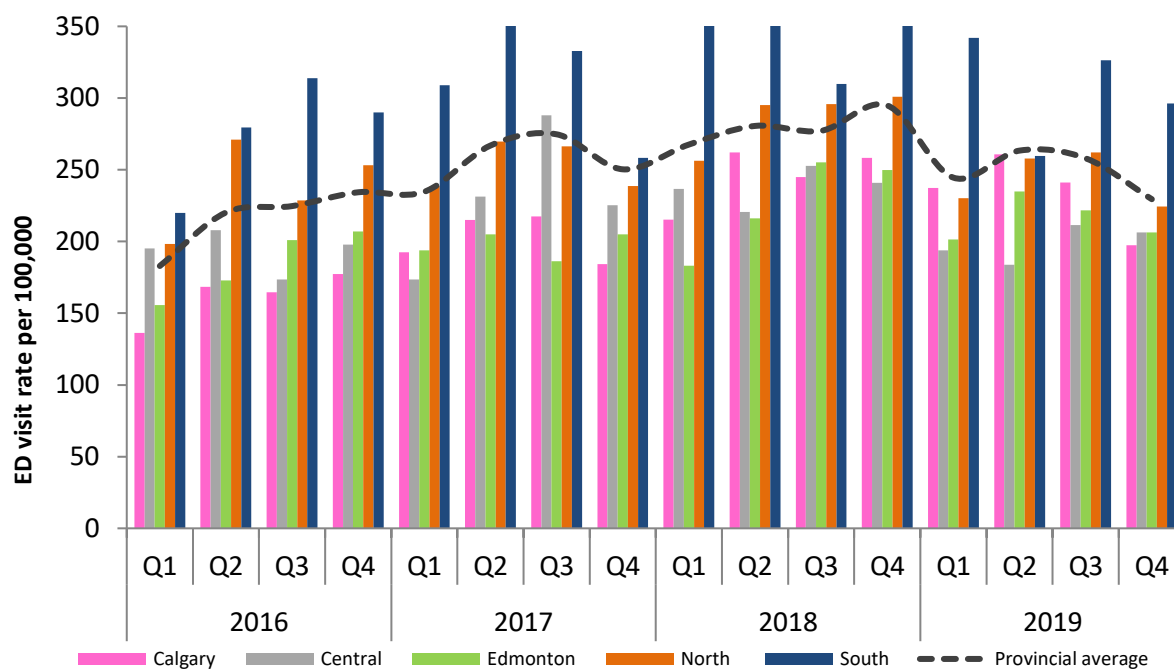


- In 2020, 20 per cent of all fentanyl poisoning deaths had no other substances listed on the death certificate as causing death, while 50 per cent had methamphetamine listed, 22 per cent had cocaine listed, and 4 per cent had heroin listed.
- The proportion of fentanyl poisoning deaths where methamphetamine was also listed as causing death slightly higher in 2020 compared to 2019 (50 per cent in 2020, 47 per cent in 2019).
- The proportion of fentanyl poisoning deaths where cocaine was also listed as causing death was lower in 2020 compared to 2019 (22 per cent in 2020, 29 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 4 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 December 31, 2019.



- The provincial rate of ED visits related to opioids and other drug use increased by 25 per cent from the first quarter of 2016 to the fourth quarter of 2019. From the third quarter of 2019 to the fourth quarter of 2019, the rate decreased by 11 per cent (2,778 visits in Q3 2019 and 2,471 visits in Q4 2019). Compared to Q4 2018, the Q4 2019 rate was 22 per cent lower.
- In the fourth quarter of 2019, the rate of ED visits related to opioids and other drug use was the highest in the South Zone (296 visits per 100,000 person years); approximately 29 per cent higher than the provincial average over this period (229 visits per 100,000 person years).
- In the fourth quarter of 2019, the Calgary and Edmonton Zones had the highest number of ED visits related to opioids and other drug use (38 and 28 per cent of all provincial ED visits to opioids and other drug use respectively).

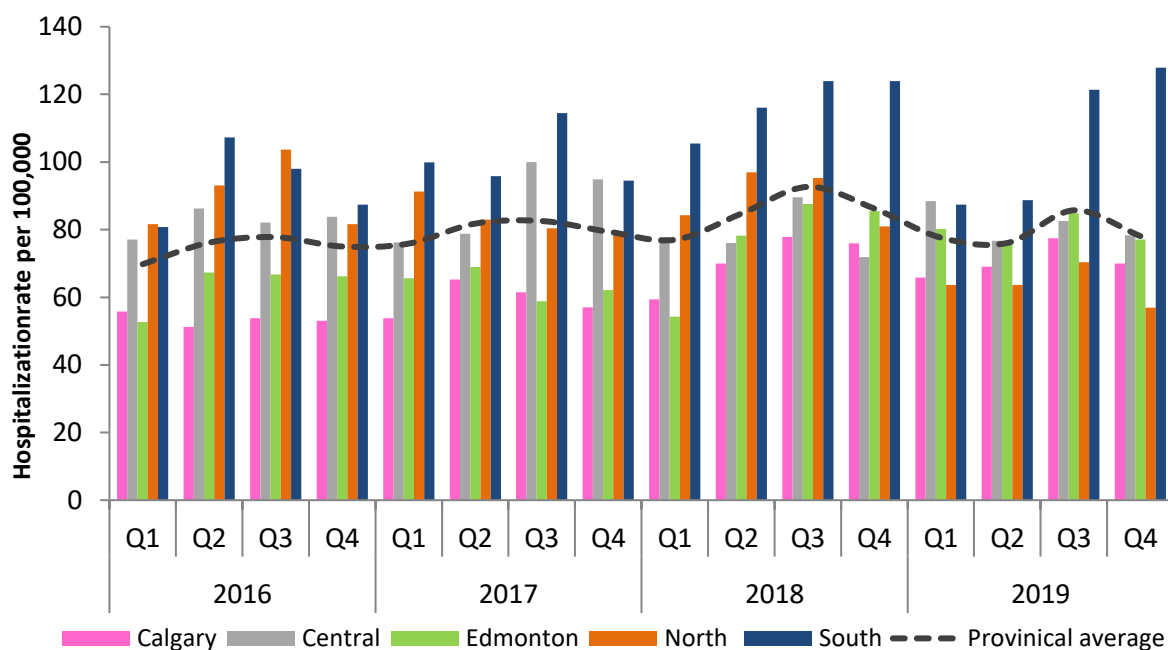
Table 8: Top 10 ED facilities utilized for emergency visits related to opioids and other drug use, January 1, 2016 to December 31, 2019

Rank	Facility	Count	% of all visits*	Rank	Facility	Count	% of all visits*
1	Royal Alexandra Hospital	5,858	14%	6	Sheldon M Chumir Center	1,741	4%
2	Peter Lougheed Centre	4,261	10%	7	South Health Campus	1,798	4%
3	Rockyview General Hospital	3,485	8%	8	Red Deer Regional Hospital	1,693	4%
4	Foothills Medical Centre	3,208	8%	9	Chinook Regional Hospital	1,629	4%
5	U of A Hospital	2,265	5%	10	Grey Nuns Community Hospital	1,553	4%

*Percentage of the total 42,417 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 December 31, 2019.



