

Alberta Health

Opioids and Substances of Misuse

Alberta Report, 2017 Q1

May 19, 2017

Alberta  Government

Key points

Apparent fentanyl drug overdose deaths

- In the first quarter of 2017, **113** individuals died from an apparent drug overdose related to fentanyl in Alberta. By comparison, in 2016, **70** deaths related to fentanyl occurred in the first quarter, and **119** occurred in the fourth quarter.
- In the first quarter of 2017, **91 per cent** of deaths occurred in larger urban municipalities.
- In the first quarter of 2017, the Calgary Zone (**51**) and Edmonton Zone (**36**) had the highest number of these deaths. In the most recent quarter, the Calgary Zone continued to have the highest rate per 100,000 at **3.1**, compared to a provincial average of **2.6** per 100,000.

Apparent non-fentanyl opioid drug overdose deaths

- From January 1, 2016 to December 31, 2016 **196** individuals died from an apparent drug overdose related to an opioid other than fentanyl in Alberta.
- In the last quarter of 2016, **38** individuals died from an apparent drug overdose related to an opioid other than fentanyl in Alberta. This compares to **56** deaths related to an opioid other than fentanyl in the third quarter.
- From January 1, 2016 to December 31, 2016, **66 per cent** of these deaths occurred in larger urban municipalities.
- From January 1, 2016 to December 31, 2016, the Calgary Zone (**58**) and Edmonton Zone (**82**) had the highest number of these deaths. The Central Zone had the highest rate at **6.7** per 100,000, compared to a provincial average of **4.6** per 100,000.

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 per 100,000 was highest among the more centralized Local Geographic Areas (LGAs) when compared to the respective city rates. This includes Eastwood in Edmonton, and Central, East, and West Bow in Calgary.
- While the rates per 100,000 were highest in the centralized areas, **65 per cent** of deaths in Calgary and **84 per cent** of deaths in Edmonton occurred outside the centralized areas.
- Within Edmonton and Calgary, the majority of individuals who died of an apparent opioid (including fentanyl) drug overdose death lived in the non-central urban core.

Confirmed drug overdose deaths

- In 2016, *as of March 31, 2017*, there were **443 confirmed** drug overdose deaths. Among these deaths, **68 per cent** (303) were a fentanyl or an opioid drug overdose death.

Emergency Department visits

- In 2016, there were **9,037** emergency and urgent care visits related to opioids and other substances of misuse, averaging **2,259** visits per quarter. This is significantly more than 2015, when there were **7,516** emergency and urgent care visits related to opioids and other substances of misuse, averaging **1,879** visits per quarter.
- In 2016, emergency and urgent care visits related to opioids and other substances of misuse occurred among **6,866** unique individuals, of whom, **31 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.

This report contains **apparent** and **confirmed** drug overdose deaths where the manner was accidental. Drug overdoses where the manner was intentional self-harm (suicide) are not included.

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

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

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

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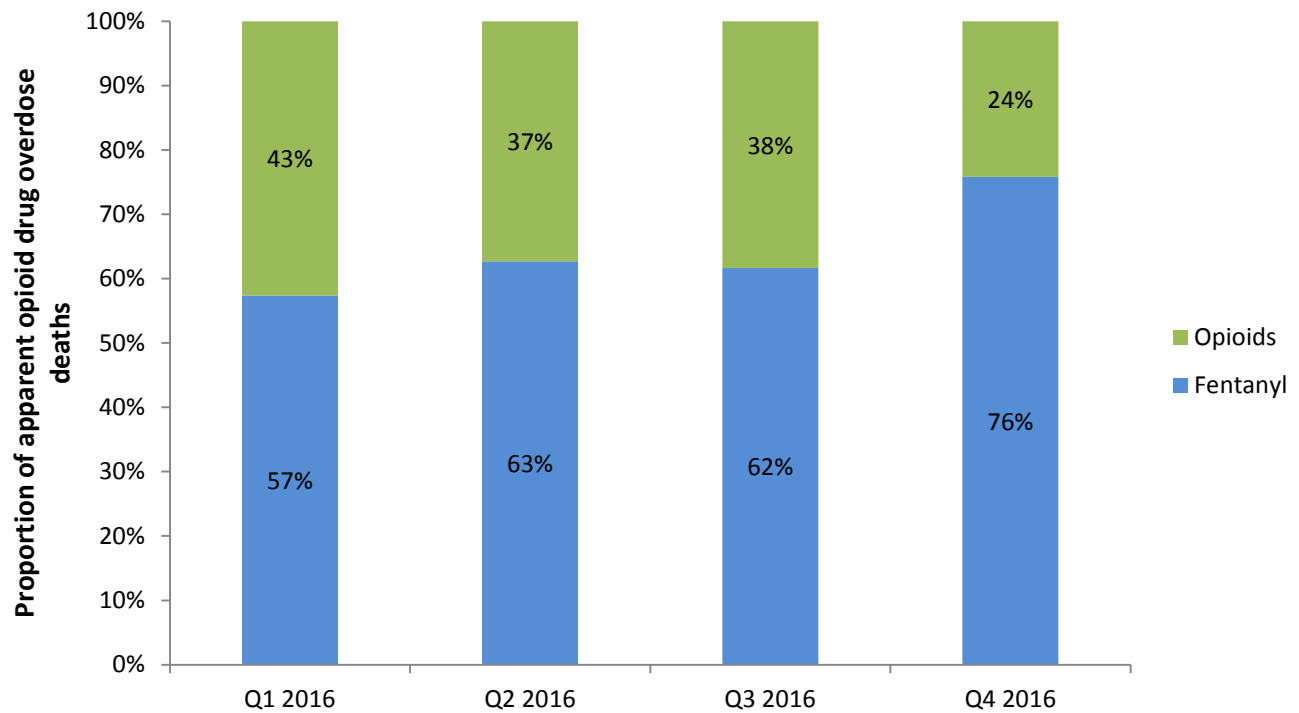
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Mortality data

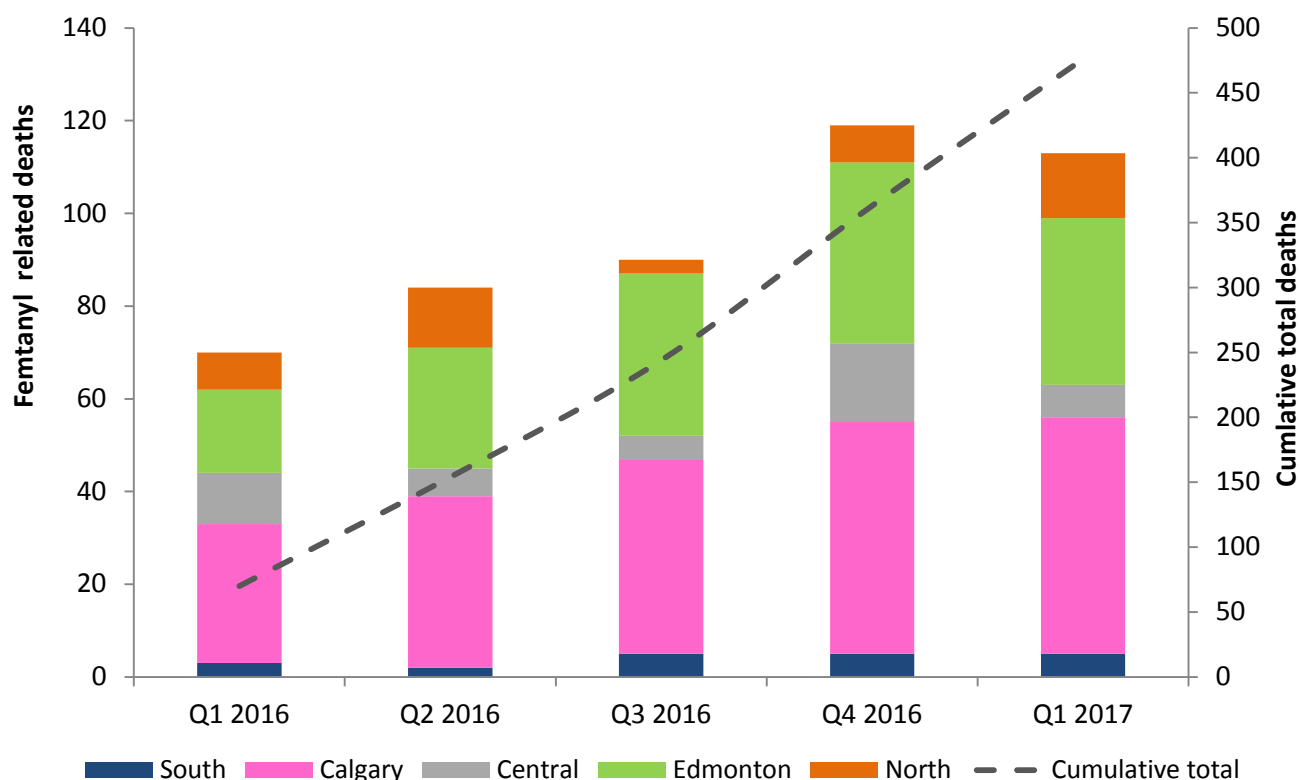
Apparent drug overdose deaths

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



- 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 76 per cent in the last.
- However, the trend seen in the last quarter of 2016 may be a result of a reporting lag in apparent non-fentanyl related opioid overdose deaths compared to fentanyl related.

