

# **SURVEILLANCE OF OPIOID MISUSE AND OVERDOSE IN MANITOBA**

APRIL 1 – JUNE 30, 2017



HEALTHY MANITOBANS THROUGH AN APPROPRIATE BALANCE OF PREVENTION AND CARE.

**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  
Public Health and Primary Health Care Division  
Manitoba Health, Seniors and Active Living

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## ABBREVIATIONS & REGIONAL HEALTH AUTHORITIES

### ABBREVIATIONS

CTAS	Canadian Triage and Acuity Scale
DPIN	Drug Program Information Network
EDIS	Emergency Department Information System
FY	Fiscal Year
ICD	International Classification of Diseases
ICU	Intensive Care Unit
MDA	Materials Distribution Agency
MHSAL	Manitoba Health, Seniors and Active Living
MPC	Manitoba Poison Centre
MTCC	Medical Transportation Coordination Centre
PHAC	Public Health Agency of Canada
RHA	Regional Health Authority
RN	Registered Nurse
WFPS	Winnipeg Fire and Paramedic Service

### REGIONAL HEALTH AUTHORITIES

Winnipeg RHA	Winnipeg Regional Health Authority (includes Churchill)
Southern Health-Santé Sud	Southern Health – Santé Sud
Interlake-Eastern RHA	Interlake-Eastern Regional Health Authority
Prairie Mountain Health	Prairie Mountain Health
Northern Health Region	Northern Regional Health Authority

## ACKNOWLEDGEMENTS

The *Surveillance of Opioid Misuse and Overdose in Manitoba: April 1 – June 30, 2017* 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.

We kindly acknowledge the collaboration of the following organizations for providing the data for the opioid surveillance system:

- Diagnostic Services Manitoba
- Health Canada
- Health Links/Info Santé
- Manitoba Justice
- Manitoba Poison Centre
- Medical Transportation Coordination Centre
- Winnipeg Regional Health Authority
- Winnipeg Fire and Paramedic Service

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## HIGHLIGHTS

During the second quarter of 2017 in Manitoba, there was an increase in following areas as compared to the first quarter of 2017:

- Suspected overdose cases receiving naloxone from Winnipeg Fire and Paramedic Service increased by 7%; more of these events occurred in the Downtown and Point Douglas community areas.
- Naloxone kits used in overdose events increased by 40%; among these events, fentanyl and carfentanil were the common substances used. The use of crystal meth in overdose events has also doubled.
- Suspected overdose cases arriving at Winnipeg health region emergency departments and urgent care facilities increased by 17%. Cases that arrived in such facilities were most likely to be living in Downtown, Point Douglas, and River East community areas.

During the first half of 2017 in Manitoba, approximately 83% of all positive toxicology screens indicated the analog carfentanil was present. *Note: Carfentanil is a derivative of the synthetic opioid fentanyl but is approximately 10,000 times more toxic than morphine and 100 times more toxic than fentanyl.*

During the first quarter of 2017 in Manitoba, there was an increase in following areas as compared to the same time period in 2016:

- Apparent opioid-related deaths increased by 88%. The largest increase was noted for apparent fentanyl-related deaths, where 40% of these deaths had the fentanyl analog carfentanil present.
- Synthetic opioid (including fentanyl) poisoning hospitalizations increased by 117%.

In Manitoba, prescription opioid dispensation steadily increased from 86.7 per 10,000 persons in 2007/2008 fiscal year to 143.2 per 10,000 persons in 2016/2017 fiscal year.

In Manitoba, the number of illegal fentanyl-related opioids identified or tracked by Drug Analysis Service of Health Canada increased 27 times from 2012 to 2016; approximately half of the illegal fentanyl-related opioids were carfentanil during the first half of 2017.

## BACKGROUND

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice [1]. It is needed to provide an accurate assessment in the scope of a problem, provide information to define priorities, inform planning of public health programs, and evaluate those programs so that they can be improved [2]. In 2016, the Minister of Health, Seniors and Active Living requested the development of an opioid misuse and overdose surveillance system in the province. Under the Public Health Act in Manitoba, such a surveillance system was created in order to anticipate, assess, monitor, and plan for addressing health needs and threats to public health [3].

Opioids are medications that are primarily prescribed to treat individuals with varying degrees of acute and chronic pain; they can also produce a sense of euphoria as a side effect. The two main adverse outcomes directly resulting from opioid misuse are fatal opioid related overdoses and non-fatal opioid related overdoses. Non-fatal overdoses, which often go unreported, can result in respiratory conditions, muscular conditions, renal failure, brain injury, ambulance and emergency response, and social damages to family and friends who witness these events. Commonly used examples of opioids are fentanyl, hydrocodone, hydromorphone, morphine, and oxycodone.

Of recent concern has been the impact of the opioid fentanyl, a prescribed drug to treat chronic pain, and carfentanil, an analog of the synthetic opioid analgesic fentanyl. Fentanyl is up to 100 times more toxic than morphine, and carfentanil is up to 100 times more toxic than fentanyl. Fentanyl typically comes in a patch form, where some users cut up, suck on, or scrape off and smoke its contents. An illicit imported powdered variety of fentanyl and carfentanil from other countries has been found to be laced into other drugs, such as heroin, oxycodone, crystal methamphetamine, and cocaine (often unknown to the user increasing risk of an overdose). In Canada, fentanyl was a contributor in at least 655 deaths from 2009 – 2014 [4], and fentanyl-related deaths have been on the rise every year since 2009 [5]. National data shows that fentanyl misuse is emerging across socio-economic status and population groups.

The largest burden of fentanyl misuse and overdose has been seen in Canada's four largest provinces, British Columbia, Alberta, Ontario, and Quebec<sup>5</sup>. The impact of this issue on British Columbia was severe, such that a Public Health Emergency in 2016 was declared due to the dramatic year over year rise in fentanyl-related deaths.

Given the increasing concerns of harm associated with opioid misuse, opioid overdose surveillance in Manitoba is essential to monitor these events in an attempt to accurately quantify the significance of the issue and to develop a provincial response plan. In addition, standardized opioid overdose surveillance data would allow for more accurate national estimates of opioid-related deaths, and nation-wide jurisdictional comparability.



**OBJECTIVE**

The primary objective of the surveillance system is to manage, analyze, and interpret opioid data from a range of stakeholders to inform prevention programming and management of opioid misuse and overdoses in Manitoba. This collaboration with regional and provincial stakeholders in the province will assist in managing harm due to opioid misuse and overdose and to provide epidemiological evidence to inform policy and programs.

***THIS REPORT AND ITS ONE-PAGE SUMMARY WILL BE PRODUCED QUARTERLY.***

## DATA SOURCES

Manitoba Health, Seniors and Active Living collaborates with a range of stakeholders to collect opioid misuse and overdose data. The compilation of the data creates a surveillance system where the sum of the individual parts provides a useful picture of the provincial context.

The following data sources were used to generate this report:

- Office of the Chief Medical Examiner's data
- Emergency department information system data (available for Winnipeg Regional Health Authority (RHA) only)
- Hospital separation abstracts
- Calls to Health Links - Info Santé
- Provincial take-home naloxone program data
- Winnipeg Fire & Paramedic Service data (available for Winnipeg RHA only)
- Drug Analysis Service data, Health Canada
- Calls to Manitoba Poison Centre
- Medical Transportation Coordination Centre data (available for rural and northern Manitoba)
- Panorama Inventory Management System data
- Diagnostic Services Manitoba data
- Drug Program Information Network data

Produced quarterly, this report will provide an overview on each of the data sources to determine changes in trends and to inform public health action. Collectively, the information provides a description of the situation relating to opioid misuse and overdoses in the province.

## NALOXONE DISTRIBUTION

### PROVINCIAL TAKE-HOME-NALOXONE PROGRAM

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.

The program provides training on how to recognize and respond to substance overdose and how to safely administer naloxone (a safe and highly effective opioid agonist) in an opioid overdose event. In addition to training, Take-Home-Naloxone kits are provided free of charge to people who are at risk of opioid overdose, with a priority focus on people who inject opioids.

The Manitoba Take-Home-Naloxone-kits contains:

- Instruction sheet (French and English)
- Alcohol Swabs
- Gloves and a breathing mask to protect the responder
- 3 Vanish Point® syringes
- Pill bottle containing 3 ampoules of naloxone
- 3 ampoule breakers

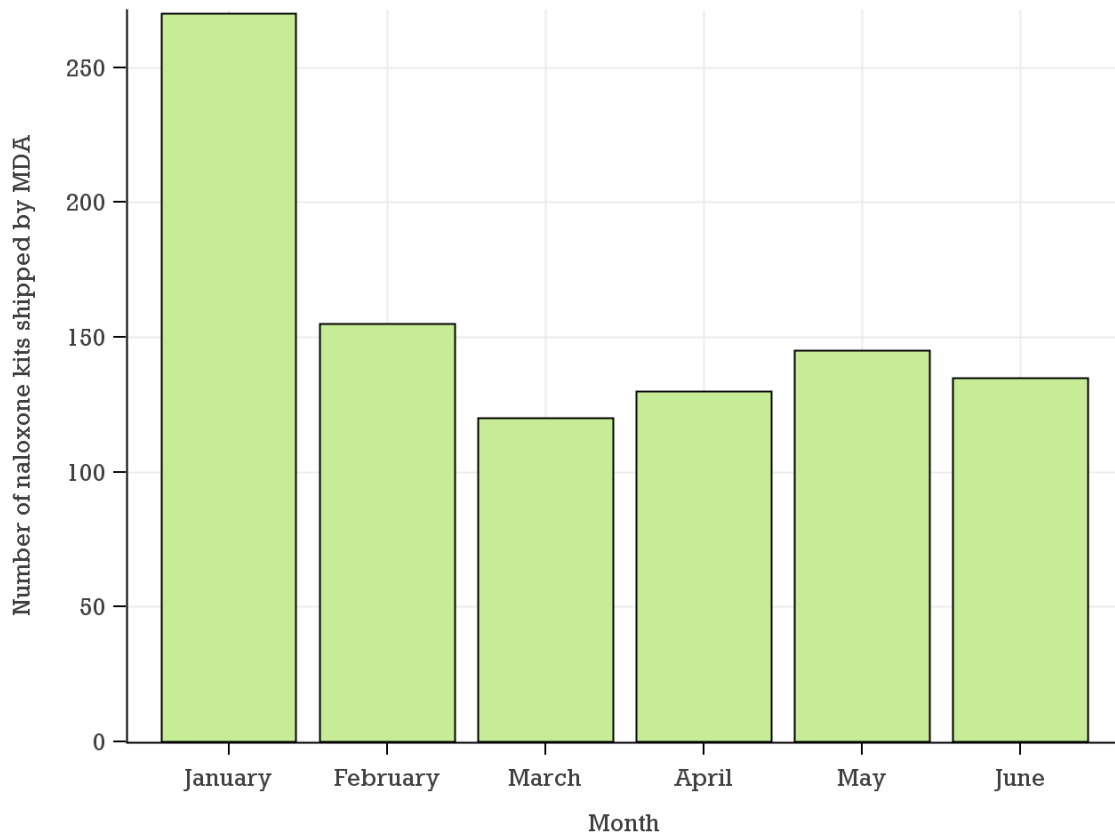


Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, a total of 490 Take-Home-Naloxone kits were distributed across the province. There was a 10% decrease in naloxone kits distribution during the second quarter of 2017 (n=232), as compared to the first quarter of 2017 (n=258). As of August 1, 2017, there are 55 registered naloxone distribution sites in Manitoba.

## MANITOBA'S MATERIALS DISTRIBUTION AGENCY

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. Data from Panorama was analyzed in order to describe the number of naloxone kits shipped from the provincial warehouse.

**FIGURE 1:** NUMBER OF NALOXONE KITS SHIPPED BY MATERIALS DISTRIBUTION AGENCY BY MONTH, PANORAMA (JANUARY 1, 2017 - JUNE 30, 2017)



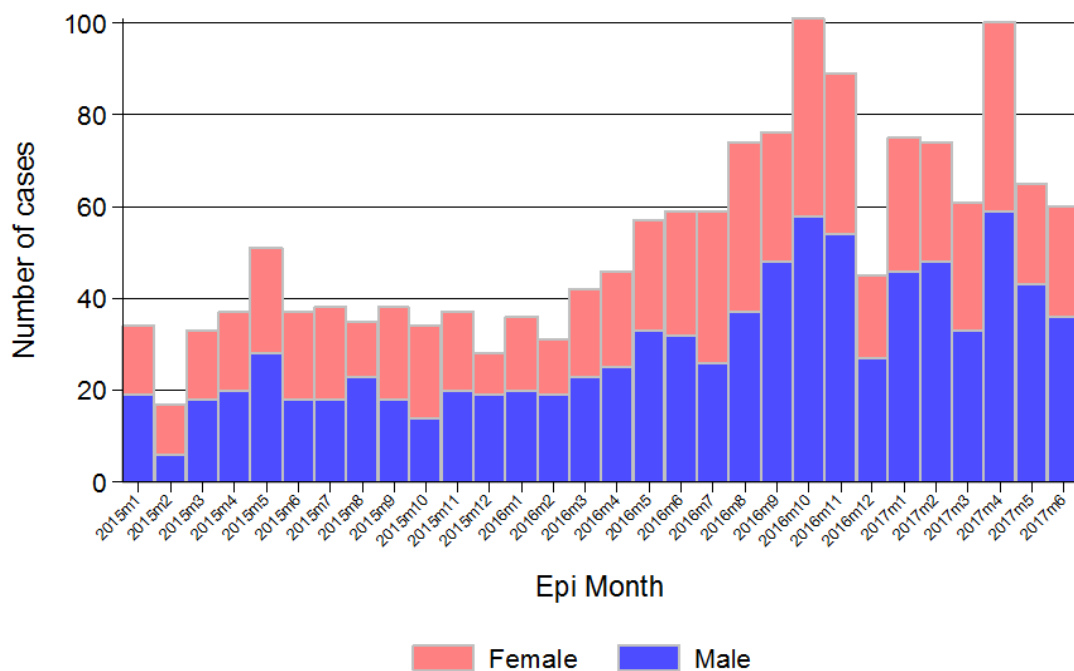
- There was a ~25% decrease in naloxone kits shipped during the second quarter of 2017 (n=410), as compared to the first quarter of 2017 (n=545).
- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, the majority of naloxone kits were shipped to Winnipeg RHA (n=575), followed by Prairie Mountain Health (n=195) (*data not shown*).

## NALOXONE ADMINISTRATION

### WINNIPEG FIRE AND PARAMEDIC SERVICE

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 data in this report represents the number of suspected overdose cases receiving naloxone from WFPS between January 1<sup>st</sup>, 2015 and June 30<sup>th</sup>, 2017.

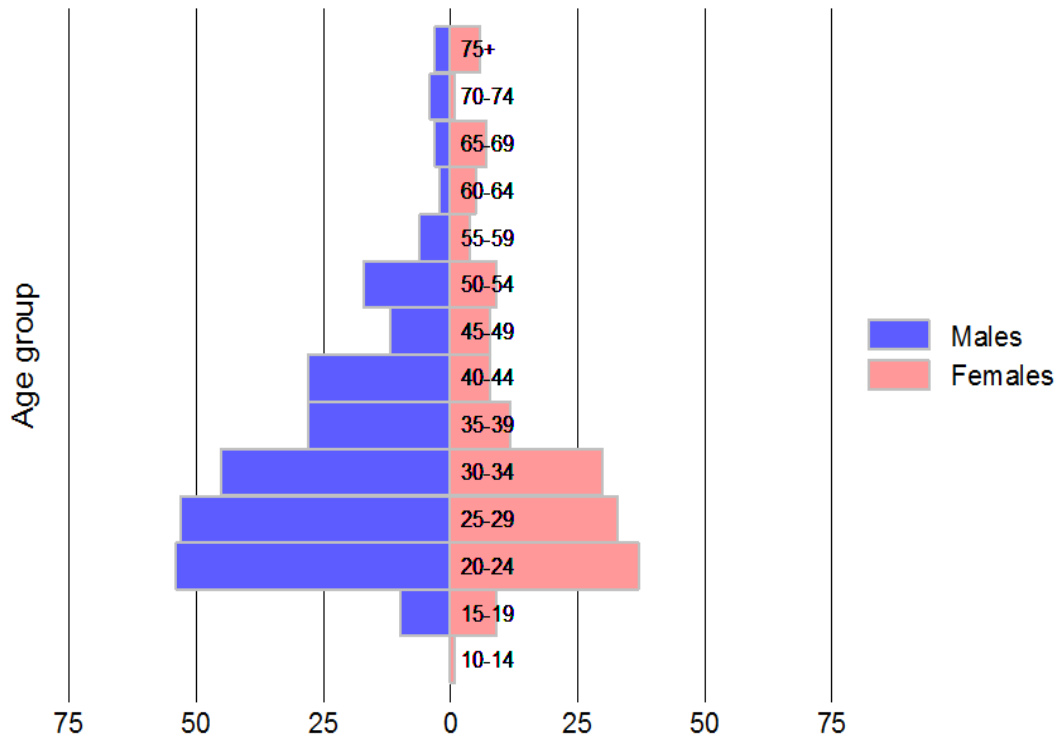
**FIGURE 2:** EPIDEMIC CURVE OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2015 – JUNE 30, 2017)



\*Data provided by WFPS; Includes only those greater than 9 years of age. Events up to 30jun2017

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, there were 435 suspected overdose cases receiving naloxone, with the majority of these cases concerning males (n=265, ~61%); in the second quarter of 2017 alone, there were 225 events, which is a 7% increase compared to the first quarter of 2017 (n=210).
- In 2015, there were a total of 419 suspected overdose cases receiving naloxone from WFPS; in 2016, the corresponding numbers were 715. The increase of 296 administrations may indicate a true increase in burden or a difference in awareness by WFPS.