- The rate of hospitalizations related to opioids and other drug use increased by 12 per cent from the first quarter of 2016 to the fourth quarter of 2019. From the third quarter of 2019 to the fourth quarter of 2019, the rate decreased by 9 per cent.
- In the fourth quarter of 2019 the rate of hospitalizations related to opioids and other drug use was the highest in the South Zone (127 hospitalizations per 100,000 person years); approximately 64 per cent higher than the provincial average (78 hospitalizations per 100,000 person years).
- In 2019, the Calgary and Edmonton Zones had the highest number of hospitalizations related to harm associated with opioids and other drug use (34 and 33 per cent of all hospitalizations related to harm associated with opioids and other drug use per quarter, respectively).

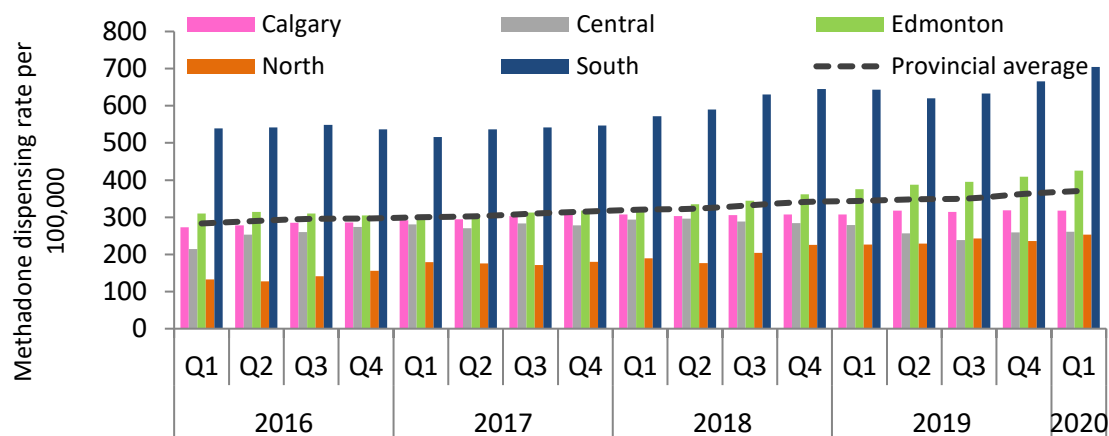
Table 9: Top 10 facilities utilized for hospitalizations related to harm associated with opioids and other drug use, January 1, 2016 to December 31, 2019.

Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	2,547	19%	6	Red Deer Regional Hospital	607	4%
2	Peter Lougheed Centre	1,553	11%	7	South Health Campus	464	3%
3	Foothills Medical Centre	1,423	11%	8	Chinook Regional Hospital	461	3%
4	Rockyview General Hospital	946	7%	9	Grey Nuns Community Hospital	434	3%
5	University Of Alberta Hospital	811	6%	10	Misericordia Community Hosp	391	3%

*Percentage of the total 13,520 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)

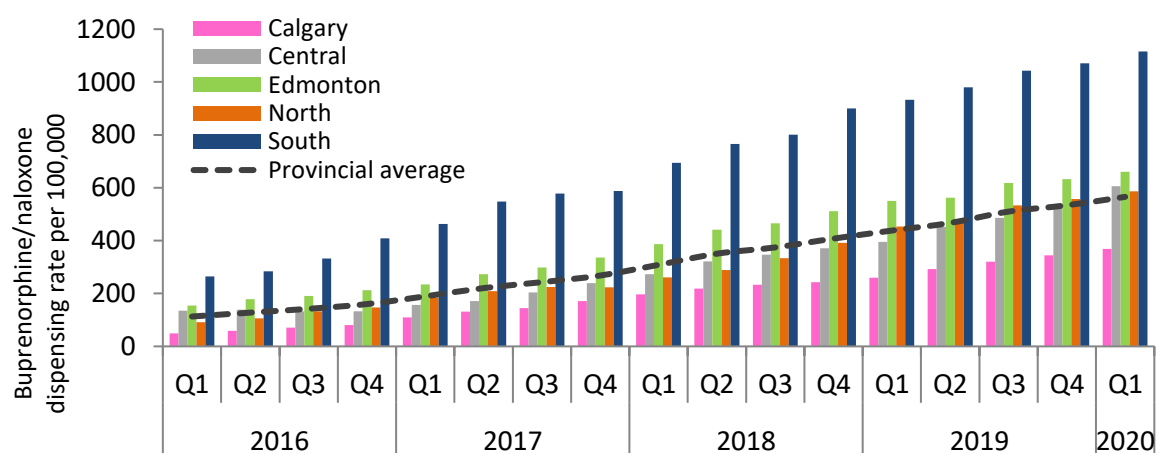
Methadone & buprenorphine/naloxone dispensing from community pharmacies

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 March 31, 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 fourth quarter of 2019 to the first quarter of 2020 by 2 per cent. The South Zone had the highest rate in the first quarter of 2020, 190 per cent higher than the provincial average (705 per 100,000 person years vs. 371 per 100,000 person years).

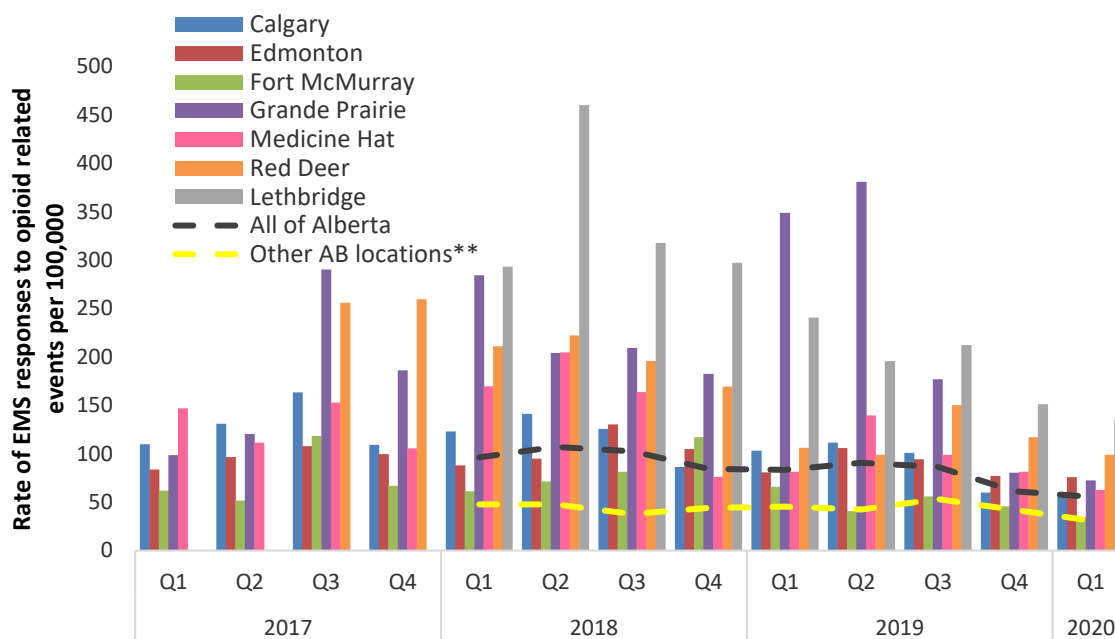
Figure 17: Rate of unique individuals dispensed buprenorphine/naloxone (generic brands and Suboxone™) indicated for opioid dependence from community pharmacies per 100,000 person years, by quarter and Zone. January 1, 2016 to March 31, 2020.



