SURVEILLANCE OF OPIOID USE AND OVERDOSE IN MANITOBA:

2018 QUARTER 2: APRIL 1 – JUNE 30, 2018

Manitoba

TO MEET THE HEALTH NEEDS OF INDIVIDUALS, FAMILIES AND THEIR COMMUNITIES BY LEADING A SUSTAINABLE, PUBLICLY ADMINISTERED HEALTH SYSTEM THAT PROMOTES WELL-BEING AND PROVIDES THE RIGHT CARE, IN THE RIGHT PLACE, AT THE RIGHT TIME.
MANITOBA HEALTH, SENIORS AND ACTIVE LIVING

Epidemiology & Surveillance
Active Living, Population and Public Health Branch
Active Living, Indigenous Relations, Population and Public Health Division
Manitoba Health, Seniors and Active Living

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HIGHLIGHTS:

Given the increasing concerns of harm associated with opioid use and overdose in Manitoba, a surveillance system was established in the beginning of 2017 by collaborating with a range of stakeholders. This report is based on available data as of the second quarter of 2018.

Apparent opioid-related deaths

Between January 1 and June 30, 2018, 32* apparent opioid-related deaths (AORDs) have been reported in Manitoba: 18* in the first quarter (January 1 – March 31) and 14* in the second quarter (April 1 – June 30). Information is available on 22* of the 32* apparent-opioid related deaths, and a description of these deaths is provided in this report – see *page 21.*

***** Deaths that occurred in 2018 are still under review. These are preliminary numbers and are subject to change.

Hospitalization due to opioid poisoning

Between January 1 and June 30, 2018, 52 opioid poisoning hospitalizations were reported, with 27 of these occurring in the second quarter. This is a slight increase from the previous quarter (n=25). The number of hospitalizations per week ranged from 1 to 4 (Figure 7). In 2017, there were 70 opioid poisoning hospitalizations reported between January 1 and June 30 – *see page 13.*

Emergency department admissions

Between January 1 and June 30 2018, 867 suspected overdose cases arrived at emergency departments (this is not specific to an opioid overdose): 611 to Winnipeg Regional Health Authority sites and 256 to the remaining sites in Manitoba – *see page 14.*

Opioid Overdose events in the community – using naloxone administration as a proxy

In Winnipeg, between January 1 and June 30, 2018, 286 individuals were suspected to have overdosed on opioids and as a result, naloxone was administered by an EMS personnel – *see page 6*.

In Northern and Rural Manitoba, between January 1 and April 30, 2018, 14 individuals were suspected of an overdose and administered naloxone. The number of field administrations of naloxone has ranged between five and twelve per quarter (median = 10).

Opioid prescription dispensing

In 2018 (between January 1 and June 30, 2018), 18,196 Manitobans (57% female) were dispensed a prescription opioid from a community pharmacy: 9,088 in the first quarter and 9,108 in the second quarter.
The number of Manitobans dispensed a prescription opioid between January 1 and June 30, 2018, is lower compared the same time period in 2016 and 2017 – *see page 26.*

Illegal drug activity

Due to availability of data and the method of analysis used, a summary up to the end of the third quarter (September 30, 2018) is being reported.

Between January 1 and September 30, 2018, a total of 2,900 samples were submitted for analysis in Manitoba. During the six month period of April 1 – September 30 2018, a total of 1,790 samples were submitted for analysis, which represents a 7% increase over the same period last year. During this period 175 opioids were identified. Other drugs of interest identified during this 6-month period include: Psilocybin a.k.a Magic Mushrooms (n=10), and Ketamine, an anesthetic typically used in medical or veterinary surgery (n=6) – *see page 30*.

TABLE OF CONTENTS

SURVEILLANCE OF OPIOID USE AND OVERDOSE IN MANITOBA

2018 QUARTER 2: APRIL 1 – JUNE 30, 2018

Given increasing concerns on the harm associated with opioid use and overdose in the province, Manitoba Health, Seniors and Active Living works closely with partners to collect and share data to monitor the situation.

The quarterly *Surveillance of Opioid Use and Overdose in Manitoba* report describes provincial patterns of opioid use, overdose, and related harms, and current response efforts.

Current response efforts: Naloxone Distribution

See Appendix B for interpretation notes on the Provincial Take-Home Naloxone Program and the Manitoba Materials Distribution Agency (MDA) data.

Distribution of Naloxone to individuals through the Provincial Take-Home Naloxone Program

In the second quarter of 2018, there were 230 take-home naloxone kits distributed by 11 sites in Manitoba. This is an increase compared to the previous two quarters (Table 1).

Table 1: Number of take-home naloxone kits distributed in Manitoba, Manitoba Health, Seniors and Active Living (January 1, 2017 – June 30, 2018)

	Total kits distributed	First kits[1] (new recipients)
2017 Q1 (January 1 – March 31, 2017)	259	209
2017 Q2 (April 1 – June 30, 2017)	227	160
2017 Q3 (July 1 – September 30, 2017)	274	191
2017 Q4 (October 1 – December 31, 2017)	195	150
2018 Q1 (January 1 – March 31, 2018)	138	100
2018 Q2 (April 1 – June 30, 2018)	**230**	**181**
April	*76*	*53*
May	*95*	*79*
June	*59*	*49*

Naloxone Kit orders through the Manitoba Materials Distribution Agency (MDA)

In the second quarter of 2018, 320 naloxone kits were shipped from the Manitoba's Materials Distribution Agency. This is slightly higher in comparison to the first quarter of 2018 (January 1 – March 31, 2018), but lower than the first three quarters of 2017 (Figure 1).

Since the initiation of the program, the median number of units shipped per month is 125 units. Shipments have ranged from zero (December 2017) to 270 (January 2017) units per month

[1] Individuals who received a naloxone kit for the first time (not a replacement kit).

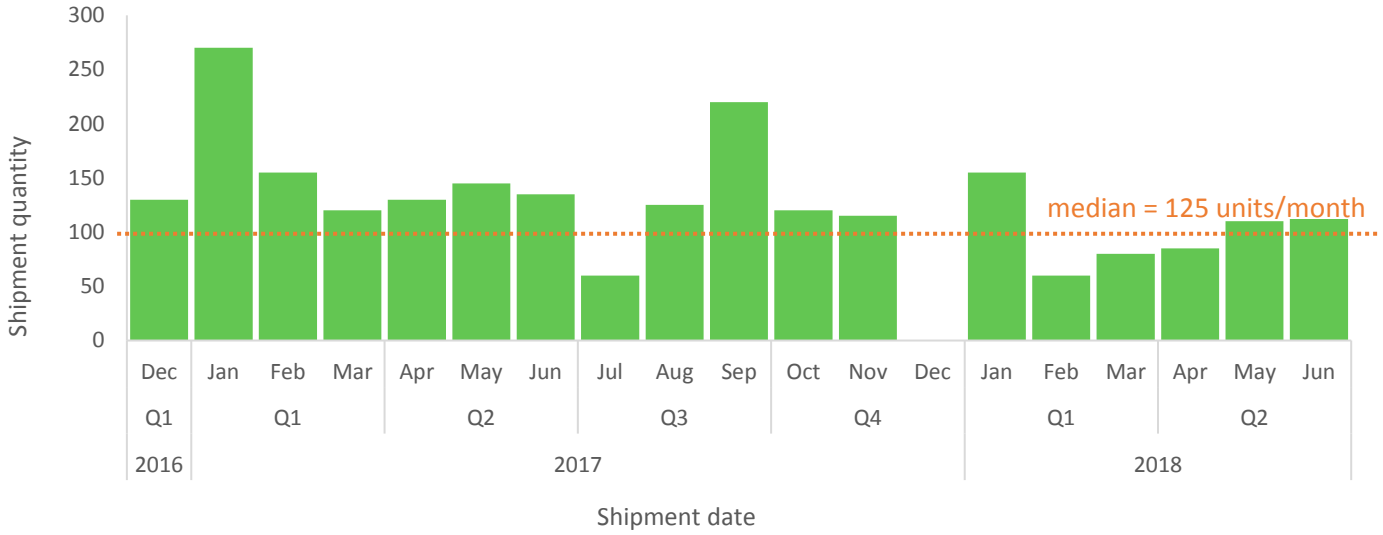


Figure 1: Number of naloxone kits shipped by the Materials Distribution Agency (MDA), Public Health Information Management System, PHIMS (formerly known as Panorama) (December 1, 2016 – June 30, 2018)

Opioid overdose in the community: *Emergency Medical Service calls and Naloxone Administration*

See Appendix B for interpretation notes on Winnipeg Fire and Paramedic Service (WFPS), Medical Transportation Coordination Centre (MTCC), Northern regional health authority (RHA) and the provincial Take-Home Naloxone Program data.

Winnipeg Fire and Paramedic Service (WFPS)

Age and sex trends of individuals administered naloxone by WFPS

Between January 1 and June 30, 2018, 286 individuals were suspected to have overdosed on opioids and as a result, naloxone was administered (Figure 2). Half of them were females (50%, n=143) and 44% were between 20 to 34 years of age group (n=126) (Figure 3). In 2017, between January 1 and June 30, 435 individuals were suspected to have overdosed and administered naloxone. The number of individuals suspected to have overdosed was the lowest in the fourth quarter of 2017. Since then, the number of individuals reported to have been administered by the WFPS for a suspected overdose have been increasing:

- 2017 Q1 (January 1 – March 31, 2017): n=210
- 2017 Q2 (April 1 – June 30, 2017): n=225
- 2017 Q3 (July 1 – September 30, 2017): n=177
- 2017 Q4 (October 1 – December 31, 2017): n=124
- 2018 Q1 (January 1 – March 31, 2018): n=131
- 2018 Q2 (April 1 – June 30, 2018): n=155

Geographic trends of individuals administered naloxone by WFPS

Between January 1 and June 30, 2018, over half (60%) of individuals administered naloxone after a suspected overdose occurred in the Downtown or Point Douglas community areas, while only 53% of individuals had residential postal codes in those communities. In comparison, in 2017, 57% of individuals received naloxone from

the WFPS in the Downtown or Point Douglas community areas, while only 43% had residential postal codes in those communities.

Additional supporting tables and figures can be found in Appendix A of this report.

Medical Transportation Coordination Centre (MTCC)

Suspected Overdose Calls in Northern and Rural Manitoba

Between January 1 and June 30, 2018, 97 individuals were suspected to have overdosed by the MTCC. The number of individuals suspected of an overdose in the second quarter of 2018 (n=43) is lower than the first quarter of 2018 (n=54), but similar to the last two quarters of 2017: third quarter (n=43) and fourth quarter (n=38) (Figure 4). The median number of individuals suspected of an overdose and reported by MTCC is 43 per quarter.

- Similar to the previous quarters, more than half of the events (53%, n=23) in the second quarter of 2018 were among females (Figure 5).
- About half of the events (48%, n=21) in the second quarter of 2018 were among individuals between the ages 20 and 39 years. Similarly, in the first quarter, 52% of events were among this age group (Figure 5).
- The number of suspected overdose events declined in all regional health authorities (RHAs) since the previous quarter (January 1 – March 31, 2018) (Table 2).

Naloxone Administration[2] in Northern and Rural Manitoba

Note: The case definition includes bystander administration of naloxone, in addition to EMS administered naloxone. Naloxone administration counts are based on information either collected from the on scene caller or provided by the dispatched Emergency medical services (EMS) personnel to the MTCC during call back.

Between January 1 and June 30, 2018, 14 individuals were suspected of an overdose and administered[3] naloxone. The number of field administrations of naloxone has ranged between five and twelve per quarter (median = 10):

- 2017 Q2 (April 1 – June 30, 2017): n=10
- 2017 Q3 (July 1 – September 30, 2017): n=10
- 2017 Q4 (October 1 – December 31, 2017): n=12
- 2018 Q1 (January 1 – March 31, 2018): n=9
- 2018 Q2 (April 1 – June 30, 2018): n=5

Year to date (January 1 – June 30, 2018), as per EMS in Northern RHA data, there were 19 cases (Q1: n=7, Q2: n=12) in which EMS reported administering naloxone and/or that they arrived on scene and naloxone was already given by another first responder; 84% were females. More than half of these events (n=12) occurred in a private residence; 58% of the incidents occurred within communities that were not the individual's community of residence.

- In 2017, there were 31 cases, and half of these events (n=16) occurred in a private residence; 41% of the incidents occurred within communities that were not the individual's community of residence.

[2] MTCC began to track the naloxone administration for suspected overdose events as of May 21, 2017.
[3] Case definition: The number of suspected overdose cases in northern and rural Manitoba receiving naloxone from EMS dispatched through the Medical Transportation Coordination Centre (MTCC) or a bystander on scene.

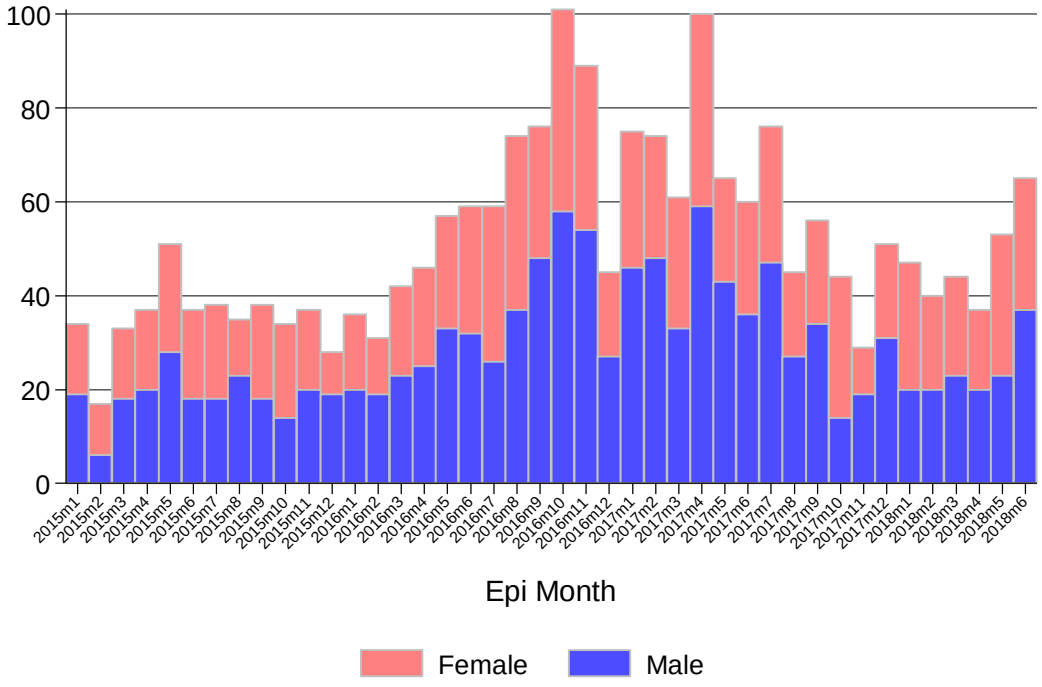


Figure 2: Number of suspected overdose cases receiving naloxone, Winnipeg Fire and Paramedic Service (January 1, 2015 - June 30, 2018)

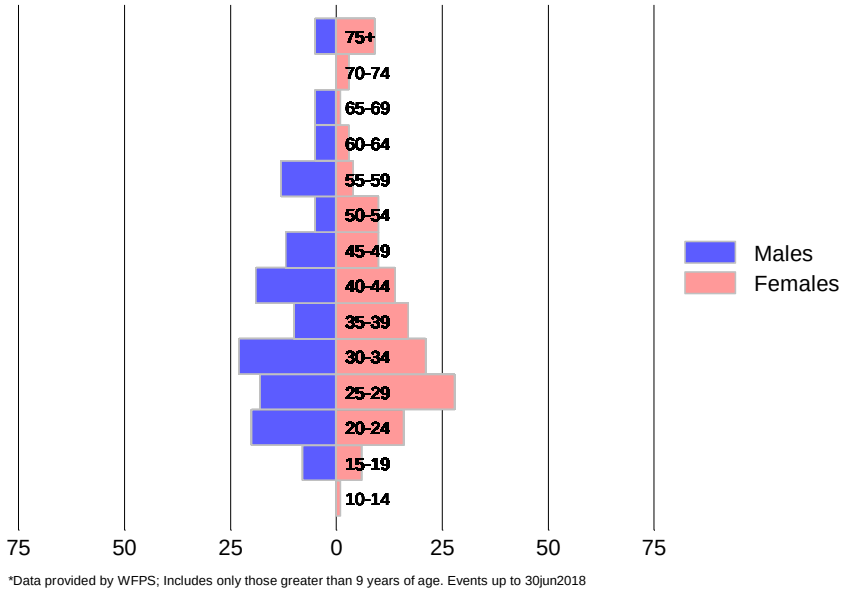


Figure 3: Age pyramid of suspected overdose cases receiving naloxone by sex, Winnipeg Fire and Paramedic Service (January 1, 2018 – June 30, 2018)

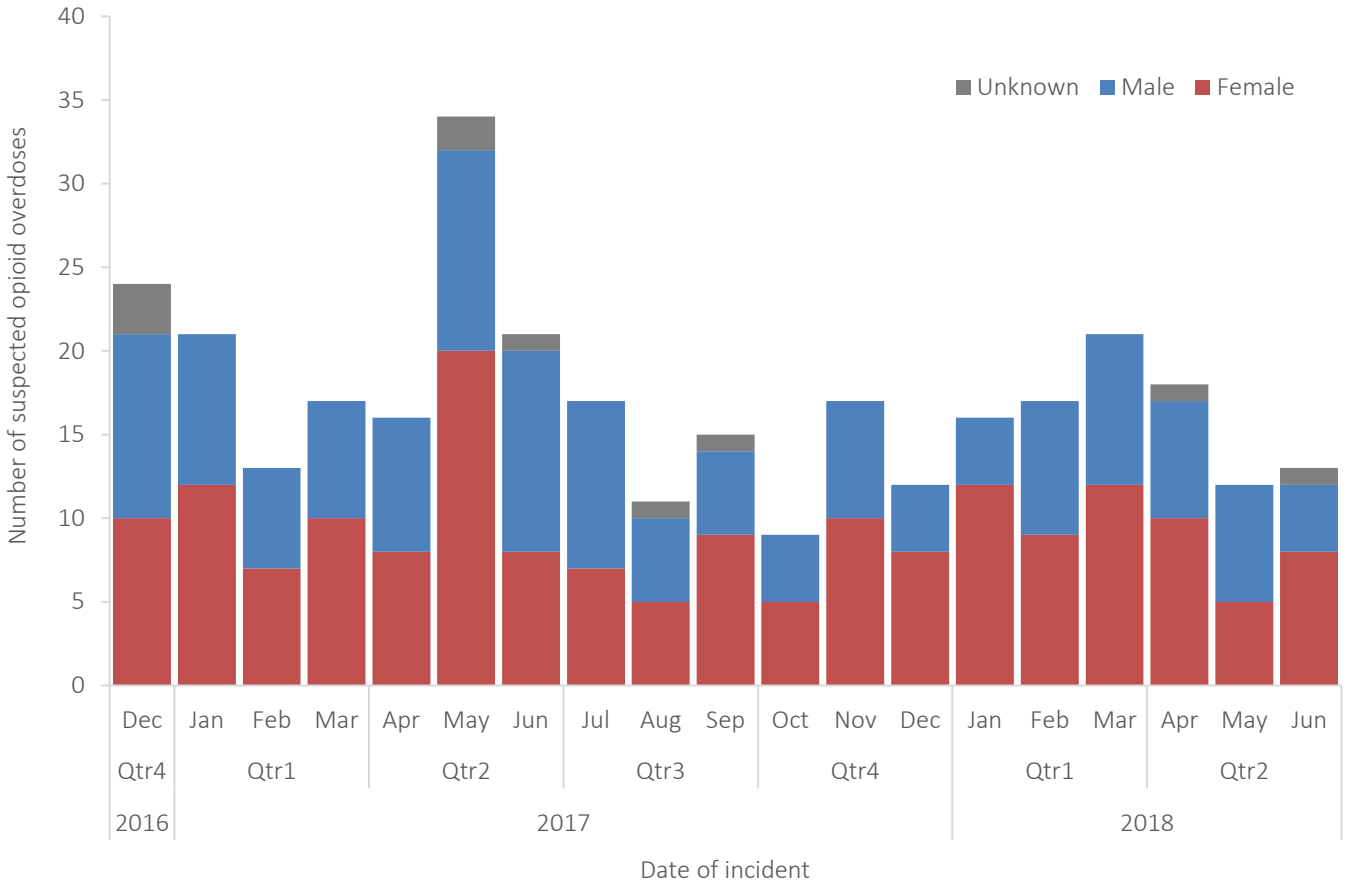


Figure 4: Number of suspected overdose events in rural and northern Manitoba by sex, Medical Transportation Coordination Centre (December 1, 2016 – June 30, 2018)

