

Alberta Health

Alberta Opioid Response Surveillance Report

2018 Q2

August 31, 2018

Alberta  Government

Highlights

- The most up-to-date data shows that 355 people died from an apparent accidental opioid overdose in 2018.
- On average, 2 individuals die every day in Alberta as a result of an apparent accidental opioid overdose.
- From April 1, 2018 to June 30, 2018, 160 people died from an apparent accidental fentanyl-related opioid overdose, compared to 170 people in the first three months of 2018.

Key points

Apparent accidental poisoning deaths related to fentanyl

- In the second quarter of 2018, there were **160** apparent accidental poisoning deaths related to fentanyl in Alberta. By comparison, there were **170** of these deaths in the first quarter of 2018.
- From April 1, 2018 to June 30, 2018, **86 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 2018, the Calgary Zone (**83**) and Edmonton Zone (**35**) had the highest numbers of fentanyl deaths. The Calgary Zone continued to have the highest rate per 100,000 person years at **20.1**, compared to the provincial average of **15.2** per 100,000 person years.
- In the second quarter of 2018 there were **55** apparent accidental poisoning deaths related to carfentanil in Alberta. By comparison, there were **46** of these deaths in the first quarter of 2018.
- In the second quarter of 2018, **67 per cent** of carfentanil deaths occurred in the Calgary Zone.
- Within the municipalities of Edmonton and Calgary, from January 1, 2018 to June 30, 2018, the local geographic area with the highest rate of apparent accidental poisoning deaths related to all opioids was Eastwood in Edmonton, and Calgary Centre, East, and Nosehill in Calgary.
- While the rate was highest in these local geographic areas, **52 per cent** of deaths in Calgary occurred outside Calgary Centre, East, and Nosehill and **74 per cent** of deaths in Edmonton occurred outside Eastwood.

Apparent accidental poisoning deaths related to non-fentanyl opioids

- In the first quarter of 2018, there were **25** apparent accidental poisoning deaths related to an opioid other than fentanyl in Alberta. By comparison, there were **29** of these deaths in the fourth quarter of 2017. In 2017, **37** apparent accidental poisoning deaths related to an opioid other than fentanyl occurred in the first quarter.
- From January 1, 2018 to March 31, 2018, **76 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 2018, the Calgary Zone (**4**) and Edmonton Zone (**15**) had the highest number of these deaths. The Edmonton Zone had the highest rate at **4.3** per 100,000 person years, compared to a provincial average of **2.3** per 100,000 person years.

Confirmed drug poisoning deaths

- Among all confirmed drug and alcohol poisoning deaths (accidental and suicide) in 2017 and 2018, opioids (fentanyl or non-fentanyl) were directly involved in **78 per cent** of deaths. **22 per cent** of all confirmed drug and alcohol poisoning deaths (accidental and suicide) did not involve any opioid.
- Multiple substances are often used at the same time as opioids, including fentanyl. This may be a result of an individual using multiple substances including opioids, or through the contamination of drugs with opioids such as fentanyl.
- In 2018, **78 per cent** of accidental fentanyl related deaths listed at least one other substance as contributing to death, the most frequent being methamphetamine and cocaine.

Emergency Department visits

- In the first quarter of 2018, there were **2,830** emergency and urgent care visits related to opioids and other substances of misuse. In the previous quarter, there were **2,619** emergency and urgent care visits related to opioids and other substances of misuse.
- In the first quarter of 2018, emergency and urgent care visits related to opioids and other substances of misuse occurred among **2,360** unique individuals, of whom **14 per cent** had more than one visit.

Disclaimer

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

Data sources are updated 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, 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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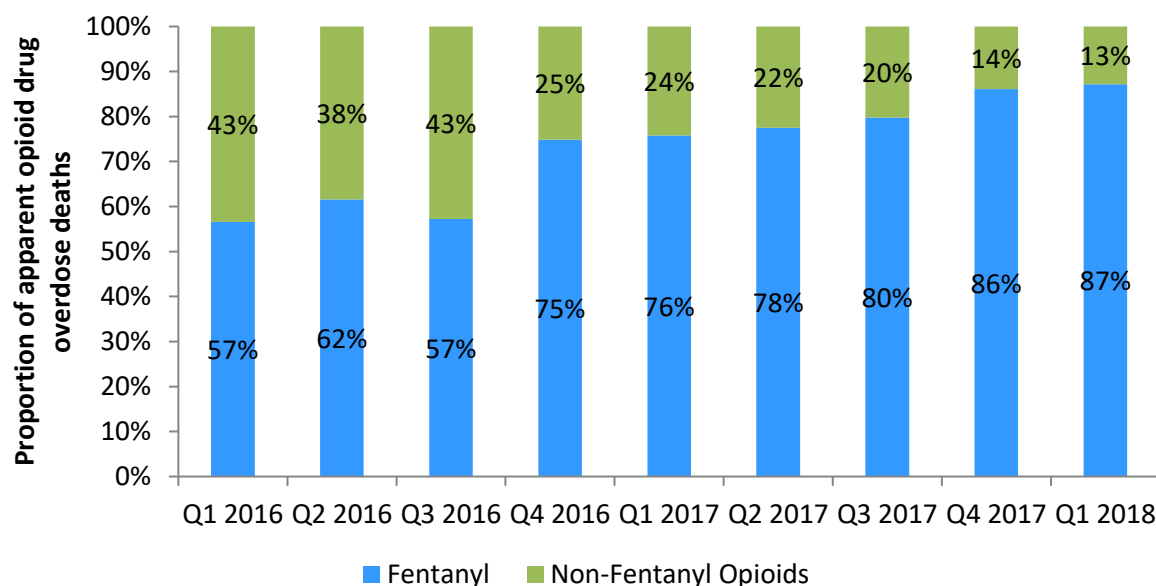
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Mortality data: Apparent accidental opioid poisoning deaths

Fentanyl and non-fentanyl related deaths

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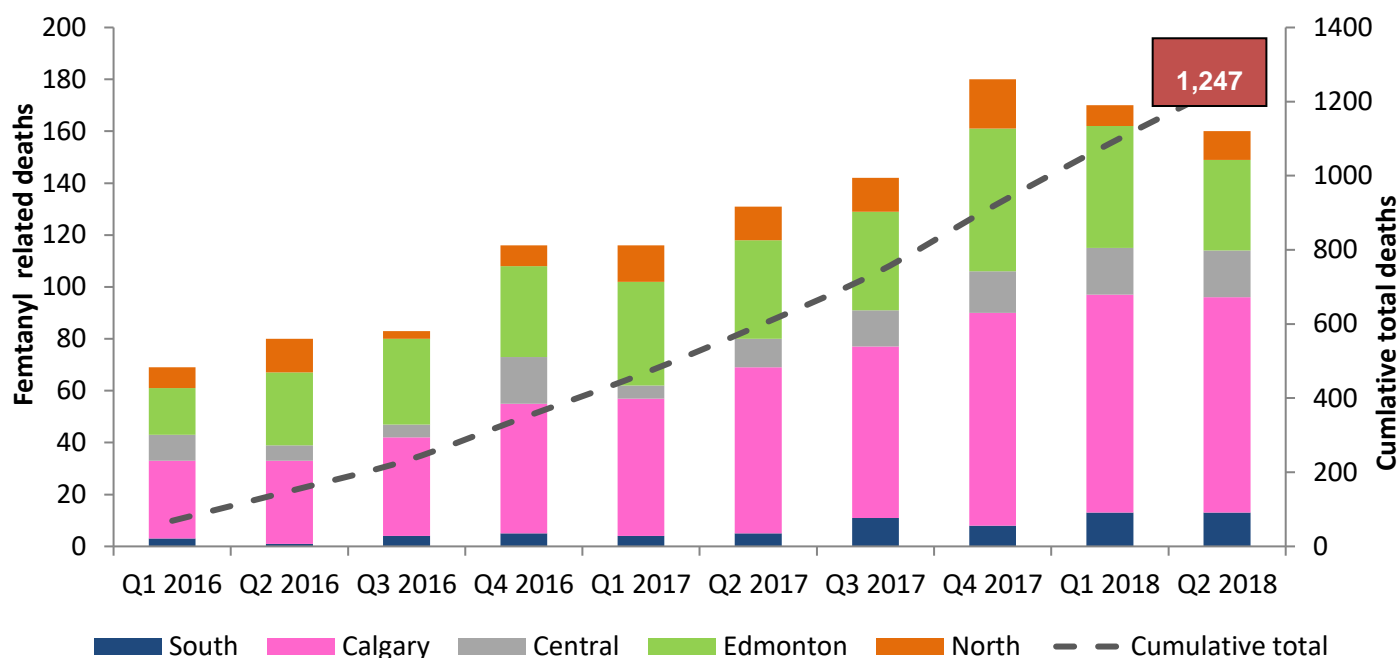
- The majority of apparent accidental opioid poisoning deaths continue to be related to fentanyl. In the first quarter of 2018, 87 per cent of all opioid poisoning deaths were related to fentanyl.

Table 1: Number of apparent accidental opioid poisoning deaths related to any opioid, by quarter.

										Total
South Zone	7	3	8	11	6	7	17	10	14	83
Calgary Zone	46	49	58	60	68	78	75	86	88	608
Central Zone	17	17	13	25	12	15	17	19	20	155
Edmonton Zone	40	46	59	49	49	50	51	71	62	477
North Zone	12	15	7	10	18	19	18	23	12	134
Alberta	122	130	145	155	153	169	178	209	195	1,456
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	

Fentanyl related deaths

Figure 2: Number of apparent accidental fentanyl poisoning deaths, by Zone (based on place of death) and quarter. January 1, 2016 to June 30, 2018.



- Since January 1, 2016, a total of 1,247 individuals in Alberta died from an apparent accidental drug poisoning death related to fentanyl (348 in 2016, 569 in 2017, and 330 in 2018).
- In 2018, on average, 165 individuals in Alberta died from an apparent accidental drug poisoning death related to fentanyl per quarter, while in 2017, on average, 142 individuals died from an apparent accidental drug poisoning death related to fentanyl per quarter.

Table 2: Number of apparent accidental fentanyl poisoning deaths, by quarter.

											Total
South Zone	3	1	4	5	4	5	11	8	13	13	67
Calgary Zone	30	32	38	50	53	64	66	82	84	83	582
Central Zone	10	6	5	18	5	11	14	16	18	18	121
Edmonton Zone	18	28	33	35	40	38	38	55	47	35	367
North Zone	8	13	3	8	14	13	13	19	8	11	110
Alberta	69	80	83	116	116	131	142	180	170	160	1,247
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	

Table 3: 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 June 30, 2018.

	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
South Zone	13	4.3	28	9.2	26	16.9
Calgary Zone	150	9.3	265	16.2	167	20.1
Central Zone	39	8.1	46	9.5	36	14.7
Edmonton Zone	114	8.4	171	12.5	82	11.8
North Zone	32	6.5	59	12.0	19	7.7
Alberta	348	8.2	569	13.3	330	15.2

- The Calgary and Edmonton Zones continue to have the highest number of apparent accidental poisoning deaths related to fentanyl. In 2018, the Calgary Zone continued to have the highest rate per 100,000 person years at 20.1, compared to a provincial average of 15.2 per 100,000 person years. The South Zone followed closely behind the Calgary Zone with the second highest rate of 16.9 per 100,000 person years.

Table 4: 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 June 30, 2018.