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 Mar. 31, 2017.



- Since January 1, 2016, a total of 476 individuals in Alberta died from an apparent drug overdose death related to fentanyl, with an average of 95 per quarter. This includes 50 deaths where carfentanil was detected (29 in 2016, and 21 in the first quarter of 2017).
- From January 1, 2016 to March 31, 2017, the number of apparent drug overdose related to fentanyl continues to be significant, with the trend appearing to have stabilized based on the most recent quarter.

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

	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Total
South Zone	3	2	5	5	5	20
Calgary Zone	30	37	42	50	51	210
Central Zone	11	6	5	17	7	46
Edmonton Zone	18	26	35	39	36	154
North Zone	8	13	3	8	14	46
Alberta	70	84	90	119	113	476

Table 2: Rate (per 100,000) and number of deaths due to an apparent drug overdose related to **fantanyl**, by place of death, by Zone. Jan. 1, 2016 to Mar. 31, 2017.

	2016		2017 YTD*	
	Count	Rate	Count	Rate
South Zone	15	4.9	5	1.6
Calgary Zone	159	9.8	51	3.1
Central Zone	39	8.1	7	1.4
Edmonton Zone	118	8.7	36	2.6
North Zone	32	6.5	14	2.8
Alberta	363	8.6	113	2.6

- 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 at 3.1, compared to a provincial average of 2.6 per 100,000.

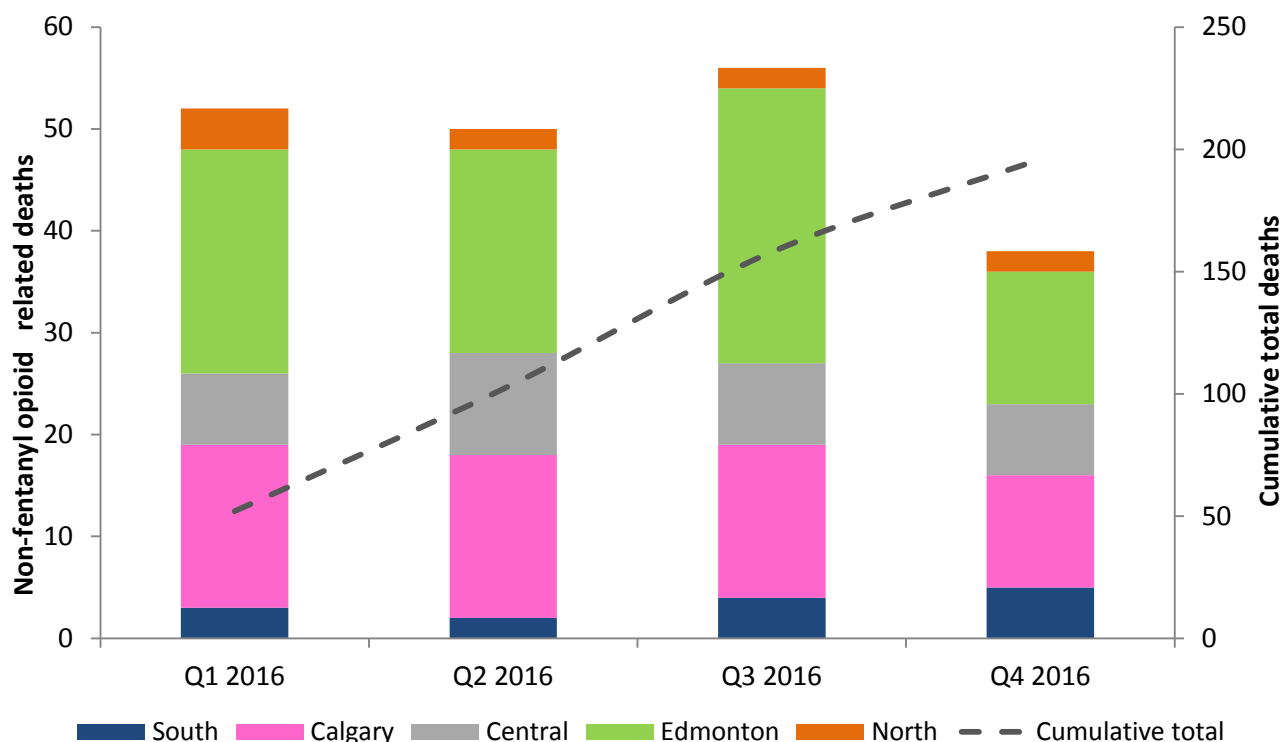
Table 3: Rate (per 100,000) and number of deaths due to an apparent drug overdose related to **fantanyl**, by place of death and municipality. Jan. 1, 2016 to Mar. 31, 2017.

	2016		2017 YTD*	
	Count	Rate	Count	Rate
Lethbridge	9	9.3	4	4.2
Medicine Hat	3	4.4	0	0.0
Calgary	152	11.5	49	3.7
Red Deer	23	21.0	5	4.5
Edmonton	103	10.6	36	3.7
Fort McMurray	9	11.0	5	6.2
Grande Prairie	10	13.4	4	5.2

- The municipalities of Calgary and Edmonton continue to have the highest number of these deaths. However, in 2016, the municipality of Red Deer had the highest rate of apparent drug overdoses related to **fantanyl** per 100,000, while Fort McMurray had the highest rate in the first quarter of 2017.

*YTD = Jan. 1, 2017 to Mar. 31, 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 Dec. 31, 2016.



- Since January 1, 2016, a total of 196 individuals in Alberta died from an apparent drug overdose related to an opioid other than fentanyl, with an average of 49 per quarter.
- From January 1, 2016 to December 31, 2016, the number of apparent drug overdose related to an opioid other than fentanyl continues to be significant. The most recent quarter suggests these deaths may be decreasing.
- However, the trend seen in the last quarter of 2016 may be a result of a reporting lag in non-fentanyl related apparent opioid overdose deaths compared to fentanyl related.

Table 4: Number of apparent drug overdose deaths related to an **opioid other than fentanyl** by quarter.

					Total
South Zone	3	2	4	5	14
Calgary Zone	16	16	15	11	58
Central Zone	7	10	8	7	32
Edmonton Zone	22	20	27	13	82
North Zone	4	2	2	2	10
Alberta	52	50	56	38	196
	Q1 2016	Q2 2016	Q3 2016	Q4 2016	

Table 5: Rate (per 100,000) 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 Dec. 31, 2016.

	2016	
	Count	Rate
South Zone	14	4.6
Calgary Zone	58	3.6
Central Zone	32	6.7
Edmonton Zone	82	6.1
North Zone	10	2.0
Alberta	196	4.6

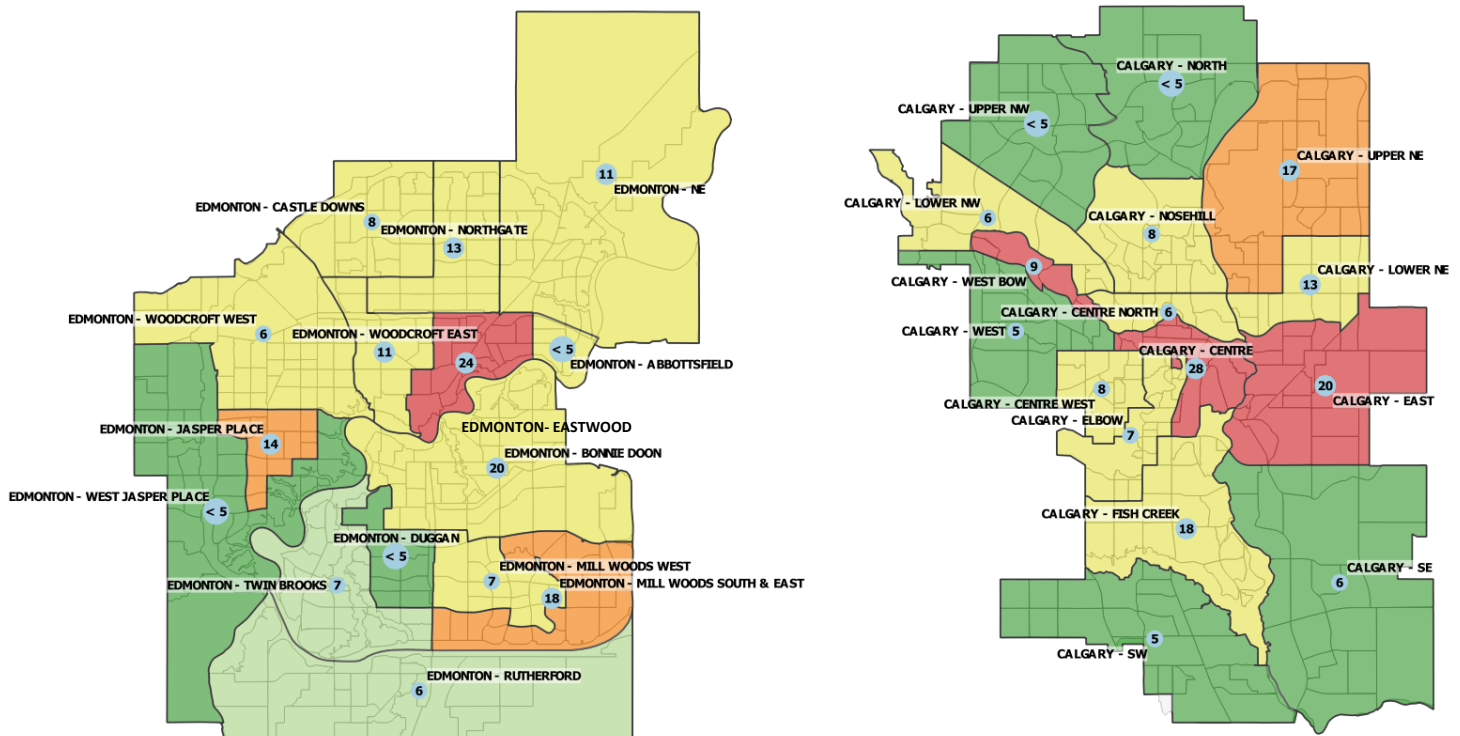
- The Calgary and Edmonton Zones continue to have the highest number of these deaths. In 2016, the Central Zone had the highest rate per 100,000 at 6.7, compared to a provincial average of 4.6 per 100,000.