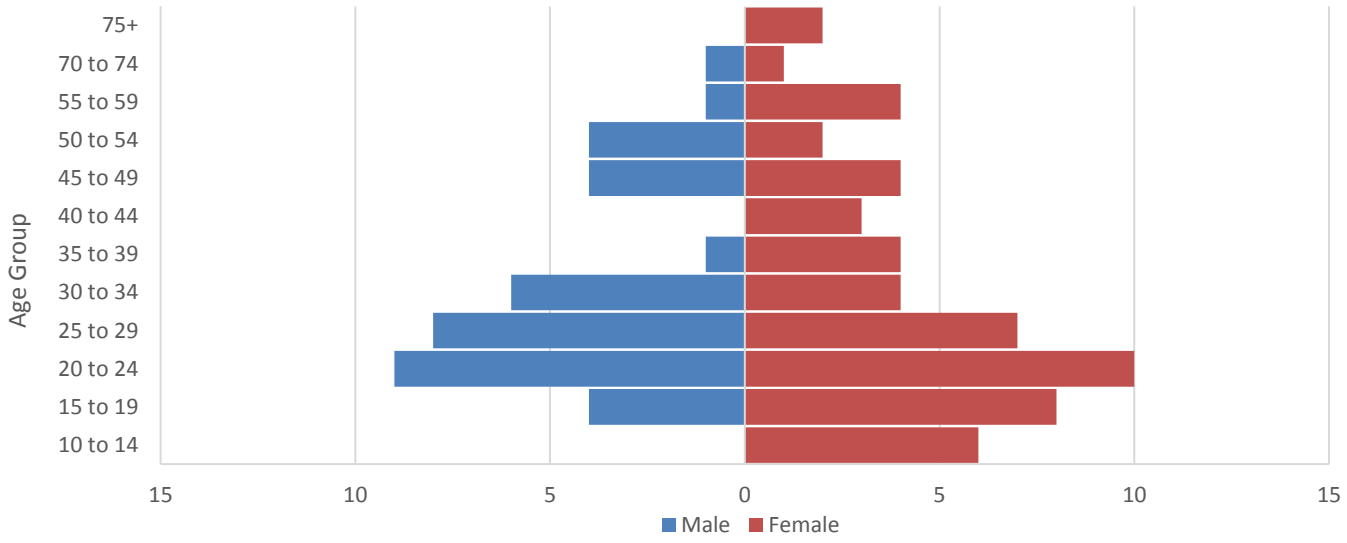


Figure 5: Age pyramid of suspected overdose events in rural and northern Manitoba by sex, Medical Transportation Coordination Centre (January 1, 2018 – June 30, 2018)

Table 2: Number of suspected overdose events in rural and northern Manitoba by Regional Health Authority (RHA), Medical Transportation Coordination Centre (December 1, 2016 – June 30, 2018)

	IERHA[+]	NRHA[+]	PMH[+]	SHSS[+]	WRHA*[+]	Total
2016						
Q4 (Dec only)	5	3	8	8	0	24
2017						
Q1 (Jan – Mar)	13	8	11	19	0	51
Q2 (Apr – Jun)	26	5	31	9	0	71
Q3 (Jul – Sep)	14	3	13	13	0	43
Q4 (Oct – Dec)	7	5	19	7	0	38
2018						
Q1 (Jan – Mar)	14	8	17	14	1	54
Q2 (Apr – Jun)	10	4	16	12	1	43

**This includes the Churchill area only. Overdoses reported within the City of Winnipeg is included in the WFPS data*

[+] IEHA: Interlake-Eastern RHA; NRHA: Northern RHA; PMH: Prairie Mountain Health; SHSS: Southern Health-Santé Sud; WRHA: Winnipeg RHA

Provincial Take-Home Naloxone Program

The summary for 2017 can be found in Appendix A.

Between January 1 and June 30, 2018, information on 24 individuals who overdosed on opioids (12 in the first quarter and 12 in the second quarter) was collected through the take-home naloxone kit overdose response form[4] (Figure 6) – this is approximately 7% of the distributed kits (24 of the 368 kits reported to be distributed during this period). Both males (53%) and females reported having had an opioid overdose. Most of the individuals (83%) were between 19 and 30 years. Majority of the overdoses occurred within a private residence (79%). All of the individuals who reported using the naloxone kit survived the overdose (23 of 23; one individual did not respond to this question).

Drugs reported used by the person who overdosed

In 2018 (January 1 to June 30), fentanyl continues to be the most commonly reported (n=9) drug used by the person who overdosed: n=3 in the first quarter and n=6 in the second quarter (Table 3).

- Carfentanil was reported on three occasions (twice in the first quarter, and once in the second quarter).
- "Blotters" were also reported on two occasions, once in the first quarter, and once in the second quarter.
- There was one report (8%) of poly-drug use in the first quarter of 2018, where methadone, oxycodone, and cocaine/crack was reported by a single individual. In the second quarter, there were five reports of poly drug use (42%) where the drug combinations included fentanyl, and one other drug:
    - fentanyl and blotters (individual stated that they thought it was acid)
    - fentanyl and cocaine/crack
    - fentanyl and carfentanil
    - fentanyl and dilaudid
    - fentanyl and heroin
    - In 2017, 20% of overdoses (n=22) had reported poly-drug use (there was a range of two to four drugs reported per individual).
- There were no reports of crystal meth, benzodiazepines, or alcohol use during an overdose reported in the first and second quarters of 2018.

[4] The form can be accessed online: https://www.gov.mb.ca/health/publichealth/surveillance/docs/mhsu_6836_20171115.pdf

Overdose description

In most situations (75%), the owner of the kit gave the naloxone to someone else. In two events, someone other than the owner gave naloxone to the person who overdosed. In 86% of events (no response received from two events), the person who gave the naloxone knew the person who overdosed. In two events, the owner of the kit gave the naloxone to themselves (Table 4).

Emergency response to overdose event

In only 35% of the overdoses, 911 or local emergency response was called. Reasons for not calling emergency response included having no phone, worried the police would come, and thought that the person who overdosed would get better on their own, among other reasons (Table 4).

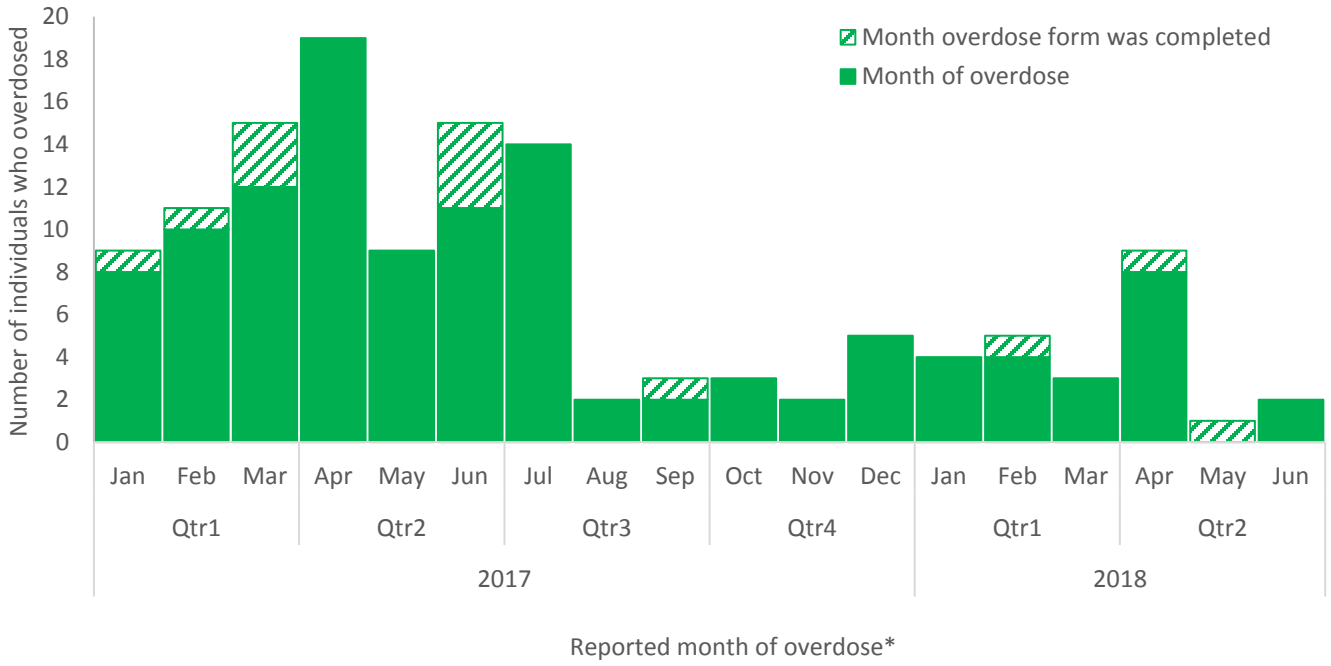


Figure 6: Number of overdose events where a take-home naloxone kit was used by reported month of overdose*, Manitoba Provincial Take-Home Naloxone Program (January 1, 2017 – June 30, 2018*)

**In 13 reports, the date of overdose was not completed. For these, the date the form was completed has been used (indicated using the cross-hatch pattern)*

Table 3: Characteristics of overdose events where a take-home naloxone kit was used, Manitoba Provincial Take-Home Naloxone Program (January 1 – June 30, 2018)

Characteristics	Categories	Female (n=8)	Male (n=15)	Unknown (n=1)	Total (N=24)
Age group	12-18 years	1	0	0	1
	19-30 years	5	6	1	12
	31-40 years	1	2	0	3
	41-50 years	1	4	0	5
	51-60 years	0	2	0	2
	Unknown age	0	1	0	1
Location of overdose	Private Residence	5	13	1	19
	Street/Alley/Park	1	1	0	2
	Other [a] or Prefer not to say	2	1	0	3
Region of overdose[5]	Winnipeg RHA	5	6	1	12
	Prairie Mountain Health	1	3	0	4
	Interlake-Eastern RHA	0	1	0	1
	Northern RHA	1	0	0	1
	Unknown/Prefer not to say/Out of province	1	5	0	6
Substance type (self-reported, not mutually exclusive)	Fentanyl	6	3	0	9
	Cocaine/crack	1	3	0	4
	Carfentanil	1	2	0	3
	Heroin[b]	2	2	0	4
	Morphine	1	2	0	3
	Other substances[c]	1	6	1	8

[a] Includes: abandoned property and rooming house

[b] Includes a report of "Heroin but with fentanyl"

[c] Other substances include: Oxycodone, Methadone, "Blotters", "some Opiate", Hydromorphone, and Dilaudid

Table 4: Characteristics of emergency response to overdose events where a take-home naloxone kit was used, Manitoba Provincial Take-Home Naloxone Program (January 1 – June 30, 2018)

Variable	Description	Female (n=8)	Male (n=15)	Unknown (n=1)	Total (N=24)
Was 911 called?	Yes	2	6	0	8
	No	6	8	1	15
	Unknown	0	1	0	1
Reason(s) for not calling 911[a]	No phone	1	0	0	1
	Worried police would come	1	2	1	4
	Thought the person would get better on their own	3	2	0	5
	Other [b]	0	3	0	3
Actions taken during overdose[a]	Stimulate (sternal rub/yelling)	3	6	0	9
	Rescue breathing	5	4	0	9
	Chest compressions	2	3	1	6
	Unknown	1	3	0	4
Number of naloxone doses given	One	4	7	1	12
	Two	3	6	0	9
	Three	1	2	0	3

[a] Results are not mutually exclusive.

[b] Other reasons included: "I knew what I was doing"; "Nurse was present at overdose"; "So far away. No point calling, minimum 45 min wait"

[5] Take Home Naloxone Kits are distributed in the Southern

Severity

See Appendix B for interpretation notes on Hospital Admission, First Nations Inuit Health Branch (FNIHB), and Emergency Department Admissions data.

Hospitalization due to Opioid Poisoning

Between January 1 and June 30, 2018, 52 opioid poisoning hospitalizations were reported, with 27 of these occurring in the second quarter. This is a slight increase from the previous quarter (n=25). The number of hospitalizations per week ranged from 1 to 4 (Figure 7). In 2017, there were 70 opioid poisoning hospitalizations reported between January 1 and June 30.

Individuals who were hospitalized in the second quarter of 2018 were residing in four regions (Winnipeg RHA, Prairie Mountain Health, Interlake-Eastern RHA, and Northern RHA); the majority were residents of Winnipeg RHA (72%) (Figure 7).

Between January 1 and June 30, 2018, a higher proportion of females (52%) hospitalized due to an opioid poisoning compared to males (Figure 8); this is a continuing trend since 2008. Individuals between the ages 45 and 60 years, had the largest proportion of hospitalizations (44%); individuals between 25 and 44 years, and those 24 years old or younger each made up 23% and 19% of all opioid poisoning hospitalizations, respectively (Figure 8). In 2017, 45 to 60 years age group made up 31% of all hospitalizations, while the 25 to 44 years age-group made up 35% of the hospitalizations.

Year to date (January 1 – June 30, 2018), there were three hospitalizations associated with synthetic opioid poisoning (including fentanyl). The most number of hospitalizations was for “poisoning by other opioids”, which includes oxycodone, morphine, hydromorphone, and unspecified opioids (n=42). Three hospitalizations associated with synthetic opioids have been reported year to date. In 2017, the number of synthetic opioid poisoning hospitalization (including fentanyl) has increased to 23 hospitalizations (rate[6]: 1.7 per 100,000 population), from 4 hospitalizations in 2014 (rate: 0.3 per 100,000 population).

Additional tables can be found in Appendix A of this report.

[6] The rate is based on the total Manitoba population.

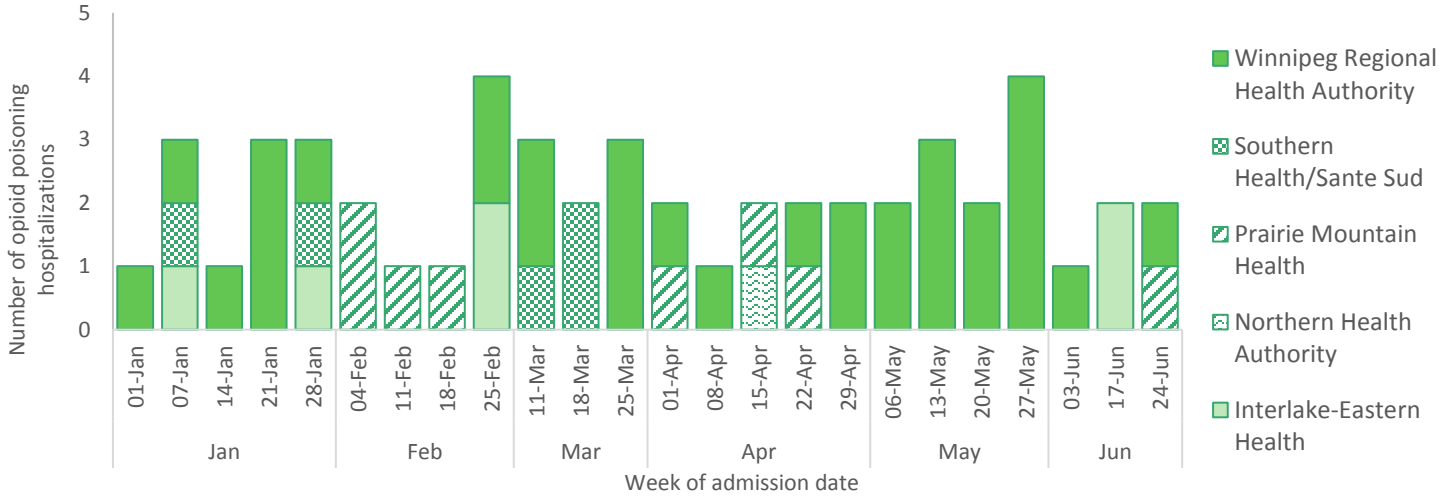


Figure 7: Number of opioid poisoning hospitalizations in Manitoba by week of admission and Regional Health Authority, Manitoba Health, Seniors and Active Living (January 1 – June 30, 2018)

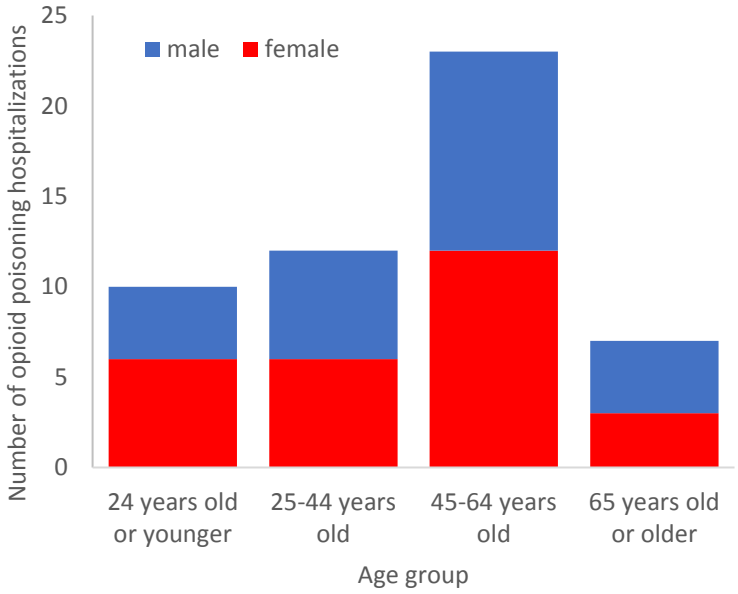


Figure 8: Number of opioid poisoning hospitalizations in Manitoba by age group and sex, Manitoba Health, Seniors and Active Living (January 1 – June 30, 2018)

Emergency Department Admissions

This is the first time Emergency Department Admission data outside of the Winnipeg Regional Health Authority (WRHA) is being reported. The analysis was conducted independently for WRHA sites and for those sites outside of the WRHA. The results were then combined to be reported here.

Note: EDIS data used in this report are not specific to opioid overdose, but are a reflection of overdose events of all types. See Appendix B – Box B.5 (page 45) for interpretation notes on Emergency Department Admissions data.

Between January 1 and June 30, 2018, 867 suspected overdose cases arrived at emergency departments and urgent care facilities (herein, referred to as ED facilities) across Manitoba. These cases have been further described below.

Emergency Departments and Urgent Care Facilities in the Winnipeg Regional Health Authority

Between January 1 and June 30, 2018, 611 suspected overdose cases arrived at ED facilities in the WRHA: 280 in the first quarter and 331 in the second quarter (Table 5, Figure 9). Most of the cases were females (69%); and 24% were between the ages of 15 to 19 years (Figure 10). During the same time frame in 2017 (January 1 to June 30), there were 762 suspected overdose cases, with females also contributing to the largest proportion.

- Year to date (January 1 – June 30, 2018), approximately 38% of female cases were between 15 and 24 years, while for males, the proportion is lower (27%). In 2017, approximately 44% of females and 32% of males were between 15 and 24 years.

Suspected overdose cases arriving at ED facilities between January 1 and June 30, 2018 are highest among those living in Downtown (16%), Point Douglas (12%), and River East (11%) community areas (Figure 11). There is also a high proportion (15%) of suspected overdoses reported by Manitoba residents with a non-Winnipeg postal code. These numbers are comparable to 2017: 16% from Downtown, 14% from Point Douglas, and 10% from River East; 17% were Manitoba residents with a non-Winnipeg postal code; and there were also 46 non Manitoba residents reported.

