

Alberta Opioid Response Surveillance Report

First Nations People in Alberta

December 2019



The Alberta First Nations
Information Governance Centre

Alberta 

Health, Government of Alberta

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Alberta Opioid Response Surveillance Report: First Nations People in Alberta

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Highlights

- Across all measured indicators related to opioid use, First Nations people in Alberta have disproportionately higher rates compared to their Non-First Nation counterparts. First Nations people represent approximately six per cent of the Alberta population, yet they represent 13 per cent of all opioid poisoning deaths from 2016 to 2018.
- While the rate of opioid poisoning deaths per 100,000 population continued to increase among both First Nations people and Non-First Nations people from 2016 to 2018, the rate of increase seems to have slowed down.
- The role of pharmaceutical opioids and drugs such as codeine and benzodiazepines in causing a fatal drug poisoning among First Nations people has decreased since 2016, while non-pharmaceutical drugs, such as fentanyl, carfentanil, and methamphetamines now play a larger role in fatal drug poisonings.
- The South Zone, the City of Lethbridge, the Calgary Zone, and the City of Calgary represent the areas of the province where rates of all measured indicators related to opioid use are highest among First Nations people.

Key Points

Accidental Opioid Poisoning Deaths

- Rates of apparent accidental opioid drug poisoning deaths per 100,000 population were on average three to four times higher among First Nations people compared to Non-First Nations people from January 1, 2016 to December 31, 2018.
- First Nations people represented 13 per cent of all apparent accidental opioid poisoning deaths in Alberta from January 1, 2016 to December 31, 2018.
- From January 1, 2016 to December 31, 2018, the proportion of opioid drug poisonings involving fentanyl increased to over 80 per cent among First Nations people compared to 44 per cent in 2016.
- In 2018, among First Nations people, the rate of opioid poisoning deaths per 100,000 population was highest in the Calgary Zone, followed by the South Zone, which saw the largest rate increase from 2016 to 2018.
- Among First Nations people, males and females were nearly equally represented among apparent accidental opioid poisoning deaths from January 1, 2016 to December 31, 2018. In comparison, among Non-First Nations people, males represented a much higher proportion of apparent accidental opioid poisoning deaths.

All Drug and Alcohol Poisoning Deaths (accidental and suicides)

- In 2018, among First Nations and Non-First Nations people, accidental fentanyl poisoning deaths represented the highest proportion of all drug and alcohol poisoning deaths.
- Among First Nations people, carfentanil, methamphetamine, and fentanyl saw the largest increase as a substance causing drug poisoning death from 2016 to 2018. This coincided with a decrease in pharmaceutical substances (i.e. codeine, benzodiazepines) causing poisoning death.
- Similarly, among Non-First Nations people, carfentanil, fentanyl and methamphetamine saw the largest increase as substances causing drug poisoning death from 2016 to 2018.

Health Care Utilization Related to Opioid Use

- From January 1, 2016 to December 31, 2018, rates of emergency department (ED) visits and hospitalizations related to opioids and other drugs, opioid dispensing, and emergency medical responses (EMS) to opioid events per 100,000 population were all higher among First Nations people compared to Non-First Nations people.
- From January 1, 2016 to December 31, 2018, proportionally, First Nations females had higher representation among ED visits and hospitalizations related to opioids and other drugs compared to their Non-First Nations female counterparts.
- In 2018, the rate of ED visits and hospitalizations related to opioids and other drugs per 100,000 population was highest among First Nations people residing in the South Zone, followed by the Calgary Zone.
- In 2018, among Non-First Nations people, the rate of ED visits related to opioids and other drugs per 100,000 population was highest in the Calgary Zone, while the rate of hospitalizations related to opioids and other drugs among First Nations people was highest in the South and Central Zone.
- In 2018, among First Nations people, the rate of EMS responses to opioid related events was highest in the city of Lethbridge. Among Non-First Nations people, this rate was highest in Red Deer.

Opioid and Opioid Agonist Therapy (OAT) Dispensing from Community Pharmacies

- From 2016 to 2018, the rate of opioid dispensing (excluding OAT) from community pharmacies decreased among both First Nations people (13 per cent decrease) and Non-First Nations people (11 per cent decrease).
- Among First Nations and Non-First Nations people, the number of individuals dispensed OAT continues to increase. The rate of unique individuals dispensed buprenorphine/naloxone for OAT per 1,000 increased by over 100 per cent from 2016 to 2018 among both First Nations and Non-First Nations people.
- In 2018, the rate of unique individuals dispensed buprenorphine/naloxone for OAT among First Nations people was almost six times higher than Non-First Nations people; for methadone, it was just over three times higher.
- In 2018, among First Nations people, the rate of dispensing of methadone and buprenorphine/naloxone was highest in the South Zone. Among Non-First Nations people, the rate of dispensing of methadone was highest in the South Zone, while for buprenorphine/naloxone the rate was highest in the Edmonton Zone.

Disclaimer

This surveillance report presents emergency department visits, hospitalizations, drug dispensing from community pharmacies, emergency medical services, and mortality data associated with opioids and other drugs in Alberta. First Nations people living in Alberta, and non-First Nations people are included in this report.

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

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

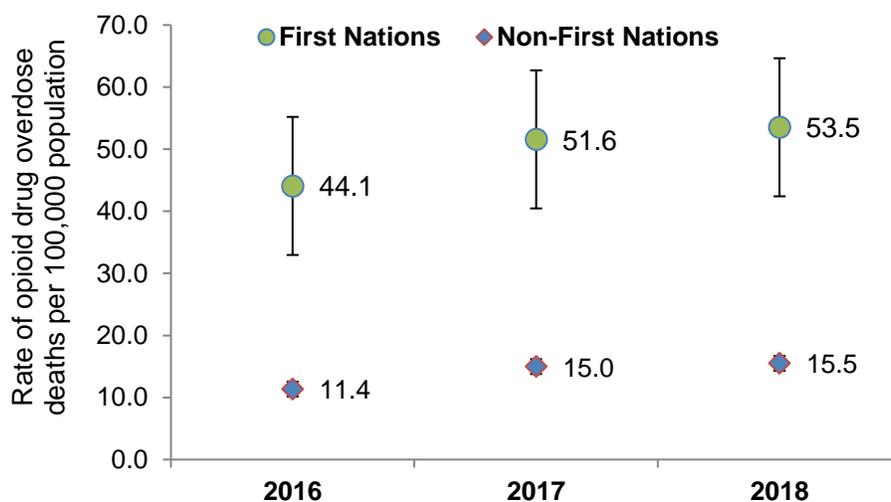
Local Geographic Areas (LGAs) refers to 132 geographic areas created by Alberta Health and Alberta Health Services to support local health service planning, monitoring, public health surveillance, and deep dive analytics.

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

Mortality Data

Apparent Accidental Opioid Poisoning Deaths (fentanyl & non-fentanyl opioids)

Figure 1: Rate of apparent accidental opioid poisoning deaths per 100,000 population by First Nations status and year. January 1, 2016 to December 31, 2018.



- In 2016, 2017, and 2018 the rates of apparent accidental opioid poisoning deaths per 100,000 population among individuals identifying as First Nations were approximately 3 to 4 times higher than Non-First Nations people.
- Among First Nations people, from 2016 to 2017, the rate of apparent accidental opioid poisoning deaths per 100,000 population increased by 17 per cent, but from 2017 to 2018, the rate only increased by 4 per cent. Among Non-First Nations people, from 2016 to 2017, the rate of apparent accidental opioid poisoning deaths per 100,000 population increased by 32 per cent, but from 2017 to 2018, the rate only increased by 3 per cent.

Table 1: Count and percentage of opioid poisoning deaths by First Nations status and year. January 1, 2016 to December 31, 2018.

Year	First Nations		Non-First Nations		Total
	Count	Percent of Annual Deaths	Count	Percent of Annual Death	
2016	72	14%	458	86%	530
2017	85	12%	611	88%	696
2018	89	12%	642	88%	731
Total	246	13%	1,711	87%	1,957

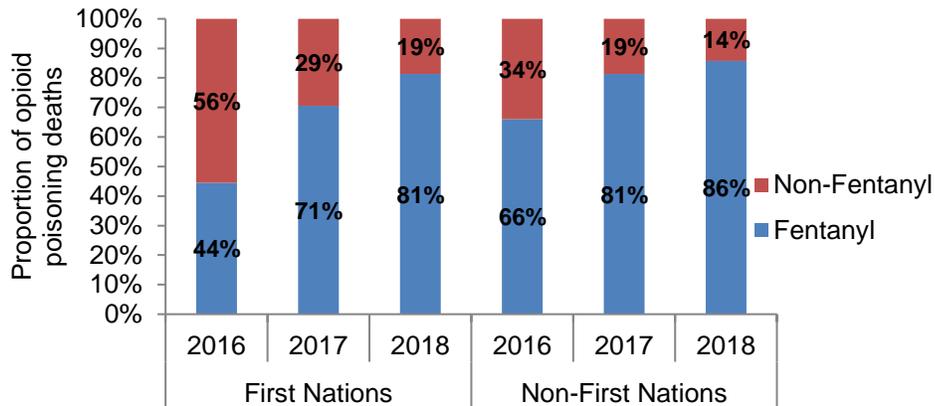
Table 2: Count and percentage of opioid poisoning deaths by First Nations status and municipality. January 1, 2016 to December 31, 2018.