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

	2016	
	Count	Rate
Lethbridge	3	3.1
Medicine Hat	4	5.8
Calgary	43	3.2
Red Deer	12	11.0
Edmonton	66	6.8
Fort McMurray	1	1.2
Grande Prairie	1	1.3

- The municipalities of Calgary and Edmonton continue to have the highest number of these deaths. However, in 2016 the municipality of Red Deer had the highest rate of apparent drug overdoses related to an opioid other than fentanyl per 100,000.

Figure 4: Rate per 100,000 and counts of apparent opioid (including fentanyl) drug overdose deaths, in the cities of Edmonton and Calgary, based on **place of overdose**, by LGA. Jan. 1, 2016 to Dec. 31, 2016.



Legend

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

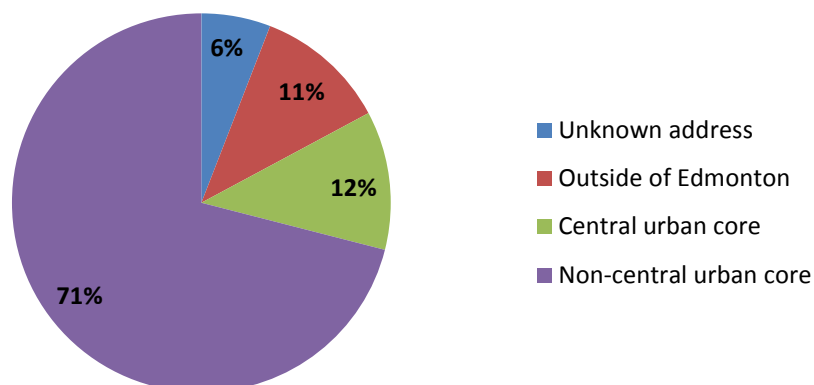
- Significantly lower
- Lower
- Average
- Higher
- Significantly higher
- No deaths

- Within the City of Edmonton, the LGAs with higher or significantly higher than average rates of opioid (including fentanyl) drug overdose deaths were Eastwood, Jasper Place, and Millwoods (South & East). However, 64 per cent of the total deaths occurred in LGAs outside of these areas.
- Within the City of Calgary, the LGAs with higher or significantly higher than average rates of opioid (including fentanyl) drug overdose deaths were West Bow, Centre, East, and Upper North East. However, 54 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 58 per cent of these deaths in Edmonton and 70 per cent within Calgary.

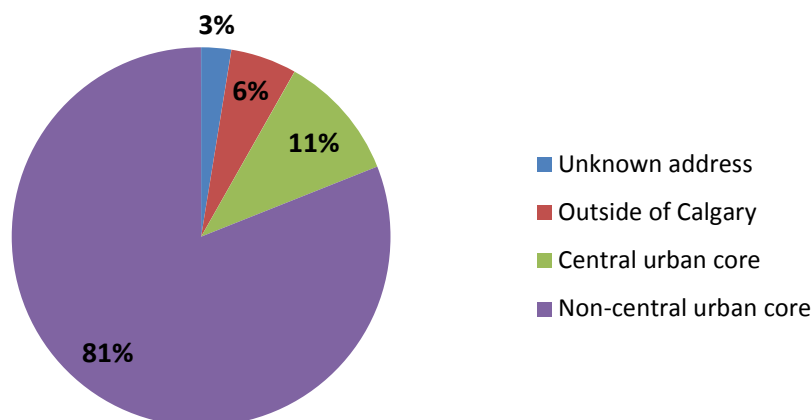
Note: Place of death was used as the place of the overdose, except in instances where the place of death occurred in a hospital. In instances where the death occurred in a hospital, if EMS had responded to the individual for an opioid related event within 24 hours of the death, the location of the EMS response was used as place of the overdose. If no EMS visit occurred within 24 hours, the hospital death was excluded. In Edmonton, a hospital was the place of death in 11 per cent of deaths, and 18 per cent in Calgary.

Figure 5: 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, 2016 to Dec. 31, 2016.

Edmonton: 169 opioid/fentanyl deaths



Calgary: 195 opioid/fentanyl deaths



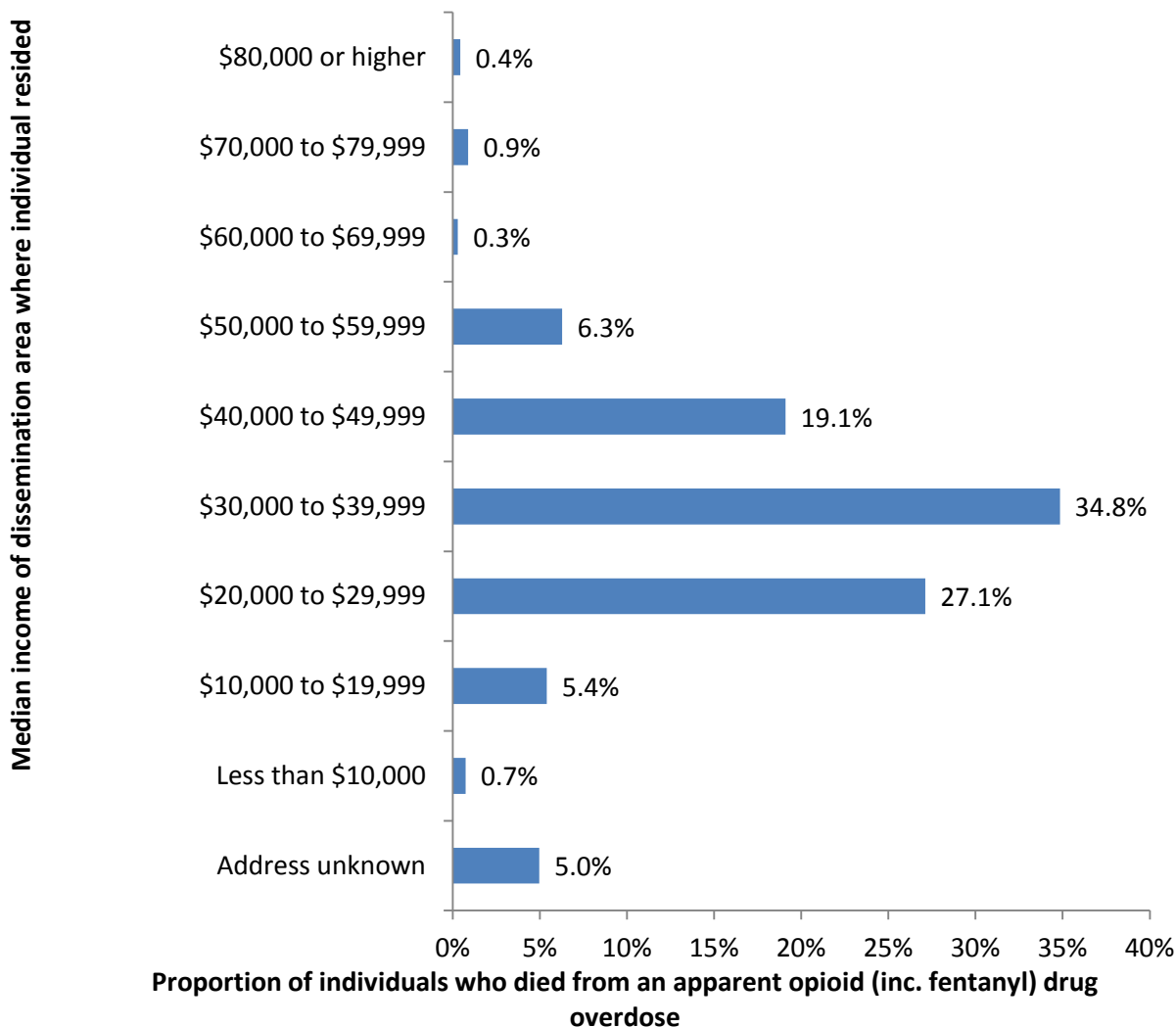
- Within Edmonton, 71 per cent of individuals who died of an apparent opioid (including fentanyl) drug overdose death lived in the non-central urban core, and 81 per cent in Calgary.