Table 5: Number of suspected overdose cases arriving at Winnipeg RHA emergency departments and urgent care facilities by year, Emergency Department Information System (January 1, 2012 - June 30, 2018)

	Female		Male		Total	
Year	n	%	n	%	N	%
2012	791	63.7	450	36.3	1,241	100.0
2013	745	65.0	401	35.0	1,146	100.0
2014	841	69.4	370	30.6	1,211	100.0
2015	858	70.5	359	29.5	1,217	100.0
2016	905	65.4	479	34.6	1,384	100.0
2017	937	66.3	476	33.7	1,413	100.0
2018	422	69.1	189	30.9	611	100.0
Total	*5,499*	*66.9*	*2,724*	*33.1*	*8,223*	*100.0*

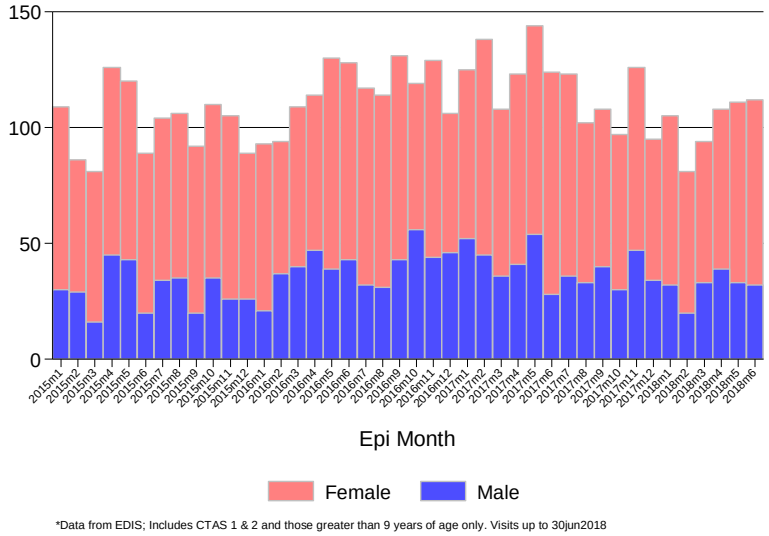


Figure 9: Number of suspected overdose cases arriving at Winnipeg RHA emergency departments and urgent care facilities by month and year, Emergency Department Information System (January 1, 2015 - June 30, 2018)

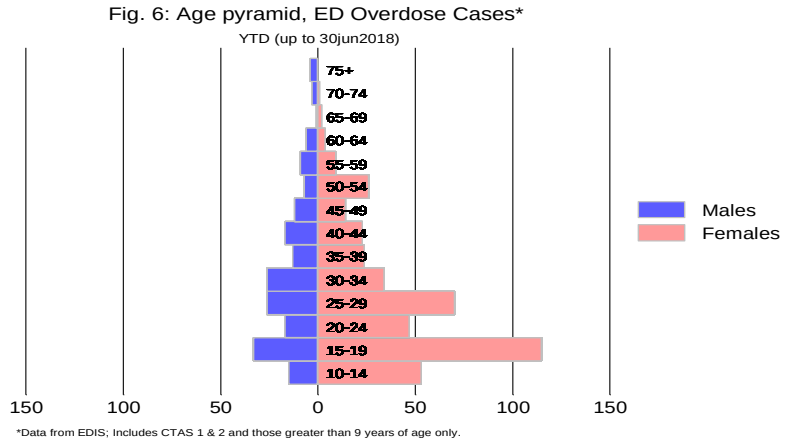


Figure 10: Age pyramid of suspected overdose cases* arriving at Winnipeg RHA emergency departments and urgent care facilities, Emergency Department Information System (January 1 – June 30, 2018)

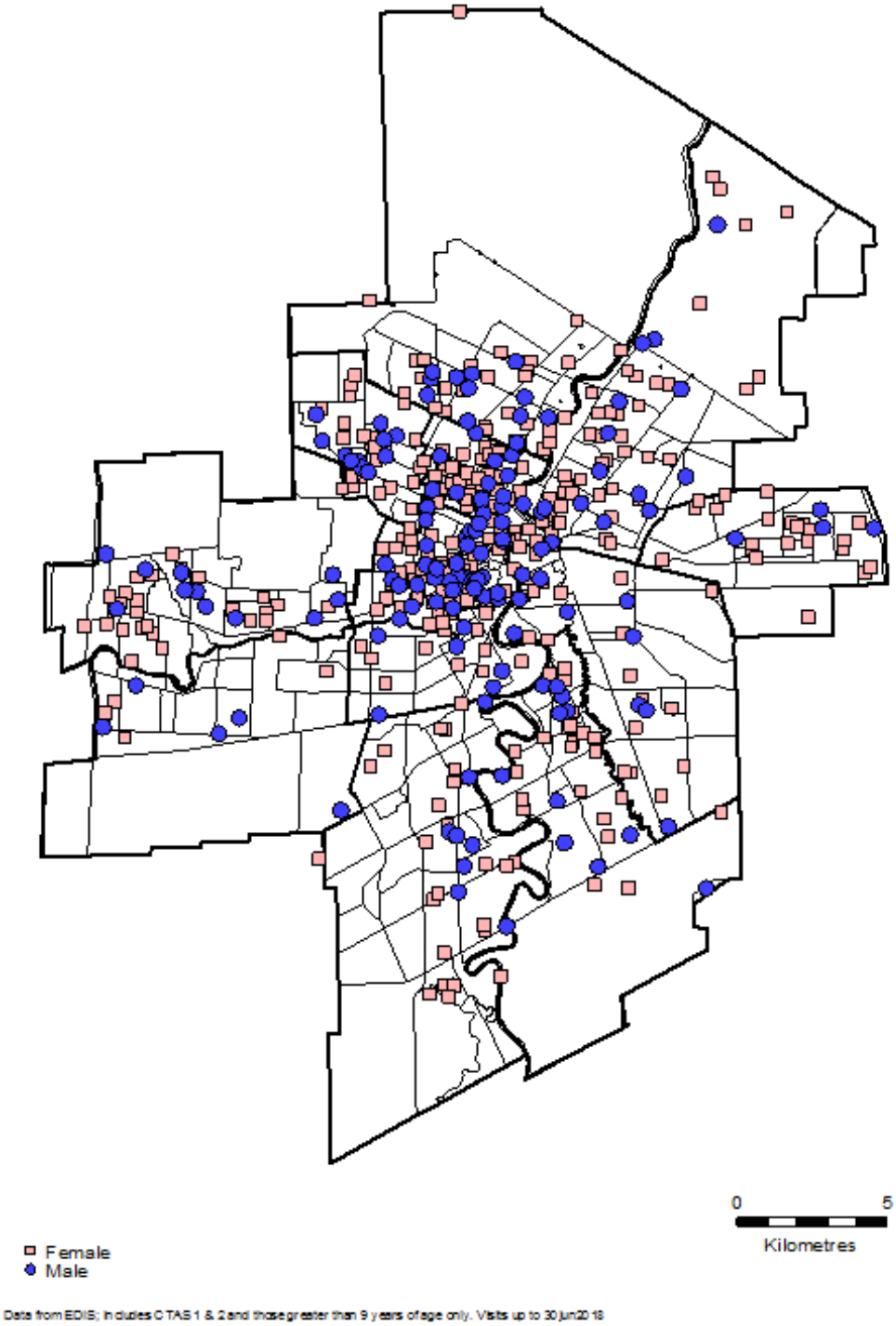


Figure 11: Dot map of residential location of suspected overdose cases* arriving at Winnipeg RHA emergency departments and urgent care facilities, Emergency Department Information System (January 1 - June 30, 2018)
*Residential locations are not exact (randomized within neighborhoods)

Emergency Departments and Urgent Care Facilities in Northern and Rural Manitoba

"Northern and rural Manitoba" includes ED facilities in the Northern Regional Health Authority, Southern Health – Santé Sud, Prairie Mountain Health, and Interlake-Eastern Health Authority

Between January 1 and June 30, 2018, 256 individuals suspected of an overdose arrived at an ED facility in Manitoba, outside of the WRHA (Table 6). By comparison, in 2017, between January 1 and June 30, there were 139 suspected overdose cases, and in 2016, there were 92 suspected overdose cases in the same time period. Of the individuals with a suspected overdose who arrived at an ED facility between January 1, 2016 and June 30, 2018, majority (80 – 96%, depending on region and year) visited an ED facility within their region of residence (Table 7).

Between January 1 and June 30, 2018, 72% of individuals with a suspected overdose arriving at ED facilities are female; and 22% are between 15 and 19 years.

- Since the first quarter of 2016, females are contributing to a higher proportion of admissions, compared to males (Figure 12). Between 2016 and 2018, the rate of admission for a suspected overdose for females continues to be more than double the rate for males (Figure 13).
    - In 2018 (January 1 – June 30), approximately 42% of the females were between 15 and 29 years. The corresponding proportion of this age group for males is lower (29%). This is comparable to 2017 numbers, where 42% of females and 34% of males were between 15 and 24 years.

Additional supporting tables and figures can be found in Appendix A of this report.

Table 6: Characteristics of suspected overdose cases arriving at emergency departments and urgent care facilities in Manitoba (excluding Winnipeg), Emergency Department Information System (January 1 - June 30, 2018)

	Female		Male		Total	
	n	%	n	%	N	%
Age group (years)						
10-14	24	13.0	2	2.8	26	10.2
15-19	48	26.1	9	12.5	57	22.3
20-24	29	15.8	12	16.7	41	16.0
25-29	20	10.9	6	8.3	26	10.2
30-34	17	9.2	8	11.1	25	9.8
35-39	14	7.6	14	19.4	28	10.9
40-44	5	2.7	8	11.1	13	5.1
45-49	14	7.6	5	6.9	19	7.4
50 and older	13	7.1	8	11.1	21	8.2
Total	*184*	71.9	*72*	28.1	256	100.0
RHA of Service						
Interlake-Eastern	25	13.6	10	13.9	35	13.7
Northern	55	29.9	20	27.8	75	29.3
Prairie Mountain	69	37.5	33	45.8	102	39.8
Southern	35	19.0	9	12.5	44	17.2
Total	*184*	100.0	*72*	100.0	256	100.0

*Data includes Canadian Triage and Acuity Scale (CTAS) 1 & 2 and those greater than 9 years of age only.

Table 7: Proportion of suspected overdose cases arriving at emergency departments and urgent care facilities (excluding Winnipeg RHA sites) in Manitoba by Regional Health Authority of residence, Emergency Department Information System (January 1, 2016 – June 2018)

HOSPITAL SITE / YEAR OF ADMISSION	RESIDENCE						
	IEHA*	NRHA*	PMH*	SH-SS*	WRHA*	Manitoba No Postal Code	Non Manitoban
Interlake-Eastern							
2016	83.33%	0.00%	0.00%	0.00%	10.42%	4.17%	2.08%
2017	82.09%	2.99%	1.49%	0.00%	11.94%	0.00%	1.49%
2018*	80.00%	0.00%	0.00%	0.00%	14.29%	2.86%	2.86%
Northern							
2017	0.00%	89.66%	0.00%	0.00%	3.45%	0.00%	6.90%
2018*	0.00%	81.33%	0.00%	0.00%	4.00%	2.67%	12.00%
Prairie Mountain							
2016	0.00%	0.00%	91.60%	1.68%	2.52%	1.68%	2.52%
2017	0.00%	0.00%	93.62%	1.42%	0.71%	2.84%	1.42%
2018*	0.98%	0.98%	86.27%	4.90%	1.96%	2.94%	1.96%
Southern							
2017	1.28%	0.00%	0.00%	96.15%	1.28%	0.00%	1.28%
2018*	0.00%	0.00%	0.00%	93.18%	4.55%	0.00%	2.27%

*IEHA: Interlake-Eastern RHA; NRHA: Northern RHA; PMH: Prairie Mountain Health; SHSS: Southern Health-Santé Sud; WRHA: Winnipeg RHA

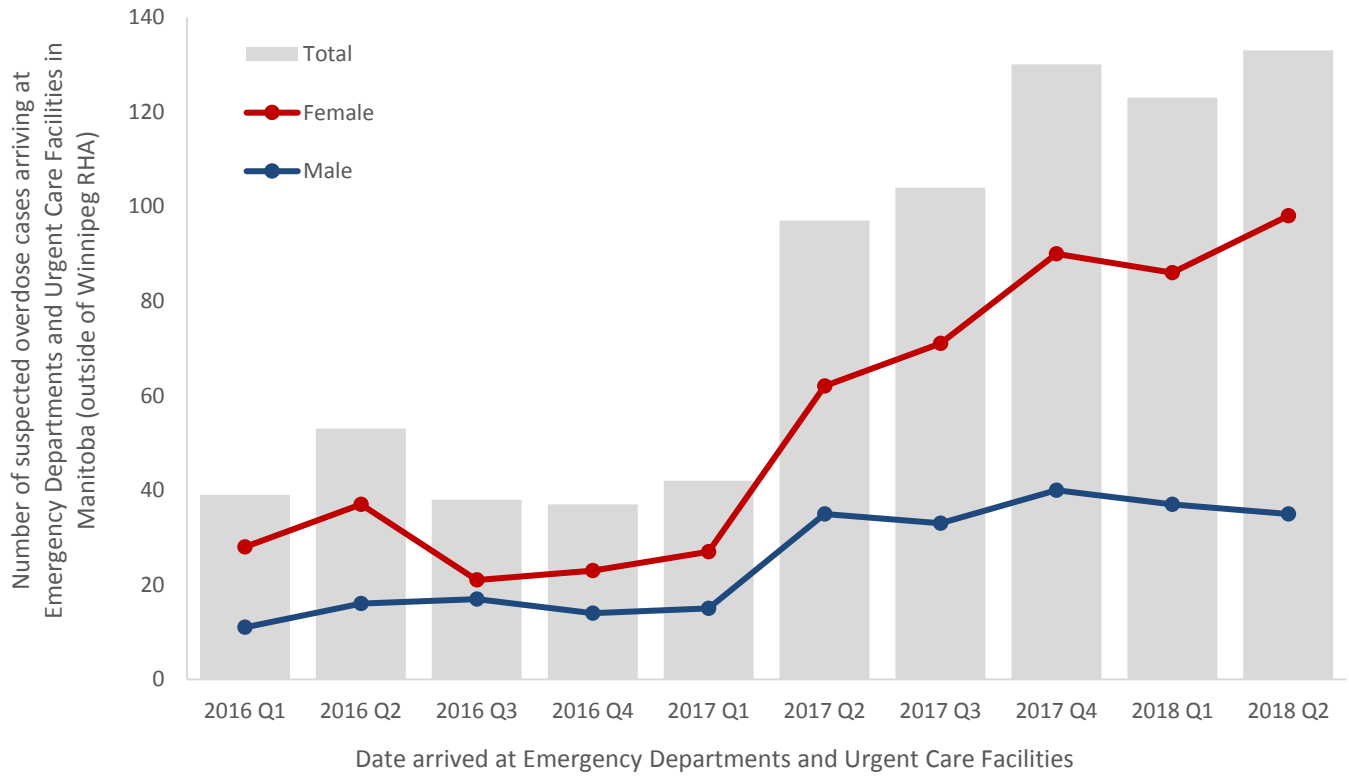


Figure 12: Number of suspected overdose cases arriving at emergency departments and urgent care facilities (excluding Winnipeg RHA sites) in Manitoba, by Sex, Emergency Department Information System (January 1, 2016 - June 30, 2018)

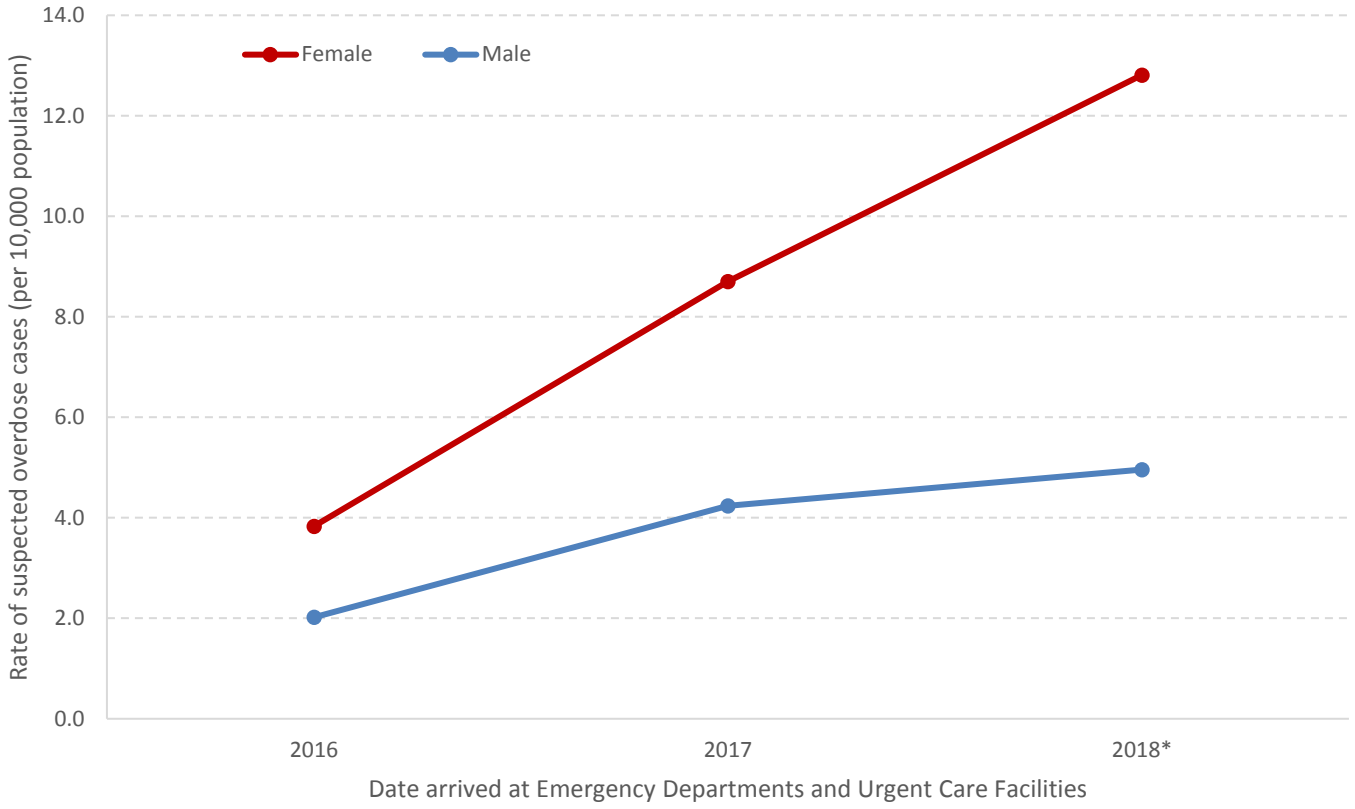


Figure 13: Crude rate (per 10,000 population) of suspected overdose cases arriving at emergency departments and urgent care facilities (excluding Winnipeg RHA sites) in Manitoba by sex, Emergency Department Information System (January 1, 2016 - June 30, 2018)

Federal Nursing Stations

Enhanced opioid overdose surveillance forms are completed in 22 Federal Nursing Stations when a suspected opioid overdose occurs. There were 20 suspected opioid overdoses reported between April 5, 2017 and March 31, 2018.

- Overdoses occurred primarily in adults.
- More females than males were reported having had a suspected opioid overdose, although the discrepancy between the two appear to be decreasing over time.
- Six communities reported multiple suspected opioid overdoses.
- Majority of suspected overdoses occurred in a private residence, highlighting the need for Take Home Naloxone Kits (THNK). THNK are available in all nursing stations.

Mortality

See Appendix B for interpretation notes on the Office of the Chief Medical Examiner's and Toxicology data.

Office of the Chief Medical Examiner

There were more apparent opioid-related deaths in 2017 (n=106; rate: 7.8 per 100,000), compared to 2014, 2015, and 2016 (Figure 14). At this time, between January 1 and June 30, 2018, 32* apparent opioid-related deaths (AORDs) have been reported in Manitoba: 18* in the first quarter (January 1 – March 31) and 14* in the second quarter (April 1 – June 30). Information is available on 22* of the 32* apparent-opioid related deaths, and a description of these deaths is provided below: 17 in the first quarter and 5 in the second quarter.