- In Alberta, the rate of unique individuals dispensed buprenorphine/naloxone indicated for opioid dependence from community pharmacies per 100,000 person years continues to increase, as seen by the 6 per cent increase from the fourth quarter of 2019 to the first quarter of 2020. The South Zone had the highest rate in the third quarter of 2019, 197 per cent higher than the provincial average (1,115 per 100,000 person years vs. 566 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 March 31, 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 first quarter of 2020, the provincial rate of EMS responses to opioid related events per 100,000 person years was lower compared to the rate in fourth quarter of 2019 (56 vs. 61).
- In the first quarter of 2020, all major Alberta municipalities had a decrease in the rate of EMS responses to opioid related events per 100,000 person years compared to the 2019 annual rate. Grande Prairie saw the most significant decrease (68 per cent). Lethbridge and Red Deer had the highest rates in the first three months of 2020.

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 March 31, 2020.

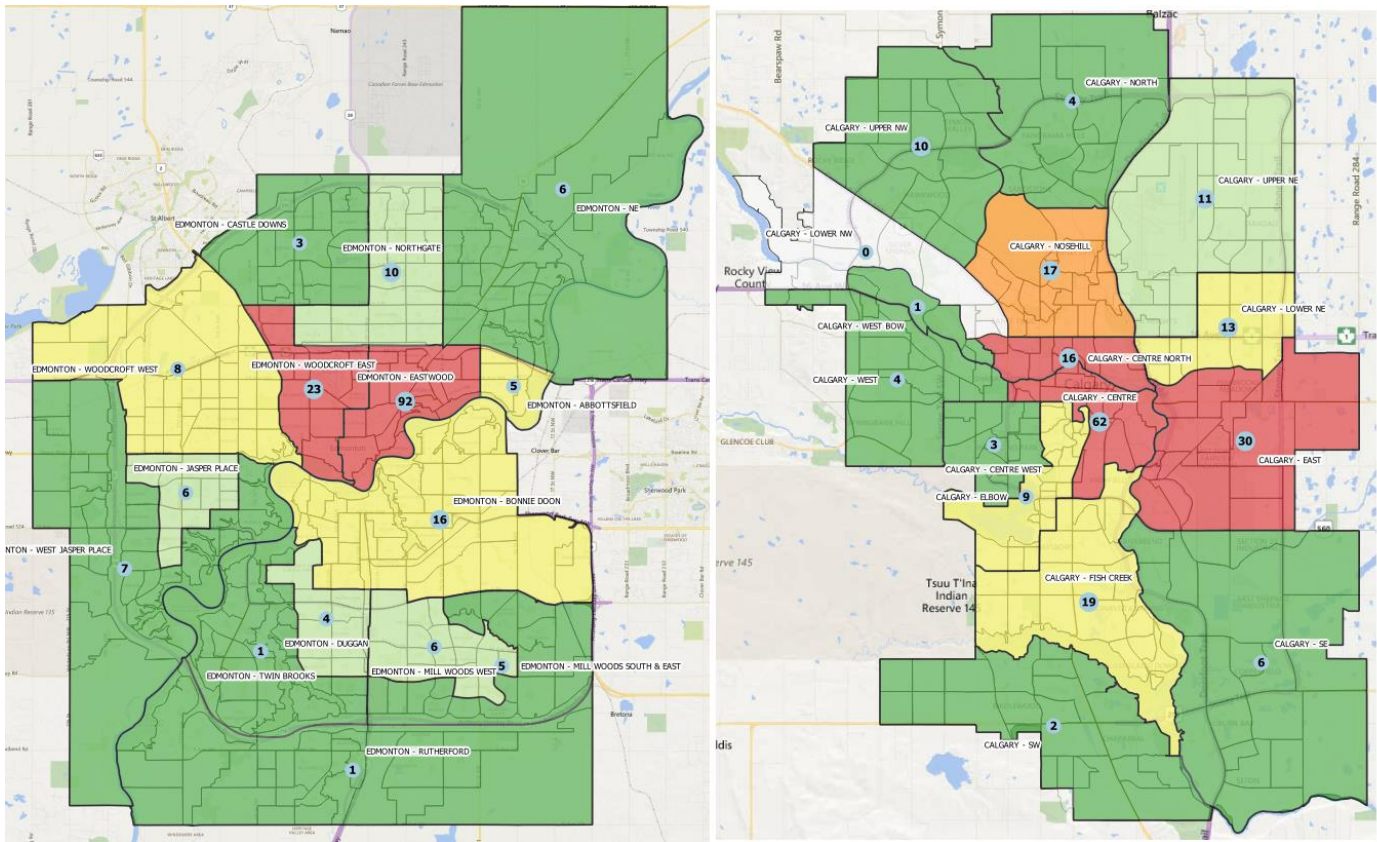
	2017		2018		2019		2020 YTD	
	count	rate	count	rate	count	rate	count	rate
Calgary	1,693	128	1,595	119	1,277	94	207	60
Edmonton	950	97	1,045	105	914	90	193	76
Ft. McMurray	58	55	65	61	41	38	7	24
Grande Prairie	127	164	164	209	184	233	15	74
Medicine Hat	88	121	105	141	69	93	11	53
Red Deer*	137	258	212	216	129	132	29	118
Lethbridge	-	-	336	491	196	285	33	188
Other AB locations*	-	-	684	44	726	46	125	31
All of Alberta	-	-	4,206	98	3,536	80	620	56

*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 March 31, 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 March 31, 2020.

Edmonton average: 76 per 100,000 person years (n =193)

Calgary average: 60 per 100,000 person years (n =207)



Legend

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

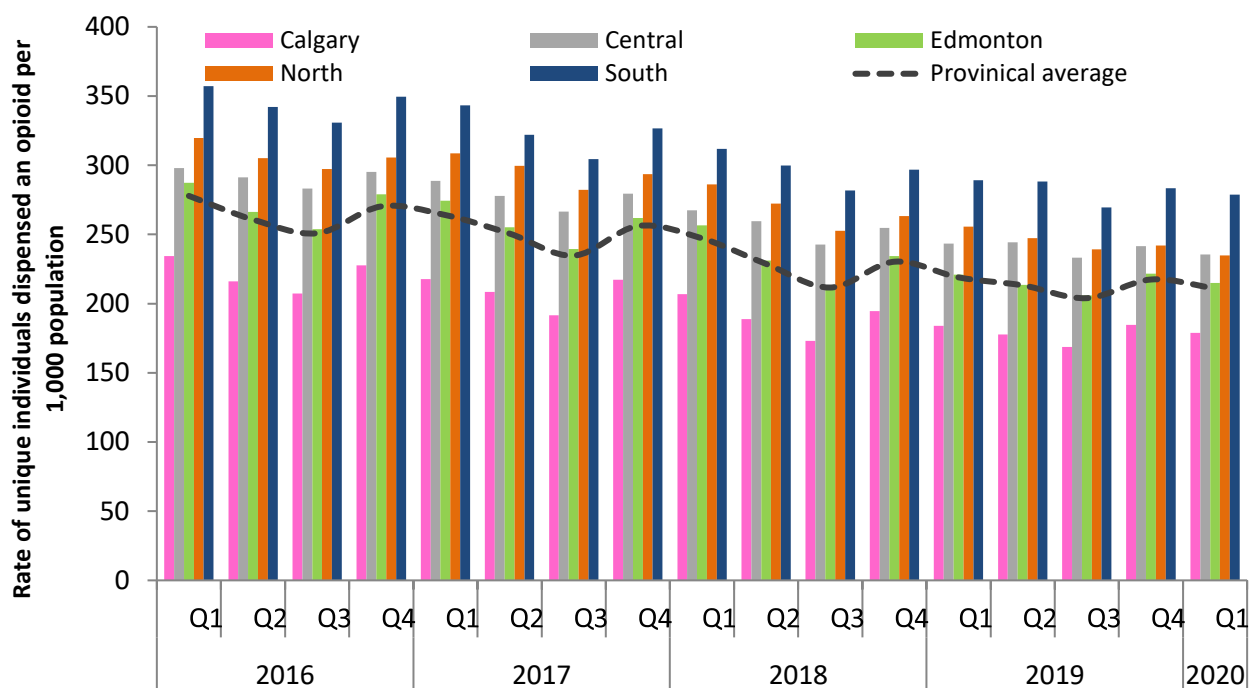
- Significantly lower
- Lower
- Average
- Higher
- Significantly higher