	First Nations		Non-First Nations	
	Count	Proportion of FN deaths	Count	Proportion of Non-FN deaths
Calgary	81	33%	681	40%
Edmonton	65	26%	455	27%
Red Deer	6	2%	103	6%
Fort McMurray	4	2%	32	2%
Grande Prairie	7	3%	58	3%
Lethbridge	16	7%	43	3%
Medicine Hat	3	1%	28	2%
Other AB locations, by Zone				
North Zone	17	7%	45	3%
Edmonton Zone	8	3%	84	5%
Central Zone	9	4%	92	5%
Calgary Zone	21	8%	64	4%
South Zone	9	4%	26	2%
Total	246	100%	1,711	100%

- Among First Nations and Non-First Nations people, the majority of opioid poisoning deaths occurred in the seven largest cities in Alberta (74 per cent among First Nations people and 82 per cent among Non-First Nations). The largest populated centers (Calgary and Edmonton) accounted for 59 per cent of all deaths.
- Compared to non-First Nations people, a higher proportion of opioid poisoning deaths among First Nations people occurred in Lethbridge, and other Alberta locations (i.e. outside the seven largest AB cities) within the North, Calgary, and South Zone.

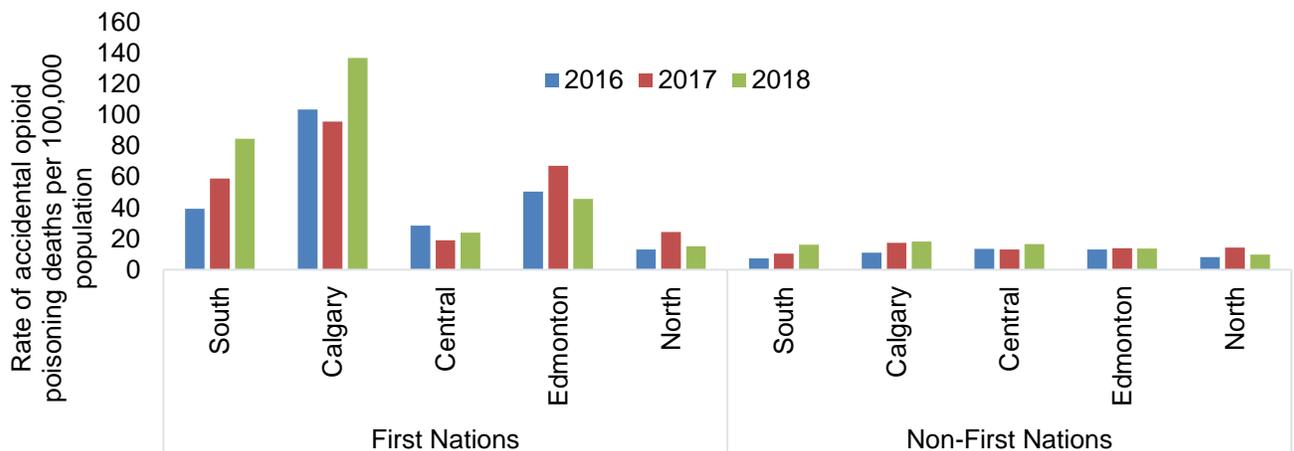
Note: Individuals that could not be matched to a Unique Life Time Identifier (ULI) were excluded, as their First Nation status could not be verified.

Figure 2: Proportion of fentanyl vs. non-fentanyl opioid apparent accidental poisoning deaths, by First Nations status and year. January 1, 2016 to December 31, 2018.



- The proportion of apparent opioid poisoning deaths related to fentanyl has been increasing relative to non-fentanyl opioid poisoning deaths among both First Nations and Non-First Nations people.
- While the proportion of fentanyl related poisoning deaths was 22 per cent lower among First Nations people in 2016 when compared to Non-First Nations people, by 2018 the proportional difference decreased to 5 per cent (81 per cent vs. 86 per cent).

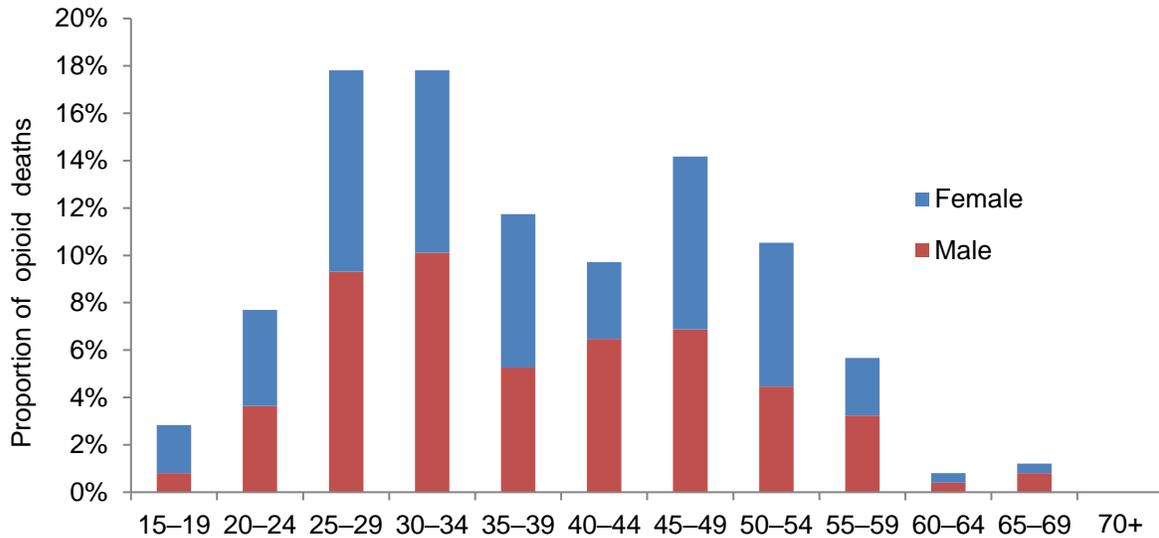
Figure 3: Rate of apparent accidental opioid poisoning deaths per 100,000 population, by First Nations status and Zone. January 1, 2016 to Dec. 31, 2018.



- In 2018, the rate of apparent accidental opioid poisoning deaths per 100,000 population among individuals identifying as First Nation was highest in the Calgary Zone followed by the South Zone. From 2016 to 2018, the rate of apparent accidental opioid poisoning deaths per 100,000 population among First Nations people in the South Zone saw the largest increase (114 per cent).
- While the rates of apparent accidental opioid poisoning deaths per 100,000 population between zones was more consistent among Non-First Nations people, in 2018 the rate was highest in the Calgary Zone. From 2016 to 2018, the rate of apparent accidental opioid poisoning deaths per 100,000 population among Non-First Nations people in the South Zone also saw the largest increase (119 per cent).

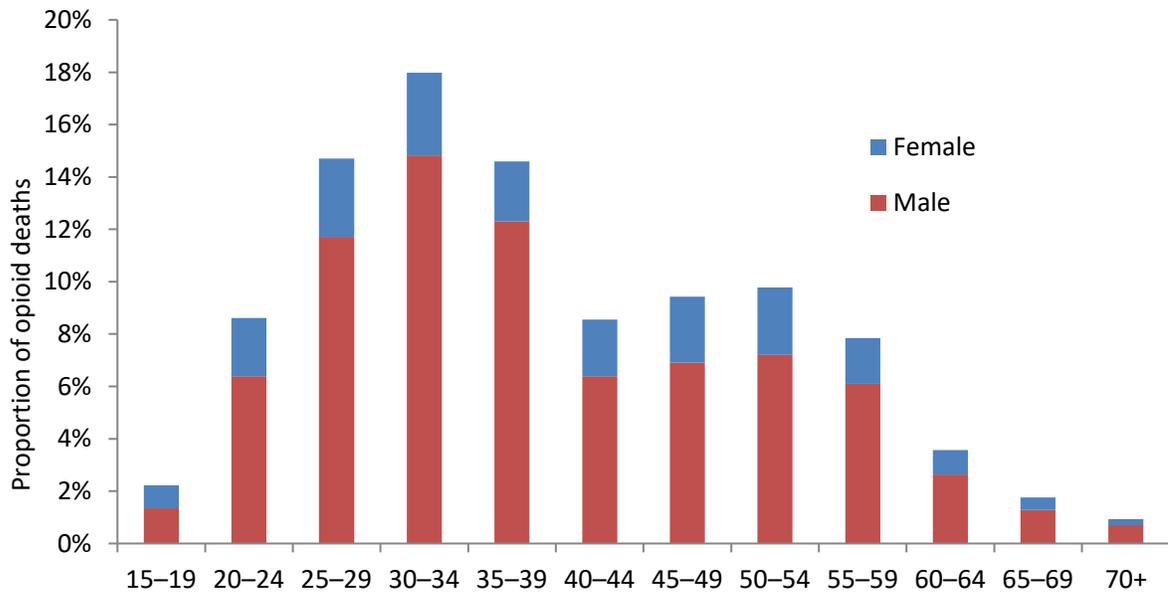
Demographics and Recent Medical History of Apparent Accidental Opioid Poisoning Decedents

Figure 4: Deaths due to apparent accidental opioid poisoning among First Nations people, by sex and age. January 1, 2016 to December 31, 2018.



