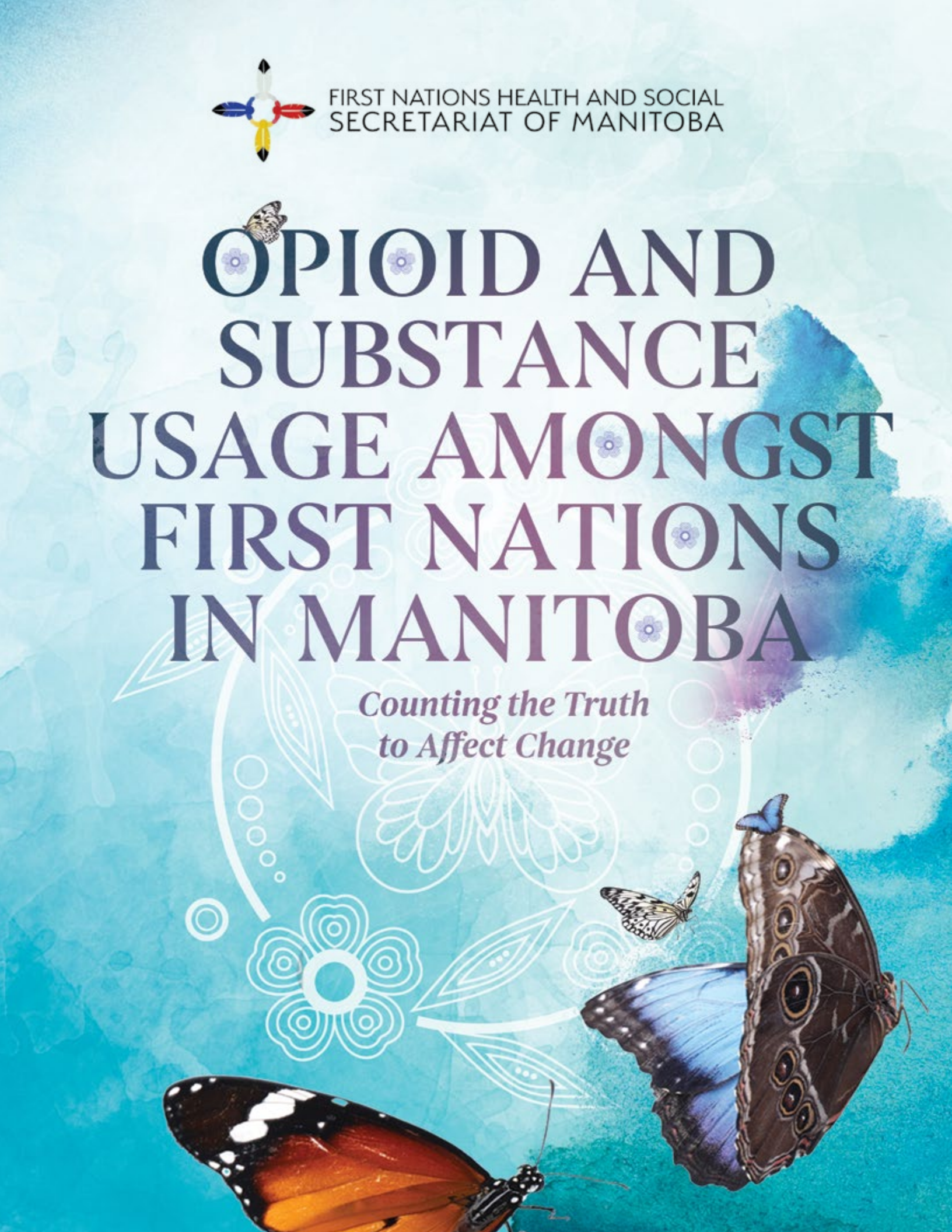
FIRST NATIONS HEALTH AND SOCIAL SECRETARIAT OF MANITOBA

OPIOID AND SUBSTANCE USAGE AMONGST FIRST NATIONS IN MANITOBA

Counting the Truth to Affect Change



FIRST NATIONS HEALTH AND SOCIAL SECRETARIAT OF MANITOBA

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The Advisory Committee provided direction, shared experiences from their respective Nations, and worked collaboratively to inform the creation of the report.

The Counting for Change Advisory Committee consisted of the following:

- Knowledge Keeper: **Ed Azure**, Chairperson, Opaskwayak Cree Nation
- Urban Member: **James Favel** (former Executive Director), Bear-Clan Winnipeg
- Northern member: E. **Gordon McGillivray**, Health Director, Tataskweyak Cree Nation
- West Region Tribal Council: **Chief Cameron Catcheway**, Skownan First Nation
- Dakota Ojibway Tribal Council: **Gloria Rach**, Health Director
- Cree Nation Tribal Health Authority: **Frank Turner**, Executive Director
- Knowledge Keeper: **Sherry Copenace**, Onigaming First Nation
- Northern member: **Joanie Muswagon** (NAADAP), Norway House Cree Nation
- Dakota Ojibway Tribal Council: **Francine Meeches** (Former Chief), Swan Lake First Nation

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BACKGROUND

Opioid use and misuse was identified as a priority area to address by our member First Nations during the FNHSSM Annual General Assembly in September of 2018. The FNHSSM obtained funding from the Public Health Agency of Canada in 2019 to undertake a research project called Opioid and Substance Usage Amongst First Nations, Counting the Truth to Affect Change. FNHSSM collaborated with the Alberta First Nations Governance Centre to identify a plan of research that could help inform future policy, strategies, and interventions to address the opioid crisis amongst First Nations in Manitoba. Together, our research teams worked collaboratively to exchange information and provide support to each other's existing regional processes to link health administrative data to the Indian Status Registry file to accurately account for First Nations health care utilization within our respective regions. We worked to identify and share best practices and challenges for data capture, analysis and knowledge translation and exchange.

The objectives of the project are to provide evidence on the impact of opioid and substance use amongst our First Nations in Manitoba and Alberta, to inform and prepare a strategy that supports First Nations' needs and priorities, and to exchange wise practices of linking data to inform policy and practice amongst other regions across the country. As leaders in First Nations data governance and research, the FNHSSM research team recognizes that communities across Canada currently do not have the required infrastructure to fully access/analyze data required to inform decision making, program development, and delivery specific to opioid misuse. Our regions are among the few that have engaged in partnerships with provincial partners for the purposes of preparing health administrative datasets for data linkages with the Indian Status Registry files. This report captures a baseline of opioid and substance usage that will build upon and mobilize the knowledge available, with the goal to inform health system transformation within First Nation communities.

In 2021, the Canadian Centre on Substance Use and Addiction (CCSUA) reported that between 2015 and 2017, the prevalence and use of opioids by the Canadian public remained relatively stable in Canada, (12.7% and 13.6%, respectfully), while almost 25% of First Nations individuals aged 18 and older living on-reserve or in northern First Nations communities in Canada, reported using prescription opioids in the same time frame (CCSUA, 2021; First Nation Governance Centre, 2018). Prescription opioids represented the most frequently used substance, compared to any other substances measured by the Regional Health Survey.

Despite the relative stability of opioid use, opioid poisonings and deaths rose during that same time frame (2015-2017) and increased an alarming 95% during the first year of the COVID-19 pandemic.

Toxicity deaths between April 2020 and March 2021, climbed to an alarming 7,224 deaths, compared to 3,711 deaths the year before. A total of 5,368 opioid toxicity deaths occurred between January and September in 2021, during the writing of this report, which amounted to approximately 20 deaths per day. Whereas in the years prior to the pandemic, there were between 7 and 12 deaths per day. Several factors may have contributed to a worsening overdose crisis during the pandemic, including increasing toxicity of the drug supply, increased feelings of isolation, stress, anxiety, and challenges regarding the availability or accessibility of services for people who use drugs (Government of Canada, 2022).

In British Columbia, the First Nation Health Authority reported deaths among First Nations people increased 93% from January to May in 2020.

In the same period, the deaths among First Nations rose to 16% of all overdose deaths, compared to 9.9% the year prior, despite representing less than 6% of the population. Sadly, First Nations women died at a rate 8.7% higher than the rate of all other women in BC (First Nation Health Authority, 2020).

These statistics must clearly be situated and understood within the context of colonization, including racism, lack of access to quality primary care, and ongoing trauma resulting from residential schools and child welfare system involvement (Phillips-Beck, 2020). However, the severity of this crisis is likely not fully understood for First Nation people throughout Canada, as it is with many statistics on Indigenous people. This is primarily due to poor data quality or the inability to disaggregate data on specific Indigenous groups (Smylie & Anderson, 2006). There are also challenges regarding the application of findings when pan-Indigenous approaches are used in data collection and analysis, due to differences in health policy, jurisdiction and responsibility, availability of resources, and health system organization. As such, there is an urgent need to better understand the use and impact of opioids among First Nations people in Canada as a distinct group, so that health policies, strategies, and interventions can be developed or reshaped when tackling the opioid crisis.

The goal of this project is to address the information gap in opioid use, opioid related mortality, and health care utilization among First Nations people in Manitoba. It will also create a baseline report to which policy interventions can respond, or be evaluated in the future. Policy makers, health planners, educators, health care providers, and most importantly, First Nations leadership requires sound evidence and health information to address the current opioid crisis. This requires robust population-based information to create an accurate picture of opioid usage, trends, practices, and how they manifest within the health care system. It is important to acknowledge that we are not able to capture the full scope of the opioid crisis within this report. There are immeasurable societal costs such as suffering, grief, family dysfunction, and lives that are left unfulfilled. These, many would argue, are the true impacts of this current opioid crisis.

Despite these limitations, we will use what we learn to create a pathway/template for examining opioid data within health administrative datasets where information can be easily updated, and interventions evaluated in the future. The output will be a descriptive report with some basic statistics on Manitoba First Nations regional opioid and substance use.

This report is made possible with data housed within the Manitoba Centre for Health Policy (MCHP). MCHP is a research centre of excellence within the University of Manitoba that conducts population-based research on health and on the social determinants of health. The centre developed and continues to maintain a comprehensive population-based data repository (Manitoba Population Research Data Repository) on behalf of the Province of Manitoba for use by the local, national, and international research community. The data repository hosts a comprehensive collection of administrative, registry, survey, and other data primarily relating to residents of Manitoba. It was developed to describe and explain patterns of health care and profiles of health and illness, facilitating interdisciplinary research in areas such as health care, education, social services, and justice for residents of Manitoba.

METHOD

To start our work in a good way, we established the Counting for Change Advisory Committee, consisting of First Nation Knowledge Keepers from the five First Nations groups in Manitoba: The Anishinaabe, Dene, Cree, Anishininew, and Dakota. With their approval, in addition to approvals by the First Nations Health Information Research Governance Committee, the University of Manitoba Health Research Ethics Board, and the Manitoba Health Information Privacy Committee, we linked a file that captures the status numbers of all registered First Nations in Manitoba (Manitoba First Nations Research File) to a file that contains a scrambled deidentified personal health number within the administrative data set to identify Manitoba First Nations residents. With this linkage, we extracted a cohort of First Nations people and data to identify opioid usage, trends, prescribing patterns, and potential gaps in data.

STUDY PERIOD

The study period included five years of data from 2015 to 2019.

STUDY SAMPLE

The project sample included all MB residents eligible under the Manitoba Health Services Insurance Plan including status First Nations living on-reserve (N = 95,975; 48,570/46,484 M/F), and those status First Nations living off-reserve (N=69,062; 33,145/35,917 M/F) for the years 2015-2019. This report is based on the whole population of Manitoba and not just the registered First Nations population. All other Manitobans (AOM), after extracting the FN population, is the comparison group in most tables and graphs.

SOURCES OF DATA

The data used for this study included the Manitoba First Nations Research File and the following data sets contained within in the Population Health Research Data Repository:

1) Vital Statistics
2) Population Health Registry File for the provincially insured population
3) Hospital discharge abstracts
4) Manitoba Drug Program Information Network (DPIN)
5) Medical Claims
6) Statistics Canada, census data.

**For complete description of data sets see Appendix A.*

GENERAL APPROACH

Results are reported as an actual count (number) and proportions/percentages or rates, (where possible) for each indicator/outcome for all registered First Nations (FN) people in Manitoba and by on-reserve and off-reserve compared to the general Manitoba population (AOM). Where possible, we disaggregated data for FNs residents living on-reserve and off-reserve, by Tribal Council area, and Regional Health Authority. Small cell counts of 5 or less were suppressed due to inability to guarantee confidentiality of the results. A letter "s" appearing in the cell indicates that the number was less than 5 and had to be suppressed.

Chapter 1 shows general demographic data for the study population. Chapter 2 reports on results from prescription and drug dispensation, and chapter 3 reports on hospitalization data related to opioid and alcohol use and misuse. The focus of chapter 4 is on morbidity and mortality related to opioid and alcohol use and misuse. The final chapter provides a summary of the report and insights from the Counting for Change Knowledge Keepers Advisory Committee. In most tables, First Nations and "All other Manitobans" have been abbreviated to (FN) and (AOM).

CONTENT:

SUMMARY

For countless generations, First Nations people thrived on Turtle Island and lived balanced, healthy, and holistic lifestyles in harmony with nature. We obtained our healing medicines from the land, lived by our traditional teachings, and participated in our sacred ceremonies freely. Colonization ushered in rapid change and disruption to our traditional knowledge and healing systems and left a mark on every aspect of our lives. These marks are reflected in the statistics we see in published reports and articles today, from acute and chronic illnesses, to justice, mortality, and child welfare data.

This report, unfortunately, provides further evidence that the oppressive forces of colonization are still very much in operation today. However, despite the numerous assaults on First Nations wellbeing, we as the first citizens of this land, continue to not only thrive, but to flourish primarily due to the survival of our healing and knowledge systems. This is our greatest source of strength, along with our collective desire to rise above the veil of colonization. It is with this hope that we remind the reader that, despite the statistics contained within this report, and despite the fact we see the devastating impact of opioid and substance misuse on the lives of First Nations people every day, we are incredibly resilient. We have heard from our Knowledge Keepers that we must return to our traditional knowledge and healing practices to bring us to a place of healing.

The following is a summary of the main findings from the report. We will circle back to the insights from our Knowledge Keepers in the concluding chapter.

DEMOGRAPHIC DATA

- The FN population in Manitoba is young and growing with **68.5% under the age of 34**
- **63% of the population were living on-reserve** between 2015-2019

PHARMACY DATA

- The **greatest decrease** in prescription rates amongst the FN population between 2015-2019 was **fentanyl (-42.5%)**, and the **greatest increase in of hydromorphone (30.9%)**
- FN people were **prescribed a higher proportion of opioids** between 2015-2019 compared to all other Manitobans (>range 50-75% more)
- Regardless of whether opioid prescriptions for FN people had been dispensed to an individual living in a community with a health centre (which generally are not funded to deliver primary health care) or Nursing Station, **FN people are obtaining their prescriptions in facilities off-reserve**
- Regardless of the model of care (Health Centre or Nursing Station), overall opioid dispensation showed a **downward trend for all communities from 2015 to 2019**
- FN people have higher rates of opioid agonist dispensation, suggesting that **FN people are seeking care and support, proportional** to the higher rates of opioid dispensation
- Opioid agonist dispensation in communities served by Health Centre or FN living off-reserve increased every year (2015 to 2019), and **communities served by a Nursing Station, had lower rates of opioid agonist therapy but is showing an upward trend**

HOSPITALIZATION DATA

- From 2015 to 2019, rates for opioid or drug related **hospitalizations for accidental overdose or poisoning for FN people decreased**
- The overall rate for opioid or drug related hospitalizations (2015-2019) for accidental overdose or poisoning for First Nations people is **7X higher compared to AOM**
- During the same time frame, (2015-2019), rates for hospitalizations for mental health or behavioural disorders related to **opioid use rose** for FN people
- The overall rate for opioid or drug related hospitalizations, (2015-2019), for mental health or behavioural disorders related to opioid use for **FN people is 5X higher compared to AOM**
- Age and sex adjusted rates for alcohol and opioid related hospitalizations for accidental poisoning or overdose are **significantly higher for FN**, compared to AOM
- In Winnipeg, the rate of alcohol related hospitalizations for accidental poisonings or overdoses for FN people is **over 19X that of AOM, and the rate of opioid related hospitalizations is 6X higher**
- In Winnipeg, the rate of alcohol related hospitalizations for mental health or behavioral disorders for FN people is **over 7X that of AOM, and the rate of opioid related hospitalizations is also 7X higher**

"In these statistics numbers I see our people who have names, who come from our own Indigenous communities from all directions north to south, east to west. These are not strength-based ways of looking at ourselves we must also show what we are doing well."