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 6: Median individual income* of dissemination area where individuals who died of an apparent opioid (including fentanyl) drug overdose death resided. Jan. 1, 2016 to Dec. 31, 2016.

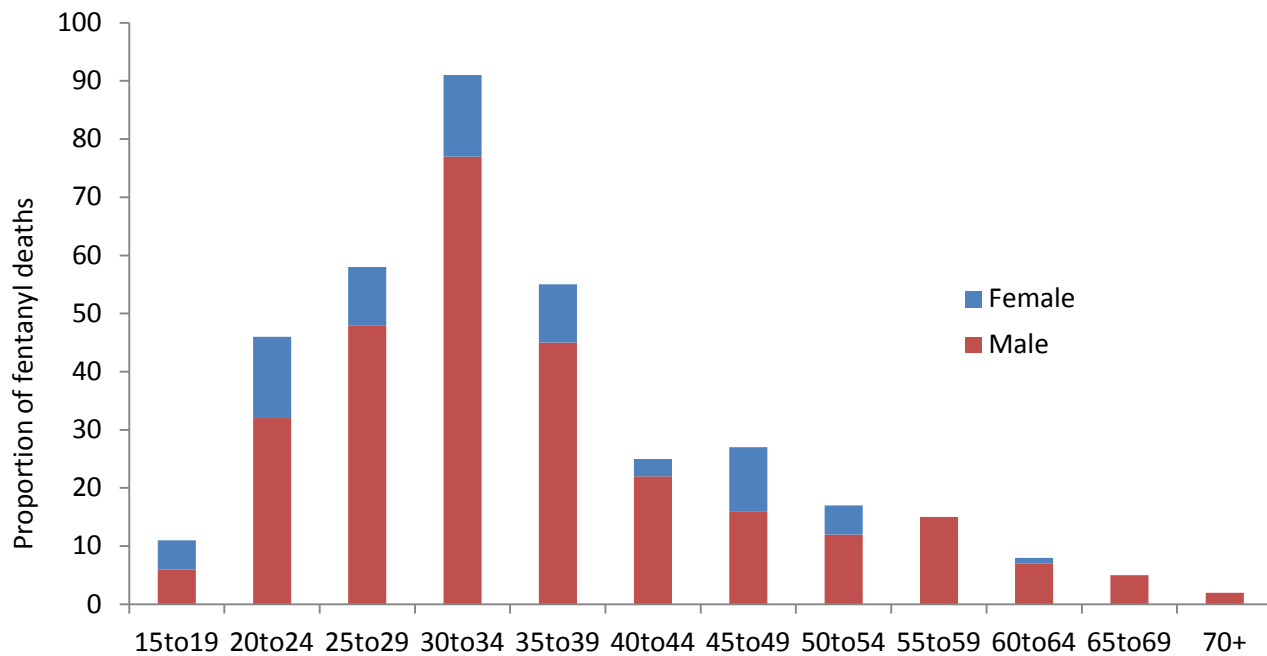


- The highest proportion (35 per cent) of individuals who died of an opioid (including fentanyl) drug overdose death resided in a dissemination area with a median individual income* ranging from \$30,000 to \$39,000.
- Almost all of these deaths occurred among individuals who lived in a dissemination area with a median individual income* of less than \$60,000 a year.

* Based on total income before tax in 2010 of population aged 15 years and over in dissemination area.

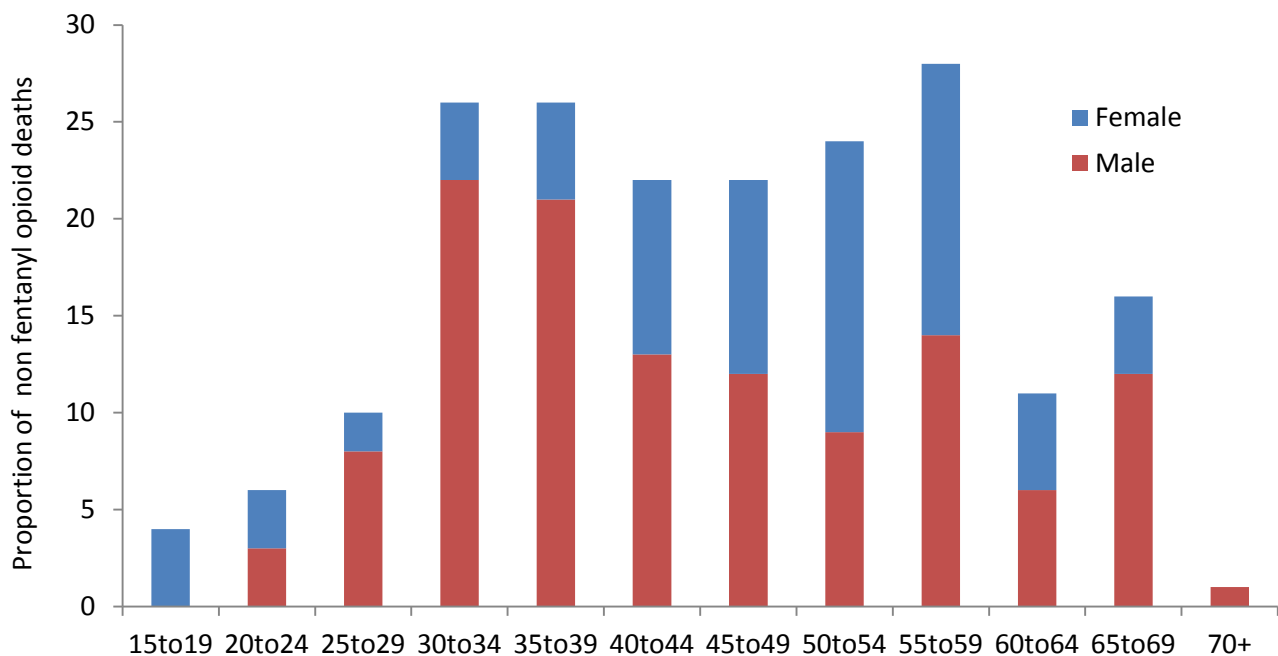
Note: If the individual did not have an address listed or had no fixed address at the time of death, the most recent postal code listed on the Alberta Health Care Insurance Plan population (AHCIP) registry file was used to determine most recent place of residence if the individual was matched to the AHCIP. The individual's postal code was then matched to the 2011 National Household Survey (NHS) to determine the median individual income of the dissemination area. A dissemination area (DA) is a small, relatively stable geographic unit composed of one or more adjacent dissemination blocks. It is the smallest standard geographic area for which all census data are disseminated. DAs cover all the territory of Canada.

Figure 7: Deaths due to an apparent drug overdose related to **fentanyl**, by sex and age. Jan. 1, 2016 to Dec. 31, 2016.



- 80 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 8: Deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by sex and age, Jan. 1, 2016 to Dec. 31, 2016.



- 62 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 30-34, and among females, 50-54.

Figure 9: Proportion of deaths due to an apparent drug overdose related to **fentanyl**, by medical history within the 30 days before the date of death. Jan. 1, 2016 to Mar. 31, 2017.