- Among First Nations people, the proportion of deaths occurring among males (51 per cent) and females (49 per cent) was nearly evenly split. Among females, there were more deaths among individuals aged 50-54 years, and among males, 30-34 years.

Figure 5: Deaths due to apparent accidental opioid poisoning among Non-First Nations people, by sex and age. January 1, 2016 to December 31, 2018.



- Among Non-First Nations people, the highest proportion of deaths occurred among males (76 per cent), particularly in those aged 30-34 years.

Figure 6: Proportion of deaths due to an apparent accidental opioid poisoning, by medical history within the 30 days before the date of death among First Nations people. January 1, 2018 to December 31, 2018.

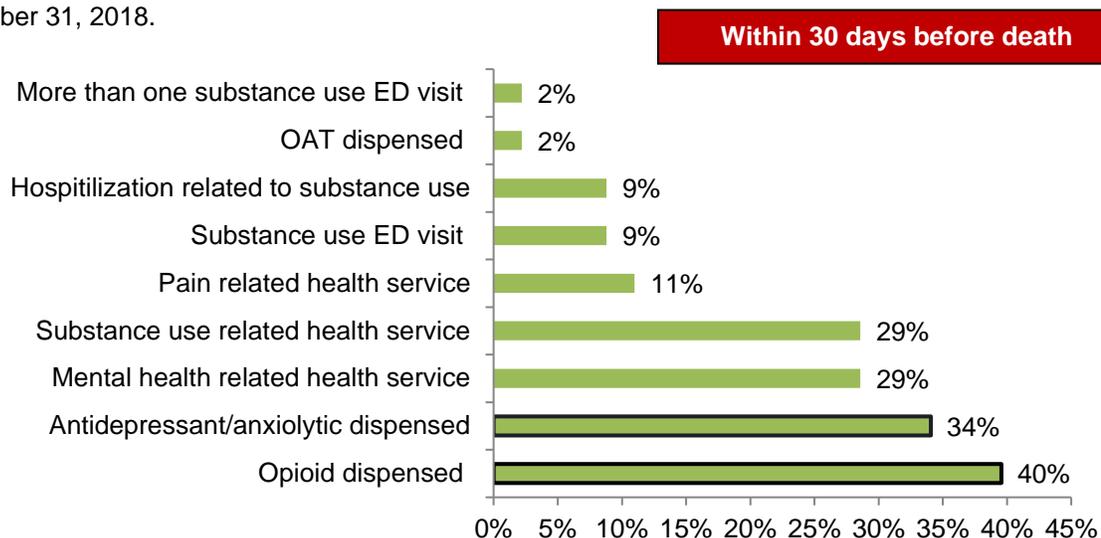
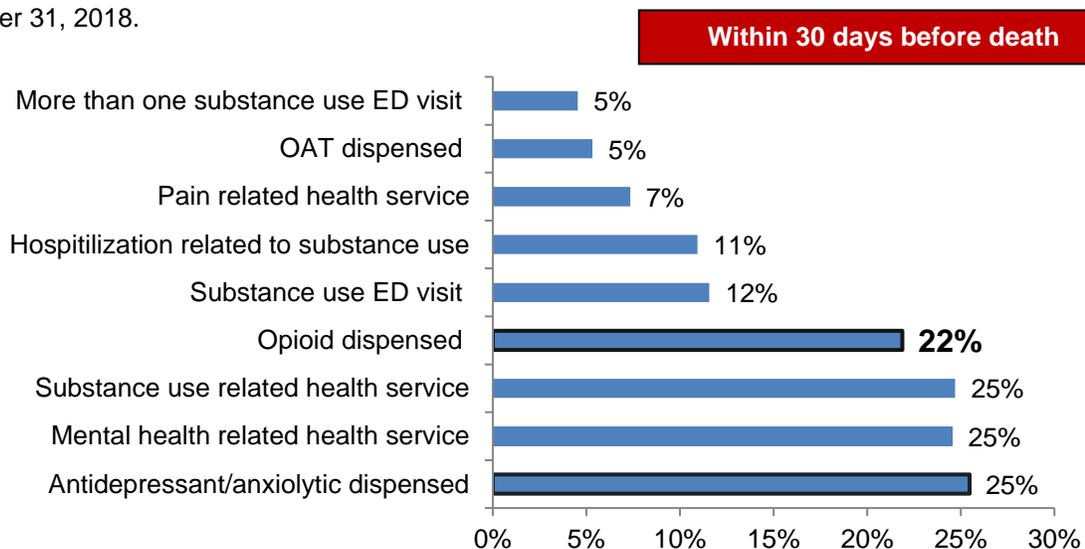


Figure 7: Proportion of deaths due to apparent accidental opioid poisoning, by medical history within the 30 days before the date of death among Non-First Nations people. January 1, 2018 to December 31, 2018.

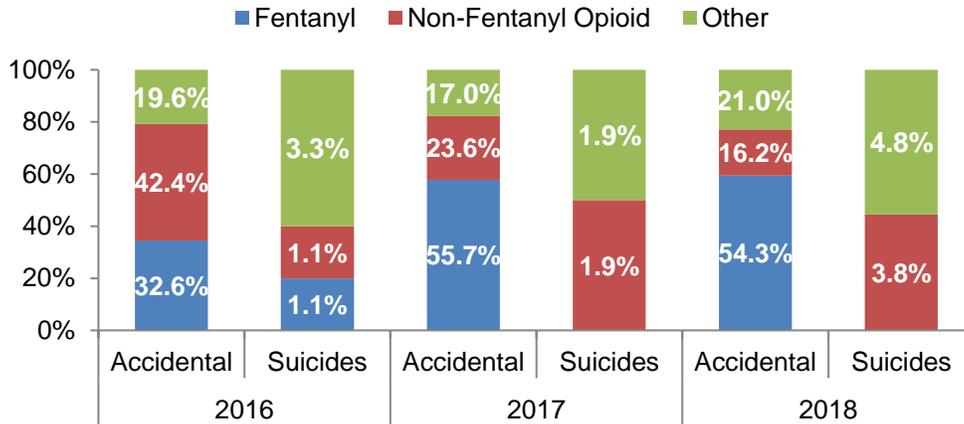


- Among First Nations people and Non-First Nations people, health utilization in the 30 days prior to death were similar, except for dispensing of an opioid or antidepressant/anxiolytic from a community pharmacy. Both of these proportions were higher among First Nations people compared to Non-First Nations people.
- Compared to the previous report on opioid use among First Nations people in Alberta (January 1, 2016 to March 31, 2017), the proportion of First Nations people who died of an opioid poisoning who were dispensed an opioid in the 30 days before death decreased from 61 per cent to 41 per cent. Among Non-First Nations people, this proportion decreased from 35 per cent to 22 per cent.

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.

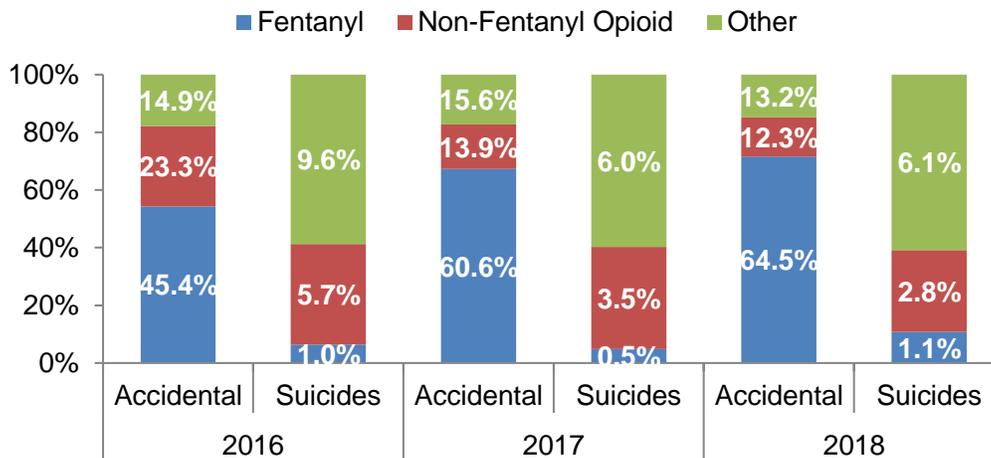
Confirmed Drug and Alcohol Poisoning Deaths

Figure 8: Confirmed drug & alcohol poisoning deaths (accidental and suicides) among First Nations people. January 1, 2016 to December 31, 2018. *Please see data notes