Grandmother & Knowledge Keeper, 2022

MORTALITY DATA

- The proportion of all **opioid related deaths for First Nations in Manitoba compared to AOM ranged from 23.1 to 32.4 %, during 2015-2019,** despite representing only 9% of the population (2018 suppressed)

- Among First Nations, the proportion of male to female deaths were not very different, (m=48.6%, f=51.4%), **while for AOM, the difference was quite significant and higher for males (m=62.3%, f=37.7%)**

- The rate of age and sex adjusted opioid related **deaths among First Nations is 4X higher than AOM**

- When broken down by WRHA vs all other RHA's we see the **age and sex adjusted rates for First Nations is 5X higher,** and almost **6X higher for all other RHA's**

- There is variation by Tribal Council Area for the proportion of accidental opioid related deaths by First Nations vs AOM, **from 8.1 in the SERDC region to 21.6 in independent southern communities**

- When viewed as a crude rate of accidental deaths per 100,000 population, we actually see the **highest rate of accidental poisoning deaths** occurring in the **DOTC area at 17.3/100,000** followed by **SERDC at 15.2/100,000**

- The proportion of deaths attributed to Fentanyl by First Nations **increased from 2015 (0%)** to First Nations representing **37% of the deaths in 2019**

- When comparing **opioid related deaths** (both fentanyl and non-fentanyl) to deaths occurring by "other drugs", including alcohol, we see a **higher proportion (over 70%) of these deaths** occurring by drugs other than opioids, with **alcohol accounting for the highest proportion (33%) in the "other" category**

- For those who died by opioid related poisoning, 55% of those individuals did not receive an opioid prescription within 30 days of death, and 51% did not receive a prescription within 90 days, **suggesting that a high proportion of First Nations people were not dying by their own prescribed medication**

DEMOGRAPHIC DATA

This Chapter reports on the demographic data that is used to create the data tables and comparisons contained within this report. This chapter includes two tables that highlight how the groups were created or organized and show the way in which the data were analyzed, including geographical boundaries by RHA and Tribal Council areas. These data tables were created by linking the unique FN status number with a scrambled personal health number obtained from Manitoba Health Registry, and contains postal codes where Manitoba residents reside. This report does not capture FN members who are registered in FN bands outside the province of Manitoba, so there are some FN citizens who may live in Manitoba but whose numbers are not counted.

The total FN population identifiable through the FN research file is (N=147,456), represents 9.5% of the Manitoba population. The largest proportion (40%) of FN population lives in the Northern part of the province within the jurisdiction of the Northern Health Regional Health Authority (NHRA) followed by (20.5%) living within the City of Winnipeg, and in the Winnipeg Regional Health Authority (WRHA) catchment area. The remaining (20%) live within the Interlake-Eastern RHA (IERHA), 11% within the Prairie Mountain Health Region (PMH), and 8% in the Southern Health-Santé Sude (SH-SS). A small proportion of the FN population residence is underdetermined or listed under the jurisdiction of the public trustee.

TABLE 1A:
Overall Manitoba population demographics summary by FN and AOM

	FN		AOM		Total population
	N	%	N	%	
Regional Health Authority (RHA)					
Interlake-Eastern (IERHA)	28,895	19.6	118,222	80.4	147,117
Northern Health Region (NRHA)	59,140	62.5	35,431	37.5	94,571
Southern Health-Sante Sud (SH-SS)	12,117	5.4	211,144	94.6	223,261
Prairie Mountain Health (PMH)	15,839	8.2	177,978	91.8	193,817
Winnipeg (WRHA)	30,271	3.4	850,556	96.6	880,827
Age group at start of first year					
0-17	60,860	15.2	339,755	84.8	400,615
18-34	40,472	10.7	337,227	89.3	377,699
35-54	30,854	8.1	351,584	91.9	382,438
55+	15,270	4.0	369,417	96.0	384,687
Biological Sex					
Male	73,460	9.5	700,494	90.5	773,954
Female	73,996	9.6	697,489	90.5	771,485
Urban/Rural Residence in first year in study					
Urban	33,850	3.5	919,873	96.5	953,723
Rural	113,606	19.2	478,110	80.8	591,716
Combined Urban/Rural Income Quintile in first year in study					
NA (not found)	1,477	13.8	9,242	86.2	10,719
Q1	74,426	22.7	253,433	77.3	327,859
Q2	45,432	14.5	268,265	85.5	313,697
Q3	13,411	4.5	286,586	95.5	299,997
Q4	7,618	2.6	288,235	97.4	295,853
Q5	5,092	1.7	292,222	98.3	297,314
Total	**147,456**	**9.5**	**1,397,893**	**90.5**	**1,545,439**

FN people in Manitoba are a young and growing population, with 68.5% under the age of 34. By far, the largest age group ~41% is under the age of 17 (N=60,860), followed by the 18-34 group (~27.5% N=40,472), 34-54 (~21% N=30,854) and lastly, the 55+ age group representing ~10.5% (N=15,270). Due to relatively low numbers, opioid use and trends in the 0-17 age group are not reported in this study. Of the FN population, 37% were living off-reserve (N=54,514) and 63% were living on-reserve (N=92,942) between 2015-2019.

TABLE 1B:
Population by Tribal Council Area

FN Tribal Council Area	Status off-reserve N	Status off-reserve %	Status on-reserve N	Status on-reserve %	Total population
Unknown or AOM community	3,846	100	0	0	3,846
Swampy Cree (SCTC)	4,242	33.3	8,480	66.7	12,722
Dakota Ojibway (DOTC)	4,543	42.1	6,250	57.9	10,793
Island Lake (ILTC)	1,214	9.7	11,245	90.3	12,459
Independent-North	7,841	28.2	20,013	71.8	27,854
Interlake Reserves (IRTC)	7,821	50.5	7,655	49.5	15,476
Independent-South	9,644	40.0	14,460	60.0	24,104
Keewatin (KTC)	6,083	34.4	11,610	65.6	17,693
Southeast (SERDC)	3,611	33.2	7,262	66.8	10,873
Non-affiliated	296	36.5	516	63.5	812
West Region (WRTC)	5,373	49.6	5,451	50.4	10,824
Age group at start of first year					
0-17	20,969	34.5	39,891	65.5	60,860
18-34	14,722	36.4	25,750	63.6	40,472
35-54	12,453	40.4	18,401	59.6	30,854
55+	6,370	41.7	8,900	58.3	15,270
Biological Sex					
Male	26,110	35.5	47,350	64.5	73,460
Female	28,404	38.4	45,592	61.6	73,996
Urban/Rural Residence in first year in study					
Urban	33,647	99.4	203	0.6	33,850
Rural	20,867	18.4	92,739	81.6	113,606
Combined Urban/Rural Income Quintile in first year in study					
NA (not found)	1,274	86.3	203	13.7	1,477
Q1	22,077	29.7	52,349	70.3	74,426
Q2	12,116	26.7	33,316	73.3	45,432
Q3	7,725	57.6	5,686	42.4	13,411
Q4	6,467	84.9	1,151	15.1	7,618
Q5	4,855	95.3	237	4.7	5,092
Total	**54,514**	**37**	**92,942**	**63**	**147,456**

PHARMAC DATA

This chapter reports on findings derived primarily from pharmacy and dispensation data obtained from the Manitoba Drug Program Information Network (DPIN) within the MCHP Repository. DPIN provides comprehensive information about drugs dispensed from pharmacies within Manitoba for individuals who are not hospitalized. This also includes dispensation of medications for FN living on-reserve prescribed by physicians or nurse practitioners and accessing care in FN communities. These medications are covered by the First Nation and Inuit Health Branch (FNIHB) of Indigenous Services Canada through the Non-Insured Health Benefits program. Medications prescribed to FN people by nurses working in nursing stations are not captured in this report. It is important to note that controlled substances are not prescribed by registered nurses in nursing stations, and all prescriptions must be prescribed by an authorized prescriber. As well, there are limits in place as to the number of controlled substances that are dispensed to individuals by nurses in Nursing Stations and are dispensed primarily on an emergency basis.

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FIGURE 2A
Change in prescription rates for opioid related drugs, 2015-2019

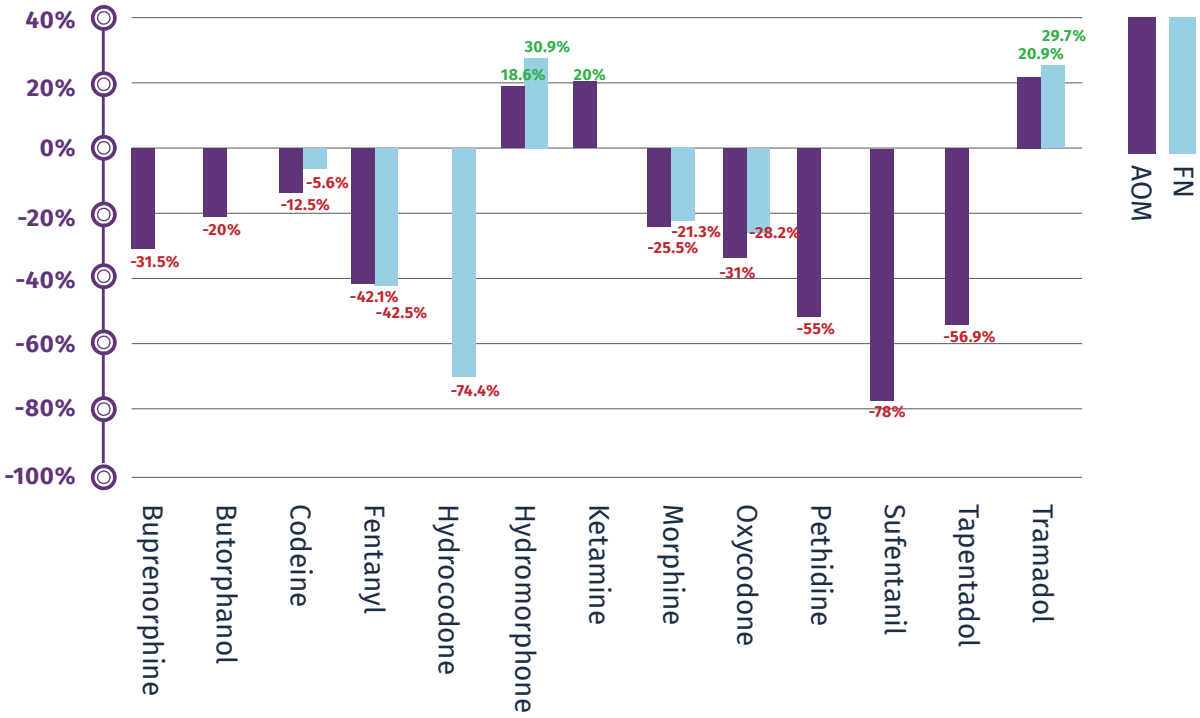
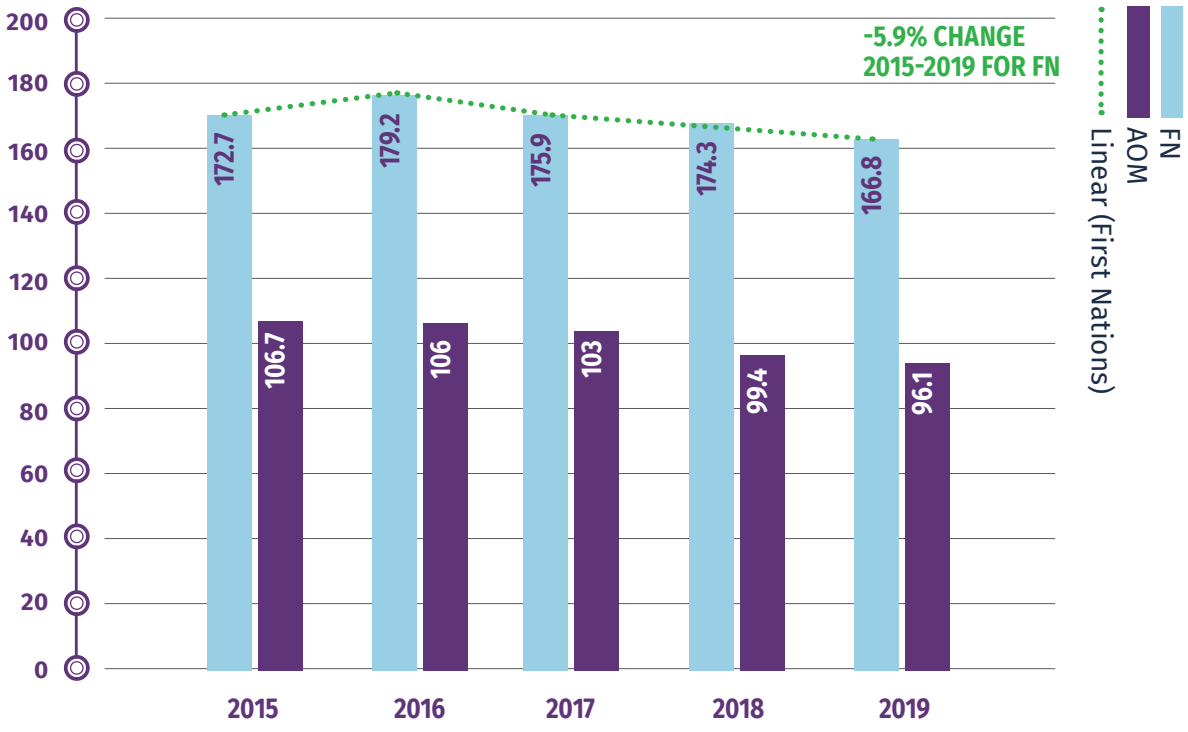


Figure 2a shows the percent change occurring in prescription rates for opioid or opioid derivatives and related drugs for the years 2015-2019. The green "%" indicates an increase in rates and the red "%" a decrease. For FN, the greatest change occurred in the dispensation of fentanyl which decreased by 42%, followed by oxycodone which decreased by 28%, and morphine (21% decrease).

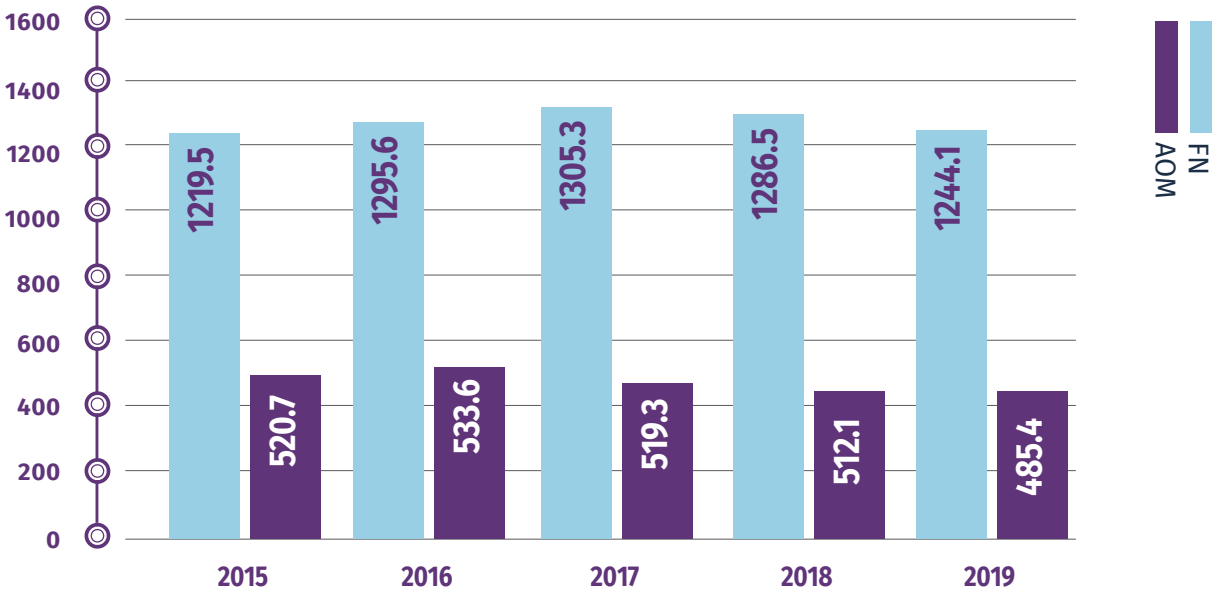
On the other hand, we see concurrent increase in the dispensation rates of hydromorphone and tramadol which increased by 30.9% and 29.7% respectively. For AOM, the dispensation patterns differed significantly with a decrease in dispensation for most opioids except for tramadol (increased ~21%), ketamine (increased 20%) and hydromorphone which increased by 18.6%. Similar prescription patterns could be seen for tramadol and hydromorphone for both FN and AOM.

FIGURE 2B
Proportion of population prescribed an opioid medication per 1,000 population



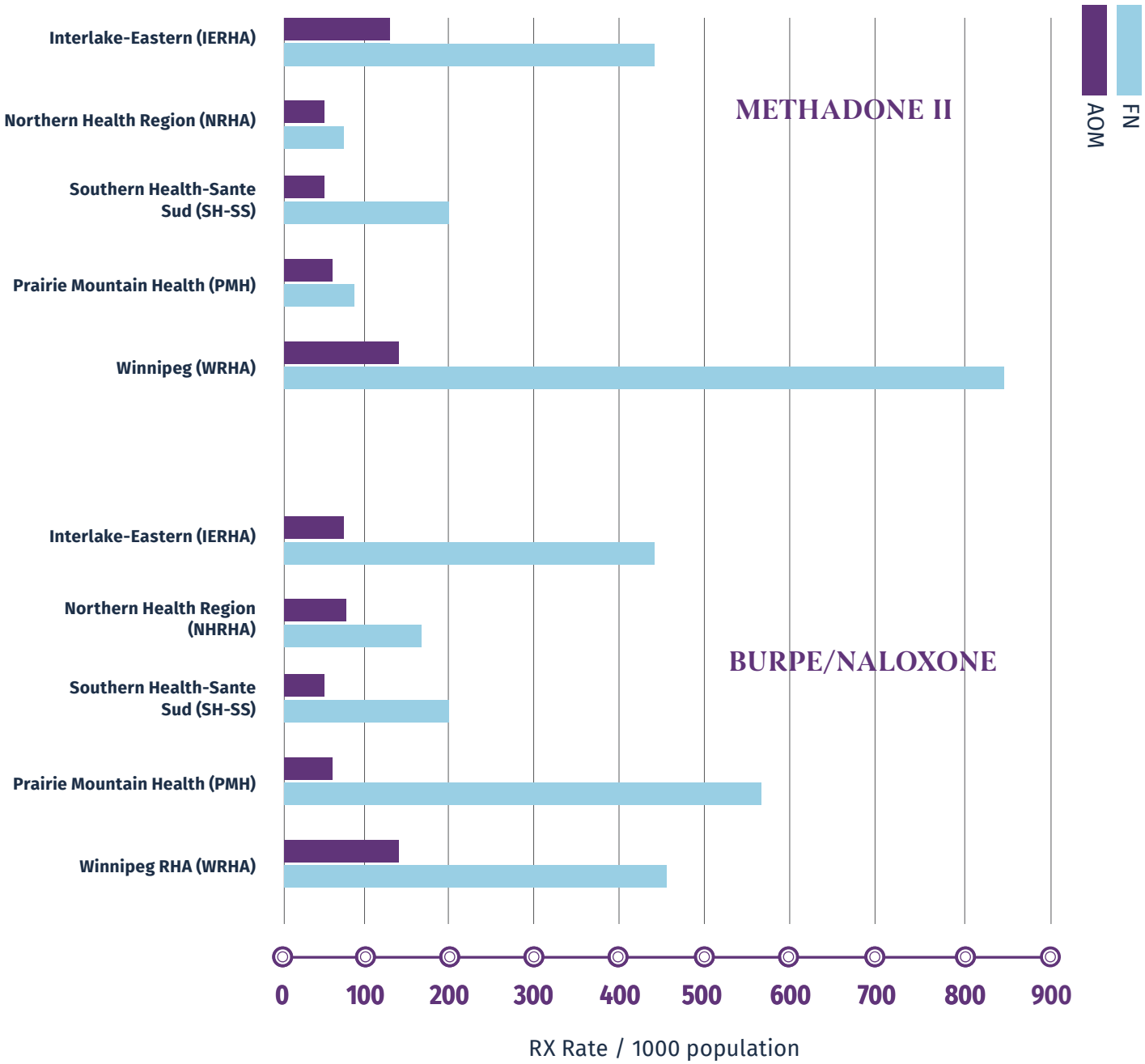
On a positive note, when we look at the proportion of the population prescribed an opioid medication for each 1,000 people, we see a slight trend downward but consistently a higher proportion (>range 50-75% more) of FN people were prescribed an opioid medication from 2015-2019, compared to AOM.