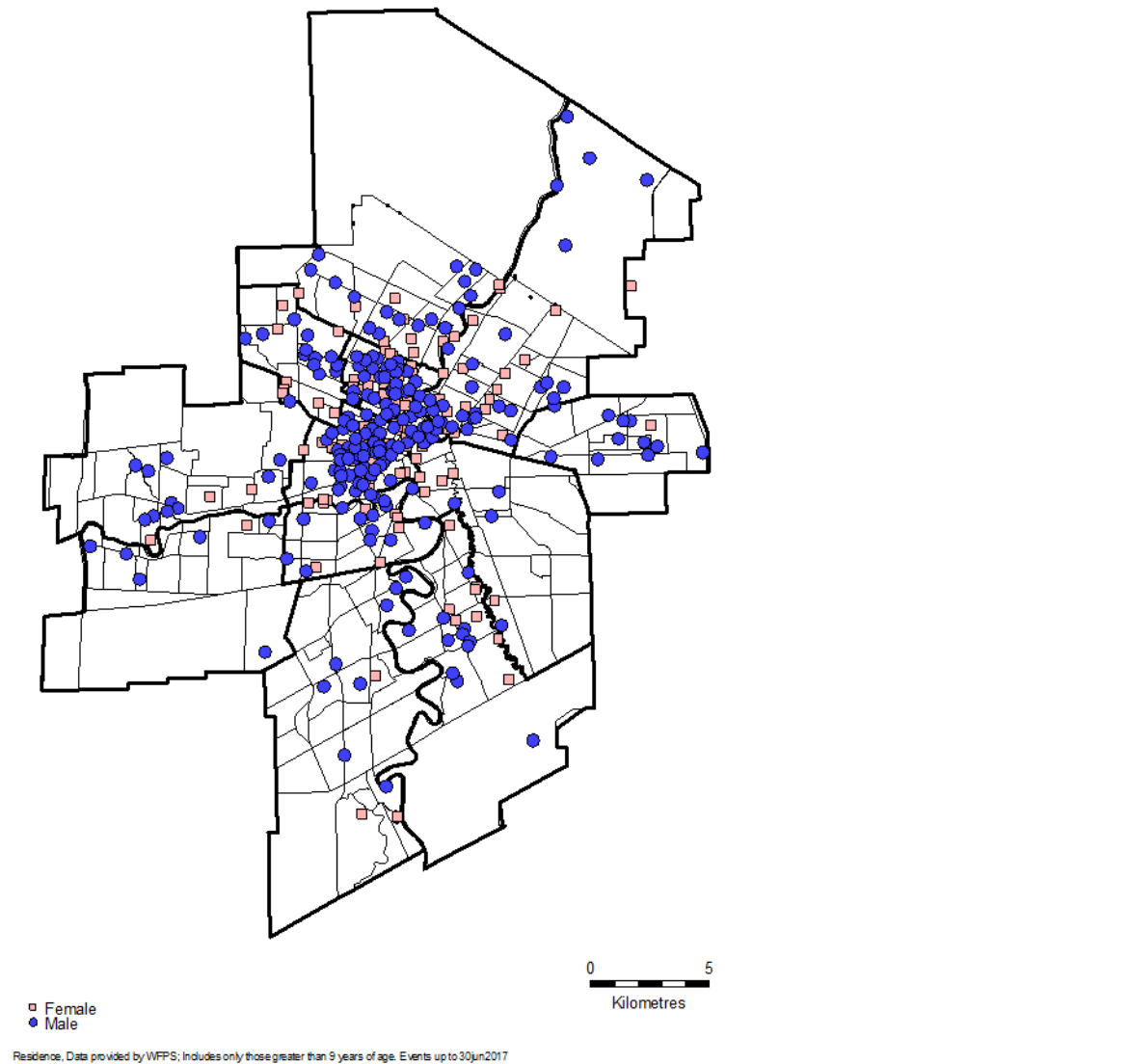
**FIGURE 3: AGE PYRAMID OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE BY SEX, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1 – JUNE 30, 2017)**



\*Data provided by WFPS; Includes only those greater than 9 years of age. Events up to 30jun2017

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, ~58% (n=252) of the suspected overdose cases receiving naloxone from WFPS were in the 20 - 34 year age group.

**FIGURE 4:** DOT MAP OF RESIDENTIAL LOCATION OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1 – JUNE 30, 2017)

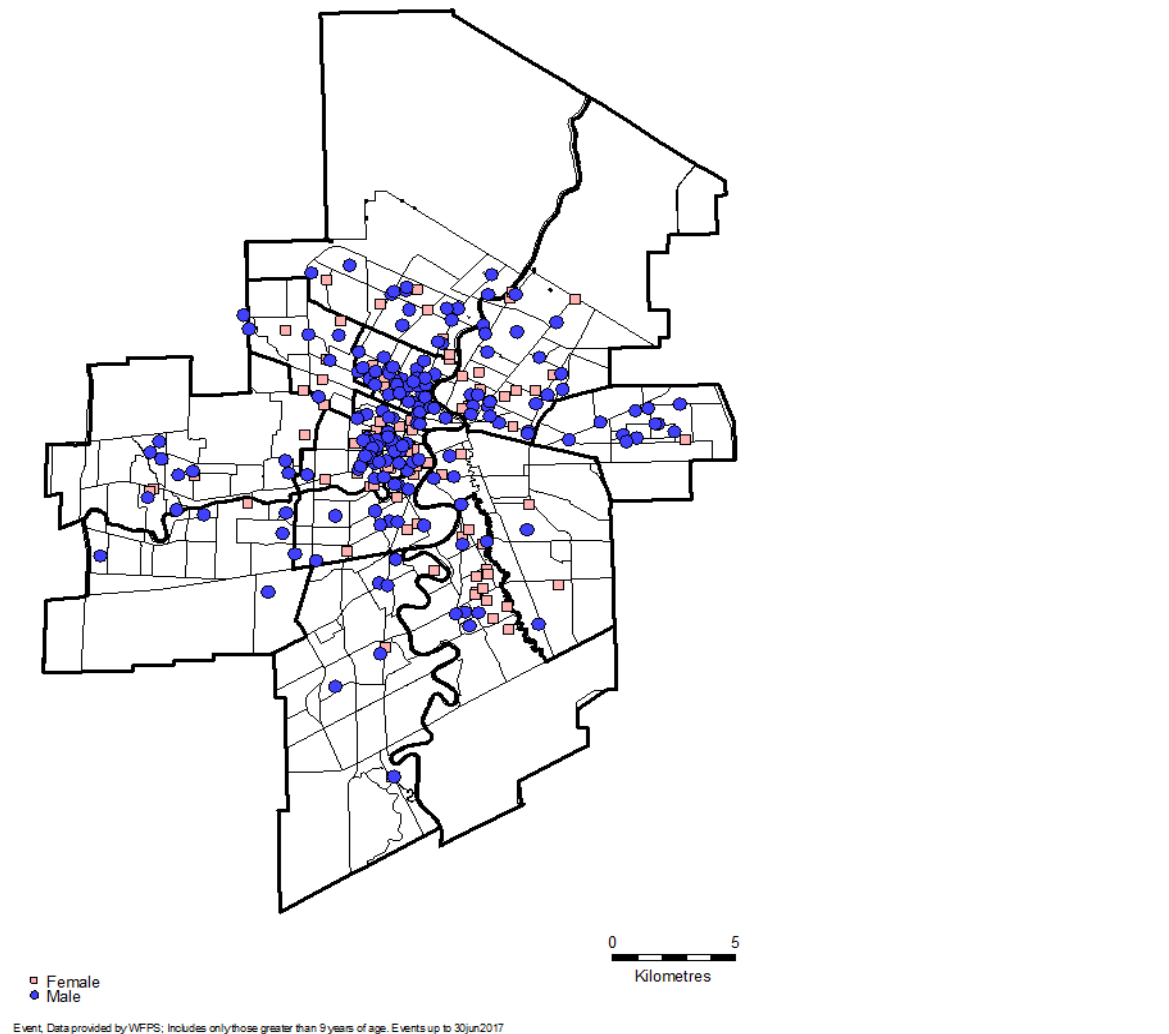


\* Residential locations are not exact (randomized within neighborhoods).

\*\* Winnipeg Fire and Paramedic Service does not service East St. Paul and South St. Paul neighborhoods.

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, suspected overdose cases receiving naloxone from WFPS were the highest among those living in Downtown (n=102; ~28%) and the Point Douglas (n=87; ~24%) community areas.

**FIGURE 5:** DOT MAP OF EVENT LOCATIONS OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1 – JUNE 30, 2017)



\* Residential locations are not exact (randomized within neighborhoods).

\*\* Winnipeg Fire and Paramedic Service does not service East St. Paul and South St. Paul neighborhoods.

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, over half of the suspected overdose cases receiving naloxone from WFPS occurred in the Downtown or Point Douglas community areas. It is possible that some individuals might be travelling from their home community areas into Downtown / Point Douglas to use drugs which might add to the overall burden of overdose events in these areas.

*Additional supporting tables and figures from WFPS can be found in the Appendix A of this report.*



**NOTE(S):**

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.

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.

The increase in reported naloxone administration in 2016 is in part due to a real increase in opioid overdose events in Winnipeg. However, a proportion of the increase is also likely due to a number of changes over the past year which could have inflated the count of naloxone-related calls and the intensity of naloxone administration. These changes are:

- Naloxone only started being administered routinely by all levels of WFPS paramedics in May 2016.
- Protocols for naloxone administration by WFPS changed in May 2016. Previous naloxone administration was based upon an initial administration of 0.4 mg of naloxone, and repeated until there were signs of improved patient condition. Now administration is more variable, with 0.4–2.0 mg doses repeated as required.

## MEDICAL TRANSPORTATION COORDINATION CENTRE

The Medical Transportation Coordination Centre (MTCC) is a command and control centre for the dispatch of emergency medical services for all geographical areas outside the City of Winnipeg municipal jurisdiction. MTCC began collecting data relating to suspected opioid events in December 2016 to assist with the provincial opioid misuse and overdose surveillance system.

MTCC data is collected at the point of the 911 call, where information is solicited by the dispatcher. Therefore, it worth noting that the caller may not be forthright or knowledgeable based on the situation, and is subject to error. Situations where paramedics are dispatched to an opioid-related call will be recorded as an opioid-related call, regardless of actual outcome upon arrival. Opioid-related cases that originate through the 911/primary call system are the only calls which are recorded, regardless of the transport platform. Calls to MTCC that are not primary (such as inter-facility transfer calls) have no tracking of any opioid data.

**TABLE 1:** NUMBER OF SUSPECTED OVERDOSE EVENTS IN RURAL AND NORTHERN MANITOBA BY CERTAIN CHARACTERISTICS, MEDICAL TRANSPORTATION COORDINATION CENTRE (DECEMBER 9, 2016\* – JUNE 30, 2017)

	N	%
<i>Total</i>	<i>149</i>	<i>100.0</i>
<b>Age groups (years)</b>		
<=19	26	17.3
20-29	52	34.9
30-39	32	21.5
40-49	15	10.1
50+	12	8.1
Unknown	12	8.1
<b>Sex</b>		
Female	75	50.4
Male	68	45.6
Unknown	6	4.0
<b>Transportation**</b>		
Not transported	31	20.8
Transported: Non-emergent	90	60.4
Transported: Emergent	28	18.8

\*The reported data period starts on December 9, 2016; therefore, the results cannot be presented as January 1 – June 30, 2017 as similar to other results in this report.

\*\*Transportation is defined upon the initial assessment of the patient. Patients who are in a critical state upon assessment are transported in an emergent state such that sirens and flashing lights are used. Patients who do not display life-threatening or critical symptoms are transported in a non-emergent state.

- There were 149 suspected overdose events reported by MTCC in between December 9th, 2016 and June 30, 2017; 73 of these events occurred in the second quarter of 2017.
- Over 56% of suspected overdose events were among those aged 20 – 39 years.
- Of the 149 total suspected overdose calls, over 60% of patients were transported in “non-emergent” mode, where the assessed patient was not in critical state during transport. However, ~19% of patients were transported in “emergent” mode in potentially life threatening circumstances, and needed to arrive at an emergency department as soon as possible.
- MTCC has started to track the naloxone administration for suspected overdose events as of May 21, 2017. Of the 40 total suspected overdose calls occurred in between May 21<sup>st</sup> and June 30<sup>th</sup>, 2017, 23% of patients had a naloxone administration.

**TABLE 2:** CRUDE RATE (PER 100,000) OF SUSPECTED OVERDOSE EVENTS IN RURAL AND NORTHERN MANITOBA BY REGIONAL HEALTH AUTHORITY (RHA), MEDICAL TRANSPORTATION COORDINATION CENTRE (DECEMBER 9, 2016\* –JUNE 30, 2017)

RHA	N	Crude rate
Interlake-Eastern	46	35.9
Prairie Mountain	51	30.0
Northern	16	20.9
Southern Health - Santé Sud	36	18.2

\*The reported data period starts on December 9, 2016; therefore, the results cannot be presented as January 1 – June 30, 2017 as similar other results in this report.

- Interlake-Eastern Health had the highest crude rate at 35.9 suspected overdose events per 100,000 population in between December 9<sup>th</sup>, 2016 and June 30<sup>th</sup>, 2017, followed by Prairie Mountain Health (30.0 events per 100,000 population).

NOTE(S):

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).

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.