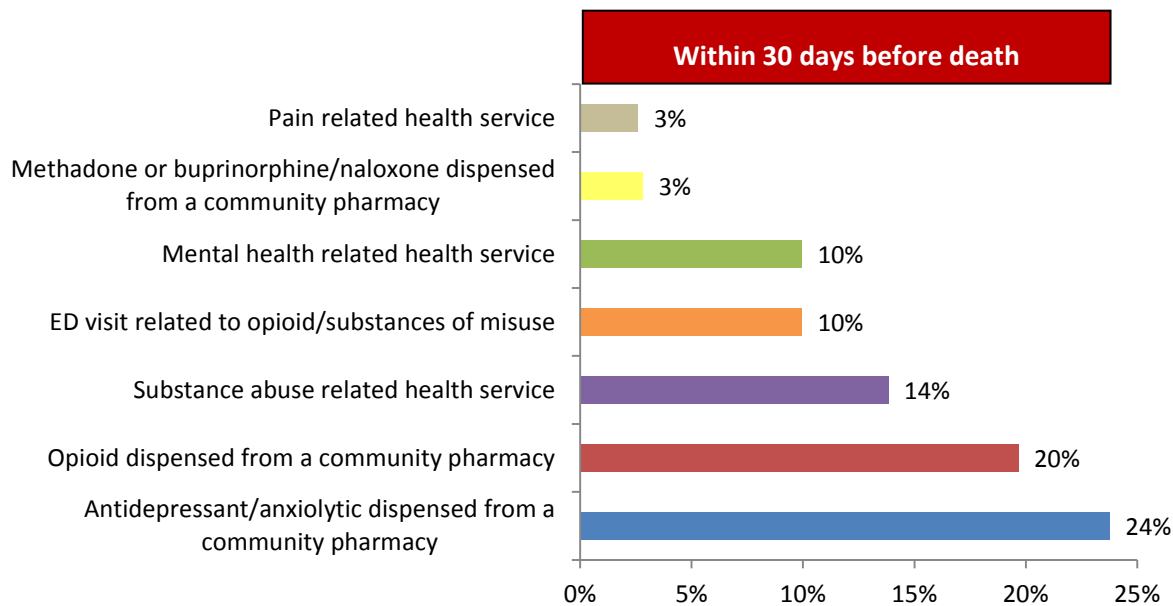
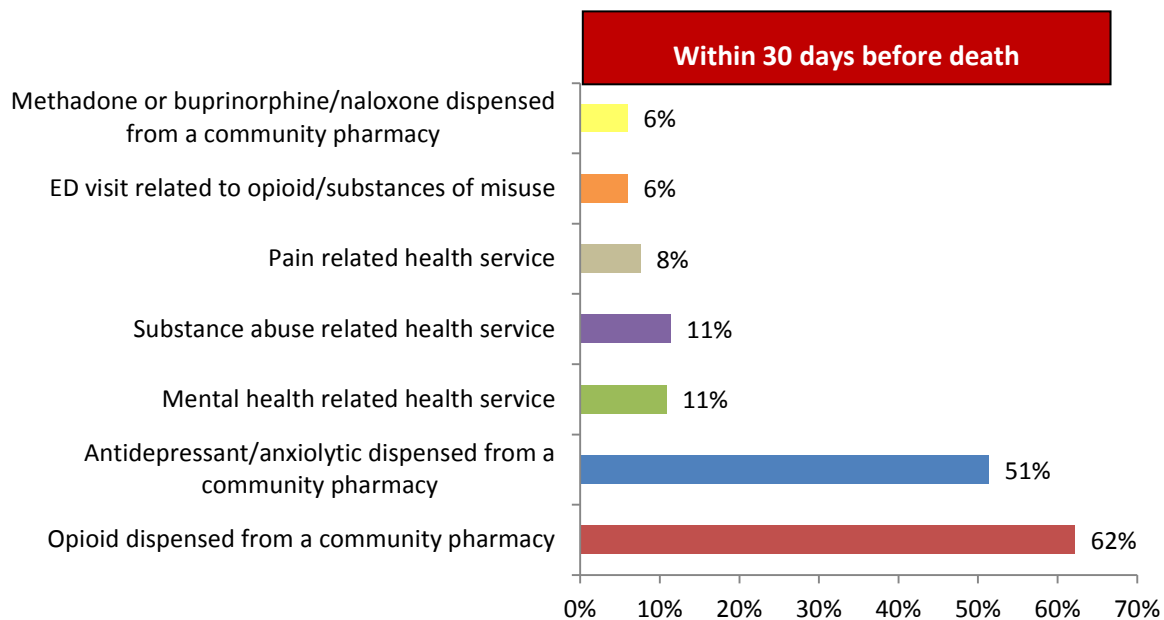


Figure 10: Proportion of deaths due to an apparent drug overdose related to an **opioid other than fentanyl**, by medical history within the 30 days before the date of death, Jan. 1, 2016 to Dec. 31, 2016.



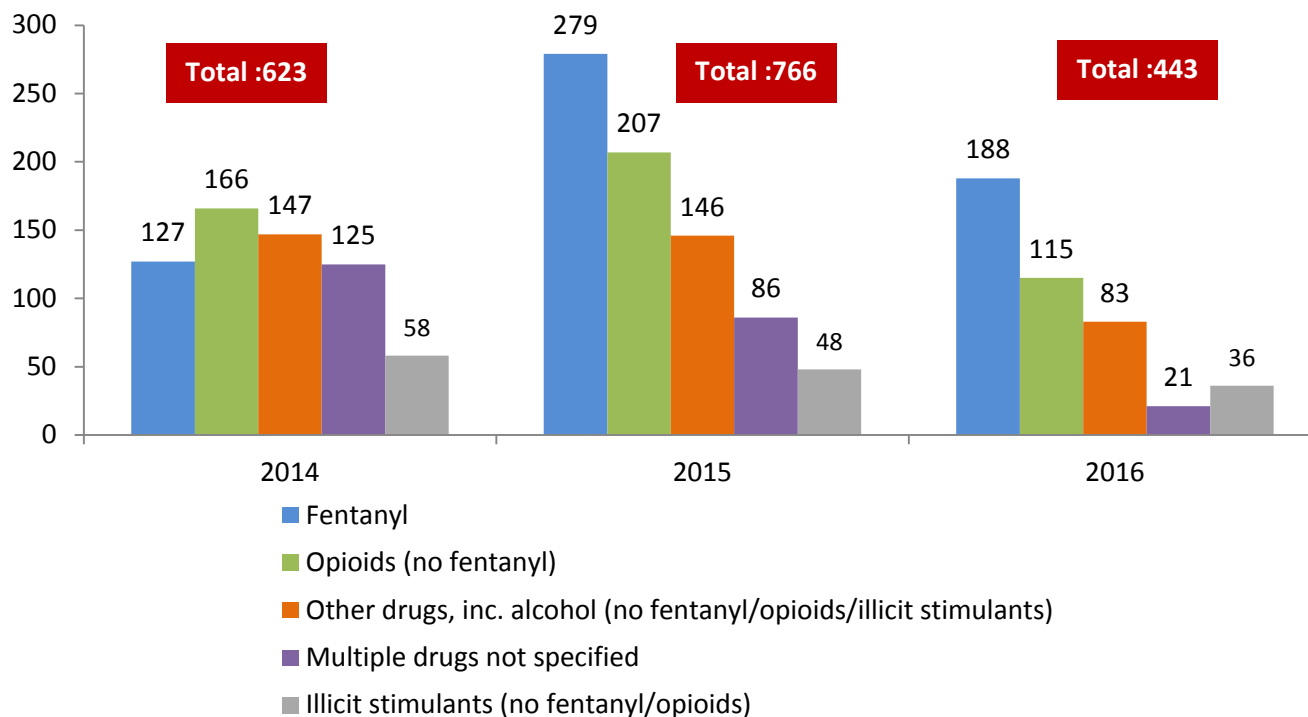
- Among deaths due to an apparent drug overdose related to an opioid (including fentanyl) the most frequent health care utilization within the 30 days before the individual's date of death was a dispensation for an opioid, antidepressant, or anxiolytic.
- Significantly more individuals who died from an apparent drug overdose related to an opioid other than fentanyl had an opioid or an antidepressant/anxiolytic 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: 96% 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

Figure 11: Number of confirmed drug overdose deaths in Alberta by drug causing overdose and year. 2014 to 2016.

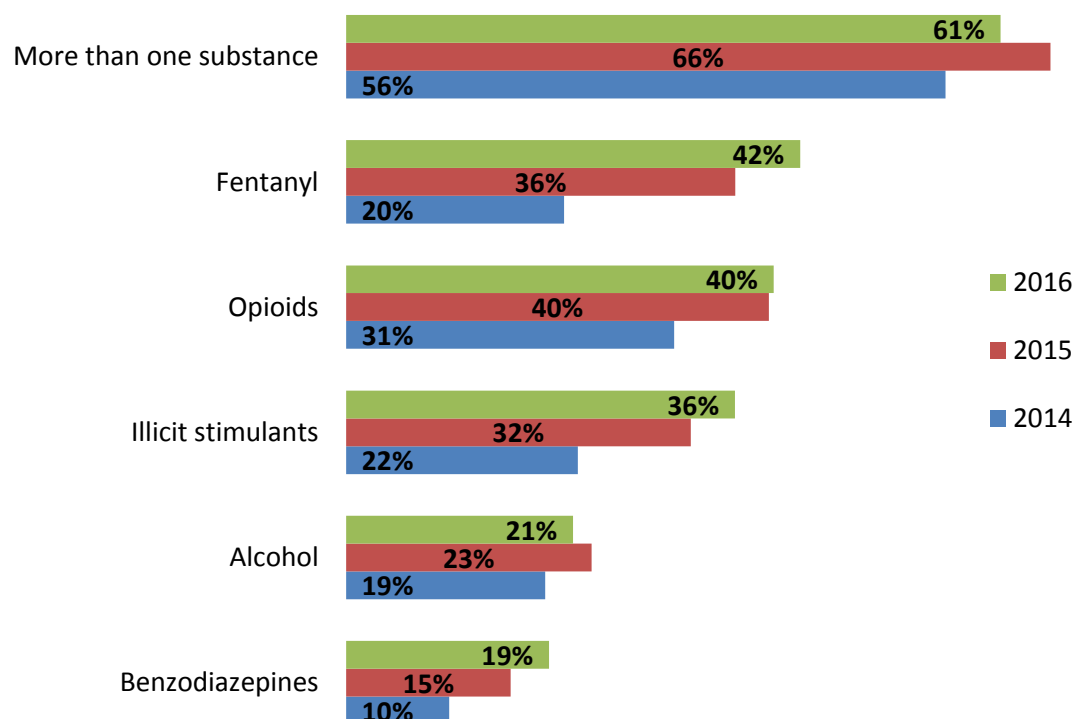
Many drug overdose deaths in 2016 are currently under review by the Office of the Chief Medical Examiner and have not been confirmed. Therefore, upon completion of all cases, the final number of total drug overdose deaths in 2016 will be higher than the current number. The numbers below are the confirmed cases as of March 31, 2017.



