

Alberta Health

Opioids and Substances of Misuse

Alberta Report, 2017 Q2

August 16, 2017

Alberta  Government

Key points

Apparent fentanyl drug overdose deaths

- In the second quarter of 2017, **119** individuals died from an apparent drug overdose related to fentanyl in Alberta. By comparison, **122** died in the first quarter of 2017. In 2016, **85** deaths related to fentanyl occurred in the second quarter.
- In the second quarter of 2017, **81 per cent** of deaths occurred in larger urban cities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the second quarter of 2017, the Calgary Zone (**54**) and Edmonton Zone (**38**) had the highest number of fentanyl deaths. In the most recent quarter, the Calgary Zone continued to have the highest rate per 100,000 person years at **13.1**, compared to a provincial average of **11.3** per 100,000 person years.

Apparent non-fentanyl opioid drug overdose deaths

- From January 1, 2016 to December 31, 2016, **218** individuals died from an apparent drug overdose related to an opioid other than fentanyl in Alberta.
- In the first quarter of 2017, **33** individuals died from an apparent drug overdose related to an opioid other than fentanyl in Alberta. This compares to **54** deaths related to an opioid other than fentanyl in the first quarter of 2016, and **42** deaths related to an opioid other than fentanyl in the last quarter of 2016.
- In the first quarter of 2017, **67 per cent** of these deaths occurred in larger urban cities (Edmonton, Calgary, Red Deer, Grande Prairie, Fort McMurray, Lethbridge, Medicine Hat).
- In the first quarter of 2017, the Calgary Zone (**15**) and Edmonton Zone (**8**) had the highest number of these deaths. The Central Zone had the highest rate at **5.0** per 100,000 person years, compared to a provincial average of **3.1** per 100,000 person years.

Apparent opioid (including fentanyl) drug overdose deaths

- Within the cities of Edmonton and Calgary, in 2016, the rate of opioid (including fentanyl) drug overdose deaths was highest among Eastwood in Edmonton, and Calgary Central and East in Calgary.
- While the rates were highest in these local geographic areas, **61 per cent** of deaths in Calgary and **69 per cent** of deaths in Edmonton occurred outside these areas.
- Within Edmonton and Calgary, the majority of individuals who died of an apparent opioid (including fentanyl) drug overdose death lived outside of the central urban core.

Confirmed drug overdose deaths

- In 2016, among confirmed accidental drug overdose deaths, opioids and fentanyl were directly involved in **83 per cent** of these deaths. In comparison, among confirmed suicide drug overdose deaths, opioids and fentanyl were directly involved in **38 per cent** of these deaths.

Emergency Department visits

- In the first quarter of 2017, there were **2,402** emergency and urgent care visits related to opioids and other substances of misuse. This is significantly more than the first quarter of 2016, when there were **1,919** emergency and urgent care visits related to opioids and other substances of misuse.
- In the first quarter of 2017, emergency and urgent care visits related to opioids and other substances of misuse occurred among **2,057** unique individuals, of whom, **11 per cent** had more than one visit.

Disclaimer

This surveillance report presents emergency department visit, 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 is 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). Confirmed deaths in this report are for *all* drug overdose deaths, not just drug overdoses related to fentanyl and opioids.

Throughout this report:

- Q1 = January to March
- Q2 = April to June
- Q3 = July to September
- Q4 = October to December

The fiscal year begins April 1 of given year and ends March 31 of the next year.

Local Geographic Areas (LGAs) refers to 132 geographic areas created by Alberta Health (AH) and Alberta Health Services (AHS) based on census boundaries

***Updated methodology:** All rates are now calculated using person time contributed to the specified time period, rather than the annual population count for the given year. This method is used to establish better rate estimates, and allow for better comparison between time periods that are not full calendar years (i.e. quarters, year to date time periods). Therefore, comparing to quarterly rates from previous reports should be avoided.

For more details on data sources and methods, please see the **Data notes (page 25)** section at the end of this report.

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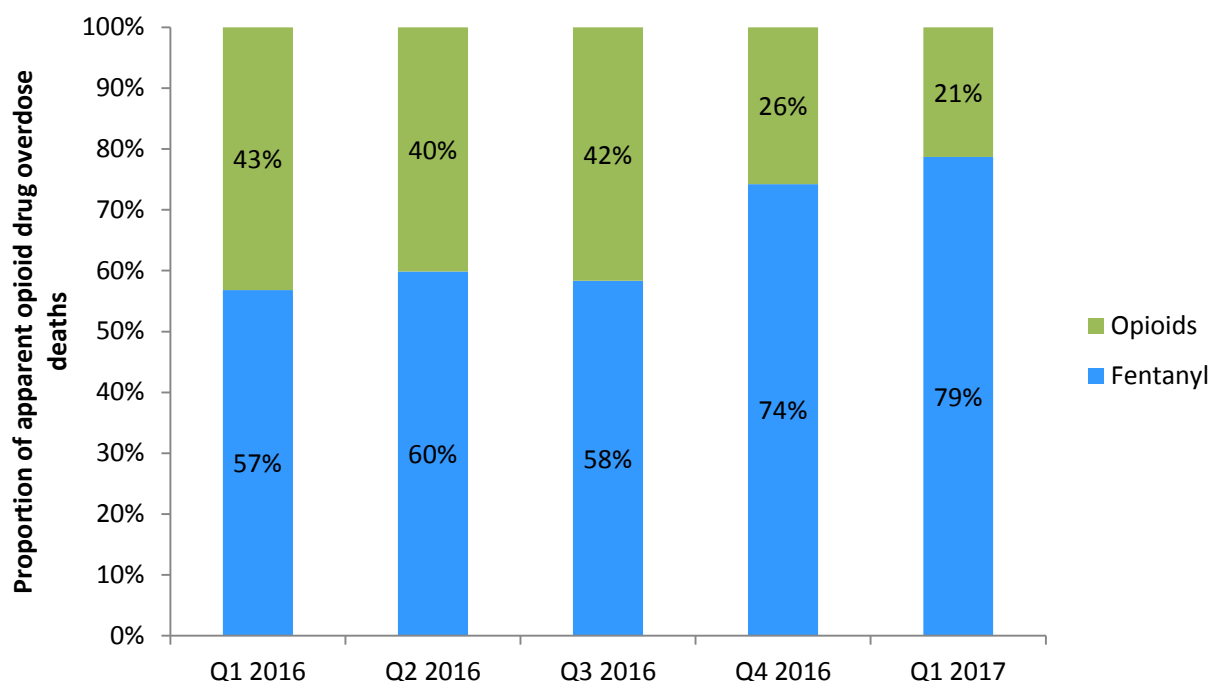
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Mortality data

Apparent opioid drug overdose deaths (fentanyl and non-fentanyl related)

Figure 1: Proportion of fentanyl vs. non-fentanyl related apparent opioid overdose deaths, by quarter. Jan. 1, 2016 to Mar. 31, 2017.

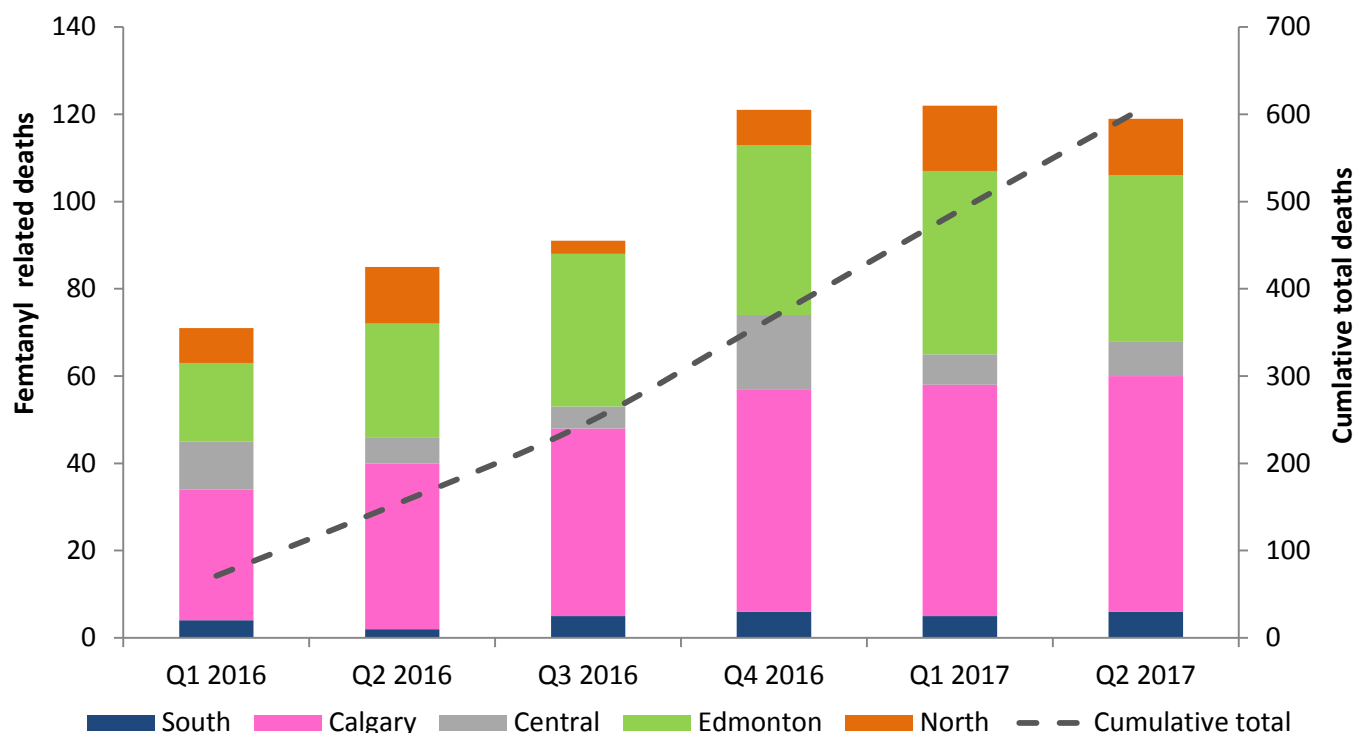


- The proportion of apparent opioid drug overdose deaths related to fentanyl appears to be increasing relative to non-fentanyl opioid drug overdose deaths, from 57 per cent of all apparent opioid drug overdose deaths in the first quarter of 2016, to 79 per cent in the first quarter of 2017.

Table 1: Number of apparent drug overdose deaths related to **all opioids** by quarter

South Zone	7	5	10	11	5	38
Calgary Zone	47	57	61	66	68	299
Central Zone	18	18	13	24	13	86
Edmonton Zone	41	47	65	52	50	255
North Zone	12	15	7	10	19	63
Alberta	125	142	156	163	155	741
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	

Figure 2: Number of individuals who died from an apparent drug overdose related to **fentanyl**, by Zone (based on place of death) and quarter. Jan. 1, 2016 to Jun. 30, 2017.



- Since January 1, 2016, a total of 609 individuals in Alberta died from an apparent drug overdose death related to fentanyl, with an average of 102 per quarter. This includes 82 deaths where carfentanil was detected (29 in all of 2016, 30 in the first quarter of 2017, and 23 in the second quarter of 2017).
- From January 1, 2016 to June 30, 2017, the number of apparent drug overdose deaths related to fentanyl continues to be significant, with the trend appearing to have stabilized based on the most recent data.

