

# Alberta Health

## Alberta Opioid Response Surveillance Report

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2018 Q3

December 11, 2018

*Alberta*  Government

## Highlights

- The most up-to-date data shows that 523 people died from an apparent accidental opioid poisoning so far in 2018.
- On average, 2 individuals die every day in Alberta as a result of an apparent accidental opioid poisoning.
- In the most recent quarter, 158 people died from an apparent accidental fentanyl-related poisoning, compared to 167 people in the previous quarter.
- While fentanyl-related deaths continue to increase, the increase appears to have slowed, and concurrently, non-fentanyl opioid deaths have decreased significantly.
  - While it is too early to know for sure, this suggests overdose deaths may be plateauing.

## Key points

### Apparent accidental poisoning deaths related to fentanyl

- In the third quarter of 2018, there were **158** apparent accidental poisoning deaths related to fentanyl in Alberta. By comparison, there were **167** of these deaths in the second quarter of 2018.
- From January 1, 2018 to September 30, 2018, **87 per cent** of deaths occurred in larger urban municipalities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the third quarter of 2018, the Calgary Zone (**64**) and Edmonton Zone (**59**) had the highest numbers of fentanyl deaths. The Calgary Zone continued to have the highest rate per 100,000 person years at **18.7** (a decrease from last reporting period), compared to the provincial average of **15.2** per 100,000 person years.

### Apparent accidental poisoning deaths related to non-fentanyl opioids

- In the second quarter of 2018, there were **14** apparent accidental poisoning deaths related to an opioid other than fentanyl in Alberta. By comparison, there were **15** of these deaths in the first quarter of 2018. In 2017, **38** apparent accidental poisoning deaths related to an opioid other than fentanyl occurred in the second quarter.
- From January 1, 2018 to June 30, 2018, **66 per cent** of non-fentanyl opioid-related deaths occurred in larger urban municipalities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the second quarter of 2018, the Calgary Zone (**4**) and South Zone (**4**) had the highest number of these deaths. The South Zone had the highest rate at **2.6** 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 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, **77 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 second quarter of 2018, there were **2,972** emergency and urgent care visits related to harm associated with opioids and other drug use. In the previous quarter, there were **2,830** emergency and urgent care visits related to opioids and other substances of misuse.
- In the second quarter of 2018, emergency and urgent care visits related to harm associated with opioids and other drug use occurred among **2,460** unique individuals, of whom **14 per cent** had more than one visit.

### Supervised consumption services

- In the most recent quarter, there were **63,973** visits to supervised consumption services sites in Edmonton, Calgary, and Lethbridge. In the same time period, there were **2,663** unique clients who attended these sites, and **646** overdoses were attended to at these sites.

## Disclaimer

This surveillance report presents emergency department visits, hospitalizations, 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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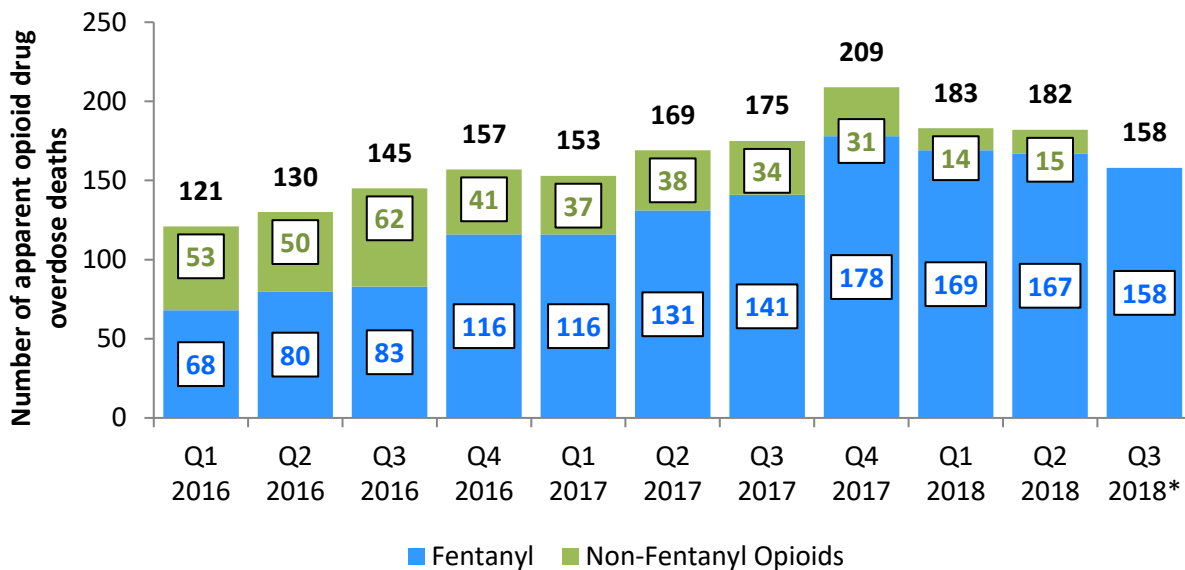
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# Mortality data: Apparent accidental opioid poisoning deaths

## Fentanyl and non-fentanyl related deaths

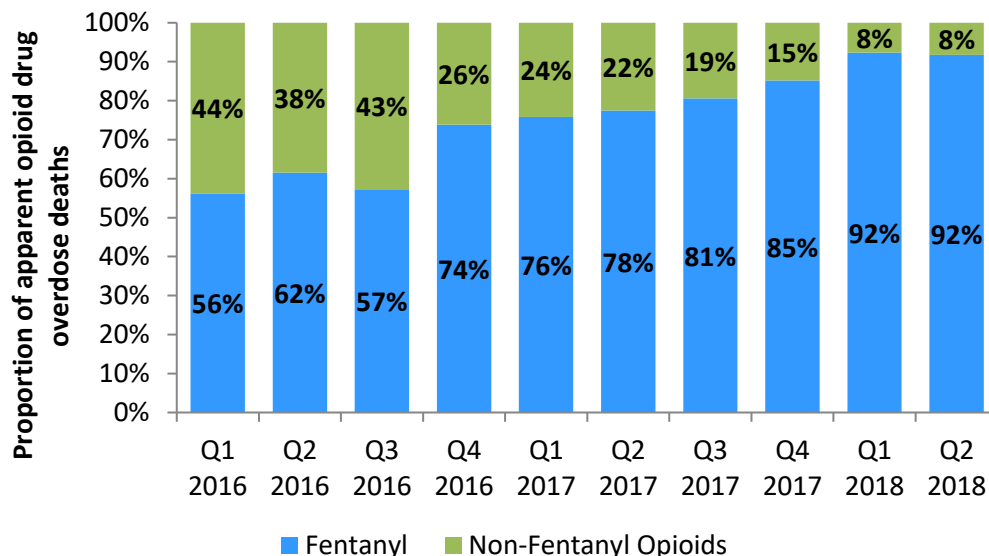
**Figure 1:** Number of apparent accidental opioid poisoning deaths related to any opioid, by quarter. January 1, 2016 to September 30, 2018.



\*Only fentanyl related opioid deaths are available for most recent quarter

- Since January 1, 2016 **1,782** individuals have died from an accidental opioid poisoning in Alberta.

**Figure 2:** Proportion of fentanyl vs. non-fentanyl related apparent accidental opioid poisoning deaths, by quarter. January 1, 2016 to June 30, 2018.

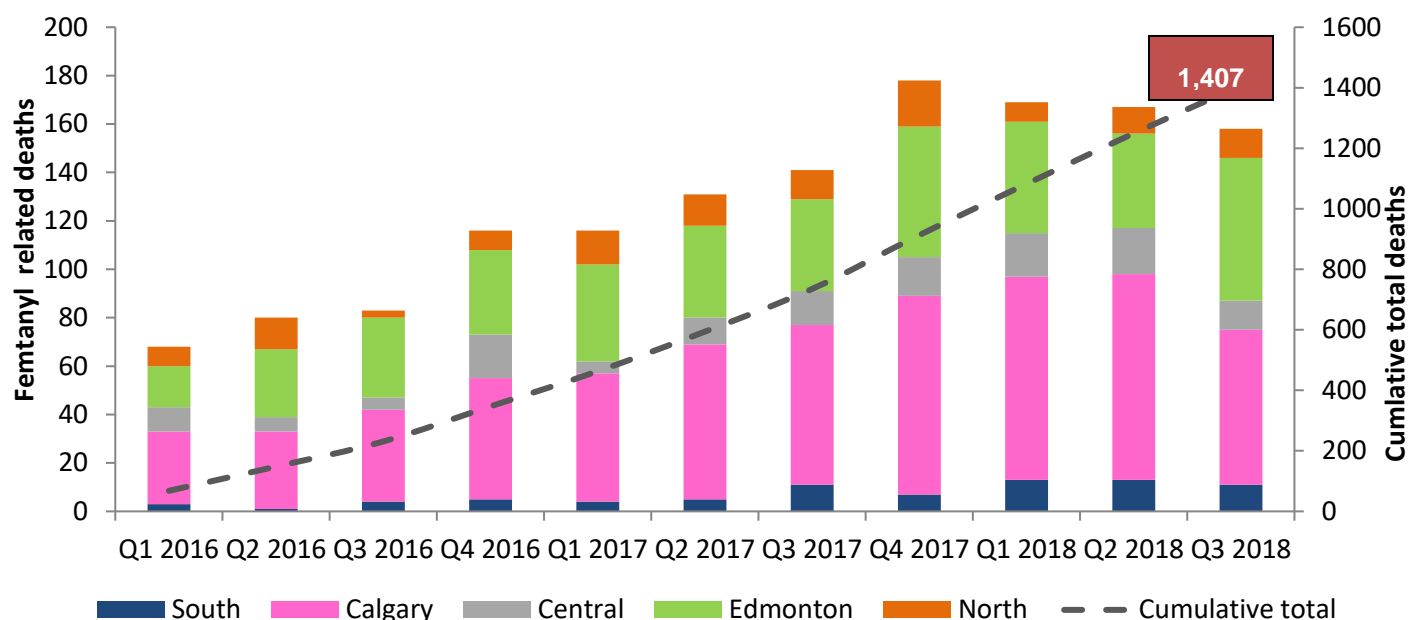


- Almost all opioid poisoning deaths are now related to fentanyl. In the second quarter of 2018, 92 per cent of all opioid poisoning deaths were related to fentanyl.



## 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 September 30, 2018.



- Since January 1, 2016, a total of 1,407 individuals in Alberta died from an apparent accidental drug poisoning death related to fentanyl (347 in 2016, 566 in 2017, and 494 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	7	13	13	11	<b>77</b>
Calgary Zone	30	32	38	50	53	64	66	82	84	85	64	<b>648</b>
Central Zone	10	6	5	18	5	11	14	16	18	19	12	<b>134</b>
Edmonton Zone	17	28	33	35	40	38	38	54	46	39	59	<b>427</b>
North Zone	8	13	3	8	14	13	12	19	8	11	12	<b>121</b>
<b>Alberta</b>	<b>68</b>	<b>80</b>	<b>83</b>	<b>116</b>	<b>116</b>	<b>131</b>	<b>141</b>	<b>178</b>	<b>169</b>	<b>167</b>	<b>158</b>	<b>1,407</b>
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 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 September 30, 2018.

	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
<b>South Zone</b>	13	4.3	27	8.8	37	16.0
<b>Calgary Zone</b>	150	9.3	265	16.2	233	18.7
<b>Central Zone</b>	39	8.1	46	9.5	49	13.4
<b>Edmonton Zone</b>	113	8.4	170	12.4	144	13.9
<b>North Zone</b>	32	6.5	58	11.8	31	8.3
<b>Alberta</b>	<b>347</b>	<b>8.2</b>	<b>566</b>	<b>13.2</b>	<b>494</b>	<b>15.2</b>

- 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 18.7, 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 16.0 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 September 30, 2018.