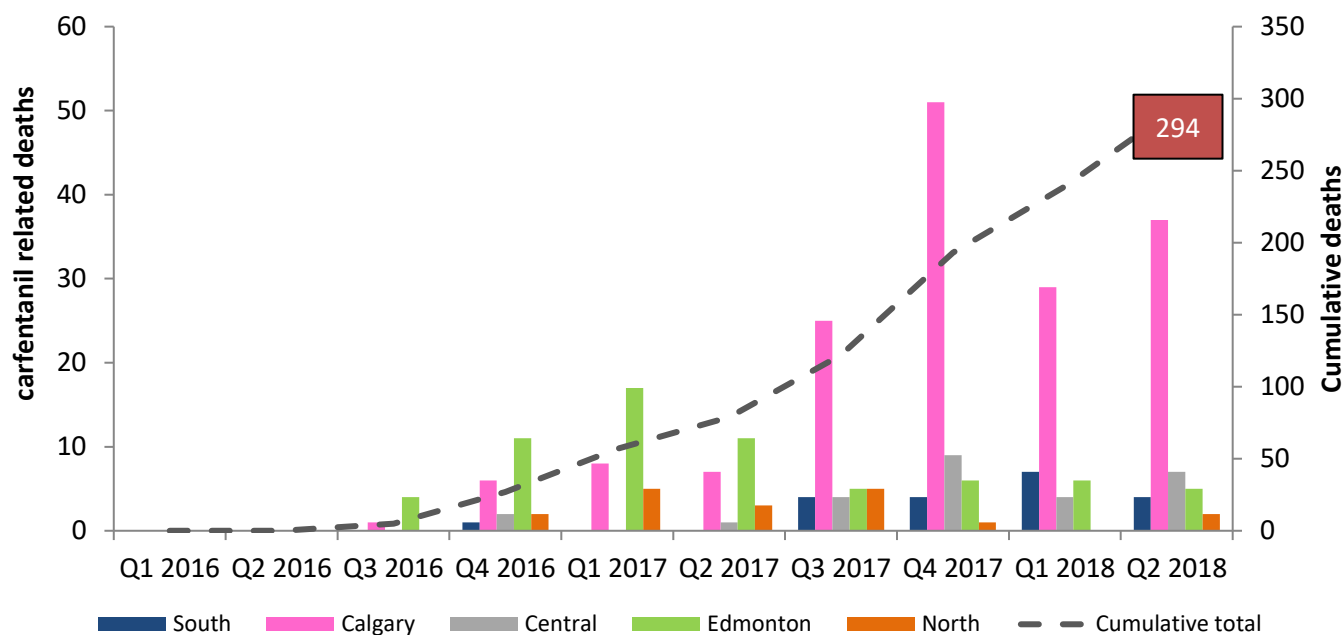
	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
Lethbridge	8	8.3	16	16.3	17	34.1
Medicine Hat	2	2.9	7	10.2	4	11.7
Calgary	144	10.9	240	18.0	151	22.6
Red Deer	23	21.1	23	21.4	24	44.7
Edmonton	100	10.3	137	13.8	73	14.7
Fort McMurray	9	11.1	14	17.6	4	10.1
Grande Prairie	10	13.5	27	36.4	11	29.7
Total	296	10.9	464	16.9	284	20.6

- The municipalities of Calgary and Edmonton continue to have the highest number of apparent accidental poisoning deaths related to fentanyl. However, in 2018 YTD, the Municipality of Red Deer had the highest rate of apparent drug poisoning deaths related to fentanyl per 100,000 person years, followed by the Municipality of Lethbridge.

*YTD = January 1, 2018 to June 30, 2018

Figure 3: Number of apparent accidental drug poisoning deaths related to carfentanil, by Zone (based on place of death) and quarter. January 1, 2016 to June 30, 2018.

Subcategory of fentanyl deaths from Figure 2



- The first Alberta carfentanil cases were detected in the third quarter of 2016, with 27 cases occurring in all of 2016. In 2017, 166 individuals in Alberta died from a drug poisoning related to carfentanil, and 101 in the first six months of 2018.
- The number of carfentanil cases peaked in the last quarter of 2017, and since then, the numbers have decreased, with 46 individuals having died from a drug poisoning related to carfentanil in the first quarter of 2018. However, the most recent data shows a slight increase in the latest quarter (April 1 to June 30, 2018), with 55 deaths related to carfentanil.
- 56 per cent of all carfentanil deaths have occurred in the Calgary Zone. In the second quarter of 2018, 67 per cent of carfentanil deaths occurred in the Calgary Zone.

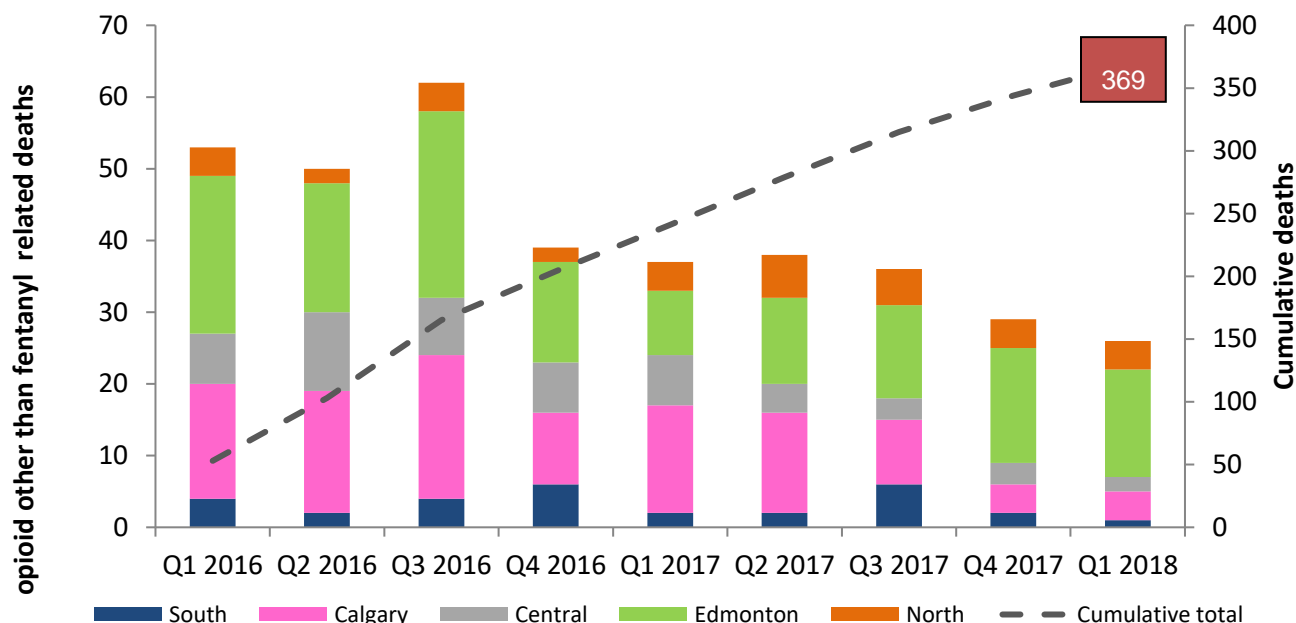
Table 5: Number of apparent accidental carfentanil poisoning deaths, by quarter.

Subcategory of fentanyl deaths from Table 2

	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Total
South Zone	0	0	0	1	0	0	4	4	7	4	20
Calgary Zone	0	0	1	6	8	7	25	51	29	37	164
Central Zone	0	0	0	2	0	1	4	9	4	7	27
Edmonton Zone	0	0	4	11	17	11	5	6	6	5	65
North Zone	0	0	0	2	5	3	5	1	0	2	18
Alberta	0	0	5	22	30	22	43	71	46	55	294

Non-fentanyl opioid related deaths

Figure 4: 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, 2018.



- Since January 1, 2016, a total of 369 individuals in Alberta have died from apparent accidental drug poisoning related to an opioid other than fentanyl (204 in 2016, 140 in 2017, and 25 in Q1 2018).
- The continued decrease in number of apparent accidental drug poisoning deaths related to non-fentanyl opioids observed from Q4 2016 onwards, compared to the first three quarters of 2016, is likely related to the concurrent increase in fentanyl-related apparent accidental drug poisoning deaths.

Table 6: Number of apparent accidental drug poisoning deaths related to an opioid other than fentanyl, by quarter.

	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Total
South Zone	4	2	4	6	2	2	6	2	1	29
Calgary Zone	16	17	20	10	15	14	9	4	4	109
Central Zone	7	11	8	7	7	4	3	3	2	52
Edmonton Zone	22	18	26	14	9	12	13	16	15	145
North Zone	4	2	4	2	4	6	5	4	4	35
Alberta	53	50	62	39	37	38	36	29	25	369

Table 7: 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, 2018.

	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
South Zone	16	5.3	12	3.9	1	1.3
Calgary Zone	63	3.9	42	2.6	4	1.0
Central Zone	33	6.9	17	3.5	2	1.6
Edmonton Zone	80	5.9	50	3.7	15	4.3
North Zone	12	2.4	19	3.9	4	3.2
Alberta	204	4.8	140	3.3	25	2.3

- The Calgary and Edmonton Zones continue to have the highest number of these deaths. During the first quarter of 2018 a significantly higher number occurred in the Edmonton Zone compared to the Calgary Zone. In the first quarter of 2018, the Edmonton Zone had the highest rate per 100,000 person years at 4.3, compared to the provincial average of 2.3 per 100,000 person years.

Table 8: 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, 2018.

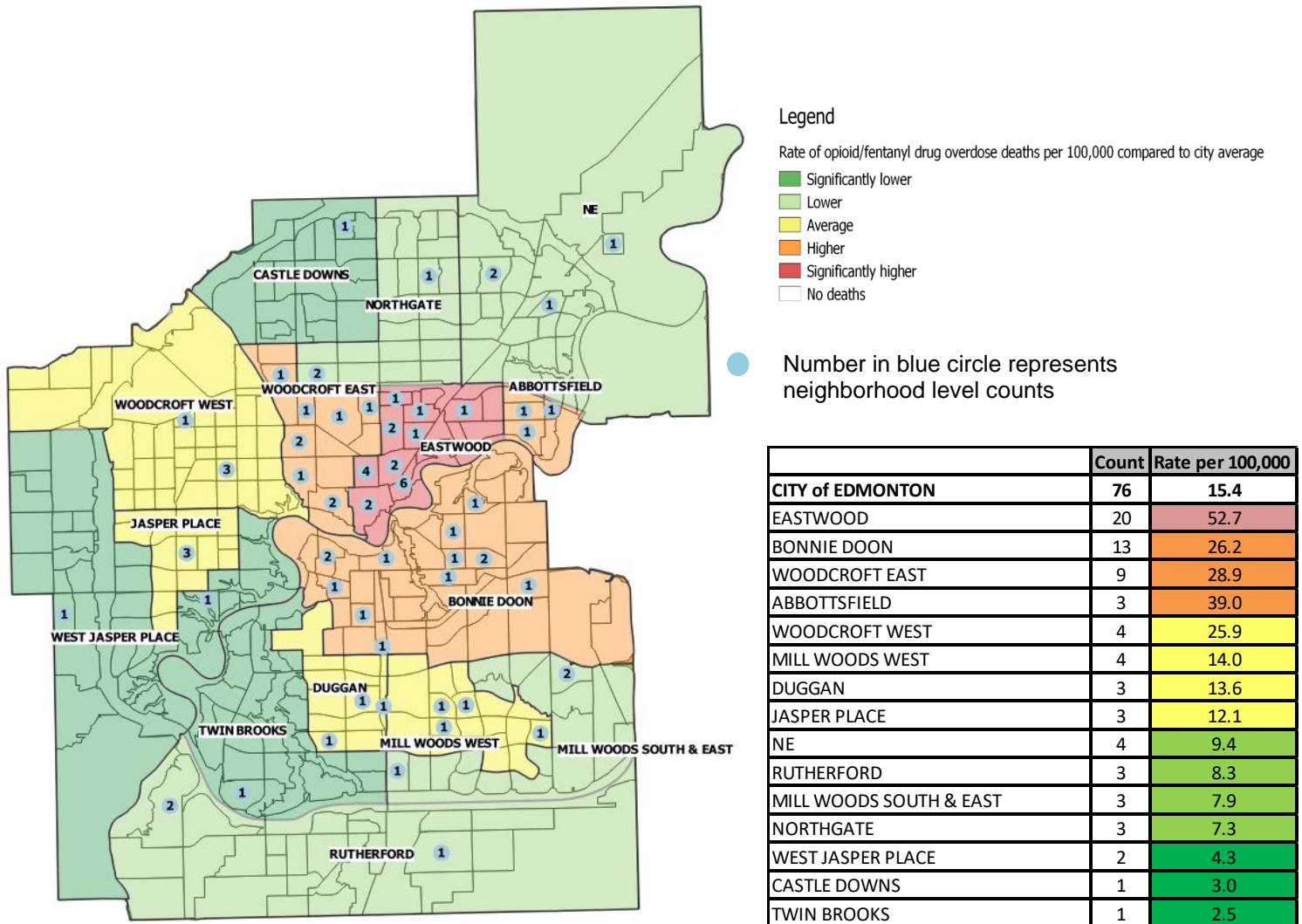
	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
Lethbridge	4	4.1	3	3.1	0	0.0
Medicine Hat	4	5.9	2	2.9	0	0.0
Calgary	47	3.6	33	2.5	4	1.2
Red Deer	12	11.0	7	6.5	1	3.7
Edmonton	64	6.6	44	4.4	14	5.7
Fort McMurray	1	1.2	2	2.5	0	0.0
Grande Prairie	1	1.4	4	5.4	1	5.4
Total	133	4.9	95	3.5	20	2.9

- The municipalities of Calgary and Edmonton continue to have the highest number of these deaths. However in the first quarter of 2018, a significantly higher number occurred in Edmonton compared to Calgary. In the first quarter of 2018, the Municipality of Edmonton 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, 2018 to March 31, 2018