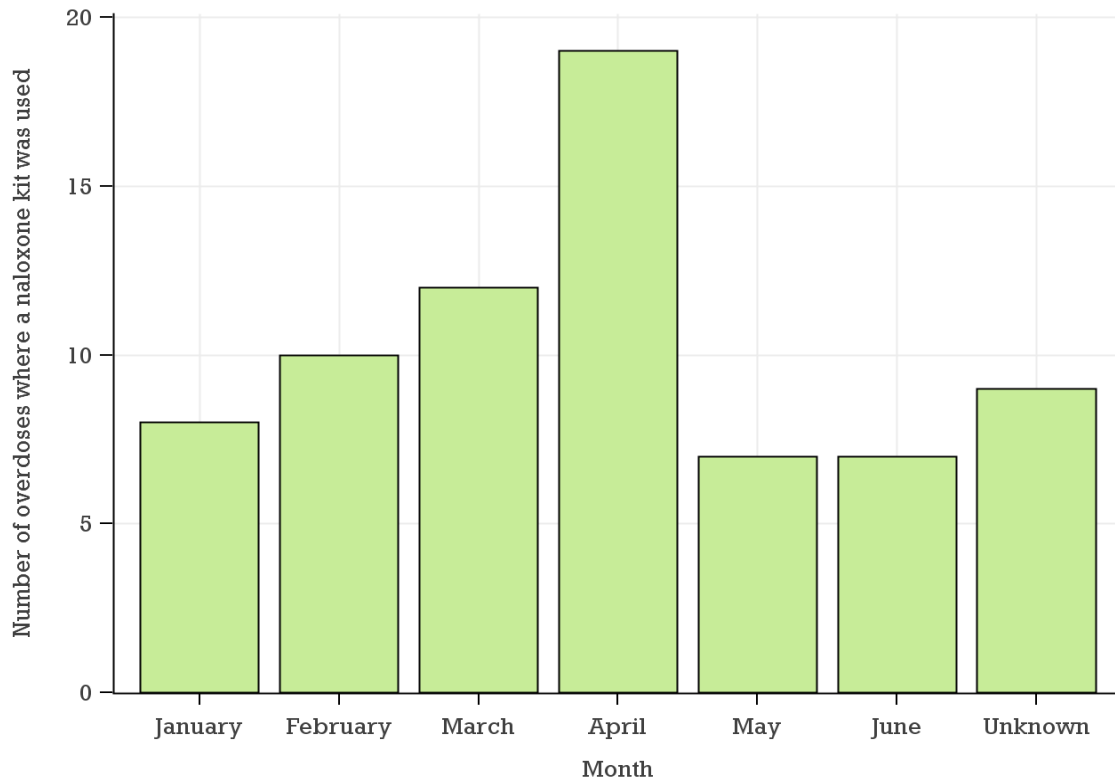
Situations where paramedics are dispatched to an opioid-related call will be recorded as an opioid-related call, regardless of actual outcome upon arrival.

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.

## PROVINCIAL TAKE-HOME-NALOXONE PROGRAM

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 (see footnote) is completed by the staff replacing the kit. The data presented below are drawn from these overdose events for which data was collected.

**FIGURE 6:** NUMBER OF OVERDOSE EVENTS WHERE A TAKE-HOME-NALOXONE KIT WAS USED BY MONTH, MANITOBA PROVINCIAL TAKE-HOME NALOXONE PROGRAM (JANUARY 1 - JUNE 30, 2017)



\*Unknown category includes those cases who did not report the month of the overdose events where a naloxone kit was used.

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, 72 naloxone kits were reported to public health staff as having been used during overdose events in Manitoba.
- Overall, there were more naloxone used in the second quarter of 2017 (n=42), as compared to the first quarter of 2017 (n=30).

The overdose response form is accessible at:

[http://www.gov.mb.ca/health/publichealth/surveillance/docs/mhsu\\_6836\\_20161215.pdf](http://www.gov.mb.ca/health/publichealth/surveillance/docs/mhsu_6836_20161215.pdf)

**TABLE 3:** NUMBER OF OVERDOSE EVENTS WHERE A TAKE-HOME-NALOXONE KIT WAS USED BY CERTAIN CHARACTERISTICS, MANITOBA PROVINCIAL TAKE-HOME NALOXONE PROGRAM (JANUARY 1 – JUNE 30, 2017)

Characteristics	Categories	Female n (%)	Male n (%)	Unknown n (%)	Total N (%)
<i>Total</i>		22 (100.0)	44 (100.0)	6 (100.0)	72 (100.0)
<b>Age group (years)</b>	12-19	0 (0.0)	1 (2.3)	0 (0.0)	1 (1.4)
	19-30	13 (59.1)	20 (45.5)	1 (16.7)	34 (47.2)
	31-40	6 (27.2)	11 (25.0)	1 (16.7)	18 (25.0)
	41-50	2 (9.2)	5 (11.4)	0 (0.0)	7 (9.7)
	51 or over	0 (0.0)	3 (6.8)	0 (0.0)	3 (4.2)
	Unknown	1 (4.5)	4 (9.0)	4 (66.7)	9 (12.5)
<b>Location of overdose event</b>	Private residence	19 (86.4)	30 (68.2)	3 (50.0)	52 (72.2)
	Street	2 (9.1)	3 (6.8)	0 (0.0)	5 (6.9)
	Other*	0 (0.0)	3 (6.8)	0 (0.0)	3 (4.2)
	Unknown	1 (4.5)	8 (18.2)	3 (50.0)	12 (16.7)
<b>City of overdose event</b>	Winnipeg	20 (90.9)	35 (79.5)	6 (100.0)	61 (84.7)
	Brandon	0 (0.0)	1 (2.3)	0 (0.0)	1 (1.4)
	Selkirk	0 (0.0)	2 (4.5)	0 (0.0)	2 (2.8)
	Dauphin	1 (4.5)	1 (2.3)	0 (0.0)	2 (2.8)
	Steinbach	0 (0.0)	1 (2.3)	0 (0.0)	1 (1.4)
	Swan River	0 (0.0)	1 (2.3)	0 (0.0)	1 (1.4)
	Roblin	1 (4.5)	0 (0.0)	0 (0.0)	1 (1.4)
	Grand Beach	0 (0.0)	1 (2.3)	0 (0.0)	1 (1.4)
	Unknown	0 (0.0)	2 (4.5)	0 (0.0)	2 (2.8)
<b>Opioid type**</b>	Fentanyl	8 (36.4)	17 (38.6)	1 (16.7)	26 (36.1)
	Carfentanil	4 (18.2)	13 (29.6)	1 (16.7)	18 (25.0)
	Crystal Meth	0 (0.0)	10 (22.7)	0 (0.0)	10 (13.9)
	Morphine	2 (9.1)	3 (6.8)	0 (0.0)	5 (6.9)
	Other substances***	5 (22.7)	4 (9.1)	1 (16.7)	10 (13.9)
	Unknown	6 (27.3)	12 (27.3)	3 (50.0)	21 (29.2)

\* Other locations include public washroom and in-vehicle.

\*\* Results are not mutually exclusive.

\*\*\* Other substances include benzodiazepine, cocaine/crack, alcohol, codeine, methadone, heroin, and dilaudid.

- In Manitoba, majority of the Take-Home-Naloxone kits were used by males (n=44, 61.1%) in between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017.
- Approximately half of the total Take-Home Naloxone kits used were in the age group of 19 - 30 years.
- The majority of the overdose events occurred in a private residence (n=52, 72%) and in the city of Winnipeg (n=61, 85%).

- Fentanyl and carfentanil were the common substances used for the overdose events (n=44, 61.1%). Carfentanil is 10,000 times more toxic than morphine, and 100 times more toxic than fentanyl, making it among the most toxic commercially used opioids.
- The use of crystal meth has risen from 3 cases during the first quarter of 2017 to 7 cases during the second quarter of 2017.

**TABLE 4:** CHARACTERISTICS OF EMERGENCY RESPONSE TO OVERDOSE EVENTS WHERE TAKE-HOME-NALOXONE KIT WAS USED, MANITOBA PROVINCIAL TAKE-HOME-NALOXONE PROGRAM (JANUARY 1 – JUNE 30, 2017)

Characteristics	Categories	Female n (%)	Male n (%)	Unknown n (%)	Total N (%)
<i>Total</i>		22 (100.0)	44 (100.0)	6 (100.0)	72 (100.0)
<b>Was 911 called?</b>	No	14 (63.6)	20 (45.5)	2 (33.3)	36 (50.0)
	Yes	4 (18.2)	21 (47.7)	2 (33.3)	27 (37.5)
	Unknown	4 (18.2)	3 (6.8)	2 (33.3)	9 (12.5)
<b>Reason(s) for NOT calling 911*</b>	No phone	2 (14.2)	4 (20.0)	0 (0.0)	6 (16.7)
	Thought the person would get better on their own	2 (14.2)	3 (15.0)	0 (0.0)	5 (13.9)
	Worried police would come	3 (21.4)	4 (20.0)	0 (0.0)	7 (19.4)
	Other reasons**	1 (7.1)	3 (15.0)	0 (0.0)	4 (11.1)
	Unknown	6 (42.9)	6 (30.0)	2 (100.0)	14 (38.9)
<b>Actions taken during overdose*</b>	Stayed with the person until (s)he came around	11 (50.0)	24 (54.5)	2 (33.3)	37 (51.4)
	Checked the person's breathing	12 (54.5)	26 (59.1)	2 (33.3)	40 (55.6)
	Provided artificial respirations	7 (31.8)	21 (47.7)	1 (16.7)	29 (40.3)
	Slapped or shook the person ( <i>not recommended</i> )	7 (31.8)	15 (34.1)	2 (33.3)	24 (33.3)
	Put the person in the recovery position	6 (27.3)	9 (20.5)	0 (0.0)	15 (20.8)
	Checked the person's pulse	7 (31.8)	15 (34.1)	0 (0.0)	22 (30.6)
	Yelled at the person	7 (31.8)	18 (40.9)	3 (50.0)	28 (38.9)
	Provided chest compressions	5 (22.7)	10 (22.7)	0 (0.0)	15 (20.8)
	Stayed with the person until first responders arrived	3 (13.6)	19 (43.2)	2 (33.3)	24 (33.3)
	Checked the person's airway for obstruction	3 (13.6)	7 (15.9)	1 (16.7)	11 (15.3)
	Gave the person a sternal rub	8 (36.4)	11 (25.0)	2 (33.3)	21 (29.2)
	Other actions taken***	0 (0.0)	2 (4.5)	0 (0.0)	2 (2.8)
<b>Number of naloxone given</b>	One	13 (59.1)	9 (20.5)	3 (50.0)	25 (34.7)
	Two	4 (18.2)	23 (52.3)	1 (16.7)	28 (38.9)
	Three	1 (4.5)	8 (18.2)	0 (0.0)	9 (12.5)
	Unknown	4 (18.2)	4 (9.1)	2 (33.3)	10 (13.9)

\*Results are not mutually exclusive. \*\*Other reasons include the person requesting to not call 911, taking the person to the emergency room themselves, or the person recovering quickly. \*\*\*Other actions taken during the overdose include putting the person in a cold shower, or stimulation with ice.

- Notably, 911 was not called in half of the overdose events. Majority of females received only one naloxone dose, while two naloxone doses was most commonly administered to males.

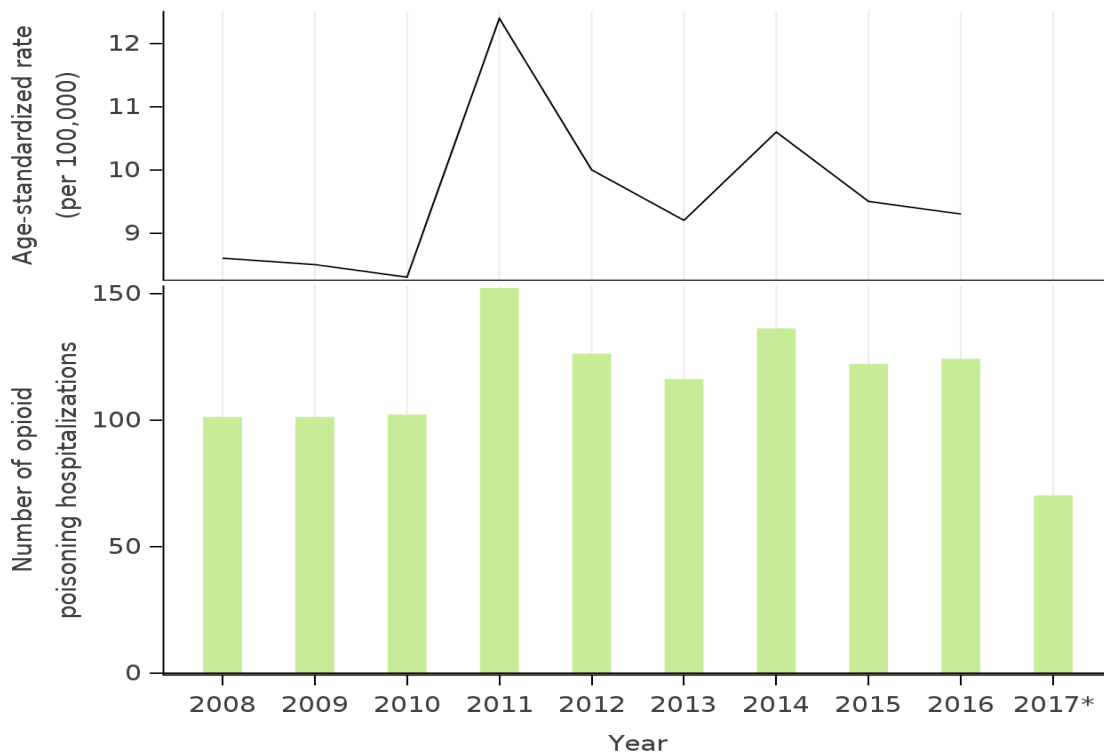


## SEVERITY

### HOSPITAL ADMISSIONS

Manitoba Health, Seniors and Active Living's (MHSAL) population-based hospital separation abstract database was used to measure the opioid poisoning hospitalizations in Manitoba from January 1<sup>st</sup>, 2008 to June 30<sup>th</sup>, 2017. We used the following ICD-10-CA (International Classification of Diseases) codes to identify the opioid poisoning hospitalization [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.

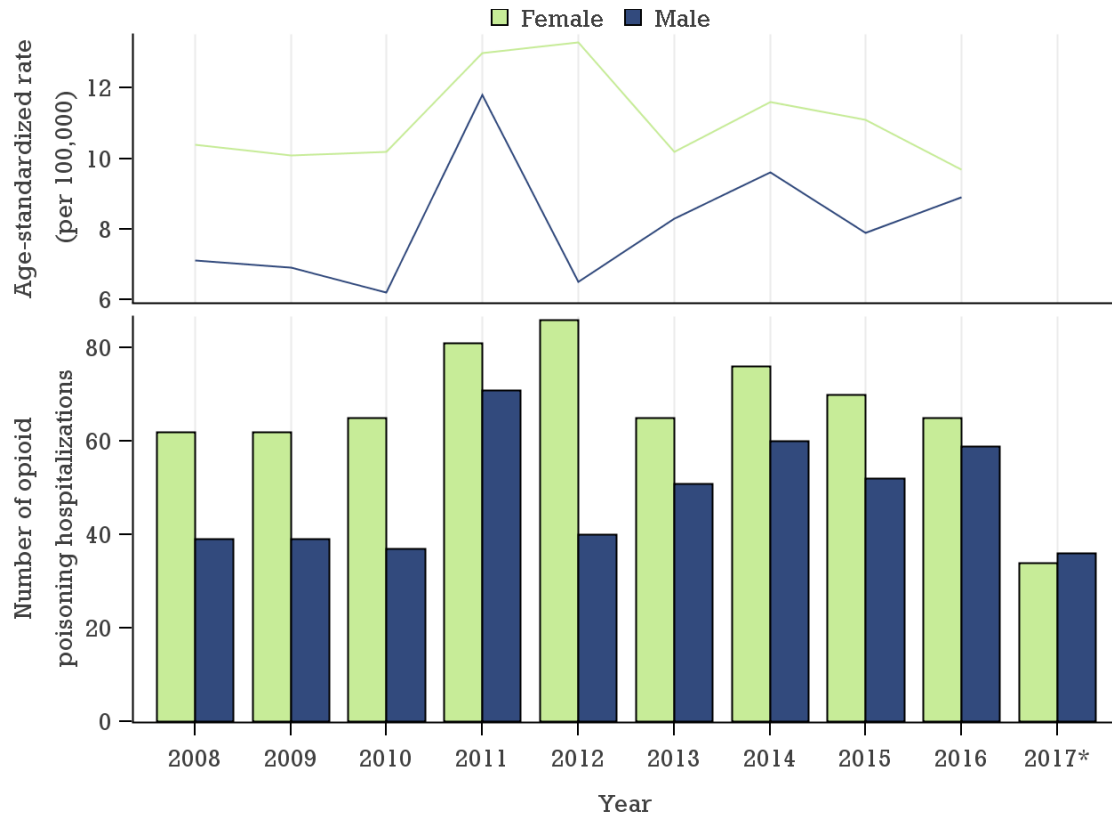
**FIGURE 7:** EPIDEMIC CURVE OF OPIOID POISONING HOSPITALIZATIONS IN, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (JANUARY 1, 2008 – JUNE 30, 2017)



\*2017 period includes data from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017

- The age-standardised rate of opioid poisoning hospitalizations was the highest in 2011 (11.4 per 100,000 population).
- Between January 1<sup>st</sup> and January 30<sup>th</sup>, 2017, there were 70 opioid poisoning hospitalizations (37 in the first quarter and 33 in the second quarter), resulting in 19% increase as compared to the same time period in 2016 (n= 59).