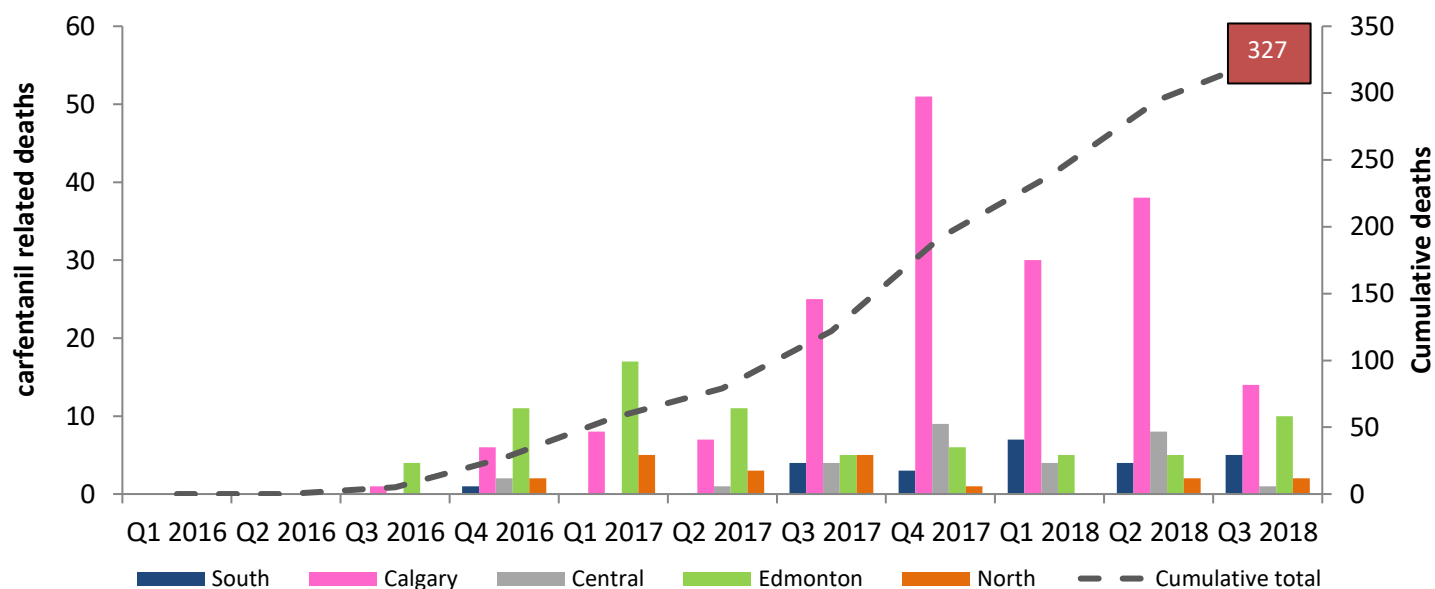
	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
<b>Lethbridge</b>	8	8.3	15	15.3	22	29.4
<b>Medicine Hat</b>	2	2.9	7	10.2	8	15.5
<b>Calgary</b>	144	10.9	240	18.0	217	21.7
<b>Red Deer</b>	23	21.1	23	21.4	31	38.5
<b>Edmonton</b>	99	10.2	136	13.7	129	17.4
<b>Fort McMurray</b>	9	11.1	14	17.6	8	13.4
<b>Grande Prairie</b>	10	13.5	27	36.4	16	28.8
<b>Total</b>	<b>295</b>	<b>10.8</b>	<b>462</b>	<b>16.8</b>	<b>431</b>	<b>20.9</b>

- 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 and Grande Prairie.

\*YTD = January 1, 2018 to September 30, 2018

**Figure 4:** Number of apparent accidental drug poisoning deaths related to carfentanil, by Zone (based on place of death) and quarter. January 1, 2016 to September 30, 2018.

**Subcategory of fentanyl deaths from Figure 3**



- The first Alberta carfentanil cases were detected in the third quarter of 2016, with 27 cases occurring in all of 2016. In 2017, 165 individuals in Alberta died from a drug poisoning related to carfentanil, and 135 in the first nine months of 2018.
- The number of carfentanil cases peaked in the last quarter of 2017 (70 deaths), 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, 57 in the second, and 32 in the third.
- 51 per cent of all carfentanil deaths have occurred in the Calgary Zone. In the third quarter of 2018, 44 per cent of carfentanil deaths occurred in the Calgary Zone, a decrease from the previous quarter (67 per cent).
- As of September 30, 2018, the South Zone had the highest rate of carfentanil deaths per 100,000, as did the City of Lethbridge.

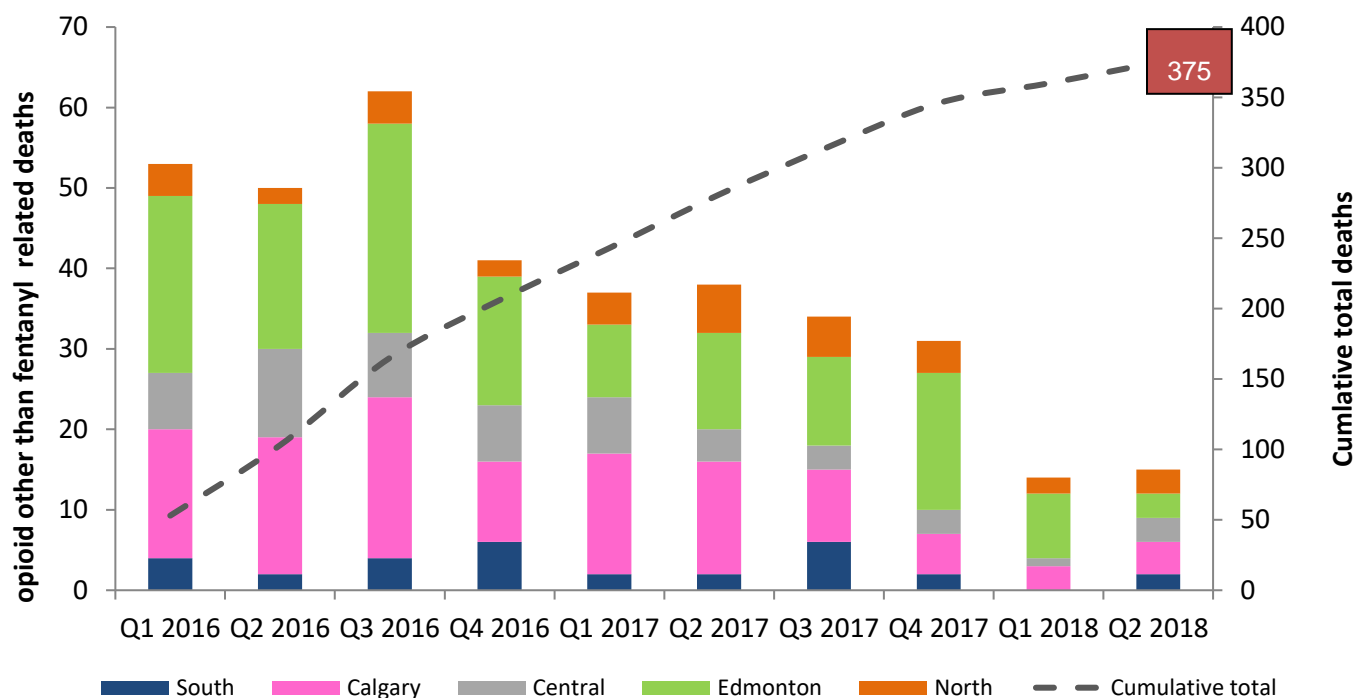
**Table 5:** Number of apparent accidental carfentanil poisoning deaths, by quarter.

**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	Q3 2018	Total
South Zone	0	0	0	1	0	0	4	3	7	4	5	19
Calgary Zone	0	0	1	6	8	7	25	51	30	38	14	166
Central Zone	0	0	0	2	0	1	4	9	4	8	1	28
Edmonton Zone	0	0	4	11	17	11	5	6	5	5	10	64
North Zone	0	0	0	2	5	3	5	1	0	2	2	18
<b>Alberta</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>43</b>	<b>70</b>	<b>46</b>	<b>57</b>	<b>32</b>	<b>327</b>

### 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 June 30, 2018.



- Since January 1, 2016, a total of 375 individuals in Alberta have died from apparent accidental drug poisoning related to an opioid other than fentanyl (206 in 2016, 140 in 2017, and 29 in 2018 YTD).

**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	Q2 2018	Total
South Zone	4	2	4	6	2	2	6	2	0	4	32
Calgary Zone	16	17	20	10	15	14	9	5	3	4	113
Central Zone	7	11	8	7	7	4	3	3	1	3	54
Edmonton Zone	22	18	26	16	9	12	11	17	8	3	142
North Zone	4	2	4	2	4	6	5	4	2	3	36
<b>Alberta</b>	<b>53</b>	<b>50</b>	<b>62</b>	<b>41</b>	<b>37</b>	<b>38</b>	<b>34</b>	<b>31</b>	<b>14</b>	<b>15</b>	<b>375</b>

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

**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 June 30, 2018.

	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
<b>South Zone</b>	16	5.3	12	3.9	4	2.6
<b>Calgary Zone</b>	63	3.9	43	2.6	7	0.8
<b>Central Zone</b>	33	6.9	17	3.5	4	1.6
<b>Edmonton Zone</b>	82	6.1	49	3.6	11	1.6
<b>North Zone</b>	12	2.4	19	3.9	5	2.0
<b>Alberta</b>	<b>206</b>	<b>4.9</b>	<b>140</b>	<b>3.3</b>	<b>29</b>	<b>1.3</b>

- The Calgary and Edmonton Zones continue to have the highest number of these deaths. In 2018 YTD, the South Zone had the highest rate per 100,000 person years at 2.6, compared to the provincial average of 1.3 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 June 30, 2018.

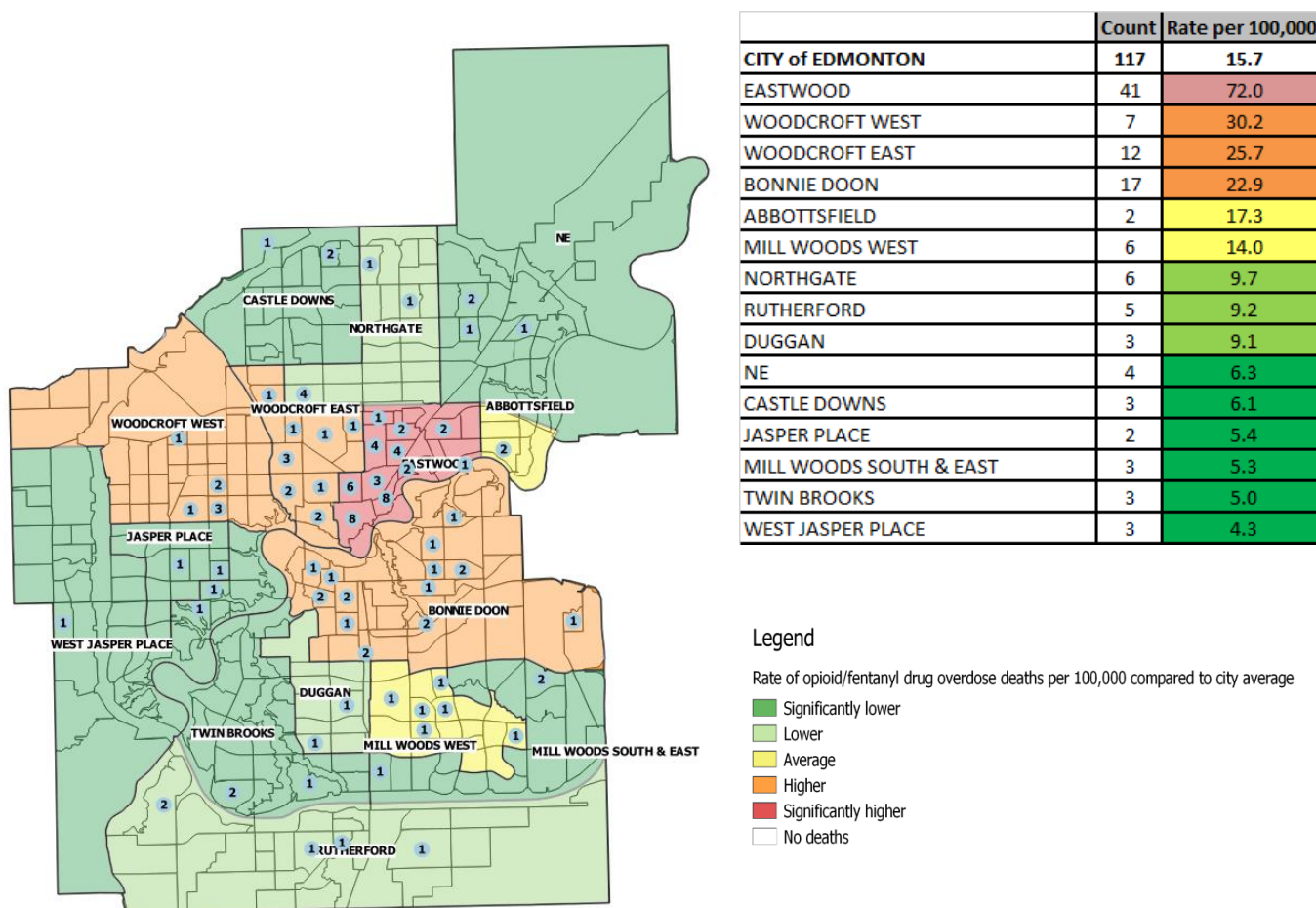
	2016		2017		2018 YTD*	
	Count	Rate	Count	Rate	Count	Rate
<b>Lethbridge</b>	4	4.1	3	3.1	1	2.0
<b>Medicine Hat</b>	4	5.9	3	4.4	0	0.0
<b>Calgary</b>	47	3.6	34	2.5	6	0.9
<b>Red Deer</b>	12	11.0	7	6.5	2	3.7
<b>Edmonton</b>	66	6.8	42	4.2	10	2.0
<b>Fort McMurray</b>	1	1.2	2	2.5	0	0.0
<b>Grande Prairie</b>	1	1.4	4	5.4	0	0.0
<b>Total</b>	<b>135</b>	<b>5.0</b>	<b>95</b>	<b>3.5</b>	<b>19</b>	<b>1.4</b>

- The municipalities of Calgary and Edmonton continue to have the highest number of these deaths. In the 2018 YTD, the Municipality of Red Deer 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 June 30, 2018