Table 2: Number of apparent drug overdose deaths related to **fentanyl** by quarter

							Total
South Zone	4	2	5	6	5	6	28
Calgary Zone	30	38	43	51	53	54	269
Central Zone	11	6	5	17	7	8	54
Edmonton Zone	18	26	35	39	42	38	198
North Zone	8	13	3	8	15	13	60
Alberta	71	85	91	121	122	119	609
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	

Table 3: Rate (per 100,000 person years) and number of deaths due to an apparent drug overdose related to **fentanyl**, by place of death, by Zone. Jan. 1, 2016 to Jun. 30, 2017.

	2016		2017 YTD*	
	Count	Rate	Count	Rate
South Zone	17	5.6	11	7.2
Calgary Zone	162	10.0	107	13.1
Central Zone	39	8.1	15	6.2
Edmonton Zone	118	8.7	80	11.7
North Zone	32	6.5	28	11.4
Alberta	368	8.7	241	11.3

- The Calgary and Edmonton Zones continue to have the highest number of these deaths. In the most recent quarter, the Calgary Zone continued to have the highest rate per 100,000 person years at 13.1, compared to a provincial average of 11.3 per 100,000 person years.

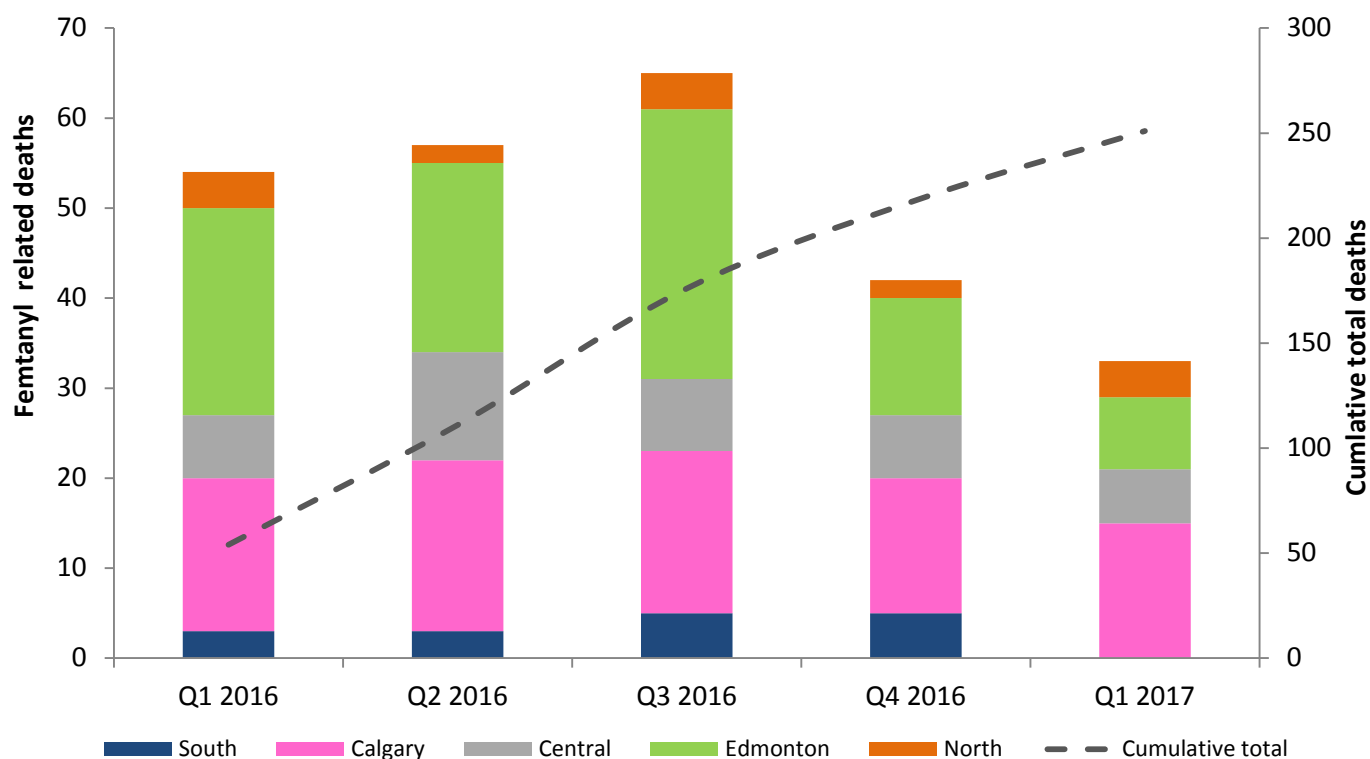
Table 4: Rate (per 100,000 person years) and number of deaths due to an apparent drug overdose related to **fentanyl**, by place of death and city. Jan. 1, 2016 to Jun. 30, 2017.

	2016		2017 YTD*	
	Count	Rate	Count	Rate
Lethbridge	10	10.3	8	16.9
Medicine Hat	4	5.8	0	0.0
Calgary	155	11.7	98	14.9
Red Deer	23	21.0	9	16.3
Edmonton	103	10.6	65	13.3
Fort McMurray	9	11.0	8	19.9
Grande Prairie	10	13.4	9	23.4
Total	314	11.5	198	14.5

- The cities of Calgary and Edmonton continue to have the highest number of these deaths. However, in 2017 YTD, the City of Grande Prairie had the highest rate of apparent drug overdoses related to fentanyl per 100,000 person years.

*YTD = Jan. 1, 2017 to Jun. 30, 2017

Figure 3: Number of individuals who died from an apparent drug overdose related to an **opioid other than fentanyl**, by Zone (based on place of death) and quarter. Jan. 1, 2016 to Mar. 31, 2017.



- Since January 1, 2016, a total of 251 individuals in Alberta died from an apparent drug overdose related to an opioid other than fentanyl, with an average of 49 per quarter.
- The most recent two quarters suggest the number of these deaths may be decreasing relative to the first three quarters. However, the trend seen in the most recent two quarters may be a result of a reporting lag in non-fentanyl related apparent opioid overdose deaths.

Table 5: Number of apparent drug overdose deaths related to an **opioid other than fentanyl** by quarter.

						Total
South Zone	3	3	5	5	0	16
Calgary Zone	17	19	18	15	15	84
Central Zone	7	12	8	7	6	40
Edmonton Zone	23	21	30	13	8	95
North Zone	4	2	4	2	4	16
Alberta	54	57	65	42	33	251
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	

Table 6: Rate (per 100,000 person years) and number of deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by place of death, by Zone. Jan. 1, 2016 to Mar. 31, 2017.

	2016		2017 YTD*	
	Count	Rate	Count	Rate
South Zone	16	5.3	0	0.0
Calgary Zone	69	4.3	15	3.7
Central Zone	34	7.1	6	5.0
Edmonton Zone	87	6.4	8	2.3
North Zone	12	2.4	4	3.2
Alberta	218	5.1	33	3.1

- The Calgary and Edmonton Zones continue to have the highest number of these deaths. In 2017 YTD, the Central Zone had the highest rate per 100,000 person years at 5.0, compared to a provincial average of 3.1 per 100,000 person years.

Table 7: Rate (per 100,000 person years) and number of deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by place of death and city. Jan. 1, 2016 to Mar. 31, 2017.

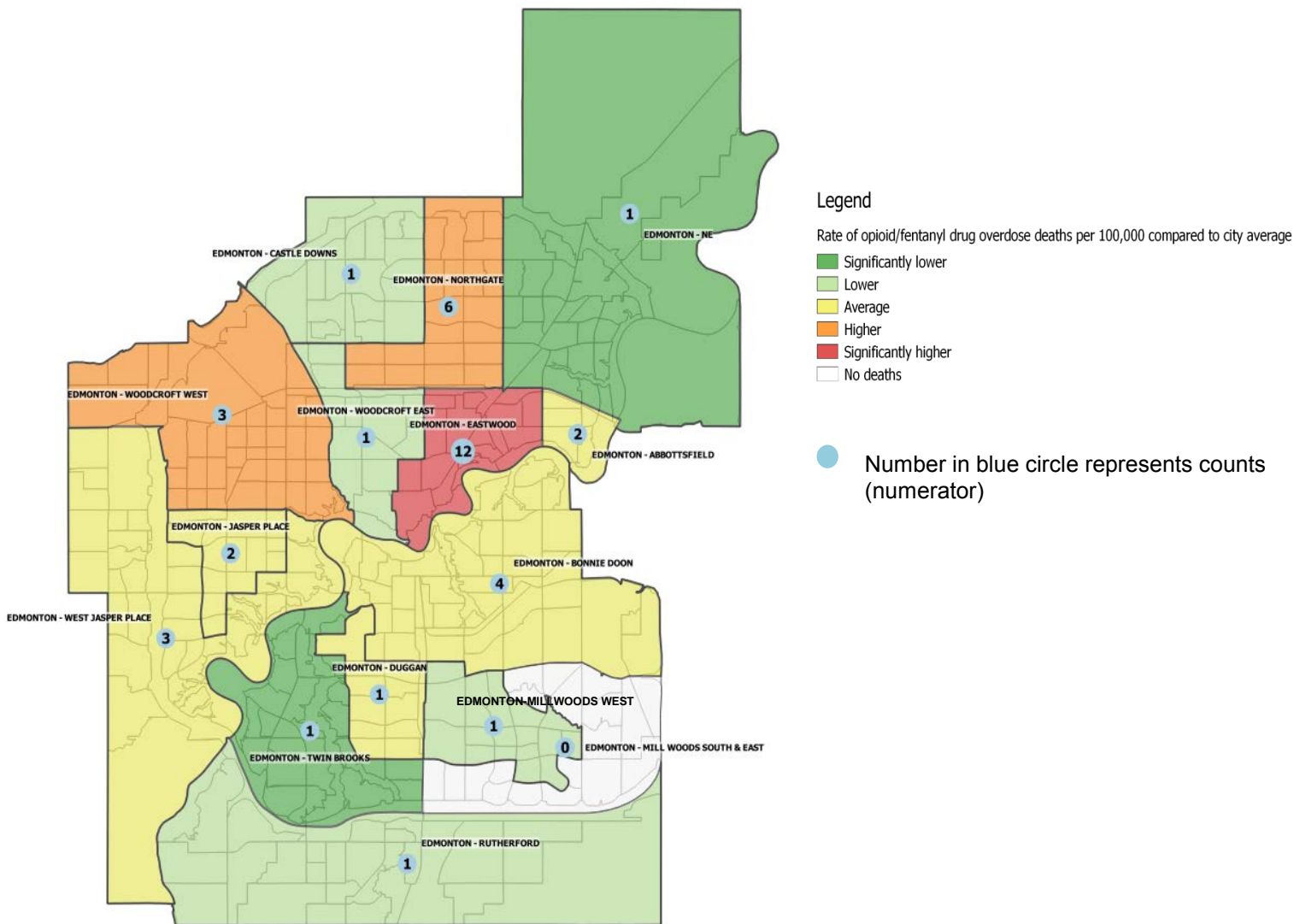
	2016		2017 YTD*	
	Count	Rate	Count	Rate
Lethbridge	4	4.1	0	0.0
Medicine Hat	4	5.8	0	0.0
Calgary	52	3.9	14	4.2
Red Deer	12	11.0	1	3.6
Edmonton	71	7.3	7	2.9
Fort McMurray	1	1.2	0	0.0
Grande Prairie	1	1.3	0	0.0
Total	145	5.3	22	3.2

- The cities of Calgary and Edmonton continue to have the highest number of these deaths. In 2017 YTD the City of Calgary had the highest rate of apparent drug overdoses related to an opioid other than fentanyl per 100,000 person years.