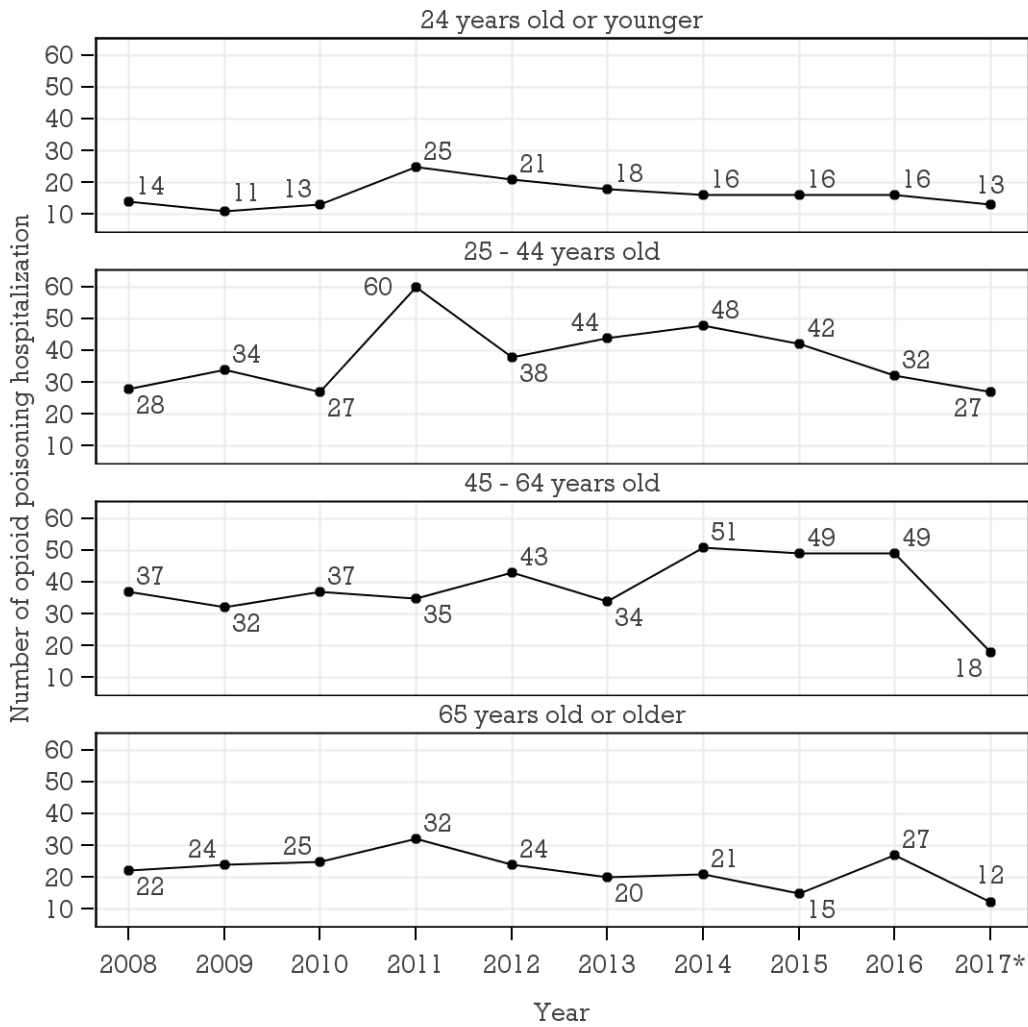
**FIGURE 8:** NUMBER AND RATE OF OPIOID POISONING HOSPITALIZATION IN MANITOBA BY SEX, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (JANUARY 1, 2008 – JUNE 30, 2017)



\*2017 period includes data from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017.

- From 2008 to 2016, the female population had a higher number of opioid poisoning hospitalizations as compared to males. However, between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, the male population had a slightly higher number of opioid poisoning hospitalizations (36 events in males and 34 events in females).

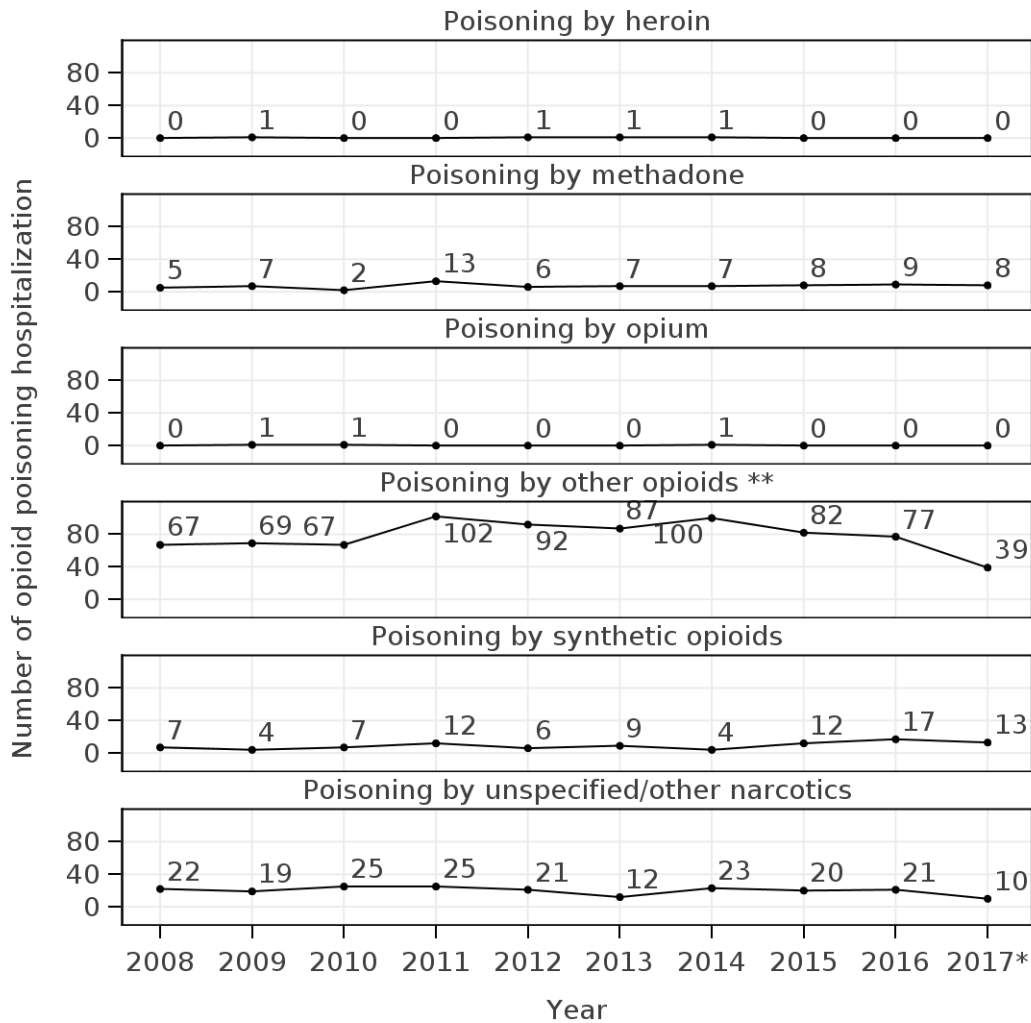
**FIGURE 9: NUMBER OF OPIOID POISONING HOSPITALIZATION IN MANITOBA BY AGE GROUP, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (JANUARY 1, 2008 – JUNE 30, 2017)**



\*2017 period includes data from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017.

- Overall, between January 1<sup>st</sup>, 2008 and June 30<sup>th</sup>, 2017, those aged 25 - 64 had the highest number of opioid poisoning hospitalizations in Manitoba.

**FIGURE 10:** NUMBER OF OPIOID POISONING HOSPITALIZATIONS IN MANITOBA BY OPIOID TYPE, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (JANUARY 1, 2008 – JUNE 30, 2017)

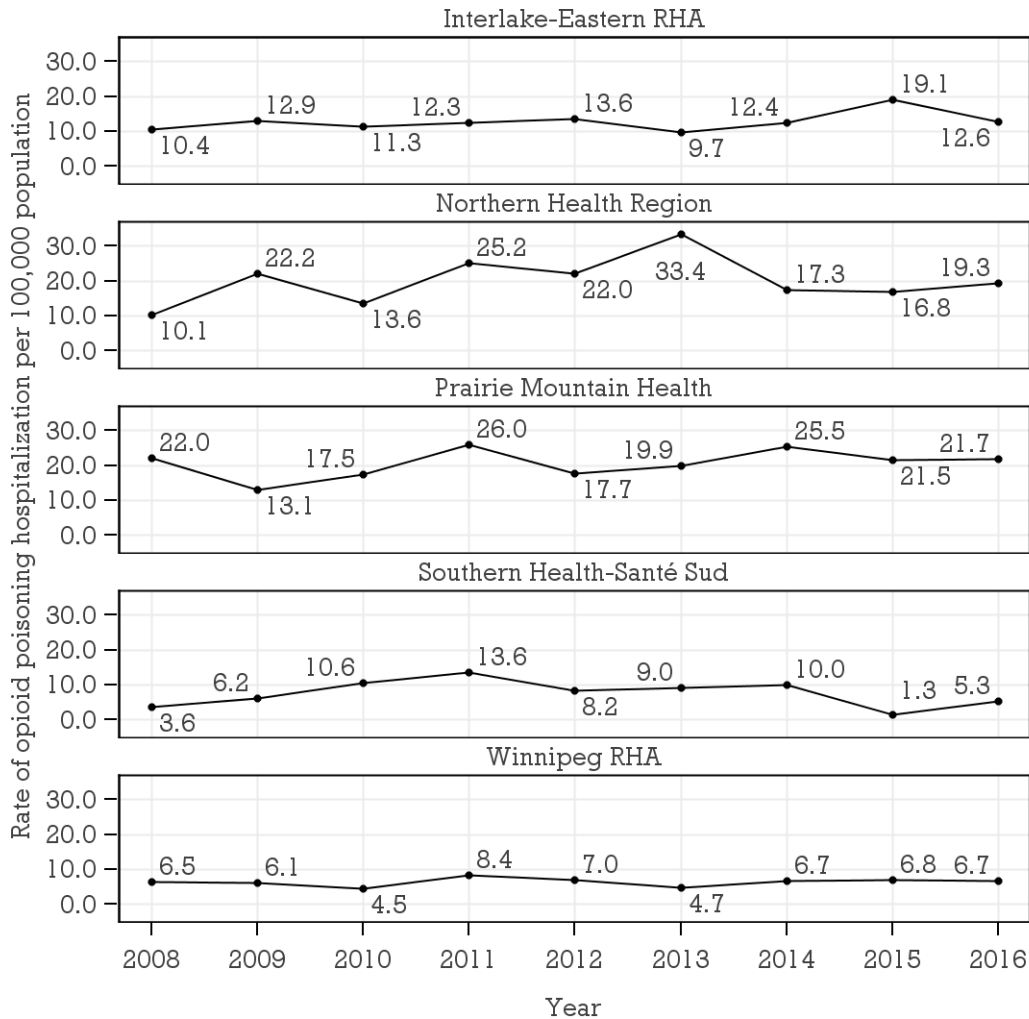


\*2017 period includes data from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017.

\*\* Other opioids include oxycodone, morphine, hydromorphone, and unspecified opioids.

- Number of synthetic opioid (including fentanyl) poisoning hospitalization has been on rise since 2014 (4 in 2014, 12 in 2015, and 17 in 2016). Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, there were 13 relevant events, which is more than double compared to the same period in 2016 (n=6).

**FIGURE 11:** AGE-STANDARDIZED RATE (PER 100,000 PERSONS) OF OPIOID POISONING HOSPITALIZATION IN MANITOBA BY REGIONAL HEALTH AUTHORITY, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (2008 – 2016)

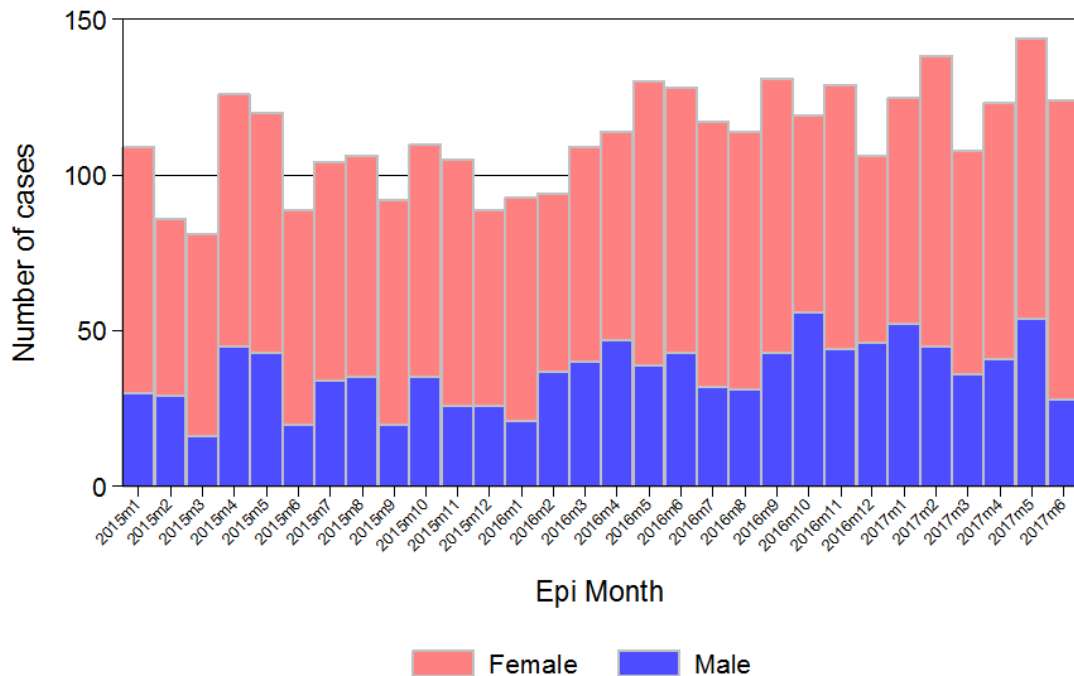


- Based upon the region of residence, Prairie Mountain Health and Northern Health Regions had the highest age-standardized rate of opioid poisoning hospitalizations during 2008 - 2016.
- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, the number of opioid poisoning hospitalizations was 45 in Winnipeg RHA, 13 in Prairie Mountain Health, 8 in Interlake-Eastern RHA, 2 in Northern Health Region and 2 in Southern Health-Santé Sud (see Figure A.1 in Appendix).