## Municipalities of Edmonton and Calgary (opioid related deaths)

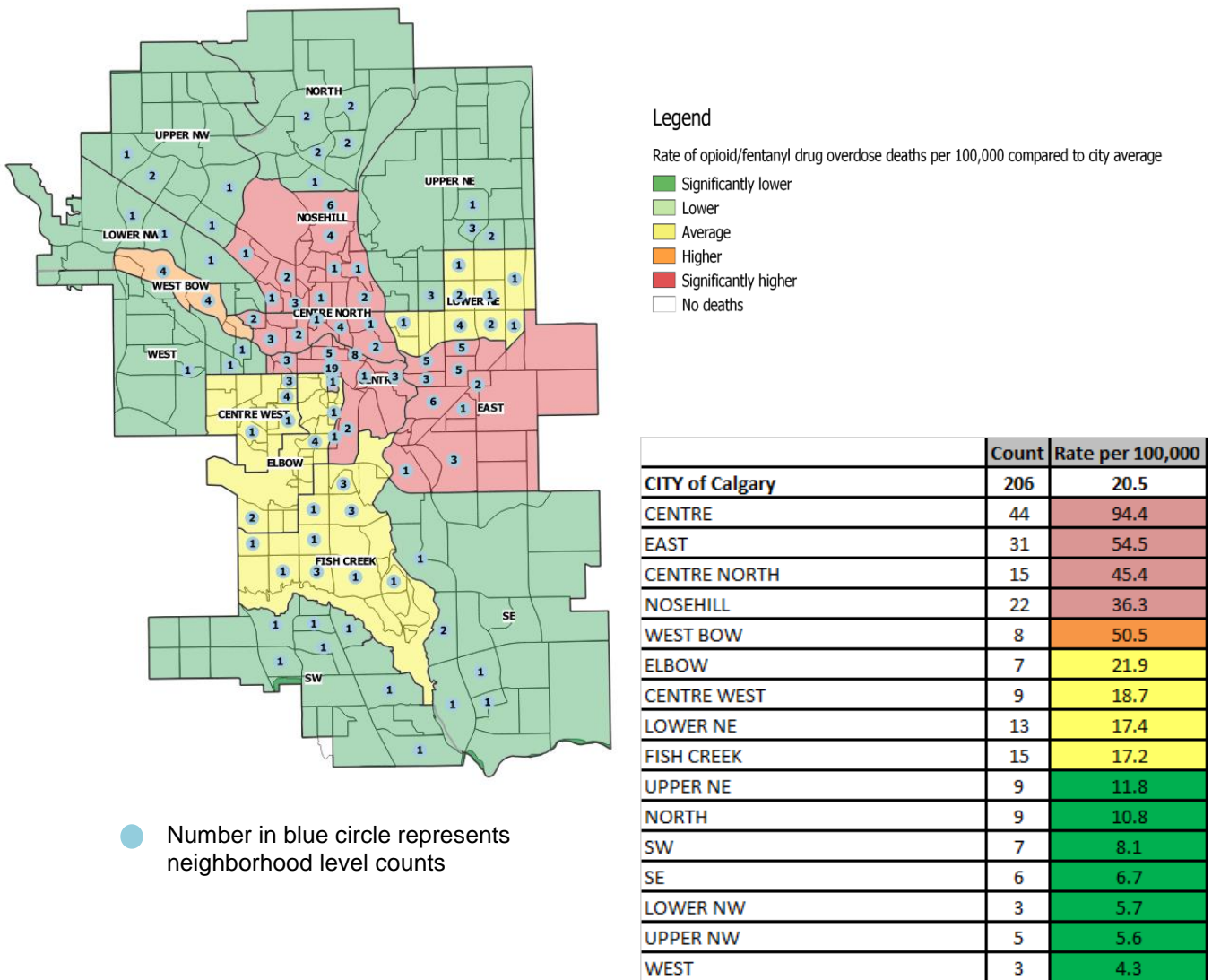
**Figure 6:** Rate (per 100,000 person years) and counts of apparent accidental opioid poisoning deaths, in the Municipality of Edmonton, based on place of overdose, by LGA. January 1, 2018 to September 30, 2018.



- Number in blue circle represents neighborhood level counts
- 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, 65 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 51 per cent of fentanyl-related deaths in Edmonton.
- The neighborhoods with five or more deaths were Boyle Street (8), Downtown (8), and Central McDougall (6).

**Note:** Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital and there was no record of where the overdose occurred. In Edmonton, a hospital was the place of death in 23 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, 2018 to September 30, 2018.

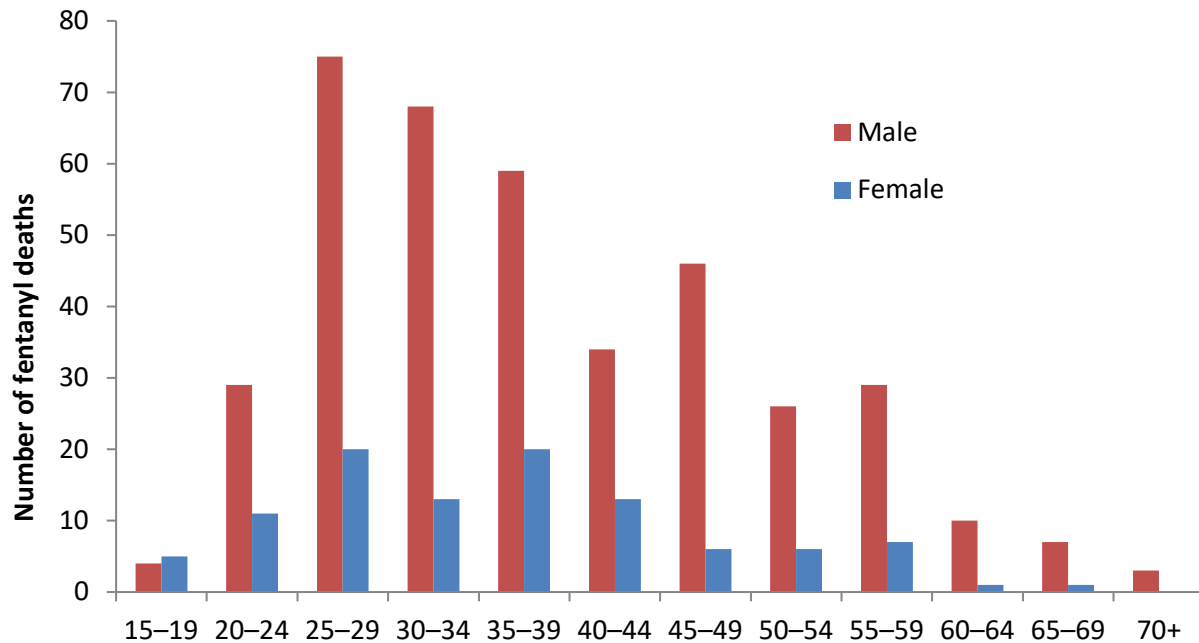


- Within the Municipality of Calgary, the LGAs with **significantly higher** rates of apparent accidental opioid poisoning deaths **compared to the municipality average** were Nosehill, Centre, Centre North, and East. However, 46 per cent of the total deaths occurred in LGAs outside of these areas.
- The place where the overdose occurred was the same as the individual’s home address for 56 per cent of fentanyl-related deaths in Calgary.
- The neighborhoods with more than five deaths were Beltline (19), Downtown East Village (8), Dover (6), and Huntington Hills (6).

**Note:** Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital and there was no record of where the overdose occurred. In Calgary, a hospital was the place of death in 22 per cent of deaths.

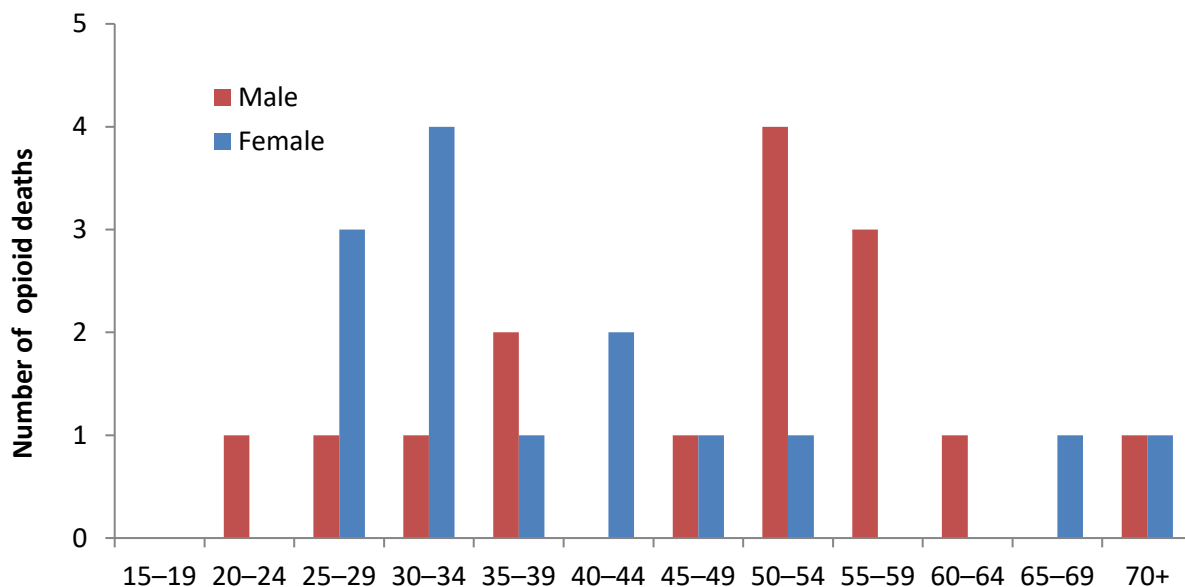
## Demographics and recent medical history of apparent accidental opioid poisoning decedents

**Figure 8:** Apparent accidental poisoning deaths related to fentanyl, by sex and age. January 1, 2018 to September 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 25 to 29 years. Among females, the highest number of deaths occurred among individuals spanning the ages of 35 to 39 years.

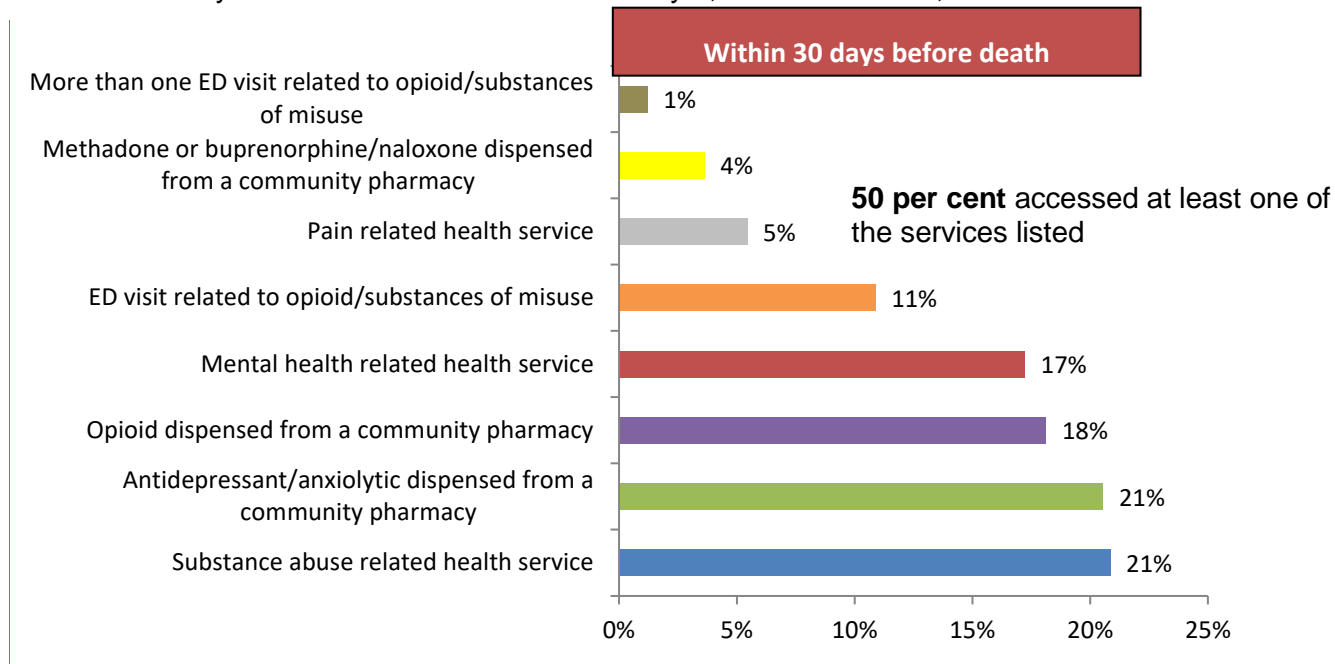
**Figure 9:** Apparent accidental poisoning deaths related to an opioid other than fentanyl, by sex and age, January 1, 2018 to June 30, 2018.