*YTD = Jan. 1, 2017 to Mar. 31, 2017

Figure 4: Rate (per 100,000 person years) and counts of apparent opioid (including fentanyl) drug overdose deaths, in the City of Edmonton, based on **place of overdose**, by LGA. Jan. 1, 2017 to Mar. 31, 2017.

Edmonton rate: 16.3 per 100,000 person years (n = 39)

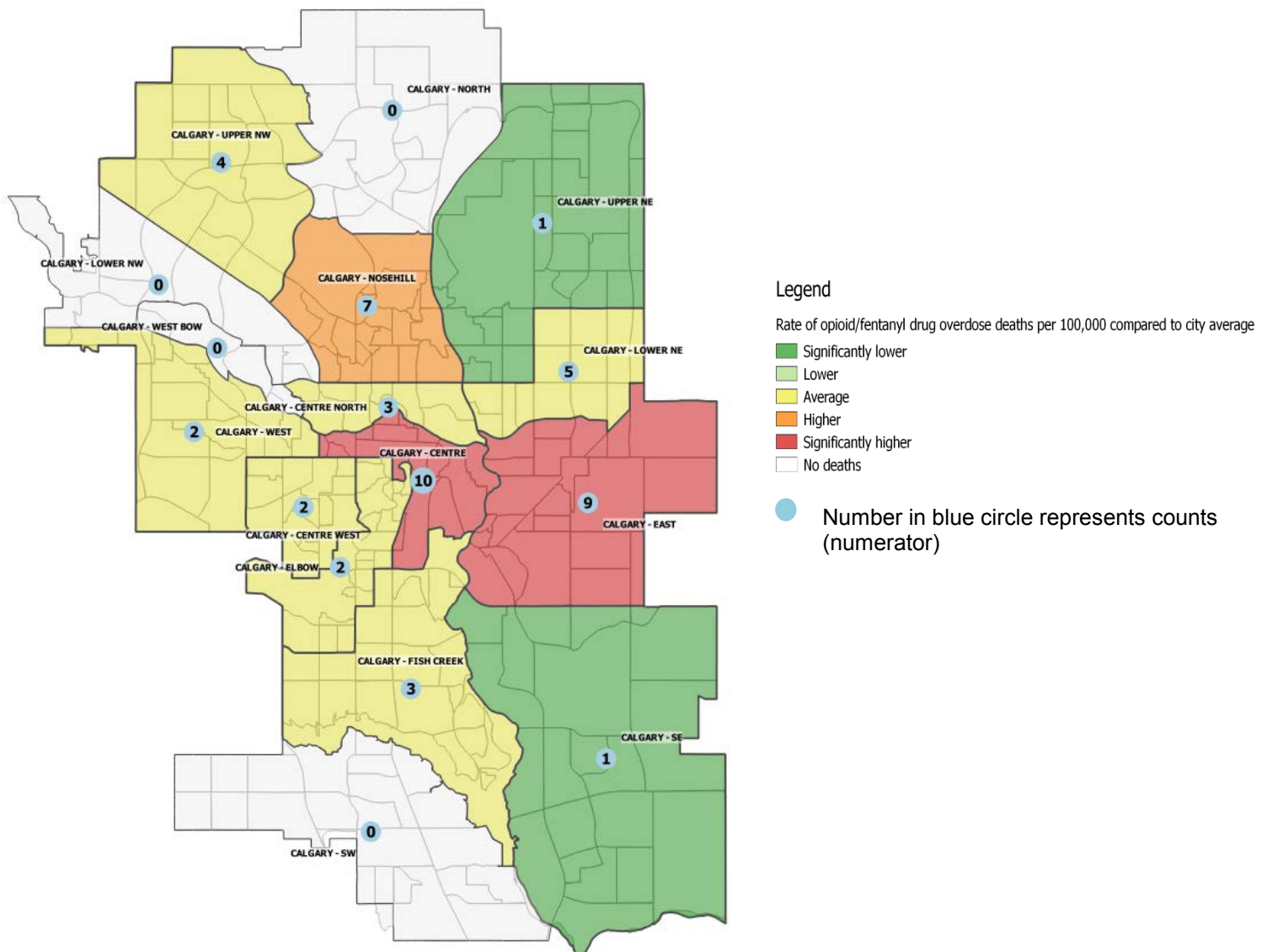


- Within the City of Edmonton, the LGAs with higher or significantly higher than average rates of opioid (including fentanyl) drug overdose deaths were Eastwood, Woodcroft West, and Northgate. However, 46 per cent of the total deaths occurred in LGAs outside of these areas.
- The place where the overdose occurred was the same as the individual’s home address for 49 per cent of these deaths in Edmonton.

Note: Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital. In instances where the death occurred in a hospital, if EMS had responded to the individual for an opioid-related event within 24 hours of the death, the location of the EMS response was used as place of the overdose. If no EMS visit occurred within 24 hours, the hospital death was excluded. In Edmonton, a hospital was the place of death in 15 per cent of deaths.

Figure 5: Rate (per 100,000 person years) and counts of apparent opioid (including fentanyl) drug overdose deaths, in the City of Calgary, based on **place of overdose**, by LGA. Jan. 1, 2017 to Mar. 31, 2017.

Calgary rate: 15.3 per 100,000 person years (n = 49)

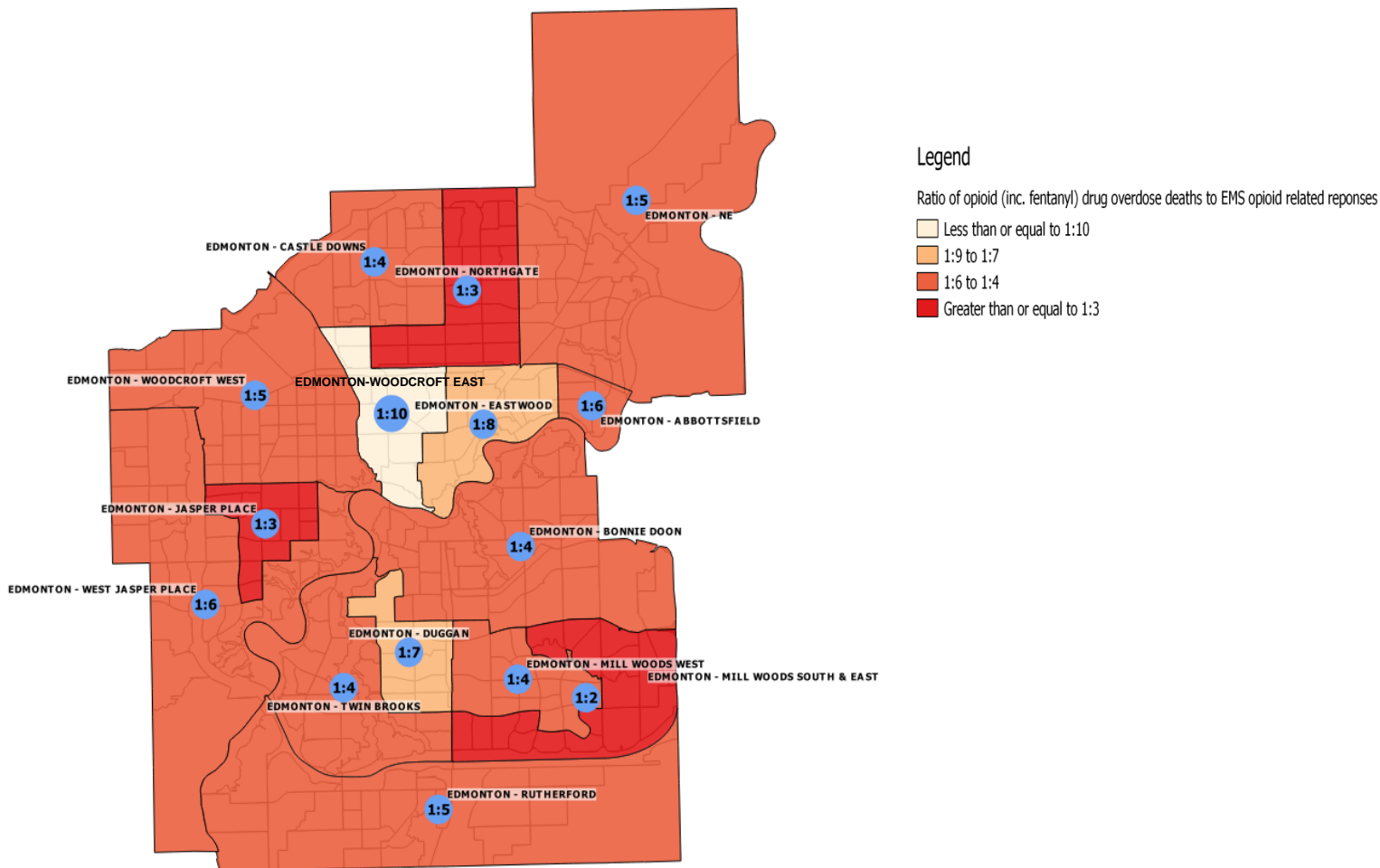


- Within the City of Calgary, the LGAs with higher or significantly higher than average rates of opioid (including fentanyl) drug overdose deaths were Calgary Centre and East, and Nose Hill. However, 47 per cent of the total deaths occurred in LGAs outside of these areas.
- The place where the overdose occurred was the same as the individual’s home address for 67 per cent of these deaths in Calgary.

Note: Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital. In instances where the death occurred in a hospital, if EMS had responded to the individual for an opioid-related event within 24 hours of the death, the location of the EMS response was used as place of the overdose. If no EMS visit occurred within 24 hours, the hospital death was excluded. In Calgary, a hospital was the place of death in 27 per cent of deaths.

Figure 6: Ratio of opioid (including fentanyl) drug overdose deaths to EMS opioid-related responses, in the City of Edmonton, based on **place of overdose**, by LGA. Jan. 1, 2016 to Mar. 31, 2017.