FIGURE 2C
Rates of opioid dispensation per 1,000 population by FN status



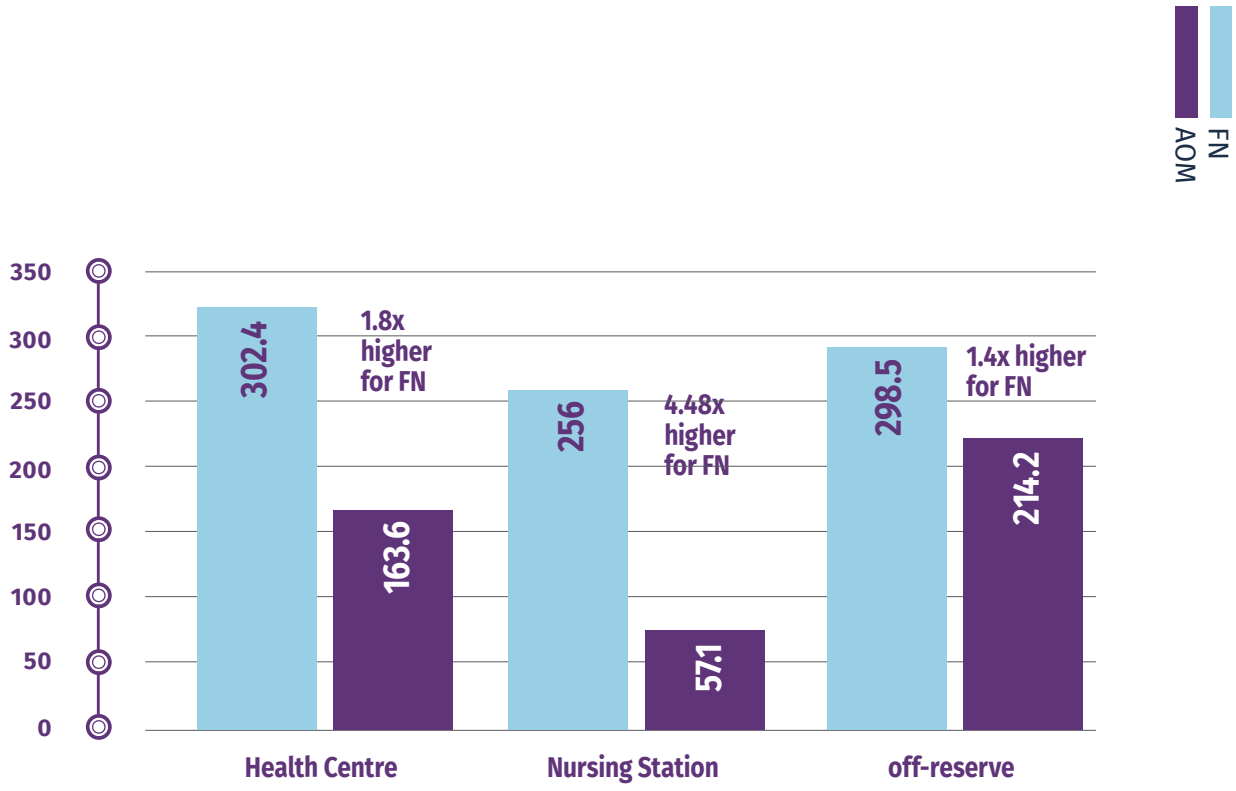
When we examine the rates of opioid dispensation per 1000 people for both FN and AOM, we see a more accurate picture. Again, we see higher rates of opioid dispensation among FN, almost **2.5X** higher on average for all years.

FIGURE 2D
Rates of opioid agonist therapy dispensation by RHA and FN status per 1,000 population



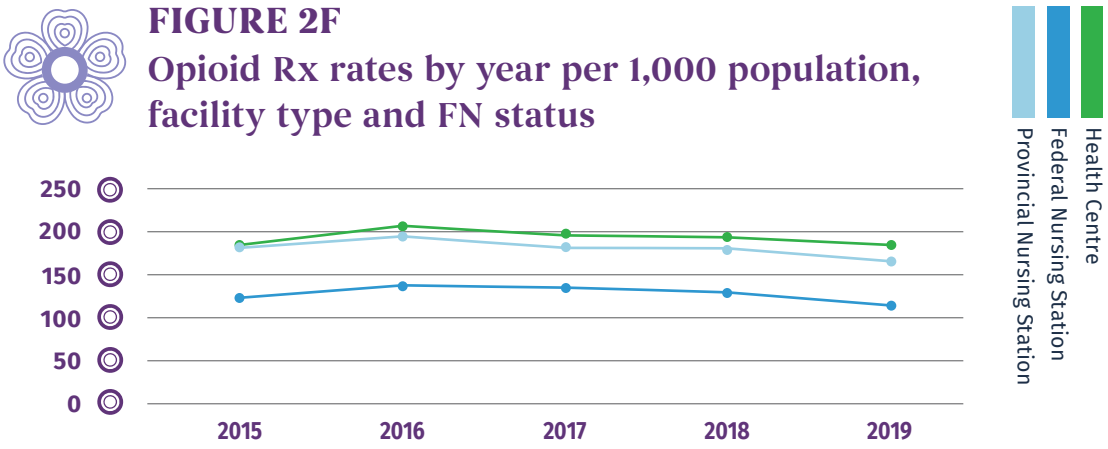
When we stratify the dispensation of opioid agonist therapy by regional health authority (RHA), we see higher rates of dispensation for FN in all regional health authorities with the highest rate of dispensation in the Winnipeg Region. This is good news, as we see FN are seeking care for opioid use.

FIGURE 2E
Rates of opioid Rx by type of facility in community and FN status per 1,000 population



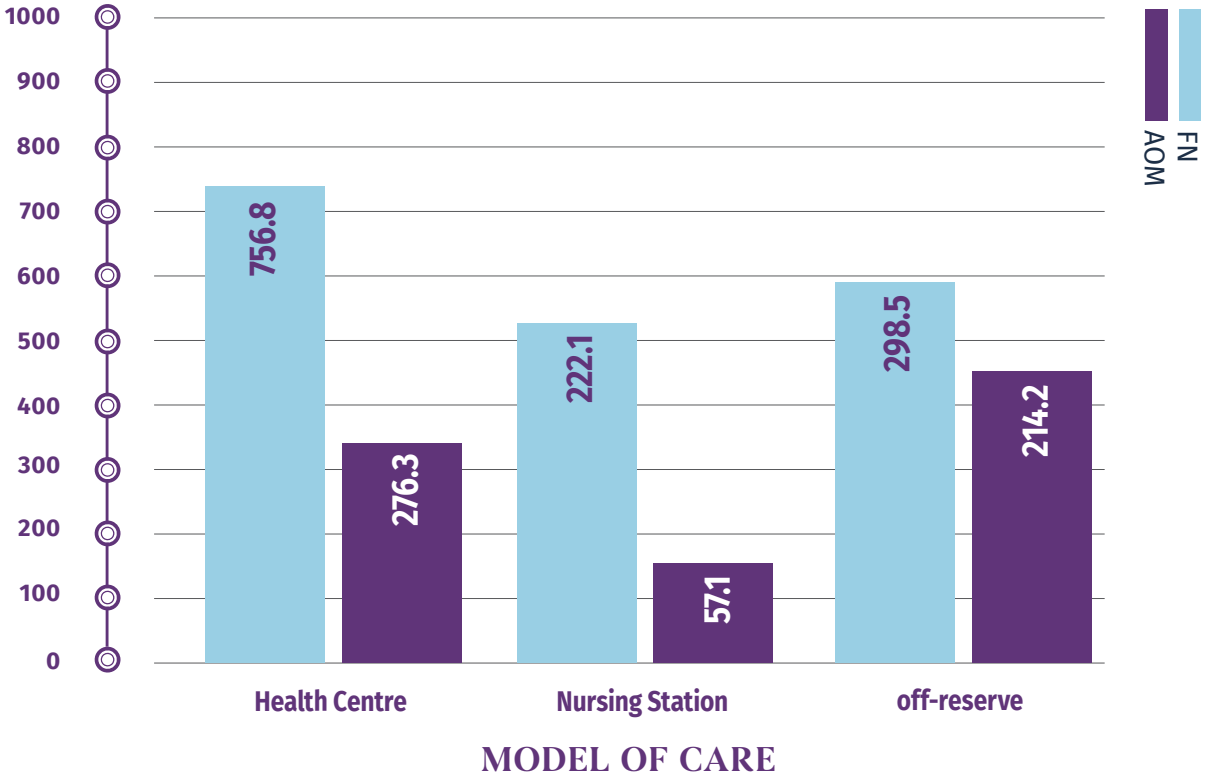
The rates of opioid prescriptions are higher for FN people, regardless of if the prescription has been dispensed to an individual living in a community with a health centre or nursing station unit. The rates of dispensation occur at a higher rate for individuals living in communities with a health centre, which generally are not funded to deliver primary health care, suggesting that FN are obtaining their prescriptions in facilities off-reserve. The difference between opioid dispensation between FN and AOM are lower for individuals living off-reserve, compared to those living in a community with a Health Centre or Nursing Station.

FIGURE 2F
Opioid Rx rates by year per 1,000 population, facility type and FN status



This graph shows the rates of opioid dispensation by year, which is showing a slight downward trend for all communities, regardless of model of care.

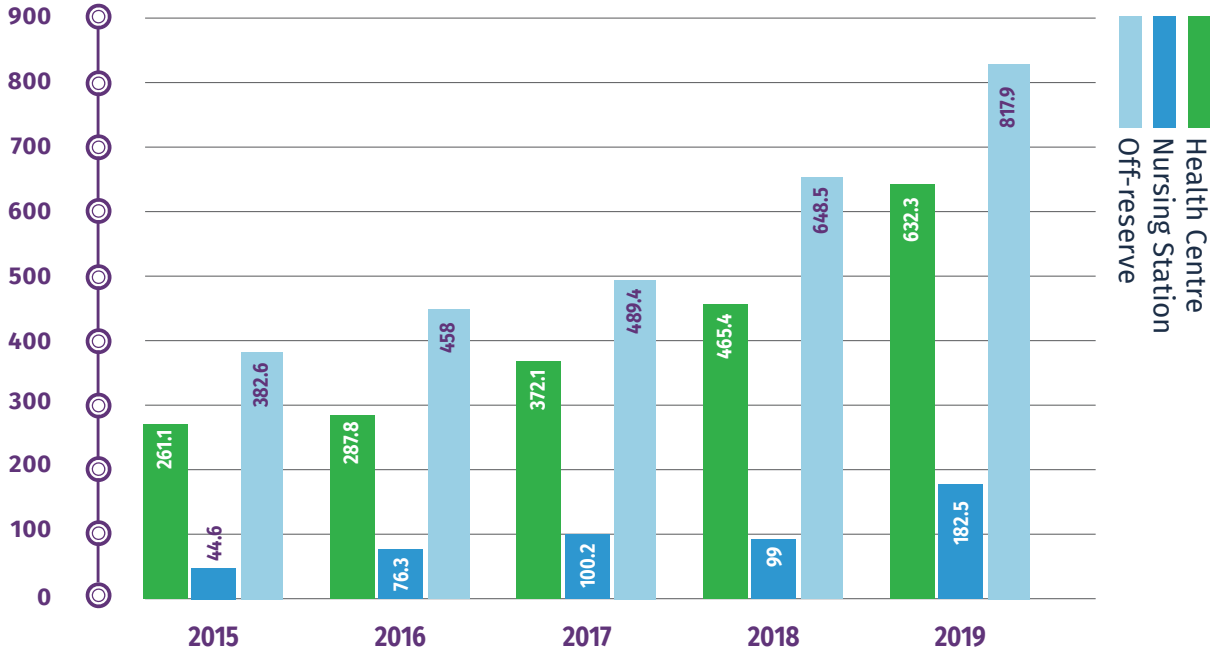
FIGURE 2G
Opioid Agonist Rx rates by year per 1,000 population, facility type, and FN status



When we look at opioid agonist dispensation by model of care, we see that FN have significantly higher rates of dispensation, suggesting that FN people are seeking care and support that is proportional to the higher rates of opioid dispensation.

FIGURE 2H

FN – Rates of opioid agonist therapy dispensation by year and facility type per 100,000 population



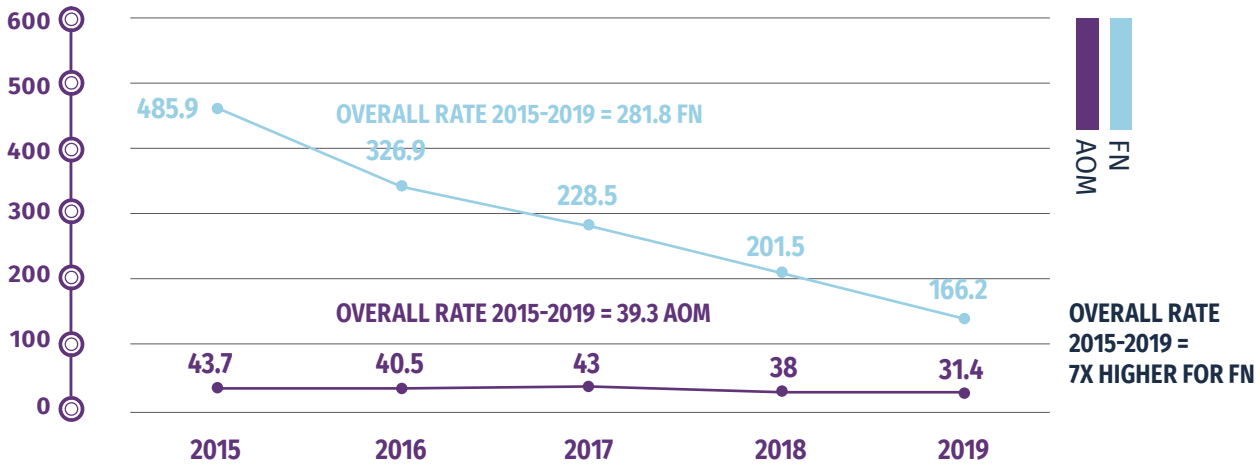
When stratified by year, we see an increasing rate of opioid agonist dispensation in communities served by a health centre and for those living off-reserve. There are lower rates of opioid agonist therapy occurring in communities served by a nursing station, although the rate is showing upward trend.

HOSPITAL DATA

This chapter reports on findings where opioid, alcohol or other substances has resulted in a hospitalization in Manitoba. A hospitalization is defined as an admission or an episode greater than a day. These data are obtained primarily from hospital discharge abstracts. Where possible, we compare rates of hospitalizations as a ratio between the two groups to allow for a more accurate comparison. Hospital episodes are counted as the rate of hospital admissions, including any transfers between hospitals. Hospitalization admissions are shown as a rate per 100,000 people. Emergency room episodes are not reported on due to incomplete availability of the data during the study period. The "other" category includes hospitalization admissions for poisonings for all other drugs other than alcohol or opioids.