● Number in blue circle represents counts (numerator)

- Of the opioid related EMS events that occurred in Edmonton in the first quarter of 2020 (193), the highest rate (484 per 100,000 person years) and count (92) was in the Eastwood area. The LGAs with significantly higher rates of opioid related EMS events compared to the municipality average were Eastwood, and Woodcroft East.
- Of the opioid related EMS events that occurred in Calgary in 2020 (207), the highest rate (373 per 100,000 person years) and count (62) was in Calgary Centre. The LGAs with significantly higher rates of opioid related EMS events compared to the municipality average were Calgary Centre, Centre North, and East.

Prescription opioid dispensing

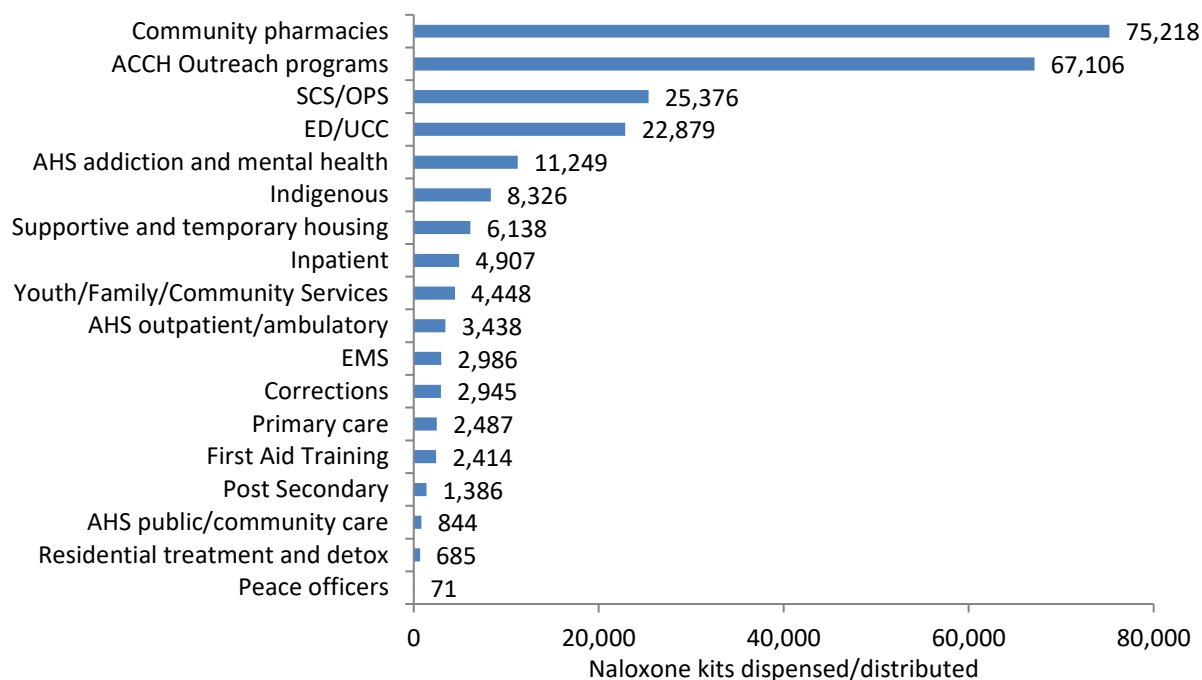
Figure 20: Rate of unique individuals dispensed an opioid from a community pharmacy per 1,000 person years, by Zone and quarter. January 1, 2016 to March 31, 2020.



- Comparing the first quarter of 2016 to the first quarter of 2020, the rate of unique individuals dispensed an opioid from a community pharmacy per 1,000 person years decreased by 24 per cent in Alberta. The average per cent decrease from quarter to quarter in this time period was 2 per cent. The rate decreased slightly by 3 per cent in the first quarter of 2020 compared to the previous quarter.
- The rate of unique individuals dispensed an opioid decreased across all Zones in the first quarter of 2020 compared to the previous quarter, ranging from a 2 to 3 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 first quarter of 2020, the rate in the South Zone was approximately 32 per cent higher than the provincial average (278 per 1,000 person years vs. 211 per 1,000 person years).

Community based naloxone kits

Figure 22: Naloxone kits dispensed/distributed by registered site type, January 1, 2016 to March 31, 2020.

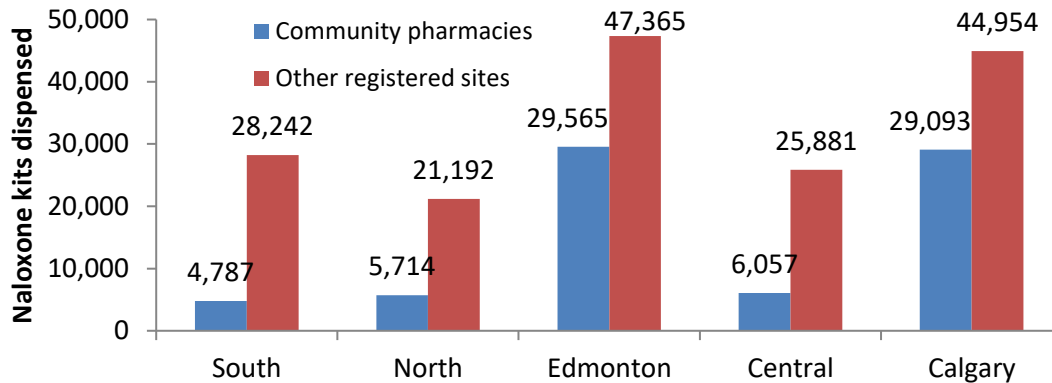


- From January 1, 2016 to March 31, 2020, 242,852 naloxone kits were dispensed in Alberta through Alberta Health Services' (AHS') naloxone program, and 16,148 reversals were self-reported. Approximately 3,250 naloxone kits were distributed in Alberta by the Alberta Community Council on HIV (ACCH) between 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 March 31, 2020.