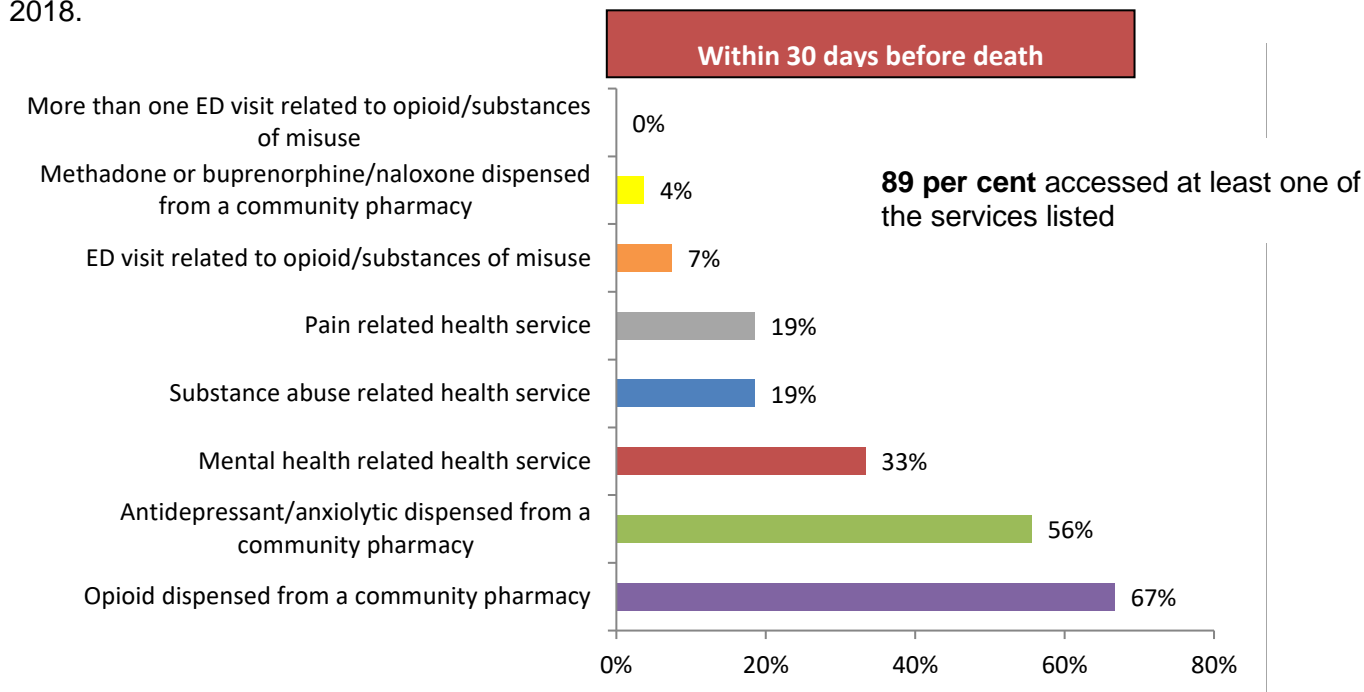
- 52 per cent of apparent accidental poisoning deaths related to an opioid other than fentanyl were among males. Among males and females, the average age of death was 44 years.



**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, 2018 to June 30, 2018.



**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, 2018 to June 30, 2018.



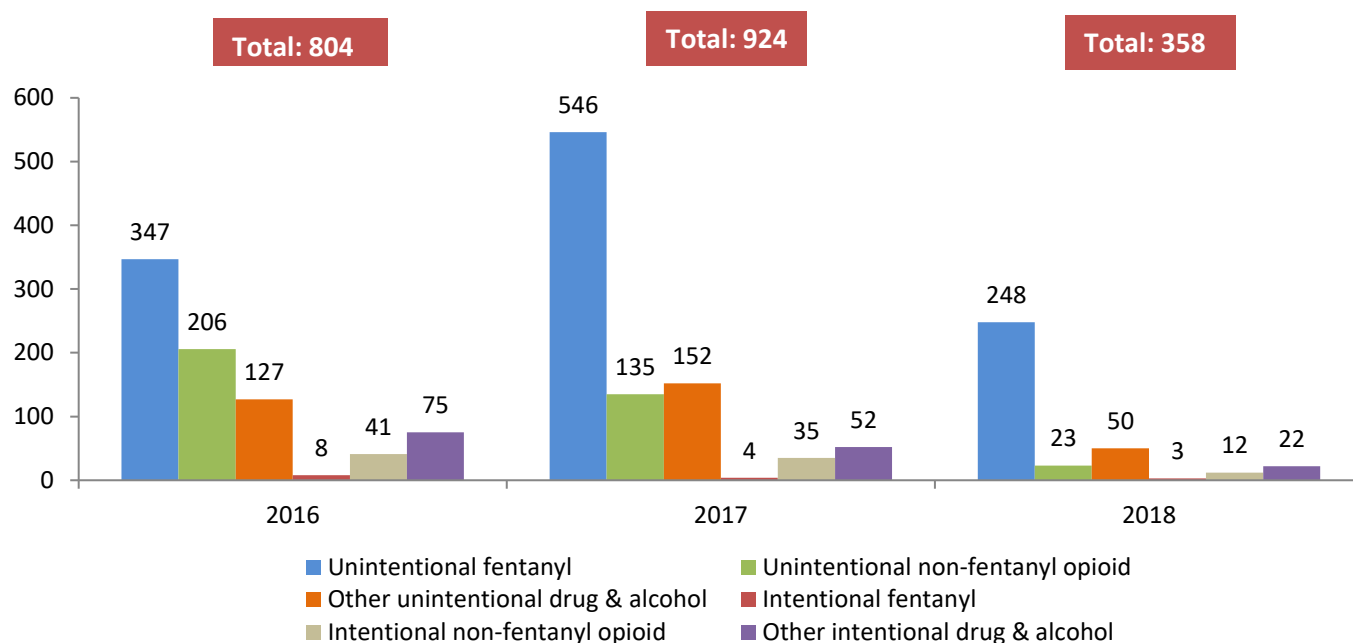
- Among apparent accidental poisoning deaths related to fentanyl, the most frequent health care utilization within 30 days before the individual's date of death was having an antidepressant or anxiolytic dispensed from a community pharmacy or substance use related visit.
- Among apparent accidental poisoning 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:** 98% 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 12:** Number of confirmed drug and alcohol poisoning deaths in Alberta, by drug causing death, manner of death, and year. 2016 to 2018.

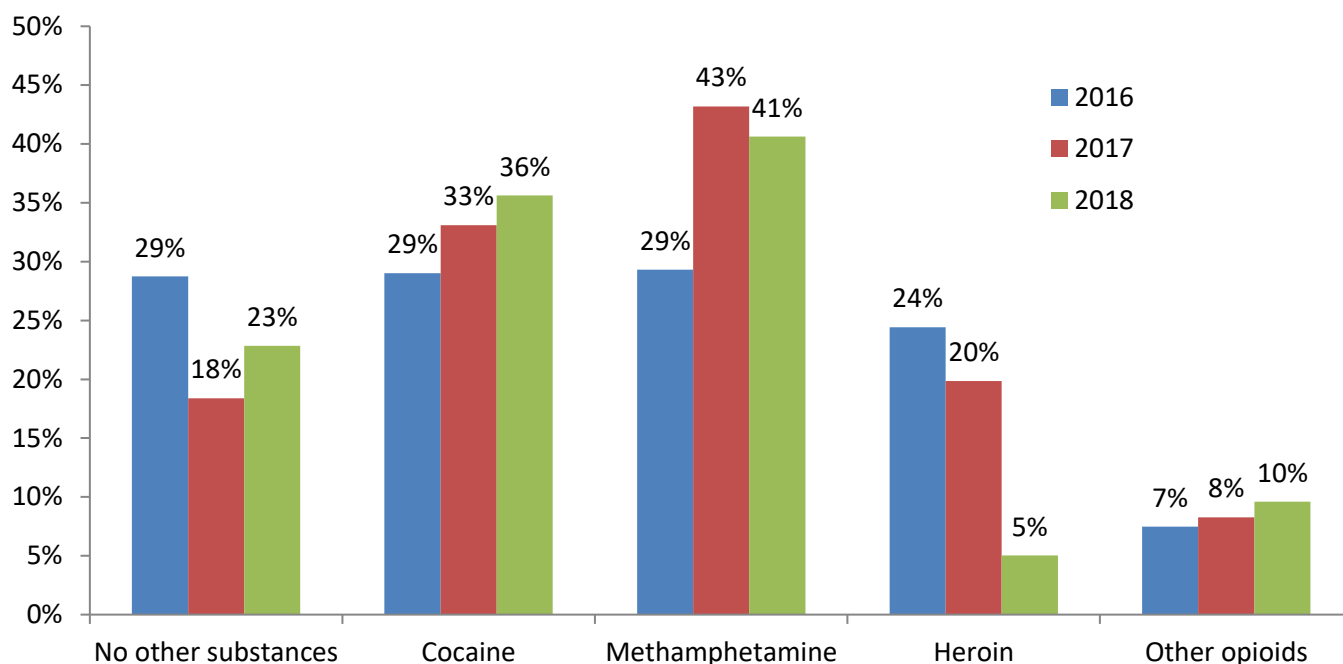
*Some drug poisoning deaths in 2017, and many drug poisoning deaths in 2018, are currently under review by the Office of the Chief Medical Examiner and have not been confirmed. Therefore, upon completion of all cases, the final number of total drug poisoning deaths in 2017 and 2018 will be higher than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



- From 2016 to 2018, the proportion of all drug poisoning deaths that were unintentional (accidental) increased from 85 per cent to 90 per cent, while the proportion of all drug poisoning deaths that were intentional (suicide) decreased from 15 per cent to 10 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 40 per cent to 41 per cent, while the proportion of intentional (suicide) drug poisoning deaths not involving any opioid decreased from 60 per cent to 59 per cent.
- From 2016 to 2018, 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 66 (3 per cent) of drug and alcohol overdose deaths from 2016 to 2018. 96 per cent were accidental poisoning deaths, and 4 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. These numbers are estimates for surveillance purposes only.

**Figure 13:** Confirmed fentanyl poisoning deaths (accidental) in Alberta, by most common additional substances causing death and year. 2016 to 2018.

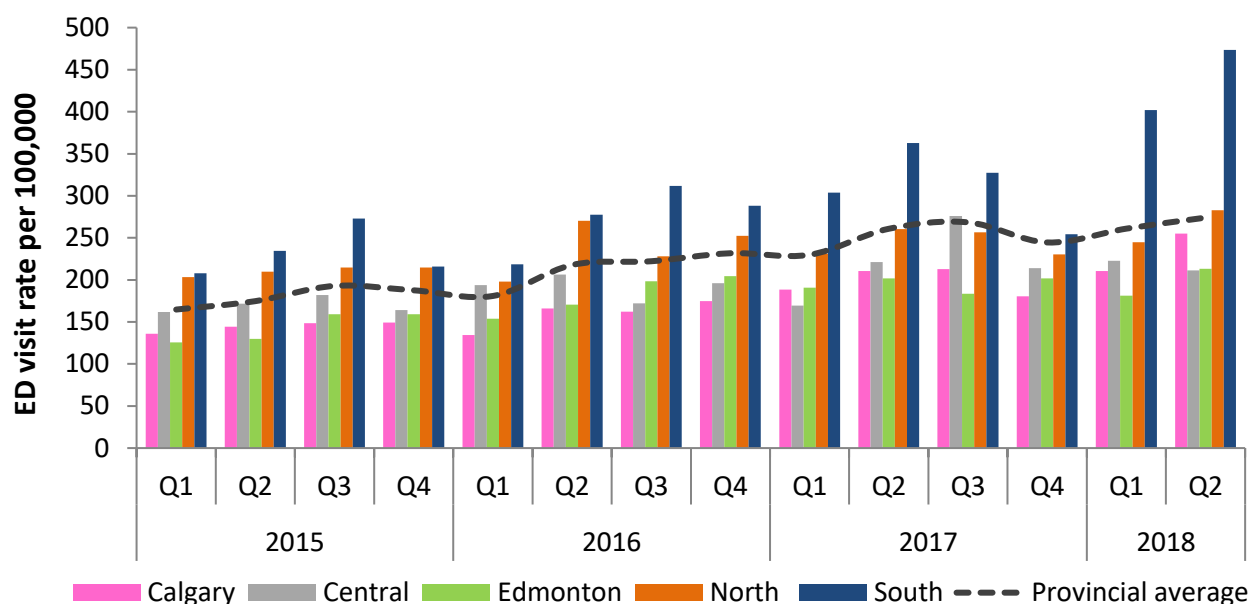


- In 2018, approximately 23 per cent of all fentanyl poisoning deaths had no other substances listed on the death certificate as causing death, while 41 per cent had methamphetamine listed, 36 per cent had cocaine listed, and 5 per cent had heroin listed.
- The proportion of fentanyl poisoning deaths where methamphetamine was also listed as causing death was 1.4 times higher in 2018 compared to 2016 (41 per cent in 2018, 29 per cent in 2016), and the similar 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 5 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 14:** Rate of emergency department (ED) visits related to harm associated with opioids and other drug use, by quarter and Zone, per 100,000 person years. January 1, 2015 to June 30, 2018.



- The *rate* of ED visits related to harm associated with opioids and other drug use increased by 66.3 per cent from the first quarter of 2015 to the second quarter of 2018. From the first quarter of 2018 to the second quarter of 2018, the rate increased by 5.0 per cent.
- In 2018, on average, the *rate* of ED visits related to harm associated with opioids and other drug use was the highest in the South Zone (438 visits per 100,000 person years); approximately 64 per cent higher than the provincial average over this period (267 visits per 100,000 person years).
- From the first quarter of 2015 to the second quarter of 2018, the Calgary and Edmonton Zones had the highest *number* of ED visits related to harm associated with opioids and other drug use, and on average, made up 30 and 25 per cent of all provincial ED visits related harm associated with opioids and other drug use per quarter, respectively.