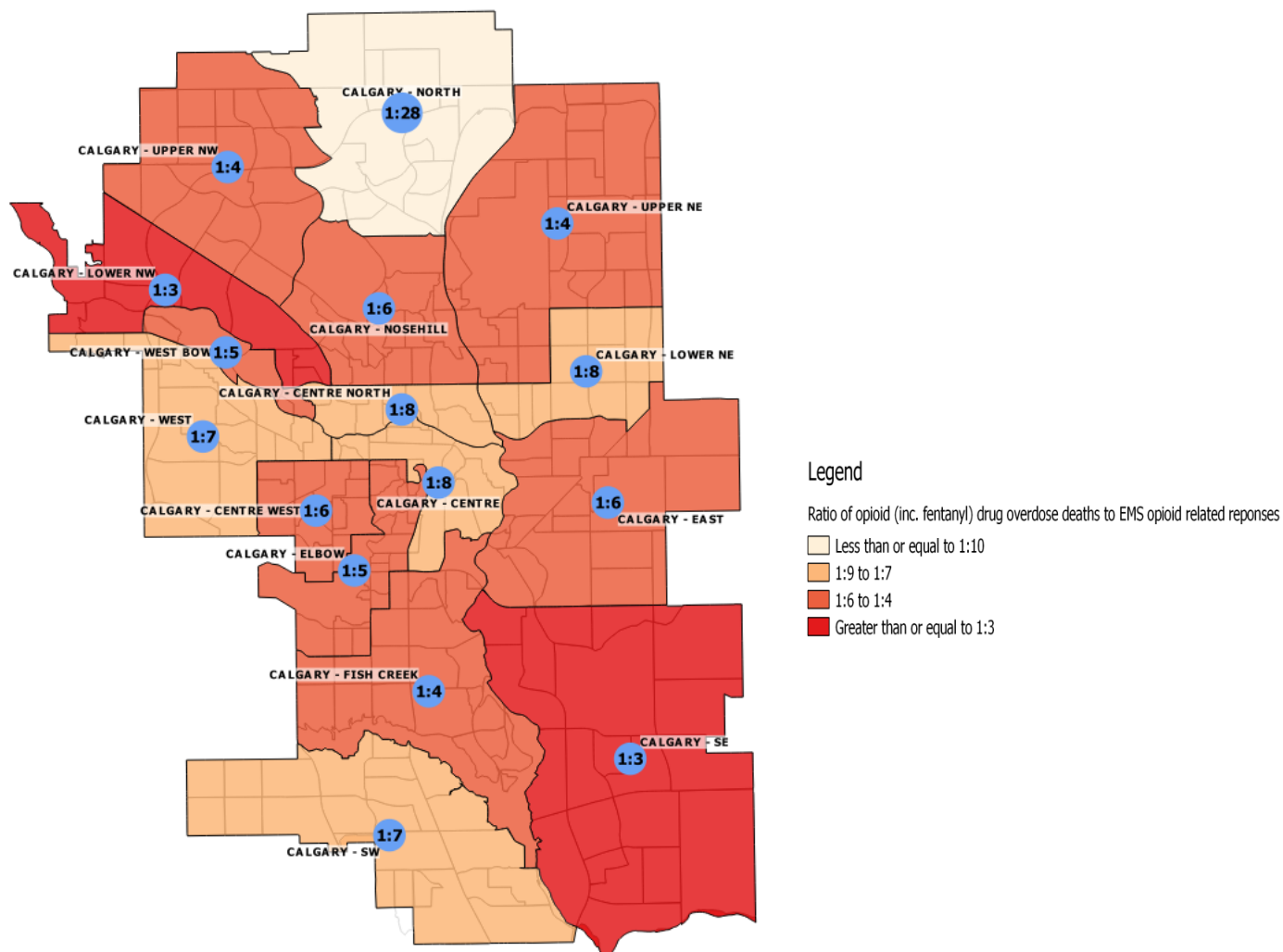
Edmonton ratio: 1 death to every 5 EMS opioid-related responses



- From January 1, 2016 to March 31, 2017, within the City of Edmonton, in general, the more centralized urban core has a higher number of EMS responses for opioid-related events to every opioid-related drug overdose death. Edmonton Mill Woods (South & East) had the least amount of EMS responses relative to opioid-related drug overdose deaths.

Figure 7: Ratio of opioid (including fentanyl) drug overdose deaths to EMS opioid-related responses, in the City of Calgary, based on **place of overdose**, by LGA. Jan. 1, 2016 to Mar. 31, 2017.

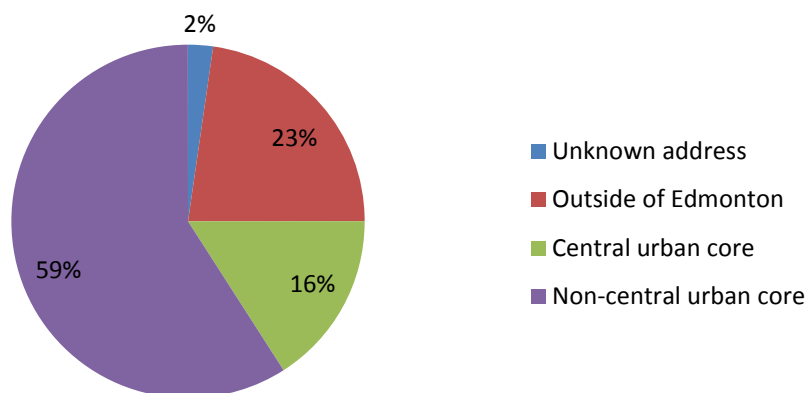
Calgary ratio: 1 death to every 6 EMS opioid-related responses



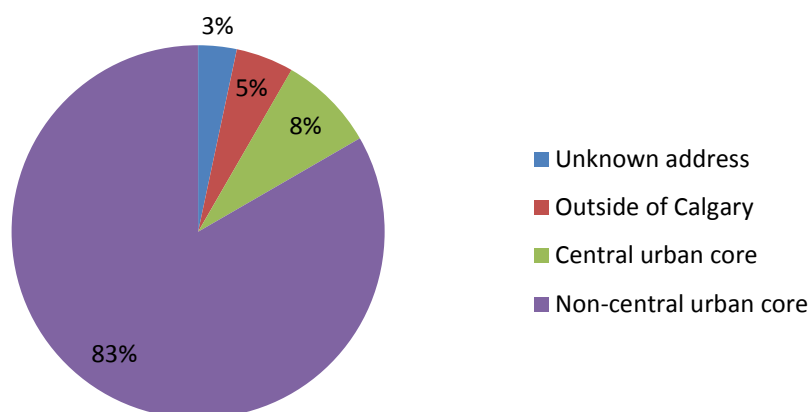
- From January 1, 2016 to March 31, 2017, within the City of Calgary, in general, the more centralized urban core has a higher number of EMS responses for opioid-related events to every opioid-related drug overdose death. The lower NW and SE of Calgary had the least amount of EMS responses relative to opioid-related drug overdose deaths.

Figure 8: Place of residence of individuals who died of an apparent opioid (including fentanyl) drug overdose death in the cities of Edmonton and Calgary, by central urban core/non-central core status. Jan. 1, 2017 to Mar. 31, 2017.

Edmonton: 44 opioid/fentanyl deaths



Calgary: 60 opioid/fentanyl deaths



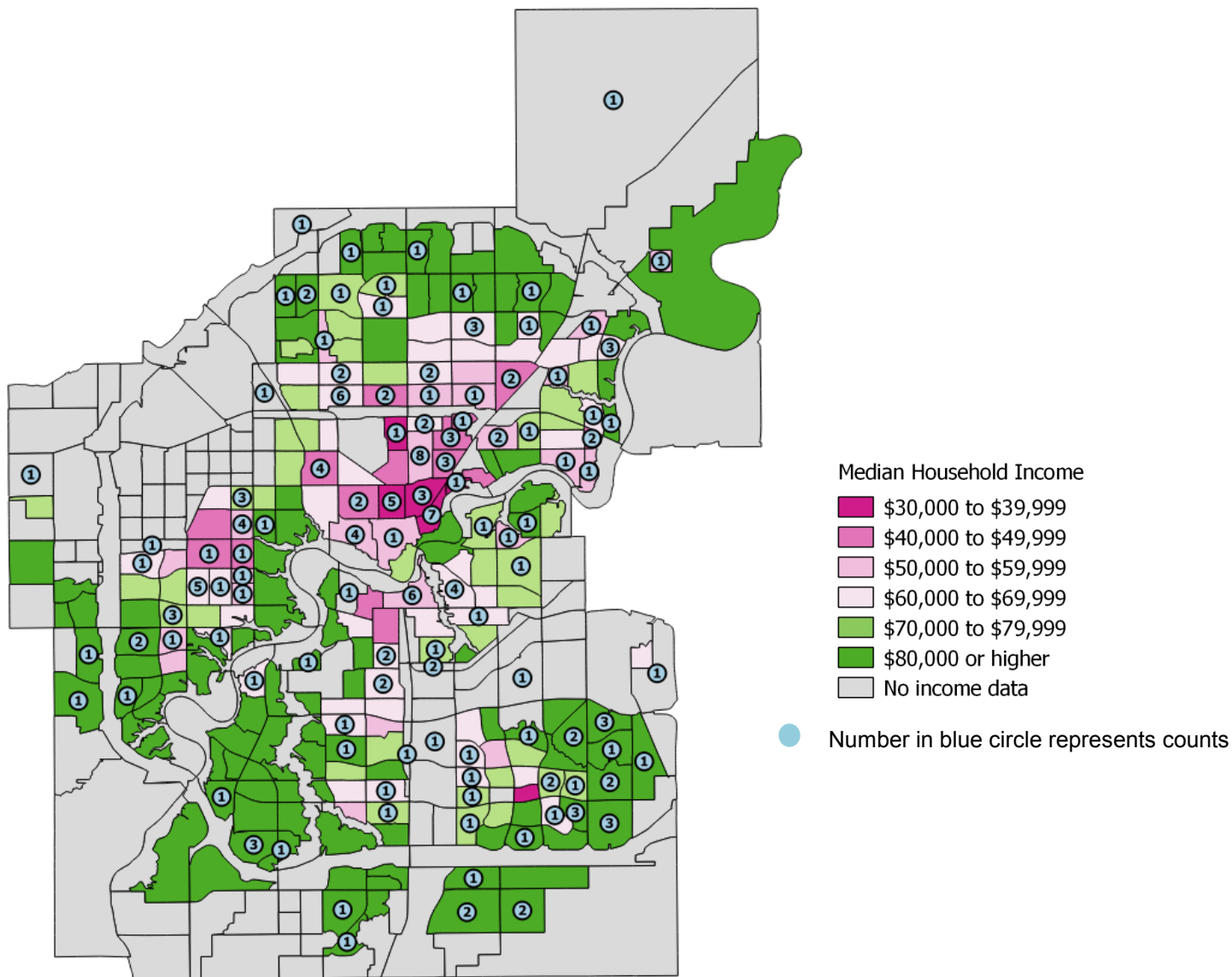
- Within Edmonton, 59 per cent of individuals who died of an apparent opioid (including fentanyl) drug overdose death lived in the non-central urban core and 83 per cent in Calgary.

Note: If the individual did not have an address listed or had no fixed address at the time of death, the most recent postal code listed on the Alberta Health Care Insurance Plan (AHCIP) population registry file was used to determine most recent place of residence if the individual was matched to the AHCIP.

Edmonton central urban core: Boyle Street, Central McDougall, McCauley, Oliver, Queen Mary Park, Riverdale, Rosssdale Cloverdale, Garneau, Strathcona, University of Alberta.

Calgary central urban core: Downtown (including the Downtown West End and Downtown East Village), Eau Claire, Chinatown, Beltline, Connaught/Cliff Bungalow, and Victoria Park.