## EMERGENCY DEPARTMENT ADMISSIONS

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 Winnipeg RHA are described using EDIS data from January – June 2017. *Note that the EDIS data used in this report are not specific to opioid overdose, but are a reflection of overdose events of all types. Additional supporting tables and figures from WFPS can be found in the Appendix B of this report.*

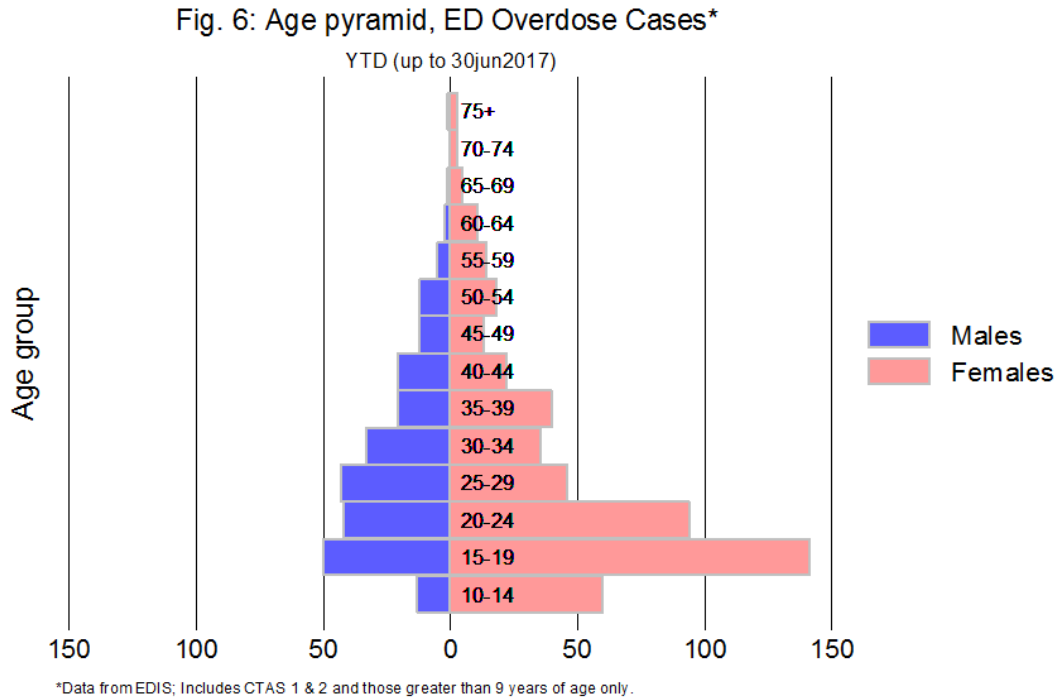
**FIGURE 12:** EPIDEMIC CURVE OF SUSPECTED OVERDOSE CASES ARRIVING IN WINNIPEG REGIONAL HEALTH AUTHORITY EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2015 – JUNE 30, 2017)



\*Data from EDIS; Includes CTAS 1 & 2 and those greater than 9 years of age only. Visits up to 30Jun2017

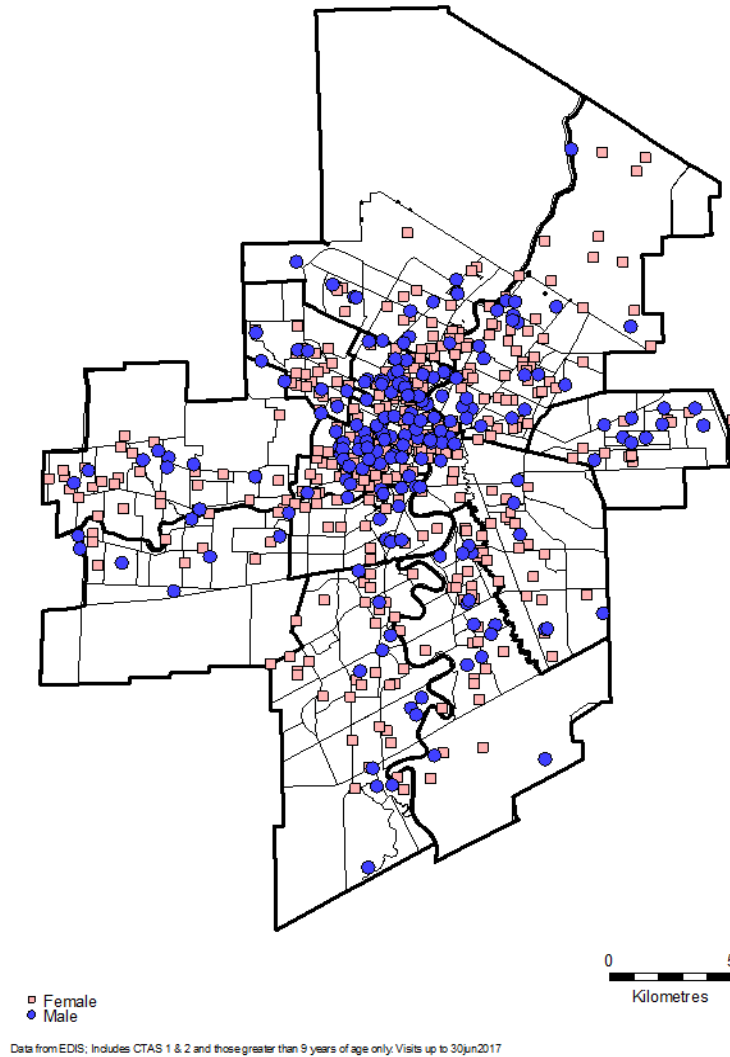
- Overall, the number of suspected overdose cases arriving at Winnipeg health region emergency departments and urgent care facilities has been on rise since the beginning of 2016.
- In 2017, there was higher number of events occurred in the second quarter (n=411) as compared to the first quarter (n=351) (a 17% increase); females contributed to the largest proportion of these events.

**FIGURE 13:** AGE PYRAMID OF SUSPECTED OVERDOSE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY SEX, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1 – JUNE 30, 2017)



- Approximately 47% of the female suspected overdose cases arriving at Winnipeg health region emergency departments and urgent care facilities were within the age group of 15 - 24 years; the corresponding proportion of this age group among the males was lower (~36%).

**FIGURE 14:** DOT MAP OF SUSPECTED OVERDOSE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY COMMUNITY AREA OF RESIDENCE, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1 – JUNE, 2017)



\* Winnipeg Fire and Paramedic Service does not service East St. Paul and South St. Path neighborhoods.

- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, suspected overdose cases arriving at Winnipeg health region emergency departments and urgent care facilities were the highest among those living in Downtown (n=113; 19%), Point Douglas (n=97; ~16%), and River East (n=83; 14%) community areas.

**NOTE:**

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. A further limitation is that 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.



## MORTALITY

### OFFICE OF THE CHIEF MEDICAL EXAMINER

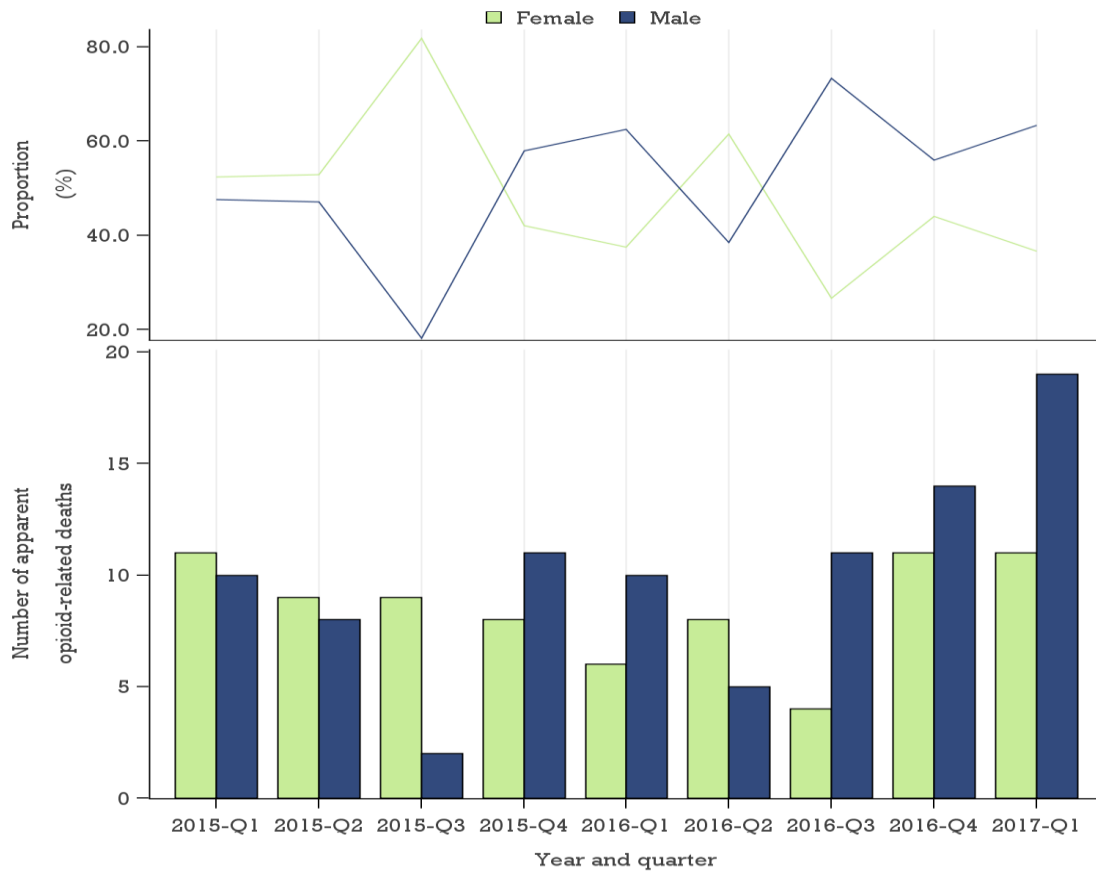
Office of the Chief Medical Examiner's (OCME) mortality data from January 1<sup>st</sup>, 2015 to March 31<sup>st</sup>, 2017 was used to describe the apparent opioid-related apparent deaths in Manitoba. Data is gathered through chart reviews of the opioid-related deaths examined at OCME. This report applies the definitions by the Public Health Agency of Canada to be ensure consistency with other jurisdictions across Canada.

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.

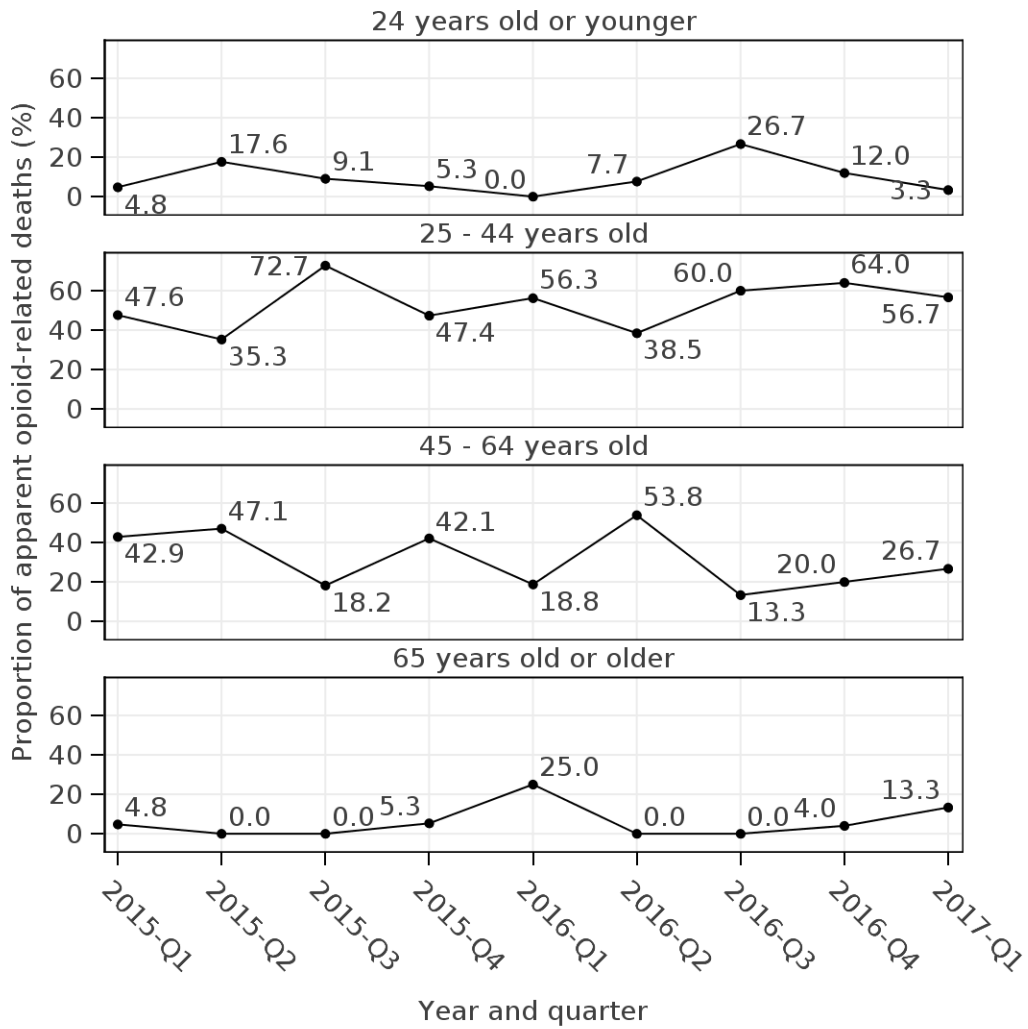
This report does not include OCME data for April 1<sup>st</sup> - June 30<sup>th</sup>, 2017 as the chart review was not possible at the time of preparation of this report. The OCME had many open cases, mainly, due to incomplete toxicology reports, which takes approximately 12 weeks to complete.

**FIGURE 15:** NUMBER AND PROPORTION OF APPARENT OPIOID-RELATED DEATHS IN MANITOBA BY SEX, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)



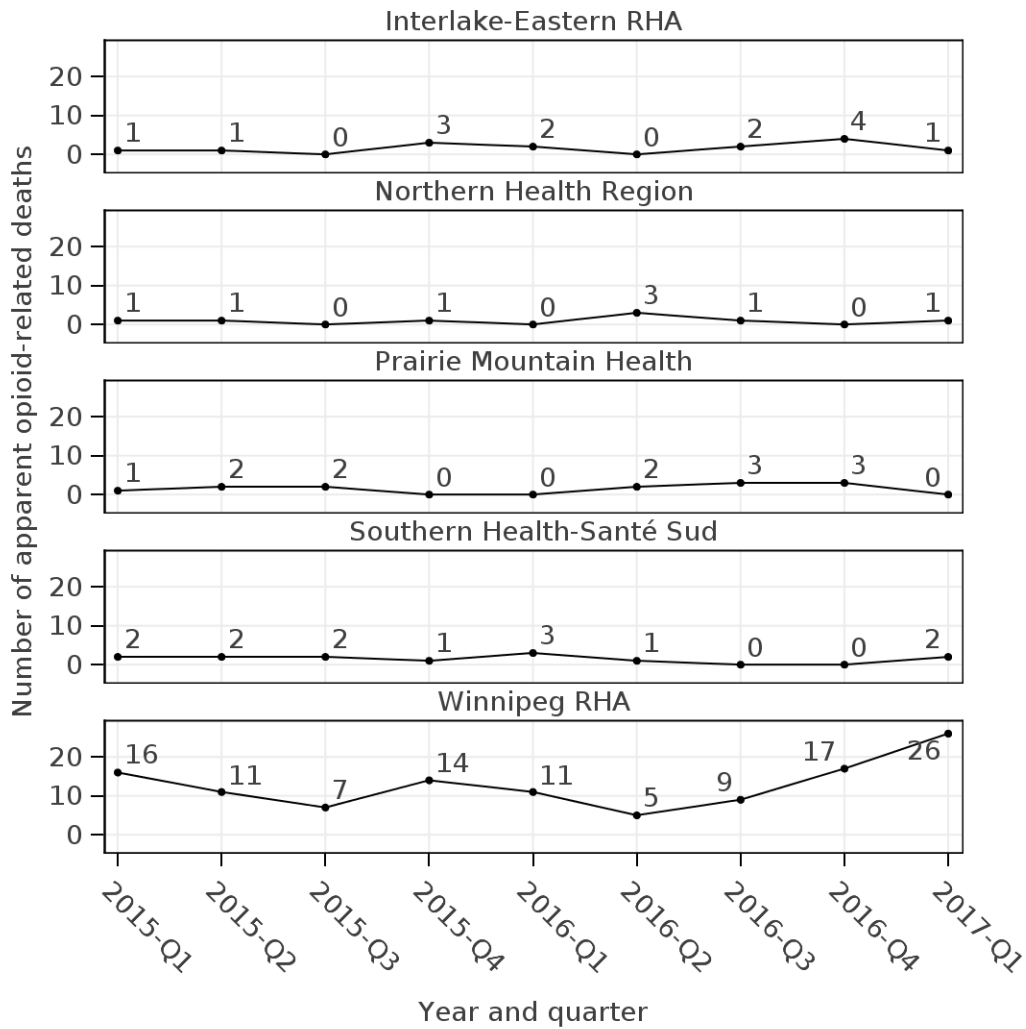
- There were 30 apparent opioid-related deaths in Manitoba between January 1<sup>st</sup> and March 31<sup>st</sup>, 2017, which is almost double of relevant deaths occurred in the same time period in 2016 (n= 16).
- From the fourth quarter of 2015 and onwards, males have a consistently higher proportion of deaths compared to females (except for the second quarter of 2016).
- During the third quarter of 2015, females accounted for ~82% of opioid-related deaths.
- In Manitoba, annual crude rates of apparent opioid-related deaths was 5.2 per 100,000 population for both years of 2015 and 2016 (*data not shown*).