** Deaths that occurred in 2018 are still under review. These are preliminary numbers and are subject to change as toxicology results become available, and additional assessments are conducted. The reported summary is based on available data at the time of report preparation.*

NOTE: Preliminary determinations made at the outset of a death investigation often differs from those made once the investigation is complete. As a result, data related to apparent opioid-related deaths may differ from the previous and future reports.

Age, sex, and geographic trends (n=22)

From the third quarter of 2016 (July – September) to the fourth quarter of 2017 (October – December), there was a consistently higher proportion of deaths in males compared to females (Figure 15). However, during the first and second quarter of 2018, there has been a higher proportion of deaths among females (55%). The most common place of death (86%) and place of overdose (82%) continues to be in the home setting; and the manner of death for majority of cases (91%) continues to be unintentional (accidental) (Table 8).

Between 2015 and 2017, the majority of apparent opioid-related deaths were among individuals between 25 and 44 years (Figure 16). However, during the first and second quarters of 2018, individuals between 45 and 64 years had a higher proportion – the median age of individuals who died of an apparent opioid-related death is 47 years (range: 21 to 69 years).

Between 2015 and 2017, the Winnipeg RHA had the highest rate of apparent opioid-related deaths among health regions in Manitoba (Figure 17). However, with available data, between January 1 and June 30, 2018, the Northern Health Region is reported to have the highest apparent opioid-related death rates (7.8 per 100,000 persons), followed by Southern Health - Santé Sud.

Since deaths that occurred in 2018 are still under review, we will continue to monitor these trends. Currently available data does not show the complete picture.

Drug trends (n=22)

Between January 1 and June 30, 2018, five apparent fentanyl-related deaths were reported in Manitoba (this includes both "fentanyl-related opioids only" and "fentanyl and non-fentanyl-related opioid mix") (Figure 18).

- Between January 1 and June 30, 2018, one of the five apparent fentanyl-related deaths included carfentanil (Figure 19).

Alcohol and antihistamines are two additional substances being increasingly detected in toxicology results of an individual who died from an opioid-overdose intoxication since 2016.

No methamphetamine was detected in the toxicology results of individuals who died of an opioid-overdose intoxication between January 1 and June 30, 2018. However, between 2014 and 2017, methamphetamine detected in toxicology results of individuals who died from an apparent-opioid related death increased from 4% (n=3) to 25% (n=26) (Figure 20). This trend will be monitored as additional data becomes available for 2018.

Between January 1, 2016 and June 30, 2018, opioids were the most frequently prescribed drugs within six months before an apparent opioid-related death occurred. Of those who were prescribed an opioid within six months before their death, codeine (53%), oxycodone (29%), methadone (18%), and fentanyl (12%) were the most commonly prescribed opioids (data not shown).

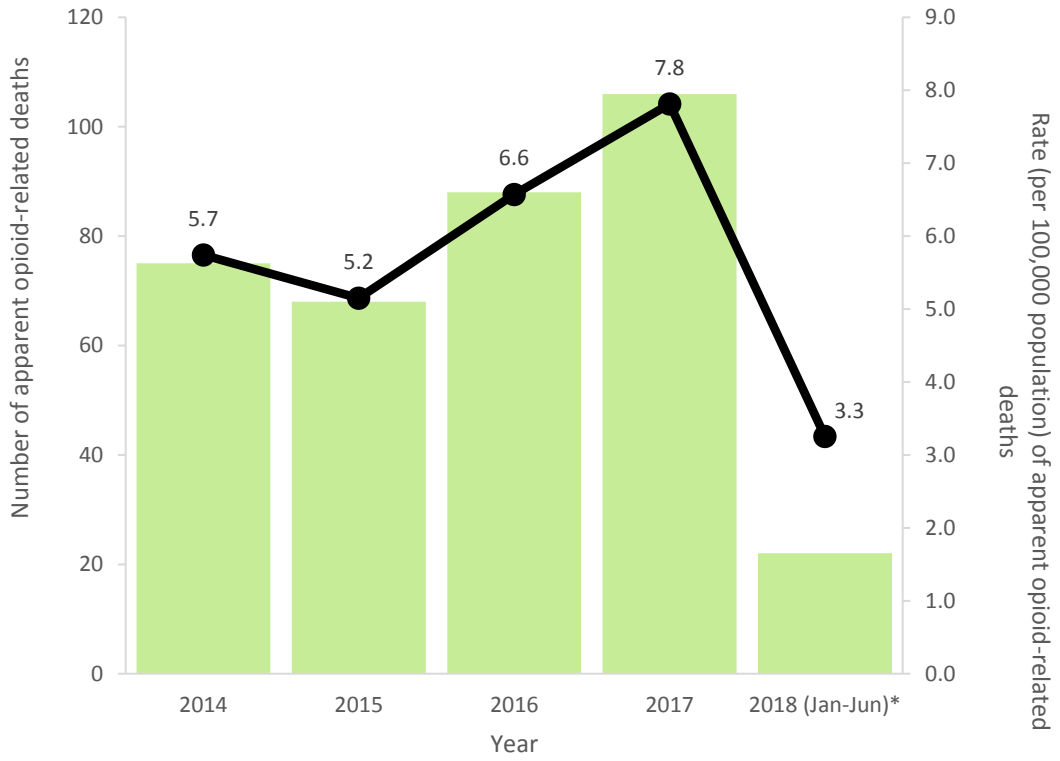


Figure 14: Number and crude rate (per 100,000 population) of apparent opioid-related deaths in Manitoba, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018*)
*Note: These are preliminary numbers and are subject to change as toxicology results become available, and additional assessments are conducted. Includes 22 of the 32 reported apparent opioid related deaths.

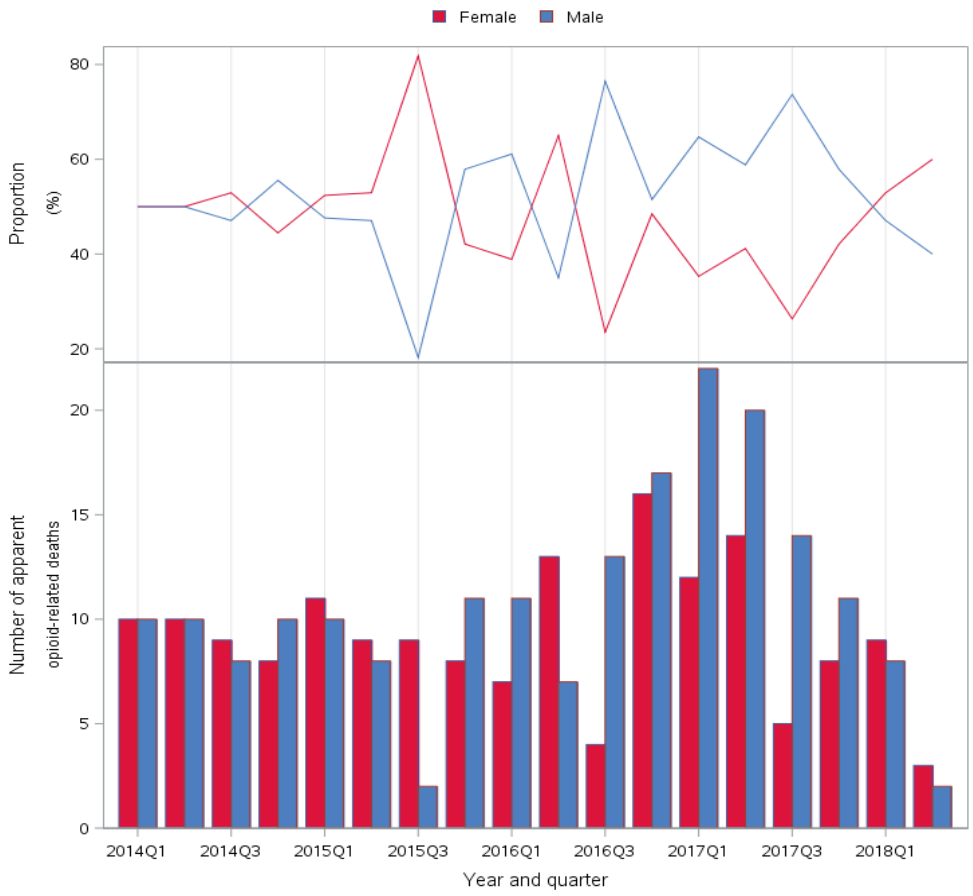


Figure 15: Number and proportion of apparent opioid-related deaths in Manitoba by sex, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018*)
*Note: 2018 data only includes 22 of the 32 reported apparent-opioid related deaths.

Table 8: Characteristics of apparent opioid-related deaths in Manitoba, Office of the Chief Medical Examiner (January 1 - June 30, 2018)

	Male		Female		Total	
	n	%	n	%	N	%
Total	*10*	*100*	*12*	*100*	*22*	*100*
Place of death						
Home	8	80.0	11	91.7	19	86.4
Health care facility	0	0.0	1	8.3	1	4.5
Public setting	1	10.0	0	0.0	1	4.5
Unknown	1	10.0	0	0.0	1	4.5
Place of overdose						
Home	8	80.0	10	83.3	18	81.8
Health care facility	0	0.0	1	8.3	2	9.1
Public Setting	1	10.0	1	8.3	1	4.5
Unknown	1	10.0	0	0.0	1	4.5
Manner of death						
Unintentional (accident)	10	100.0	10	83.3	20	90.9
Intentional (suicide)	0	0.0	2	16.7	2	9.1

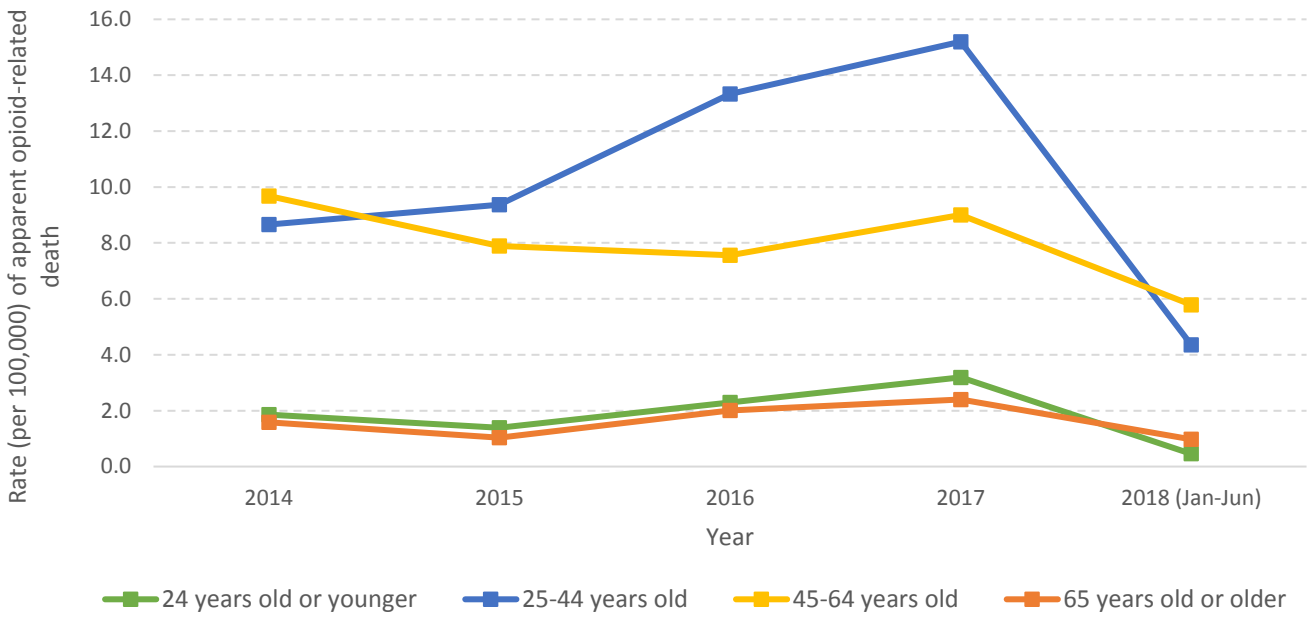


Figure 16: Crude rate (per 100,000 population) of apparent opioid-related deaths in Manitoba by age group, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018)

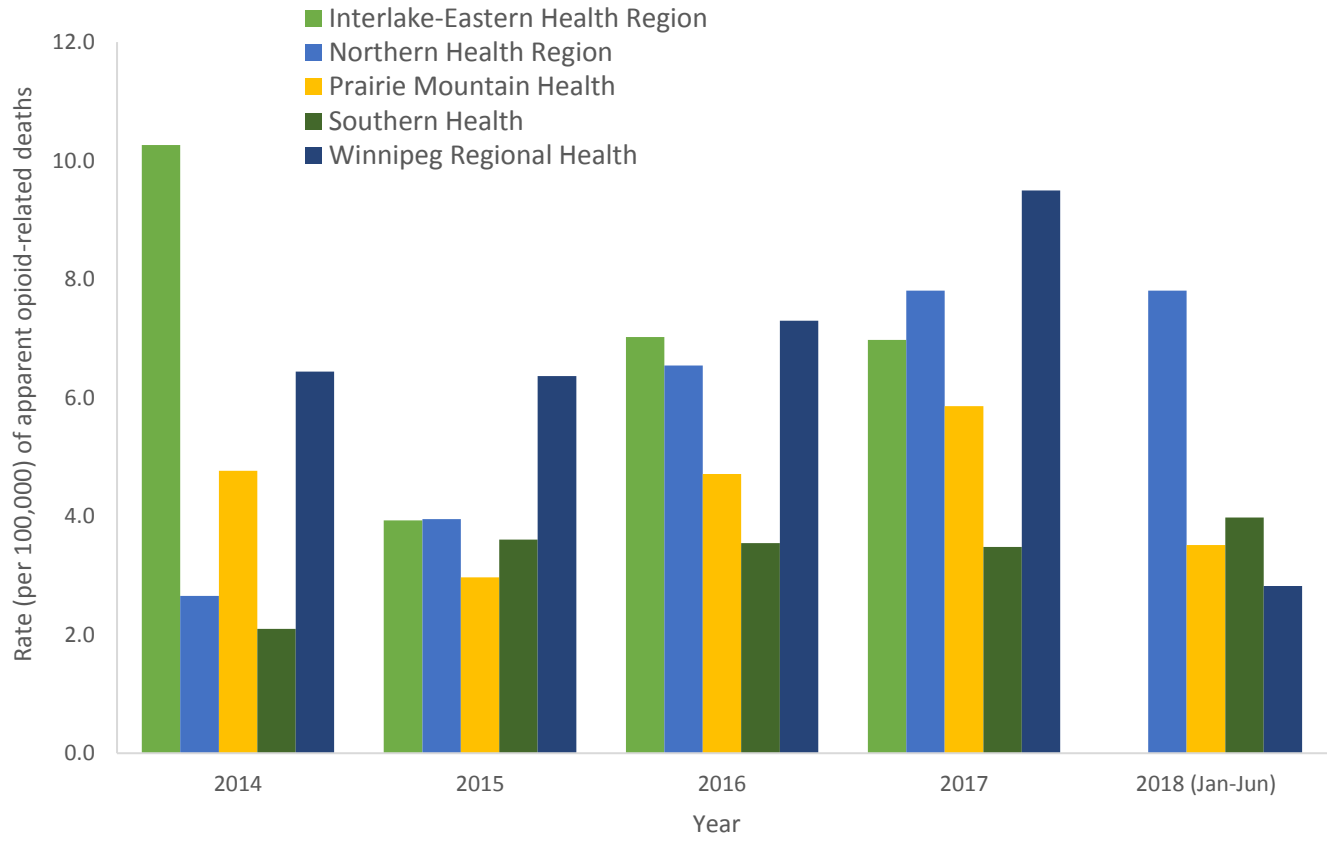


Figure 17: Crude rate (per 100,000) of apparent opioid-related deaths in Manitoba by Regional Health Authority, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018*)
*Note: 2018 Includes 22 of the 32 reported apparent opioid related deaths.

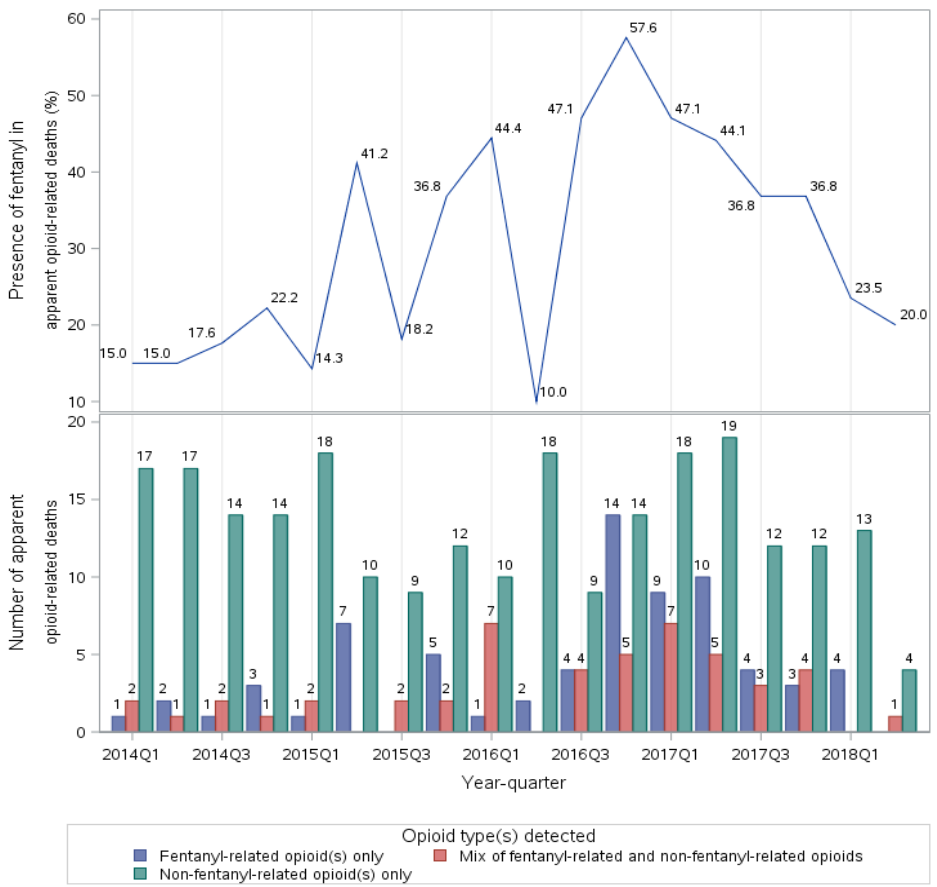


Figure 18: Presence of fentanyl analogs in apparent opioid-related deaths and number of apparent opioid-related deaths in Manitoba by suspected opioid type, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018)