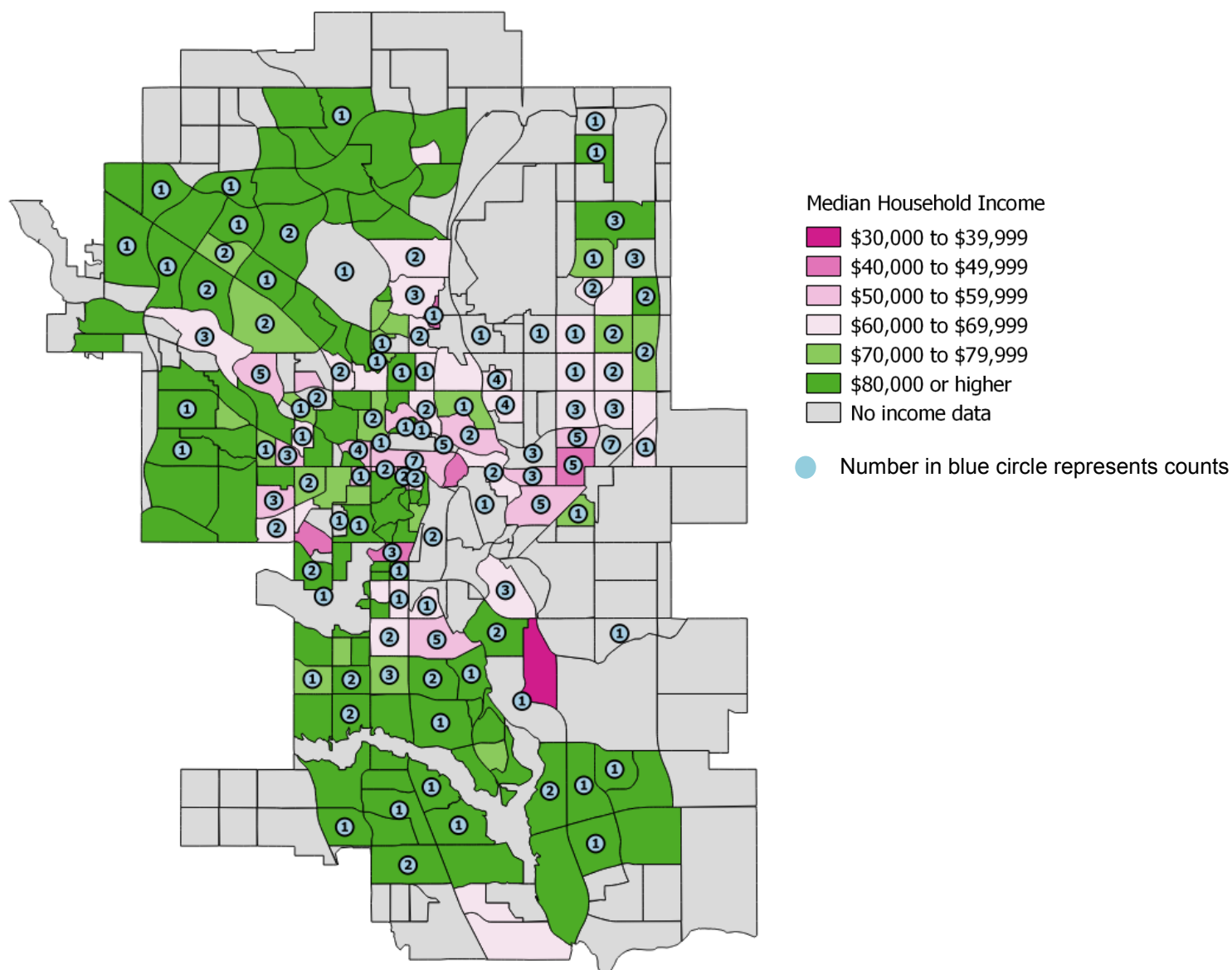
Figure 9: Median household income of neighbourhood where individuals who died of an apparent opioid (including fentanyl) drug overdose death resided, and number of deaths occurring in neighbourhood, in the City of Edmonton. Jan. 1, 2016 to Mar. 31, 2017.



- The neighbourhoods with more than five opioid-related drug overdose deaths included Alberta Avenue (8), Boyle Street (7), Strathcona (6), Calder (6), Central McDougal (5), and West Meadowlark Park (5).
- Opioid-related drug overdose deaths were most likely to occur in neighbourhoods with a self-reported household income of \$50,000 to \$59,999 (15 opioid drug overdose deaths for every 10 neighbourhoods within this median household income range).

Note: Household income was based on results from the 2011 NHS survey, and adjusted to 2017 dollars.

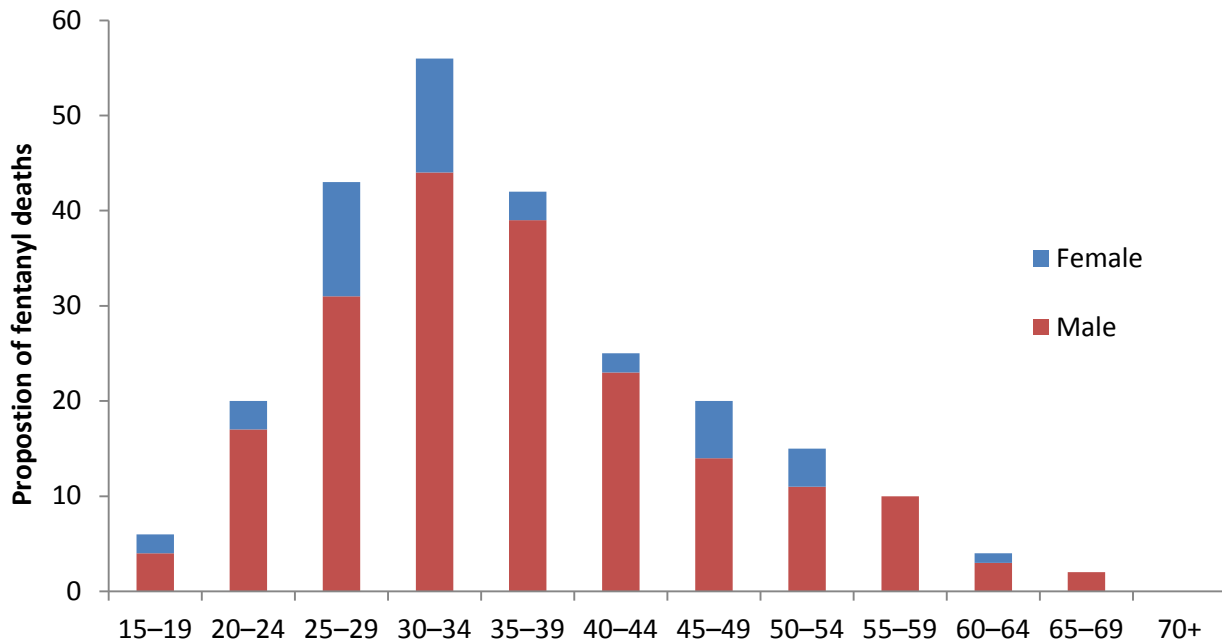
Figure 10: Median household income of neighbourhood where individuals who died of an apparent opioid (including fentanyl) drug overdose death resided, and number of deaths occurring in neighbourhood, in the City of Calgary. Jan. 1, 2016 to Mar. 31, 2017.



- The neighbourhoods with more than five opioid-related drug overdose deaths included Downtown Commercial Core (12), Penbrooke Meadows (7), Beltline (7), Montgomery (5), Downtown East Village (5), Forest Lawn (5), Acadia (5), Forest Heights (5), and Dover (5).
- Opioid-related drug overdose deaths were most likely to occur in neighbourhoods with a self-reported household income of \$50,000 to \$59,999 (31 opioid drug overdose deaths for every 10 neighbourhoods within this median household income range).

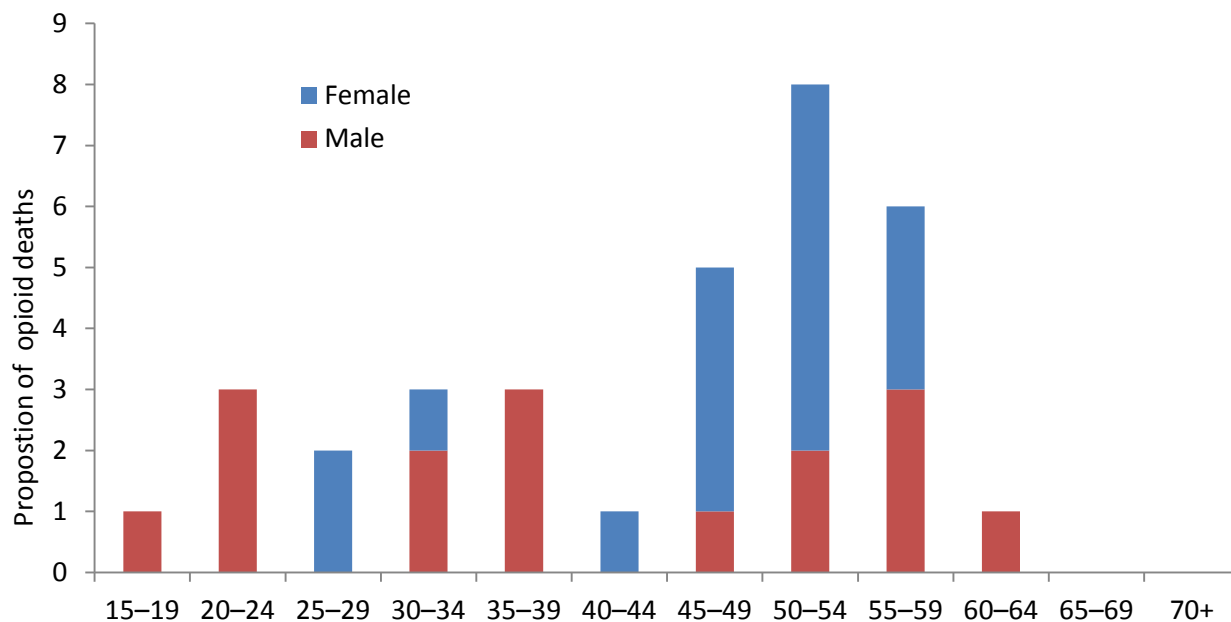
Note: Household income was based on results from the 2011 NHS survey, and adjusted to 2017 dollars.

Figure 11: Deaths due to an apparent drug overdose related to **fentanyl**, by sex and age. Jan. 1, 2017 to Jun. 30, 2017.



- 82 per cent of deaths due to an apparent drug overdose related to fentanyl were among males. Across both sexes, the age group with the highest number of deaths occurred among individuals spanning the ages of 30–34.

Figure 12: Deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by sex and age. Jan. 1, 2017 to Mar. 31, 2017.



- 49 per cent of deaths due to an apparent drug overdose related to an opioid other than fentanyl were among males. Among males, the age group with the highest number of deaths occurred among individuals spanning the ages of 20–24, 30–34, 35–39, and 50–59, and among females, 50–54.

Figure 13: Proportion of deaths due to an apparent drug overdose related to **fantanyl**, by medical history within the 30 days before the date of death. Jan. 1, 2017 to Jun. 30, 2017.