**Table 9:** Top 10 ED facilities utilized for emergency visits related to harm associated with opioids and other drug use, January 1, 2015 to June 30, 2018

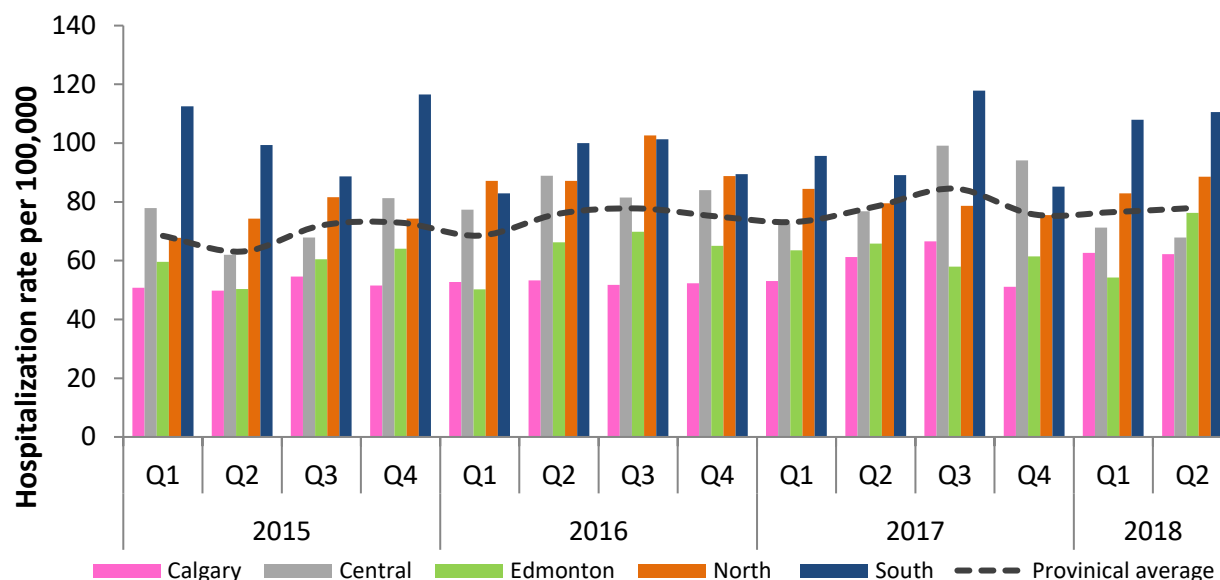
Rank	Facility	Count	Percent of all visits*	Rank	Facility	Count	Percent of all visits*
1	Royal Alexandra Hospital	3,877	12%	6	Red Deer Regional Hospital	1,476	4%
2	Peter Lougheed Centre	3,461	10%	7	South Health Campus	1,405	4%
3	Rockyview General Hospital	2,643	8%	8	Chinook Regional Hospital	1,341	4%
4	Foothills Medical Centre	2,612	8%	9	Grey Nuns Community Hospital	1,268	4%
5	U of A Hospital	2,012	6%	10	Sheldon M Chumir Center	1,092	3%

\*Percentage of the total 33,147 ED visits related to harm associated with opioids and other drug use 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 15:** Rate of hospitalizations related to harm associated with opioids and other drug use, by quarter and Zone, per 100,000 person years. January 1, 2015 to June 30, 2018.



- The *rate* of hospitalizations related to harm associated with opioids and other drug use increased by 13.8 per cent from the first quarter of 2015 to the second quarter of 2018. From the first quarter of 2018 to the second quarter of 2018, the rate increased by 1.8 per cent.
- In 2018, on average, the *rate* of hospitalizations related to harm associated with opioids and other drug use was the highest in the South Zone (109 hospitalizations per 100,000 person years); approximately 41 per cent higher than the provincial average (77 hospitalizations per 100,000 person years).
- From the first quarter of 2015 to the second quarter of 2018, the Calgary and Edmonton Zones had the highest *number* of hospitalizations related to harm associated with opioids and other drug use, and on average, made up 28 and 26 per cent of all hospitalizations related to harm associated with opioids and other drug use per quarter, respectively.

**Table 10:** Top 10 facilities utilized for hospitalizations related to harm associated with opioids and other drug use, January 1, 2015 to June 30, 2018.

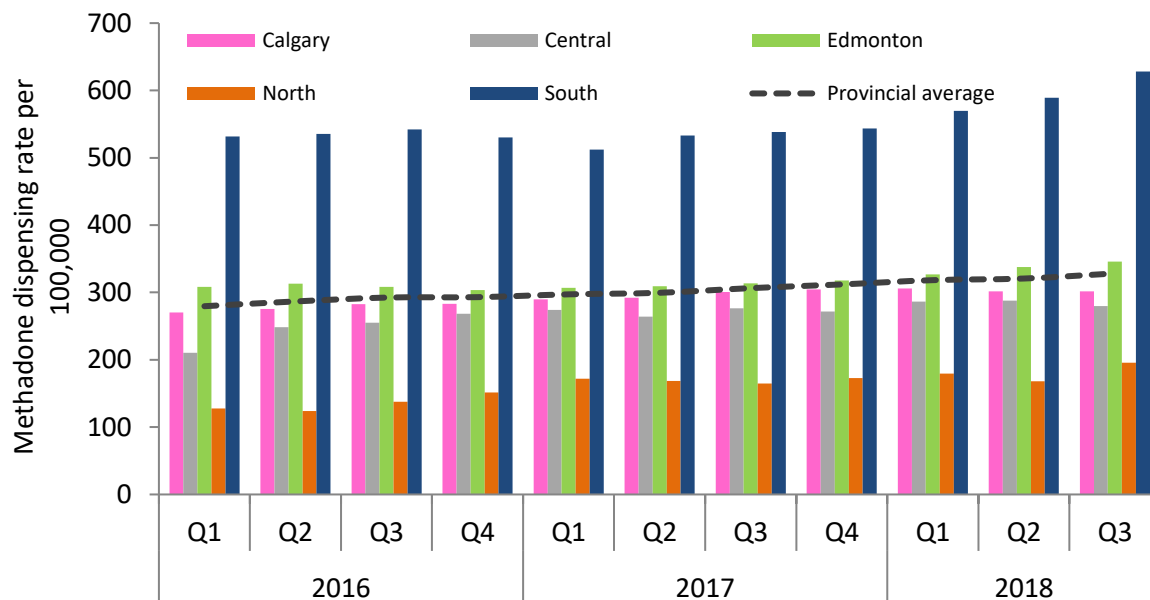
Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	1,884	17%	6	Red Deer Regional Hospital	493	4%
2	Peter Lougheed Centre	1,230	11%	7	South Health Campus	377	3%
3	Foothills Medical Centre	1,216	11%	8	Grey Nuns Community Hospital	365	3%
4	University Of Alberta Hospital	741	7%	9	Medicine Hat Regional Hospital	356	3%
5	Rockyview General Hospital	714	6%	10	Misericordia Community Hosp	348	3%

\*Percentage of the total 11,069 inpatient stays related to harm associated with opioids and other drug use 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)

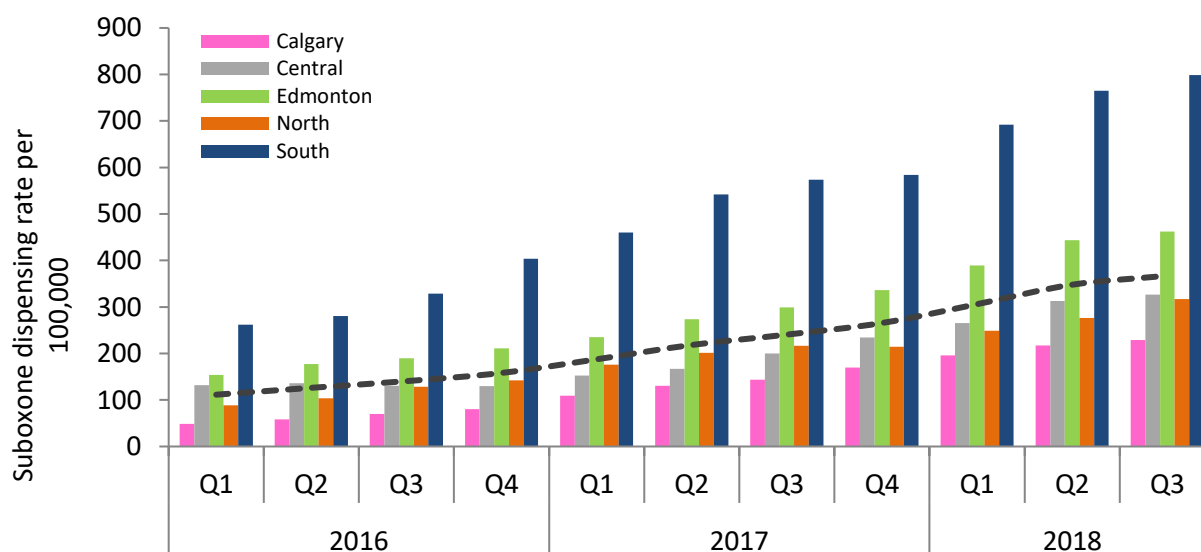
## Methadone & buprenorphine/naloxone dispensing from community pharmacies

**Figure 16:** Rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000, by quarter and Zone. January 1, 2016 to September 30, 2018.



- In Alberta, the rate of unique individuals dispensed methadone indicated for opioid dependence from community pharmacies per 100,000 increased slightly from the second quarter to the third quarter of 2018 by 2 per cent. The South Zone had the highest rate in the third quarter of 2018, 191 per cent higher than the provincial average (628 per 100,000 vs. 328 per 100,000).

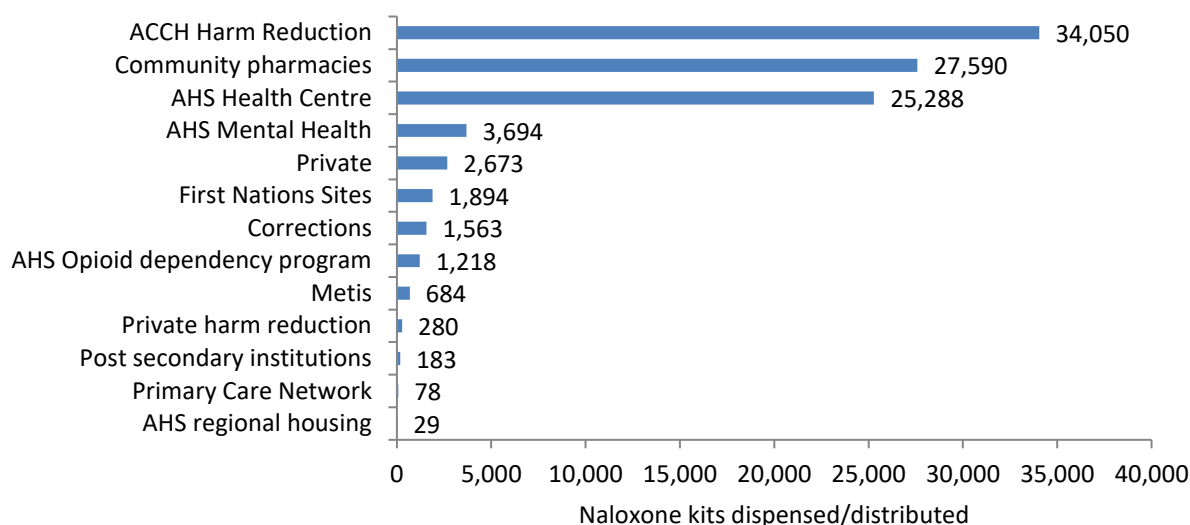
**Figure 17:** Rate of unique individuals dispensed buprenorphine/naloxone (generic brands and Suboxone™) indicated for opioid dependence from community pharmacies per 100,000, by quarter and Zone. January 1, 2016 to September 30, 2018.



- 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 6 per cent increase from the second to the third quarter of 2018. The South Zone had the highest rate in the third quarter of 2018, 217 per cent higher than the provincial average (798 per 100,000 vs. 367 per 100,000).

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

**Figure 18:** Naloxone kits dispensed/distributed by registered site type, January 1, 2016 to September 30, 2018.



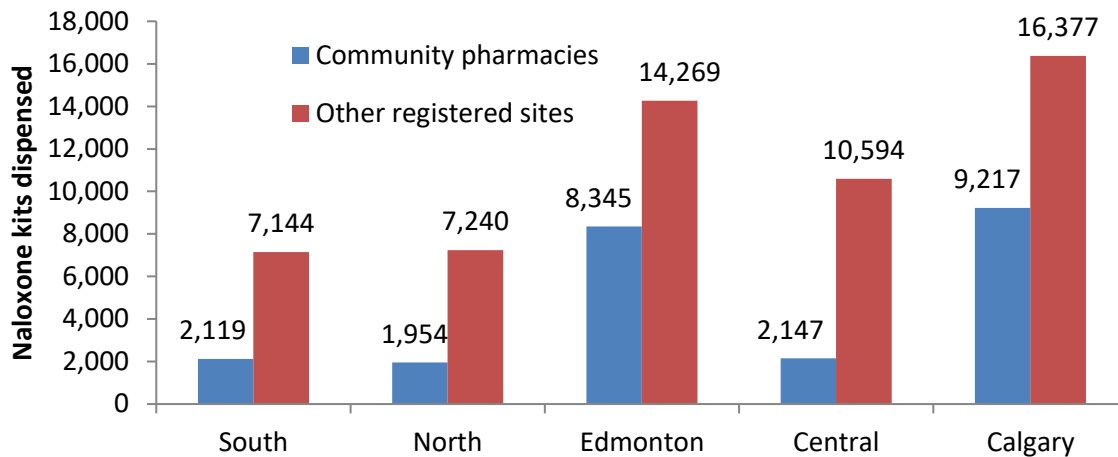
- From January 1, 2016 to September 30, 2018, 100,176 naloxone kits were dispensed in Alberta through Alberta Health Services' (AHS') naloxone program, and 5,819 reversals were self-reported.
- Approximately 3,250 naloxone kits were distributed in Alberta by the Alberta Community Council on HIV (ACCH) between July 2015 and January 2016. In January 2016, AHS began its naloxone program through registered distribution sites.