- From 2014 to 2015, the total number of drug overdose deaths increased by 23 per cent.
- As a proportion of all drug overdose deaths, the number of opioid drug overdose deaths, where fentanyl is not involved, has remained consistent over the last three years (average of 27 per cent of all drug overdose deaths from 2014 to 2016).
- However, the number of fentanyl drug overdose deaths, as a proportion of all drug overdose deaths, has increased from 20 per cent in 2014, to 36 per cent in 2015, and to 42 per cent in 2016.
- Together, fentanyl and opioid drug overdose deaths in 2016 made up 68 per cent of all drug overdose deaths.
- The proportion of multi-drug overdose deaths where the drugs causing death were not specified has decreased from 20 per cent in 2014 to 5 per cent in 2016. This likely reflects a change in practice by the Office of the Chief Medical Examiner, where specific drugs causing death are now more commonly listed on the death certificate.

Note: The above categories are mutually exclusive groups. On the death certificate, if fentanyl was listed then it was counted as “Fentanyl”. If an opioid was listed, but not fentanyl, then it was counted as “Opioids”. If cocaine or methamphetamine was listed, without fentanyl or an opioid, it was counted as “Illicit stimulants”.

Figure 12: Most frequently listed substances on death certificate of confirmed drug overdose deaths. 2014 to 2016.

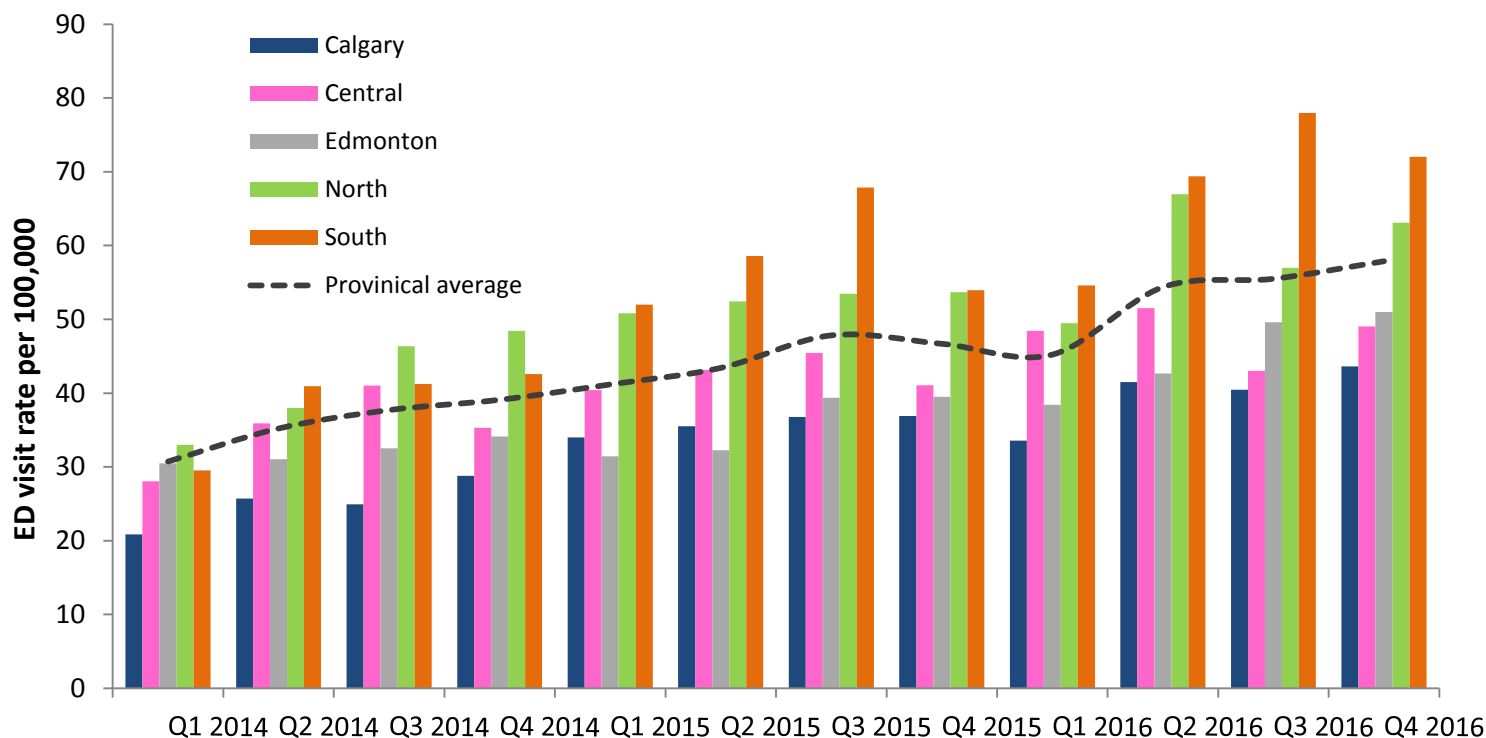


- The most frequently listed substances on the death certificate of those who died of a drug overdose in 2016 were: fentanyl (42 per cent), opioids (40 per cent), illicit stimulants (36 per cent), alcohol (21 per cent), and benzodiazepines (19 per cent). 61 per cent of certified deaths had more than one substance listed. 11 per cent (49 drug overdose deaths) had both fentanyl and another type of opioid listed.
- Listing of fentanyl on a drug overdose death certificate has increased the most significantly since 2014 (increase of 20 to 42 per cent), followed by illicit stimulants (22 to 36 per cent), benzodiazepines (10 to 19 per cent), and opioids (31 per cent to 40 per cent).
- Among the 2016 confirmed fentanyl drug overdose deaths, 65 per cent had additional substances listed on the death certificate, the most frequent being illicit stimulants (50 per cent), followed by other opioids (26 per cent).
- Among the 2016 confirmed non-fentanyl opioid drug overdose deaths, 70 per cent had additional substances listed on the death certificate, the most frequent being benzodiazepines (37 per cent), followed by illicit stimulants (20 per cent).

Note: A substance listed on the death certificate means the substance was implicated in causing death. Other drugs may have been used by an individual and were detected, but were not directly implicated in causing death. This is not reflected above.

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 population. Jan. 1, 2014 to Dec. 31, 2016.