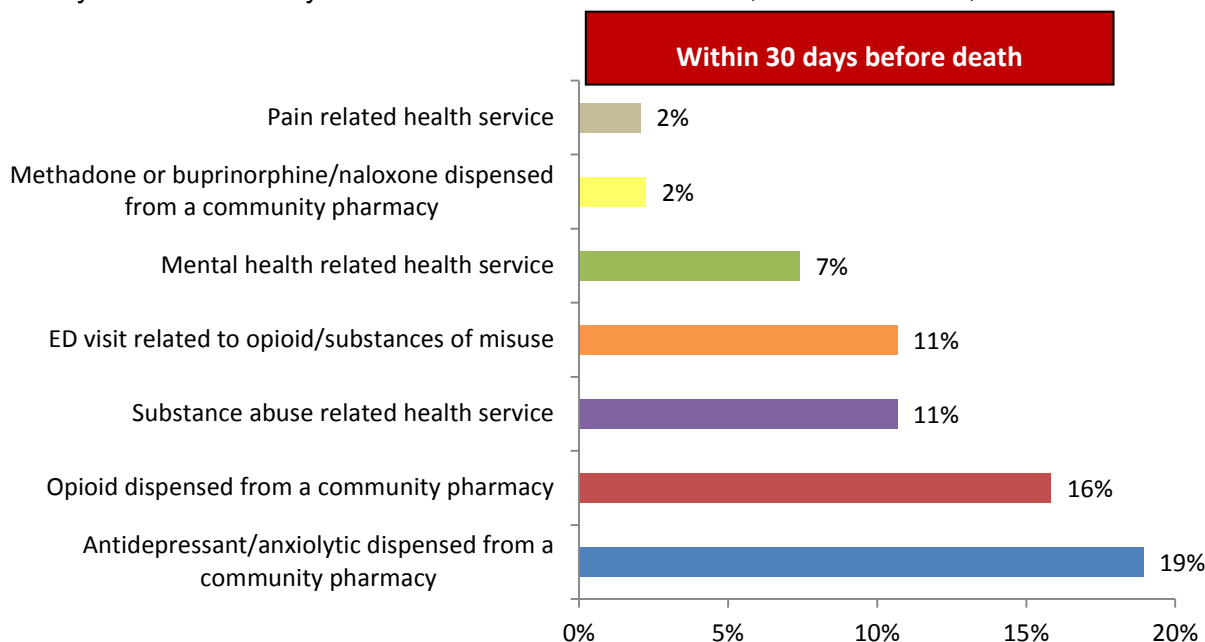
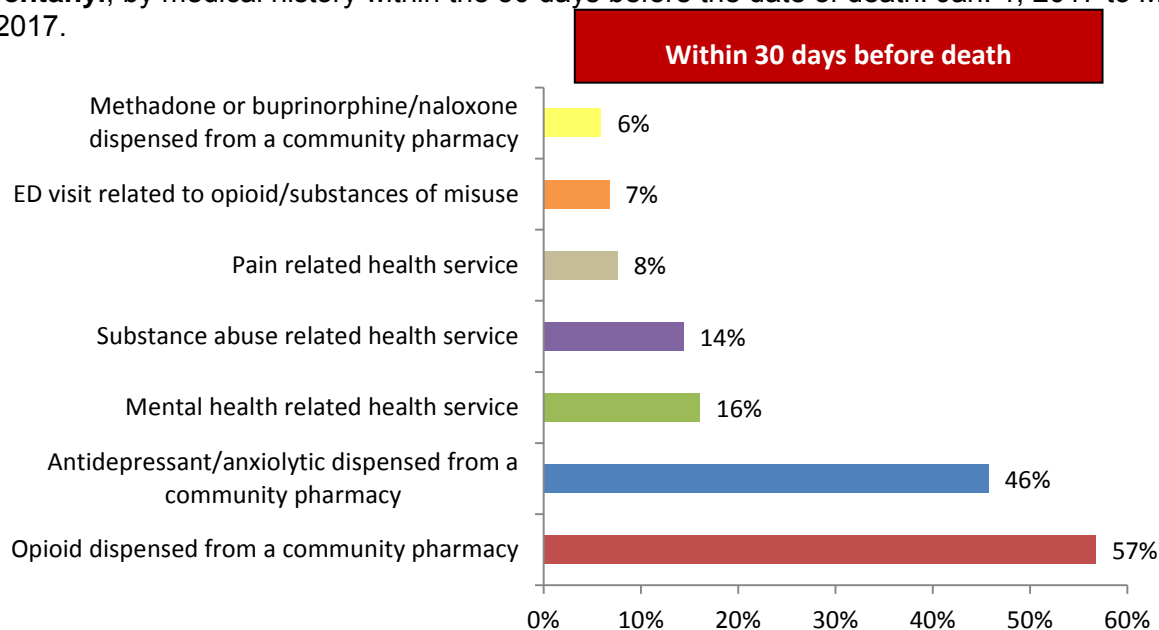


Figure 14: Proportion of deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by medical history within the 30 days before the date of death. Jan. 1, 2017 to Mar. 31, 2017.



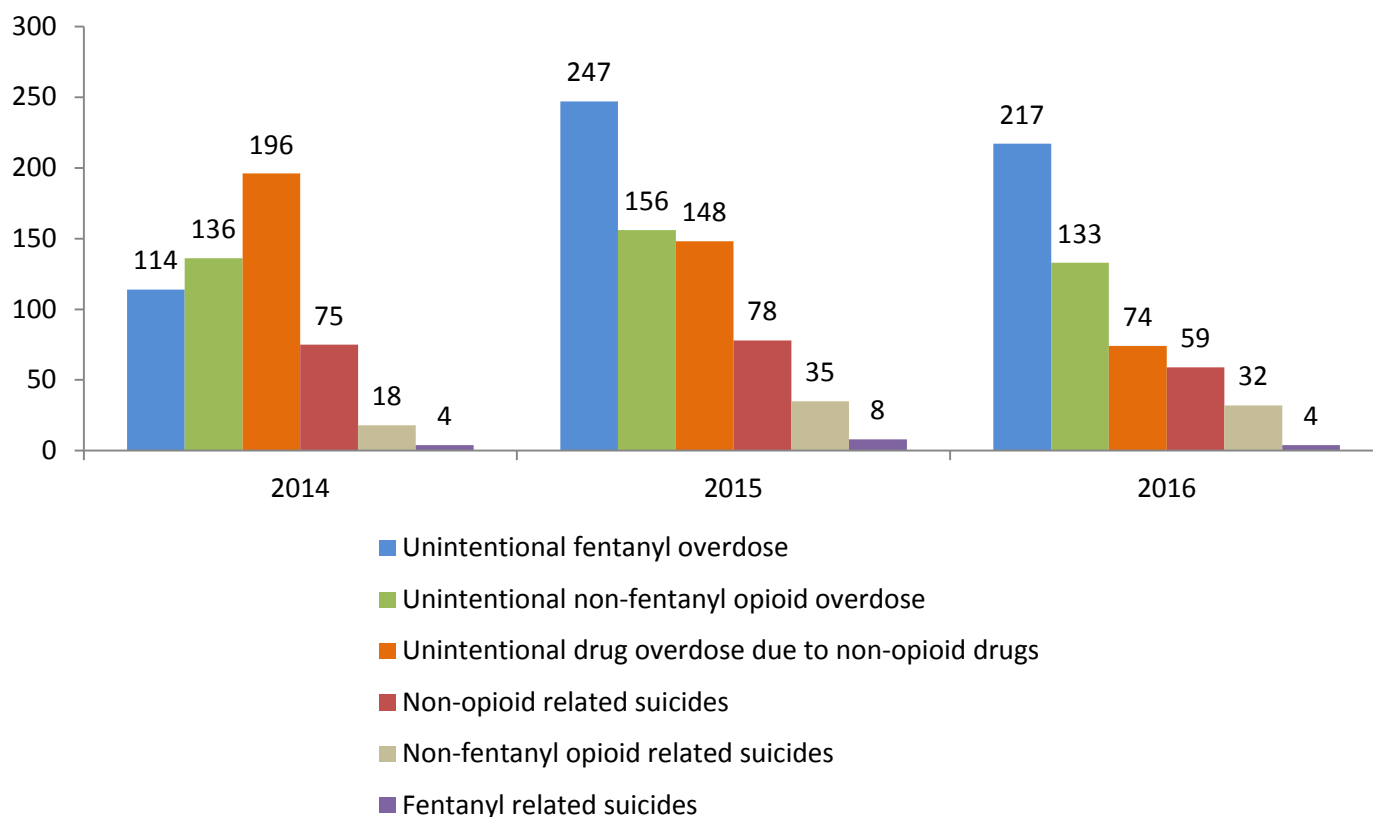
- Among deaths due to an apparent drug overdose related to an opioid (including fentanyl) the most frequent health care utilization within the 30 days before the individual’s date of death was a dispensation for an opioid, antidepressant, or anti-anxiety.
- Significantly more individuals who died from an apparent drug overdose related to an opioid other than fentanyl had an opioid or an antidepressant/anti-anxiety dispensed from a community pharmacy in the 30 days prior to death compared to those who died from an apparent drug overdose related to fentanyl.

Note: 95% of individuals had their primary healthcare 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 overdose deaths (accidental and suicide)

Figure 15: Number of confirmed drug overdose deaths in Alberta by drug causing overdose, manner, and year. 2014–2016.

Many drug overdose deaths in 2016 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 overdose deaths in 2016 will be higher than the current number. The numbers below are the confirmed cases as of June 30, 2017.

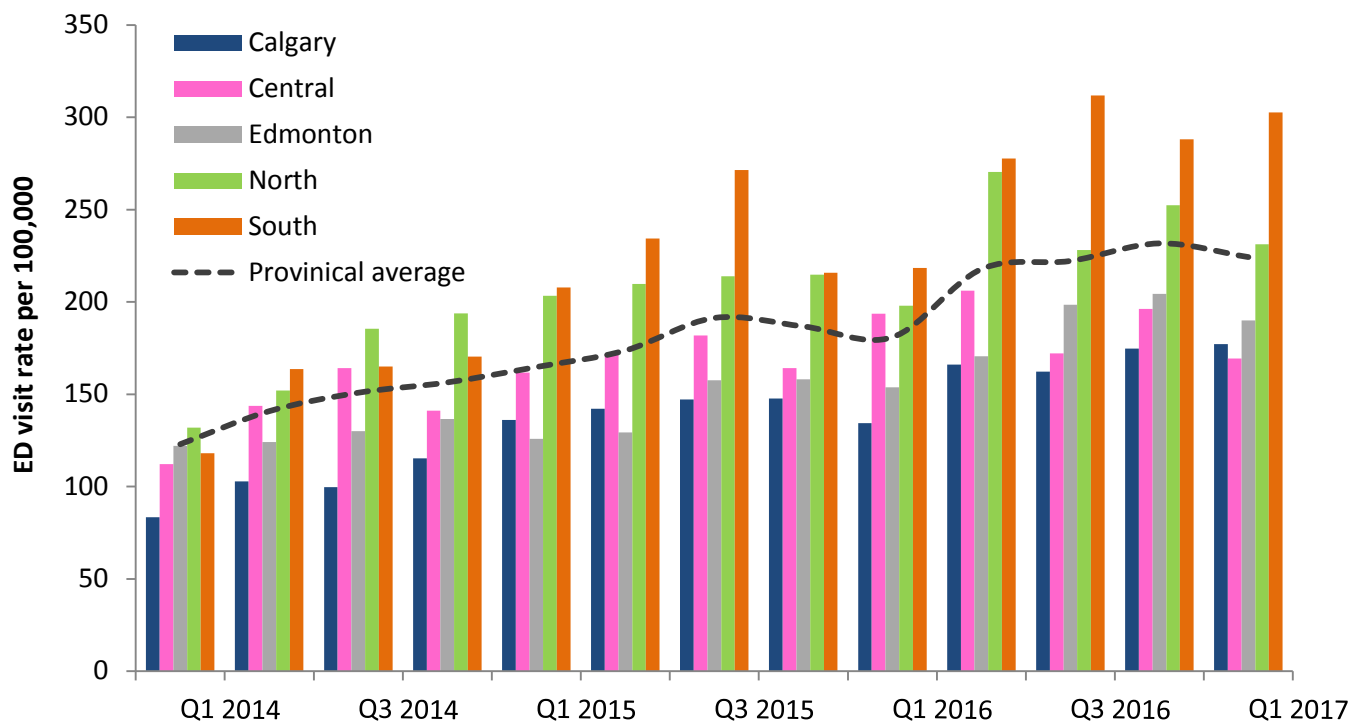


- From 2014 to 2016, 82 per cent of all drug overdose deaths were consistently an unintentional drug overdose. Since 2014, the number of unintentional drug overdose deaths involving fentanyl increased from 26 per cent to 51 per cent in 2016. Unintentional non-fentanyl opioid drug overdoses have remained stable, at around 30 per cent of all unintentional drug overdoses.
- From 2014 to 2016, 18 per cent of all drug overdose deaths were consistently an intentional drug overdose. Since 2014, the number of intentional drug overdose deaths involving fentanyl has remained around 5 per cent. Intentional non-fentanyl opioid overdoses have increased from 19 per cent to 34 per cent of all intentional drug overdoses from 2014 to 2016.