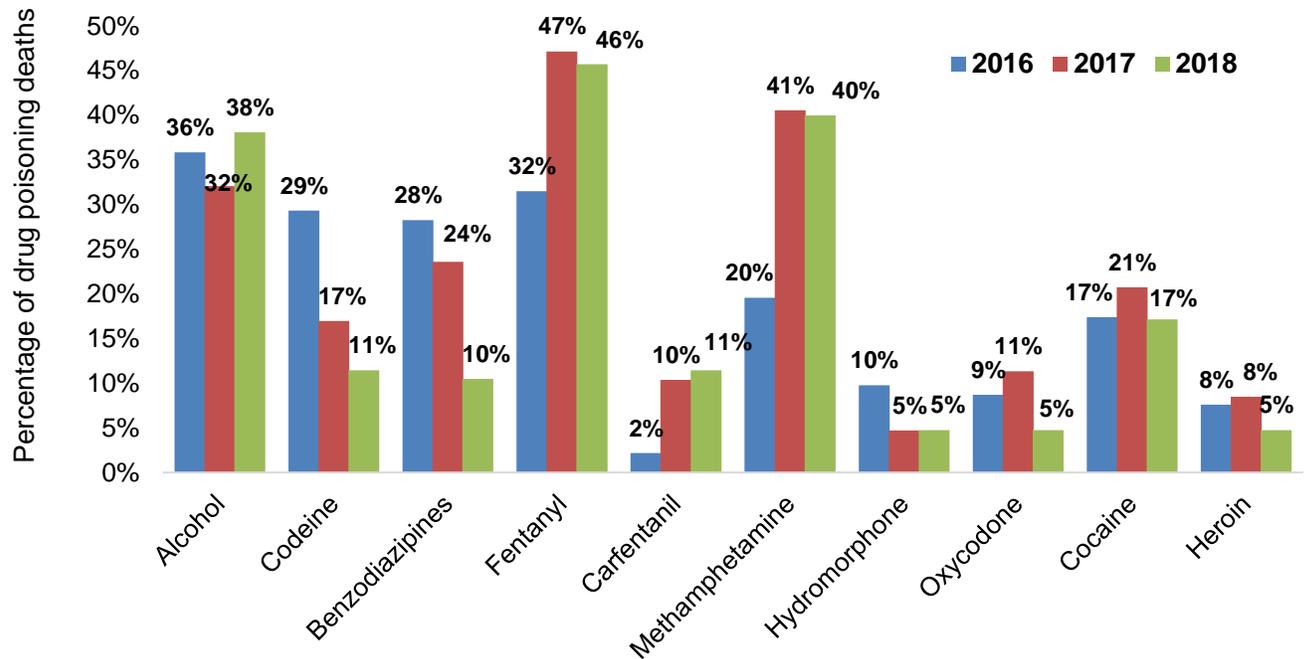
- In 2016, among First Nations people, accidental fentanyl poisoning deaths were 32.6 per cent of all drug & alcohol poisoning deaths. By 2018, the proportion of these deaths increased to 54.3 per cent.
- Among First Nations people, accidental non-fentanyl opioid poisoning deaths were 42.4 per cent of all drug & alcohol poisoning deaths in 2016, and decreased to 16.2 per cent by 2018.

Figure 9: Confirmed drug & alcohol poisoning deaths (accidental and suicides) among Non-First Nations people. January 1, 2016 to December 31, 2018.



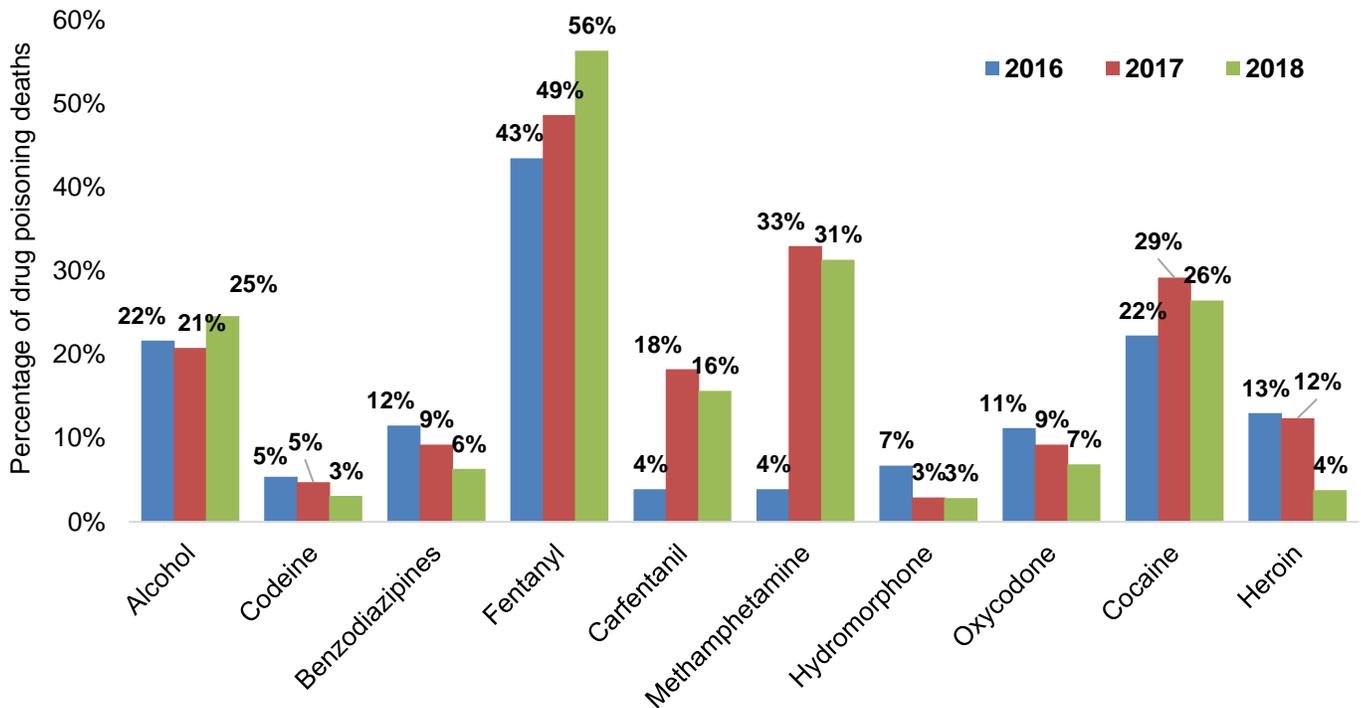
- Among Non-First Nations people, accidental fentanyl poisoning deaths were 64.5 per cent of all drug & alcohol poisoning deaths in 2018, increasing from 45.4 per cent in 2016.
- Accidental non-fentanyl opioid poisoning deaths decreased from 23.3 per cent of all drug & alcohol poisoning deaths in 2016 to 12.3 per cent in 2018.

Figure 10: Frequency of substances causing acute poisoning death (accidental and suicides) among First Nations people, January 1, 2016 to December 31, 2018.



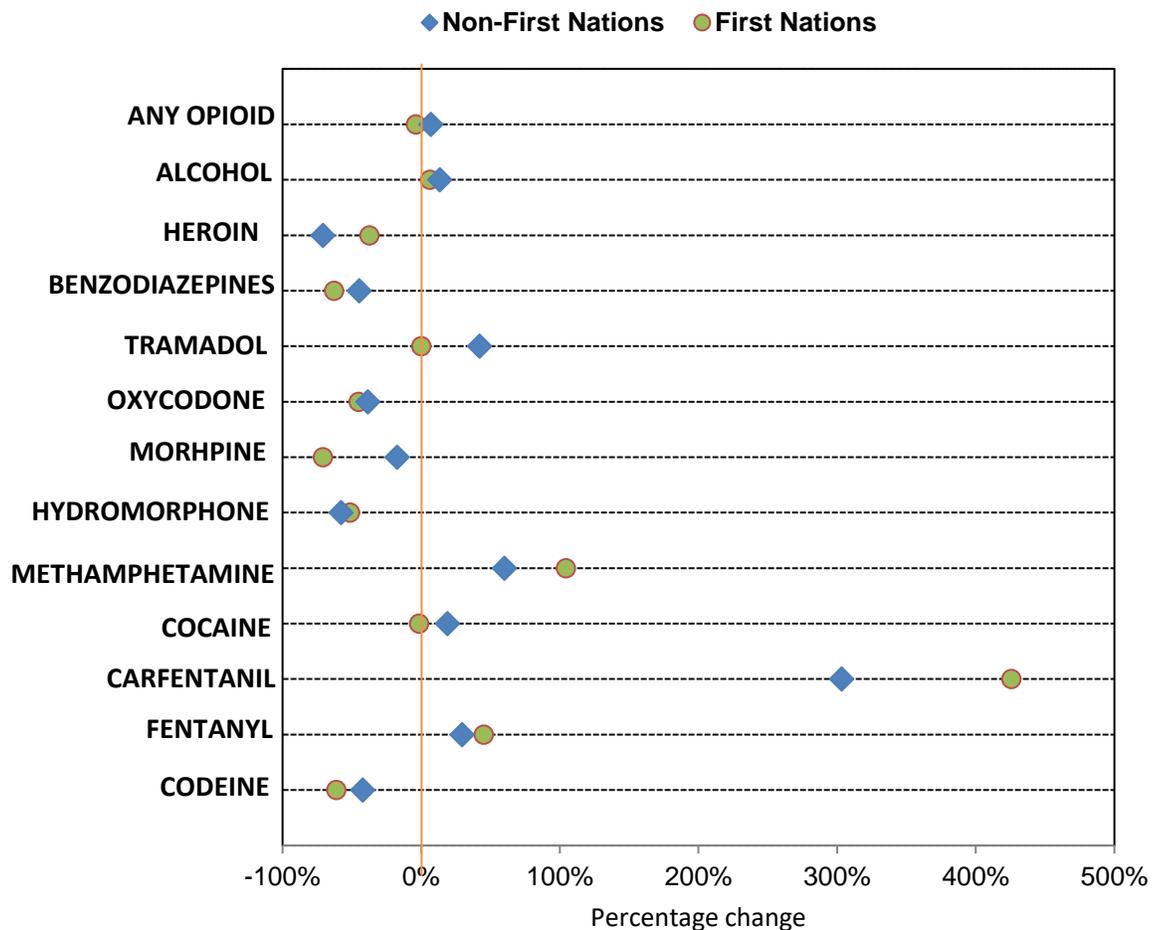
- In 2018, among First Nations people, fentanyl and methamphetamine were listed as the most frequent substances causing a poisoning death, occurring in 46 and 40 per cent of all drug & alcohol poisoning deaths, respectively.
- Among First Nations people, comparing 2016 to 2018, fentanyl (32 per cent), carfentanil (2 per cent) and methamphetamine (20 per cent) had a smaller presence in drug poisoning deaths, and pharmaceutical substances such as codeine and benzodiazepines had a greater presence (approximately 30 per cent of all deaths). This suggests that drug use patterns have shifted toward an increase in non-pharmaceutical substances, specifically, non-pharmaceutical fentanyl, carfentanil and methamphetamine.