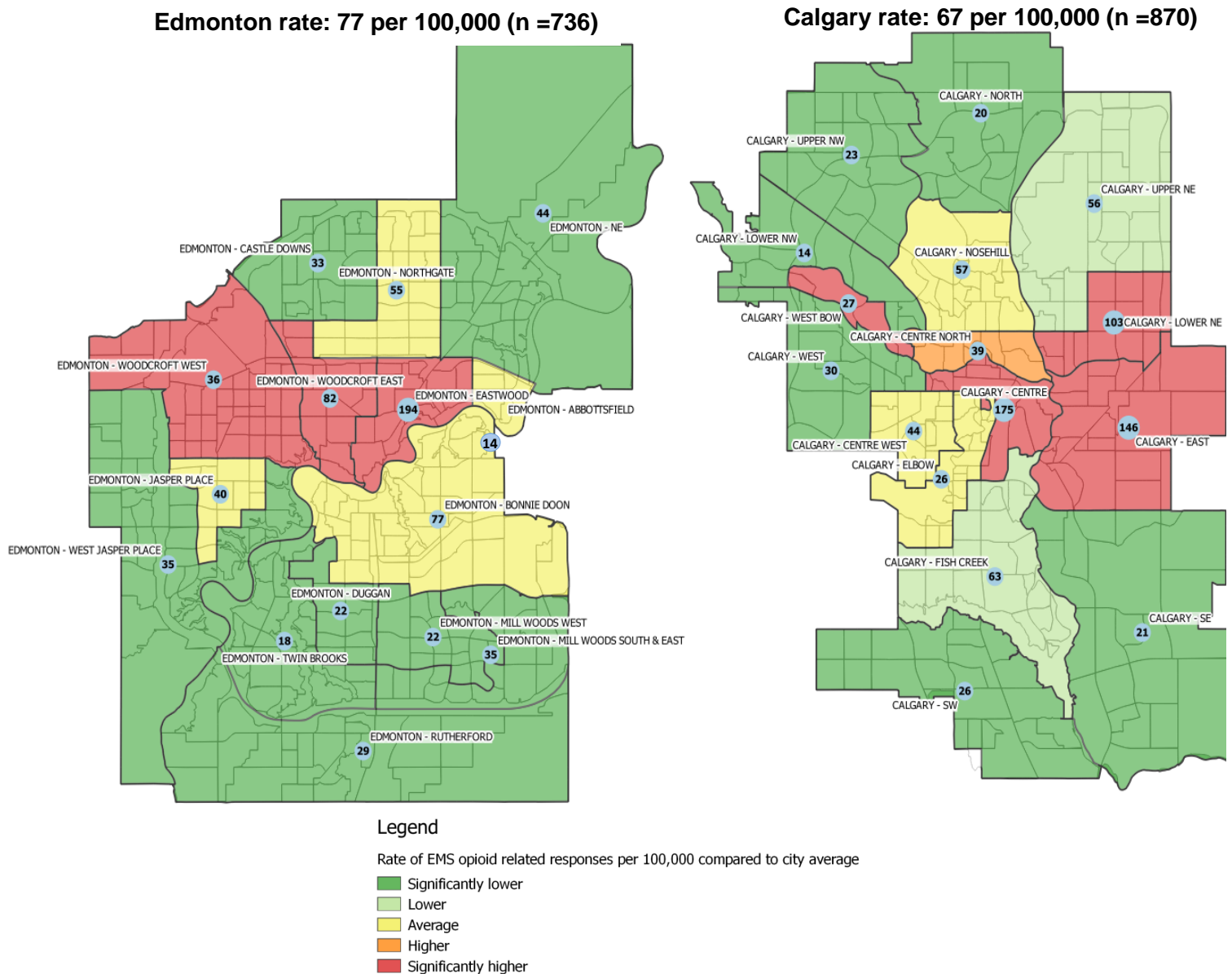


- The *rate* of emergency department visits related to opioid use and substance misuse increased by an average of six per cent on a quarterly basis from 2014–2016, and increased by 23 per cent from the first quarter in 2016 to the fourth quarter in 2016.
- While there has been a decrease of eight per cent in the *rate* of emergency department visits related to opioid use and substance misuse in the South Zone, the rate is still the highest on average; approximately 24 per cent higher than the provincial average.
- 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 29 and 27 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 14: Rate per 100,000 and count of Emergency Medical Services (EMS) responses to opioid related events, by LGA. Jan. 1, 2016 to Dec. 31, 2016.

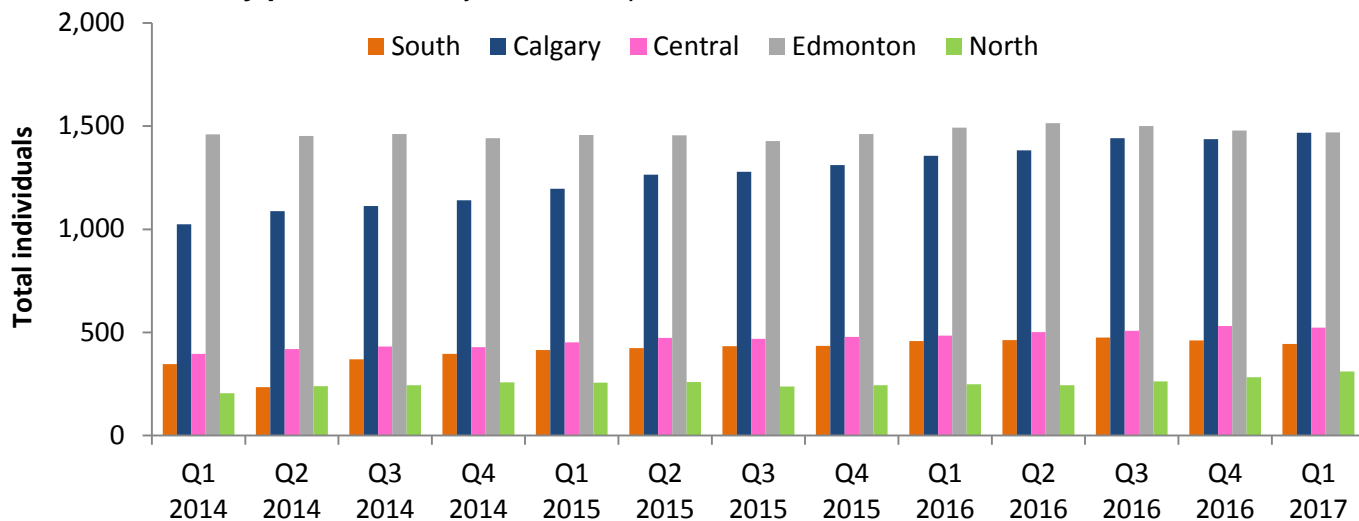


- In 2016, the majority of EMS responses in Alberta related to opioid events occurred in the City of Calgary and the City of Edmonton (approximately 80 per cent).
- Of the EMS opioid related events that occurred in Edmonton (736), the highest count was in the Eastwood area (194). The LGAs with significantly higher rates of EMS related events compared to the city rate were Eastwood, and Woodcroft East & West.
- Of the EMS opioid related events that occurred in Calgary (870), the highest count was in the Centre area (175). The LGAs with significantly higher rates of EMS related events compared to the city rate were West Bow, Centre, Lower NE, and 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.

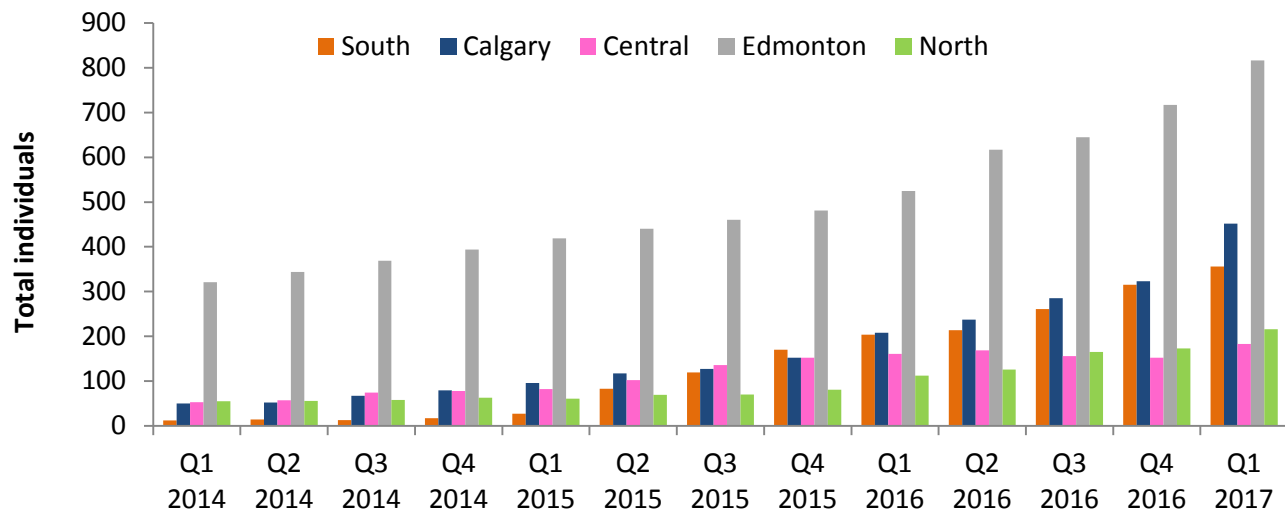
Methadone & buprenorphine/naloxone dispensing from community pharmacies

Figure 15: Total unique individuals dispensed methadone indicated for opioid dependence from **community pharmacies**, by Zone and quarter. Jan. 1, 2014 to Mar. 31, 2017.



- In Alberta, from Jan. 1, 2014 to Mar. 31, 2017 there was an increase of 23 per cent in the number of individuals who were dispensed methadone indicated for opioid dependence from community pharmacies, from 3,431 to 4,216.