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. The above includes deaths where the cause was due to acute poisoning or toxicity 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 alcohol, 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.

Emergency department visits

Figure 16: Rate of emergency department (ED) visits related to opioid use and other substances of misuse, by quarter and Zone, per (100,000 person years). Jan. 1, 2014 to Mar. 31, 2017.



- The *rate* of emergency department visits related to opioid use and substance misuse increased by 82.5 per cent from Jan. 1, 2014 to Mar. 31, 2017. However, from the fourth quarter in 2016 to the first quarter in 2017, the rate decreased by 3.2 per cent.
- Specifically, decreases in the rate of emergency department visits related to opioid use and substance misuse were seen in the Central, Edmonton, and North Zone.
- The *rate* of emergency department visits related to opioid use and substance misuse in the South Zone is still the highest on average (226.6 visits per 100,000 person years); approximately 25 per cent higher than the provincial average (181.9 visits per 100,000 person years).
- The Edmonton and Calgary zones had the highest *number* of emergency department visits related to opioid use and substance misuse, and on average per quarter made up 27 and 29 per cent of all provincial ED visits related to opioid use and other substances of misuse, respectively.

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)

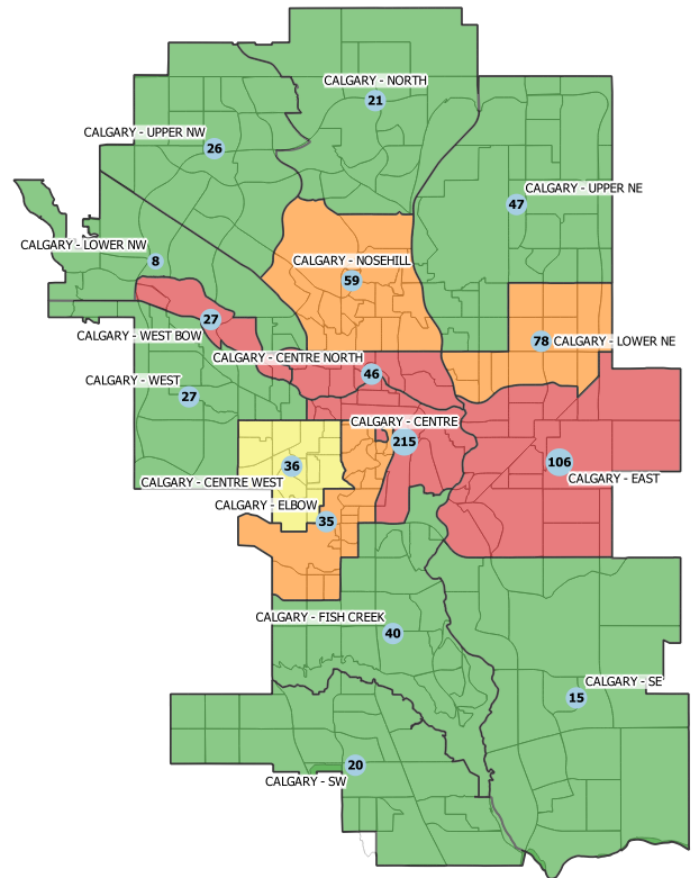
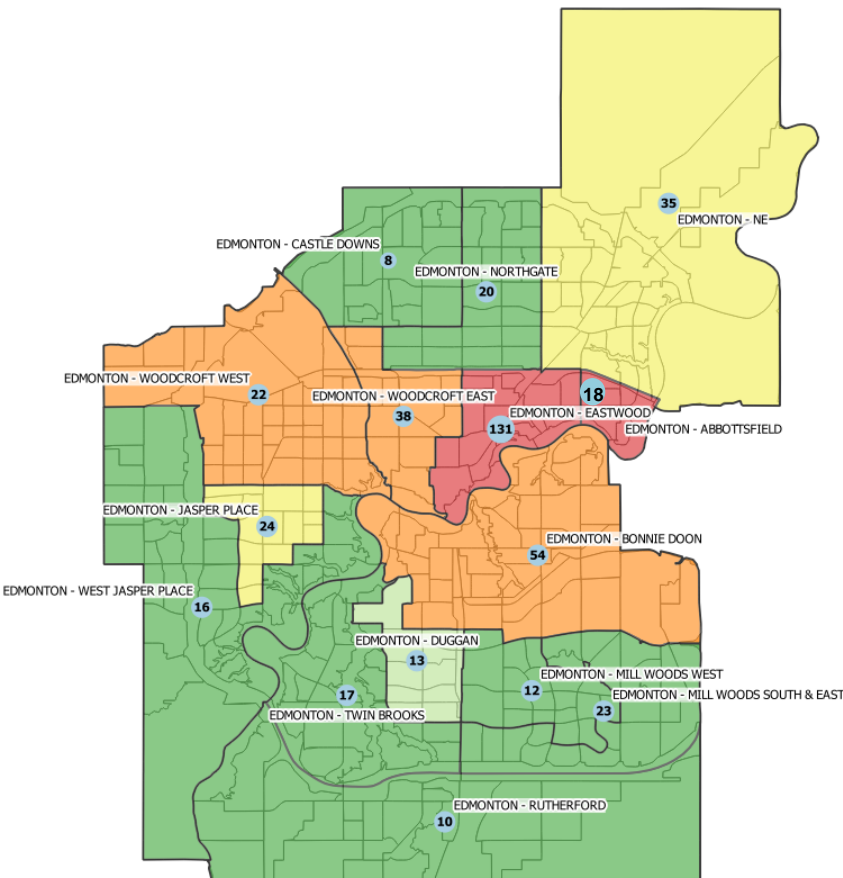
Emergency Medical Services data

Figure 17: Rate (per 100,000 person years) and count of Emergency Medical Services (EMS) responses to opioid-related events, by LGA. Jan. 1, 2017 to Jun. 30, 2017.

Edmonton rate: 90.4 per 100,000 person years

(n =441)

Calgary rate: 122.3 per 100,000 person years



Legend

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

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

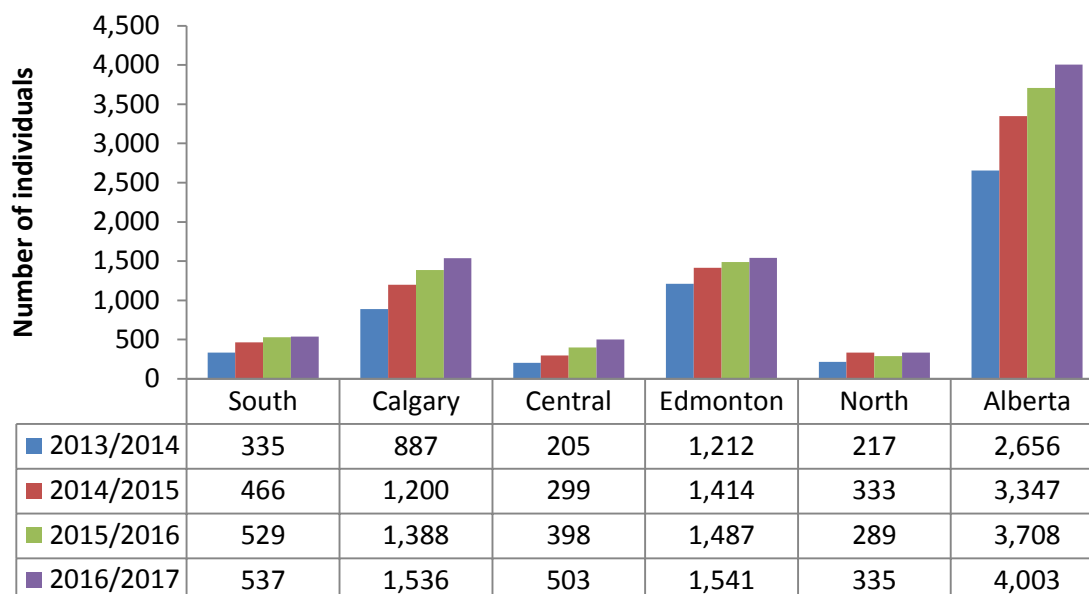
● Number in blue circle represents counts (numerator)

- From Jan. 1, 2017 to Jun. 30, 2017, the majority of EMS responses in Alberta related to opioid events occurred in the City of Calgary and the City of Edmonton (approximately 80 per cent).
- Of the EMS opioid-related events that occurred in Edmonton (441), the highest rate (347.5 per 100,000 person years) and count (131) was in the Eastwood area.
- Of the EMS opioid-related events that occurred in Calgary (806), the highest rate (692.5 per 100,000 person years) and count (215) was in Calgary Centre. Additional LGAs with *significantly* higher rates of EMS related events compared to the city rate were West Bow, Centre North, and Calgary East.

Note: This data is from AHS EMS Direct delivery – ground ambulance. Air ambulance and Contractors are not included. EMS opioid-related events refer to any EMS response where the Medical Control Protocol of Opiate Overdose was documented and/or naloxone was administered.

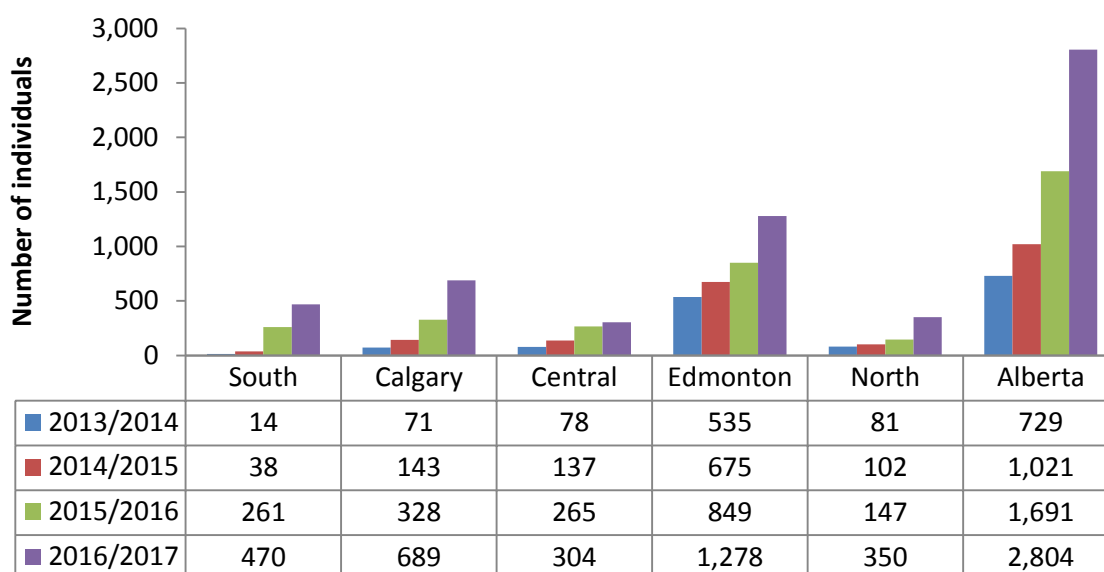
Methadone & buprenorphine/naloxone dispensing from community pharmacies

Figure 18: Total unique individuals dispensed **methadone** indicated for opioid dependence from community pharmacies, by Zone and fiscal year.