Municipalities of Edmonton and Calgary (opioid related deaths)

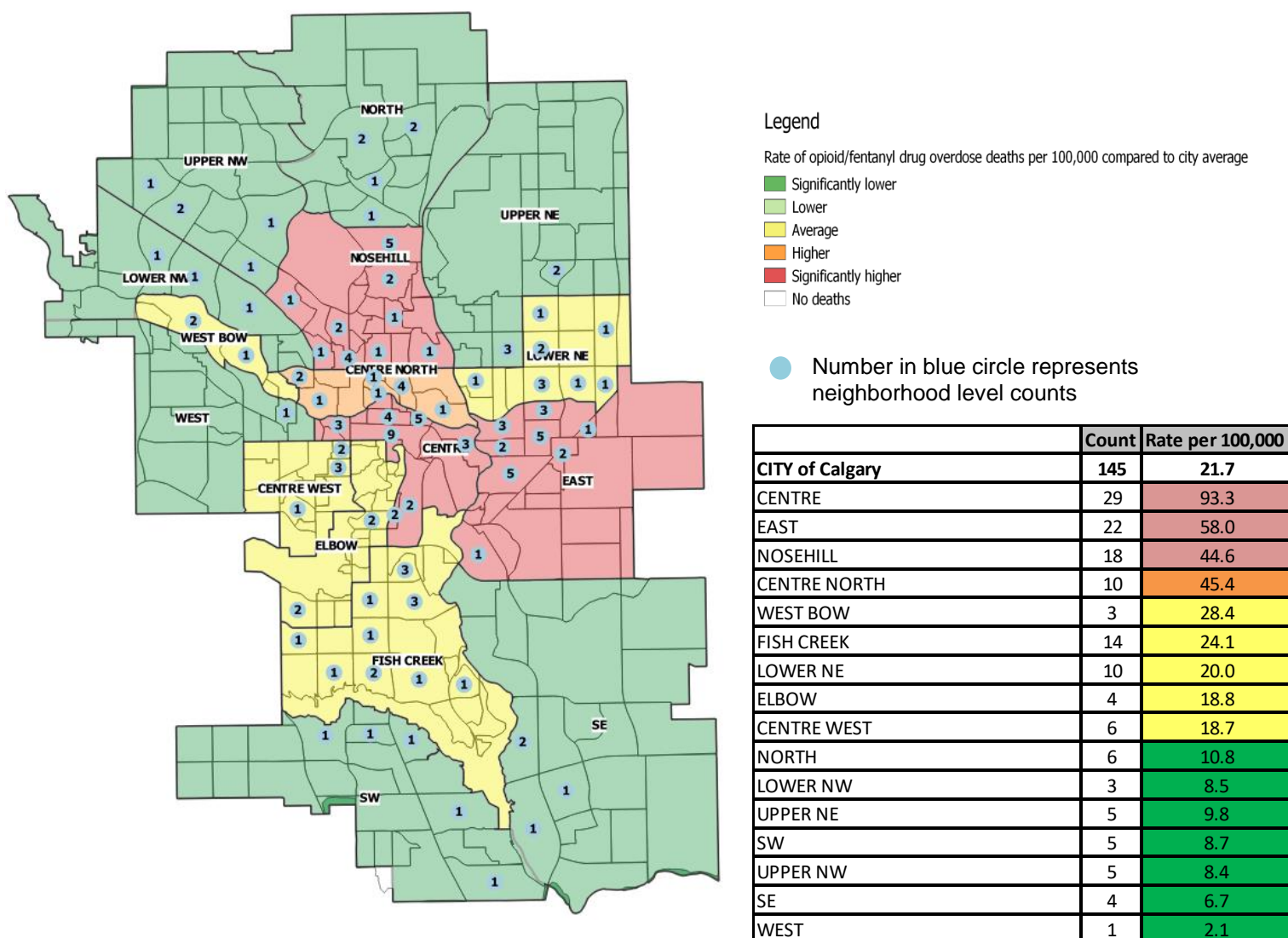
Figure 5: Rate (per 100,000 person years) and counts of apparent accidental opioid poisoning deaths, in the Municipality of Edmonton, based on place of overdose, by LGA. January 1, 2018 to June 30, 2018.



- Within the Municipality of Edmonton, the LGA with a **significantly higher** rate of apparent accidental opioid poisoning deaths **compared to the municipality average** was Eastwood. However, 74 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 57 per cent of fentanyl-related deaths in Edmonton.
- The neighborhoods with three or more deaths were Boyle Street, Central McDougall, High Park, and West Meadowlark 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 Edmonton, a hospital was the place of death in 13 per cent of deaths.

Figure 6: 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, 2018 to June 30, 2018.

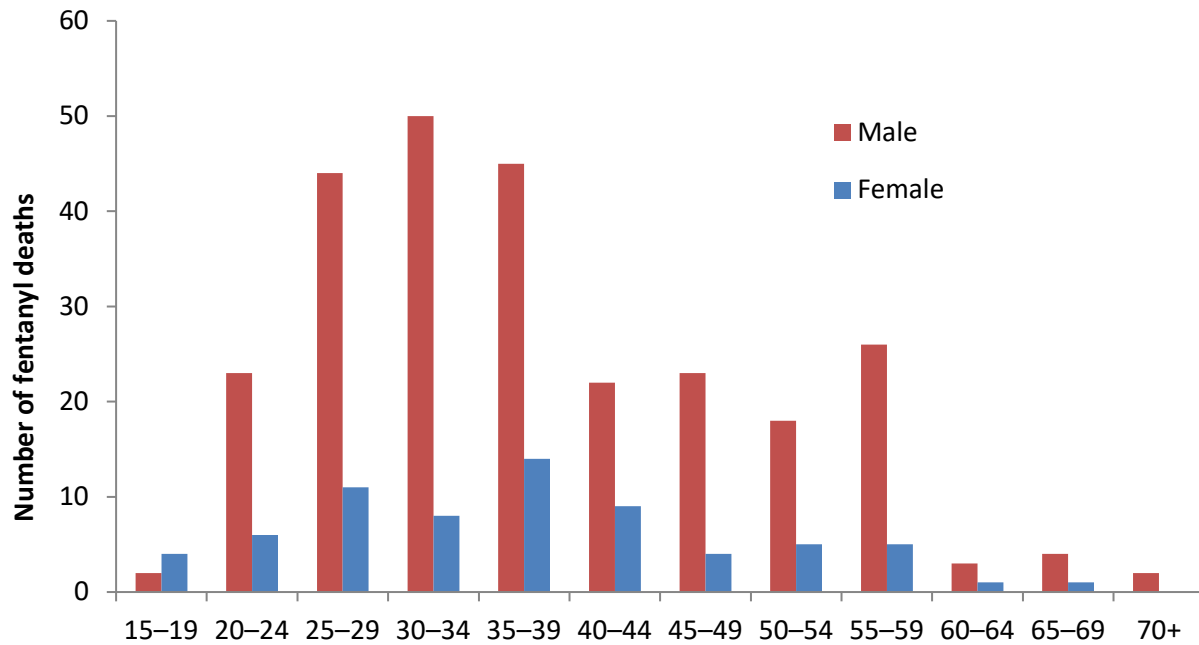


- Within the Municipality of Calgary, the LGAs with **significantly higher** rates of apparent accidental opioid poisoning deaths **compared to the municipality average** were Centre, East, and Nosehill. However, 52 per cent of the total deaths occurred in LGAs outside of these areas.
- The place where the overdose occurred was the same as the individual's home address for 57 per cent of fentanyl-related deaths in Calgary.
- The neighborhoods with five or more deaths were Beltline, Huntington Hills, Downtown East Village, Dover, and Forest Lawn.

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 17 per cent of deaths.

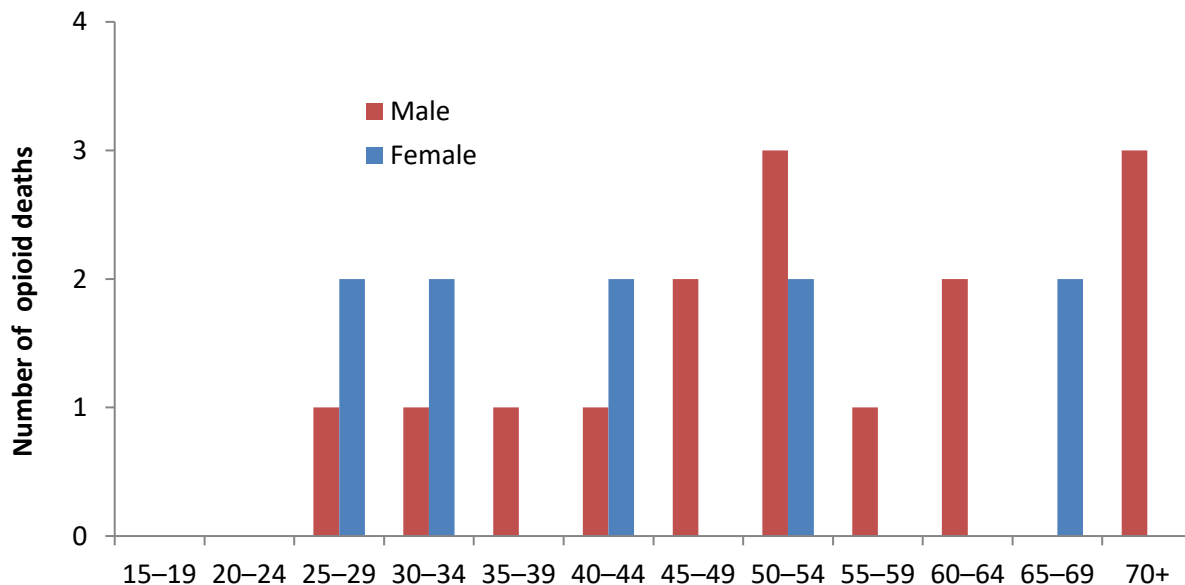
Demographics and recent medical history of apparent accidental opioid poisoning decedents

Figure 7: Apparent accidental poisoning deaths related to fentanyl, by sex and age. January 1, 2018 to June 30, 2018.



- 79 per cent of apparent accidental drug poisoning deaths related to fentanyl were among males. Among males, the highest number of deaths occurred among individuals spanning the ages of 30 to 34 years. Among females, the highest number of deaths occurred among individuals spanning the ages of 35 to 39 years.

Figure 8: Apparent accidental poisoning deaths related to an opioid other than fentanyl, by sex and age, January 1, 2018 to March 31, 2018.



- 60 per cent of apparent accidental poisoning deaths related to an opioid other than fentanyl were among males. Among males and females, the average age of death was 50 years.

Figure 9: Proportion of apparent accidental poisoning deaths related to fentanyl, by medical history within the 30 days before the date of death. January 1, 2018 to March 31, 2018.