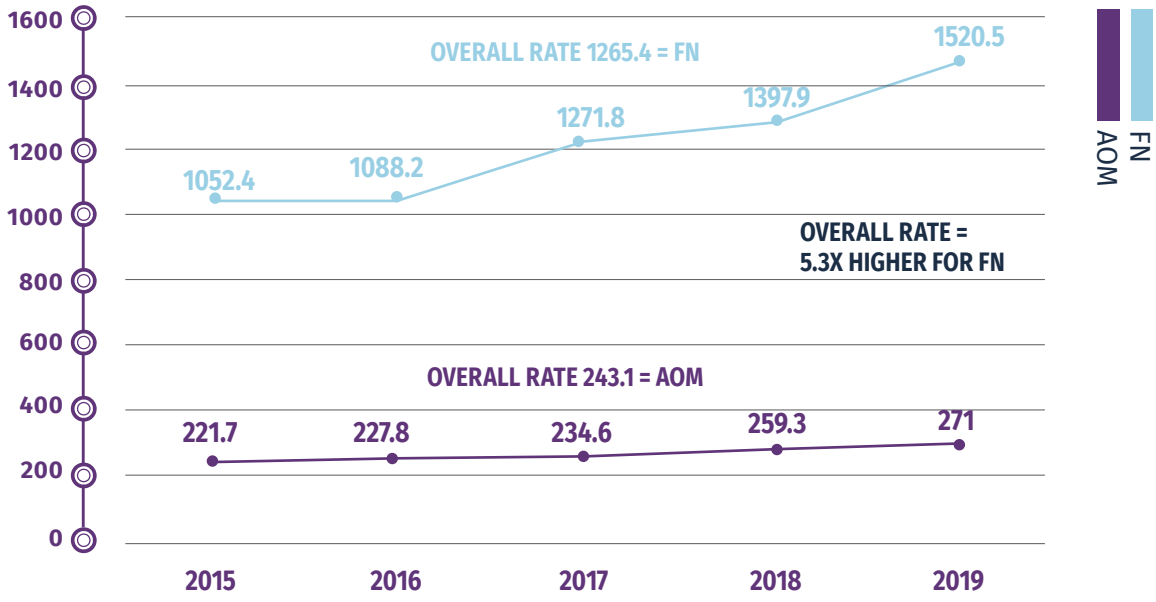
LIZATION

FIGURE 3A
Opioid or drug-related hospitalization crude rates by year and FN status, accidental overdose or poisonings



This graph shows the rate and trends in hospitalizations for opioid and drug related hospitalizations. While the hospitalization rates for AOM have been relatively stable, the rates for FN in Manitoba have been declining steadily. The total rate of opioid or drug related hospitalizations for accidental overdose or poisonings (2015-2019) was approximately **7X** higher for FN people compared to AOM.

FIGURE 3B
Opioid or drug-related hospitalization crude rates by year and FN status for mental and behavioral disorders only



This data shows the opioid and drug related hospitalizations for mental and/or behavioural reasons. While the opioid related hospitalizations show a downward trend, hospitalizations for mental health or behavioural disorders have been on the rise. This data demonstrates that opioid-related hospitalizations occur for reasons other than acute poisonings.

"Part of the problem is that many people, especially the older people do not know what they are being prescribed. They begin taking the medication, and before they know it, they become addicted. The doctors and prescribers have to know that they created the problem, and here we are now, we have to fix it."

Elder, 2022

TABLE 3A:
Age and sex adjusted opioid or drug related hospitalization rates per 100,000 by FN status and drug type, accidental poisoning or overdose only

Cause of Drug-related Hospitalization	FN Rate/100,000	AOM Rate/100,000	Rate Ratio	95% CL	95% CL
Alcohol	11.2	1.2	**9.5**	6.9	13.0
Fentanyl	1.5	1.0	1.5	0.8	2.8
Non-Fentanyl	95.8	8.0	**12.5**	10.7	13.4
Other drugs	169.2	29.1	**5.8**	5.4	6.2

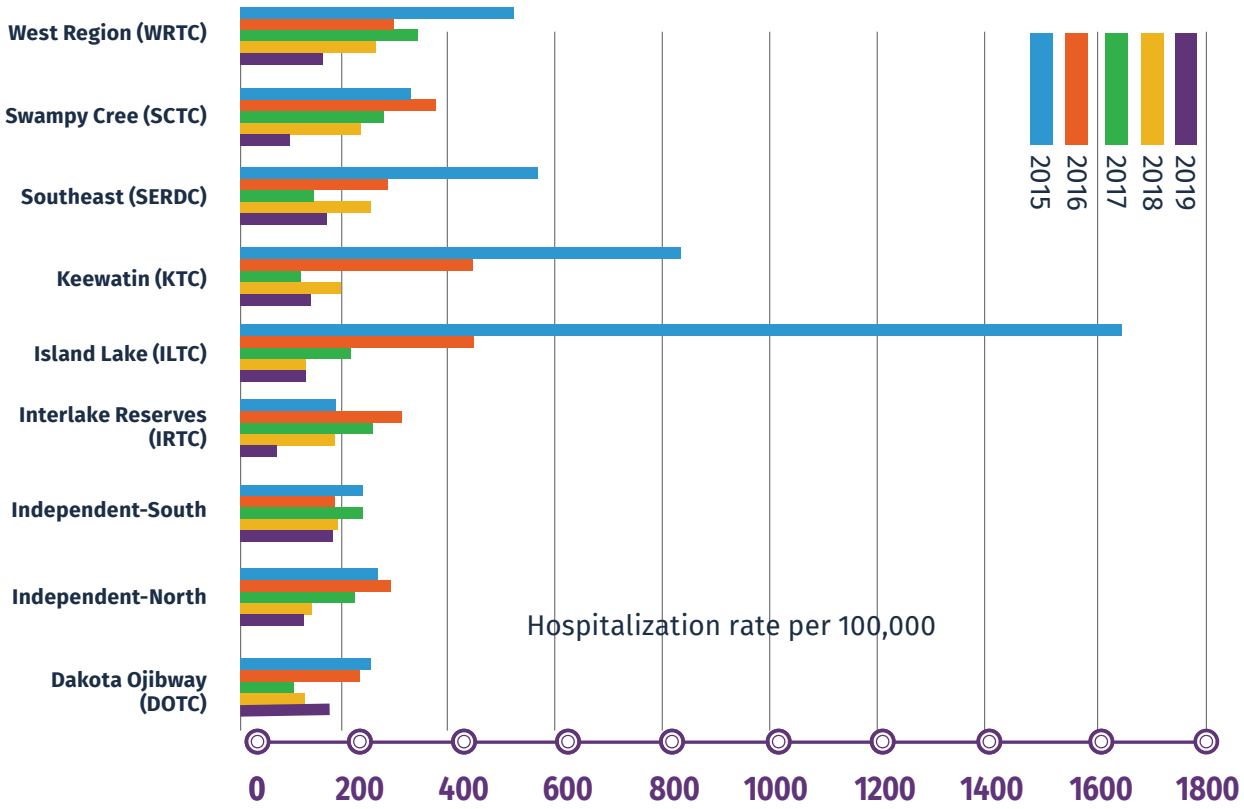
This table shows that alcohol and opioid related hospitalizations are higher for FN, compared to AOM. As of 2019, the rates of fentanyl-related hospitalizations were still relatively low for both FN and AOM. However, when we look at the ratio between fentanyl-related hospitalization rates for FN and AOM, there is no significant difference (RR 1.5; CL .8, 2.8). There are marked significant differences between FN and AOM hospitalization rates for all other opioids (RR 12.5; CL 10.7, 13.4), and for alcohol related hospitalizations (RR 9.5; CL 6.9, 13) and for all other drugs (RR 5.8; 5.4, 6.2 CL).

TABLE 3B:
Age and sex adjusted rates for opioid or alcohol-related hospitalization per 100,000 by FN status, accidental poisonings or overdoses only, fentanyl and non fentanyl combined

Cause of Drug-related Hospitalization	FN Rate/100,000	AOM Rate/100,000	Rate Ratio	95% CL	95% CL
Alcohol	11.2	1.2	**9.5**	6.9	13.0
Opioid	97.3	9.0	**10.8**	9.6	12.0
Other	169.2	29.1	**5.8**	5.4	6.2

Table 3b shows the age and sex adjusted rates of hospitalization for opioid related causes with fentanyl and non-fentanyl opioids combined. In this case, opioid related hospitalizations are significantly different and more than **10X** the rate for AOM. Similarly, the rate for alcohol related admissions is **9.5X** higher and **5.8X** higher for all other substances.

FIGURE 3C
Opioid or drug-related hospitalization rates per 100,000 by RHA, year and FN status, accidental poisonings or overdose only



	Dakota Ojibway (DOTC)	Independent North	Independent South	Interlake Reserves (IRTC)	Island lake (ILTC)	Keewatin (KTC)	Southeast (SERDC)	Swampy Cree (SCTC)	West Region (WRTC)
2019	185.6	134.5	182.1	148.3	276.8	106.5	173.4	140.6	184.8
2018	144.8	155.4	193.0	186.6	389.6	105.0	200.2	228.5	279.2
2017	124.0	208.9	237.5	237.6	328.2	208.0	150.7	290.7	352.2
2016	257.4	290	181.9	263.5	795.1	421.8	235.8	363.1	312.7
2015	261.0	258.3	241.2	193.9	1666.1	884.3	577.6	330.1	479.6

Figure 3c shows the breakdown of hospitalization rates for drug and opioid related hospitalizations by year and Tribal Council Area, which is also demonstrating a downward trend over course of the 5 years. In terms of average opioid related hospitalizations, the ILTC area had the greatest number of hospitalizations, with a total of 3,456 events, followed by the KTC area with a total of 1725 and WRTC at 1608. Swampy Cree (SCTC's) total for the 5 years was 1353, Southeast (SERDC) was 1338, Independent-North 1047, Independent-South 1035, Interlake Reserves (IRTC) 1030, and Dakota Ojibway (DOTC) reporting 972 hospitalizations.

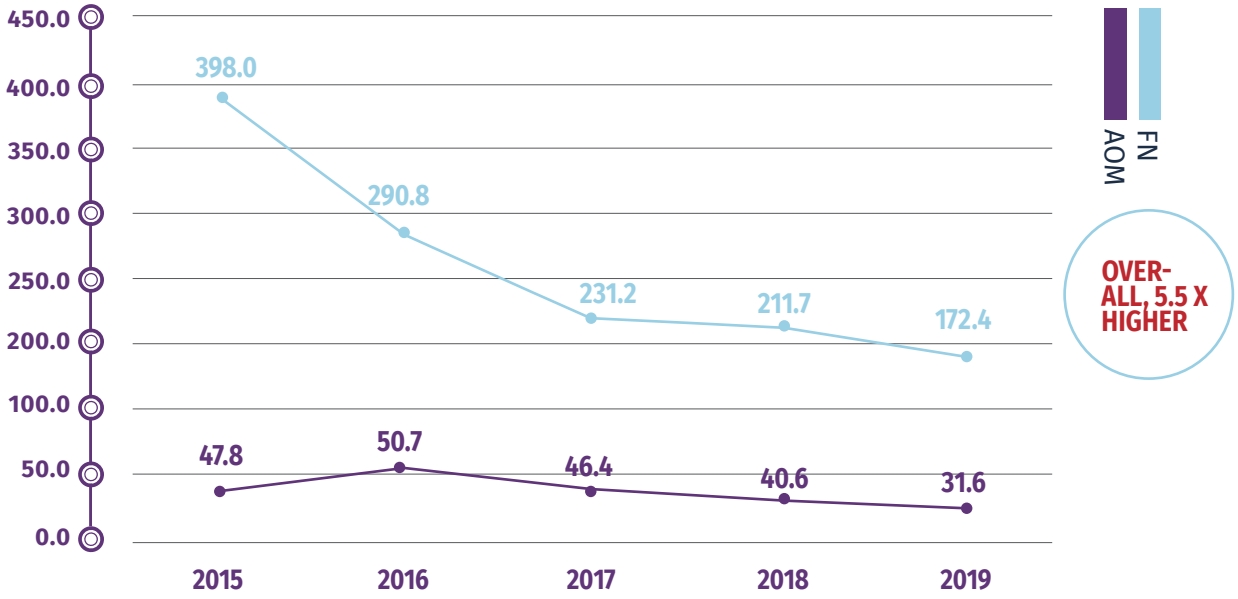
TABLE 3C
Opioid or drug-related hospitalization rates per 100,000 by RHA, year, and FN status, accidental poisonings or overdose only

Regional Health Authority	FN Status	2015	2016	2017	2018	2019	Total
Interlake Eastern (IERHA)	FN	358.8	243.5	264.9	189.0	183.8	1239.9
	AOM	34.8	34.6	44.2	37.6	18.6	169.8
Northern Health (NRHA)	FN	735.7	428.0	204.5	177.3	140.4	1685.8
	AOM	68.0	82.4	55.8	57.6	36.4	300.3
Southern Health-Sante Sud (SH-SS)	FN	95.2	159.9	134.5	133.9	92.4	615.9
	AOM	22.3	24.0	30.3	22.7	21.9	121.1
Prairie Mountain (PMH)	FN	552.7	419.8	319.8	336.7	273.2	1902.3
	AOM	70.8	76.6	60.5	46.6	48.5	302.9
Winnipeg (WRHA)	FN	247.5	202.8	232.5	221.5	172.6	1076.8
	AOM	42.9	35.7	41.4	38.5	30.5	189.0

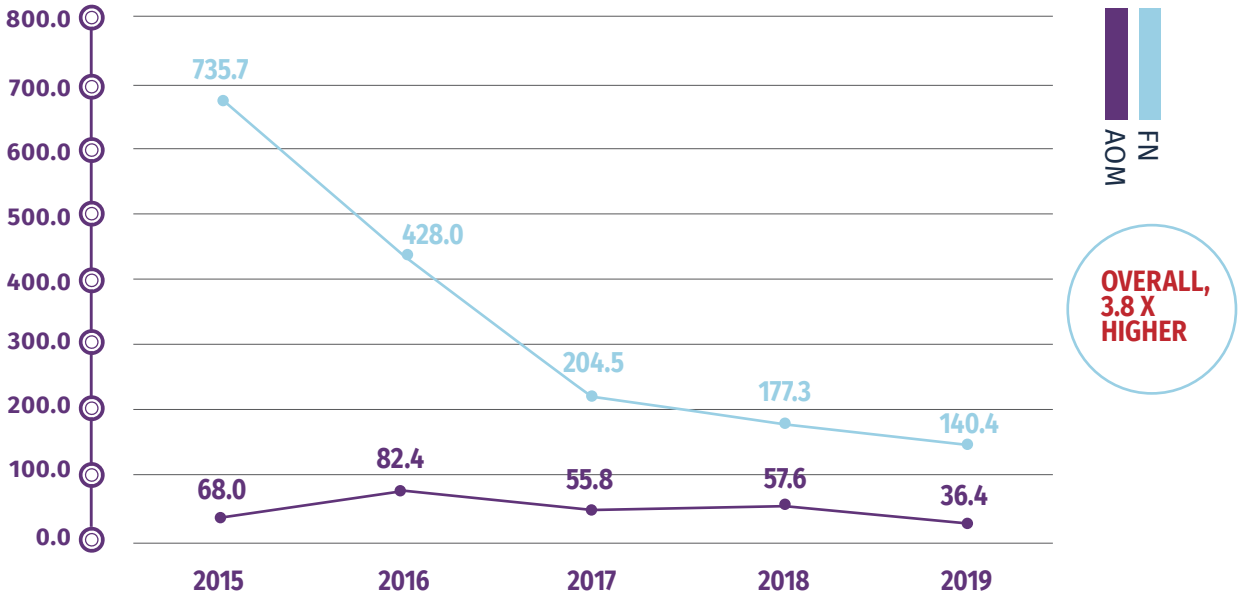
* See accompanying graphs for rates by Regional Health Authority by FN and AOM.

There is a large gap in opioid or drug-related hospitalization rates (per 100,000 people) between FN and AOM. While hospitalization rates for AOM have remained relatively stable, we see a clear downward trend between 2015 and 2019 for FN. When stratified by RHA, we see some variation in opioid-related hospitalization rates for FN people – with the lowest rates found in SH-SS (92.4/100,000), **4.2X** higher than AOM and the highest rates occuring in the IERHA (273.2/100,000), **9.8X** the rate of AOM. Graphs 3C1 to 3C5 that follow (pages 28-30) show the trend overall, and then by regional health authority.