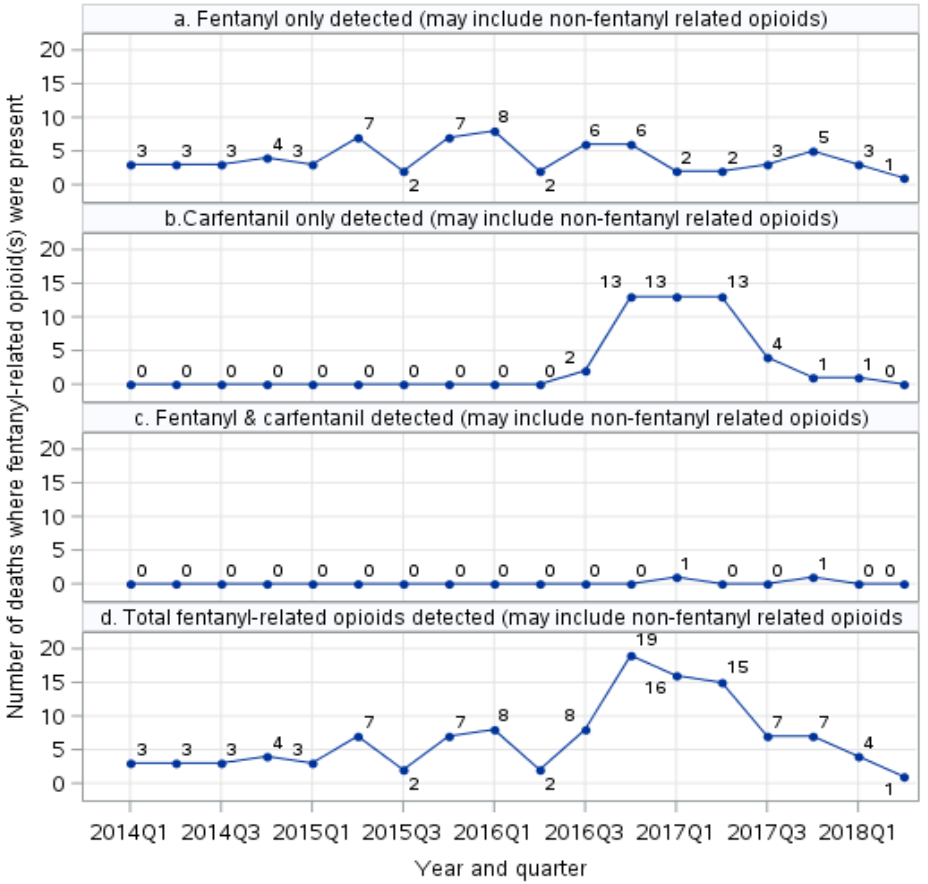


Figure 19: Number of apparent opioid-related deaths where fentanyl-related opioids were present, Office of the Chief Medical Examiner (January 1, 2014 – June 30, 2018)

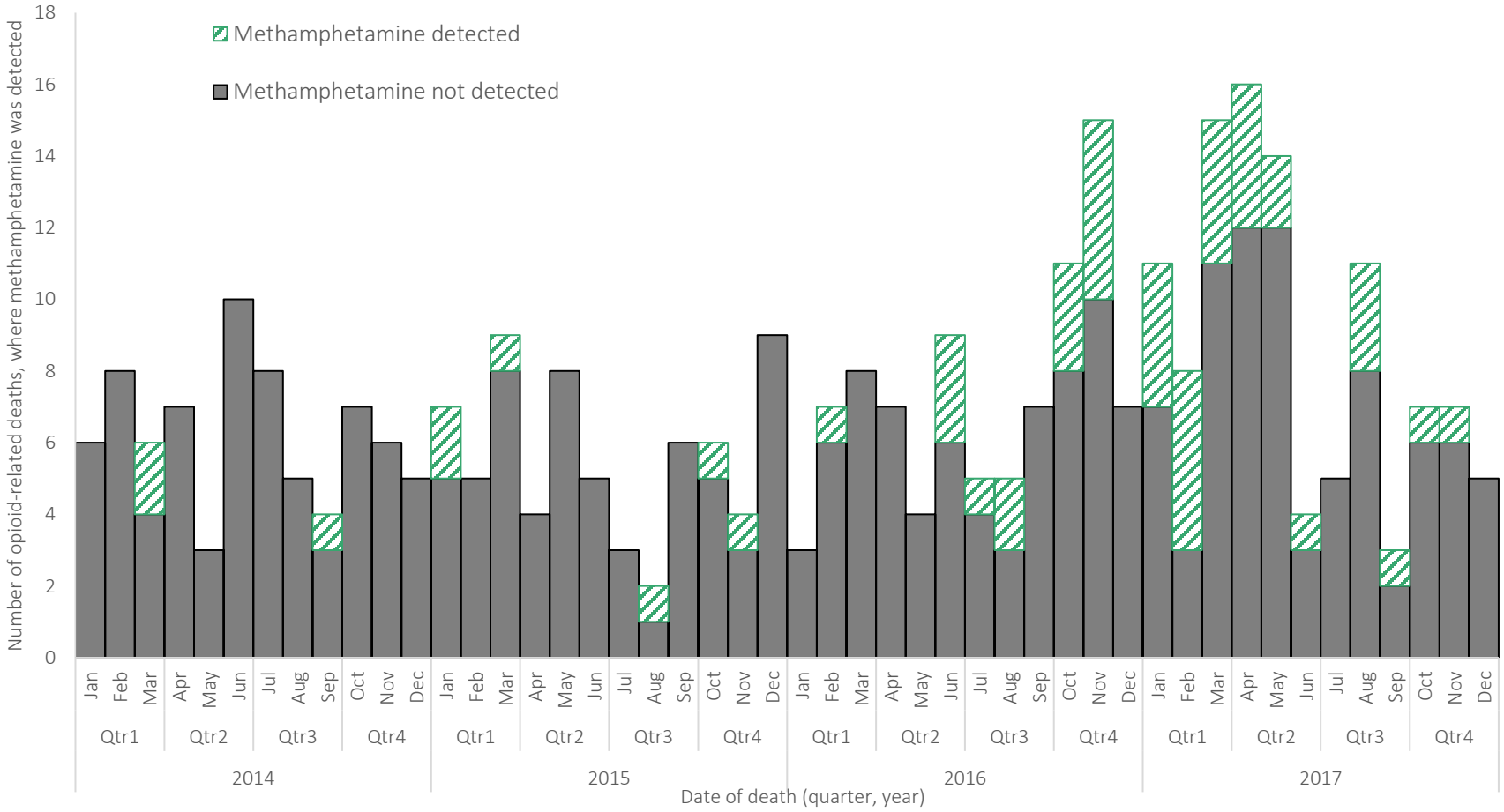


Figure 20: Apparent opioid-related deaths in Manitoba where methamphetamine was detected in the toxicology results, Office of the Chief Medical Examiner (2014 – 2017)

Toxicology

Year to date (January 1 - June 30, 2018) one positive screen for fentanyl analogs (i.e. carfentanil) was reported (Figure 21).

Although a steady decline in positive screens for fentanyl analog is seen from the first quarter of 2017 and into the first quarter of 2018, preliminary reports of carfentanil in case work is being consistently reported (since August 2018). Additional details will be available in the third quarter report.

Note, this is for information only and should not be concluded as cause of death information. Further toxicology testing is still required.

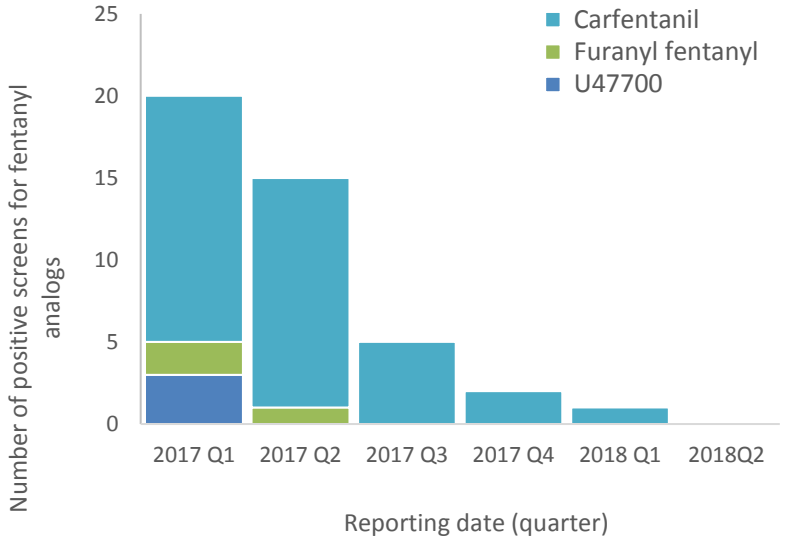


Figure 21: Number of positive toxicology screens by fentanyl analog*, Diagnostic Services Manitoba (January 1, 2017 – June 30, 2018)
*Fentanyl analogs do not include fentanyl.

Prescription Opioid Dispensation

See Appendix B for interpretation notes on Drug Program Information Network data.

Drug Program Information Network (DPIN)

In 2018 (between January 1 and June 30, 2018), 18,196 Manitobans (57% female) were dispensed a prescription opioid from a community pharmacy:

- Quarter 1 (January 1 – March 31): n = 9,088 (57% female)
- Quarter 2 (April 1 – June 30): n = 9,108 (57% female).

The number of Manitobans dispensed a prescription opioid between January 1 and June 30, 2018, is lower compared the same time period in 2016 and 2017 (Table 9). Since 2012, the proportion of females dispensed a prescription opioids has been consistently greater than males.

By Morphine Milligram Equivalent (MME) per day, the number of individuals (unique PHINs) that were dispensed prescription opioid from a community pharmacy in the second quarter (April to June, 2018) was comparable to the previous quarter:

- 000 – 49 MME/day: n=4,182 (0.4% increase from the first quarter)
- 050 – 089 MME/day: n=2,331 (0.9% increase from the first quarter)
- 090 – 199 MME/day: n=1,843 (1% decrease from the first quarter)
- Greater than 200 MME/day: n=752 (0.4% increase from the first quarter)

Overall, a slight increase in the number of Manitobans prescribed Hydromorphone and Meperidine are noted (2% increase and 4% increase, respectively) since the last quarter, while the prescription of all other products (fentanyl, generic oxycontin, morphine and oxyneo) have decreased since the previous quarter (Figure 22).

Additional figures can be found in Appendix A of this report.

Table 9: Number of Manitobans dispensed a prescription opioid from a community pharmacy from January 1 to June 30 each year, by age group, Drug Program Information Network (January 1 to June 30, 2013 – 2018)

Year	Total number of Manitobans dispensed a prescription opioid between January 1 and June 30 (Quarter 1 and 2)	Number of Manitobans dispensed a prescription opioid between January and June (Quarter 1 and 2) by age group				
		Less than 15 years old	15 to 24.9 years	25 to 44.9 years	45 to 64.9 years	65 years and older
2013	16,687	10	216	2,822	8,166	5,473
2014	17,692	18	263	2,976	8,389	6,046
2015	18,111	30	297	3,014	8,483	6,287
2016	18,401	24	268	2,920	8,592	6,597
2017	18,336	37	228	2,825	8,447	6,799
2018	18,196	23	262	2,640	8,236	7,035

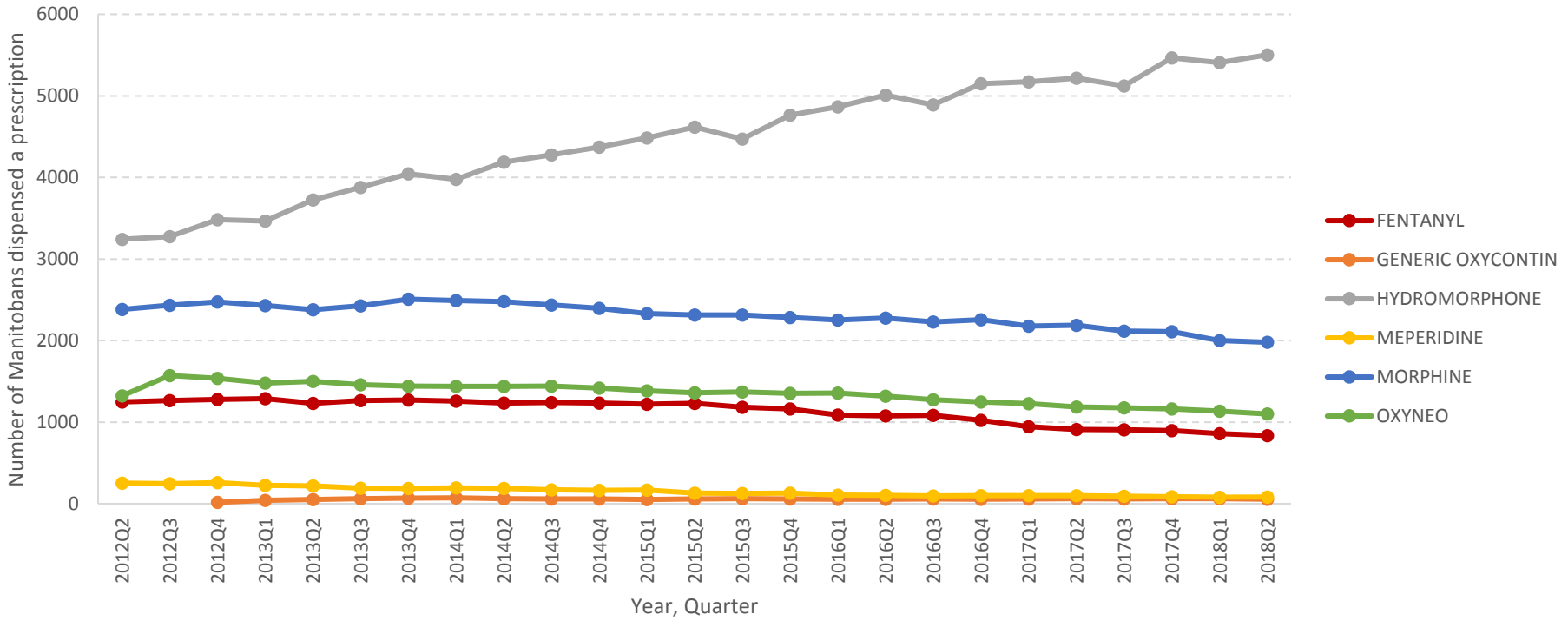


Figure 22: Number of Manitobans dispensed a prescription opioid from a community pharmacy, by product, Drug Program Information Network (April 1, 2012 – June 30, 2018)

Call Centres

See Appendix B for interpretation notes on Health Links – Info Santé and Manitoba Poison Centre data.

Health Links – Info Santé

Data for the second quarter of 2018 (April to June) was not available at the time this report was produced. It will be available in the next report. Please refer to the first quarter report for additional details.

In the first quarter of 2018 (January 1 to March 31), there were 30 substance-use related calls to Health Links – Info Santé, based on the Health Information Advisor (HIA) Title resource and 157 substance-use related calls based on the Guideline Title resource. These are not mutually exclusive, nor do the number of times the resource was used indicate the number of calls.

- On average, the number of substance-use related calls indicated by the HIA title resource is 35 per quarter (median: 33 calls); and by Guideline title is 130 per quarter (median: 124 calls).
- Specifically to opioids, there were two calls for "fentanyl" and one for "naloxone program and kits" in the first quarter.

Manitoba Poison Centre (MPC)

To date (January 1 to June 30, 2018), there have been 99 calls made to the Manitoba Poison Centre related to opioids. In the second quarter of 2018, there were 48 opioid-related calls received by the Manitoba Poison Centre (Table 10); this is a slight decrease since the first quarter of 2018 (n=51) (Figure 23) – the median number of calls per quarter is 50 (average: 54).

In the second quarter (April 1 to June 30, 2018), the number of calls amongst the "5 years and younger" and "6-19 years" age groups decreased since the last quarter; whereas the number of calls amongst the "20 years and older" age group has increased since last quarter (from 34 calls to 41 calls) – see Figure 23.

Table 10: Number of opioid poisoning-related calls by opioid-type, Manitoba Poison Centre (April 1 – June 30, 2018)

	5 years and younger	6 to 19 years	20 years and older	Total
Opioids in combination with non-opioid analgesics	**0**	**7**	**30**	**37**
Acetaminophen with codeine	0	6	21	**27**
Acetaminophen with oxycodone	0	1	8	**9**
Acetaminophen with other opioids	0	0	1	**1**
Opioids	**0**	**0**	**11**	**11**
Codeine	0	0	1	**1**
Heroin	0	0	1	**1**
Hydromorphone	0	0	1	**1**
Methadone/Buprenorphine	0	0	3	**3**
Morphine	0	0	2	**2**
Oxycodone	0	0	*2*	***2***
Other/unknown opioids	0	0	1	**1**
Total opioid related calls received	**0**	**7**	**41**	**48**

Figure 23: Number of opioid poisoning-related calls by age group, Manitoba Poison Centre (January 1, 2017 – June 30, 2018)

Illegal Opioids Identified or Tracked

See Appendix B for interpretation notes on Drug Analysis Service data.

Drug Analysis Services[7], Health Canada

Due to availability of data and the method of analysis used, a summary up to the end of the third quarter (September 30, 2018) is being reported.

Between January 1 and September 30, 2018, a total of 2,900 samples were submitted for analysis in Manitoba.

During the six month period of April 1 – September 30 2018, a total of 1,790 samples were submitted for analysis, which represents a 7% increase over the same period last year.

- The top five controlled substances identified this period include: cocaine (n=537), cannabis (n=490), methamphetamine (n=436), fentanyl (n=54) and oxycodone (n=43)
- During this period 175 opioids were identified.

[7] The Drug Analysis Service (DAS) analyzes suspected illegal drugs seized by Canadian law enforcement agencies. These statistics provide some information about the substances identified in samples.
They do not represent the total number of substances seized by law enforcement. They should not be used to estimate the number or types of drugs that may be available on the street. As well, a single sample may contain more than one substance.

- Fentanyl and its analogues represented 49% of these opioids (Figure 24); and five carfentanil samples were identified.
- Fentanyl numbers (not including analogues), and carfentanil numbers (in parentheses) are provided below (Figure 25):
  - 2017 Q2: n=19 (n=22)
  - 2017 Q3: n=19 (n=13)
  - 2017 Q4: n=22 (n=8)
  - 2018 Q1: n=9 (n=2)
  - 2018 Q2 & Q3 : n=54 (n=5)
- Other drugs of interest identified during this 6-month period include:
  - Psilocybin a.k.a Magic Mushrooms (n=10), and
  - Ketamine, an anesthetic typically used in medical or veterinary surgery (n=6).