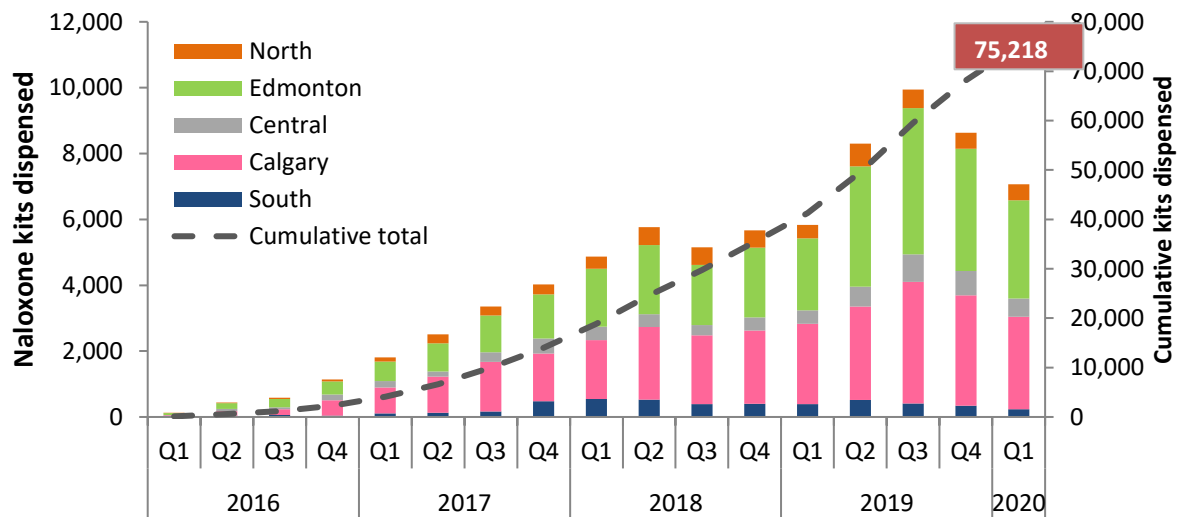
	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	96	427	152	434	132	1,241
Inpatient	13	14	22	12	33	94
AHS addiction and MH	9	30	22	33	18	112
ED	15	18	29	14	35	111
Medical First Response	18	17	25	11	29	100
Primary Care	14	14	12	24	6	70
AHS public/community health	5	6	10	28	33	82
Indigenous	3	5	5	5	28	46
EMS	8	8	15	14	7	52
AHS outpatient and ambulatory	3	20	4	6	10	43
Youth/family/community services	4	11	3	14	1	33
Supportive and temporary housing	1	7	3	3	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
ACCH outreach	2	3	1	1	3	10
SCS/OPS	1	1	1	4	1	8
First Aid Programs	0	2	4	1	0	7
Peace Officers	0	2	1	1	1	5
Total	197	598	315	616	342	2,068

Figure 23: Naloxone kits dispensed/distributed by community pharmacies and other registered sites, by Zone. January 1, 2016 to March 31, 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, 31 per cent in Calgary), in the first 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 March 31, 2020.



- Across Alberta, in 2019, community pharmacies dispensed an average of 7,903 kits per quarter, an increase of about 51 per cent compared to 2018 (5,245 per quarter). Since January 1, 2016 75,218 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. The Lethbridge site (ARCHES) is the only site that provides inhalation services.

Figure 25: Number of visits per quarter and site. January 1, 2018 to March 31, 2020.

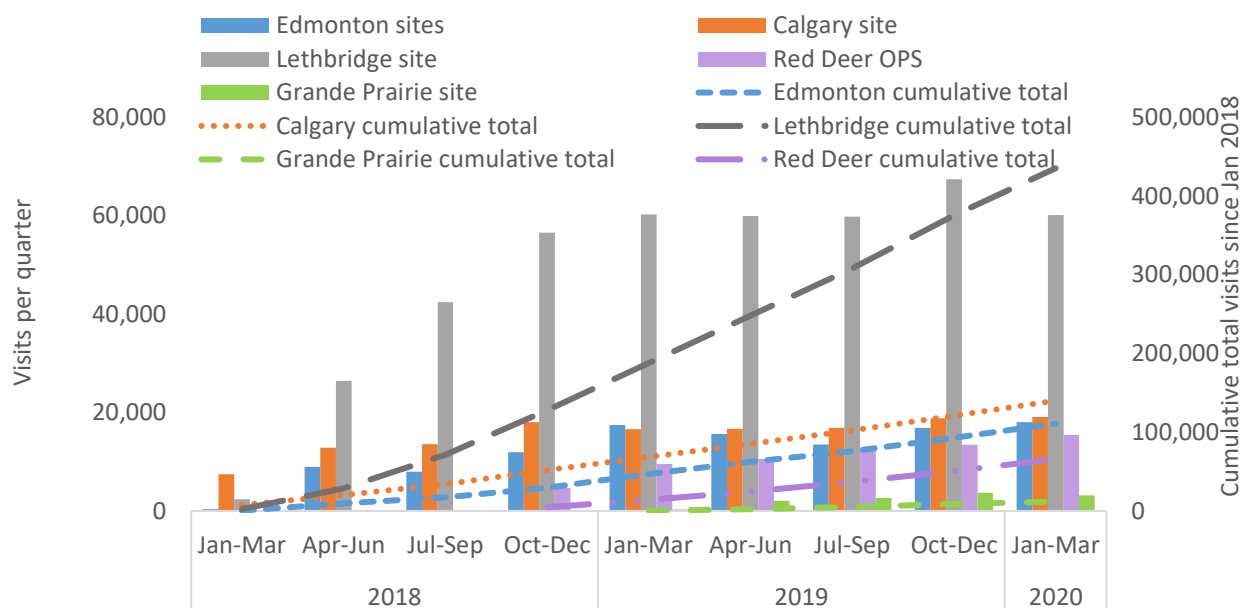


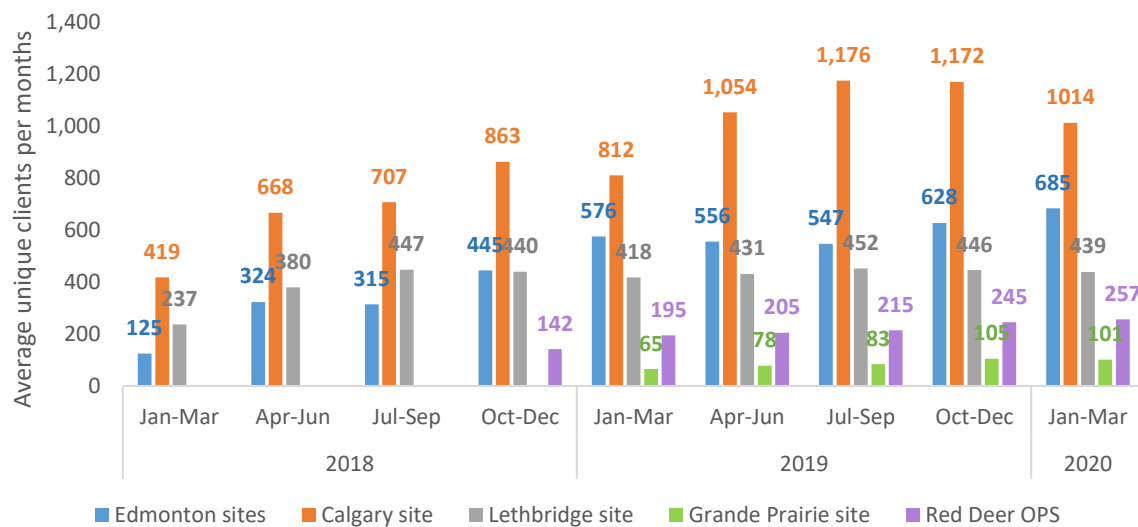
Table 12: Number of visits per quarter and site. January 1, 2018 to March 31, 2020.