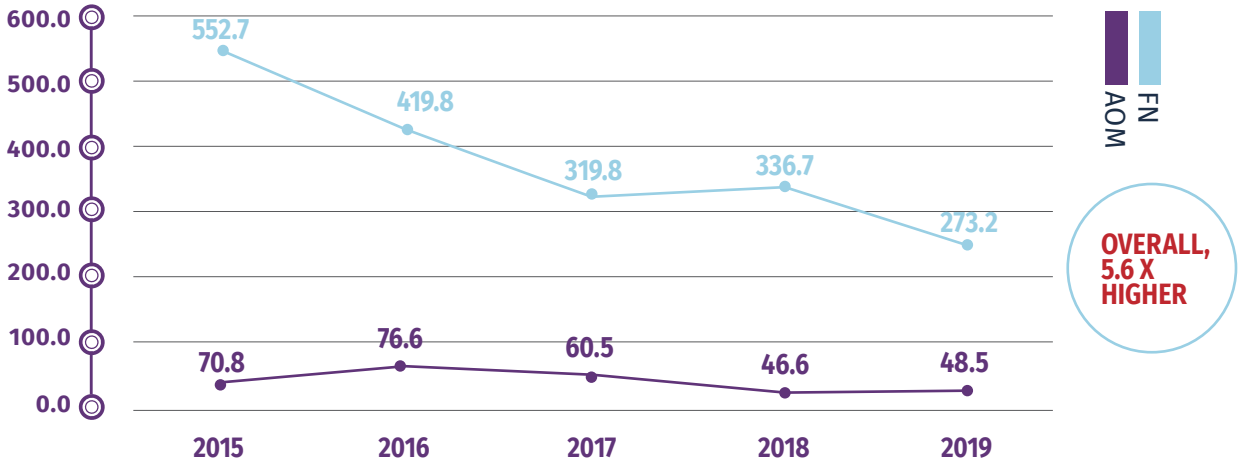
GRAPH 3C1
Opioid or drug-related hospitalization rates/100,000 by year 2015-2019, all RHA's combined



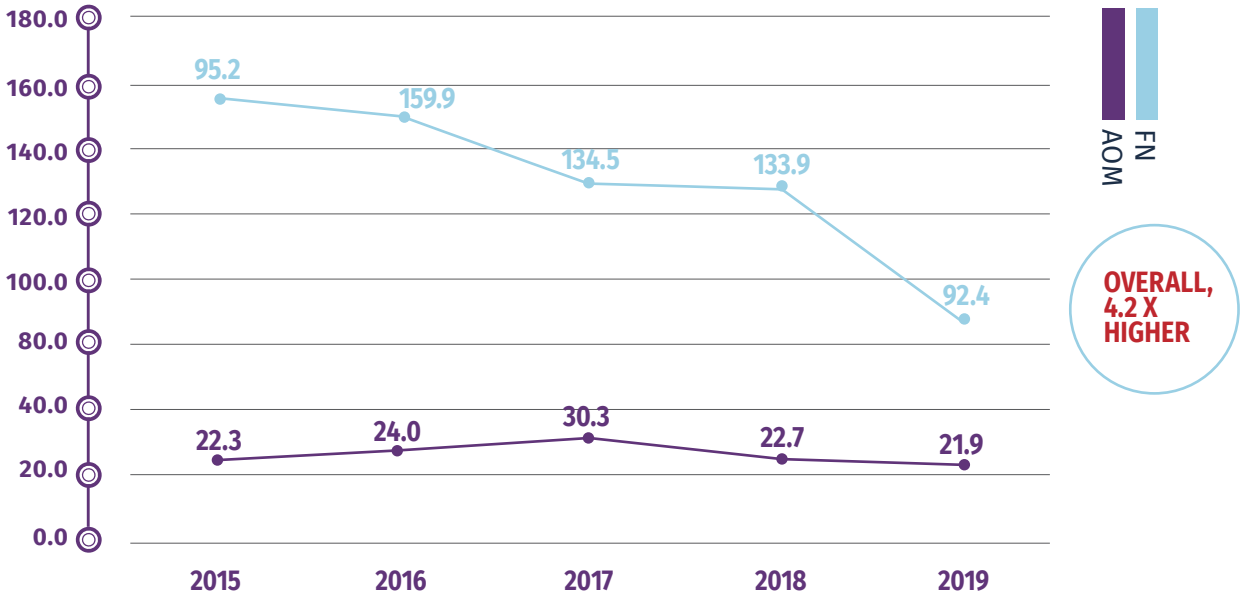
GRAPH 3C2
NRHA – Opioid or drug-related hospitalization rates/100,000, accidental and OD poisonings



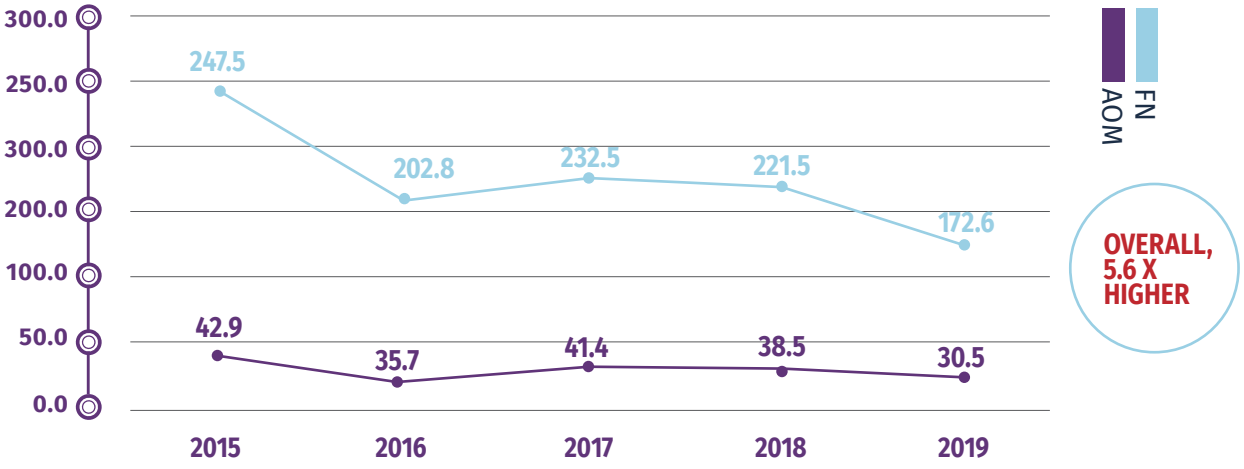
GRAPH 3C3
PMH – Opioid or drug-related hospitalization rates/100,000, accidental and OD poisonings



GRAPH 3C4
SH-SS – Opioid or drug-related hospitalization rates/100,000, accidental and OD poisonings



GRAPH 3C5
WRHA – Opioid or drug-related hospitalization rates/100,000, accidental and OD poisonings



GRAPH 3C5
IERHA – Opioid or drug-related hospitalization rates/100,000, accidental and OD poisonings

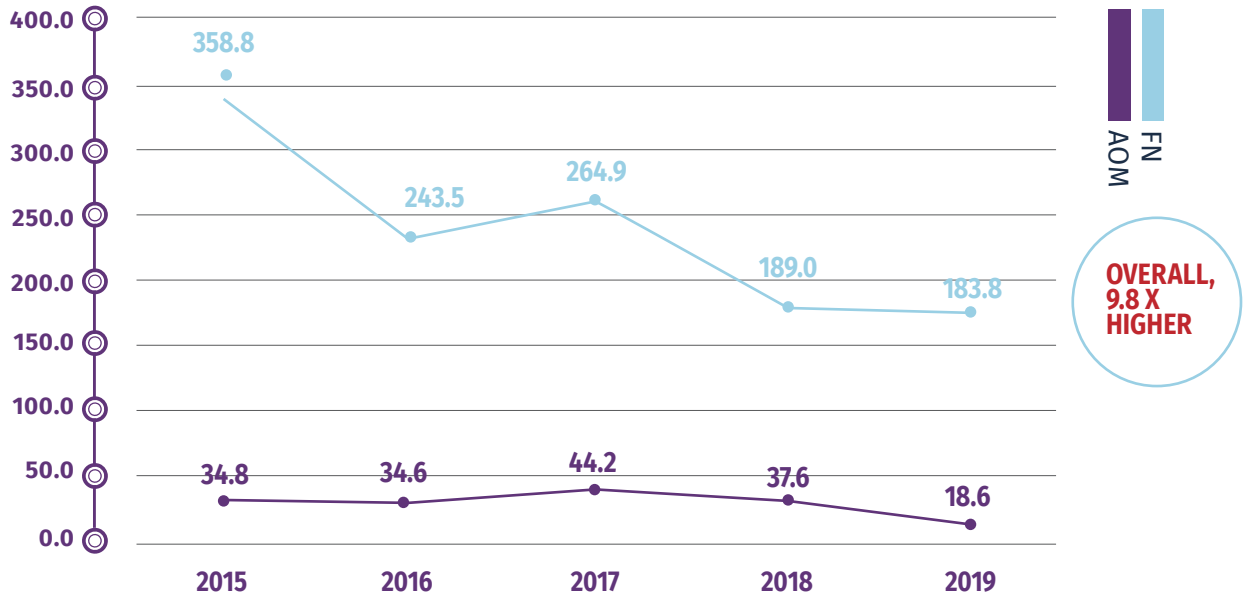


TABLE 3D

Age and sex adjusted rates per 100,000 for alcohol and opioid-related hospitalization by FN status and WRHA and all other RHA's, accidental poisonings and overdose only

Regional Health Authority	Cause of Drug-related Hospitalization	FN Rate per 100,000	AOM Rate per 100,000	Rate Ratio	95% LCL	95 UCL
All Other RHA's	Alcohol	9.4	1.1	**8.7**	5.4	13.9
	Opioid	112.8	10.0	**11.3**	9.7	13.1
	Other	171.2	29.3	**5.8**	5.3	6.4
Winnipeg	Alcohol	22.6	1.2	**19.0**	12.0	30.2
	Opioid	50.9	8.3	**6.1**	4.8	7.9
	Other	140.1	28.3	**4.9**	4.3	5.7

Table 3d shows that the age and sex adjusted rates for opioid and alcohol related hospitalizations in the Winnipeg Region Health Authority area, compared to all other regions. In all RHA's excluding the WRHA, the rate of opioid related hospitalizations for FN is 112.8/100,000 compared to 10/100,000 for AOM (**11X** higher). In Winnipeg, the rate of opioid related hospitalizations is **6X** higher. For alcohol related hospitalizations, the rate is 22.6/100,000 for FN people, which is over **19X** the rate of AOM at 1.2/100,000 in Winnipeg. Whereas in all other RHAs the adjusted rate of alcohol related hospitalizations for FN people is 9.4/100,000 compared to AOM at 1.1/100,00 which is almost **9X** the rate of AOM.

TABLE 3E
Opioid or drug-related hospitalization, sex and age adjusted rate per 100,000 by drug type, RHA, and FN status for drug related mental/behavior disorder

Regional Health Authority	Cause of Drug-related Metal/ Behaviour disorder Hospitalization	FN per 100,000	AOM Rate per 100,000	Rate Ratio	95% LCL	95 UCL
All Other RHAs	Alcohol	891	158.6	**5.9**	5.6	6.2
	Opioid	80.6	18.4	**4.4**	3.8	5.0
	Other	397.1	65.9	**5.9**	3.8	6.3
Winnipeg	Alcohol	925.5	127.9	**7.3**	6.8	7.8
	Opioid	149.8	21.6	**6.9**	6.8	8.1
	Other	678.7	88.8	**6.9**	7.1	8.2

When we look at age and sex adjusted rates for hospitalizations due to opioid related mental health and behavioural events in all the RHA's other than WRHA, we see significant differences in rates for opioid related events that are **4.4X** higher and almost **6X** higher for alcohol related reasons. In the WRHA, the rates are even more drastic with opioid related hospitalizations occurring almost **7X** higher and over **7X** higher for alcohol related reasons.

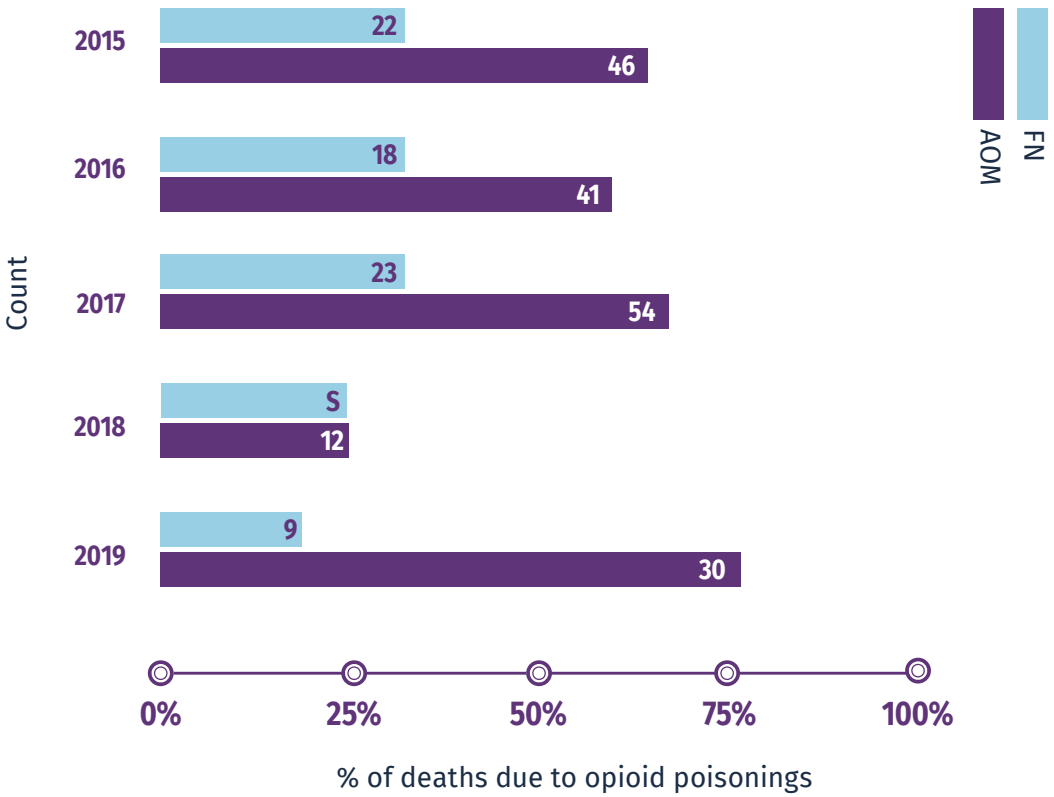
"We have to begin looking at our own traditional ways of healing, such as going out on the land, reconnecting to who we are and going to culture camps. The young people have lost their sense of identity and connection to the land, we must start to build those bridges for them."

Knowledge Keeper, 2022

MORBIDITY & MORTALITY

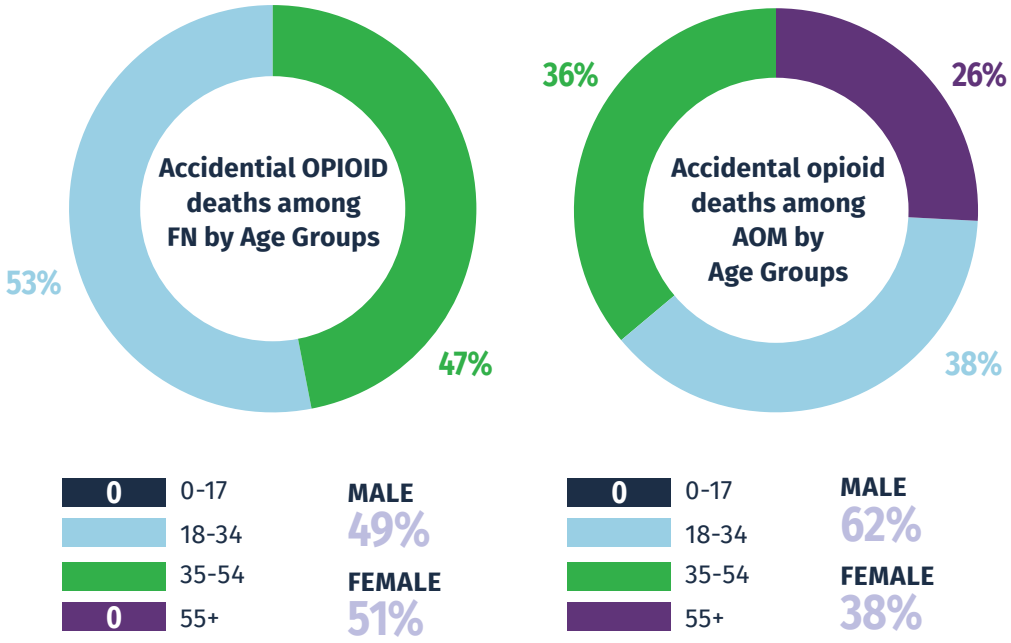
This chapter includes tables and figures which demonstrate the impact of substance use in terms of poisonings (both intentional and accidental) for opioid and other substances that result in deaths, including deaths by suicide. Data used in these tables and figures are obtained from multiple data sets including vital statistics data, hospital discharge abstracts, and physician claims data.

TABLE 4A:
Accidental opioid poisoning deaths by year and FN status



The proportion of opioid related deaths in Manitoba for FN people decreased slightly from 32.4% in 2015 to 23.1%, despite representing only 9% of the population. 2018 data for FN has been suppressed due to small cell counts.

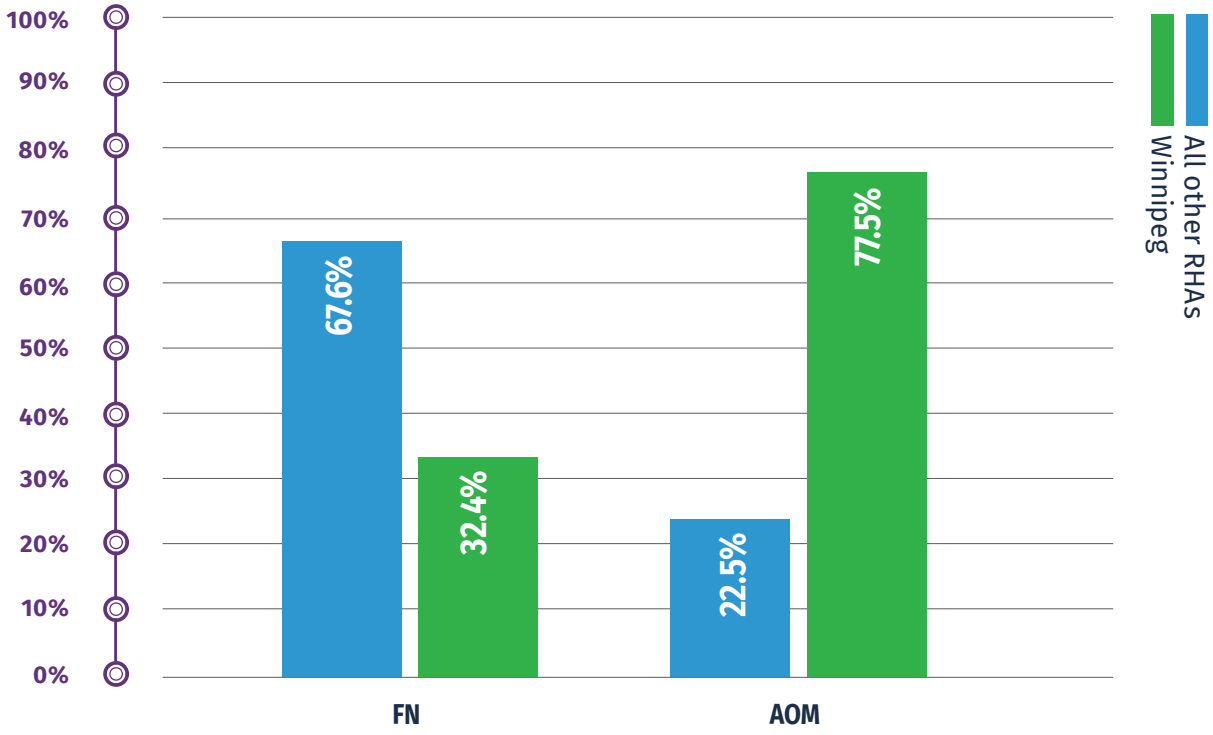
FIGURE 4A & 4B
Accidental opioid deaths by age groups and FN status



The proportion of accidental opioid deaths for FN people varied slightly by age group with the highest proportion occurring in the 18-34 age group (53% deaths) and 47% in the 35-54 age group. The number of deaths in the 55+ age group was small and so the proportion had to be suppressed, whereas in the AOM population the 55+ age group accounted for 26% of opioid related deaths. Similarly, for the AOM, the highest proportion of deaths also occurred in the 18-24 age group at 38%.