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

	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	91	388	130	367	113	<b>1,089</b>
AHS Health Centre	42	71	49	46	82	<b>290</b>
Medical First Response	12	15	25	11	26	<b>89</b>
AHS Mental Health	4	23	13	32	14	<b>86</b>
Private	13	20	15	25	4	<b>77</b>
First Nations sites	2	5	8	5	23	<b>43</b>
Primary Care Network	0	5	3	5	2	<b>15</b>
Corrections	2	4	1	3	1	<b>11</b>
ACCH Harm Reduction	2	1	1	1	3	<b>8</b>
Post-Secondary Institutions	0	2	2	3	0	<b>7</b>
Metis	0	0	0	1	6	<b>7</b>
AHS Regional Housing	0	3	0	3	0	<b>6</b>
Private Opioid Dependency Program	2	0	1	2	1	<b>6</b>
Peace Officers	0	2	0	1	2	<b>5</b>
AHS Opioid Dependency Program	1	1	0	1	1	<b>4</b>
Private Harm Reduction	0	0	1	2	0	<b>3</b>
<b>Total</b>	<b>171</b>	<b>540</b>	<b>249</b>	<b>508</b>	<b>278</b>	<b>1,746</b>

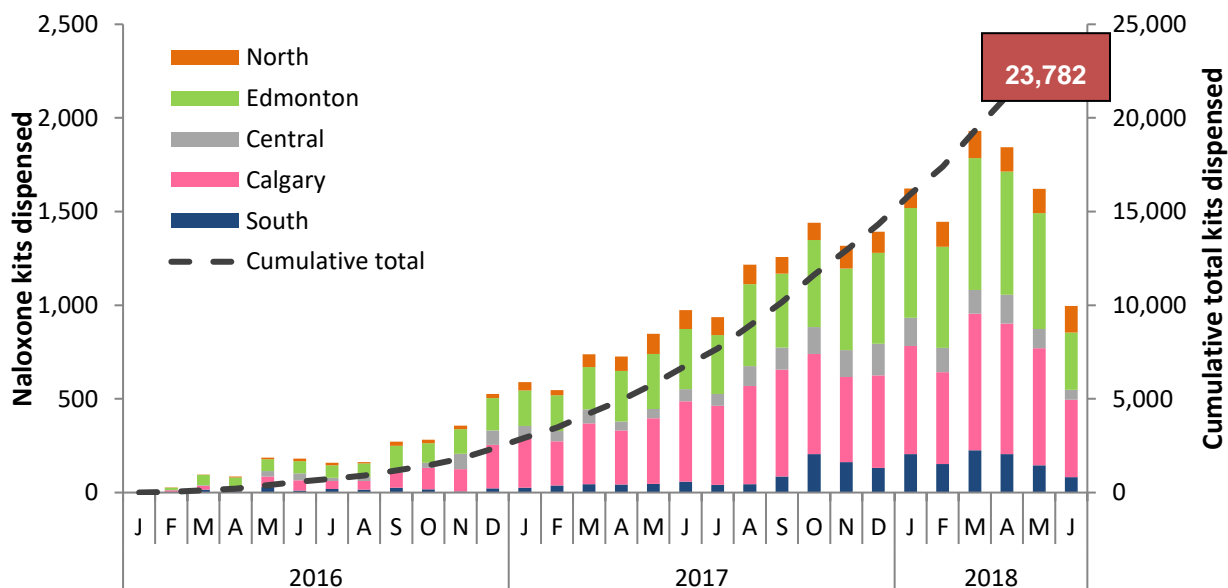
**Note:** Naloxone kits dispensing data from community pharmacies comes from Alberta Blue Cross. All other kit distribution data comes from the AHS Naloxone Kit Program.

**Figure 19:** Naloxone kits dispensed/distributed by community pharmacies and other registered sites, by Zone. January 1, 2016 to September 30, 2018.



- Throughout the province, non-pharmacy sites are dispensing more naloxone kits than community pharmacies (72 per cent of all kits given out by non-pharmacy sites).
- While the Calgary Zone has dispensed the highest total volume of kits in the province (31 per cent), in the most recent quarter, the South Zone had the highest per 100,00 rate of kits dispensed from both community pharmacies and other registered sites, nearly three times higher than the provincial average.

**Figure 20:** Naloxone kits dispensed by community pharmacies, by Zone and month. January 1, 2016 to September 30, 2018.



- Across Alberta, in 2018, community pharmacies dispensed an average of 1,480 kits per month, a decrease of 6 per cent from the previous reporting period (previous report: 1,577 per month).
- The median age of an individual receiving a naloxone kit dispensed from a community pharmacy was 31 years, and 57 per cent were male.
- Since January 1, 2016, 27,590 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 Naloxone Kit Program.

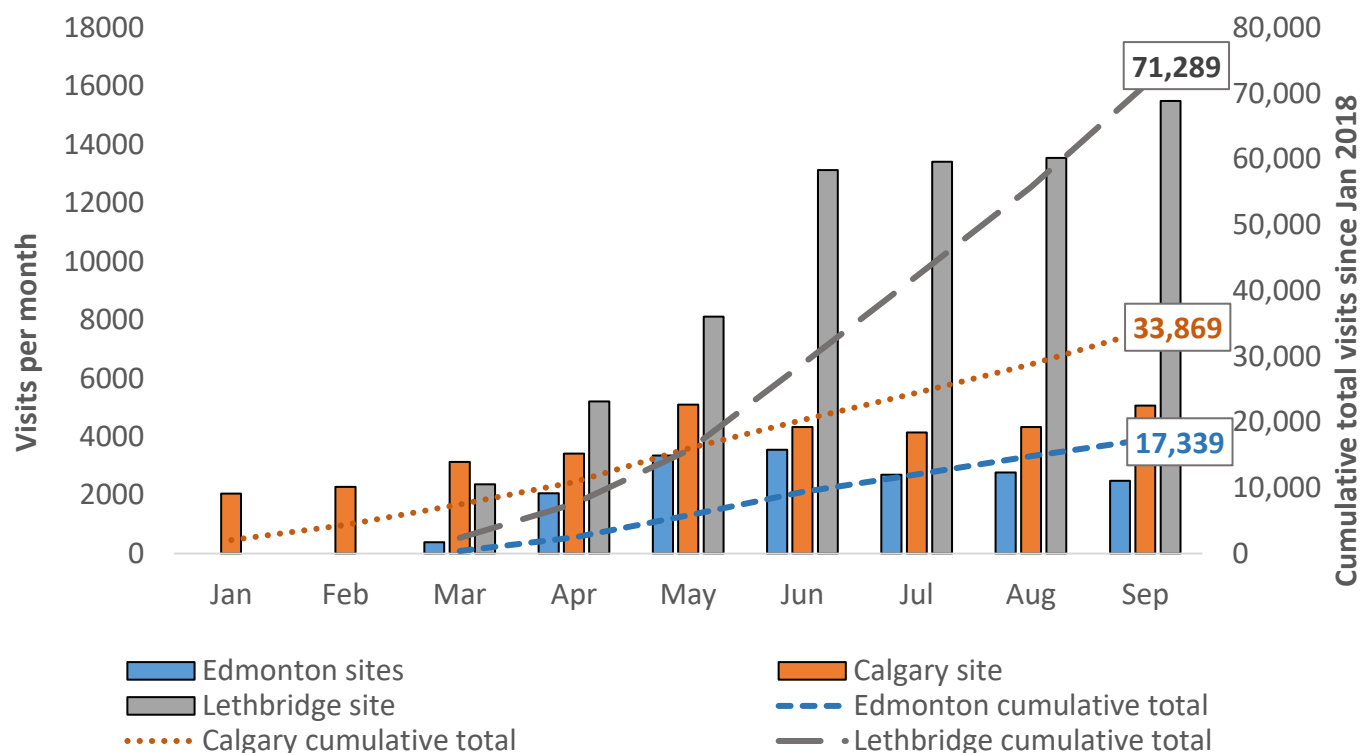


## Supervised consumption services

The following includes data from community supervised consumption services only. For Edmonton, the two sites, Boyle Street Community Services and George Spady are included. Data from the Royal Alexandra inpatient services is not included.

The Lethbridge site (ARCHES) is the only site that provides inhalation services.

**Figure 21:** Number of visits per month and site, January 1, 2018 to September 30, 2018



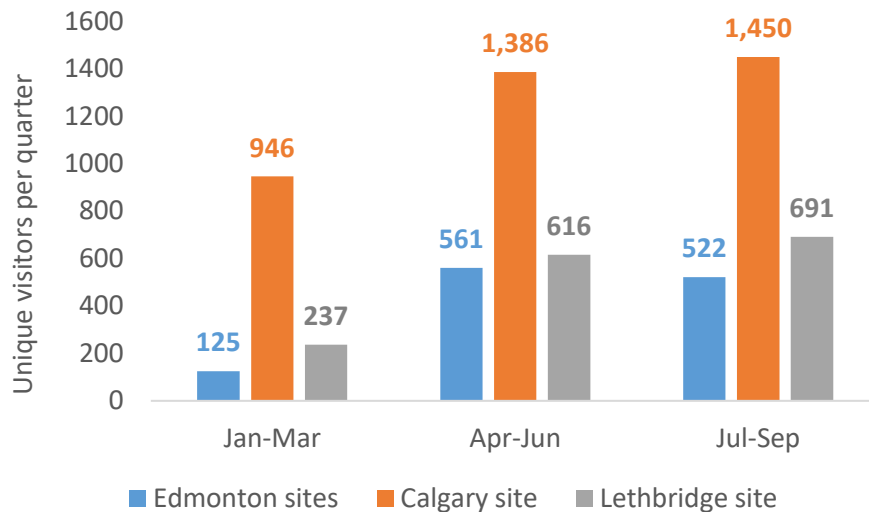
**Table 12:** Number of visits per month and site, January 1, 2018 to September 30, 2018

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Site total
<b>Edmonton sites</b>			390	2,059	3,362	3,553	2,701	2,780	2,494	<b>17,339</b>
<b>Calgary site</b>	2,052	2,281	3,134	3,425	5,102	4,327	4,151	4,332	5,065	<b>33,869</b>
<b>Lethbridge site</b>			2,375	5,214	8,117	13,133	13,412	13,544	15,494	<b>71,289</b>
<b>Month total</b>	<b>2,052</b>	<b>2,281</b>	<b>5,899</b>	<b>10,698</b>	<b>16,581</b>	<b>21,013</b>	<b>20,264</b>	<b>20,656</b>	<b>23,053</b>	<b>122,497</b>

**Note:** Note: Edmonton Boyle Street and Lethbridge sites did not open until March, 2018. Edmonton George Spady opened April, 2018. Edmonton Boyle McCauley Health Centre did not open until November, 2018 and is therefore not included in these figures.

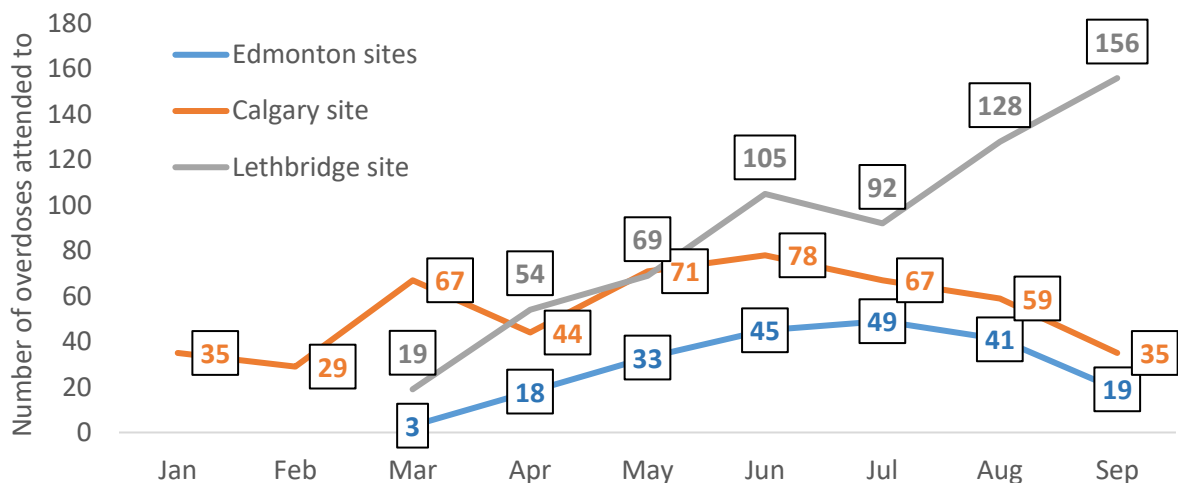
- From July, 2018 to September, 2018 (latest quarter) on average, per month, there were 2,658 visits to Edmonton sites, 4,516 visits to the Calgary site, and 14,150 visits to the Lethbridge site.
- Compared to the last quarter, in the most recent quarter (July to September 2018), the Edmonton sites saw a decrease in visits of 11 per cent.
- Compared to the last quarter, in the most recent quarter (July to September 2018), the Calgary site saw an increase in visits of 5 per cent.
- Compared to the last quarter, in the most recent quarter (July to September 2018), the Lethbridge site saw an increase in visits of 60 per cent.

**Figure 22:** Unique clients by quarter and site, January 1, 2018 to September 30, 2018



- Compared to the last quarter, in the most recent quarter (July to September 2018) Edmonton sites saw a 7 percent decrease in unique clients, the Calgary site saw an increase of 5 per cent in unique clients, and the Lethbridge site saw an increase of 12 per cent in unique clients.