**FIGURE 16:** PROPORTION OF APPARENT OPIOID-RELATED DEATHS IN MANITOBA BY AGE GROUP, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)



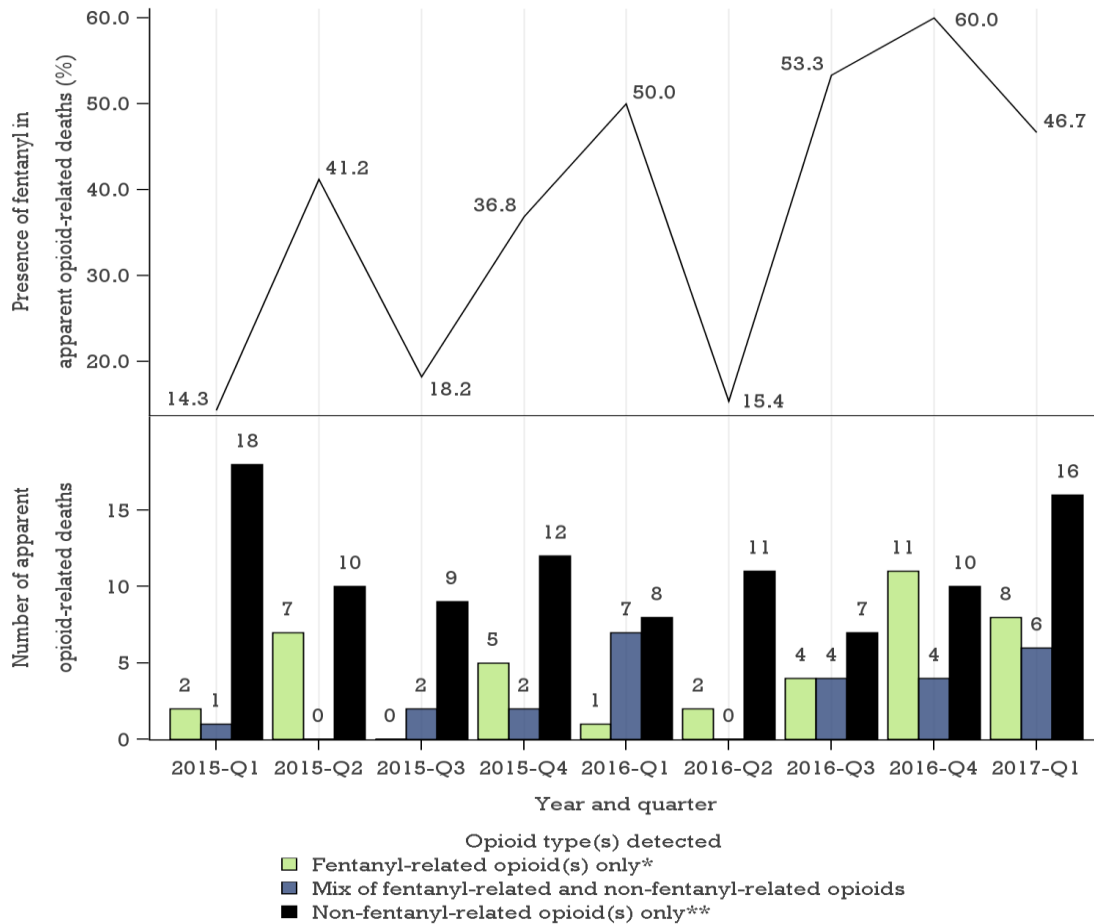
- Between June 1<sup>st</sup>, 2015 and March 31<sup>st</sup>, 2017, *overall*, majority of the apparent opioid-related deaths were among those aged 25-44 years, with the exception of the third quarter of 2015 and the second quarter of 2016.

**FIGURE 17:** NUMBER OF APPARENT OPIOID-RELATED DEATHS IN MANITOBA BY REGIONAL HEALTH AUTHORITY, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)



- In Winnipeg RHA, the number of apparent opioid related deaths increased over five times from five deaths in the second quarter of 2016 to 26 deaths in the first quarter of 2017.
- Annual crude rates (per 100,000 population) increased from 2015 to 2016 for following RHAs: Interlake-Eastern RHA (from 3.9 to 6.2), Prairie-Mountain Health (from 3.0 to 4.7), and Northern Health Region (from 4.0 to 5.2).

**FIGURE 18: PRESENCE OF FENTANYL ANALOGS IN APPARENT OPIOID-RELATED DEATHS AND THE NUMBER OF APPARENT OPIOID-RELATED DEATHS IN MANITOBA BY SUSPECTED OPIOID TYPE, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)**

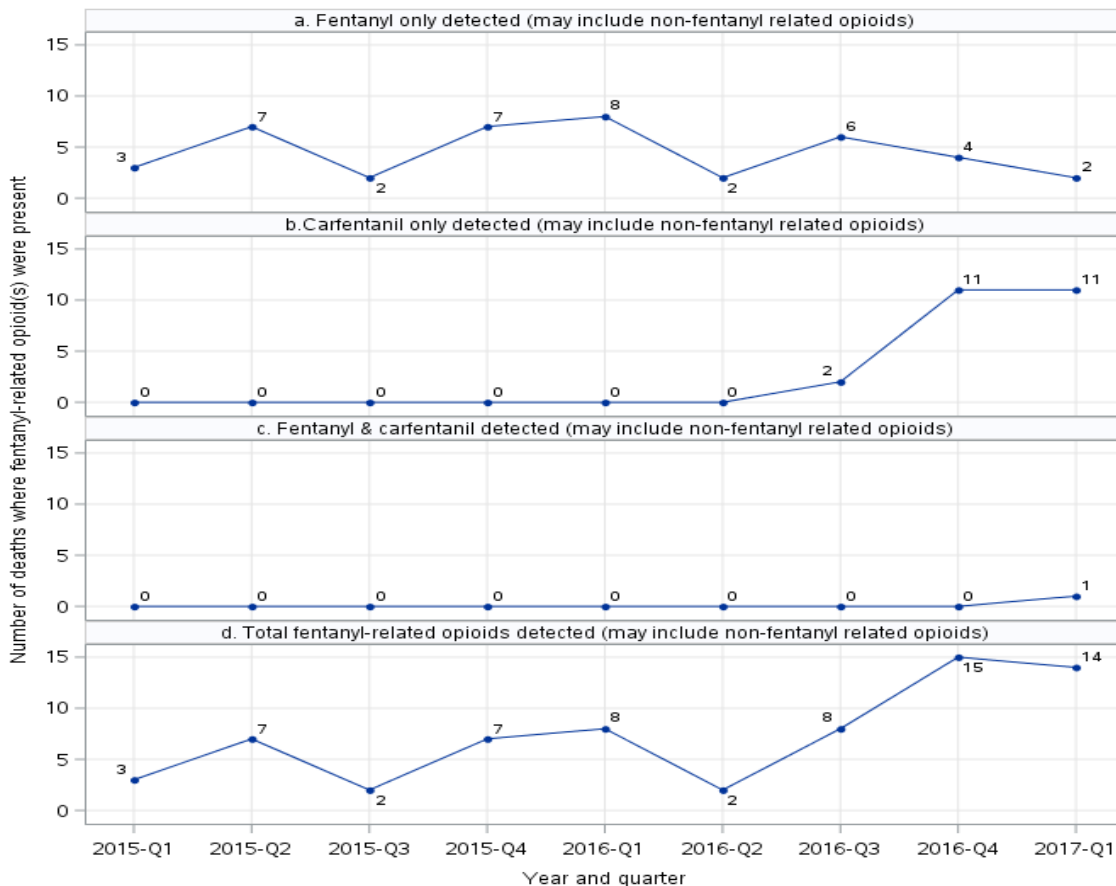


\* Fentanyl-related opioid(s) include fentanyl, carfentanil, furanyl-fentanyl, and etc.

\*\*Non-fentanyl related opioid(s) include codeine, heroin, morphine, and etc.

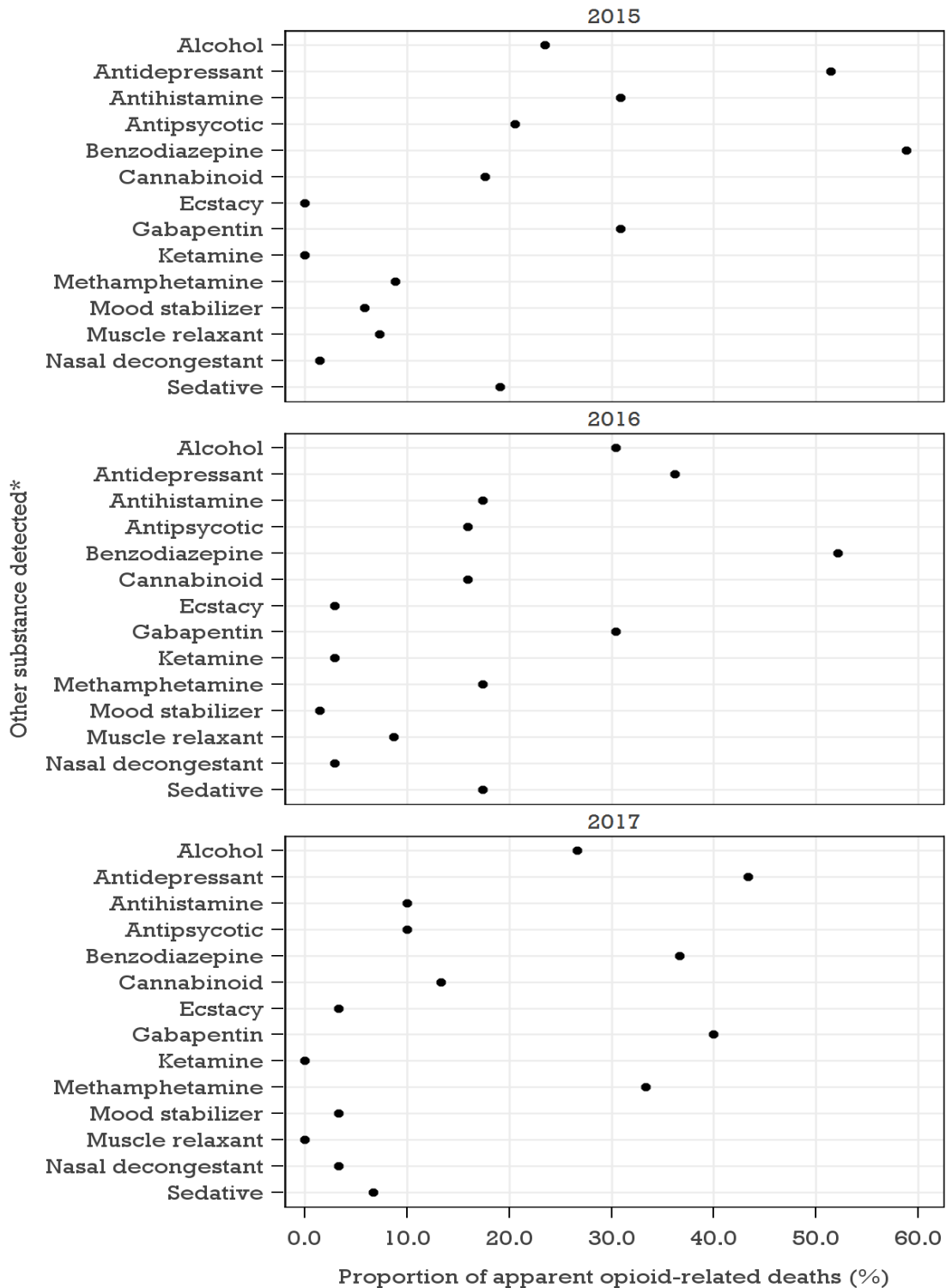
- When looking specifically at the deaths where fentanyl was present, it is evident that there have been increases. For example, the proportion of apparent opioid-related deaths where fentanyl-related opioids was present increased from over 14% during the first quarter of 2015 to 60% during the fourth quarter of 2016 and ~47% during the first quarter of 2017.
- In the first quarter of 2017, 12 of the 30 deaths (40%) had the fentanyl analog carfentanil present.

**FIGURE 19: NUMBER OF OPIOID-RELATED DEATHS WHERE FENTANYL-RELATED OPIOIDS WERE PRESENT, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)**



- The role of carfentanil- an analog of fentanyl- is particularly important to examine, given its toxicity. Recall that carfentanil is 10,000 more toxic than fentanyl.
- As shown in Figure 19, in the first quarter of 2017, there were 14 deaths that were fentanyl related and 12 included carfentanil:
  - 2 of the 14 deaths (14%) were classified as “Fentanyl only detected (may include non-fentanyl related opioids)”. This means that neither of these deaths had carfentanil present.
  - 11 of the 14 deaths (79%) were classified as “Carfentanil only detected (may include non-fentanyl related opioids)”, and
  - 1 (7%) was a mix of the above categories which means that fentanyl and carfentanil was present.
- From the data available, the first reference to carfentanil being a primary cause of death was in the third quarter of 2016 where there were 2 carfentanil deaths. After that point, the numbers increase substantially with 11 in the fourth quarter of 2016 and 12 in the first quarter of 2017.

**FIGURE 20:** PROPORTION OF OTHER SUBSTANCES DETECTED IN CASE OF APPARENT OPIOID-RELATED DEATHS\*, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2015 – MARCH 31, 2017)

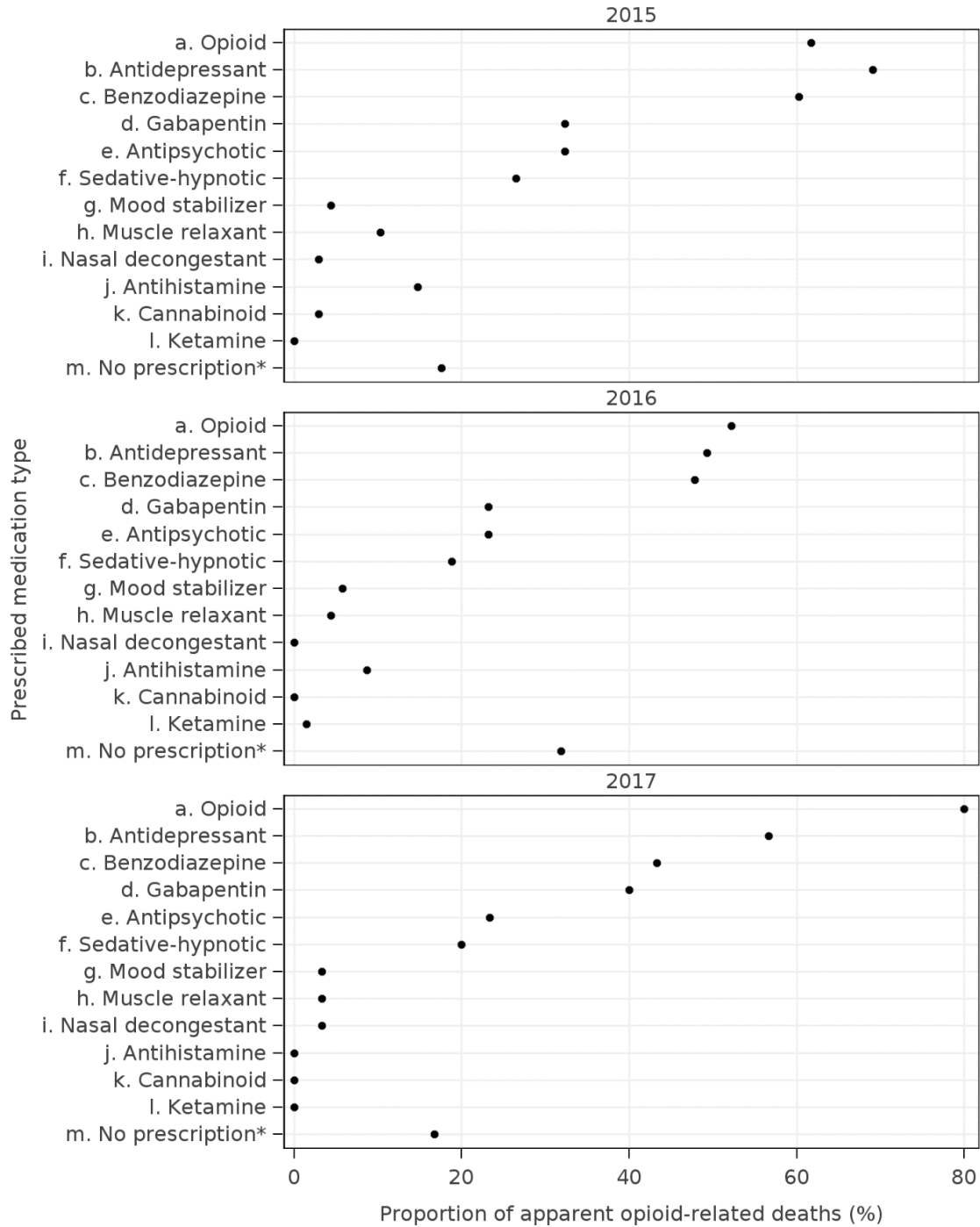


\*Results are NOT mutually exclusive.