	2018				2019				2020	Site total
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	
Edmonton sites	390	8,974	7,975	11,961	17,489	15,641	13,475	16,899	18,036	110,840
Calgary site	7,469	12,854	13,548	18,051	16,623	16,694	16,880	18,831	19,071	140,021
Lethbridge site	2,375	26,464	42,450	56,562	60,260	59,901	59,781	67,414	60,098	435,305
Grande Prairie site					298	2,028	2,646	3,668	3,172	11,812
Red Deer OPS				4,639	9,504	10,537	12,295	13,448	15,432	65,855
Quarter Total	10,234	48,292	63,973	91,213	104,174	104,801	105,077	120,260	115,809	763,833

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.

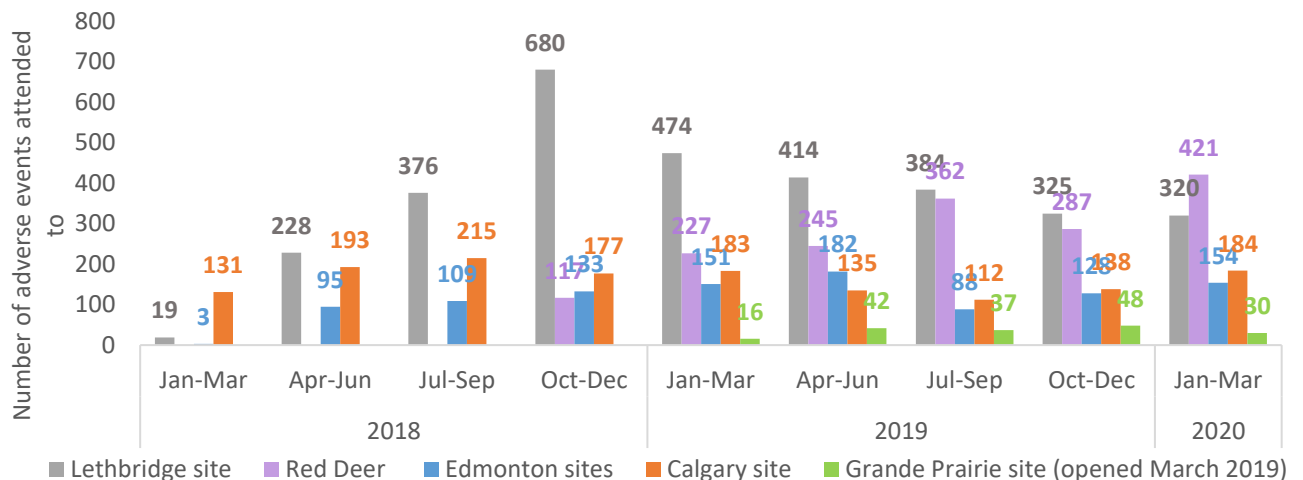
- Compared to the last quarter, in the most recent quarter, the Edmonton sites saw an increase in visits of 7 per cent.
- Compared to the last quarter, in the most recent quarter, the Calgary site saw an increase in visits of 1 per cent.
- Compared to the last quarter, in the most recent quarter, the Lethbridge site saw a decrease in visits of 11 per cent.
- Compared to the last quarter, in the most recent quarter, the Grande Prairie site saw a decrease in visits of 14 per cent.
- Compared to the last quarter, in the most recent quarter, the Red Deer OPS saw an increase in visits of 15 per cent.

Figure 26: Average monthly unique clients per quarter and site. January 1, 2018 to March 31, 2020.



- Compared to the last quarter, in the most recent quarter (January to March 2020) Edmonton sites saw a 9 percent increase in average monthly unique clients, the Calgary site a decrease of 13 per cent, the Lethbridge site saw a decrease of 2 per cent, the Grande Prairie site saw a decrease of 4 per cent, and the Red Deer OPS saw an increase in average monthly unique clients of 5 per cent.

Figure 27: Total number of attended adverse events* per quarter and site. January 1, 2018 to March 31, 2020.



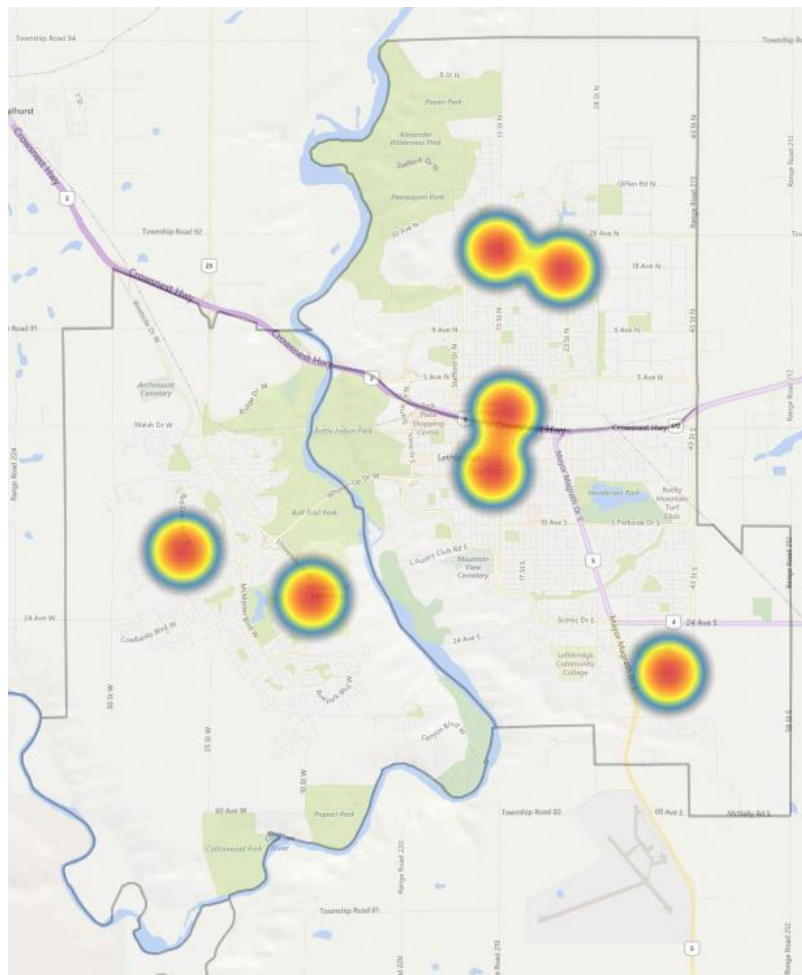
- From January to March 2020, 154 adverse events have been attended to at Edmonton sites, 184 at the Calgary site, 320 at the Lethbridge site, 30 at the Grande Prairie site, and 421 at the Red Deer OPS. There were zero fatal drug poisoning events across all sites.
- From January to March 2020, there were 9 attended adverse events for every 1,000 visits to the Edmonton sites, 10 attended adverse events for every 1,000 visits to the Calgary site, 5 attended adverse events for every 1,000 visits to the Lethbridge site, 9 attended adverse events for every 1,000 visits to the Grande Prairie site, and 27 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