Figure 11: Frequency of substances causing acute poisoning death (accidental and suicides) among Non-First Nations people, January 1, 2016 to December 31, 2018.



- In 2018, among Non-First Nations people, similar to First Nations people, fentanyl (56 per cent) and methamphetamine (31 per cent) were the most frequent substances causing poisoning death. The occurrence of both of these substances has increased since 2016, whereas the presence of other non-pharmaceutical drugs like heroin has decreased (decrease from 13 per cent to 4 per cent).

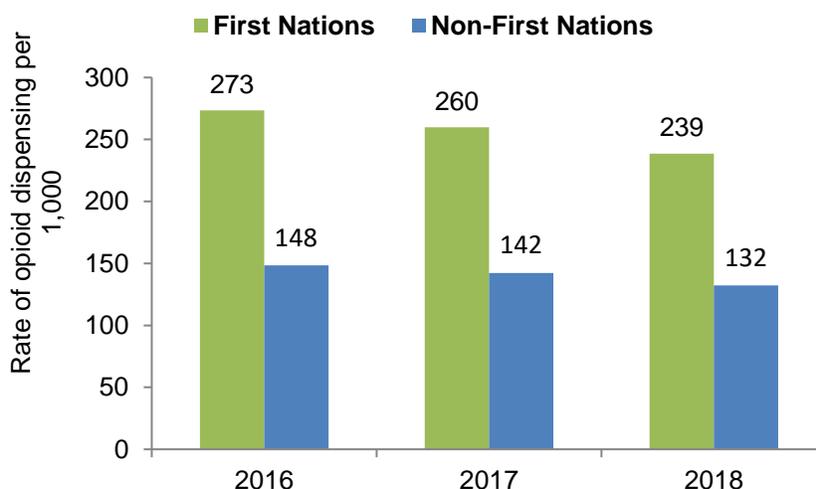
Figure 12: Percentage difference in substances causing acute poisoning death, by First Nations status, Alberta. January 1, 2016 to December 31, 2018.



- Among First Nations people, carfentanil (426 per cent), methamphetamine (104 per cent), and fentanyl (45 per cent) saw the largest increase as a substance causing drug poisoning death from 2016 to 2018. Benzodiazepines, oxycodone, morphine, and codeine all saw a decrease of more than 50 per cent as a substance causing drug poisoning death from 2016 to 2018.
- Similar trends were seen among Non-First Nations people, where carfentanil (303 per cent), methamphetamine (60 per cent), and fentanyl (30 per cent) saw the largest increase as a substance causing drug poisoning death from 2016 to 2018, while pharmaceutical substances (i.e. oxycodone, benzodiazepines) saw the largest decreases. Tramadol was the only pharmaceutical opioid to see an increase as a substance causing poisoning death in this time period. Heroin saw a decrease of 71 per cent.

Opioid dispensing data

Figure 13: Rate of opioid dispensing per 1,000 population, by First Nations status, January 1, 2016 to December 31, 2018.



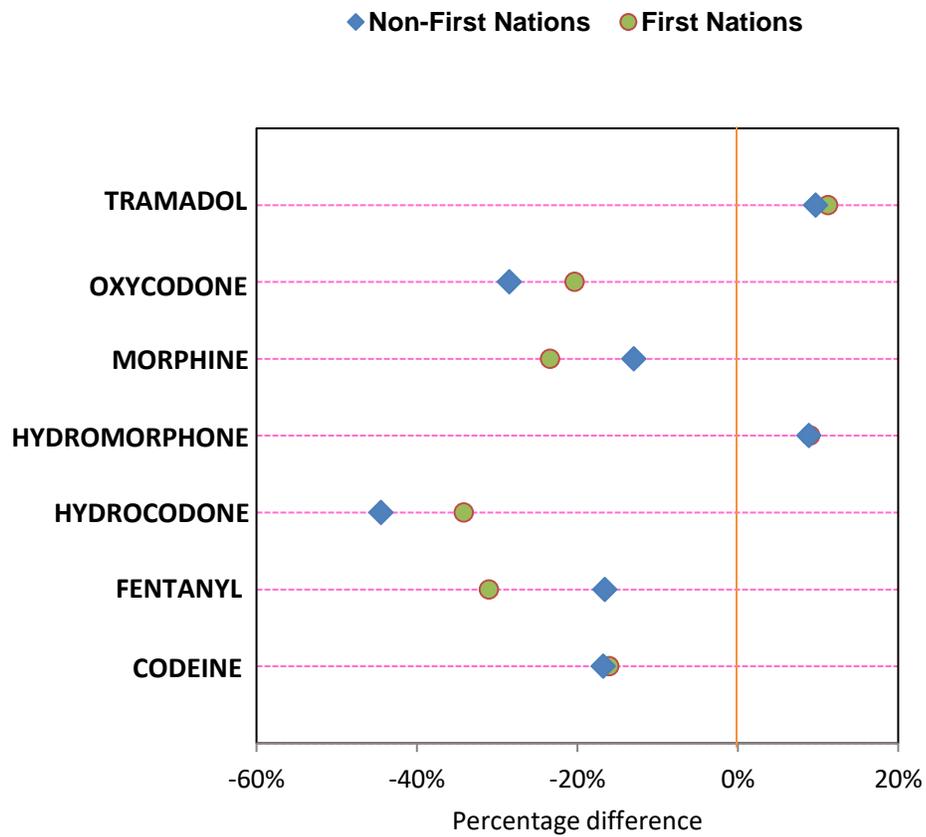
- From 2016 to 2018, the rate of opioid dispensing from community pharmacies has decreased among both First Nations (13 per cent decrease) people and Non-First Nations people (11 per cent decrease).
- However, the rate of opioid dispensing from community pharmacies has consistently been approximately two times higher among First Nations people compared to Non-First Nations people.

Table 3: Opioid dispensing, by First Nations status, sex, and median age. January 1, 2016 to December 31, 2018.

	First Nations		Non-First Nations	
	Proportion of individuals dispensed an opioid	Median age	Proportion of individuals dispensed an opioid	Median age
Females	54%	46	53%	55
Males	46%	48	47%	54

- Among First Nations people and Non-First Nations people, females were more likely to have an opioid dispensed from a community pharmacy.
- Among First Nations people, the median age of individuals (both males and females) receiving an opioid dispensed from a community pharmacy was between six and nine years younger than their Non-First Nations identifying counterparts.