The proportion of accidental opioid poisoning deaths is only higher among females (51.4%) compared to males (48.6%). Whereas among AOM, the proportion was much higher for males (62.3%) compared to for females (37.7%).

FIGURE 4C
Accidental opioid poisoning deaths by RHA and FN status, 2015-2019



When looking at the proportion of accidental opioid poisoning deaths by RHA and FN status it appears that highest proportion of deaths occurred outside the Winnipeg Regional Health Authority (WRHA), however, when seen as a *rate per the population size (per 100,000)* the trend was reversed. The highest rate of deaths occurred among FN in the WRHA at 18.8/100,000, almost 4X higher than the AOM population at 3.7/100,00 (Table 4B). A similar trend was seen for all other RHA's with the rate of FN deaths 5X higher for FN residing in Winnipeg, and almost 6X higher in all other RHA's after adjusting for age and sex (see following tables).

TABLE 4B
Age and sex adjusted rates per 100,000 and rate ratio for accidental opioid poisoning deaths by FN status (all MB), 2015-2019

	FN			AOM			Rate Ratio		
	Adjusted rate	95% LCL	95% UCL	Adjusted rate	95% LCL	95% UCL	Adj. FN/ AOM	95% LCL	95% UCL
MB	11.7/100,000	9	15.2	2.9/100,000	2.4	3.5	**4.1**	3.1	5.3

LCL=Lower Confidence Limit; UCL=Upper Confidence Limit

The rate of accidental opioid poisoning deaths after adjusting for age and sex of FN in all of Manitoba was significantly different at 11.7/100,000 and **4X** higher than the AOM population at 2.9/100,000.

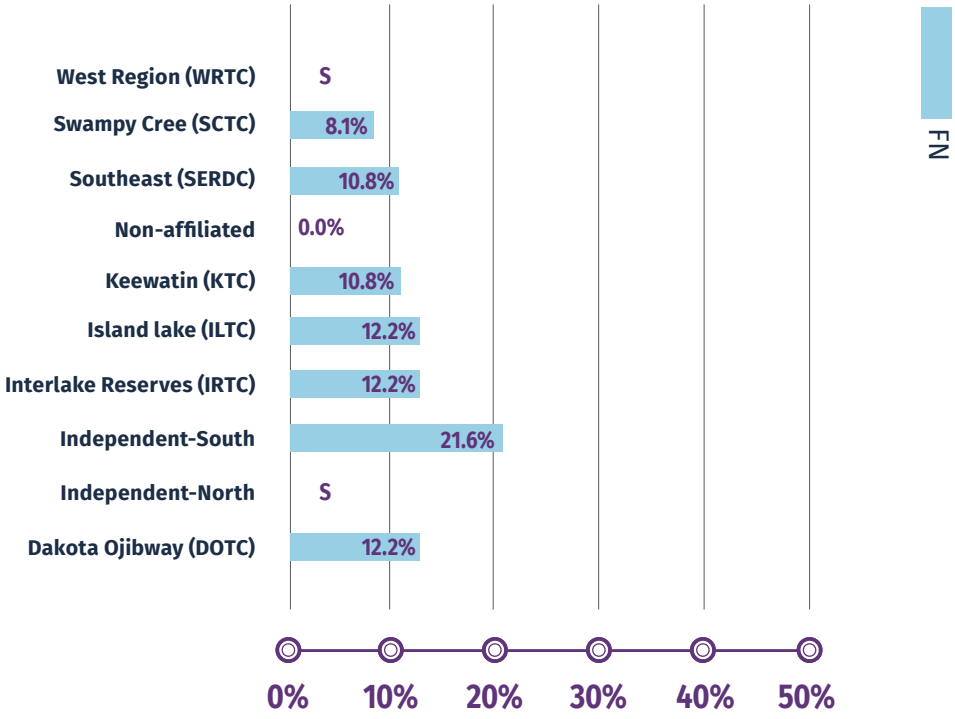
TABLE 4C
Age and sex adjusted rates and rate ratio per 100,000 population for accidental opioid poisoning deaths by RHA and FN status, 2015-2019

	FN			AOM			Rate Ratio		
Regional Health Authority (RHA)	Adjusted rate	95% LCL	95% UCL	Adjusted rate	95% LCL	95% UCL	Adj. FN/ AOM	95% LCL	95% UCL
All Other RHAs	9.6	6.8	13.6	1.6	1.1	2.4	**6**	3.9	8.9
WRHA	18.8	12.2	28.9	3.7	3	4.7	**5**	3.3	7.8

LCL=Lower Confidence Limit; UCL=Upper Confidence Limit

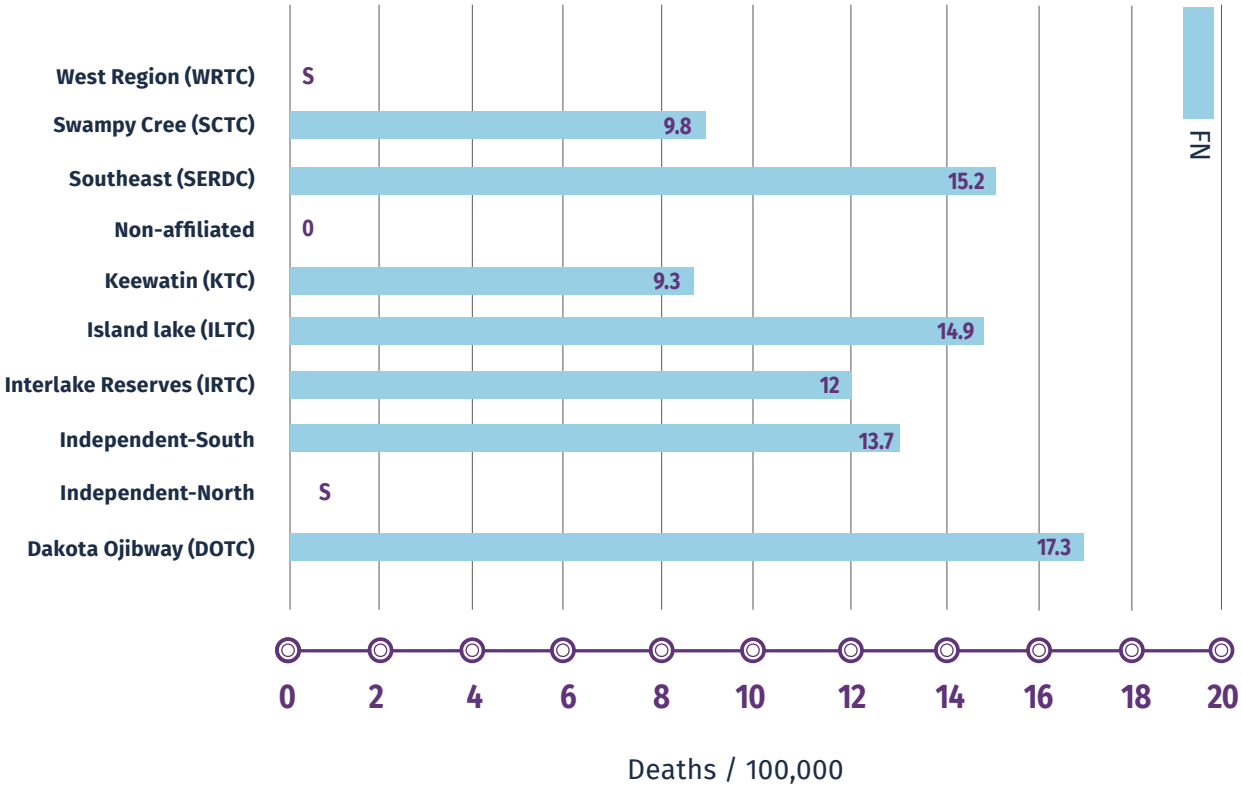
When broken down by WRHA verses all other RHA's we see that the rates of accidental poisonings per 100,000 population is **5X** higher in the WRHA and almost **6X** higher in all regional health authorities for FN in Manitoba.

FIGURE 4D
Proportion of accidental opioid poisoning deaths by Tribal Council area for FN, 2015-2019



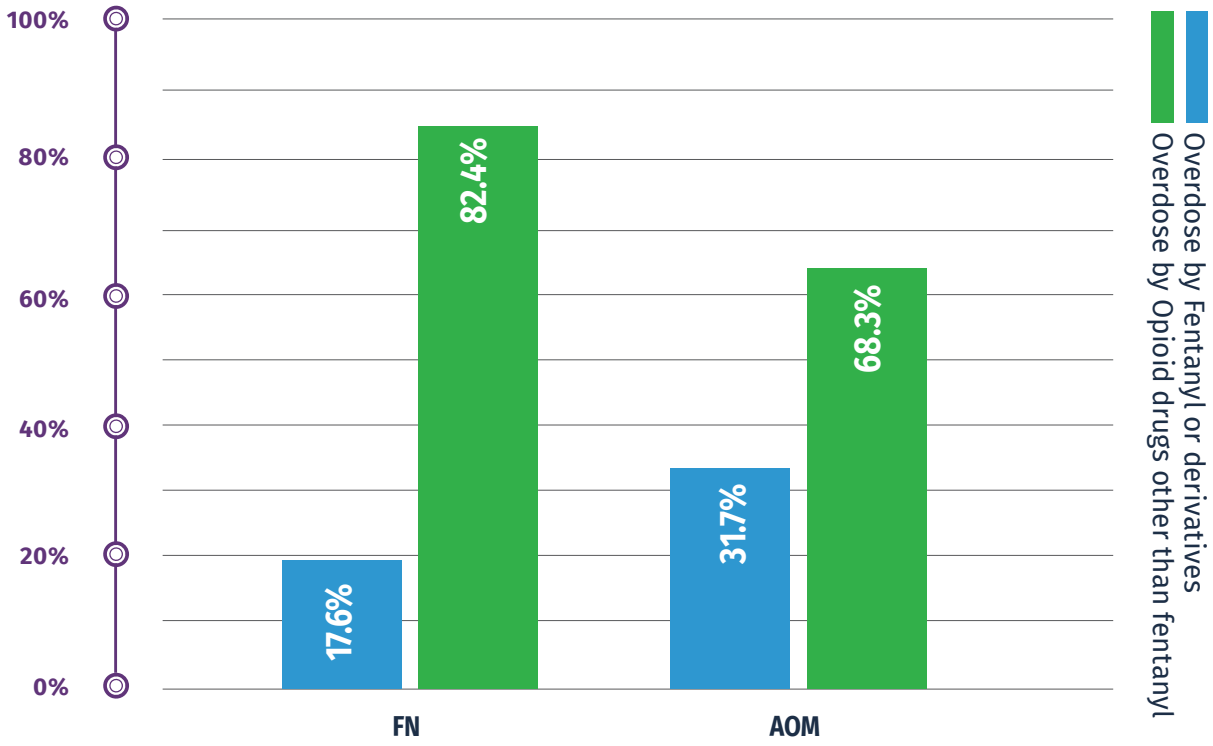
When accidental opioid deaths were stratified by Tribal Council area, we saw some variation ranging from a high of 21.6% deaths occurring in the Independent Southern communities to 8.1% occurring in the SCTC area. However, as the WRTC and Independent-North areas had been suppressed, we can assume that these proportions were lower than 8.1%. When viewed as a rate in terms of population size, we see DOTC with the highest rate at 17%, followed by SERDC and ILTC at ~15%, Independent-South at ~14%. WRTC, non-affiliated, and independent north were suppressed due to low counts.

FIGURE 4E
Rates of accidental opioid poisoning deaths per 100,000 by Tribal Council area FN, 2015-2019



When we look at accidental opioid poisoning deaths as a crude rate in terms of population size, we see DOTC with the highest rate at 17.3/100,000, followed by SERDC, ILTC at ~15/100,000, and Independent-South at ~14/100,000. WRTC, non-affiliated, and Independent-North were suppressed due to low counts.

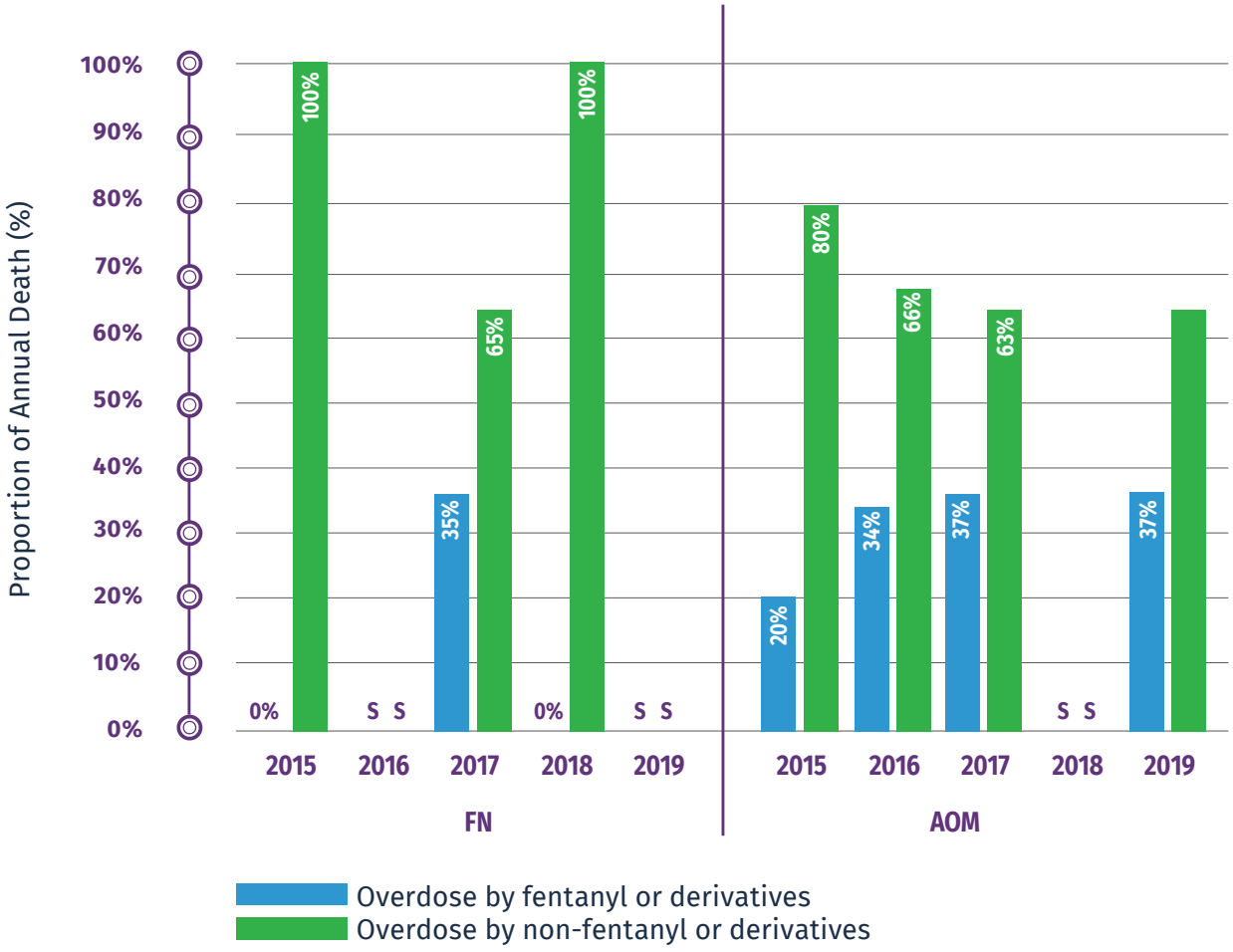
FIGURE 4F
Proportion of accidental opioid poisoning deaths by FN status and whether death occurred by fentanyl or its derivatives, 2015-2019



When looking at deaths by fentanyl or derivatives for all years 2015-2019 by FN status, we see that the proportion of deaths by fentanyl was lower for FN (17.6%) compared to 31.7% for AOM. By far, the highest proportion of deaths for both FN and AOM occurred by opioid drugs other than fentanyl (82.4% for FN and 68.4% for AOM).