- Overall, top three other substances contributing to apparent-opioid related deaths from 2015 to 2017 (till March 31<sup>st</sup>) were benzodiazepines, antidepressants, and gabapentin.
- Proportion of methamphetamine contributing to apparent-opioid related deaths increased from ~9% in 2015 to 33% during the first quarter of 2017; a similar trend was noted for gabapentin.
- Among apparent carfentanil-related deaths, the most commonly seen other substances contributing to death were cocaine and methamphetamine (*data not shown*).



**FIGURE 21:** COUNT OF PRESCRIPTION MEDICATION USE WITHIN SIX MONTHS BEFORE APPARENT OPIOID-RELATED DEATHS, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1, 2016 – MARCH 31, 2017)



\*Prescription for drugs under review.

- According to the chart reviews of opioid-related deaths examined at OCME for 2016 and the first quarter of 2017, opioids were the most frequently prescribed drugs within six months before an apparent opioid-related death, followed by antidepressants, and benzodiazepines.
- Proportion of opioid prescription dispensation increased from ~62% in 2015 to 80% in the first quarter of 2017.
- In the first quarter of 2017, the most commonly prescribed opioids within six months before an apparent opioid-related death were codeine (36.7%), oxycodone (21.7%), and methadone (23.3%) (data not shown).

**TABLE 5:** NUMBER OF APPARENT OPIOID-RELATED DEATHS BY CERTAIN CHARACTERISTICS, OFFICE OF THE CHIEF MEDICAL EXAMINER (JANUARY 1 – MARCH 31, 2017)

	Male		Female		Total	
	n	%	n	%	N	%
<i>Total</i>	<i>19</i>	<i>100.0</i>	<i>11</i>	<i>100.0</i>	<i>30</i>	<i>100.0</i>
<b>Place of death</b>						
Home	11	57.9	8	72.7	19	63.4
Health care facility	4	21.1	3	27.3	7	23.3
Other	4	21.1	0	0.0	4	23.3
<b>Place of overdose</b>						
Home	14	73.7	9	81.8	23	76.7
Public Setting	1	5.3	1	9.1	2	6.6
Other	4	21.0	1	9.1	5	16.7
<b>Manner of death</b>						
Unintentional	5	26.3	2	18.1	7	23.3
Unknown	0	0.0	1	9.1	1	3.3
Undetermined (open file)	14	73.7	8	72.7	22	73.4

- Between January 1st and June 30th, 2017, the most common place of death and place of overdose was in the home setting.
- As the majority of case files were open, manner of death was undetermined as a result.

**NOTE(S):**

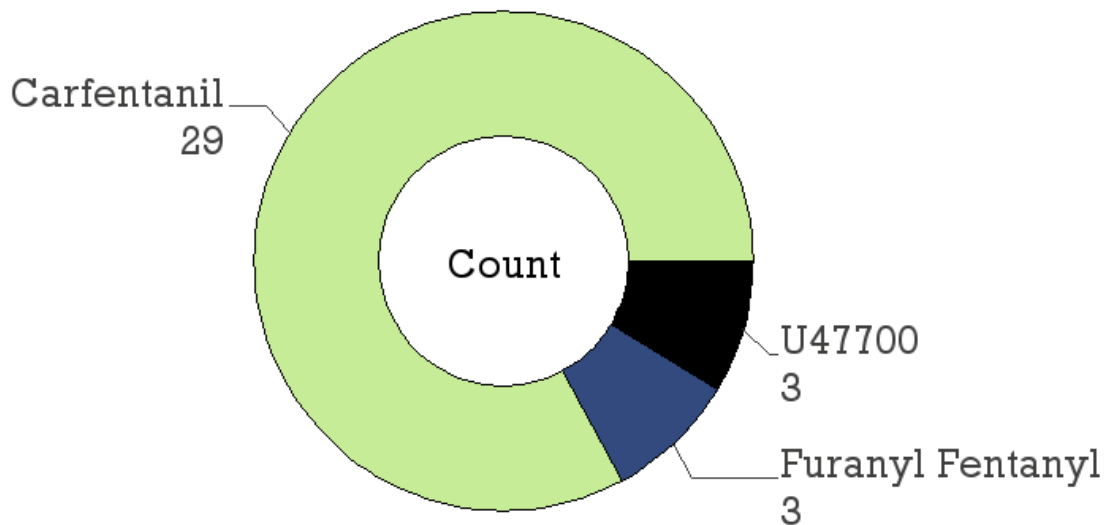
Overall overdose deaths for 2016 in Manitoba are expected to remain stable or somewhat increased as compared to previous years. However the contribution of opioids, including fentanyl, to these overall overdose deaths appears to be increasing in 2016, and in early 2017.

There are several prevention initiatives underway which may impact these numbers. For example, the Take-Home Naloxone program for individuals at risk of opioid overdose, and the provision of naloxone at the scene of suspected opioid overdoses by first responders may affect the number of overdose deaths. The impact of these programs may become clearer over time.

## TOXICOLOGY

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).

**FIGURE 22:** NUMBER OF POSITIVE TOXICOLOGY SCREENS BY FENTANYL ANALOG\*, DIAGNOSTIC SERVICES MANITOBA (JANUARY 1 – JUNE 30, 2017\*)



\*Fentanyl analogs do not include fentanyl.

- There were a total of 35 positive screens for fentanyl analogs between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017 (n=20 during January 1<sup>st</sup> – April 4<sup>th</sup>, 2017; n=15 during April 5<sup>th</sup> – June 30<sup>th</sup>, 2017).
- Approximately 83% of all positive screens indicated the analog carfentanil was present. Carfentanil is a derivative of the synthetic opioid fentanyl but is approximately 10,000 times more toxic than morphine and 100 times more toxic than fentanyl.

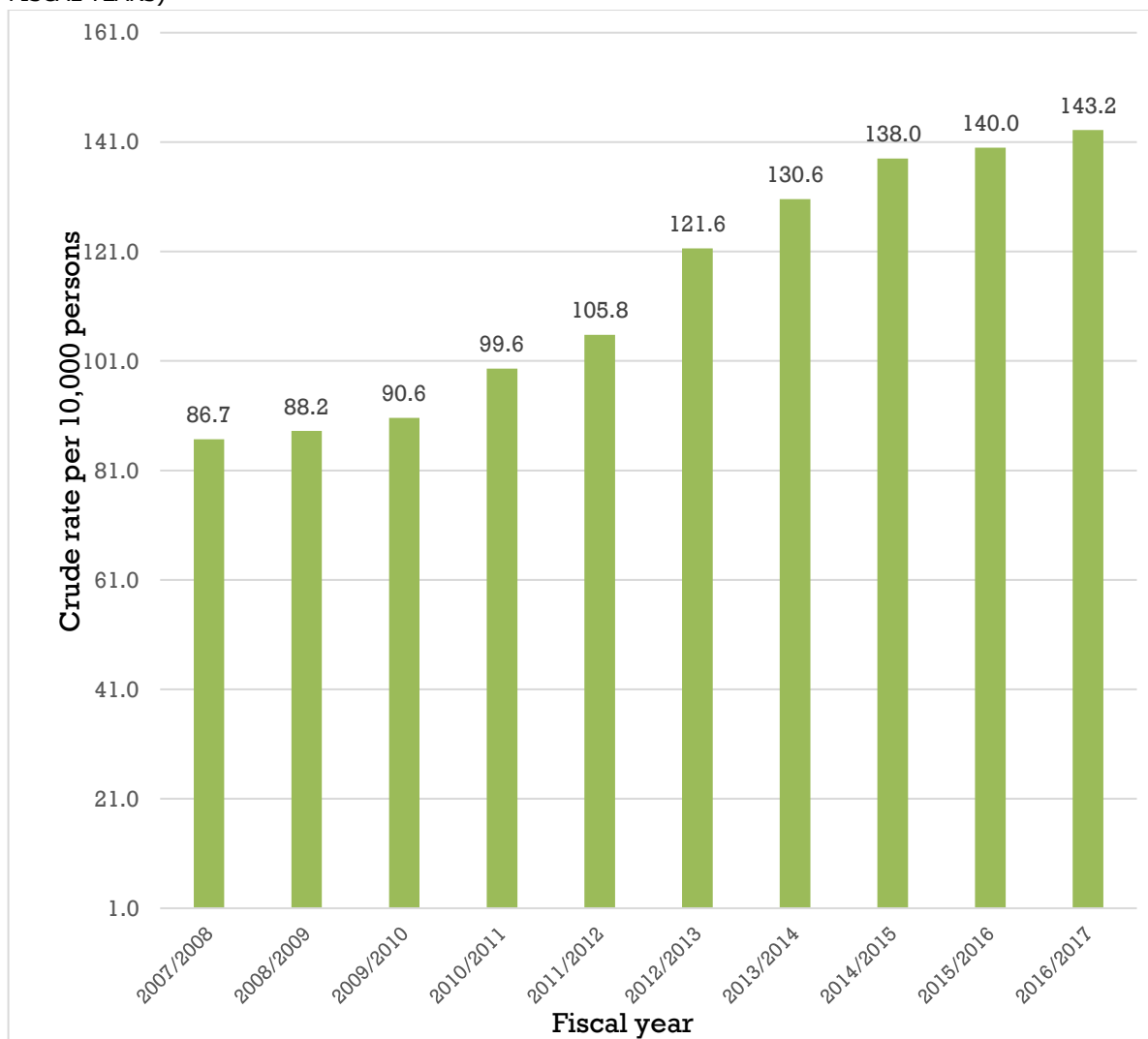
### NOTE:

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

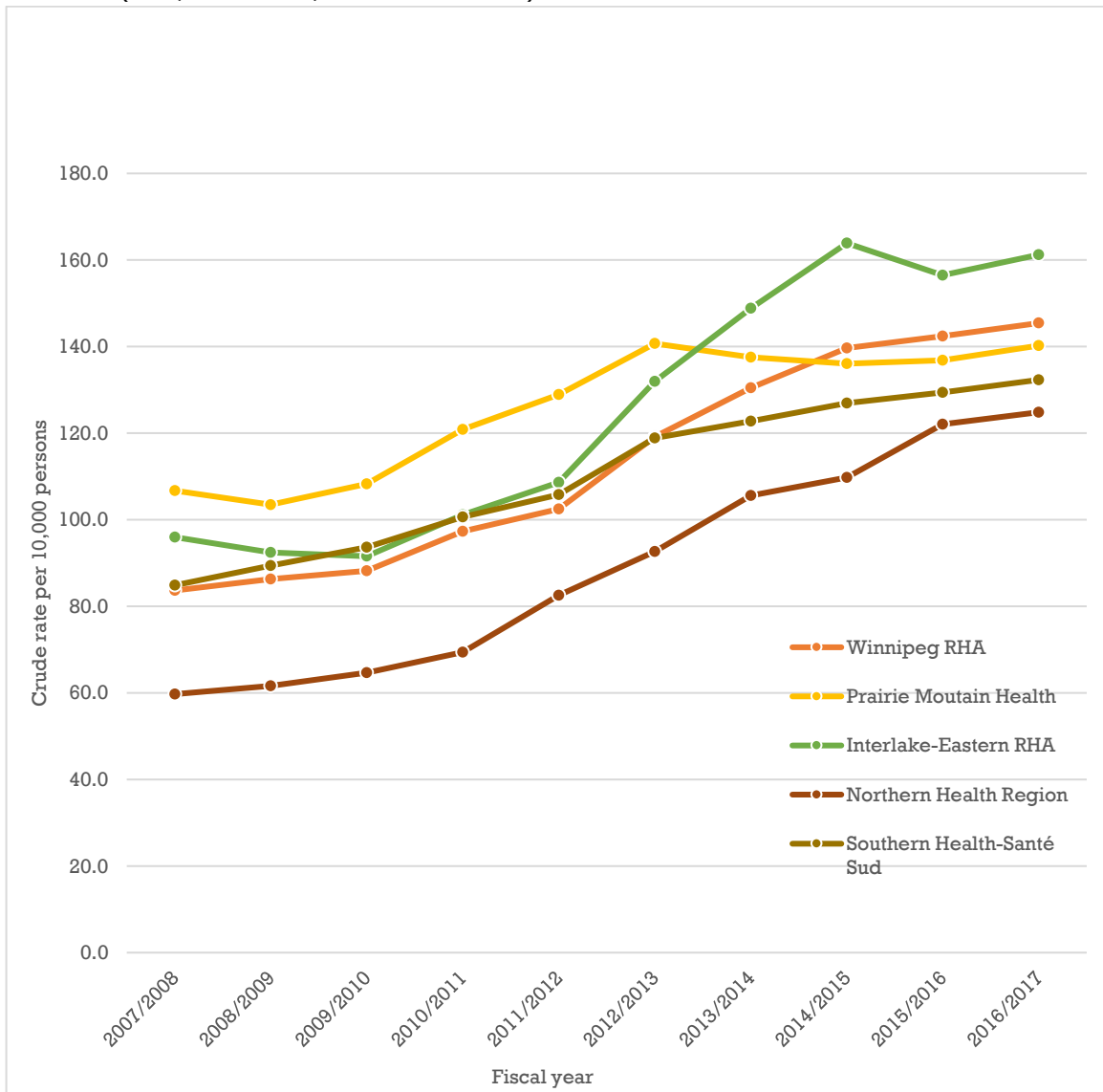
We used Drug Program Information Network (DPIN) database to measure the prescription opioid dispensation from community pharmacies in Manitoba from 2007/2008 fiscal year (FY) to 2016/2017 FY. The DPIN is an electronic, on-line, point-of-sale prescription drug database that connects Manitoba Health and all pharmacies in Manitoba since 1995. The DPIN system generates complete drug profiles for all out-of-hospital transactions at the point of distribution. Prescription opioids included in the analysis are fentanyl, oxycodone, hydromorphone, meperidine, and morphine.

**FIGURE 23:** CRUDE RATE (PER 10,000 PERSONS) OF MANITOBANS DISPENSED A PRESCRIPTION OPIOID FROM A COMMUNITY PHARMACY, DRUG PROGRAM INFORMATION NETWORK (2007/2008 – 2016/2017 FISCAL YEARS)



- In Manitoba, crude rate of individuals dispensed a prescription opioid from a community pharmacy steadily increased from 86.7 per 10,000 persons in 2007/2008 FY to 143.2 per 10,000 persons in 2016/2017 FY.

**FIGURE 24:** CRUDE RATE (PER 10,000 PERSONS) OF MANITOBANS DISPENSED A PRESCRIPTION OPIOID FROM A COMMUNITY PHARMACY BY REGIONAL HEALTH AUTHORITY, DRUG PROGRAM INFORMATION NETWORK (2007/2008 – 2016/2017 FISCAL YEARS)



- Based on the region of residence, during 2013/2014 - 2016/2017 FY, Interlake-Eastern RHA had the highest rate of prescription opioid dispensation.
- Rate of prescription opioid dispensation in Northern Health Region doubled from 59.7 per 10,000 persons in 2007/2008 FY to 124.8 per 10,000 persons in 2016/2017 FY.

NOTE(S):

DPIN information includes 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.

## CALL CENTERS

A number of call centers exist in Manitoba to provide the general public information in specific areas such as poisoning or general areas such as healthcare. Two call centers (Health Links – Info Santé and the Poison Control Centre) capture data on calls that are linked to opioids.