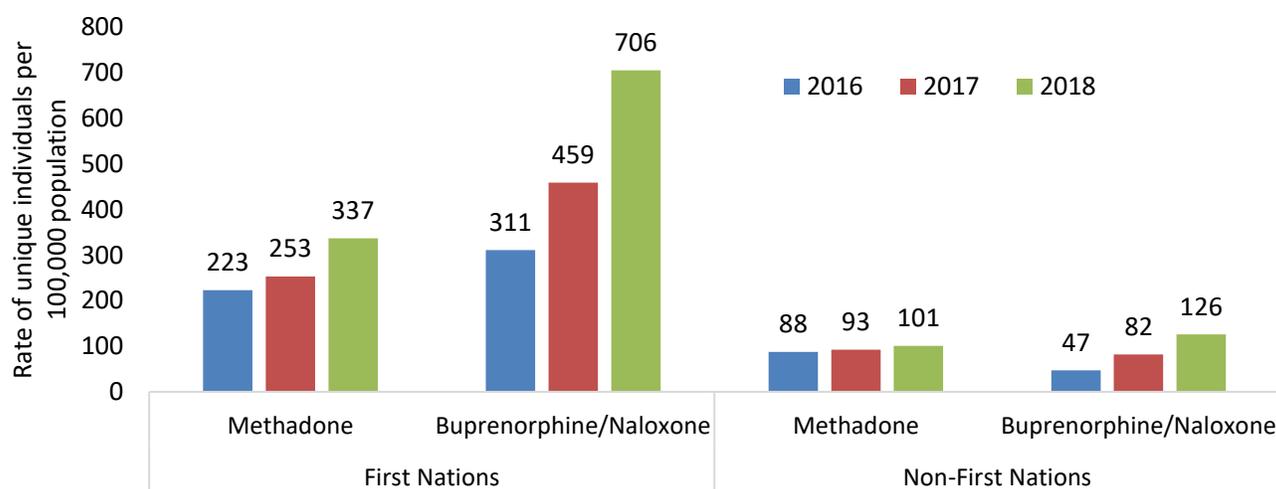
Figure 14: Percentage difference in opioid dispensing (unique individuals with at least one dispensation) by First Nations status, Alberta, January 1, 2016 to December 31, 2018.



- Among First Nations people and Non-First Nations people, hydromorphone and tramadol were the only opioids that saw a similar moderate increase in dispensing rates from 2016 to 2018 (approximately 10 per cent). All other opioids saw a decrease in their rate of dispensing.

Opioid Agonist Therapy (OAT)

Figure 15: OAT drug dispensing rate (unique individuals with at least one dispensation) by First Nations status, Alberta, January 1, 2016 to December 31, 2018.



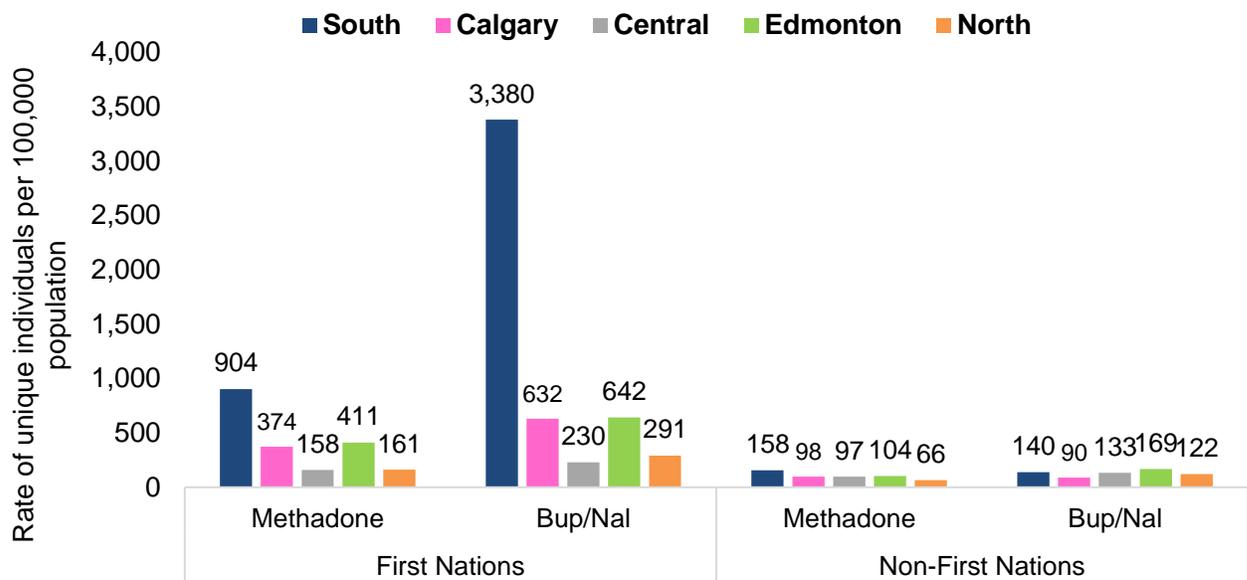
- In 2018, the rate of unique individuals dispensed buprenorphine/naloxone for OAT was almost six times higher than Non-First Nations people, for methadone, it was just over three times higher.
- From 2016 to 2018, the rate (per 1,000) of methadone for OAT dispensed among First Nations people increased by 51 per cent. For buprenorphine/naloxone, the rate (per 1,000) increased by 127 per cent.
- From 2016 to 2018, the rate (per 1,000) of methadone for OAT dispensed among Non-First Nations people increased by 15 per cent. For buprenorphine/naloxone, the rate (per 1,000) increased by 170 per cent.

Table 4: OAT drug product dispensing, by First Nations status, sex, and median age. January 1, 2016 to December 31, 2018.

	First Nations		Non-First Nations	
	Proportion of individuals dispensed OAT product	Median age	Proportion of individuals dispensed OAT product	Median age
Females	57%	34	39%	34
Males	43%	37	61%	37

- Females represented a higher proportion of individuals dispensed a drug product for OAT dispensing from community pharmacies among First Nations people. Among Non-First Nations people, males represented a much higher proportion.

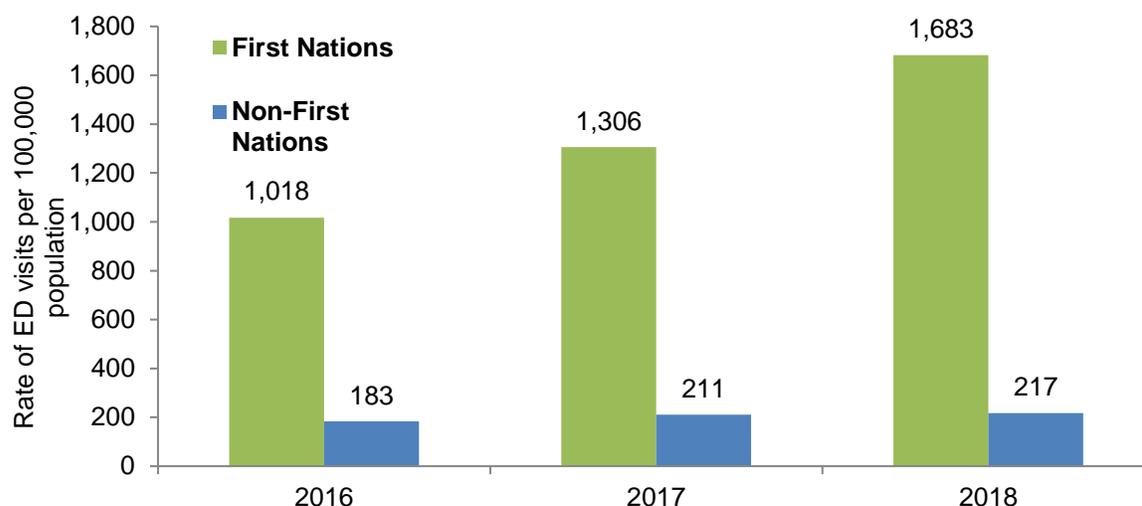
Figure 16: OAT drug dispensing rate (unique individuals with at least one dispensation) by First Nations status, and Zone, Alberta, 2018.



- In 2018, among First Nations people, the rate of dispensing of OAT was highest in the South Zone. In particular, the rate of unique individuals dispensed buprenorphine/naloxone in the South Zone was significantly higher than any other Zone (five times higher than the second highest rate in the Calgary Zone).
- In 2018, among Non-First Nations people, the rate of dispensing of methadone was highest in the South Zone, while for buprenorphine/naloxone the rate was highest in the Edmonton Zone.

Emergency Department visits

Figure 17: Rate of emergency department (ED) visits related to *opioids and other drugs*, by First Nations status, per 100,000 population. January 1, 2016 to December 31, 2018.



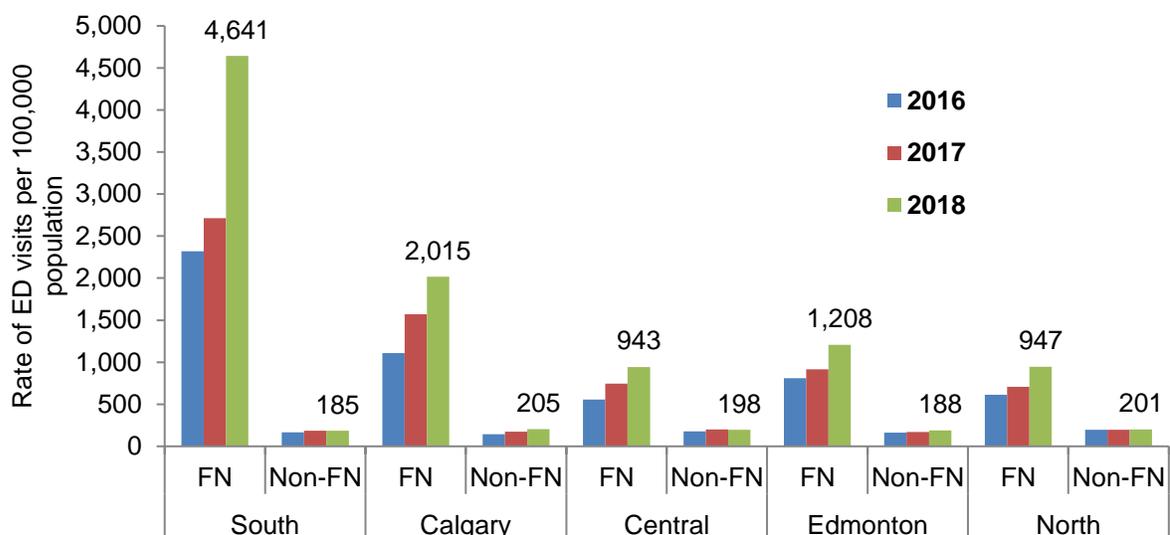
- On average, from 2016 to 2018, the rate of ED visits related to opioids and other drugs among First Nations people was over six times higher than the rate among Non-First Nations people.
- The rate of ED visits related to opioids and other drugs among First Nations people increased by approximately 94 per cent from 2016 to 2018, and by approximately 39 per cent among Non-First Nations people.