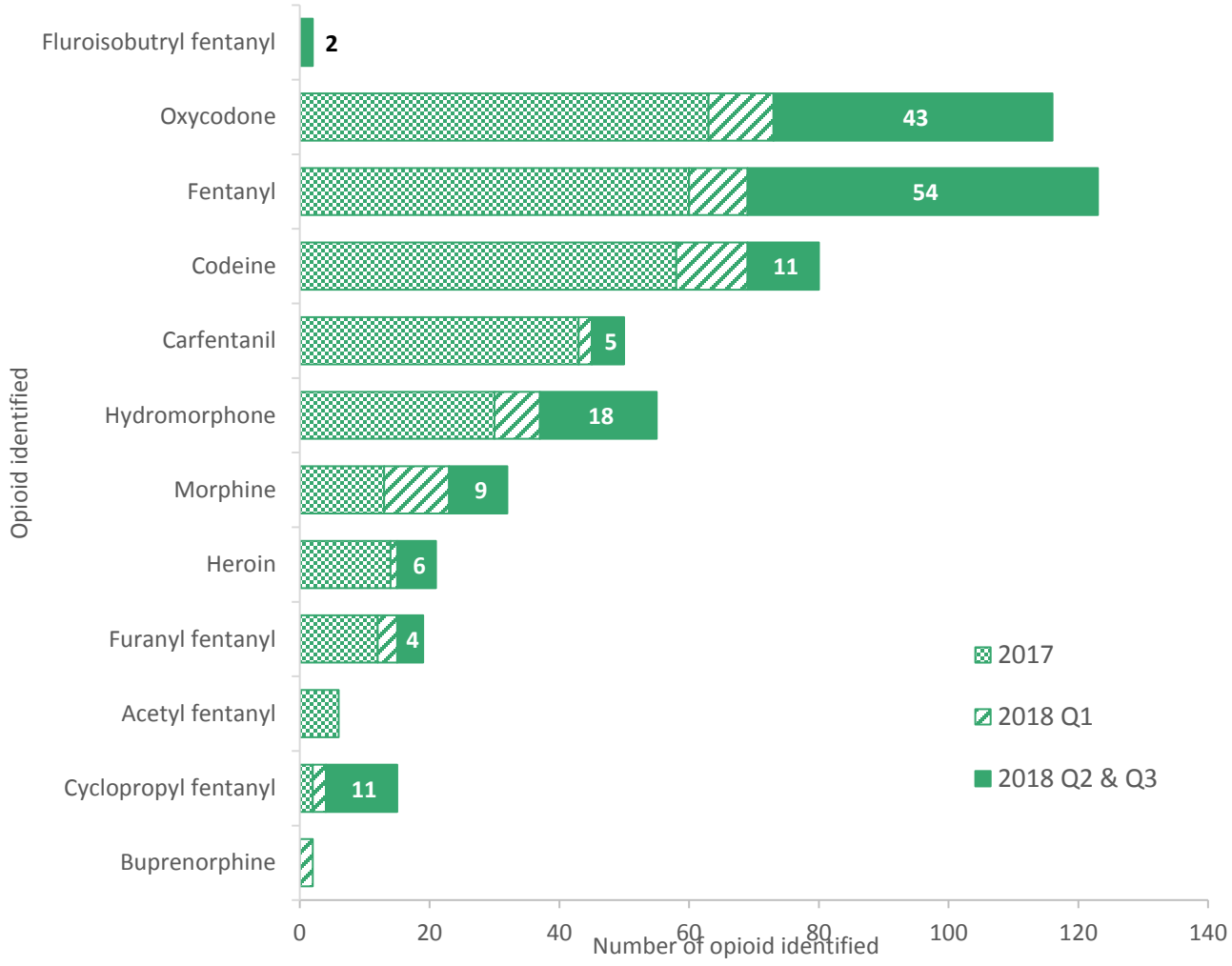


Figure 24: Number of top illegal opioids identified or tracked in Manitoba, Drug Analysis Service, Health Canada (January 1, 2017 – September 30, 2018)

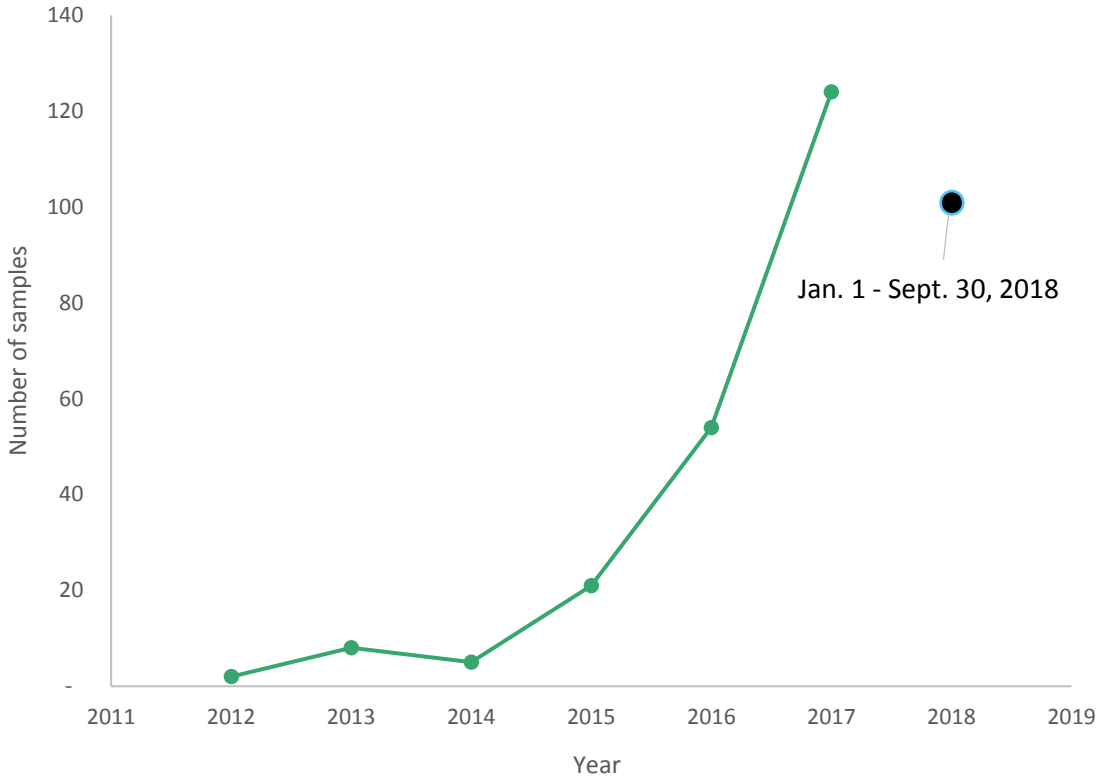


Figure 25: Number of illegal fentanyl-related opioids identified or tracked in Manitoba by year, Drug Analysis of Health Canada (January 1, 2012 – September 30, 2018)

Conclusion

Across the country, opioid use and overdose continues to have devastating effects on families and communities.

Manitoba Health, Seniors and Active Living has been working closely with partners to collect and share data with stakeholders and to monitor trends related to opioid use and overdose, in addition to harms and response efforts.

As of the second quarter of 2018 (April 1 – June 30, 2018), a number of changing trends have been identified. The Epidemiology and Surveillance Unit of Manitoba Health, Seniors and Active Living will continue to monitor these trends into the third quarter of 2018:

- There is a slight increase in the number of individuals who were suspected to have overdosed on opioids and administered naloxone by the **Winnipeg Fire and Paramedic Service**.
- There is a slight increase in the distribution of **Take Home Naloxone Kits** by organizations, directly to individuals in the community**.**
- The self-reported poly drug use (in **Take Home Naloxone Overdose Forms**) across quarterly reporting periods is varying, with an increase noted between the first and second quarter.
- A decline in apparent **fentanyl-related deaths** including carfentanil was being seen since the first quarter of 2017, in addition to the number of positive screens for fentanyl analogs in toxicology work. More recently, preliminary reports of carfentanil in casework are being consistently reported (since August 2018).

The following are additional trends of interest noted during this quarter:

- Of those who reported using a **Take Home Naloxone Kit,** all individuals survived the overdose. In most situations, the owner of the kit gave the naloxone to someone else they knew; and local emergency response was not called during the overdose event.
- Individuals between the age of 45 and 60 years made up the highest proportion of **hospitalizations for opioid poisonings**.
- Most individuals with a **suspected overdose arriving at ED facilities outside the WRHA sites** were females – the rate of admission continues to be more than double the rate for males. Majority of the females were between the age of 15 and 29 years.

Epidemiology and Surveillance continues to work closely with regional, provincial, and national stakeholders to collect, analyse, disseminate, and improve the surveillance of opioid use, overdose and related harms in the province.

Appendix A: Additional Figures and Tables

Naloxone Administration: Winnipeg Fire and Paramedic Service (WFPS)

Table A. 1: Characteristics of Suspected Overdose Cases Receiving Naloxone, Winnipeg Fire and Paramedic Service, Jan. 1 to June 30, 2018

	Female		Male		Total	
	No.	%	No.	%	No.	%
Age group						
10-14	1	0.7	0	0.0	1	0.3
15-19	6	4.2	8	5.6	14	4.9
20-24	16	11.2	20	14.0	36	12.6
25-29	28	19.6	18	12.6	46	16.1
30-34	21	14.7	23	16.1	44	15.4
35-39	17	11.9	10	7.0	27	9.4
40-44	14	9.8	19	13.3	33	11.5
45-49	10	7.0	12	8.4	22	7.7
50+	30	21.0	33	23.1	63	22.0
Total	143	100.0	143	100.0	286	100.0
Community Area of Event Location						
St. James	10	7.0	5	3.5	15	5.2
Assiniboine South	3	2.1	1	0.7	4	1.4
Fort Garry	4	2.8	13	9.1	17	5.9
St. Vital	7	4.9	0	0.0	7	2.4
St. Boniface	4	2.8	8	5.6	12	4.2
Transcona	8	5.6	5	3.5	13	4.5
River East	10	7.0	5	3.5	15	5.2
Seven Oaks	7	4.9	6	4.2	13	4.5
Inkster	2	1.4	3	2.1	5	1.7
Point Douglas	32	22.4	31	21.7	63	22.0
Downtown	50	35.0	58	40.6	108	37.8
River Heights	6	4.2	8	5.6	14	4.9
Total	143	100.0	143	100.0	286	100.0
Community Area of Residency						
St. James	6	4.8	5	5.2	11	5.0
Assiniboine South	3	2.4	3	3.1	6	2.7
Fort Garry	5	4.0	7	7.3	12	5.4
St. Vital	7	5.6	2	2.1	9	4.1
St. Boniface	5	4.0	6	6.3	11	5.0
Transcona	7	5.6	1	1.0	8	3.6
River East	10	8.0	5	5.2	15	6.8
Seven Oaks	8	6.4	7	7.3	15	6.8
Inkster	2	1.6	4	4.2	6	2.7
Point Douglas	35	28.0	20	20.8	55	24.9
Downtown	32	25.6	30	31.3	62	28.1
River Heights	5	4.0	6	6.3	11	5.0
Total	125	100.0	96	100.0	221	100.0

*Data provided by WFPS; Includes only those greater than 9 years of age.

Table A. 2: Number of suspected overdose cases receiving naloxone by year, Winnipeg Fire and Paramedic Service (January 1, 2012 - June. 30, 2018)

	Female		Male		Total	
	No.	%	No.	%	No.	%
Year						
2012	171	47.9	186	52.1	357	100.0
2013	144	46.9	163	53.1	307	100.0
2014	153	44.3	192	55.7	345	100.0
2015	198	47.3	221	52.7	419	100.0
2016	313	43.8	402	56.2	715	100.0
2017	299	40.6	437	59.4	736	100.0
2018	143	50.0	143	50.0	286	100.0
Total	1,421	44.9	1,744	55.1	3,165	100.0

Data provided by WFPS; Includes only those greater than 9 years of age.

Table A. 3: Crude and age-standardized rates (per 100,000) of suspected overdose events where naloxone was administered by community area of residence, Winnipeg Fire and Paramedic Service (January 1 - June 30, 2018)

Females				
Community Area of Residency	Number	Crude Rate	Age-Standardized Rate	95%CI
St. James	6	21.1	24.3	8.8 - 53.4
Assiniboine South	3	18.0	15.9	3.1 - 51.1
Fort Garry	5	12.7	10.6	3.4 - 25.8
St. Vital	7	21.5	20.0	7.9 - 42.4
St. Boniface	5	18.6	17.1	5.6 - 40.9
Transcona	7	40.4	41.0	16.3 - 84.8
River East	10	22.3	21.2	10.0 - 39.7
Seven Oaks	8	23.4	23.3	10.0 - 46.4
Inkster	2	13.3	14.3	1.7 - 49.9
Point Douglas	35	176.4	164.8	114.4 - 230.0
Downtown	32	91.4	86.5	58.4 - 123.3
River Heights	5	18.4	17.1	5.3 - 42.3
Total	125	37.0	36.6	30.4 - 43.7
Males				
Community Area of Residency	Number	Crude Rate	Age-Standardized Rate	95%CI
St. James	5	19.3	19.7	6.3 - 46.6
Assiniboine South	3	19.6	17.5	3.6 - 54.4
Fort Garry	7	18.3	17.1	6.7 - 35.8
St. Vital	2	6.6	5.8	0.7 - 22.1
St. Boniface	6	23.5	24.2	8.9 - 52.8
Transcona	1	6.0	5.1	0.1 - 30.7
River East	5	11.9	12.1	3.9 - 28.3
Seven Oaks	7	21.5	23.2	9.3 - 47.4
Inkster	4	26.8	25.3	6.8 - 65.1
Point Douglas	20	99.2	99.3	60.3 - 153.5
Downtown	30	81.7	74.7	50.0 - 107.5
River Heights	6	24.3	26.7	9.7 - 58.2
Total	96	29.7	29.0	23.4 - 35.5

*Data provided by WFPS; Includes only those greater than 9 years of age.

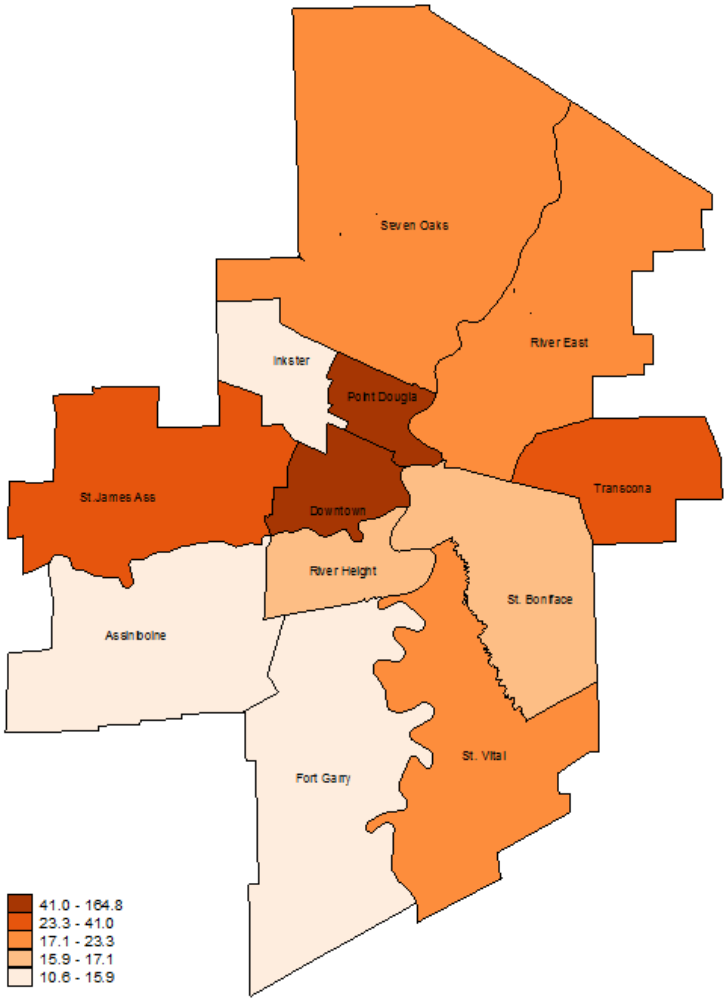


Figure A. 1: Age standardized rate (per 100,000) map of suspected overdose events among **females** where naloxone was administered by community area of residence, Winnipeg Fire and Paramedic Service (January 1 - June 30, 2018)

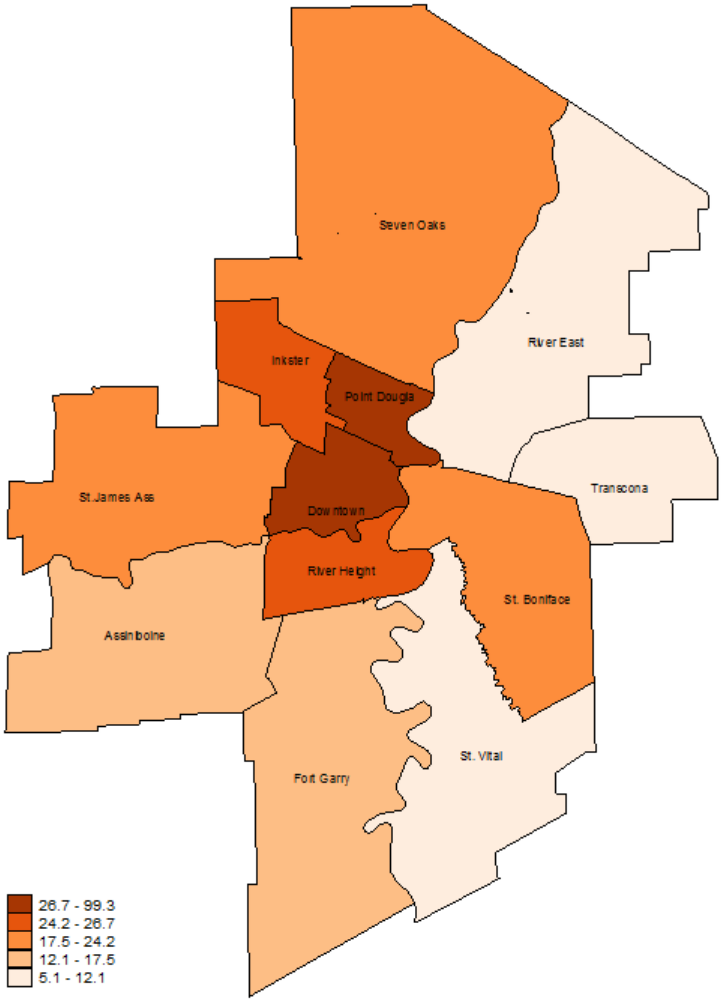
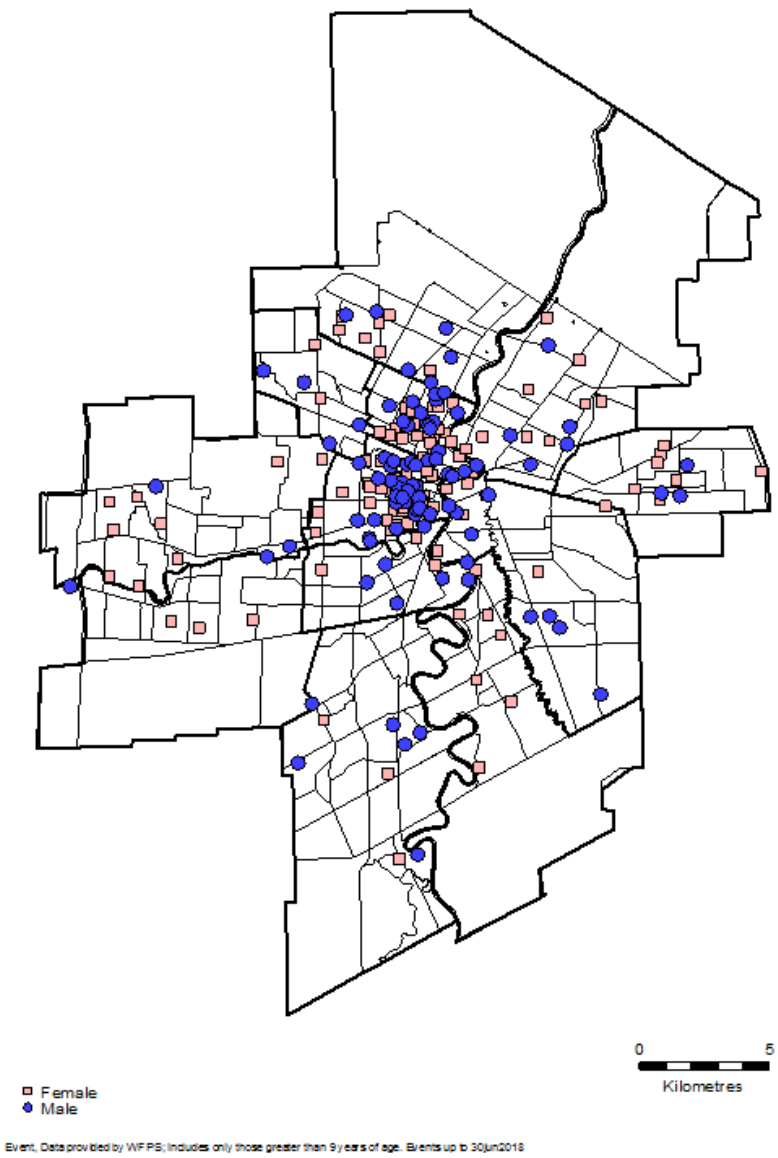
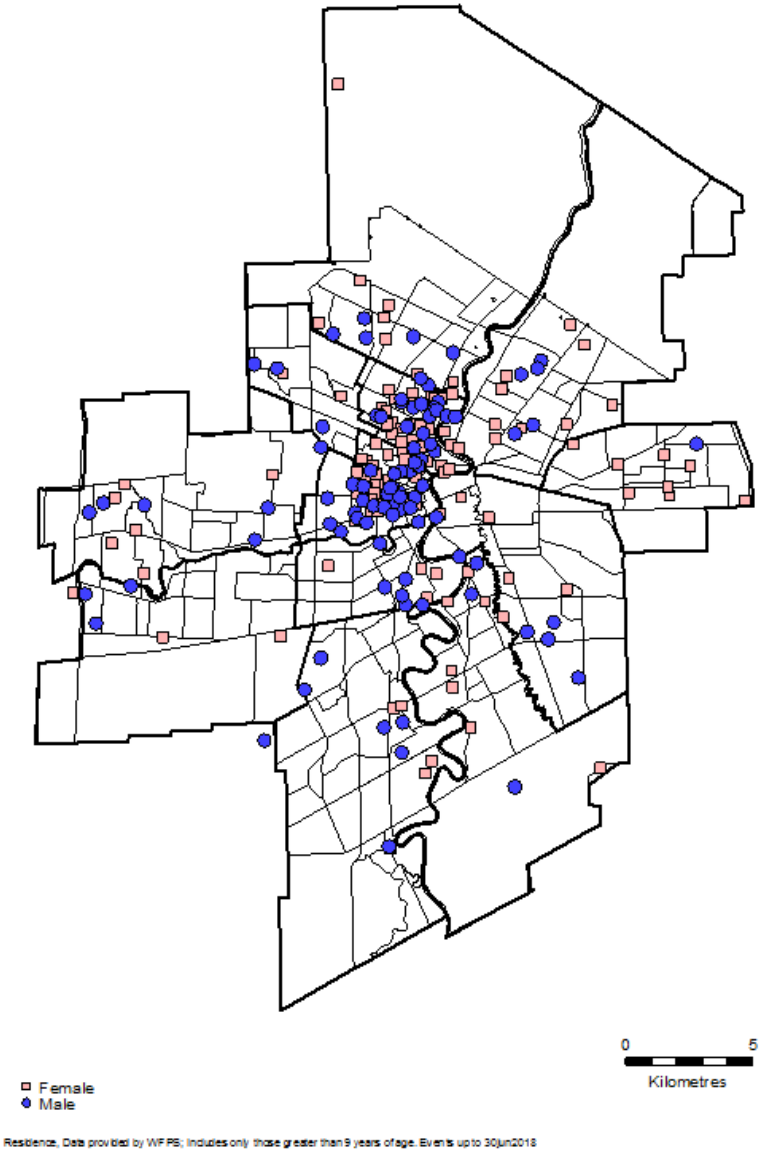


Figure A. 2: Age standardized rate (per 100,000) of suspected overdose events among **males** where naloxone was administered by community area of residence, Winnipeg Fire and Paramedic Service (January 1 - June 30, 2018)



The event locations (where the WFPS call for service occurred) illustrated on the map are not exact (randomized within neighborhoods).