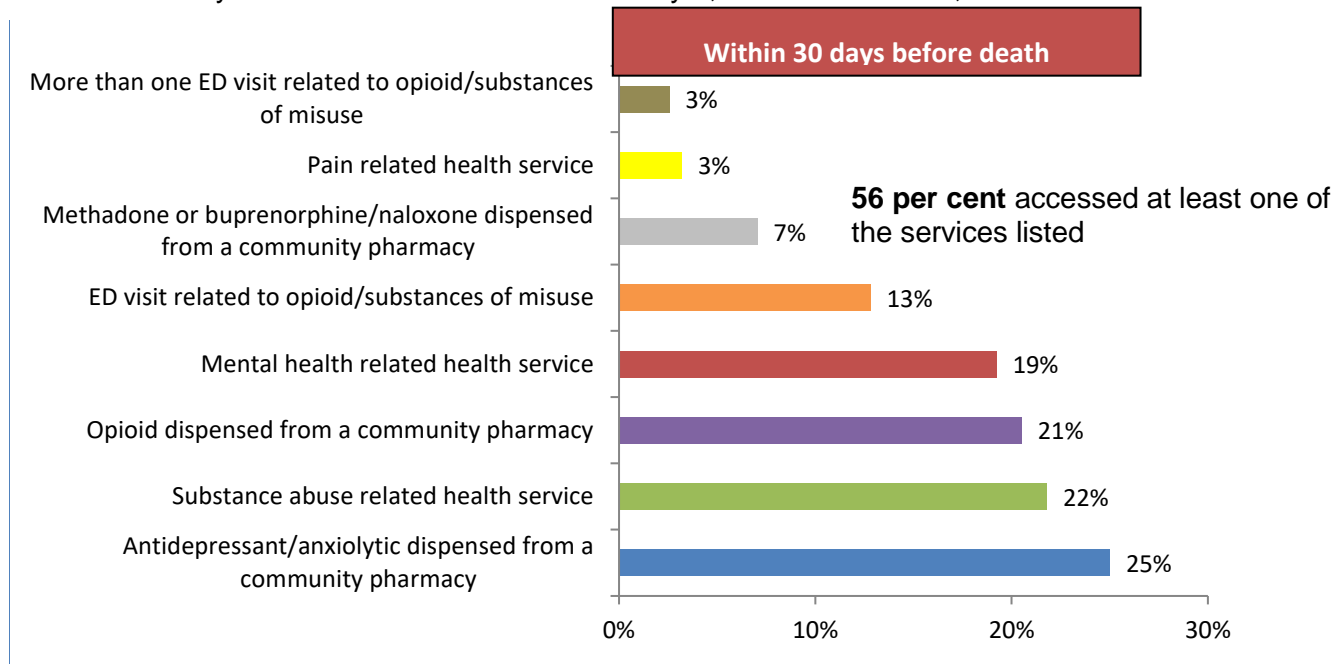
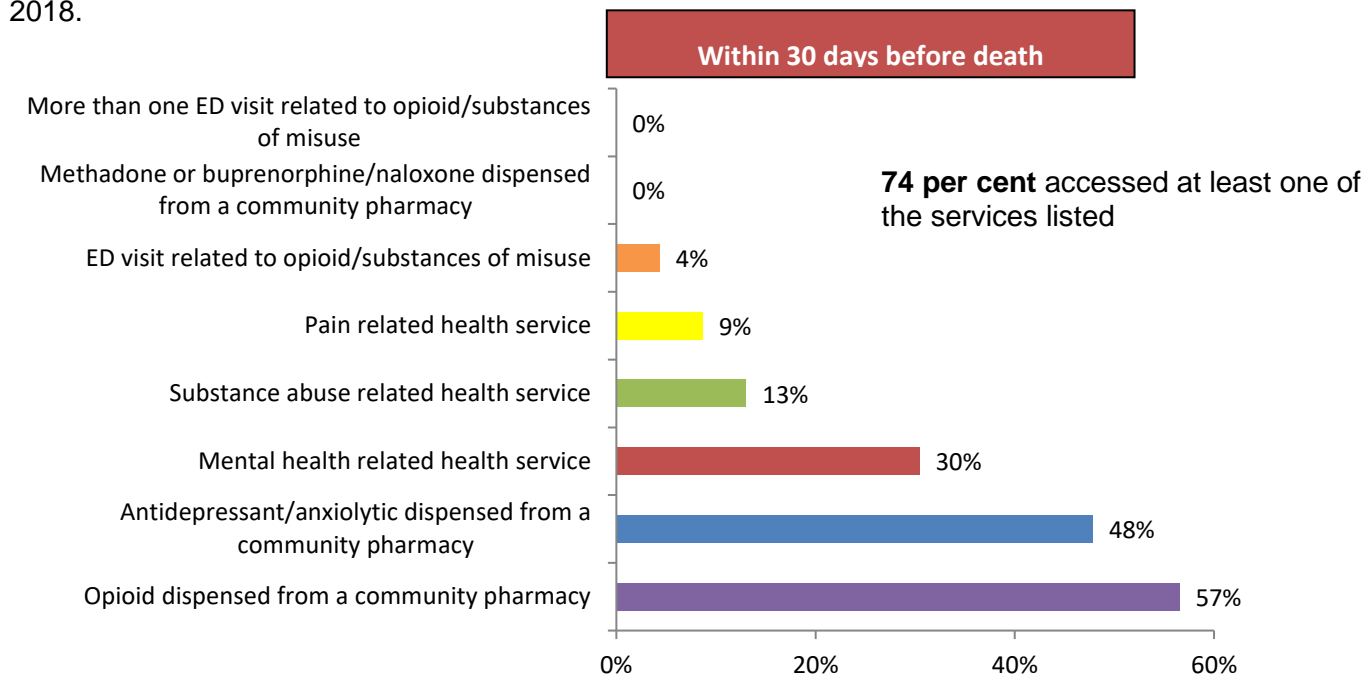


Figure 10: Proportion of apparent accidental poisoning deaths related to an opioid other than fentanyl, by medical history within the 30 days before the date of death, January 1, 2018 to March 31, 2018.



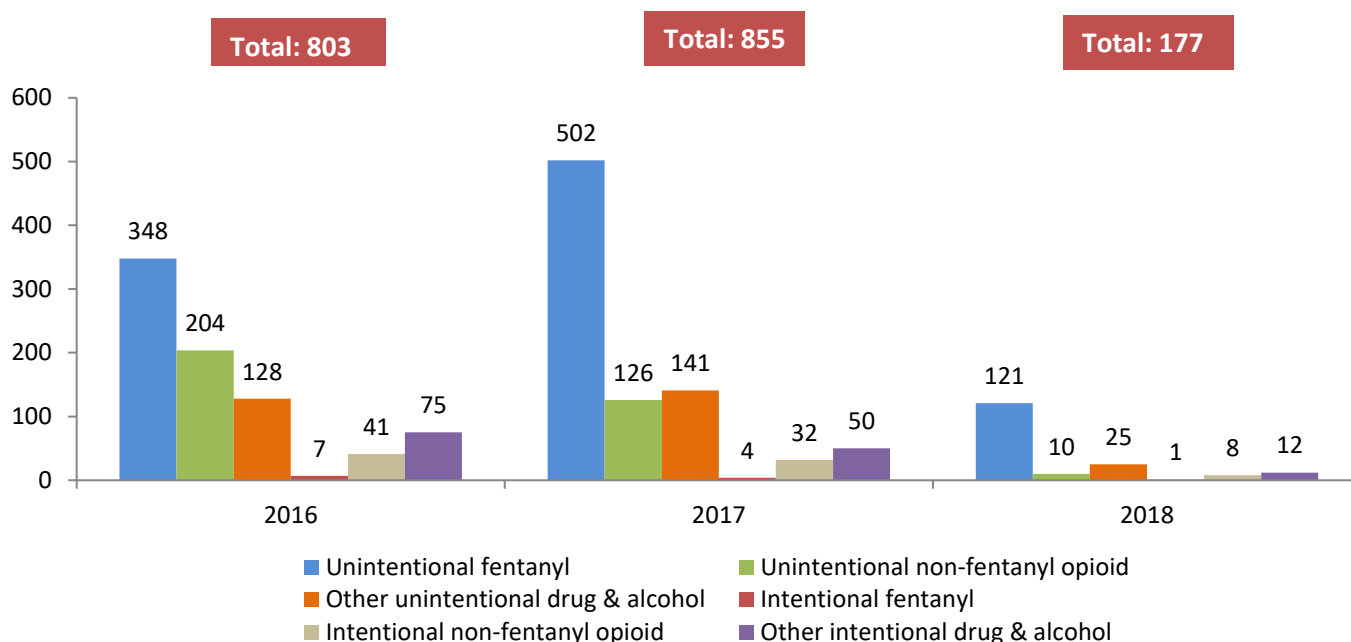
- Among apparent accidental poisoning deaths related to fentanyl, the most frequent health care utilization within 30 days before the individual's date of death was having an antidepressant or anxiolytic dispensed from a community pharmacy.
- Among apparent accidental poisoning deaths poisoning related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

Note: 92% 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.

Confirmed drug and alcohol poisoning deaths (accidental and suicide)

Figure 11: Number of confirmed drug and alcohol poisoning deaths in Alberta, by drug causing death, manner of death, and year. 2016 to 2018.

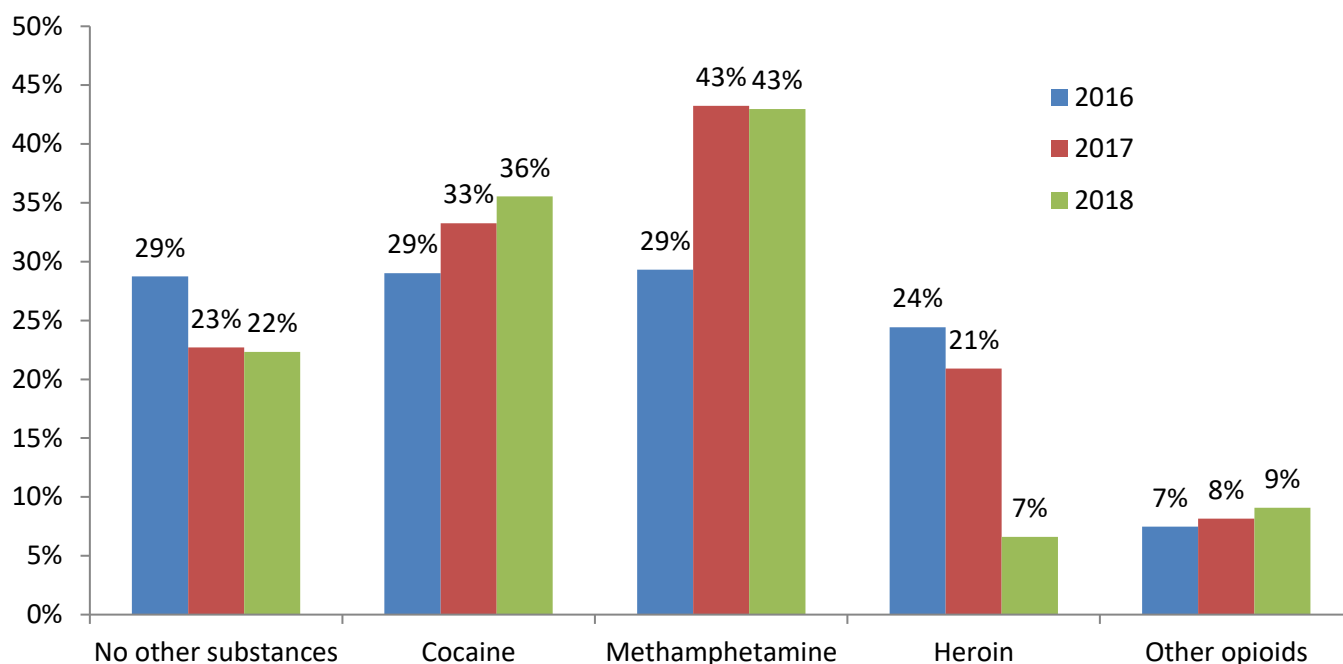
Some drug poisoning deaths in 2017, and many drug poisoning deaths in 2018, are currently under review by the Office of the Chief Medical Examiner and have not been confirmed. Therefore, upon completion of all cases, the final number of total drug poisoning deaths in 2017 and 2018 will be higher than the current number.



- From 2016 to 2018, the proportion of all drug poisoning deaths that were unintentional (accidental) increased from 85 per cent to 88 per cent, while the proportion of all drug poisoning deaths that were intentional (suicide) decreased from 15 per cent to 12 per cent.
- From 2016 to 2018, the proportion of unintentional (accidental) drug poisoning deaths involving any opioid (non-fentanyl or fentanyl) increased from 81 per cent to 84 per cent, while the proportion of unintentional (accidental) drug poisoning deaths not involving any opioid decreased from 19 per cent to 16 per cent.
- From 2016 to 2018, the proportion of intentional (suicide) drug poisoning deaths involving any opioid (non-fentanyl or fentanyl) increased from 39 per cent to 43 per cent, while the proportion of intentional (suicide) drug poisoning deaths not involving any opioid decreased from 61 per cent to 57 per cent.
- From 2016 to 2018, approximately 19 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 60 (3 per cent) of drug and alcohol overdose deaths from 2016 to 2018. 93 per cent were accidental poisoning deaths, and 7 per cent were suicides.

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, non-fentanyl drug related deaths are potentially underreported in 2016 and 2017. The above includes deaths where the cause was due to acute poisoning or poisoning by an exogenous substance where the manner was intentional (suicide) or unintentional (accidental). Deaths as a result of chronic substance use were excluded. Deaths as a result of poisoning or toxic effects due to carbon monoxide and household chemicals were excluded. "Other drugs" refers to prescription drugs (i.e. antidepressants, benzodiazepines), illicit drugs such as cocaine, methamphetamine and MDMA, and unspecified drugs. 2015 counts may be underestimates as the listing of drugs causing death on the death certificate was less common historically. These numbers are estimates for surveillance purposes only.

Figure 12: Confirmed fentanyl poisoning deaths (accidental) in Alberta, by most common additional substances causing death and year. 2016 to 2018.