Table 5: Emergency department (ED) visits related to opioids and other drugs, by First Nations status, sex, and median age. Jan. 1, 2016 to December 31, 2018.

Sex	First Nations		Non-First Nations	
	Percentage of ED Visits	Median Age	Percentage of ED Visits	Median Age
Females	51%	32	37%	33
Males	49%	33	63%	33

- Among First Nations people, a higher proportion of ED visits related to opioids and other drugs occurred among females.
- Among Non-First Nations people, a higher proportion of ED visits related to opioids and other drugs occurred among males.

Figure 18: Rate of emergency department (ED) visits related to opioids and other drugs, by First Nations status and Zone, per 100,000 population. January 1, 2016 to December 31, 2018.



- From 2016 to 2018, the rate of ED visits related to opioids and other drugs was significantly higher among First Nations people residing in the South Zone compared to all other Zones. The South Zone also saw the fastest growing rate of ED visits related to opioids and other drugs among First Nations people.
- From 2016 to 2018, the North Zone saw the fastest growing rate of ED visits related to opioids and other drugs among Non-First Nations people, and in 2016, was also the Zone with the highest rate.

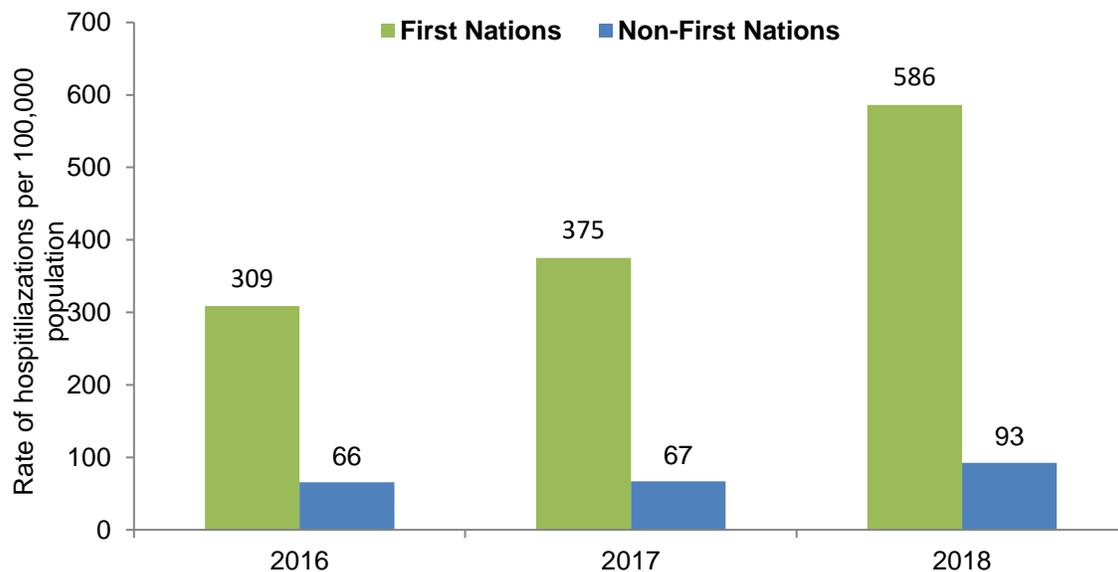
Table 6: Top 10 ED facilities utilized for emergency visits related to opioids and other drugs, by First Nations status. Jan. 1, 2016 to December 31, 2018.

FN				Non-FN			
Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	963	15%	1	Royal Alexandra Hospital	3,090	12%
2	Chinook Regional Hospital	665	10%	2	Peter Lougheed Centre	2,726	11%
3	Cardston Health Centre	535	8%	3	Rockyview General Hospital	2,215	9%
4	Peter Lougheed Centre	502	8%	4	Foothills Medical Centre	2,045	8%
5	Rockyview General Hospital	427	6%	5	University Of Alberta Hospital	1,514	6%
6	Foothills Medical Centre	405	6%	6	Red Deer Regional Hospital	1,232	5%
7	University Of Alberta Hospital	334	5%	7	South Health Campus	1,164	5%
8	Misericordia Community Hosp	195	3%	8	Grey Nuns Community Hospital	1,049	4%
9	Queen Elizabeth II Hospital	188	3%	9	Sheldon M Chumir Center	972	4%
10	Sheldon M Chumir Center	185	3%	10	Queen Elizabeth II Hospital	775	3%

*Percentage of the total respective 6,612 (First Nations) and 24,984 (Non-First Nations) ED visits related to harm associated with opioids and other drug use that occurred at the specified facility. Includes ED visits for all behavioural and mood disorders due to opioid use, and poisoning by all substances-all causes. (All F11 and T40 ICD-10 codes, any diagnosis field)

Hospitalizations

Figure 19: Rate of hospitalizations related to opioids and other drugs, by First Nations status, per 100,000 population. January 1, 2016 to December 31, 2018.



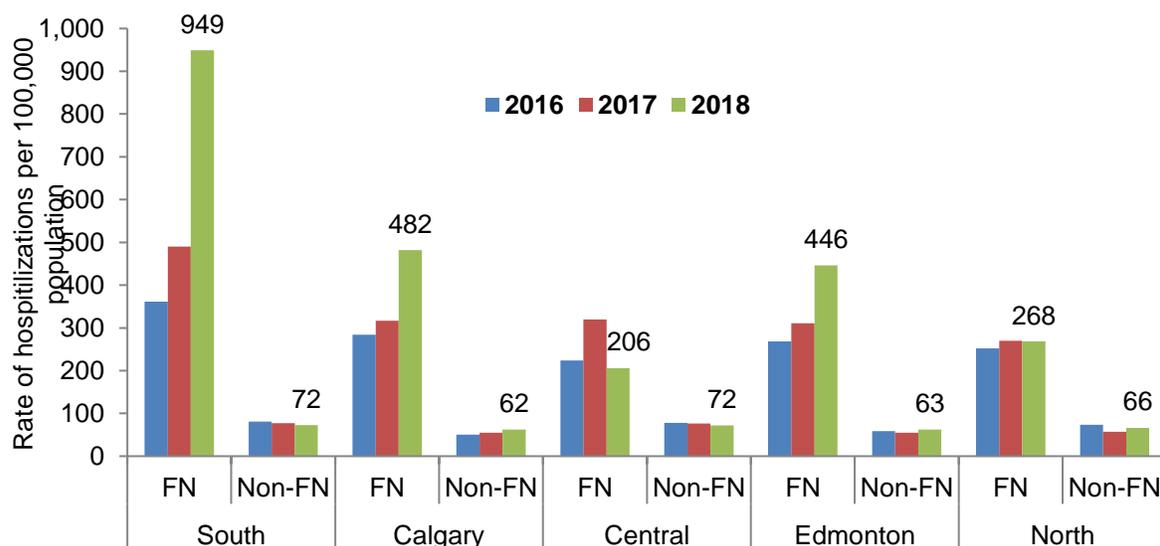
- The rate of hospitalizations related to opioids and other drugs among First Nations people increased by 90 per cent from 2016 to 2018, and by 41 per cent among Non-First Nations people.
- On average, from 2016 to 2018, the rate of hospitalizations related to opioids and other drugs among First Nations people was over five times higher than the rate among Non-First Nations people

Table 7: Hospitalizations related to opioids and other drugs, by First Nations status and sex. January 1, 2016 to December 31, 2018.

Sex	First Nations		Non-First Nations	
	Percentage of Hospitalizations	Median Age	Percentage of Hospitalizations	Median Age
Females	58%	35	45%	41
Males	42%	36	55%	39

- Among First Nations people, a higher proportion of hospitalizations related to opioid use and other substance of use occurred among females.
- Among Non-First Nations people, a higher proportion of hospitalizations related to opioid use and other substance of use occurred among males.

Figure 20: Rate of hospitalizations related to opioids and other drugs, by First Nations status and Zone, per 100,000 population. January 1, 2016 to December 31, 2018.



- From 2016 to 2018, the rate of hospitalizations related to opioids and other drugs saw the largest increase among First Nations people residing in the South Zone. In 2018, the South Zone also had the highest rate of hospitalizations related to opioids and other drugs among First Nations people.
- From 2016 to 2018, the rate of hospitalizations related to opioid use and other drugs saw the largest increase among Non-First Nations people residing in the Calgary Zone. In 2018, the South Zone also had the highest rate of hospitalizations related to opioids and other drugs among Non-First Nations people.