Figure A. 3: Dot map of suspected overdose cases receiving naloxone by **event locations**, Winnipeg Fire and Paramedic Service (January 1 – June 30, 2018)



Residential locations are not exact (randomized within neighborhoods).

Figure A. 4: Dot map of suspected overdose cases receiving naloxone by **residential location**s, Winnipeg Fire and Paramedic Service (January 1 – June 30, 2018)

Suspected Overdose Cases Arriving at Emergency Departments and Urgent Care Facilities in Winnipeg RHA

Table A. 4: Characteristics of suspected overdose cases arriving at Winnipeg RHA Emergency Departments and Urgent Care Facilities, Emergency Department Information System (January 1 – June 30, 2018)

	Female		Male		Total	
	No.	%	No.	%	No.	%
Age group						
10-14	53	12.6	15	7.9	68	11.1
15-19	115	27.3	33	17.5	148	24.2
20-24	47	11.1	17	9.0	64	10.5
25-29	70	16.6	26	13.8	96	15.7
30-34	34	8.1	26	13.8	60	9.8
35-39	24	5.7	13	6.9	37	6.1
40-44	23	5.5	17	9.0	40	6.5
45-49	14	3.3	12	6.3	26	4.3
50+	42	10.0	30	15.9	72	11.8
Total	422	100.0	189	100.0	611	100.0
Community Area						
St. James	26	6.2	11	5.8	37	6.1
Assiniboine South	4	0.9	4	2.1	8	1.3
Fort Garry	24	5.7	8	4.2	32	5.2
St. Vital	22	5.2	12	6.3	34	5.6
St. Boniface	19	4.5	10	5.3	29	4.7
Transcona	21	5.0	4	2.1	25	4.1
River East	49	11.6	15	7.9	64	10.5
Seven Oaks	28	6.6	12	6.3	40	6.5
Inkster	21	5.0	11	5.8	32	5.2
Point Douglas	54	12.8	17	9.0	71	11.6
Downtown	65	15.4	34	18.0	99	16.2
River Heights	13	3.1	6	3.2	19	3.1
Missing - no postal code	11	2.6	4	2.1	15	2.5
Non-Winnipeg postal code, Manitoba resident	57	13.5	36	19.0	93	15.2
Non-Winnipeg postal code, Non-Manitoba resident	8	1.9	5	2.6	13	2.1
Total	422	100.0	189	100.0	611	100.0

*Data from EDIS; Includes CTAS 1 & 2 and those greater than 9 years of age only.

Table A. 5: Crude and age standardized rates (per 100,000) of suspected overdose cases arriving at Winnipeg RHA Emergency Departments and Urgent Care Facilities by community area, Emergency Department Information System (January 1 – June 30, 2018)

Females				
Community Area	Number	Crude Rate	Age-Standardized Rate	95%CI
St. James	26	91.6	114.2	74.0 - 167.6
Assiniboine South	4	24.0	32.0	8.7 - 80.1
Fort Garry	24	60.8	62.4	39.8 - 93.1
St. Vital	22	67.6	70.7	44.1 - 107.6
St. Boniface	19	70.6	71.6	43.0 - 112.2
Transcona	21	121.2	125.1	77.3 - 191.2
River East	49	109.1	116.1	85.5 - 154.0
Seven Oaks	28	81.9	86.3	57.2 - 124.8
Inkster	21	139.9	135.2	83.3 - 207.2
Point Douglas	54	272.1	250.7	187.8 - 327.9
Downtown	65	185.6	171.8	131.8 - 220.2
River Heights	13	47.7	65.0	33.6 - 111.8
Total	346	102.5	106.5	95.5 - 118.4
Males				
Community Area	Number	Crude Rate	Age-Standardized Rate	95%CI
St. James	11	42.4	44.2	21.9 - 79.6
Assiniboine South	4	26.2	28.7	7.5 - 74.2
Fort Garry	8	20.9	17.6	7.4 - 35.7
St. Vital	12	39.8	41.4	21.3 - 72.5
St. Boniface	10	39.2	38.8	18.6 - 71.7
Transcona	4	23.8	22.1	6.0 - 57.3
River East	15	35.6	36.1	20.1 - 59.6
Seven Oaks	12	36.8	36.2	18.7 - 63.3
Inkster	11	73.7	72.0	35.6 - 129.0
Point Douglas	17	84.3	81.0	46.9 - 129.9
Downtown	34	92.6	91.9	63.3 - 129.0
River Heights	6	24.3	22.4	8.0 - 50.5
Total	144	44.6	44.0	37.0 - 51.8

*Data from EDIS; Includes CTAS 1 & 2 and those greater than 9 years of age only.

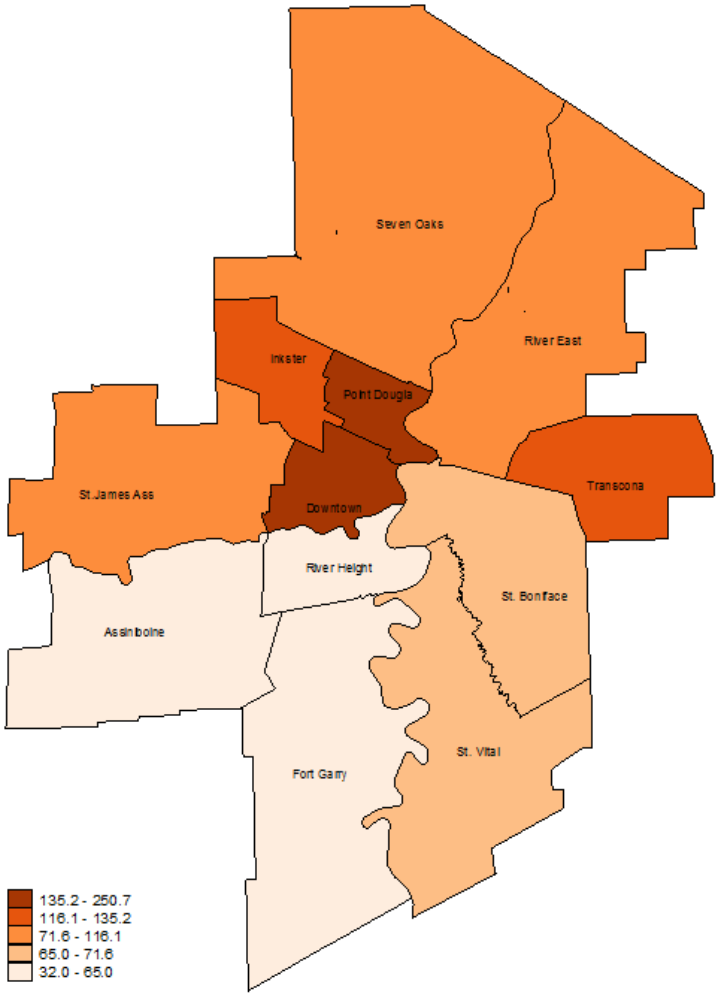


Figure A. 5: Age standardized rate (per 100,000) map of suspected overdose **female** cases arriving at Winnipeg RHA Emergency Departments and Urgent Care Facilities by community area of residence, Emergency Department Information System (January 1 - March 31, 2018)

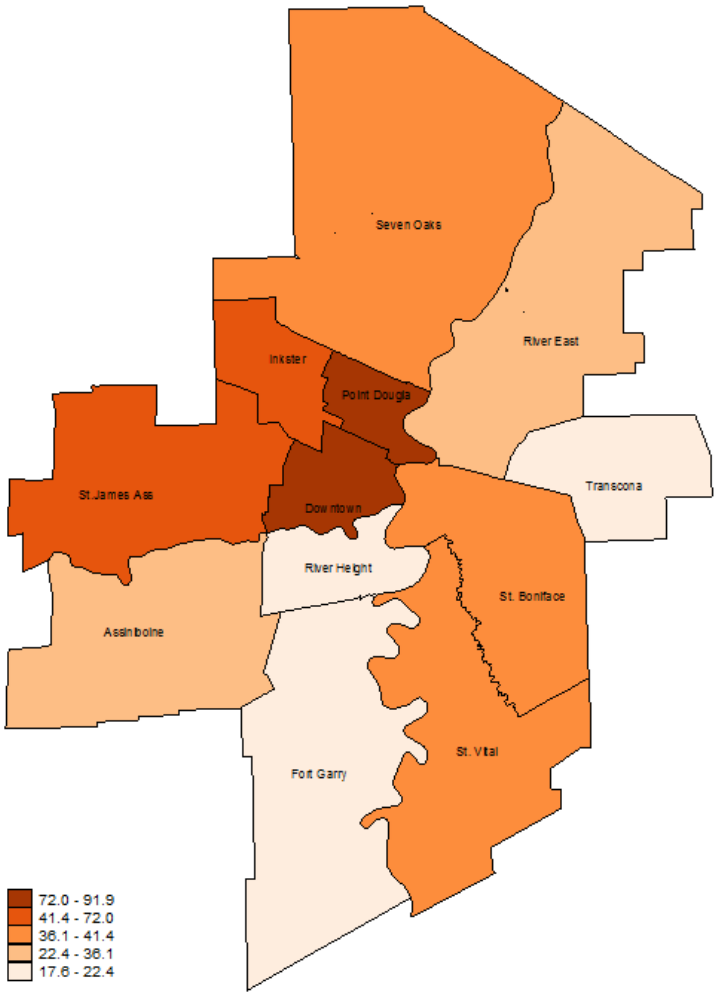


Figure A. 6: Age standardized rate (per 100,000) map of suspected overdose **male** cases arriving at Winnipeg RHA Emergency Departments and Urgent Care Facilities by community area of residence, Emergency Department Information System, (January 1 - March 31, 2018)

Severity: Opioid Poisoning Hospitalizations

Table A. 6: Number of opioid poisoning hospitalizations in Manitoba by sex, Manitoba Health, Seniors and Active Living (January 1, 2008 – June 30, 2018)

Year	Female	Male	Total
2008	62	39	**101**
2009	62	39	**101**
2010	65	37	**102**
2011	81	71	**152**
2012	86	40	**126**
2013	65	51	**116**
2014	76	60	**136**
2015	70	52	**122**
2016	65	59	**124**
2017	74	65	**139**
2018 (Jan-Jun)	27	25	**52**
Total	*733*	*538*	***1271***

Table A. 7: Number of opioid poisoning hospitalizations in Manitoba by age group, Manitoba Health, Seniors and Active Living (January 1, 2008 – June 30, 2018)

Year	24 years old or younger	25 - 44 years old	45 - 64 years old	65 years old or older	Total
2008	14	28	37	22	**101**
2009	11	34	32	24	**101**
2010	13	27	37	25	**102**
2011	25	60	35	32	**152**
2012	21	38	43	24	**126**
2013	18	44	34	20	**116**
2014	16	48	51	21	**136**
2015	16	42	49	15	**122**
2016	16	32	49	27	**124**
2017	25	48	43	23	**139**
2018 (Jan-Jun)	10	12	23	7	**52**
Total	*185*	*413*	*433*	*240*	***1271***

Table A. 8: Number of opioid poisoning hospitalizations in Manitoba by opioid type, Manitoba Health, Seniors and Active Living (January 1, 2008 – June 30, 2018)

Year	Poisoning by heroin	Poisoning by methadone	Poisoning by opium	Poisoning by other opioids **	Poisoning by synthetic opioids	Poisoning by unspecified/other narcotics	Total
2008	0	5	0	67	7	22	**101**
2009	1	7	1	69	4	19	**101**
2010	0	2	1	67	7	25	**102**
2011	0	13	0	102	12	25	**152**
2012	1	6	0	92	6	21	**126**
2013	1	7	0	87	9	12	**116**
2014	1	7	1	100	4	23	**136**
2015	0	8	0	82	12	20	**122**
2016	0	9	0	77	17	21	**124**
2017	0	12	0	85	23	19	**139**
2018 (Jan- Jun)	0	2	0	42	3	5	**52**
Total	*4*	*78*	*3*	*870*	*104*	*212*	***1271***

Table A. 9: Number of opioid poisoning hospitalizations in Manitoba by Regional Health Authority, Manitoba Health, Seniors and Active Living (January 1, 2008 – June 30, 2018)

Year	Interlake-Eastern RHA	Northern RHA	Prairie Mountain Health	Southern Health-Santé Sud	Winnipeg RHA	Total
2008	12	5	34	6	44	**101**
2009	15	12	22	10	42	**101**
2010	14	10	29	17	32	**102**
2011	14	15	40	22	61	**152**
2012	16	17	27	14	52	**126**
2013	12	22	32	15	35	**116**
2014	15	11	42	18	50	**136**
2015	21	11	36	2	52	**122**
2016	16	10	35	10	53	**124**
2017	13	5	27	2	92	**139**
2018 (Jan-Jun)	6	1	8	5	32	**52**
Total	*154*	*119*	*332*	*121*	*545*	***1271***

Prescription Opioid Dispensation: Drug Program Information Network (DPIN)

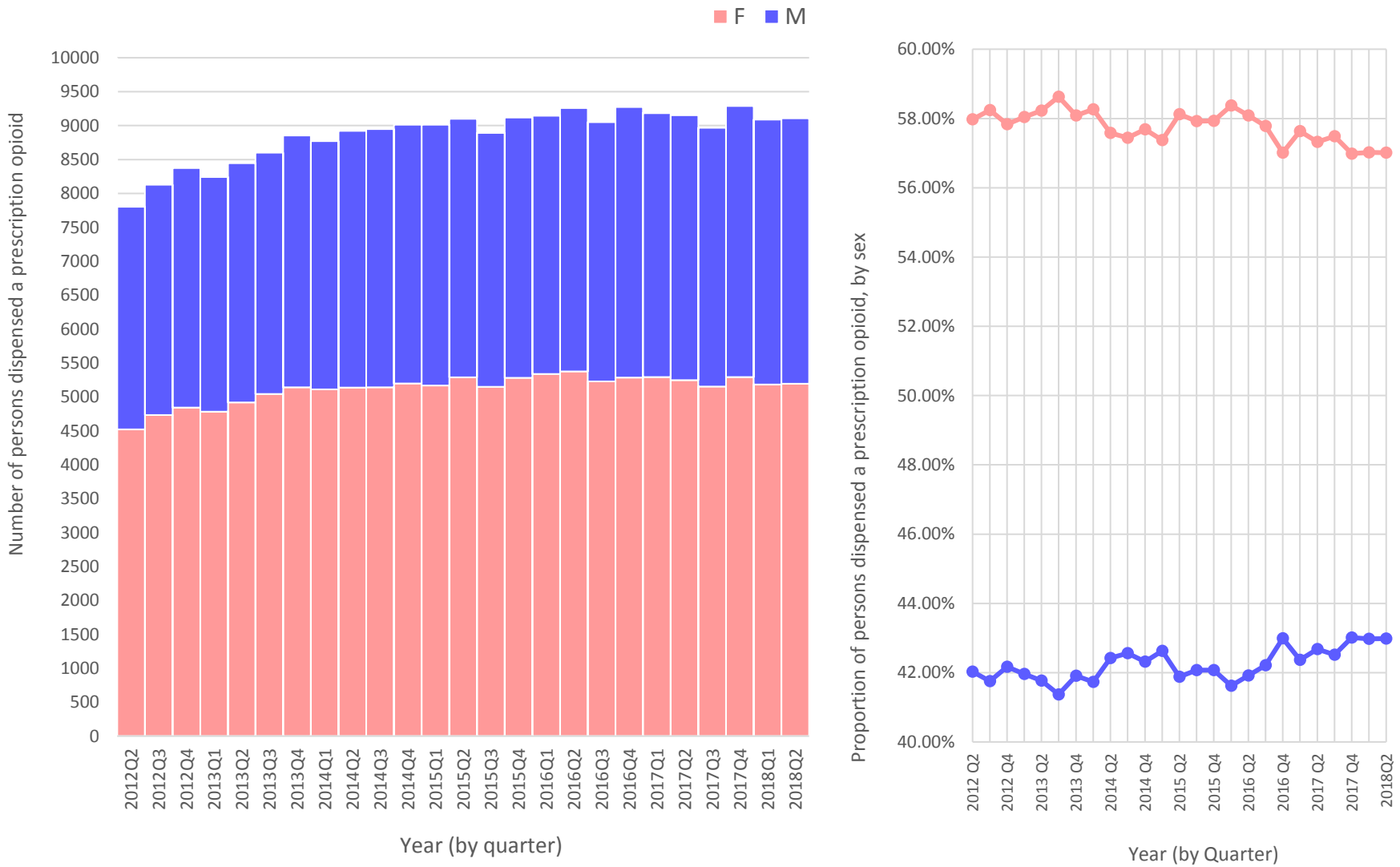


Figure A. 7: Number and proportion of Manitobans dispensed a prescription opioid from a community pharmacy by sex, Drug Program Information Network (April 1, 2012 – June 30, 2018)