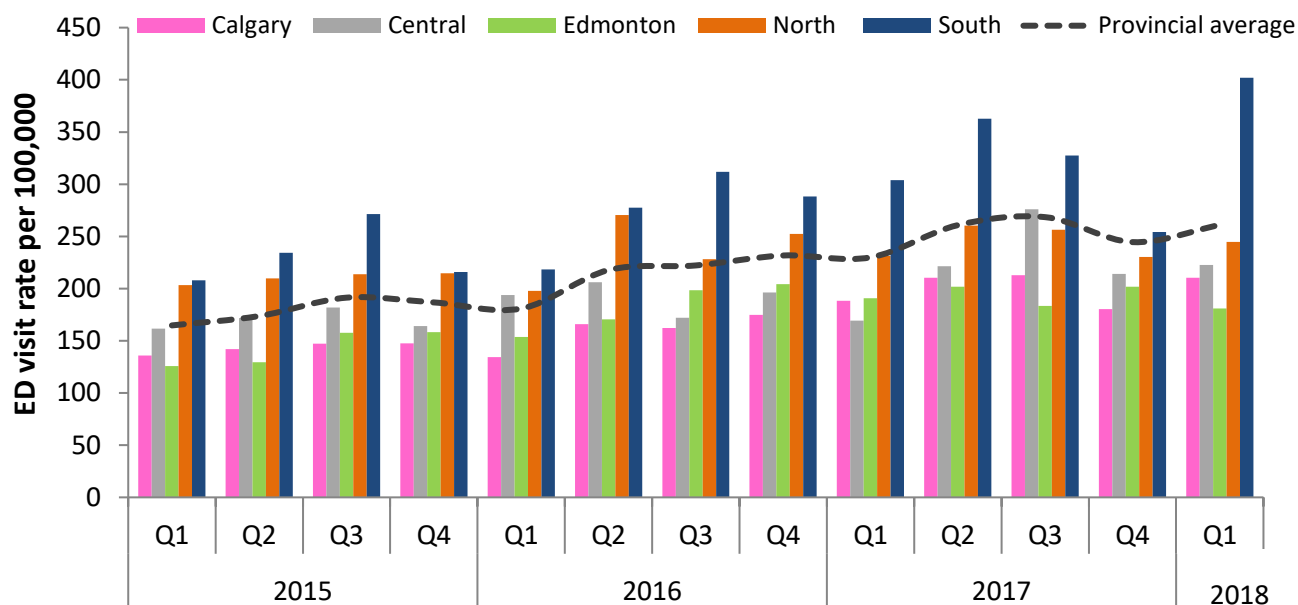


- In 2018, approximately 22 per cent of all fentanyl poisoning deaths had no other substances listed on the death certificate as causing death, while 43 per cent had methamphetamine listed, 36 per cent had cocaine listed, and 7 per cent had heroin listed.
- The proportion of fentanyl poisoning deaths where methamphetamine was also listed as causing death was 1.5 times higher in 2018 compared to 2016 (43 per cent in 2017, 29 per cent in 2015), and the same when compared to 2017 (43 per cent).
- The proportion of fentanyl poisoning deaths where cocaine was also listed as causing death was similar in 2016, 2017, and 2018 (36 per cent in 2018, 33 per cent in 2017, 29 per cent in 2016).
- The proportion of fentanyl poisoning deaths where heroin was also listed as causing death in has decreased from 24 per cent in 2016, to 7 per cent in 2018.

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 13: Rate of emergency department (ED) visits related to opioid use and other substances of misuse, by quarter and Zone, per 100,000 person years. January 1, 2015 to March 31, 2018.



- The *rate* of ED visits related to opioid use and substance misuse increased by 58.4 per cent from January 1, 2015 to March 31, 2018. From the fourth quarter of 2017 to the first quarter of 2018, the rate increased by 6.7 per cent.
- In 2018, the *rate* of ED visits related to opioid use and substance misuse was the highest in the South Zone (402 visits per 100,000 person years); approximately 54 per cent higher than the provincial average over this period (261 visits per 100,000 person years).
- From 2015 to the first quarter of 2018, the Calgary and Edmonton Zones had the highest *number* of ED visits related to opioid use and substance misuse, and on average, made up 30 and 25 per cent of all provincial ED visits related to opioid use and other substances of misuse per quarter, respectively.

Table 9: Top 10 ED facilities utilized for emergency visits related to opioid use and other substances of misuse, January 1, 2015 to March 31, 2018

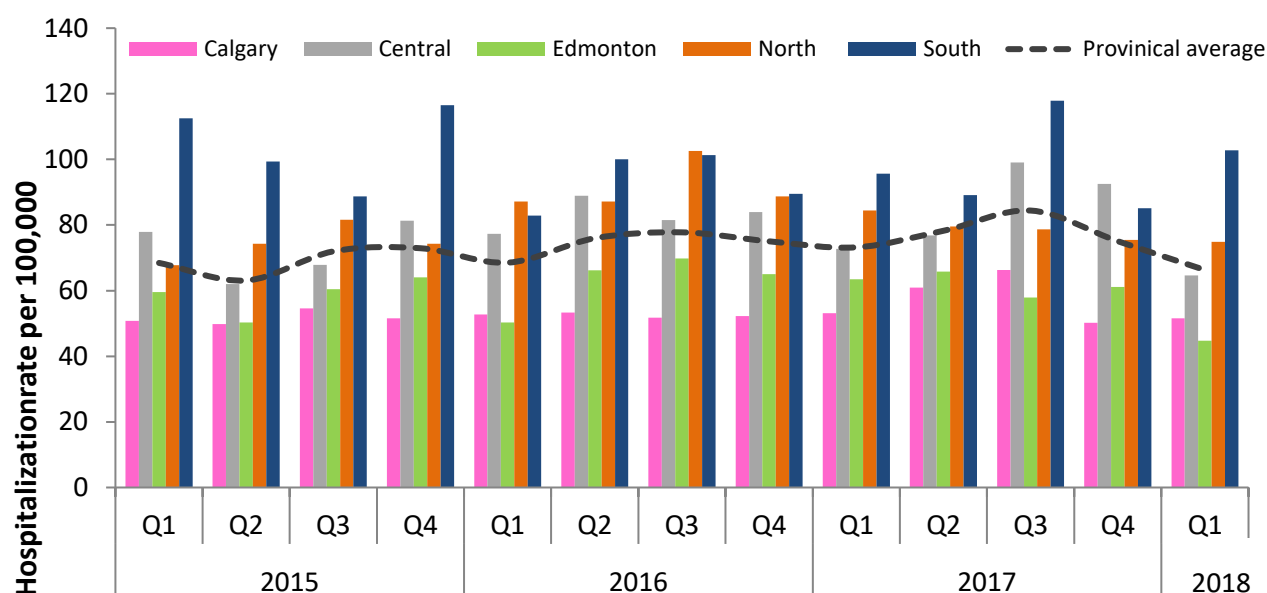
Rank	Facility	Count	Percent of all visits*	Rank	Facility	Count	Percent of all visits*
1	Royal Alexandra Hospital	3,503	12%	6	Red Deer Regional Hospital	1,353	4%
2	Peter Lougheed Centre	3,120	10%	7	South Health Campus	1,278	4%
3	Rockyview General Hospital	2,387	8%	8	Grey Nuns Community Hospital	1,189	4%
4	Foothills Medical Centre	2,382	8%	9	Chinook Regional Hospital	1,164	4%
5	U of A Hospital	1,890	6%	10	Sheldon M Chumir Center	974	3%

*Percentage of the total 30,139 ED visits related to opioids and other substances of misuse that occurred at the specified facility.

Note: 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 14: Rate of hospitalizations related to opioid use and other substances of misuse, by quarter and Zone, per 100,000 person years. January 1, 2015 to March 31, 2018.



- The *rate* of hospitalizations related to opioid use and substance misuse decreased by 3.1 per cent from January 1, 2015 to March 31, 2018. From the fourth quarter of 2017 to the first quarter of 2018, the rate decreased by 11.7 per cent.
- In 2018, the *rate* of hospitalizations related to opioid use and substance misuse was the highest in the South Zone (102 hospitalizations per 100,000 person years); approximately 55 per cent higher than the provincial average (66 hospitalizations per 100,000 person years).
- From 2015 to the first quarter of 2018, the Calgary and Edmonton Zones had the highest *number* of hospitalizations related to opioid use and substance misuse, and on average, made up 28 and 26 per cent of all hospitalizations related to opioid use and other substances of misuse per quarter, respectively.

Table 10: Top 10 facilities utilized for hospitalizations related to opioid use and other substances of misuse, January 1, 2015 to March 31, 2018.

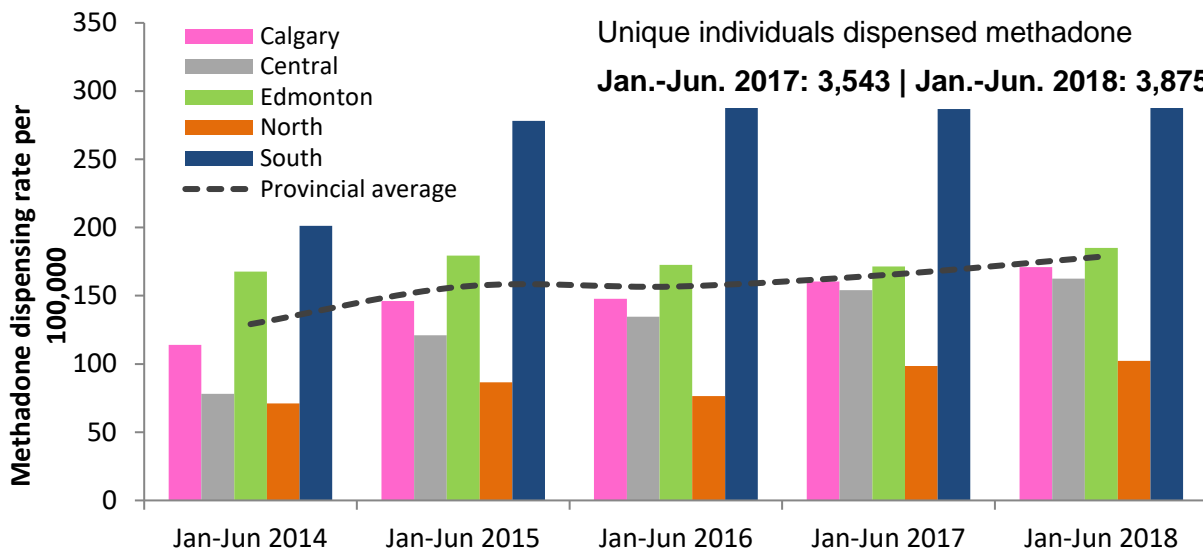
Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	1,691	17%	6	Red Deer Regional Hospital	459	5%
2	Peter Lougheed Centre	1,136	11%	7	South Health Campus	346	3%
3	Foothills Medical Centre	1,100	11%	8	Grey Nuns Community Hospital	333	3%
4	University Of Alberta Hospital	693	7%	9	Medicine Hat Regional Hospital	330	3%
5	Rockyview General Hospital	643	6%	10	Queen Elizabeth II Hospital	321	3%

*Percentage of the total 10,103 inpatient stays related to opioids and other substances of misuse that occurred at the specified facility.

Note: 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)

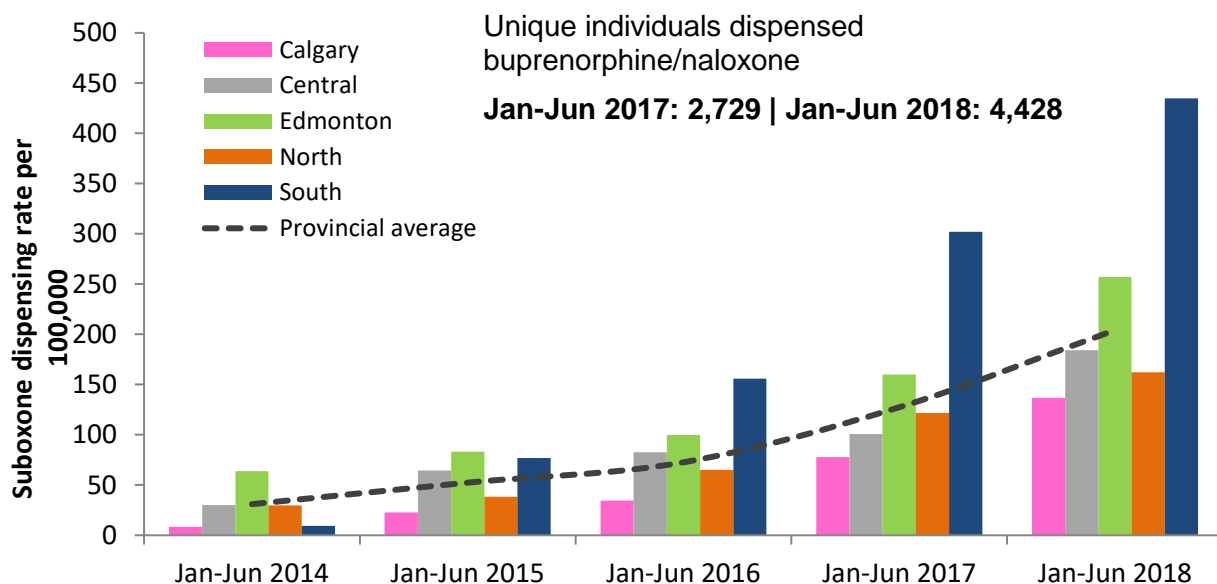
Methadone & buprenorphine/naloxone dispensing from community pharmacies

Figure 15: Rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000, by Zone. January 1, 2014 to June 30, 2018.