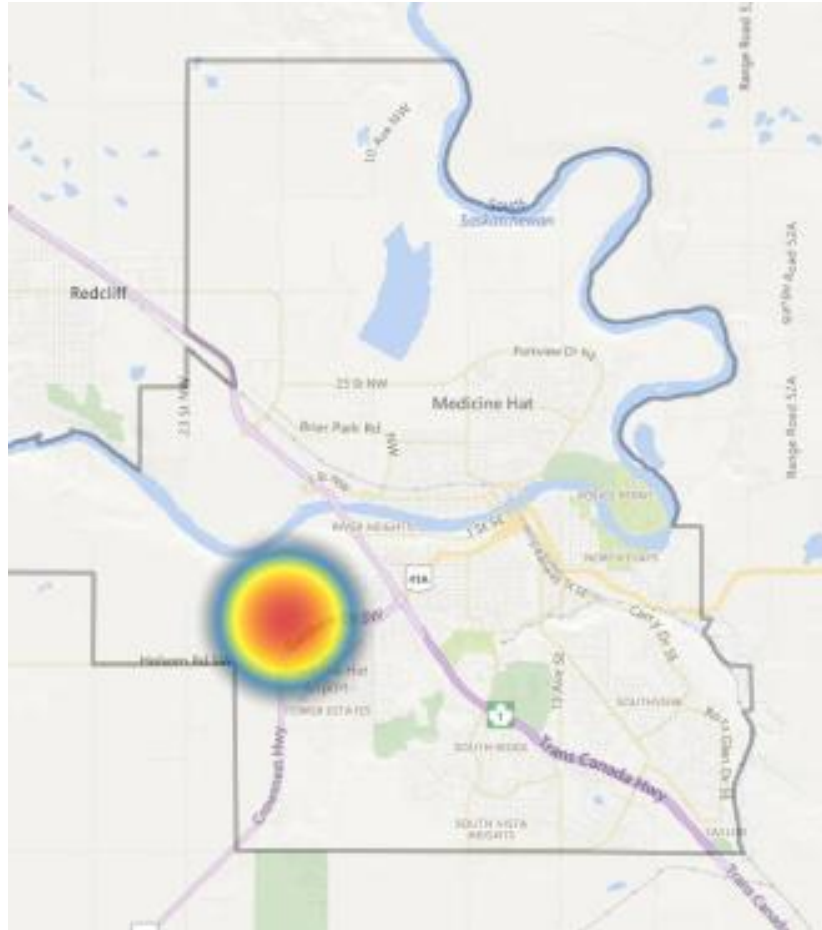
Appendix 1: Opioid related poisoning deaths in major Albertan cities

Apparent accidental opioid poisoning deaths, by Municipality (based on place of overdose). January 1, 2020 to March 31, 2020.