Table 8: Top 10 facilities utilized for hospitalizations related to opioids and other drugs, by First Nations status. January 1, 2016 to December 31, 2018.

FN				Non-FN			
Rank	Facility	Count	Percent of all stays*	Rank	Facility	Count	Percent of all stays*
1	Royal Alexandra Hospital	450	24%	1	Royal Alexandra Hospital	1,358	16%
2	Foothills Medical Centre	158	9%	2	Foothills Medical Centre	980	12%
3	Chinook Regional Hospital	129	7%	3	Peter Lougheed Centre	950	12%
4	Peter Lougheed Centre	117	6%	4	Rockyview General Hospital	611	7%
5	Rockyview General Hospital	100	5%	5	University Of Alberta Hospital	542	7%
6	University Of Alberta Hospital	95	5%	6	Red Deer Regional Hospital	411	5%
7	Misericordia Community Hosp	71	4%	7	South Health Campus	309	4%
8	Cardston Health Centre	64	3%	8	Grey Nuns Community Hospital	294	4%
9	Queen Elizabeth II Hospital	57	3%	9	Medicine Hat Regional Hosp	272	3%
10	Red Deer Regional Hospital	45	2%	10	Misericordia Community Hosp	250	3%

*Percentage of the total respective 1,853 (First Nations) and 8,252 (Non-First Nations inpatient stays related to harm associated with opioids and other drug use that occurred at the specified facility. Includes hospitalizations for all behavioural and mood disorders due to opioid use, and poisoning by all substances—all causes. (All F11 and T40 ICD-10 codes, any diagnosis field)

Emergency Medical Response (EMS)

Note: Red Deer EMS data became available June 2017, EMS data for Lethbridge became available in 2018.

Figure 21: Rate of EMS responses to opioid related events per 100,000 population, among First Nations people, by municipality. January 1, 2016 to December 31, 2018.

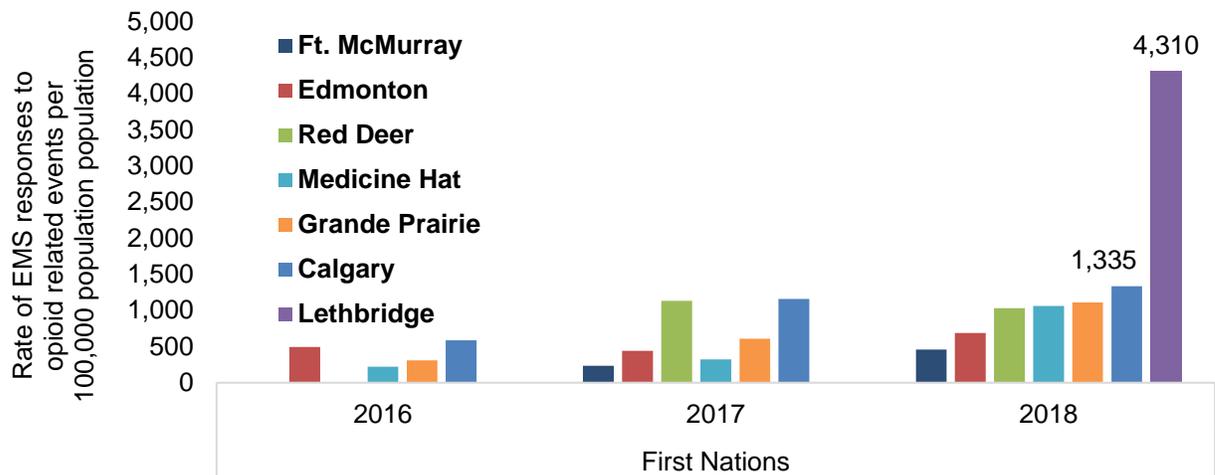
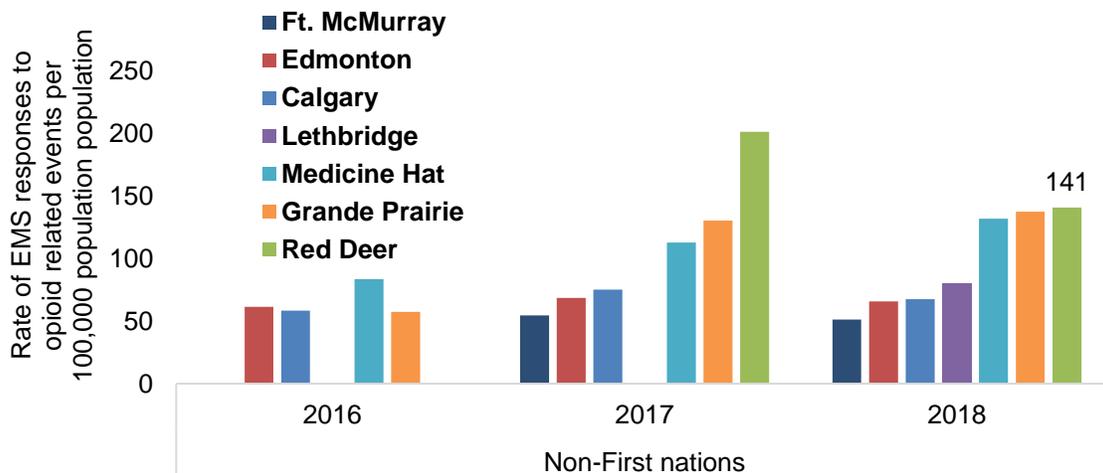


Figure 22: Rate of EMS responses to opioid related events per 100,000 population, among Non-First Nations people, by municipality. January 1, 2016 to December 31, 2018.



- In 2018, the rate of EMS responses to opioid-related events among First Nations people was significantly higher in Lethbridge. This rate was three times higher than the rate among First Nations people in Calgary (the second highest), and compared to the highest rate among Non-First Nations people (in Red Deer) was 31 times higher.

Table 9: EMS responses to opioid related events in all of Alberta, by First Nations status and sex. January 1, 2018 to December 31, 2018.

Sex	First Nations		Non-First Nations	
	Percentage of EMS Responses to Opioid Related Events	Median Age	Percentage of EMS Responses to Opioid Related Events	Median Age
Females	45%	31	26%	35
Males	55%	34	74%	34

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

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 Alberta Health Service (AHS) EMS Direct delivery and most AHS Contractor – ground ambulance services. Air ambulance and Interfacility Transfers are not included. AHS direct delivery does 97 per cent of the operational responses in the Municipality of Edmonton, 99 per cent in the Municipality of Calgary, and approximately 82 per cent in the entire province of Alberta. EMS opioid related events refer to any EMS response where the Medical Control Protocol of Opiate Overdose was documented and/or naloxone was administered.

Emergency Department 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 **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

Opioid dispensing data is obtained from the Pharmaceutical Information Network (PIN). PIN does not have information on the specific condition the opioid was prescribed for.

Opioid types are defined by ATC Code, as given in the table below.

ATC CODE	DRUG NAME	ATC NAME
N02AA59, N02AA79, R05DA04, R05DA20 ¹ , R05FA02 ² , M03BA53, M03BB53, N02BE51, and N02BA51	CODEINE	CODEINE
R05DA03, R05DA20 ³ , R05FA02 ⁴	HYDROCODONE	HYDROCODONE
N02AB03, N01AH01	FENTANYL	FENTANYL
N02AA03	HYDROMORPHONE	HYDROMORPHONE
N02AA01	MORPHINE	MORPHINE
N02AA05, N02AA55, N02BE51, and N02BA51	OXYCODONE	OXYCODONE
N02AX02, N02AX52	TRAMADOL	TRAMADOL
N07BC02	METHADONE	METHADONE
N02AA	NATURAL OPIUM ALKALOIDS	OTHER
N02AA02	OPIUM	OTHER
N02AB02	PETHIDINE	OTHER
N02AC04, N02AC54	DEXTROPROPOXY PHENE	OTHER
N01AH03	SUFENTANIL	OTHER
N01AH06	REMIFENTANIL	OTHER
N01AX03	KETAMINE	OTHER
R05DA20	NORMETHADONE	OTHER
N02AD01	PENTAZOCINE	OTHER
N02AE01, N04BC51	BUPRENORPHINE	OTHER
N02AF01	BUTORPHANOL	OTHER
N02AF02	NALBUFINE	OTHER
N02AX06	TAPENTADOL	OTHER

The following DINs are excluded from the opioid dispensing data because they have been identified as drugs used to treat opioid dependence: 02244290, 02247374, 02394596, 02394618, 02295695, 02295709, 02408090, 02408104, 02424851, 02424878, 02453916, 02453908

¹ The ATC name for R05DA20 is “combinations” which include drugs that contain codeine, hydrocodone, and normethadone hydrochloride. Classifications of codeine and hydrocodone were based on both drug identification number and ATC code.

² The ATC name for R05FA02 is “opium derivatives and expectorants” which include drugs that contain codeine and hydrocodone. Classifications of these drugs were based on both drug identification number and ATC code.

³ See footnote #1

⁴ See footnote #2