- In Alberta, the rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000 increased slightly from January-June 2017 to January-June 2018 by 8 per cent. The South Zone had the highest rate in January-June 2018 – 177 per cent higher than the provincial average (317 per 100,000 vs. 179 per 100,000).

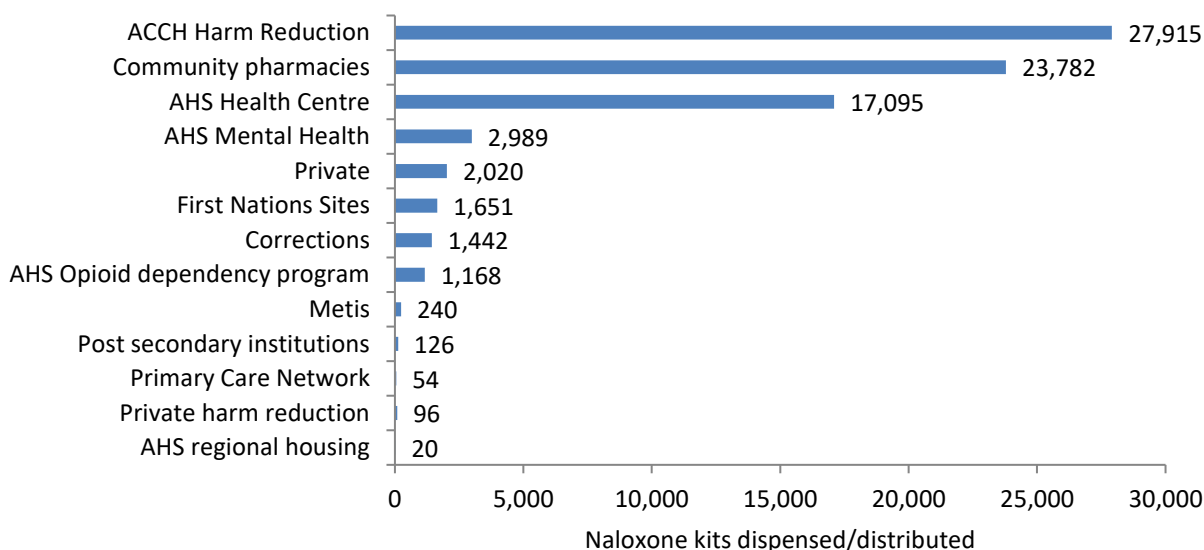
Figure 16: Rate of unique individuals dispensed buprenorphine/naloxone (generic brands and Suboxone™) indicated for opioid dependence from community pharmacies per 100,000, January 1, 2014 to June 30, 2018.



- In Alberta, the rate of unique individuals dispensed buprenorphine/naloxone indicated for opioid dependence from community pharmacies per 100,000 continues to increase, as seen by the 60 per cent increase from January to June 2017 to January to June 2018. The South Zone had the highest rate in January to June 2018 – 213 per cent higher than the provincial average (435 per 100,000 vs. 204 per 100,000).

Naloxone kit dispensing and distribution through Alberta Health Services' naloxone program

Figure 17: Naloxone kits dispensed/distributed by registered site type, January 1, 2016 to June 30, 2018.



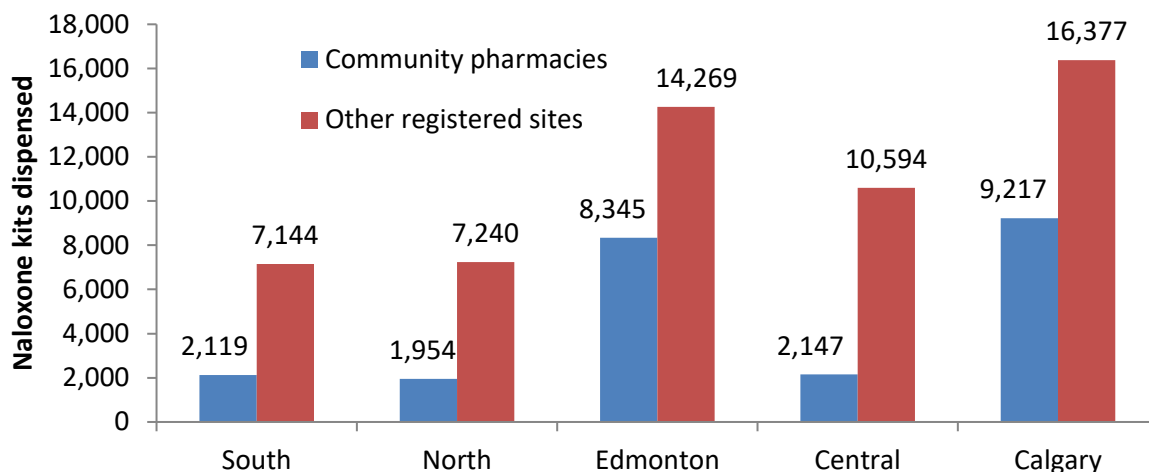
- From January 1, 2016 to June 30, 2018, 79,406 naloxone kits were dispensed in Alberta through Alberta Health Services' (AHS') naloxone program, and 4,505 reversals were self-reported.
- Approximately 3,250 naloxone kits were distributed in Alberta by the Alberta Community Council on HIV (ACCH) between July 2015 and January 2016. In January 2016, AHS began its take-home naloxone program through registered distribution sites.

Table 11: Number of sites registered to distribute naloxone kits, January 1, 2016 to June 30, 2018.

	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	90	379	126	357	109	1,061
AHS Health Centre	38	64	47	39	80	268
Private	12	19	13	24	3	71
Medical First Response	11	15	22	10	25	83
AHS Mental Health	4	21	13	33	14	85
First Nations sites	2	4	8	4	20	38
Primary Care Network	0	5	3	3	2	13
Corrections	2	4	1	3	1	11
ACCH Harm Reduction	2	1	1	1	3	8
AHS Regional Housing	0	3	0	3	0	6
Post-Secondary Institutions	0	2	1	3	0	6
Private Opioid Dependency Program	2	0	1	2	1	6
Peace Officers	0	2	0	1	2	5
AHS Opioid Dependency Program	1	1	0	1	1	4
Metis	0	0	0	1	2	3
Private Harm Reduction	0	0	0	2	0	2
Total	164	520	236	487	263	1,670

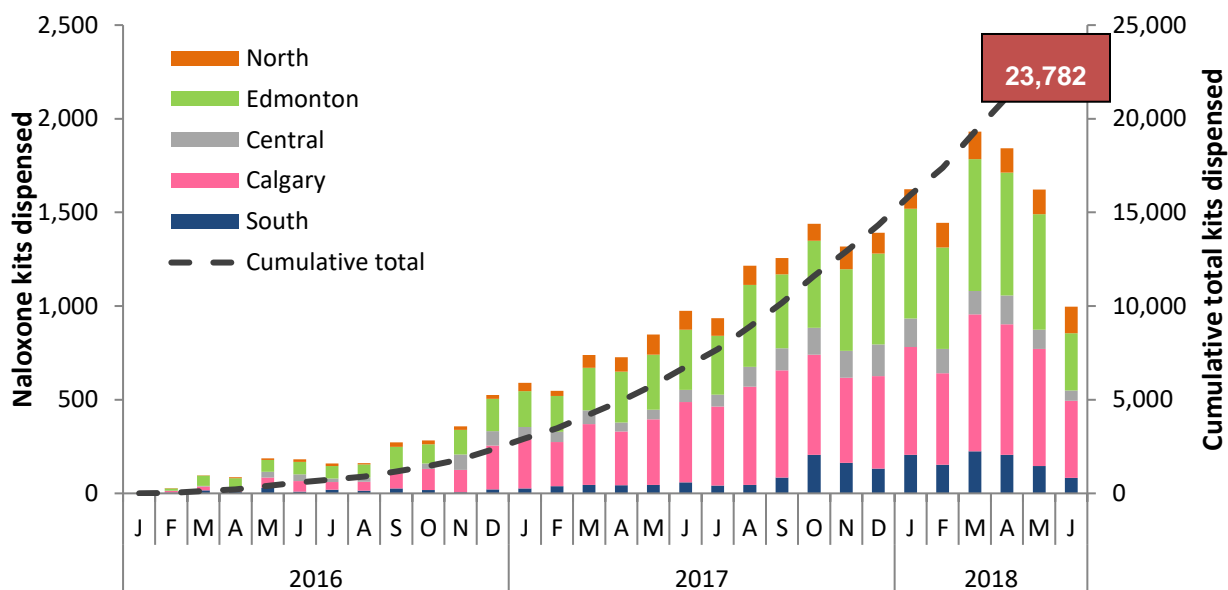
Note: Naloxone kits dispensing data from community pharmacies comes from Alberta Blue Cross. All other kit distribution data comes from the AHS Take Home Naloxone Kit Program.

Figure 18: Naloxone kits dispensed/distributed by community pharmacies and other registered sites, by Zone. January 1, 2016 to June 30, 2018.



- Throughout the province, other registered sites are dispensing more naloxone kits than community pharmacies (65 per cent of all kits given out).
- The Calgary Zone dispensed the highest total volume of kits in the province (33 per cent).

Figure 19: Naloxone kits dispensed by community pharmacies, by Zone and month. January 1, 2016 to June 30, 2018.



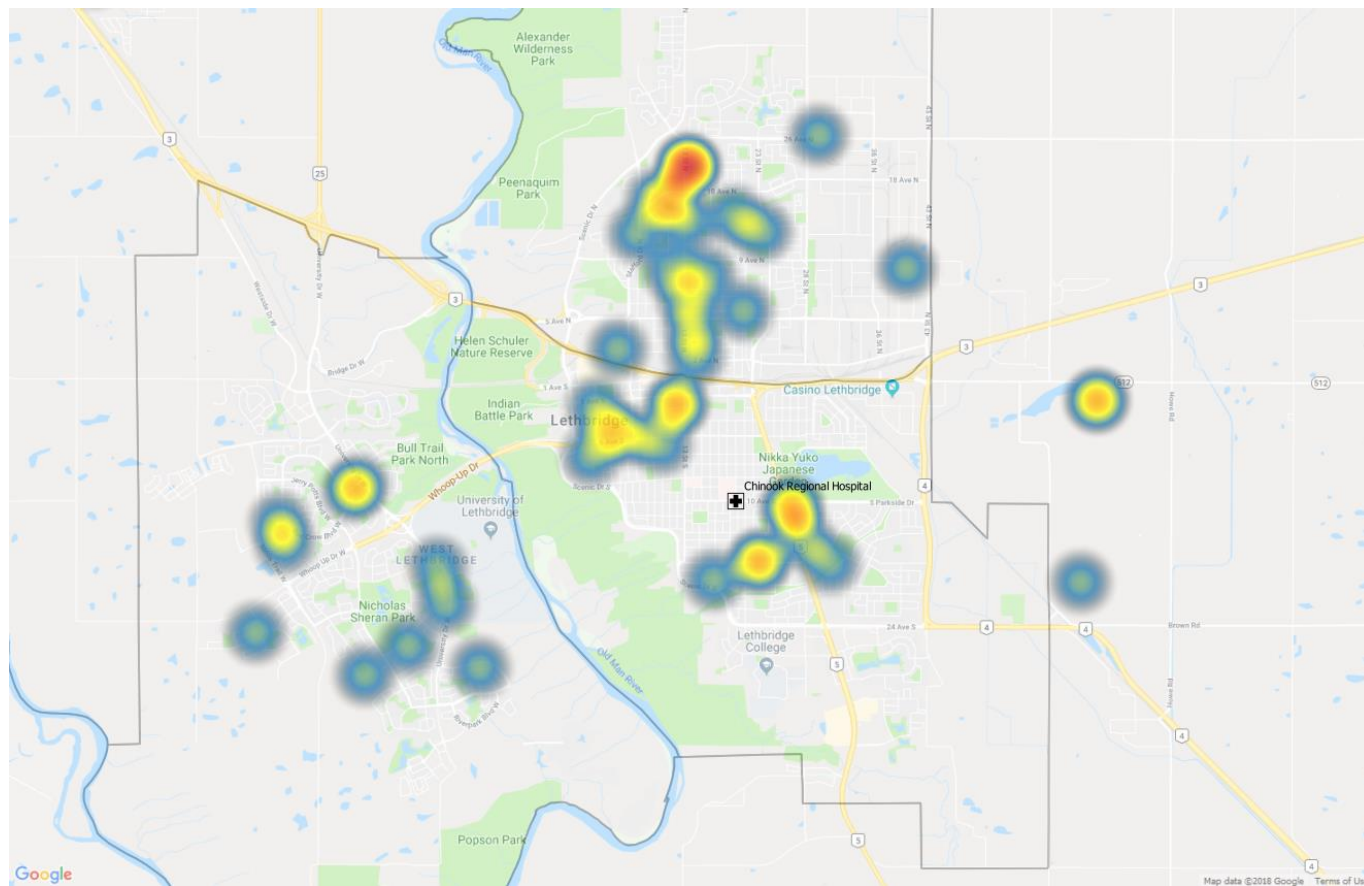
- Across Alberta, in 2018, community pharmacies dispensed an average of 1,577 kits per month. The Calgary Zone has had the largest volume of naloxone kits dispensed from community pharmacies, with an average of 589 kits per month. The Edmonton Zone dispensed the next highest volume with an average of 568 kits per month.
- The median age of an individual receiving a naloxone kit dispensed from a community pharmacy was 31 years, and 58 per cent were male.
- Since January 1, 2016, 23,782 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 Take Home Naloxone Kit Program.