**Figure 23:** Total number of attended overdoses\* per month and site, January 1, 2018 to September 30, 2018



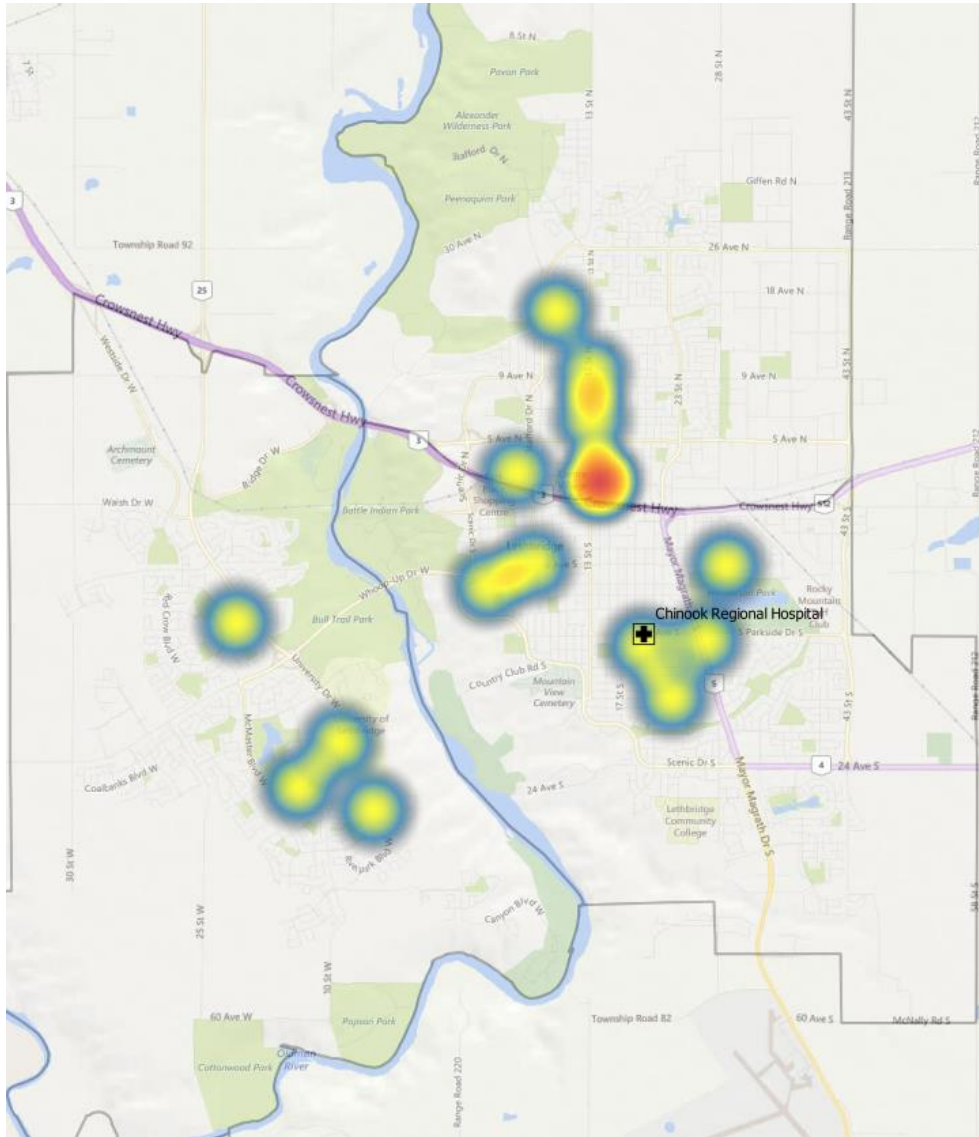
- From January to September 2018, 208 overdoses have been attended to at Edmonton sites, 485 at the Calgary site, and 623 at the Lethbridge site. There were zero fatal drug poisoning events across all sites.
- From January to September 2018, on a monthly average, there were 11 attended overdoses for every 1,000 visits to the Edmonton sites, 15 attended overdoses for every 1,000 visits to the Calgary site, and 9 attended overdoses for every 1,000 visits to the Lethbridge site.

\*drug poisoning event requiring intervention including, but not limited to, the provision of oxygen, administration of naloxone, and/or requesting medical attendance.

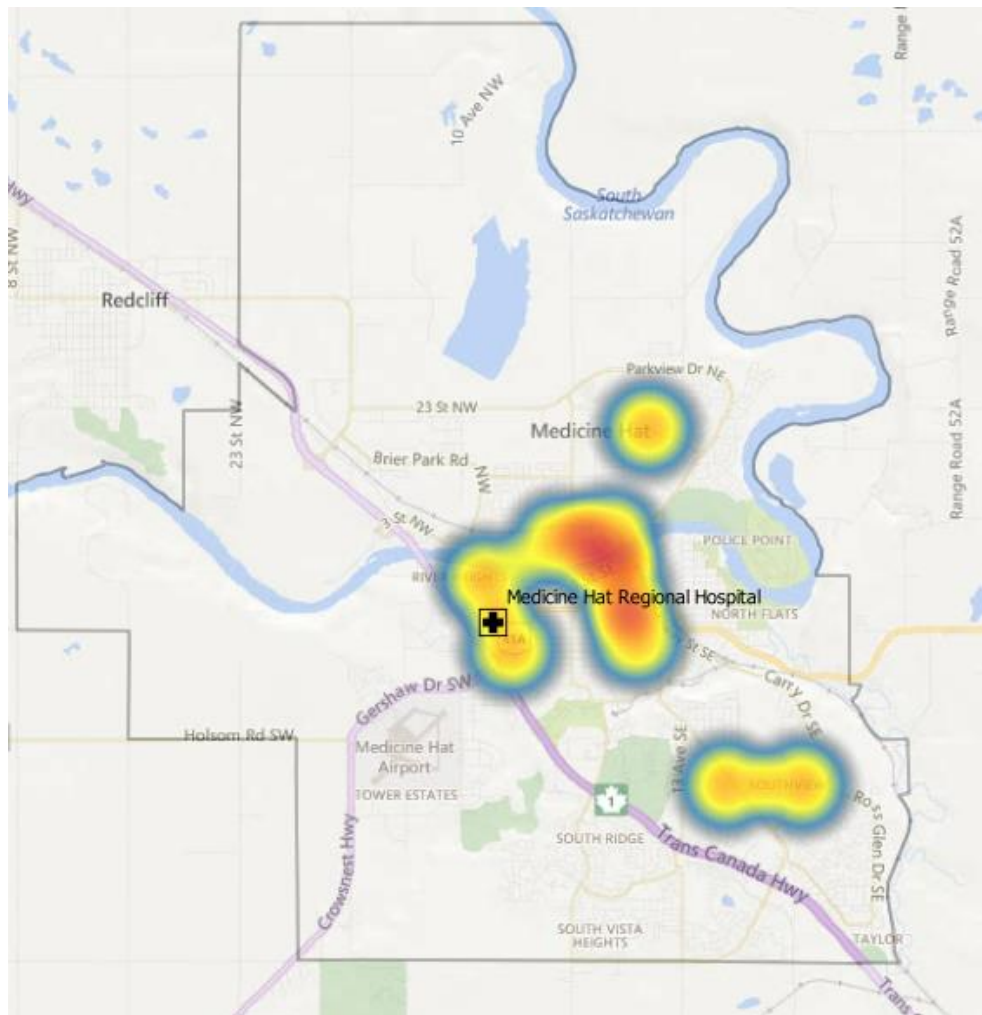
## Appendix 1: Opioid related poisoning deaths in major Albertan cities