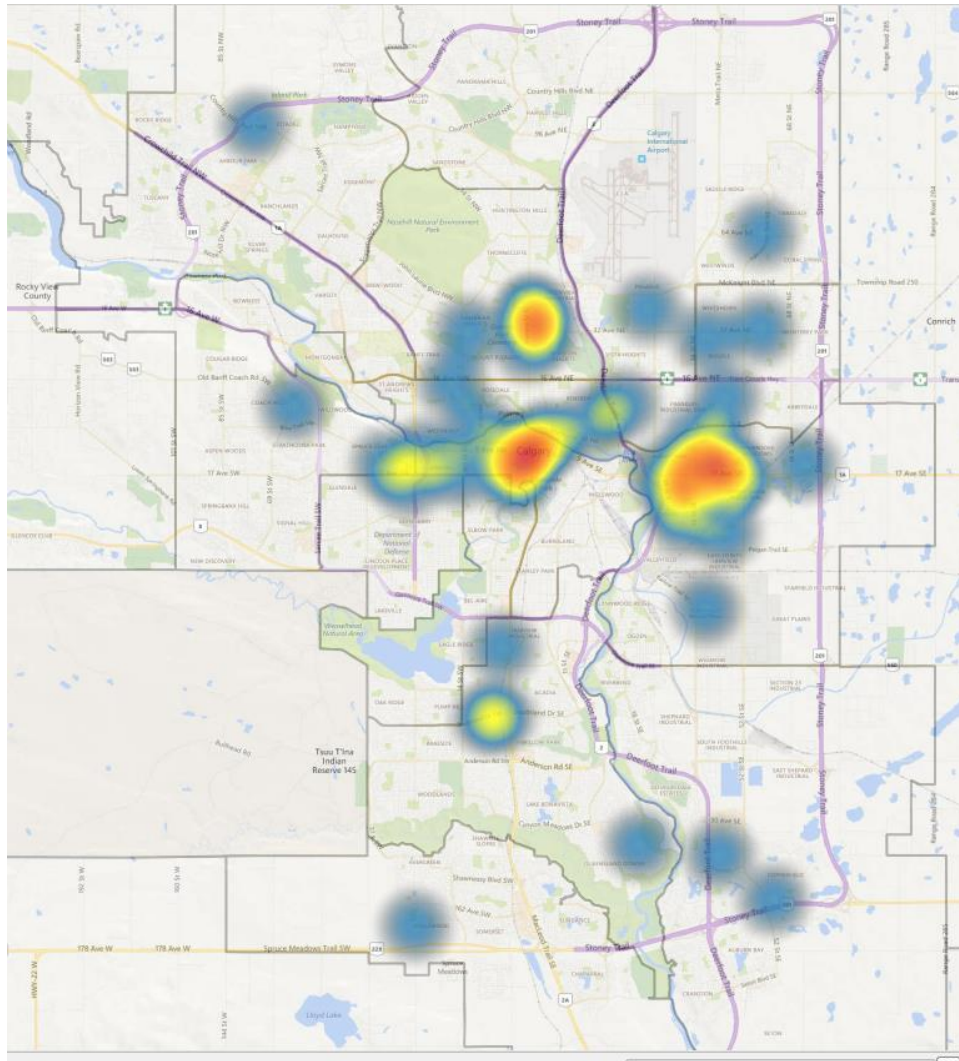
Lethbridge



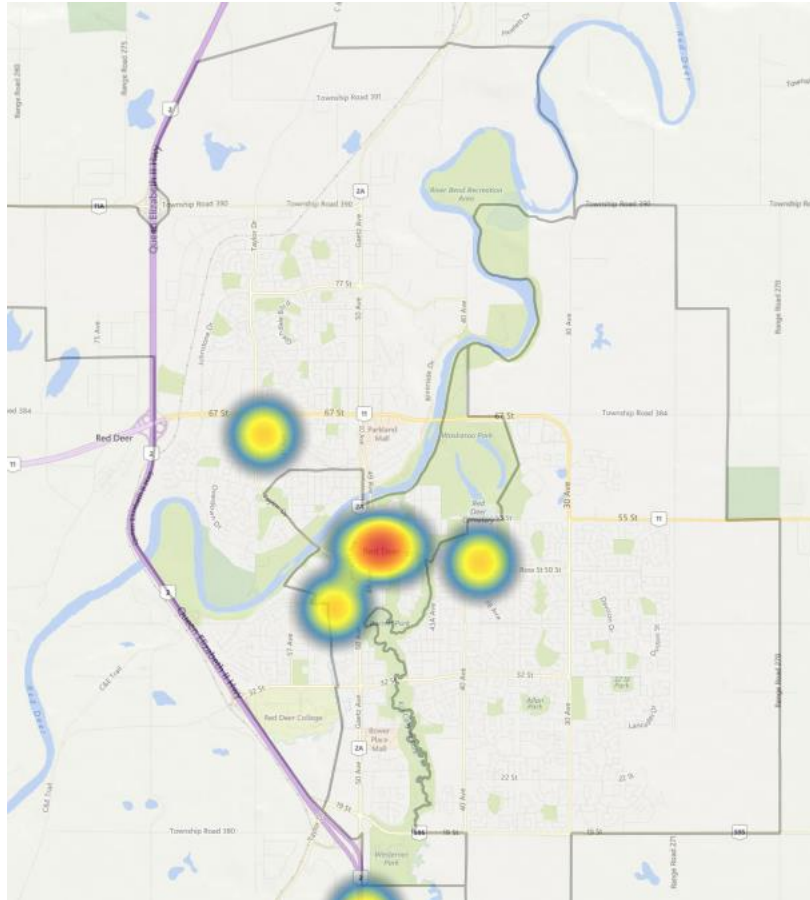
Medicine Hat



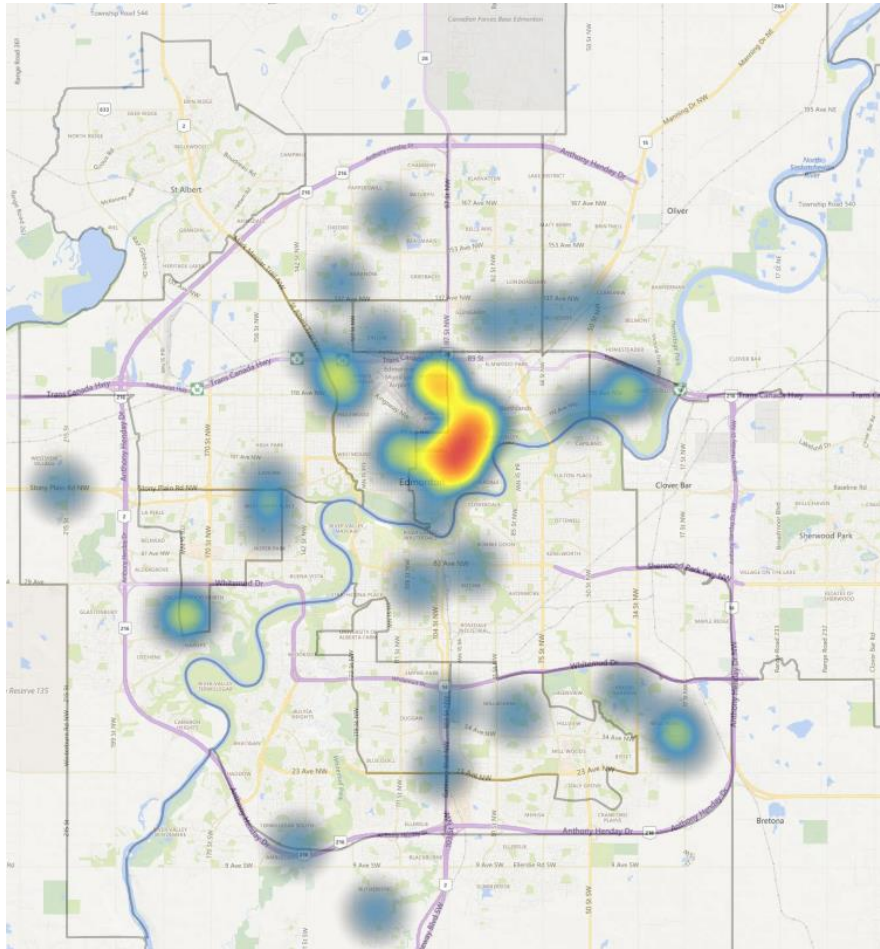
Calgary



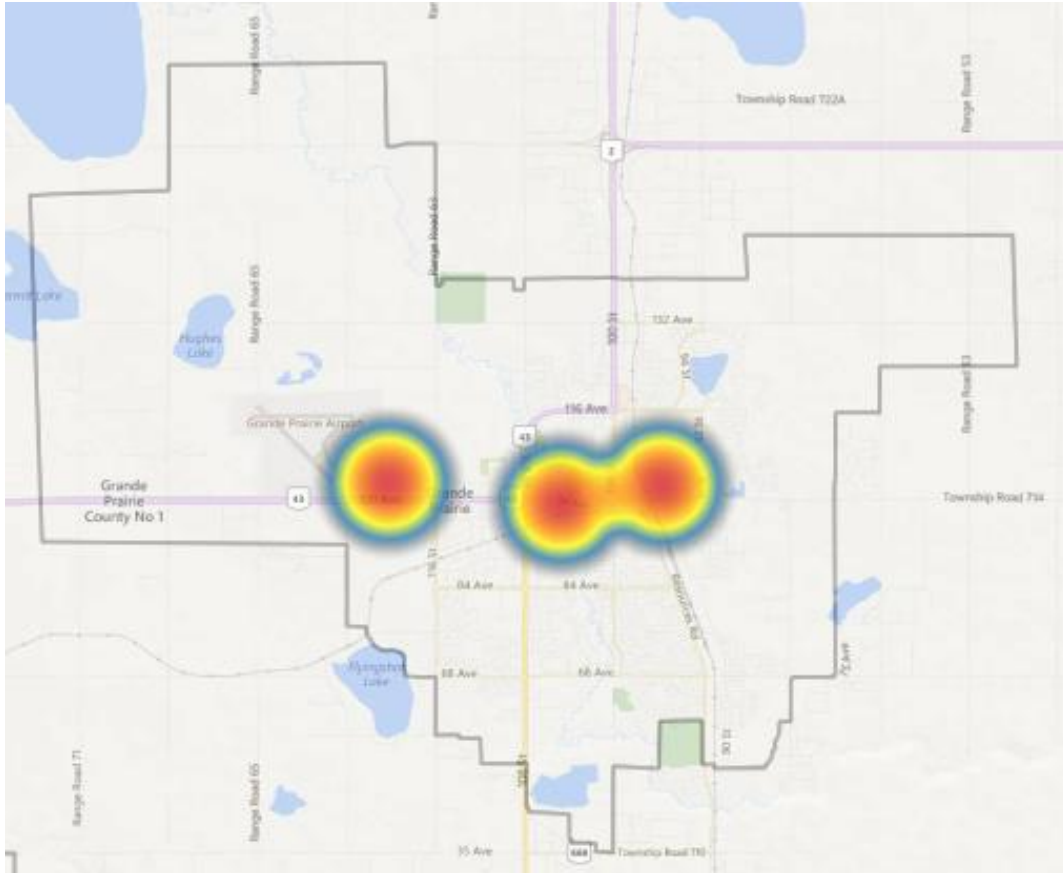
Red Deer



Edmonton



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

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