FIGURE 4G

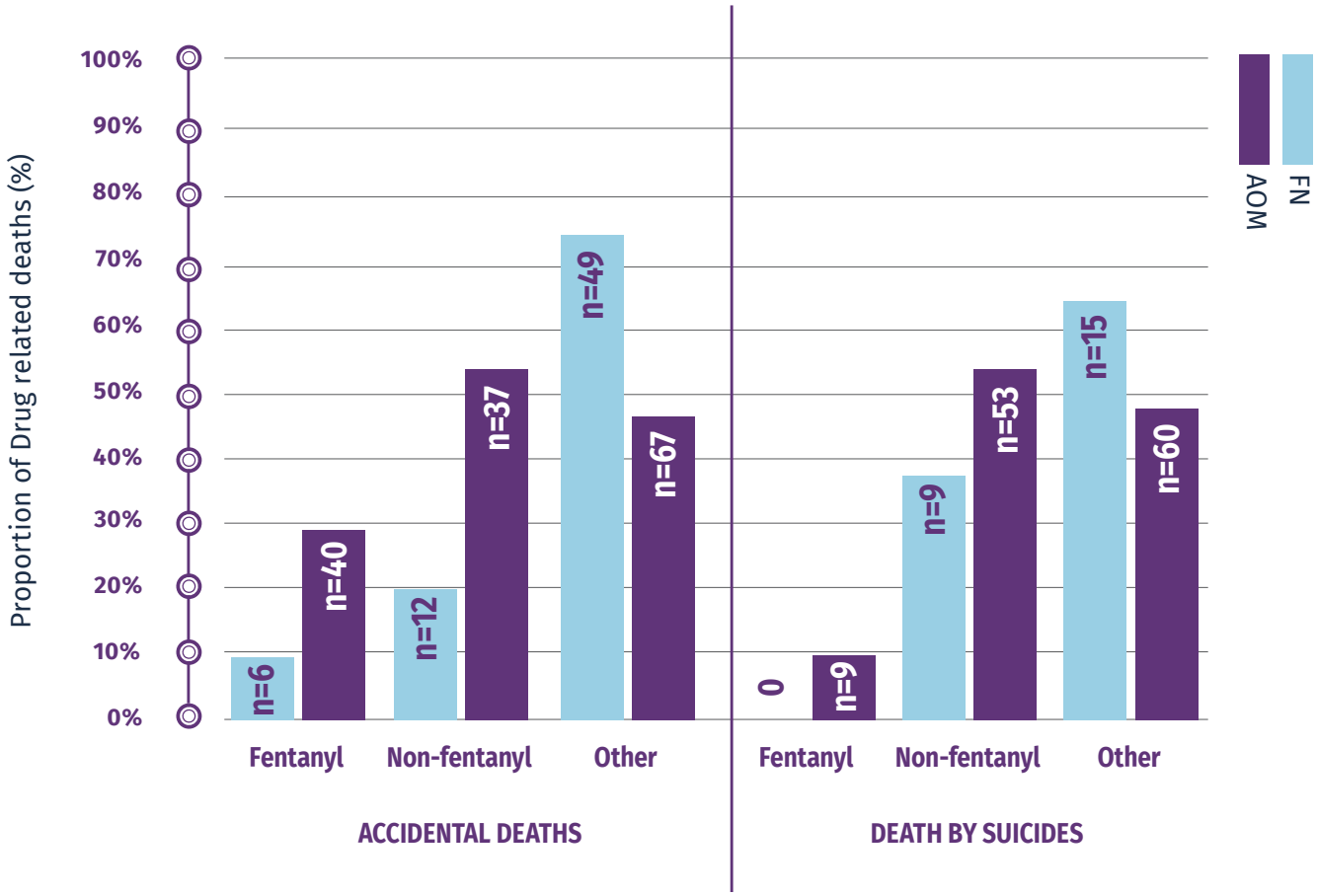
Proportion of accidental opioid poisoning deaths by year, FN status and whether death was due to fentanyl or derivatives, 2015-2019



When we look at the deaths by year and whether the death was by fentanyl or any of its derivatives, we see that most of the deaths occurred by non-fentanyl opioids with the highest fentanyl related deaths occurring in 2017 at 35% among FN. No deaths were recorded in 2018 and the number was suppressed in 2018 due to low counts among FN. In the AOM population, we see more Fentanyl deaths occurring by fentanyl or its derivatives, although they remained lower than deaths by non-fentanyl substances.

FIGURE 4H

Proportion of accidental opioid poisoning deaths by year, FN status and whether death was due to fentanyl or derivatives, 2015-2019



When we examined the proportion of deaths by opioids (both fentanyl and non-fentanyl) for accidental deaths, we see the largest proportion of deaths is overshadowed by deaths occurring by drugs other than opioids (which includes alcohol), accounting for over 70% of deaths for FN. We see a similar gradient in death by suicides for FN, at 60%, although the actual numbers are smaller relatively speaking. By contrast, accidental deaths occurring by drugs and alcohol account for less than 50% in the AOM cohort, and roughly the same percentage for deaths by suicide for drugs other than opioids including alcohol. Some of the proportions of drugs in the "other" category are included in the following figures.

TABLE 4D
Proportion of poisoning deaths by FN status and by all drugs, all years 2015-2019

Underlying Cause of Death (drug-related)	FN		AOM	
	Death was by any drug poisoning/overdose			
	N	%	N	%
Poisoning by non opioid analgesics, antipyretics and antirheumatics	9.0	4.0	8.0	1.7
Poisoning by other opioids	9.0	4.0	46.0	9.9
Poisoning by methadone	S	S	12.0	2.6
Poisoning by other synthetic narcotics	11.0	4.9	63.0	13.5
Poisoning by cocaine	21.0	9.4	40.0	8.6
Poisoning by antiepileptic, sedative-hypnotic and anti-parkinsonism drugs	S	S	8.0	1.7
Poisoning by psychotropic drugs, not elsewhere classified	29.0	13.0	66.0	14.2
Poisoning by primarily systemic and hematological agents, not elsewhere classified	S	S	7.0	1.5
Poisoning by agents primarily affecting the cardiovascular system	S	S	8.0	1.7
Poisoning by diuretics and other and unspecified drugs, medicaments and biological substances	47.0	21.1	94.0	20.2
Toxic effect of alcohol	74.0	33.2	85.0	18.2
Toxic effect of other gases, fumes, and vapors	S	S	7	1.5
Total	**223**	**100**	**466**	**100**

When we examined deaths to poisonings by other substances other than opioids, we found the number one cause for poisonings was by alcohol (33%), with exactly same number of deaths as opioids (n=74) followed by diuretics and other unspecified drugs, medicines, and biological substances at (21 %), and thirdly by psychotropic drugs. The proportion of deaths by cocaine overdose is also concerning, representing 9.4% of deaths among FN population. However, when we compare the proportion of deaths due to toxic effect of alcohol, we see only 18% of those deaths occurring in the AOM population. For the AOM population, the highest proportion of poisoning deaths occurred by diuretics and other unspecified drugs (20%), followed by alcohol (18%), and poisoning by psychotropic drugs (14.2%). Causes other than the drugs listed above where not included in the table due to small numbers.

FIGURE 4I
Proportion of those who received an opioid prescription within 30 days of death by RHA and FN status

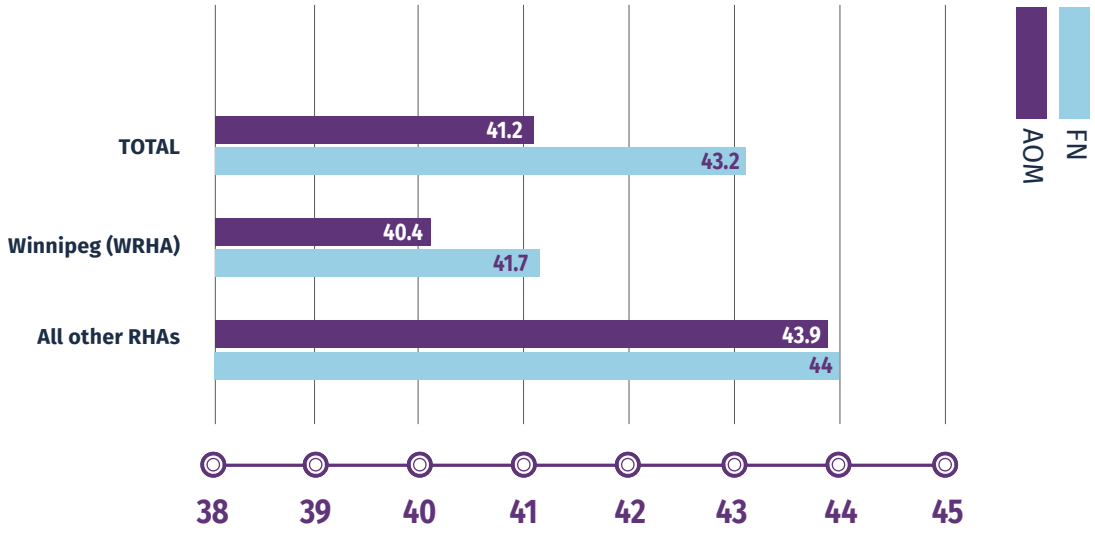
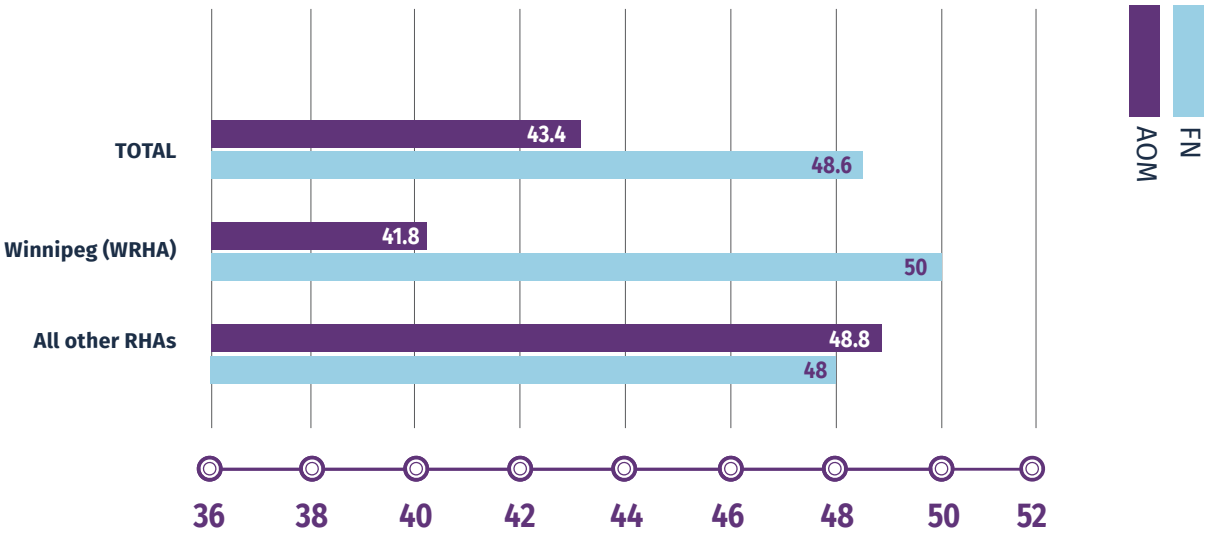


Figure 4i and 4j show the proportion (%) of those individuals who were prescribed an opioid within 30 days and 60 days (next page) of their death. For both FN and AOM, more than 55% of individuals had not received a prescription of opioids within 30 days of death, suggesting that these individuals may not be dying by thier own prescribed medication. We see greater differences within the WRHA, where almost 58% of FN and 60% of AOM did not have an associated prescription.

FIGURE 4J
Proportion of those who received an opioid prescription within 60 days of death by RHA and FN status



Looking further back, the proportion of individuals prescribed an opioid medication within 60 days of their death, more than 51% of individuals had not received a prescription. Within the WRHA, 58% FN and 50% AOM had no associated opioid prescription within 60 days of their death.

CONCLUSION

We have seen in this report that opioid related use, dispensation, hospitalization, and mortality rates are disproportionately affecting First Nations people in Manitoba. We must remain cognizant that this unfortunate state has unfolded within a burgeoning opioid crisis in Canada. In a gathering of our Knowledge Keepers in June of 2022, we presented our preliminary findings to the Knowledge Keepers. They told us that these statistics do not reflect the strength and vibrancy of our culture and our communities. However, it is a truth that needs to be told. The Knowledge Keepers reminded us this is a story about ongoing systemic inequity, oppression, and racism, rooted in colonization, which is still very much a contemporary issue. We must not lose sight of the fact that over prescribing and inappropriate prescribing is a huge part of the problem. They have told us the harm and trauma of colonization has an ongoing impact on our wellbeing and manifests in the statistics and stories we see daily in the news and in other reports. Actions to address the opioid crisis must include restoration of our ways of knowing and healing. Although the scope of this project did not include 2020 or beyond, we have seen a rise in opioid addiction and deaths during the pandemic in Canada and has claimed and is still claiming, the lives of thousands of Canadians from all walks of life. This crisis has been made deadlier by an influx of illicit fentanyl and chemically similar drugs, but it also can be traced to the medical over-prescribing of opioids, including oxycodone, fentanyl, and morphine (Howlett, 2020).

However, there is hope and healing in our future, as reflected in the purple and butterfly theme of this report. Our Knowledge Keepers and Elders told us that the path to healing is found within our own cultural strengths, in our traditional knowledge, spirituality, and wellness practices. These approaches must be restorative, holistic, and include access to cultural and land-based ways of healing, especially regarding mental health and grief support (FNHSSM, 2021).

As stated by a Knowledge Keeper in a 2021 report by FNHSSM:

"Our ancestors prayed, sacrificed, and passed on many teachings to our people so that we could live a good life today. They taught us by example that being spiritually healthy is vital to achieving the most important aspect of our life, which is to live it with a sense of well-being and peace. To know who we are, where we come from, to know our language, our customs, to live our purpose in life, and to have a relationship with our Creator are all part of that spiritual health. Our ancestors have taught us that Mother Earth has provided us with everything we need to live a healthy life, but when our Spirit is not nurtured, our mental and emotional well-being becomes imbalanced and our body becomes weak and ill. Our spiritual, emotional, mental, physical wellbeing are all connected. Each requires our attention; each requires that we nurture them. In today's fast-paced world, it is our Spirit that feels that emotional and mental imbalance the most. To reconnect with Spirit, we know what me must do: be still, listen, feel, and pray. When we do those things, we will receive our answers."

Mental health conditions might be also more effectively treated as an essential component of primary health care at the community level and through upstream interventions aimed at supporting community members in managing their mental health needs when a crisis develops. There is also a need to invest in innovative approaches in community-based mental health services (Lavoie, Phillips-Beck et. al, 2021). These approaches must also include the recognition of and respect for traditional healing, healers, medicines, therapies, and approaches as a means of addressing the legacy and intergenerational impact of residential schools as reflected in the Truth and Reconciliation Commission of Canada Calls to Action (Kyoon-Achan, Phillips-Beck, 2020). Reconciliation must involve investing in Indigenous communities and prioritizing Indigenous health and wellbeing including upstream investments addressing social-structural drivers of health inequities that contribute to the problem of drug overdose deaths among Indigenous peoples (Lavalley, Kastor & Valleriani, 2018). Reconciliation in Canada also requires an overall drug policy reform that combats systems creating trauma, accounts for the legacy of colonization, and dismantles the structural forms of racism shaping Canada's drug policies (Lavalley, et. al 2018).

Summary of restorative action needed:

1. All levels of government and health and social organizations invest in and ensure that First Nations people, leaders, and Knowledge Keepers are meaningfully engaged and at the forefront of planning and addressing the opioid crisis in Manitoba. This includes adequate resources to acknowledge and unequivocally enable their contribution to affect change.

2. All levels of government invest in the creation of a First Nations led comprehensive and multi-level (individual/community/system) Manitoba First Nation drug and opioid strategy, which includes:

a. Strategies to address health care prescribing practices and accountability measures in regard to inappropriate prescribing practices.

b. First Nation-led cultural approaches to wellbeing and healing, including land-based healing, traditional medicines, harm reduction, and ways of healing.

c. Elimination of wait times and streamlined access to healing, treatment, and rehabilitation services at point of care at the time when services are needed.

3. Invest in community-driven and designed mental health and grief support that can be accessed 24-hours/day in all First Nations communities.

4. Review and reform of current Canadian drug policy that eliminates systems that create ongoing trauma, accounts for the legacy of colonization, and dismantles the structural forms of anti-Indigenous racism.

"I have been touched in so many ways seeing this report as I have seen our people, our young ones losing their lives to opiates and substance use. Our young people are truly feeling the impact of colonization and genocide done on their ancestors and the current injustices our Indigenous people face today."

–Grandmother & Knowledge Keeper, 2022

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LIMITATIONS

This study has many limitations.

As our Knowledge Keepers indicated, these numbers do not tell the whole story and these graphs and figures do not reflect the strengths and the many positive elements of our lives such as our vibrant culture and sense of community, our kinship networks, and how we come together in times of crisis and need. We have begun returning to our ceremonies, celebrations, and traditional ways of healing, including our natural medicines which are bringing us hope for our future. How can we reflect these strengths in a report that is still very much western designed, and deficit based they ask? The solution is very simple, the Knowledge Keepers add: "Begin looking for and counting those good things." This advice has many implications for research and statistics.

The data used to create the report and the method of analyzing the data is also a limitation. The administrative data used to generate this report was collected by service providers for purposes other than research. This can lead to miscoding of individuals resulting in undercounting or miscounting of individuals and misclassification of diagnosis and disorders. No causal relationships can be inferred by this report, and at best, only associations between variables can be demonstrated. Statistical procedures and low counts/numbers result in data that cannot be reported for privacy reasons or do not show a significant association, when in reality, this association may be observed.

A concern raised by the Knowledge Keepers in the use of administrative data, is the inability to observe such things such as attitudes, behaviors, motivation, state of mind, barriers, and facilitators for substance use in people's lives. As such, we are unable to capture the everyday context, stories and realities of First Nations' lived experience.