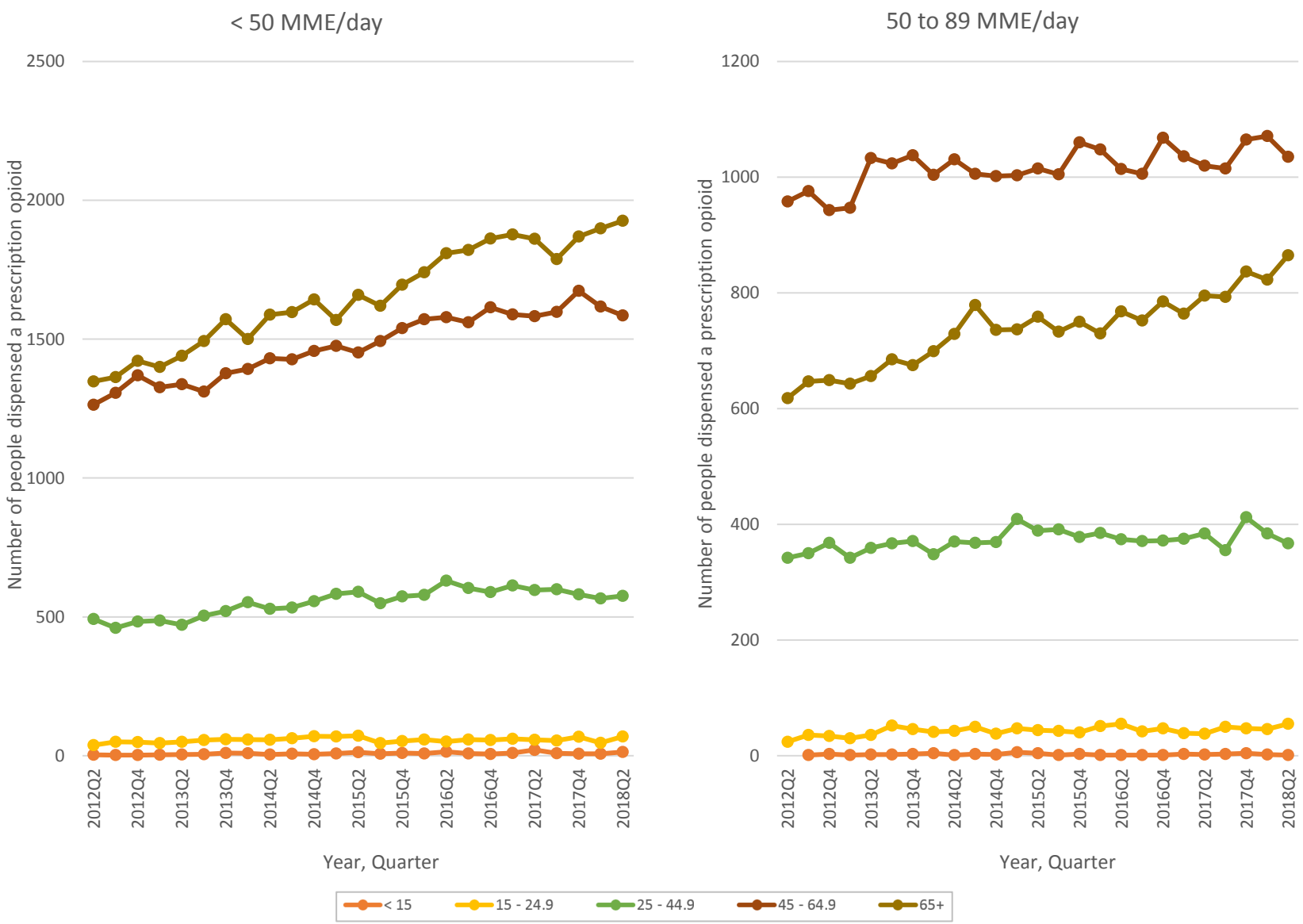


Figure A. 8: Number of Manitobans dispensed a prescription opioid from a community pharmacy by morphine milligram equivalent (MME) per day, <50 MME/day and 50 to 89 MME/day, and age group, Drug Program Information Network (April 1, 2012 – June 30, 2018)

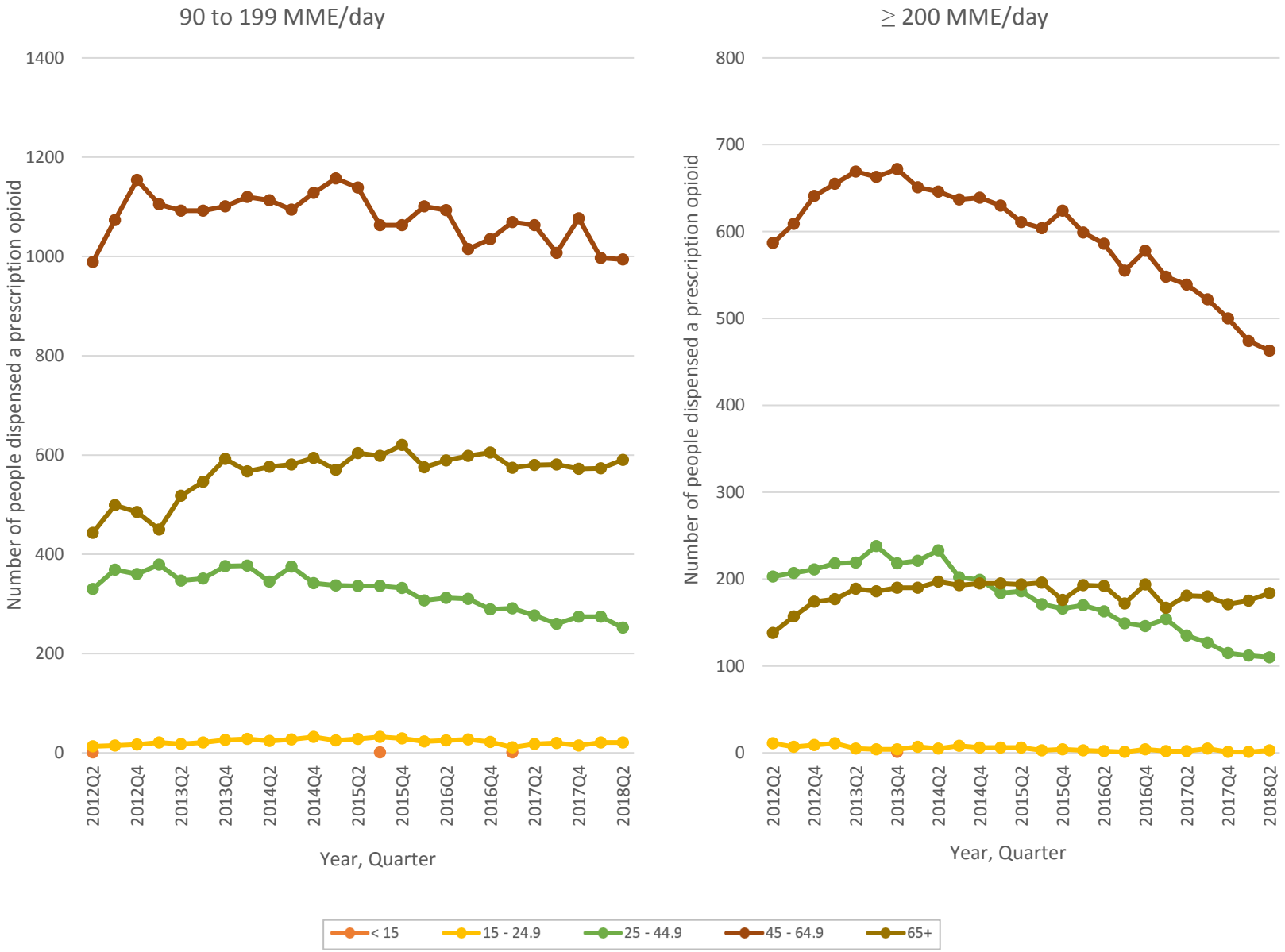


Figure A. 9: Number of Manitobans dispensed a prescription opioid from a community pharmacy by morphine milligram equivalent (MME) per day, 90 to 199 MME/day and ≥ 200 MME/day, and age group, Drug Program Information Network (April 1, 2012 – June 30, 2018)

Appendix B: Data Source Background and Interpretation Notes

Naloxone Distribution and Administration

Provincial Take-Home Naloxone Program data

The Healthy Sexuality and Harm Reduction program in Winnipeg RHA launched a Take-Home Naloxone program in January 2016 in order to increase access to opioid overdose prevention and response resources among people with a high risk of opioid overdose. It was later extended to the entire province in January 2017. A summary of take-home naloxone kit components, distribution site criteria, and training manual are available online at www.gov.mb.ca/fentanyl. An up-to-date list of take-home naloxone distribution sites in Manitoba is available at www.streetconnections.ca. More information regarding the program can also be found at: www.gov.mb.ca/fentanyl/opioid-overdose

Box B.1 - Interpretation notes regarding the *Provincial Take-Home Naloxone Program data*

When a take-home naloxone kit dispensed from a distribution site is used by a lay responder in an overdose event, an overdose response form is completed by the staff replacing the kit (available online). It is possible that more kits were used in overdose events than were reported. Clients often return to a distribution site and report the event months after it occurred, thus retrospective reporting tends to cause temporal gaps in data. The data presented in this report are drawn from these overdose events for which data was collected.

Manitoba's Materials Distribution Agency (MDA) - Panorama Inventory Management System data

Beginning in December 29, 2016, all eligible take-home naloxone kit distribution sites ordered naloxone kits directly from Manitoba's Materials Distribution Agency (MDA). The Inventory Management Module within Panorama (an electronic public health management system) was used by distribution sites to order naloxone kits.

Winnipeg Fire & Paramedic Service data (available for Winnipeg RHA only)

Winnipeg Fire and Paramedic Services (WFPS) will administer naloxone when it is suspected (by objective clinical assessment of patient vital signs and presentation) that an opioid overdose has occurred. The analysis of the WFPS is completed by the Winnipeg RHA for the quarterly report. Winnipeg RHA works closely with WFPS to continually explore mechanisms that provide data to inform public health programming in the region.

Box B.2 - Interpretation notes regarding Winnipeg Fire and Paramedic Service data

No drug or laboratory testing is undertaken by WFPS to confirm whether ingestion of an opioid has actually occurred. As a result, it is likely that a number of reported naloxone related calls for service are not opioid-related.

Medical Transportation Coordination Centre data (available for rural and northern Manitoba)

The Medical Transportation Coordination Centre (MTCC) is a command and control centre for the dispatch of emergency medical services in rural and northern Manitoba. MTCC began collecting data relating to suspected opioid events in December 2016 to assist with the provincial opioid misuse and overdose surveillance system.

Box B.3 - Interpretation notes regarding the Medical Transportation Coordination Centre data

MTCC Data is collected at the moment of the 911 call, where information is solicited from the caller (1st or 2nd party). It is important to note that callers may not be forthright or knowledgeable with the information provided, and therefore the data may be subject to error and inaccuracy.

A suspected overdose call is defined by the International Academy of Emergency Dispatch (medical priority dispatch overdose problem type/determinate).

MTCC naloxone administration data is gathered from field paramedics that respond to the dispatched 911 call. If naloxone is administered, paramedics/first responders report back to MTCC to be recorded. Situations where

paramedics are dispatched to an opioid-related call will be recorded as an opioid-related call, regardless of actual outcome upon arrival.

In the case where a paramedic is responding to a non-opioid related call and naloxone is administered, this would not be recorded in the opioid-related call count. However, it will be recorded that naloxone was administered. Therefore, the number of naloxone administered is not contained within the count of opioid-related calls.

Northern RHA
Emergency Medical Services within the Northern RHA consists of both regionally and privately run EMS. It should be noted that many remote communities do not have access to land EMS.

Surveillance Definition:
All cases within the Northern RHA from January 1, 2017 onward where Emergency Medical Services (EMS) administer naloxone and/or cases where EMS arrive on scene and are informed that another first responder administered naloxone.

Box B.4 - Interpretation notes regarding the EMS data in the Northern RHA
Emergency Medical Services within the Northern RHA consists of both regionally and privately run EMS. It should be noted that many remote communities do not have access to land EMS.

EMS data in Northern RHA include reporting from 12 of the 15 EMS services in this region. Between January 1 and July 1, 2017: Only cases from NHR run EMS and Thompson Fire services are included. From July onward non-Northern RHA run EMS services have been included but reporting has not been complete. EMS does not have electronic patient care reporting capabilities and so identification of those cases in which Naloxone was administered is initially done through manual review of forms.

Severity

Hospital separation abstracts
Manitoba Health, Seniors and Active Living's (MHSAL) population-based hospital separation abstract database is used to measure opioid poisoning hospitalizations. The following ICD-10-CA (International Classification of Diseases) codes were used to identify opioid poisoning hospitalizations [6]: T40.0 - Poisoning by opium, T40.1- Poisoning by heroin, T40.2 -Poisoning by other opioids (includes morphine, oxycodone, hydrocodone, and codeine), T40.3 - Poisoning by methadone, T40.4 - Poisoning by synthetic opioids (includes fentanyl, propoxyphene, and meperidine), and T40.6 - Poisoning by unspecified/other narcotics. Codes with a prefix of Q, indicating a suspected diagnosis were excluded from the analysis.

Emergency department information system data
The Emergency Department Information System (EDIS) contains information on a patient's experience as he or she progresses through an emergency department from the first point of entry at the triage desk through to discharge. Emergency department admissions due to overdose at CTAS 1 – Resuscitation and 2 - Emergent in all RHAs are described using EDIS data.

Outside of the Winnipeg Regional Health Authority, the following sites are captured in the EDIS system:
Selkirk (since 2016), Brandon (since 2016), Bethesda (Since March 2017), Boundary Trails (since March 2017), Dauphin (since Nov 2017), Flin Flon (since June 2017), Portage (since March 2017), St. Anthony's (The Pas) (since June 2017), and Thompson (since June 2017).

Box B.5 – Interpretation notes regarding Emergency Department Admissions data
EDIS data used in this report are not specific to opioid overdose, but are a reflection of overdose events of all types. At this point in time, EDIS does not collect information on the suspected substance involved in an overdose admission, nor is confirmatory drug testing routinely undertaken. The chief complaint/visit reason of overdose used to extract the data for this report is based upon the triage nurse's initial impression when the patient first arrives and overdoses may not always be initially recognized. The result is that the number of overdose admissions is likely to be undercounted in this report.

First Nations and Inuit Health Branch
On April 5, 2017 Nursing Stations were asked to start completing an enhanced suspected opioid overdose form for all suspected opioid overdoses. There are 22 Nursing Stations from which Enhanced Opioid Overdose Surveillance Forms are expected if a suspected opioid overdose occurs.

Box B.6 – Interpretation notes regarding First Nations and Inuit Health Branch data
Suspected Opioid Overdose is defined as: A life-threatening event requiring emergency medical assistance that is suspected or confirmed to be caused by opioid overdose, which is typically characterized by respiratory depression, coma or decreased level of consciousness, and sometimes accompanied by pupillary constriction. Cases include presentations where it is suspected or confirmed that opioids were mixed with other chemical agents.

Mortality

Office of the Chief Medical Examiner's data
Office of the Chief Medical Examiner's (OCME) mortality data is used to describe the apparent opioid-related deaths in Manitoba. Data is gathered through chart reviews of the opioid-related deaths examined at OCME. This report applies the definitions by the Public Health Agency of Canada to ensure consistency with other jurisdictions across Canada.

Box B.7 – Interpretation notes regarding data
An apparent opioid-related death is defined as an acute intoxication/toxicity death resulting from the direct effects of the administration of exogenous substance(s) where one or more of the substances is an opioid. The definition includes open (preliminary) and closed (certified) cases, both intentional and unintentional cases, and those with or without personal prescriptions.

Examples of fentanyl-related opioid(s) include the subtypes fentanyl, carfentanil, and furanyl-fentanyl. Examples of non-fentanyl-related opioid(s) include codeine, heroin, and morphine. Other substances include but are not limited to alcohol, benzodiazepines, and cocaine.

Diagnostic Services Manitoba data
The Office of the Chief Medical Examiner (OCME) can request Diagnostic Services Manitoba (DSM) to provide further evidence to support an investigation. As part of that process, DSM will screen samples for fentanyl analogs including carfentanil and furanyl fentanyl. The source of the screening results is blood and tissue samples received from physicians (clinicians and pathologists).

Box B.8 – Interpretation notes regarding Toxicology data
It cannot be presumed that the presence of a fentanyl analog is related to the cause of death. This requires the review by the Office of the Chief Medical Examiner, as toxicological findings must be consolidated with all cases and autopsy information in order to ascertain cause of death. Thus, there can be no implied correlation between the number of positive test results and the number of overdose-related deaths.

Prescription Opioid Dispensation

Drug Program Information Network data

Drug Program Information Network (DPIN) database was used to measure the prescription opioid dispensation from community pharmacies in Manitoba. DPIN is an electronic, on-line, point-of-sale prescription drug database that has connected Manitoba Health, Seniors and Active Living to all pharmacies in Manitoba since 1995. The DPIN system generates complete drug profiles for all out-of-hospital transactions at the point of distribution.

Box B.9 – Interpretation notes regarding Drug Program Information Network data

Prescription opioids included in the analysis are fentanyl, oxyneo, generic oxycontin, hydromorphone, meperidine, and morphine. Opioids dispensed as part of long term care and palliative care programs are excluded from the analysis.

Morphine milligram equivalent (MME) per day are used to measure the quantity of prescription opioids dispensed. The MME is the strength of an opioid in comparison to the strength of morphine. The MME per day is calculated by taking total MME divided by day supply of opioid. Average MME per day is grouped as <50 MME/day, 50-89 MME/day, 90-199 MME/day, and ≥200 MME/day.

DPIN information excludes clients registered in palliative care program, home cancer drug program, and nursing homes. Analysis does not include drugs dispensed in acute care hospitals. Data reports drugs dispensed, not used.

To ensure that claims were new, we look back to month 0 or Jan 1, 2017. Using the Minimum Dispensed Date in Quarter 4, we would capture the earleast Rx for that patient

Call Centres

Calls to Health Links - Info Santé

Health Links – Info Santé is a provincial telenursing service that offers the following confidential services free-of-charge: (1) health assessment, care advice, and triage to the most appropriate level of care (e.g. “the Right Care at the Right Time”), (2) general health information and education, and (3) assistance in finding and accessing health resources in local communities to all residents in Manitoba.

Box B.10 – Interpretation notes regarding Health Links – Info Santé data

Calls that utilize health education documents are only topics discussed during calls – it is not known if callers are directly involved in the topic matter (opioid/drug use). Therefore, interpretation of the data presented in this section should be continued with caution.

Health Links – Info Santé registered nurses use evidence-based guidelines and/or health education documents (e.g. “Health Information Advisor” (HIA) documents) to assist clients. Although guidelines and health education documents are a core asset in providing health information, professional nursing judgment is also used in providing information and triaging symptoms for clients.

Calls to Manitoba Poison Centre

The Manitoba Poison Centre (MPC) is a telephone toxicology consultation service that provides expert poison advice 24 hours a day to the public and healthcare professionals throughout Manitoba. MPC data is used in this report to describe the opioid-related calls received.

Box B.11 – Interpretation notes for Manitoba Poison Centre data

It is important to note that since overdose poisoning are not reportable diseases in Manitoba, there is no obligation for a patient or health care provider to call MPC to help manage an exposure. In fact, emergency room doctors are

generally more comfortable with management and the use of naloxone. Therefore, MPC numbers may be an undercount and should not be relied on to provide a complete picture of the extent of the problem.

The substance about which the caller inquired may not have been verified. Certainly, what was purchased on the streets may not be what is advertised. It is entirely possible that number of calls recorded by MPC can be double counted from the same patient, as each call represents a single opioid type taken. Opioid-related calls recorded by MPC are not all necessarily due to the misuse of opioids; it is possible that intentional suicide may be the reason for the opioid exposure and call to MPC.

Illegal Opioids Identified or Tracked

Drug Analysis Service data, Health Canada

The Drug Analysis Service of Health Canada operates laboratories across Canada that are employed to analyze suspected illegal drugs seized by Canadian police forces and the Canada Border Services Agency. The laboratories receive over 110,000 samples per year, confirming the identity and in some cases the purity of the controlled substances seized by police.

Box B.12 – Interpretation notes regarding Drug Analysis Service data

The Drug Analysis Service of Health Canada aggregated data was used to summarize the illegal opioids identified or tracked in Manitoba. It should be noted that a single sample may contain more than one substance. For the purpose of this report, U-47700 and W-18 were counted as opioids.

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In the spirit of honour, respect, and reconciliation, Manitoba Health, Seniors and Active Living (MHSAL) would like to acknowledge these provincial lands. We are in Treaty territories One through Five on the homelands of the Anishinaabeg Oji-Cree and Ojibwe, the Cree, Dakota, and Dené peoples, and on the homeland of the Métis Nation.

The *Surveillance of Opioid Use and Overdose in Manitoba* report is the result of the ongoing efforts of a dedicated team of individuals throughout the province of Manitoba. Their combined efforts and expertise in the management of opioid misuse and overdose was necessary to produce this valuable report.

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- Addictions Foundation of Manitoba
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- First Nations and Inuit Health Branch
- Health Canada
- Health Links/Info Santé
- Manitoba Health, Seniors and Active Living
- Manitoba Justice
- Manitoba Poison Centre
- Northern Regional Health Authority
- Medical Transportation Coordination Centre
- Winnipeg Regional Health Authority
- Winnipeg Fire and Paramedic Service