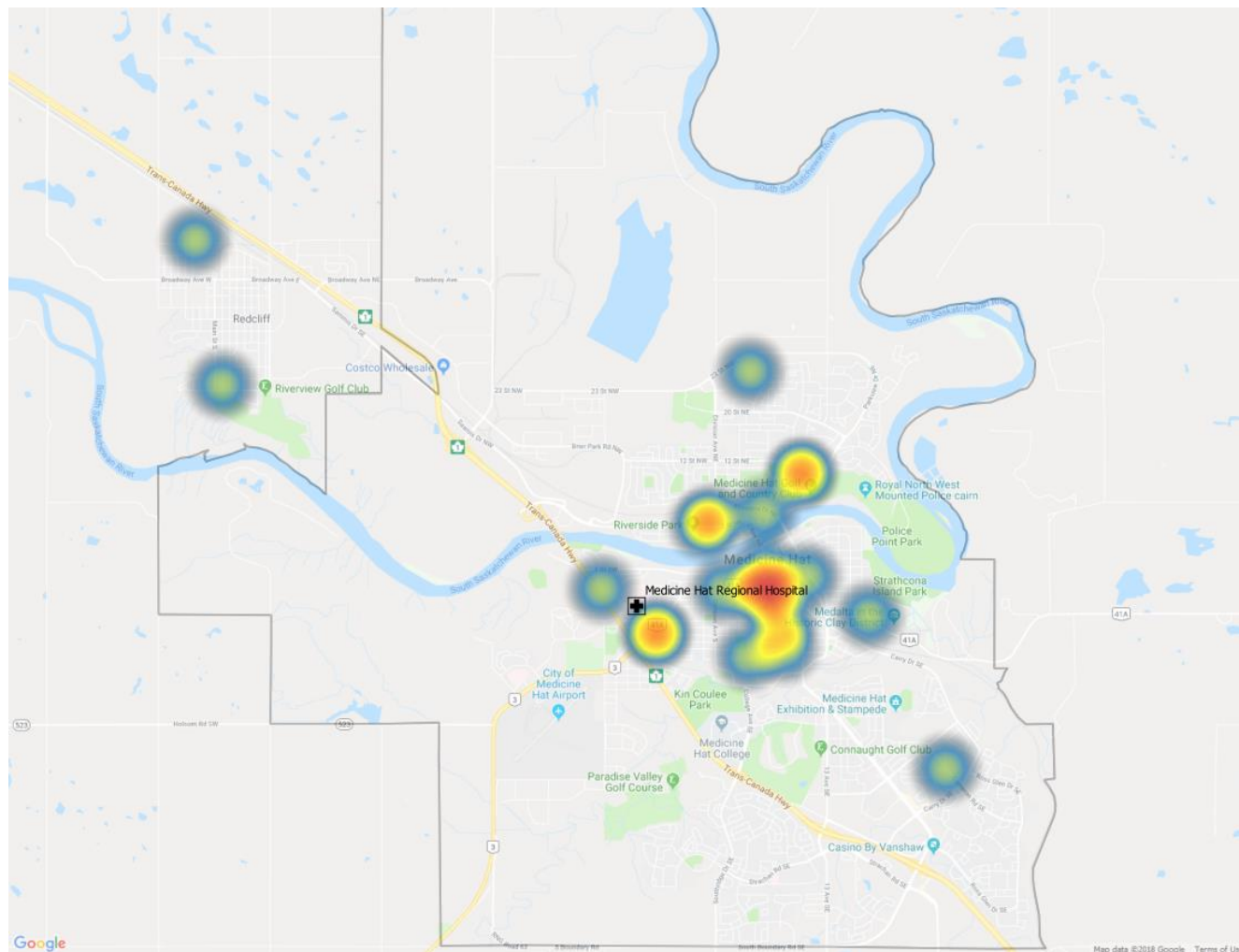
Appendix 1: Opioid related poisoning deaths in major Albertan cities

Apparent accidental opioid poisoning deaths, by Municipality (based on place of overdose).
January 1, 2016 to June 30, 2018.