APPENDIX A: List of Definitions/Acronyms

MCHP/Research Population Research Data Repository (Manitoba Centre for Health Policy)
The Manitoba Population Research Data Repository is a comprehensive collection of administrative, registry, survey, and other data primarily relating to residents of Manitoba. It was developed to describe and explain patterns of health care and profiles of health and illness, facilitating interdisciplinary research in areas such as health care, education, social services, and justice.

First Nation (FN)
Indigenous peoples in Canada who are legally referred to as "Indians" as defined in the Constitution Act 1982, s.35. In Manitoba, First Nations peoples include the Cree, Dakota, Anishinaabe, Anishininew, and Denesuline. The report does not include non-Status First Nation.

Manitoba First Nation Research File (MFNRF)
The Manitoba First Nations Research File (MFNRF) contains all Manitoba First Nations people registered as Status Indians under the Indian Act. The list was generated from the Indian Status Registry (ISR), as of 2016, and was provided by the First Nations Health and Social Secretariat of Manitoba (FNHSSM). This registry data was then linked to the Manitoba Health Insurance Registry data to create the MFNRF. Data in the MFNRF is de-identified, meaning names, address and other identifying information are removed, and an encrypted identification number - the scrambled Personal Health Information Number (PHIN) – is added to allow linkage to other data in the Manitoba Population Research Data Repository.

All Other Manitobans (AOM)
All other Manitobans as a comparison group include all Manitoba citizens with a health registry card eligible for health services in Manitoba excluding all FN's living on and off-reserve.

On-Reserve First Nations
On-Reserve First Nations includes Registered (Indian Act Status) First Nations who live within the First Nation community with which they are affiliated in the First Nations Research File in 2016. For more information about the Manitoba First Nations Research File, see the Manitoba First Nations Research File (MFNRF) glossary term.

Off-reserve First Nations
Off-reserve First Nations includes Registered (Indian Act Status) First Nations who live outside of the First Nation community with which they are affiliated in the First Nations Research File in 2016.

Dispensation/Prescription
Any prescription dispensed in a retail pharmacy and recorded in the provincial prescription database (Drug Program Information Network (DPIN)). This includes prescriptions paid out-of-pocket and prescriptions reimbursed by Manitoba's Pharmacare and Family Services drug insurance programs, by federal drug insurance programs such as the Non-Insured Health Benefits for FN and Veteran Affairs, and by private drug insurance programs.

Hospitalization
A hospitalization is simply defined as a single, continuous stay in the hospital system, irrespective of transfers between hospitals. These are hospitalizations during which patients are formally admitted to the hospital for diagnostic, medical, or surgical treatment and typically stay for one or more days. Transfers between hospitals, within the same hospitalization period (days are continuous) are not counted as separate events. Multiple admissions of the same person are counted as separate events. Out-of-province hospitalizations for Manitoba residents are also included. As an indicator, this measures the total number of inpatient hospital separations per 1,000 residents per year.

Hospitalization

Type of Facility	Community characteristics
HEALTH CENTRE/ HEALTH OFFICE	Facilities that offer community health programs and community-based services for First Nations living on-reserve, primary led and operated by individual FN bands/communities. They can provide a combination of traditional healing, cultural programs, health promotion programs, maternal and child health services, community development initiatives, and social support services to First Nations living on-reserve. Generally, they are not funded to deliver primary care. **Criteria**: Population over 100 on-reserve. Non-isolated and semi-isolated community, less than 350 km from a service centre. Health services: hospital accessible by road less than 2 h, occasional unavailability of local ambulance and first response services. Transportation: All weather road/air access, poor road conditions. Community infrastructure: Limited community services or adequate community services (Health Office). On-reserve health services funded: Public and family health, screening and prevention available 5 days per week, with limited or no after hour care locally (Health Centre)
NURSING STATIONS	Nurse managed primary care facility, 24/7 accessible. As there is limited access to hospitals and doctors, nurses in remote communities often provide care that requires advanced knowledge, skills and clinical judgment and a holistic approach to care for clients requiring treatment for routine, acute and emergency health problems focusing on: health promotion, disease prevention, illness management & clinical assessment. **Criteria**: Population over 500 on-reserve. Remote or isolated community, over 350 km/3 h travel to a service centre. Health services: nearest hospital more than 2 hours away, limited availability of local ambulance and first response services. Transportation: Generally, no year-round road access to other health care facilities. On-reserve health services funded: Treatment, public health and prevention.

Definitions and Codes Used in Administrative Health Data Analysis

Cohort Formation Steps

- Manitoba Population counts, scrambled PHIN identifiers, and residence information for all Manitobans obtained from Manitoba Health Insurance Registry (http://mchp-appserv.cpe.umanitoba.ca/viewConcept.php?conceptID=1213), for calendar years 2015 to 2019 inclusive.
- First Nations status, community, treaty area, tribal council area, and on-/off-reserve status determined from Manitoba First Nations Research File (http://mchp-appserv.cpe.umanitoba.ca/viewDefinition.php?definitionID=104856).
- Income quintiles (http://mchp-appserv.cpe.umanitoba.ca/viewDefinition.php?definitionID=102882) and urban/rural status determined from 2016 Canadian Census data, based on mean household income by census Dissemination Area for each year of study, as for MCHP report *The Health Status of and Access to Healthcare by Registered First Nation Peoples in Manitoba*, 2019, http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=78005.

Identification of Opioid and Opioid Agonist Therapy Prescriptions

- Opioid and OAT prescriptions were identified in DPIN dispensation data using the list of opioid ATC codes from the Alberta Report, Nov. 2017 (*Opioids and Substances of Misuse among First Nations People in Alberta*, pp. 23-24, https://open.alberta.ca/dataset/cb00bdd1-5d55-485a-9953-724832f373c3/resource/31c4f309-26d4-46cf-b8b2-3a990510077c/download/Opioids-Substances-Misuse-Report-FirstNations-2017.pdf).
- Exclusions were made for opioid ATC codes R05FA02, R05DA20, and M03BB53, as for MCHP report *The Health Status of and Access to Healthcare by Registered First Nation Peoples in Manitoba*, 2019, http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=78005.
- Additional OAT drugs were identified by DIN list and Manitoba drug PIN list provided by Manitoba Health, as for MCHP report above. DINs: 02247699, 02247700, 02247701, 02247694, 02241377, 02247698, 02244290, 00907561, 00909100, 00909104, 00909102, 00909106, 00909190, 02394596, 02394618, 02468093, 02295695, 02295709, 02424851, 02424878, 02408090, 02408104, 02453908, 02453916. PINs: 00907561, 00909100, 00909104, 00909102, 00909106, 00909190

Identification of Comorbidities

- Comorbidities were identified in population groups based on Elixhauser Comorbidity Index (http://mchp-appserv.cpe.umanitoba.ca/viewConcept.php?conceptID=1436), calculated in previous year.
- Additional mental health-related comorbidities were identified in previous five years:

Mood/Anxiety disorders: One or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression, adjustment reaction, bipolar disorder, an anxiety state, phobic disorders or obsessive-compulsive disorders: ICD-9-CM codes 296, 311, 309, 300 or ICD-10-CA codes F30, F31, F32, F33, F34, F38, F40, F41.0, F41.1, F41.2, F41.3, F41.8, F41.9, F42, F43, F53.0; **OR**
Two or more physician visits with a diagnosis for depressive disorder or affective psychoses, adjustment reaction or for anxiety disorders (including dissociative and somatoform disorders): ICD-9-CM codes 296, 311, 309, 300. (from *Mental Illness Among Adult Manitobans*, Chartier et al., 2018, http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=77849)

Personality disorders: One or more hospitalizations with a diagnosis for personality disorders: ICD-9-CM code 301 or ICD-10-CA codes: F21, F60, F61, F62, F69; **OR** One or more physician visits with a diagnosis of personality disorders: ICD-9-CM code 301. (*ibid.*)

Psychosis: One or more hospitalizations with a diagnosis of psychotic disorders: ICD-9-CM codes 295, 297, 298 or ICD-10-CA codes F11.5, F12.5, F13.5, F14.5, F15.5, F16.5, F18.5, F19.5, F20, F22, F23, F24, F25, F28, F29; OR One or more physician visits with a diagnosis of psychotic disorders: ICD-9-CM codes 295, 297, 298. (*ibid.*)

Suicide attempts: A hospitalization with a diagnosis code for accidental poisoning: ICD-9-CM codes 965, 967, 969, 977.9, 986, E850-E854, E858, E862, E868; ICD-10-CA codes T39, T40,T42.3, T42.4, T42.7,T43, T50.9, T58, X40-X42, X44, X46, X47, Y10- Y12, Y16, Y17, only if there is a physician visit with a diagnosis code for accidental poisoning and a psychiatric tariff code either during the hospital stay or within 30 days post-discharge. Psychiatric tariff codes are as follows:

From the psychiatric schedule:

- 8444 Psychotherapy – group of two to four patients
- 8446 Psychotherapy – group of five or more patients
- 8472 Child and Youth Management Conference
- 8475 Psychiatry – Patient Care Family Conference
- 8476 Psychiatric Social Interview
- 8503 Complete history and psychiatric examination – adult
- 8504 Complete history and psychiatric examination – child
- 8553 Psychiatry Consultation – adult
- 8554 Psychiatry Consultation – child
- 8581 Psychotherapy – individual
- 8584 Psychiatric care – individual
- 8588 Electroshock therapy
- 8596 Consultation – Unassigned patient - child

From the general schedule:

- 8580 Psychotherapy – individual
- 8587 Electroshock therapy
- 8589 Psychotherapy – group

(from http://mchp-appserv.cpe.umanitoba.ca/viewConcept.php?conceptID=1183, as in Chartier et al., 2015, *Care of Manitobans Living with Chronic Kidney Disease,* http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=77099)

Substance abuse: One or more hospitalizations with a diagnosis for alcohol or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs: ICD-9-CM codes, 291 (alcoholic psychoses), 292 (drug psychoses), 303 (alcohol dependence), 304 (drug dependence), or 305 (nondependent abuse of drugs) or ICD-10-CA codes F10-F19 and F55; OR (Substance Abuse Diagnoses Codes: ICD-9-CM: 291, 292, 303, 304, 305 ICD-10-CA: F10-F19, F55) Z50.2 and Z50.3; **OR** One or more physician visits with a diagnosis for alcohol or drug psychoses, alcohol or drug dependence, or nondependent abuse.
(Chartier et al., 2018)

Determination of Opioid, Alcohol or other Drug-related Mortalities

Mortalities in Vital Statistics Agency data, where primary or underlying cause of death was indicated by an ICD-10-CA diagnosis code of:

- T40.2, T40.3, T40.4, or T40.6 (poisoning by prescription opioids)
- T40.1 (poisoning by non-prescription opioids)
- T40.5, T40.7, T40.8, or T40.9 (poisoning by non-opioids)
- X42, Y62, Y12, T50.9; AND not one of above T40 codes (poisoning by othernarcotics)
- T51.0-T51.9 (poisoning by alcohol)
- Any other T36-T53 or T59 code (poisoning by other drugs or substances)

Mortalities identified with ICD-10-CA codes for poisoning by non-prescription opioids or any non-opioids must additionally be identified with a primary or underlying cause of death indicated by an ICD-10-CA diagnosis code of X40-X49 (accidental poisoning), X60-X69 (intentional self-poisoning), X85-X90 (assault by noxious substances), or Y10- Y19 (poisoning by/exposure to noxious substances).

Mortalities identified with ICD-10-CA codes for poisoning by prescription opioids or by other narcotics above were counted even in the absence of one of the X or Y ICD-10-CA codes listed above. Poisonings by other narcotics were counted among opioid-related deaths.

- Fentanyl-related mortalities were identified from above opioid-related deaths by code T40.4.
- Mortalities were categorized as accidental when primary or underlying cause of deat was indicated by ICD-10-CA codes X40, X41, X42, X46, or X47.
- Mortalities were categorized as suicide when primary or underlying cause of death was indicated by ICD-10-CA codes X60-X84 (intentional self-poisoning or self-harm), Y10-Y34 (event of undetermined intent), Y87.0 (late effects of self-inflicted injury), or Y87.2 (late effects of event of undetermined intent), as for MCHP report T*he Health Status of and Access to Healthcare by Registered First Nation Peoples in Manitoba*, 2019, http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=78005.

Determination of Opioid, Alcohol or other Drug-related Hospitalizations

Manitoba hospital Discharge Abstract Data, where primary or underlying diagnosis was indicated by an ICD-10-CA code of:

- T40.2, T40.3, T40.4, or T40.6 (poisoning by prescription opioids)
- T40.1 (poisoning by non-prescription opioids)
- T40.5, T40.7, T40.8, or T40.9 (poisoning by non-opioids)
- X42, Y62, Y12, T50.9; AND not one of above T40 codes (poisoning by other narcotics)
- T51.0-T51.9 (poisoning by alcohol)
- Any other T36-T53 or T59 code (poisoning by other drugs or substances)

Hospitalizations identified with ICD-10-CA codes for poisoning by non-prescription opioids or any non-opioids must additionally be identified with a primary or underlying diagnosis indicated by an ICD-10-CA code of X40-X49 (accidental poisoning), X60-X69 (intentional self-poisoning), X85-X90 (assault by noxious substances), or Y10-Y19 (poisoning by/exposure to noxious substances).

Hospitalizations identified with ICD-10-CA codes for poisoning by prescription opioids or by other narcotics above were counted even in the absence of one of the X or Y ICD-10- CA codes listed above. Poisonings by other narcotics were counted among opioid-related poisoning hospitalizations.

Hospitalizations for drug-related mental and behavioural disorders were identified by primary or underlying diagnosis ICD-10-CA codes of:

- F11 (due to use of opioids)
- F10 (due to use of alcohol)
- F12-F19 (due to use of other drugs or substances)

Fentanyl-related hospitalizations were identified from above opioid-related events bycode T40.4.
Please also refer to the Glossary in MCHP report *The Health Status of and Access to Healthcare by Registered First Nation Peoples in Manitoba*, 2019, http://mchp-appserv.cpe.umanitoba.ca/deliverable.php?referencePaperID=78005, pp. 185-191, for definitions of terms.

NOTES

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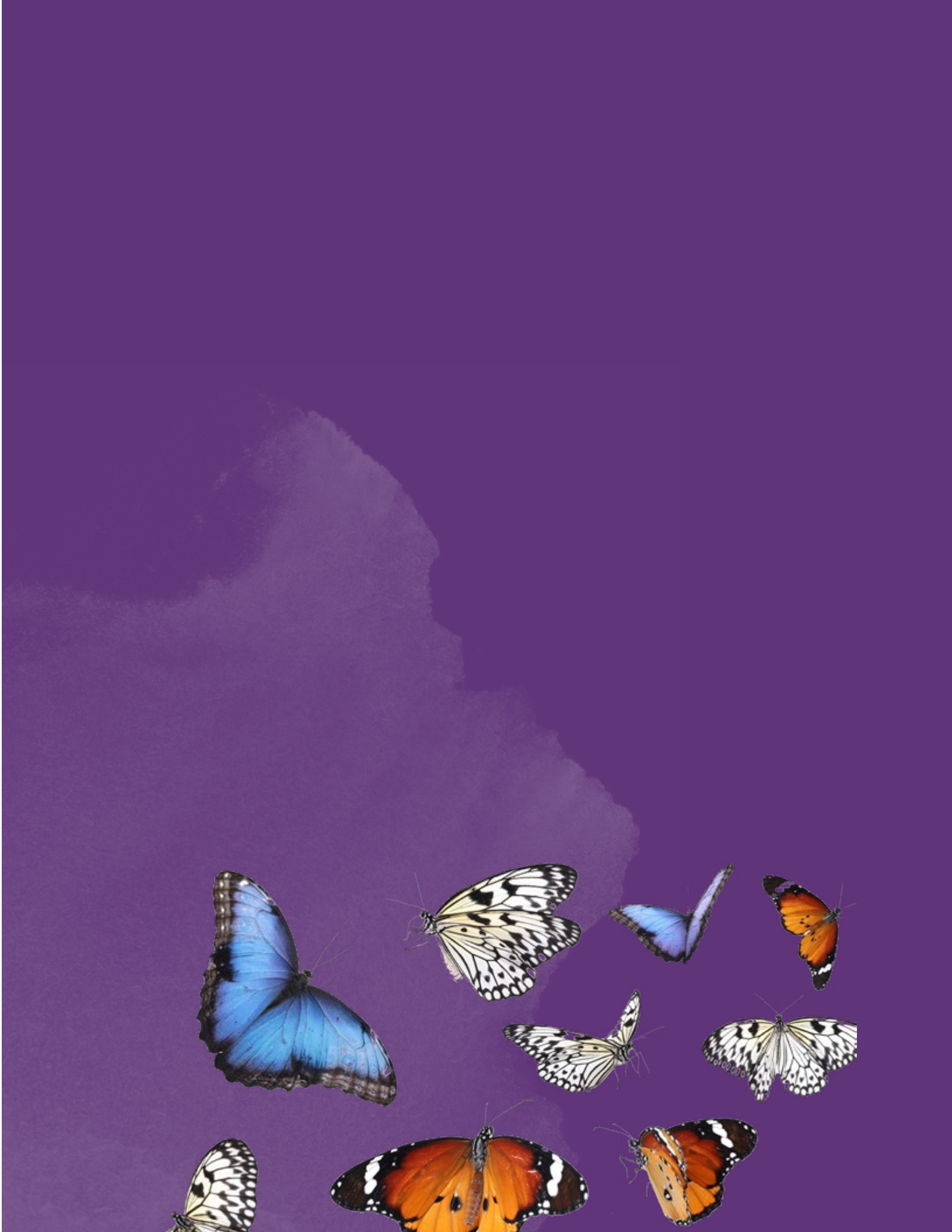

Illustration: Bethany Phillips