- In Alberta, from fiscal year 2013/2014 to fiscal year 2016/2017, there was an average increase of 15 per cent in the number of individuals who were dispensed methadone indicated for opioid dependence from community pharmacies from year to year.

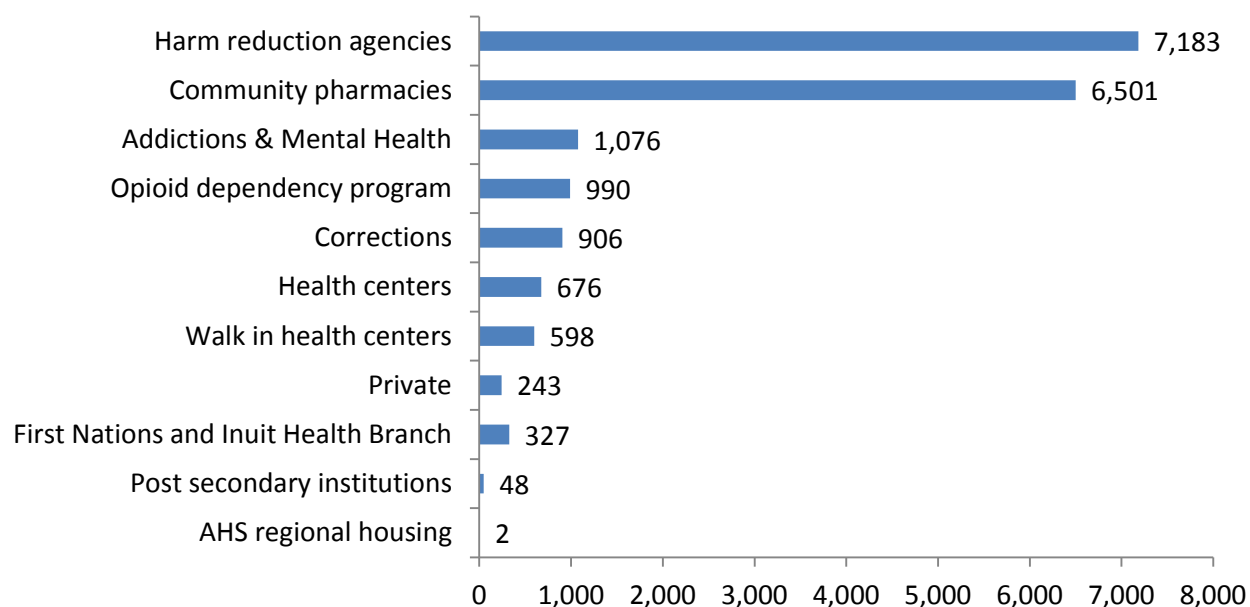
Figure 19: Total unique individuals dispensed **buprenorphine/naloxone** indicated for opioid dependence from community pharmacies, by Zone and fiscal year.



- In Alberta, from fiscal year 2013/2014 to fiscal year 2016/2017, there was an average increase of 57 per cent in the number of individuals who were dispensed buprenorphine/naloxone indicated for opioid dependence from community pharmacies from year to year. The largest increase was seen in the most recent fiscal year (66 per cent).

Naloxone kit dispensing and distribution

Figure 20: Naloxone kits dispensed/distributed by registered site type. Jan. 1, 2016 to Jun. 30, 2017.



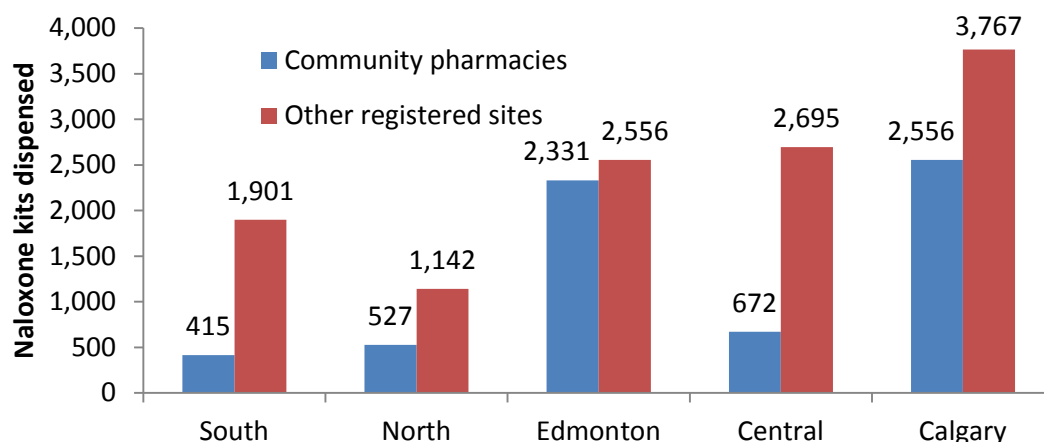
- As of June 30, 2017, 18,562 naloxone kits have been dispensed in Alberta, and 1,707 reversals have been self-reported.
- The highest volume of naloxone kits have been dispensed from harm reduction agencies (39 per cent), followed by community pharmacies (35 per cent).

Table 8: Number of sites registered to distribute naloxone kits. Jan. 1, 2016 to Jun. 30, 2017.

	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	81	313	103	272	93	862
Addictions & Mental Health	1	13	6	9	8	37
AHS regional housing		3		1		4
Community Centre		2	4	2	9	17
Corrections	2	3	1	3	1	10
First Nations and Inuit Health Branch	1	1	4		8	14
Harm reduction agencies	2	1	1	3	2	9
Health centers	16	24	20	19	30	109
Walk in health centers	9	17	23	12	27	88
Opioid dependency program	4	2		4	2	12
Post-secondary institutions		2		3	1	6
Private	9	14	12	15	6	56
Medical First Response	7	9	10	8	18	52
Total	132	404	184	351	205	1,276

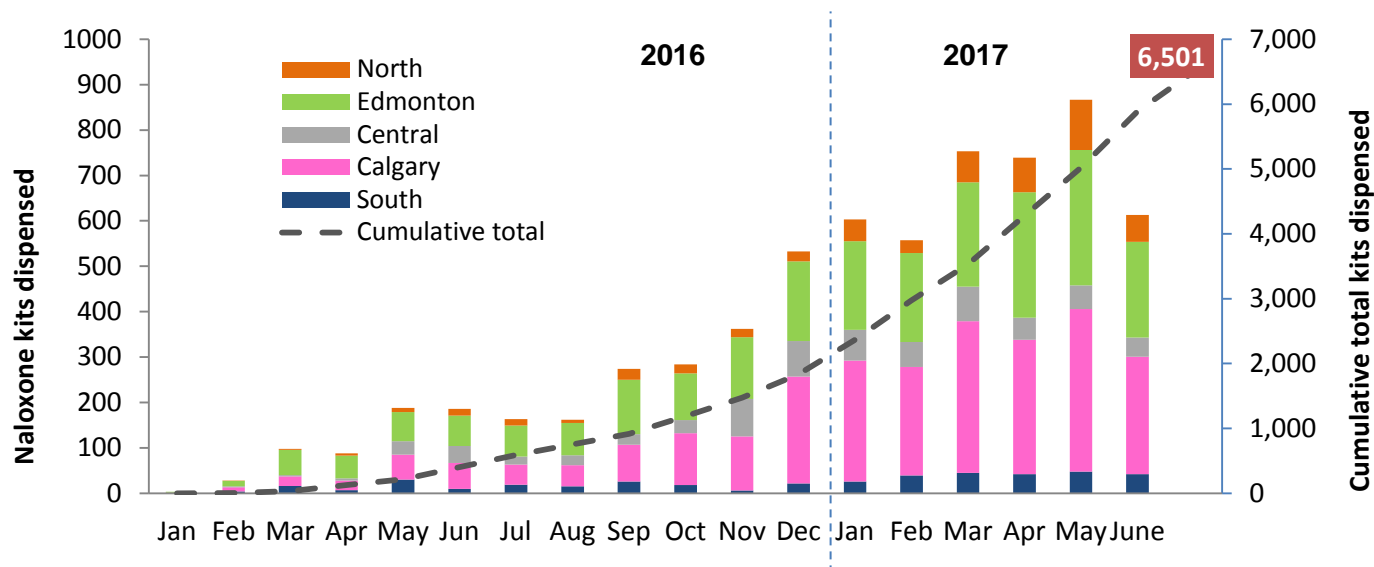
Note: Naloxone kits dispensing data from community pharmacies comes from the Pharmaceutical Information Network. All other kit distribution data comes from the AHS Take Home Naloxone Kit Program.

Figure 21: Naloxone kits dispensed/distributed by **community pharmacies and other registered sites**, by Zone. Jan. 1, 2016 to Jun. 30, 2017.



- Throughout the province, other registered sites are dispensing more naloxone kits than community pharmacies.
- The Calgary Zone dispensed the highest total volume of kits in the province (34 per cent).

Figure 22: Naloxone kits dispensed by **community pharmacies**, by zone and month. Jan. 1, 2016 to Jun. 30, 2017.



- The Calgary Zone has had the largest volume of Naloxone kits dispensed from community pharmacies, with an average of 142 kits per month. The Edmonton Zone dispensed the next highest volume with an average of 130 kits per month. Across Alberta, community pharmacies dispensed an average of 361 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 Jan. 1, 2016, 6,501 naloxone kits have been dispensed from community pharmacies in Alberta.

Note: Naloxone kits dispensing data from community pharmacies comes from the Pharmaceutical Information Network. All other kit distribution data comes from the AHS Take Home Naloxone Kit Program.

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 and Wellness Postal Code Translation File (PCTF)
4. Pharmaceutical Information Network (PIN)
5. OCME MEDIC data
6. AHS EMS Direct delivery-ground ambulance services data
7. AHS Take Home Naloxone Program data

Mortality data

The following substances are included in the drug overdose categories.

- **Fentanyl:** fentanyl, 3-methylfentanyl, acetylfentanyl, furanylfentanyl, or carfentanil
- **Opioids:** non-specified opiate, heroin, oxycodone, hydromorphone, morphine, codeine, tramadol, U-47700, tapentadol, or methadone
- **Other drugs:** includes, but not limited to ethanol (alcohol) in combination with other substances, benzodiazepines, antidepressants, antipsychotics, acetaminophen, cocaine or methamphetamine.

Emergency Medical Services data

Emergency Medical Services (EMS) data comes from AHS EMS Direct delivery – ground ambulance services. Air ambulance and Contractors are not included. AHS direct delivery does 97.7 per cent of the operational responses in the City of Edmonton, 99.9 per cent in the City 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 Jun. 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