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

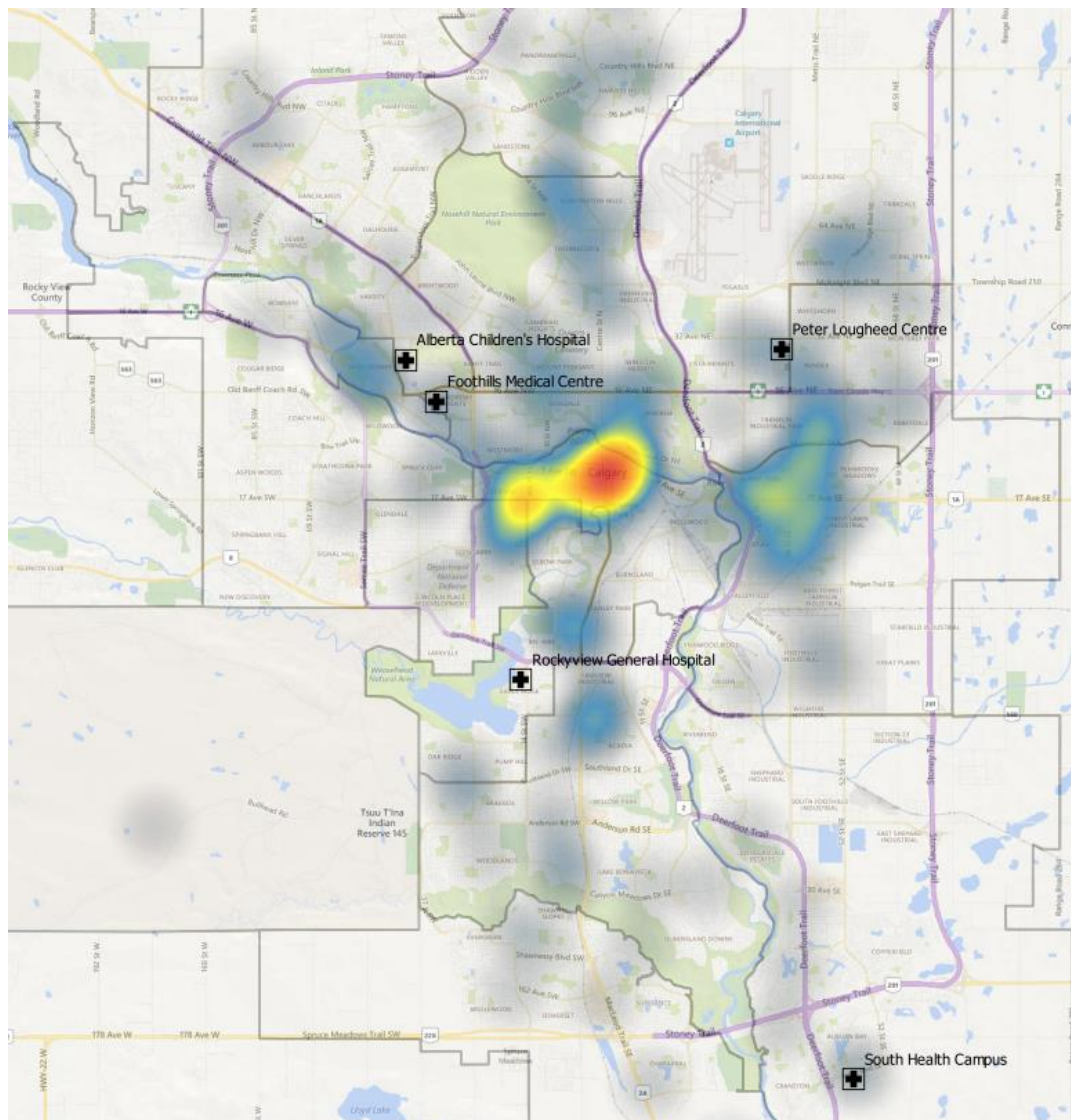
### Lethbridge



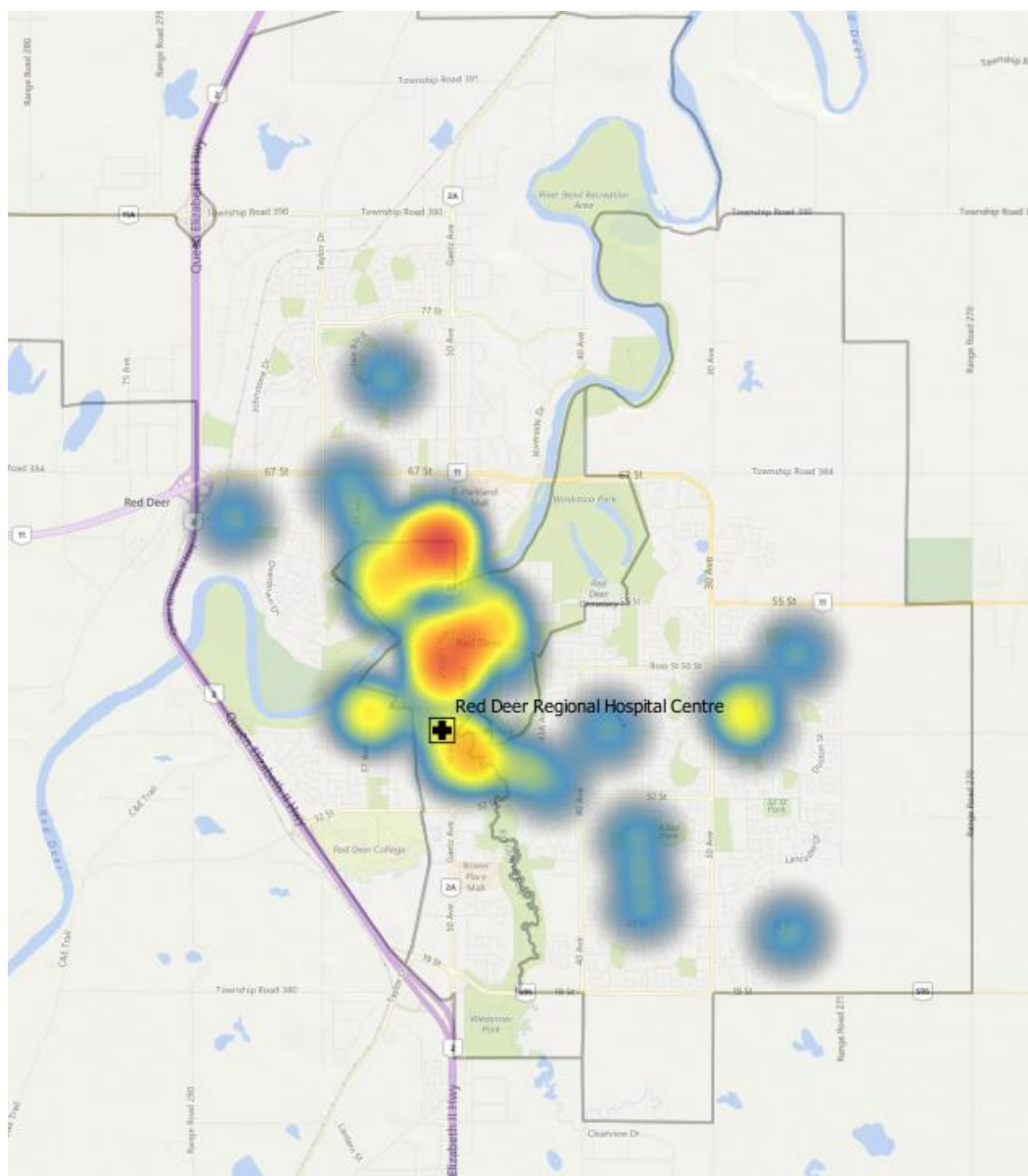
## Medicine Hat



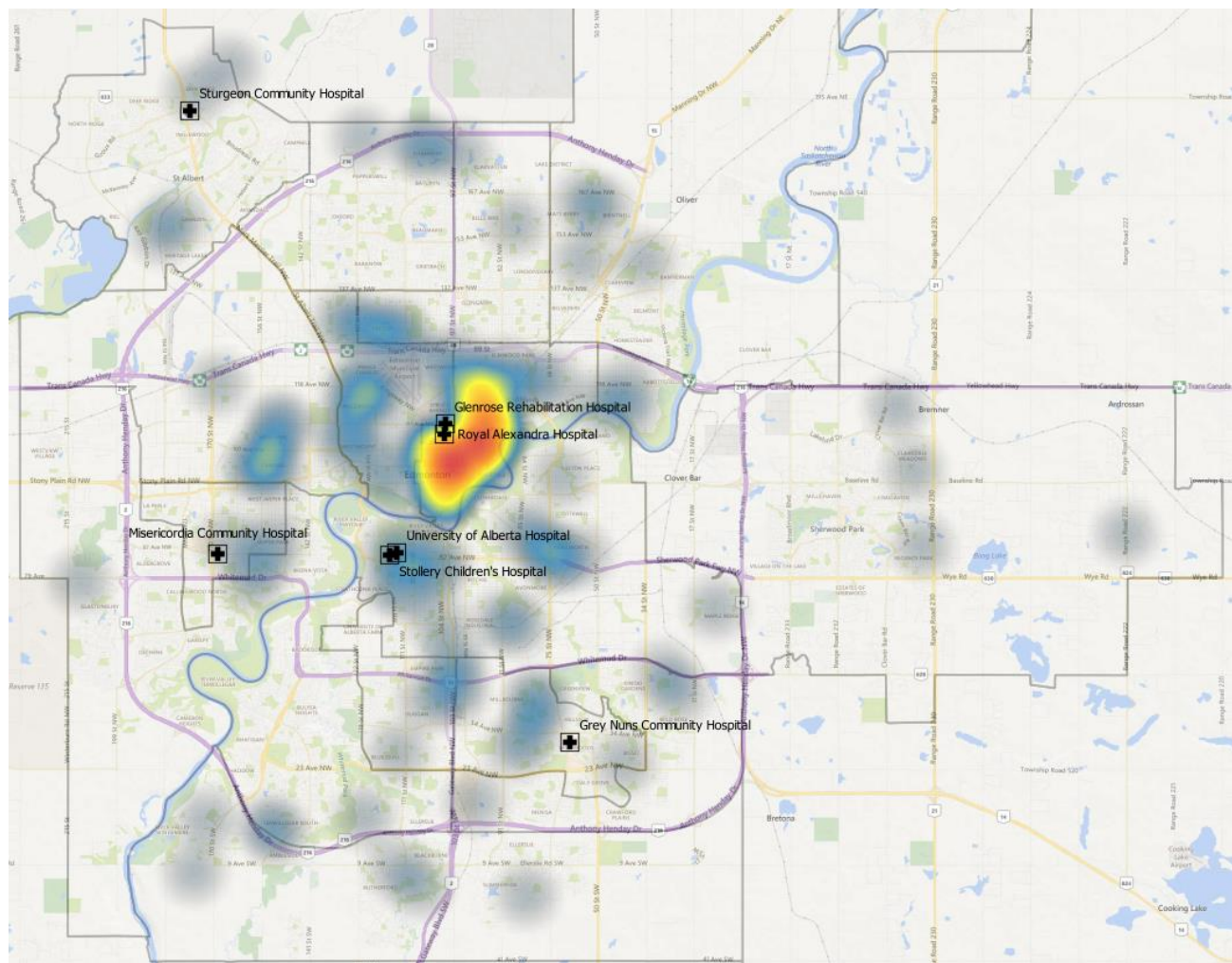
## Calgary



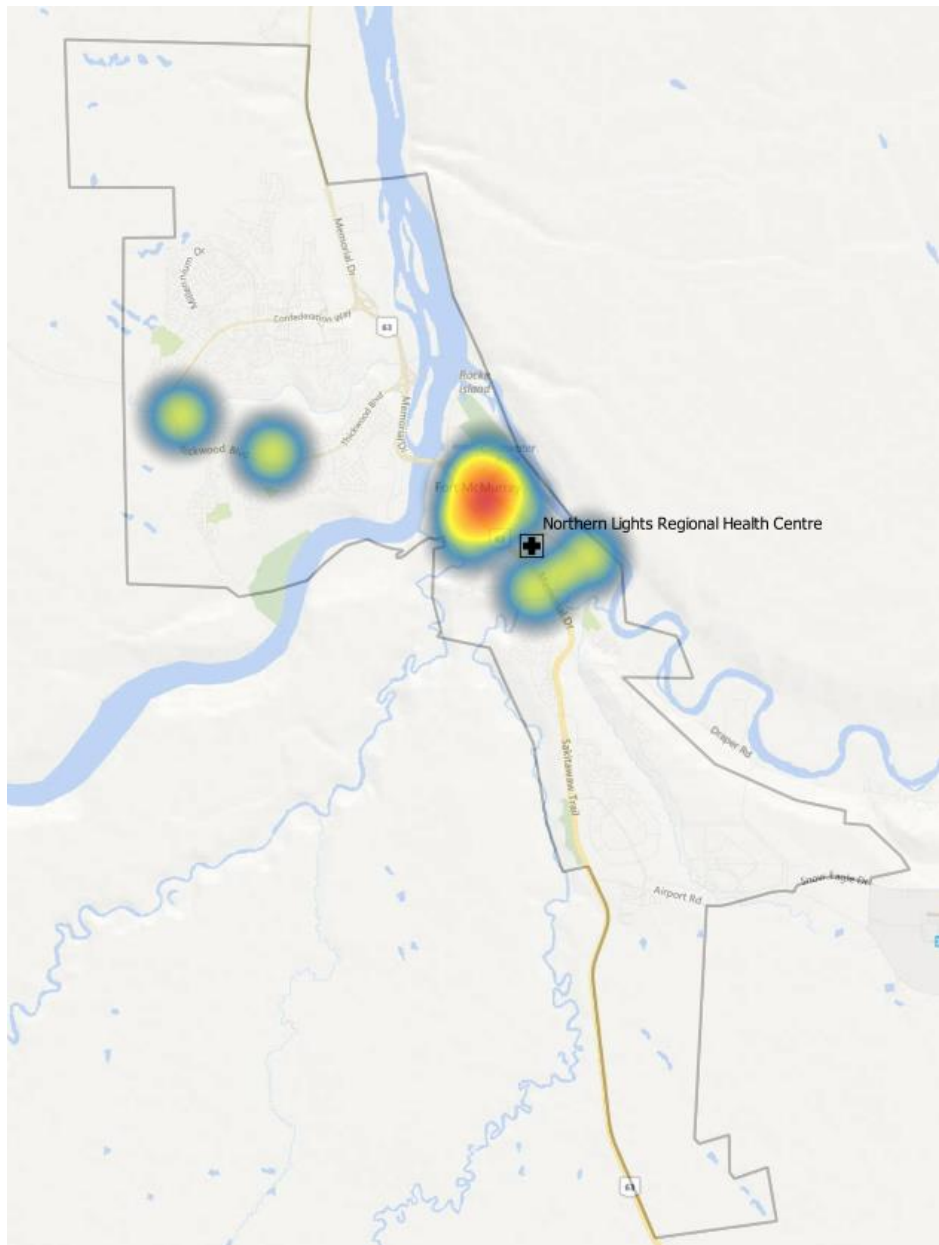
## Red Deer



## Edmonton

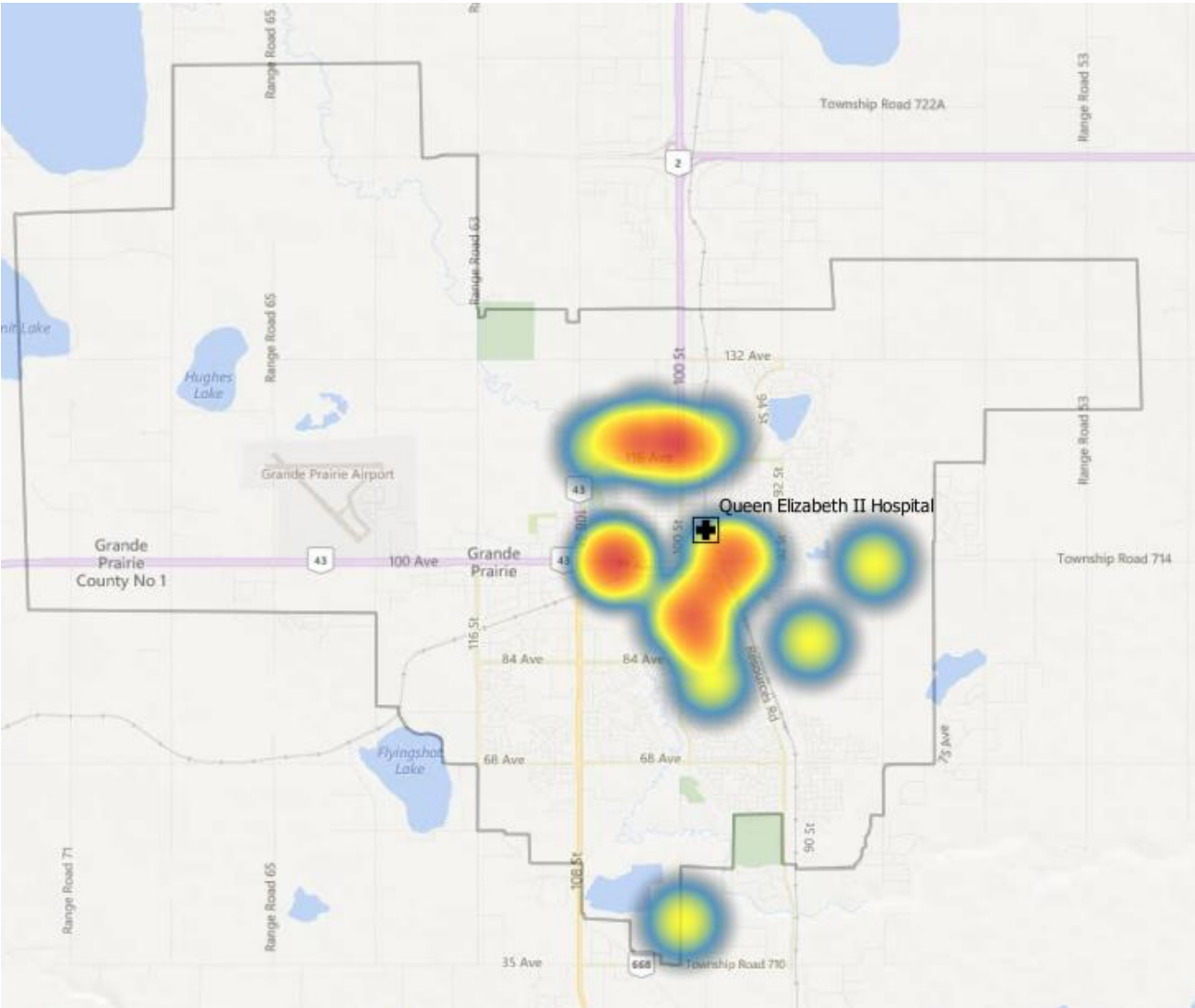


## Fort McMurray





# Grande Prairie



## Data notes

### Data source(s) for report

1. Emergency department data-National Ambulatory Care Reporting System (NACRS)
2. Hospitalization data -Discharge Abstract Database (DAD)
3. Physician claims data –Supplemental Enhanced Service Event (SESE)
4. Alberta Health Care Insurance Plan (AHCIP) Quarterly Population Registry Files
5. Alberta Health Postal Code Translation File (PCTF)
6. Pharmaceutical Information Network (PIN)
7. Office of the Chief Medical Examiner (OCME) MEDIC data
8. AHS EMS Direct delivery and AHS contractors-ground ambulance services data
9. AHS Naloxone Program data
10. Alberta Blue Cross Data
11. 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. MS 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. 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