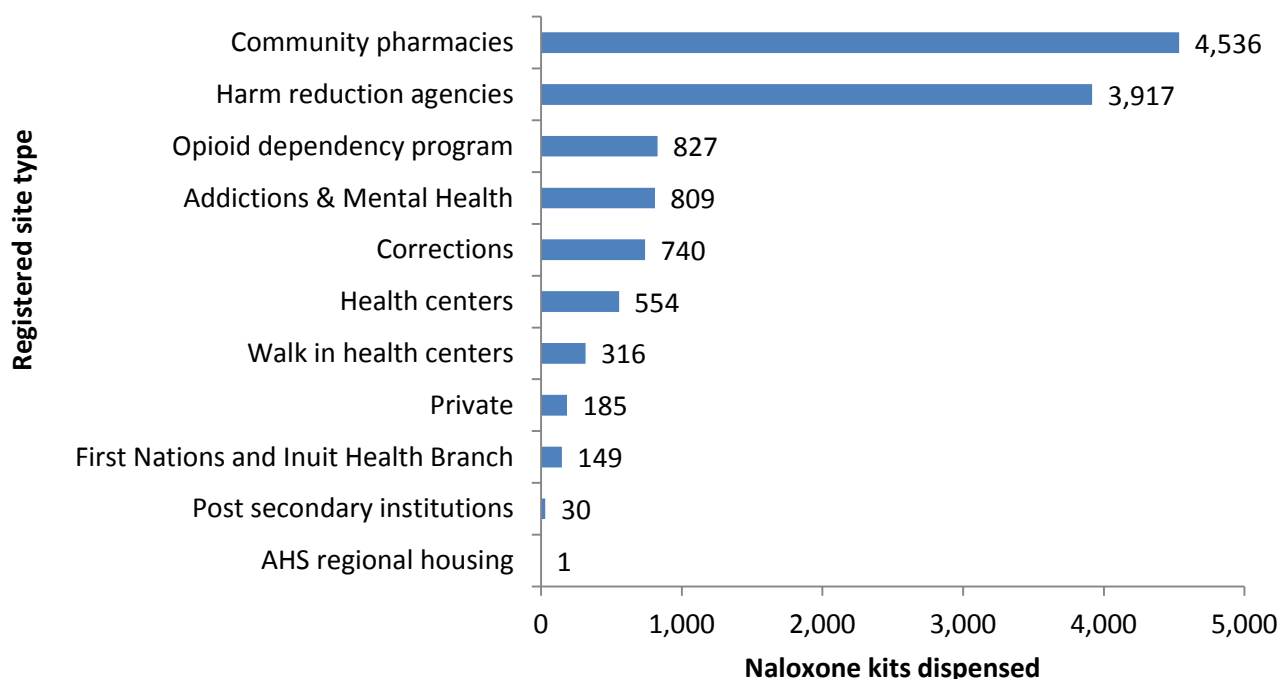
Figure 16: Total unique individuals dispensed buprenorphine/naloxone indicated for opioid dependence from **community pharmacies**, by Zone and quarter. Jan. 1, 2014 to Mar. 31, 2017.



- In Alberta, from Jan. 1, 2014 to Mar. 31, 2017 there was an increase of 312 per cent in the number of individuals who were dispensed buprenorphine/naloxone indicated for opioid dependence from community pharmacies, from 491 to 2,023.
- Across all Zones, there was an increase of more than 100 per cent. The most significant increase was seen in the South Zone (2,867 per cent) and the Calgary Zone (804 per cent). As of the most recent quarter, the Edmonton Zone has the highest proportion of these individuals in the province (40 per cent).

Naloxone kit dispensing and distribution

Figure 17: Naloxone kits dispensed and distributed by registered site type, Jan. 1, 2016 to Mar. 31, 2017.



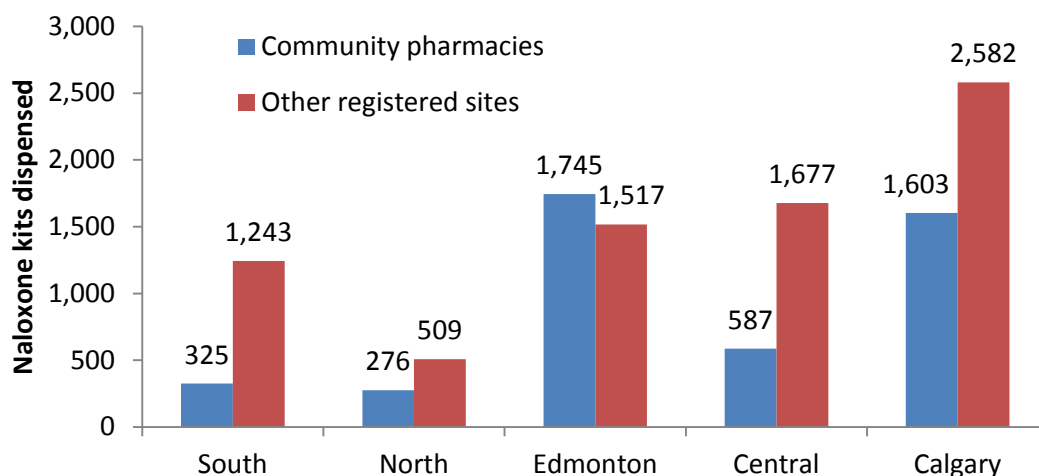
- As of March 31, 2017, 15,314 naloxone kits have been dispensed in Alberta, and 1,130 reversals have been self-reported.
- The highest volume of naloxone kits have been dispensed from Community Pharmacies (38 per cent), followed by harm reduction agencies (35 per cent).

Table 7: Number of sites registered to distribute naloxone kits, Jan. 1, 2016 to Mar. 31, 2017.

	South	Calgary	Central	Edmonton	North	Total
Community pharmacies	79	292	97	260	86	814
Addictions & Mental Health	1	12	6	9	8	36
AHS regional housing		3		1		4
Community Centre					5	5
Corrections	2	3	1	3	1	10
First Nations and Inuit Health Branch	1	1	4		5	11
Harm reduction agencies	2	1	1	2	2	8
Health centers	5	16	9	13	11	54
Walk in health centers	3	11	13	6	23	56
Opioid dependency program	4	2		4	2	12
Post-secondary institutions		2		2	1	5
Private	7	13	11	15	5	51
Medical First Response	4	4	5	6	10	29
Total	108	360	147	321	159	1,095

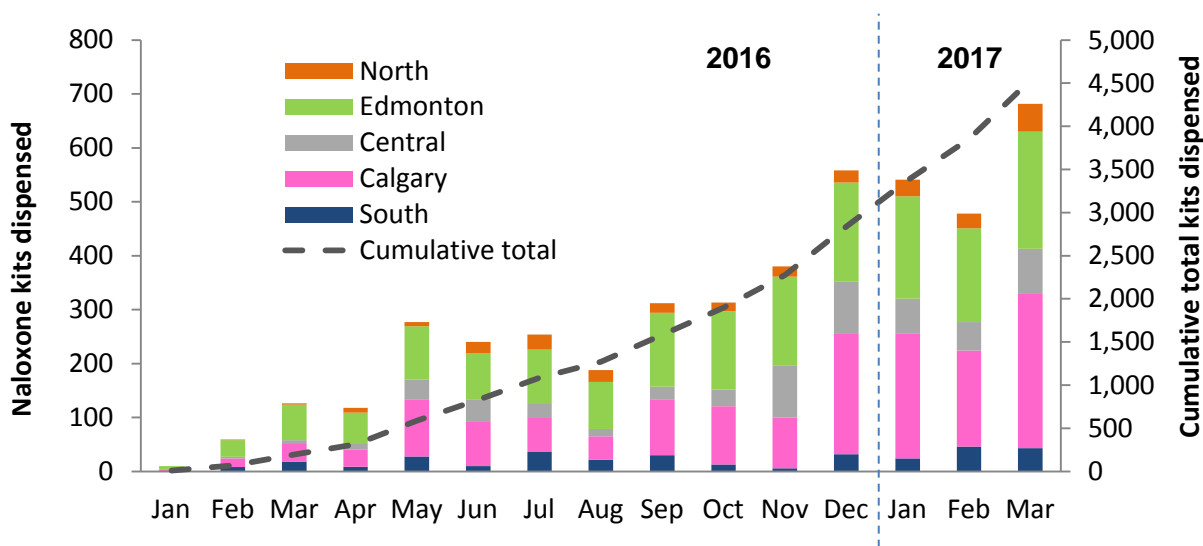
Note: Naloxone kits dispensing data from community pharmacies comes from the Pharmaceutical Information Network. All other kit distribution data comes from the AHS Take Home Naloxone Kit Program.

Figure 18: Naloxone kits dispensed/distributed by **community pharmacies and other registered sites**, by Zone. Jan. 1, 2016 to Mar. 31, 2017.



- Throughout the province, with the exception of the Edmonton Zone, sites other than community pharmacies are dispensing more naloxone kits than community pharmacies.
- The Calgary Zone dispensed the highest total volume of kits in the province (35 per cent).

Figure 19: Naloxone kits dispensed by **community pharmacies**, by zone and month. Jan. 1, 2016 to Mar. 31, 2017.



- The Edmonton Zone has had the largest volume of Naloxone kits dispensed from community pharmacies, with an average of 116 kits per month. The Calgary Zone dispensed the next highest volume with an average of 107 kits per month. Across Alberta, community pharmacies dispensed an average of 302 kits per month.
- The median age of an individual receiving a naloxone kit dispensed from a community pharmacy was 35 years, and 57 per cent were male.
- Since Jan. 1, 2016, 4,536 naloxone kits have been dispensed from community pharmacies in Alberta. There were 3,002 unique individuals (of the individuals that submitted a primary healthcare number) who had a naloxone kit dispensed. Of those, 830 had more than one kit dispensed.

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. Alberta Ambulatory Care database (ACCS)
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
- **Illicit stimulants:** cocaine or methamphetamine
- **Other drugs:** includes, but not limited to ethanol (alcohol), benzodiazepines, antidepressants, antipsychotics, acetaminophen

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 Mar. 31, 2017. PIN records can change due to data reconciliations, which may affect results. Results are more stable with older data, that is, data in 2015 will experience fewer changes than data in 2016.

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