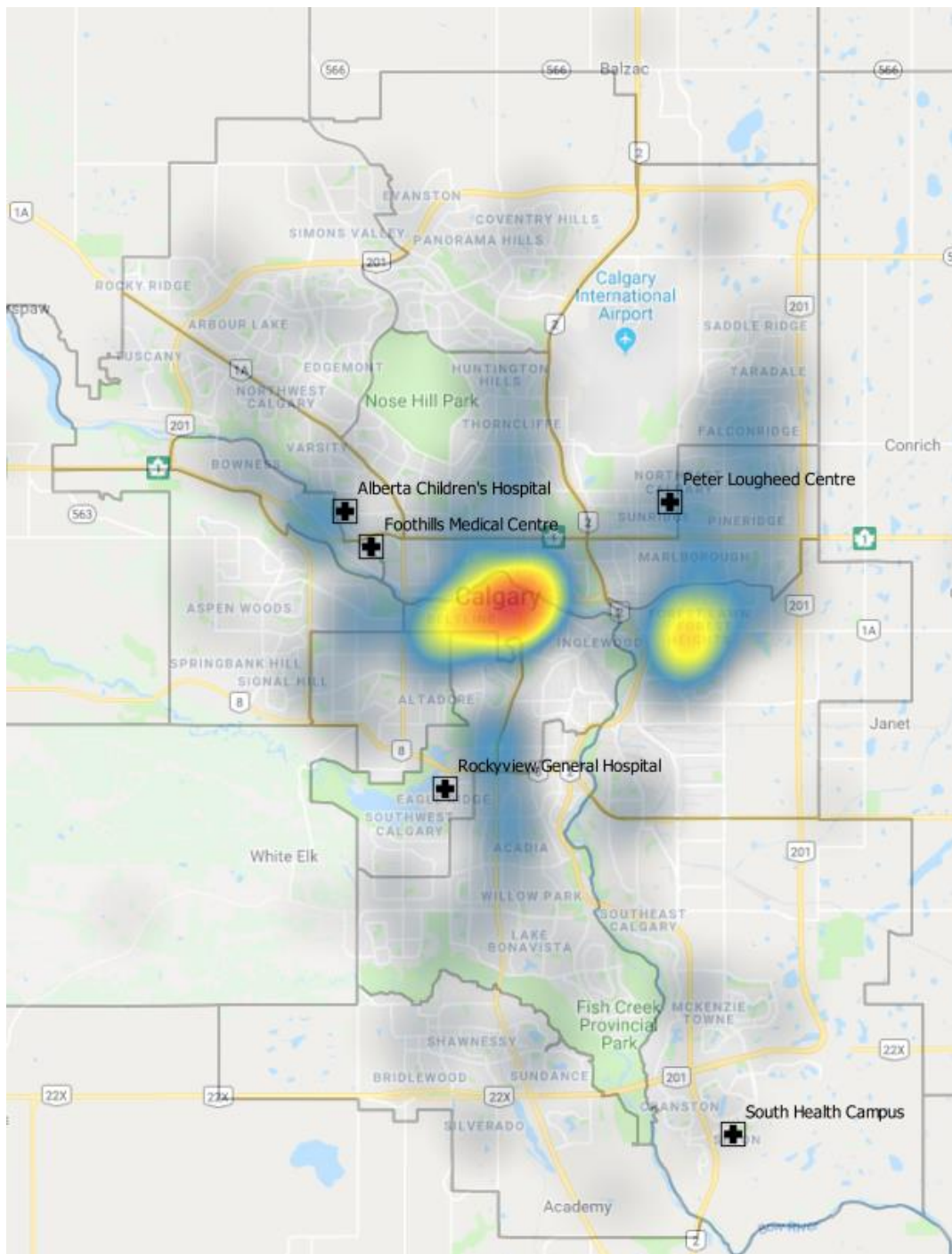
Lethbridge



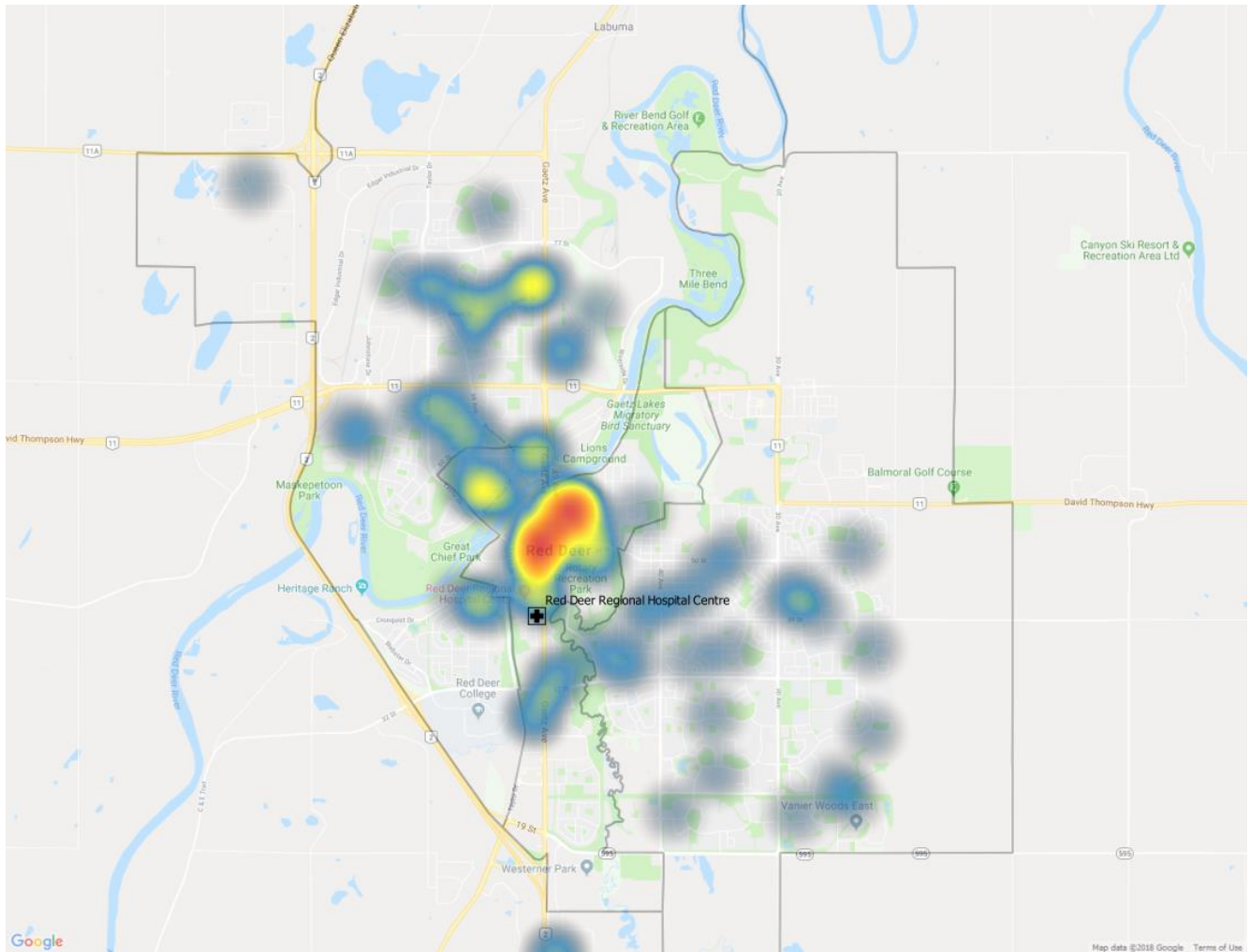
Medicine Hat



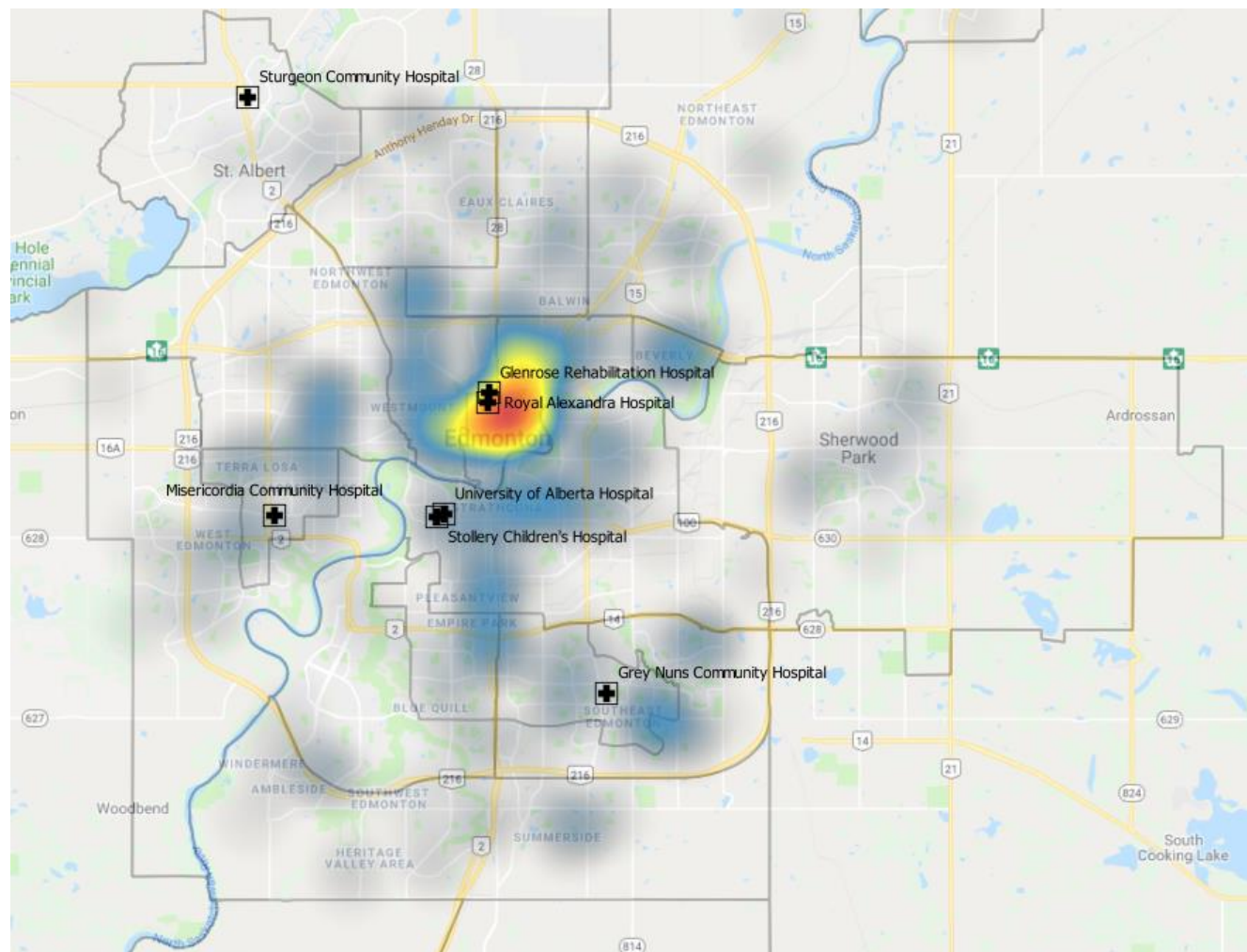
Calgary



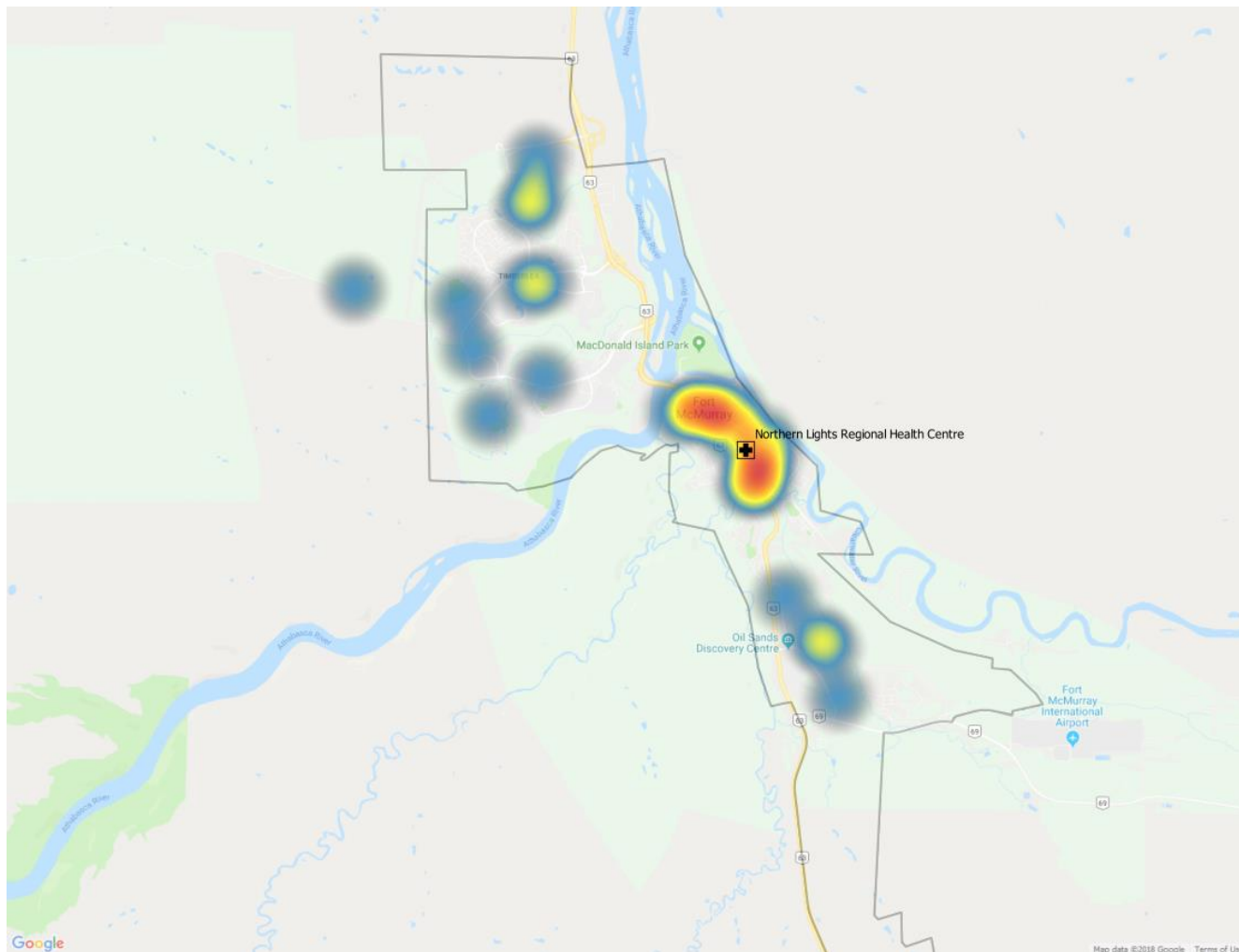
Red Deer



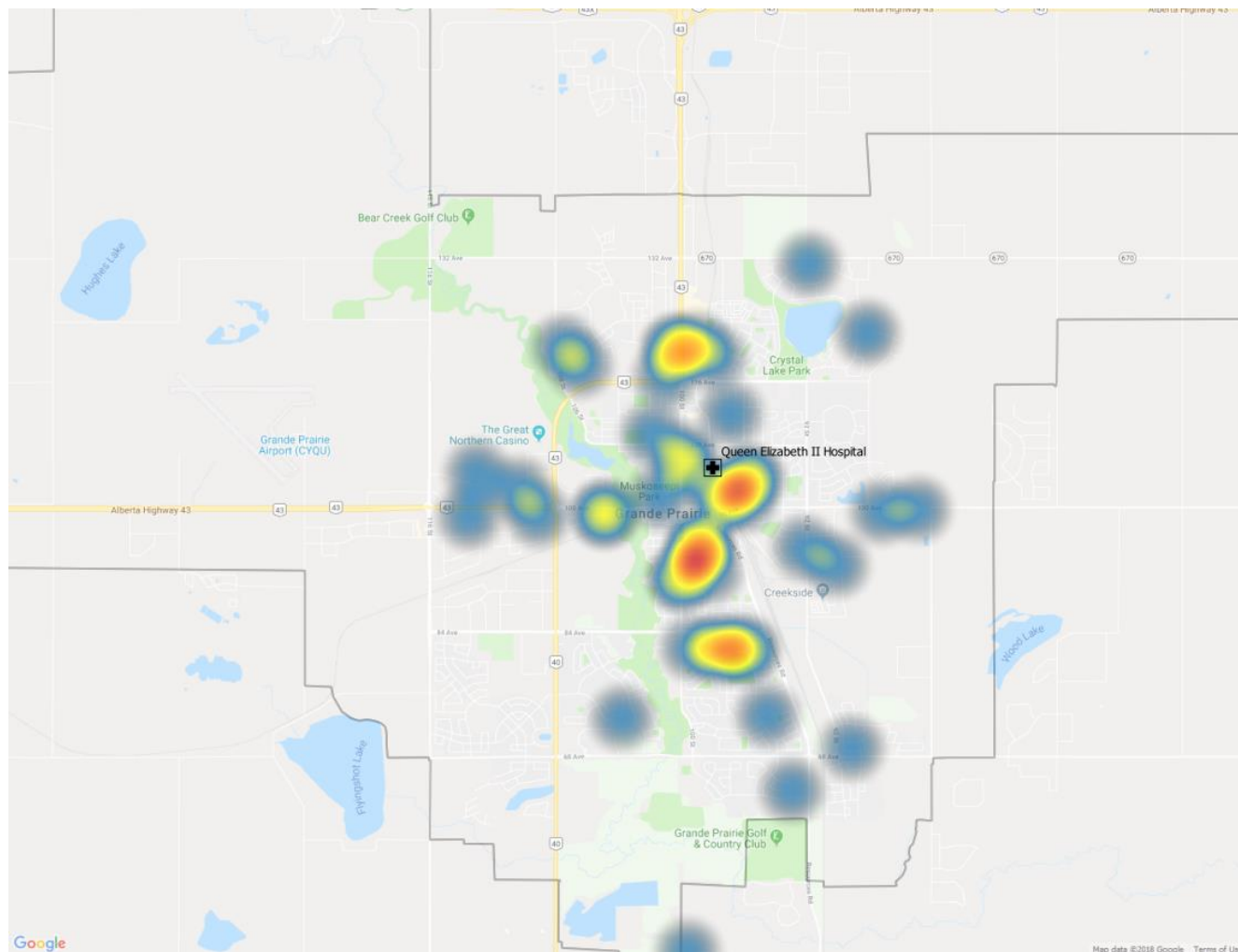
Edmonton



Fort McMurray



Grande Prairie



Data notes

Data source(s) for report

1. National Ambulatory Care Reporting System (NACRS)
2. Alberta Health Care Insurance Plan (AHCIP) Quarterly Population Registry Files
3. Alberta Health Postal Code Translation File (PCTF)
4. Pharmaceutical Information Network (PIN)
5. Office of the Chief Medical Examiner (OCME) MEDIC data
6. AHS EMS Direct delivery and AHS contractors-ground ambulance services data
7. AHS Take Home Naloxone Program data
8. Alberta Blue Cross Data

Mortality data

The following substances are included in the drug overdose categories.

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

1. 71310 – Ambulatory care services described as emergency
2. 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
3. 71514 – Community Advanced Ambulatory Care Centre (AACC). As of 2014, the only AACC in Alberta is La Crete Health Centre

Community pharmacy drug dispensing

1. The Pharmaceutical Information Network (PIN) Database is used to estimate dispensation events for the province between 2014 and 2016 **only from community pharmacies**. Variability can be dependent on the way the drug is prescribed.
2. The PIN database is up-to-date; to date, the PIN database has records up to June 30, 2017. 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