### 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.

**TABLE 6:** NUMBER OF CALLS TO HEALTH LINKS – INFO SANTÉ, HEALTH LINKS – INFO SANTÉ (JANUARY 1, 2013 - JUNE 30, 2017)

Health Education Document Title	2013	2014	2015	2016	2017*
Substance Abuse	14	13	16	11	7
Recognizing Drug Abuse in Kids	2	1	2	1	1
Prescription Drug Abuse	8	6	9	9	3
Drugs - What You Should Know and Drug Testing	26	30	17	12	5
Street Drugs and their Slang Names	0	0	0	3	0
Street Connections Launches a Take-Home Naloxone Program	0	0	0	0	0
Detoxification	34	33	52	61	9
Treating Teens for Substance Abuse	0	1	0	3	0
Hallucinations	5	10	17	14	7
Talking with your Child about Drinking and Drugs	1	0	1	1	0
Drug, Alcohol and Tobacco Use During Pregnancy	52	24	0	17	10
Naloxone Programs and Kits**	n/a	n/a	n/a	n/a	4
Street Connections Launches a Take-Home Naloxone Program**	n/a	n/a	n/a	n/a	0
Fentanyl**	n/a	n/a	n/a	n/a	3
Withdrawal Symptoms: Drug and Alcohol Abuse**	n/a	n/a	n/a	n/a	26
Talking with Your Child about Drinking and Drugs**	n/a	n/a	n/a	n/a	0

\* 2017 includes data from January to June.

\*\* Based upon increasing caller and RN demand, new/updated health education document title is added. Data is only available from 2017 onwards.

- There was an increased in the use of the “Detoxification” health education document, from 34 calls in 2013 to 61 calls in 2016.
- Although newly introduced, there is a proportionally higher volume of calls utilizing “Withdrawal Symptoms: Drug and Alcohol Abuse” health education document compared to other documents from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017.

**NOTE:**

Calls that utilize health education documents in the above tables 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.

## 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 [7]. MPC data is used in this report to describe the opioid-related calls received between January 1<sup>st</sup>, 2013 and June 30<sup>th</sup>, 2017.

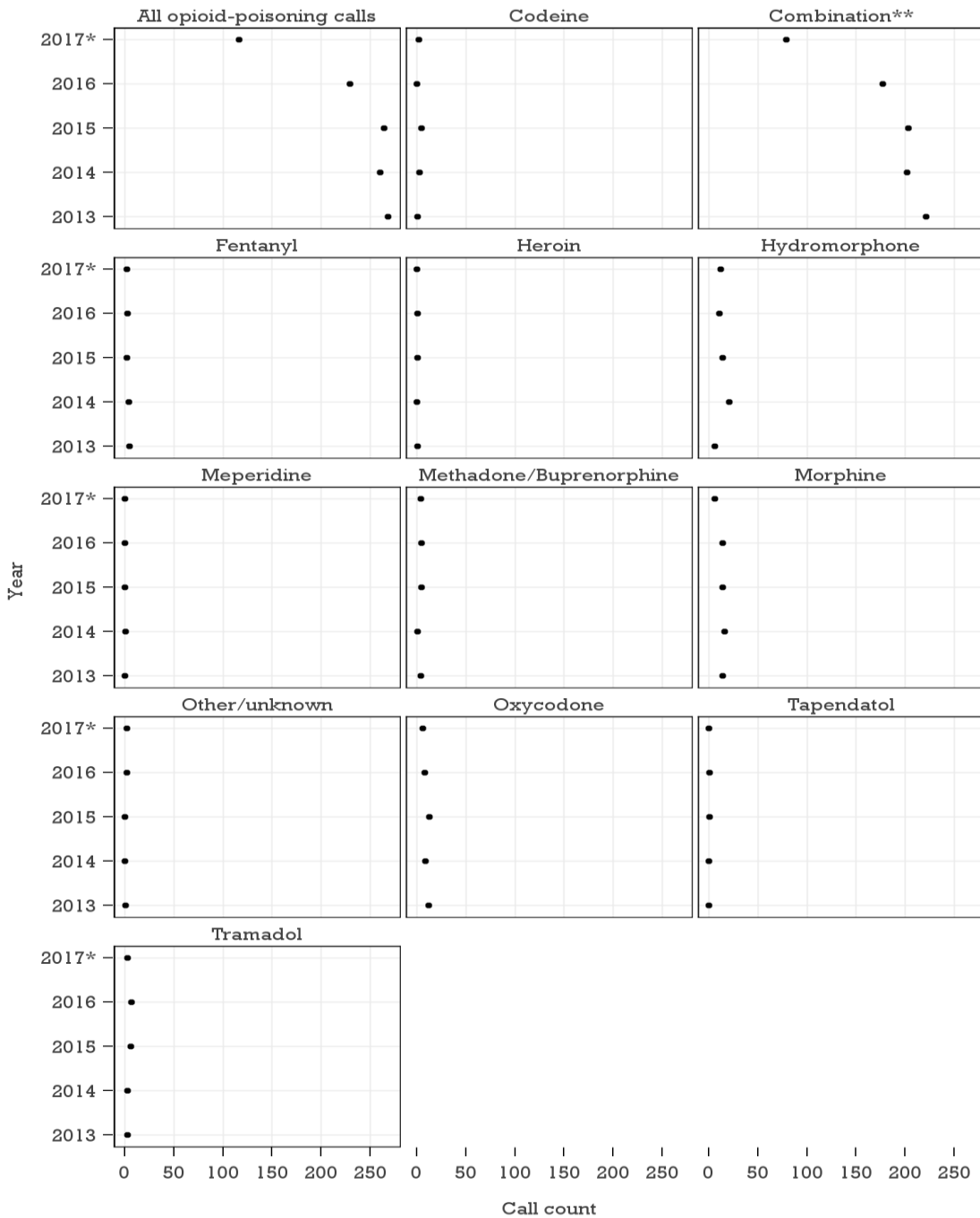
- Overall, number of opioid-related calls received by MPC was relatively stable between 2013 (n= 268) and 2015 (n=264), but dropped in 2016 (n= 229).
- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, there were 116 opioid-related calls received by MPC. Number of calls received in the second quarter of 2017 (n=47) was lower than those calls received in the first quarter of 2017 (n=69).
- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, calls were most commonly specific to opioids in combination with non-opioid analgesics., with the range of 177 calls to 221 calls
- There was a steady increase in number of calls related to Tramadol, from 3 calls in 2013 to 7 calls in 2016.

### NOTE:

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. In addition, 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.



**FIGURE 25:** NUMBER OF OPIOID POISONING-RELATED CALLS BY OPIOID TYPE, MANITOBA POISON CENTRE (JANUARY 1, 2013 – JUNE 30, 2017)



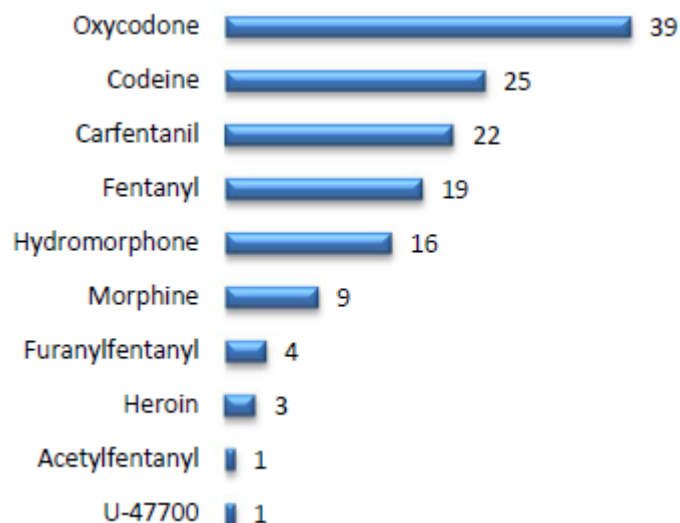
\*2017 period includes data from January 1st to June 30th, 2017. \*\*Combination with non-opioid analgesics.

## OTHERS

### OPIOIDS IDENTIFIED OR TRACKED BY DRUG ANALYSIS SERVICE OF HEALTH CANADA

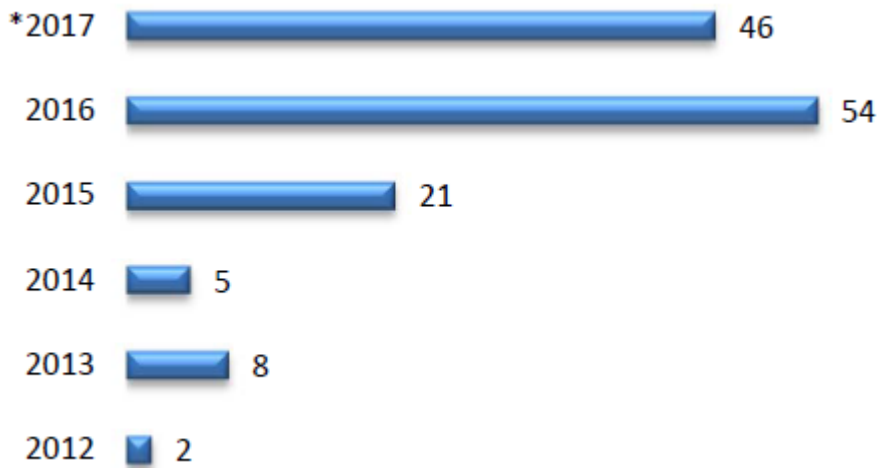
The Drug Analysis Service of Health Canada operates laboratories across Canada that are employed to analyze suspected illegal drugs seized by Canadian police forces and the Canada Border Services Agency. The laboratories receive over 110,000 samples per year, confirming the identity and in some cases the purity of the controlled substances seized by police [8]. We used the Drug Analysis Service of Health Canada aggregated data 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.

**FIGURE 26:** NUMBER OF TOP TEN ILLEGAL OPIOIDS IDENTIFIED OR TRACKED IN MANITOBA, DRUG ANALYSIS SERVICE OF CANADA (JANUARY 1 – JUNE 30, 2017)



- In Manitoba, there were a total of 139 illegal opioids identified or tracked by Drug Analysis Service of Health Canada between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017.
- Overall, illegal fentanyl-related opioids represented the largest proportion of these samples at 33.1% (n = 46), followed by oxycodone (n=39, 28%).
- About half of the fentanyl-related opioids were carfentanil (n=22, ~48%). Across Canada, there were 190 carfentanil identified or tracked between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017; about 12% of these samples were from Manitoba.

**FIGURE 27:** NUMBER OF ILLEGAL FENTANYL-RELATED OPIOIDS IDENTIFIED OR TRACKED IN MANITOBA, DRUG ANALYSIS SERVICE OF CANADA (JANUARY 1, 2012 – JUNE 30, 2017)



- In Manitoba, number of illegal fentanyl-related opioids identified or tracked increased 27 times from 2 in 2012 to 54 in 2016.
- Between January 1<sup>st</sup> and June 30<sup>th</sup>, 2017, there were 46 illegal fentanyl-related opioids identified or tracked in Manitoba by Drug Analysis Service of Health Canada.

## APPENDICES

### APPENDIX A: WINNIPEG FIRE AND PARAMEDIC SERVICE

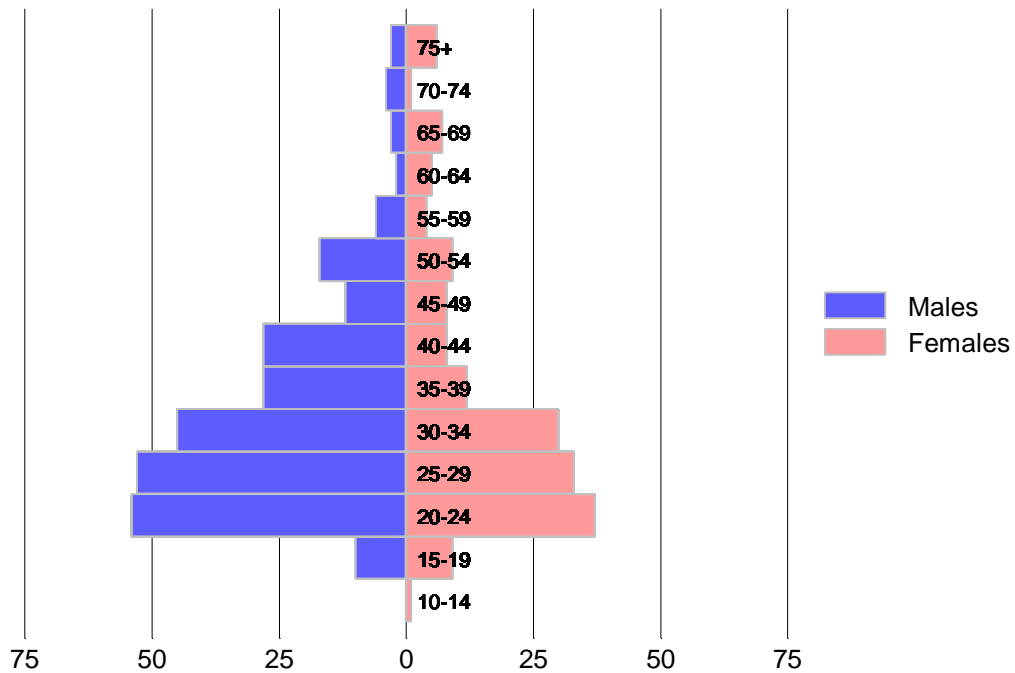
**TABLE A.1:** CHARACTERISTICS OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2017 – JUNE 30, 2017)

	Female		Male		Total	
	No.	%	No.	%	No.	%
<b>Age group</b>						
10-14	1	0.6	0	0.0	1	0.2
15-19	9	5.3	10	3.8	19	4.4
20-24	37	21.8	54	20.4	91	20.9
25-29	33	19.4	53	20.0	86	19.8
30-34	30	17.6	45	17.0	75	17.2
35-39	12	7.1	28	10.6	40	9.2
40-44	8	4.7	28	10.6	36	8.3
45-49	8	4.7	12	4.5	20	4.6
50+	32	18.8	35	13.2	67	15.4
<i>Total</i>	<i>170</i>	<i>100.0</i>	<i>265</i>	<i>100.0</i>	<i>435</i>	<i>100.0</i>
<b>Community Area of Event Location</b>						
St. James	6	3.5	11	4.2	17	3.9
Assiniboine South	1	0.6	5	1.9	6	1.4
Fort Garry	3	1.8	7	2.7	10	2.3
St. Vital	16	9.4	14	5.3	30	6.9
St. Boniface	4	2.4	5	1.9	9	2.1
Transcona	2	1.2	12	4.5	14	3.2
River East	17	10.0	24	9.1	41	9.4
Seven Oaks	11	6.5	17	6.4	28	6.5
Inkster	8	4.7	8	3.0	16	3.7
Point Douglas	30	17.6	66	25.0	96	22.1
Downtown	67	39.4	82	31.1	149	34.3
River Heights	5	2.9	13	4.9	18	4.1
<i>Total</i>	<i>170</i>	<i>100.0</i>	<i>264</i>	<i>100.0</i>	<i>434</i>	<i>100.0</i>
<b>Community Area of Residency</b>						
St. James	4	2.7	10	4.5	14	3.8
Assiniboine South	1	0.7	6	2.7	7	1.9
Fort Garry	3	2.0	8	3.6	11	3.0
St. Vital	9	6.1	12	5.4	21	5.7
St. Boniface	7	4.8	4	1.8	11	3.0
Transcona	1	0.7	11	5.0	12	3.3
River East	16	10.9	28	12.6	44	11.9
Seven Oaks	10	6.8	16	7.2	26	7.0
Inkster	7	4.8	11	5.0	18	4.9
Point Douglas	38	25.9	49	22.1	87	23.6
Downtown	46	31.3	56	25.2	102	27.6
River Heights	5	3.4	11	5.0	16	4.3
<i>Total</i>	<i>147</i>	<i>100.0</i>	<i>222</i>	<i>100.0</i>	<i>369</i>	<i>100.0</i>

**TABLE A.2:** NUMBER OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE BY SEX AND YEAR, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2012 – JUNE 30, 2017)

Year	Female		Male		Total	
	No.	%	No.	%	No.	%
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	170	39.1	265	60.9	435	100.0
<i>Total</i>	<i>1,149</i>	<i>44.6</i>	<i>1,429</i>	<i>55.4</i>	<i>2,578</i>	<i>100.0</i>

**FIGURE A.1:** AGE PYRAMID OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2017 – JUNE 30, 2017)

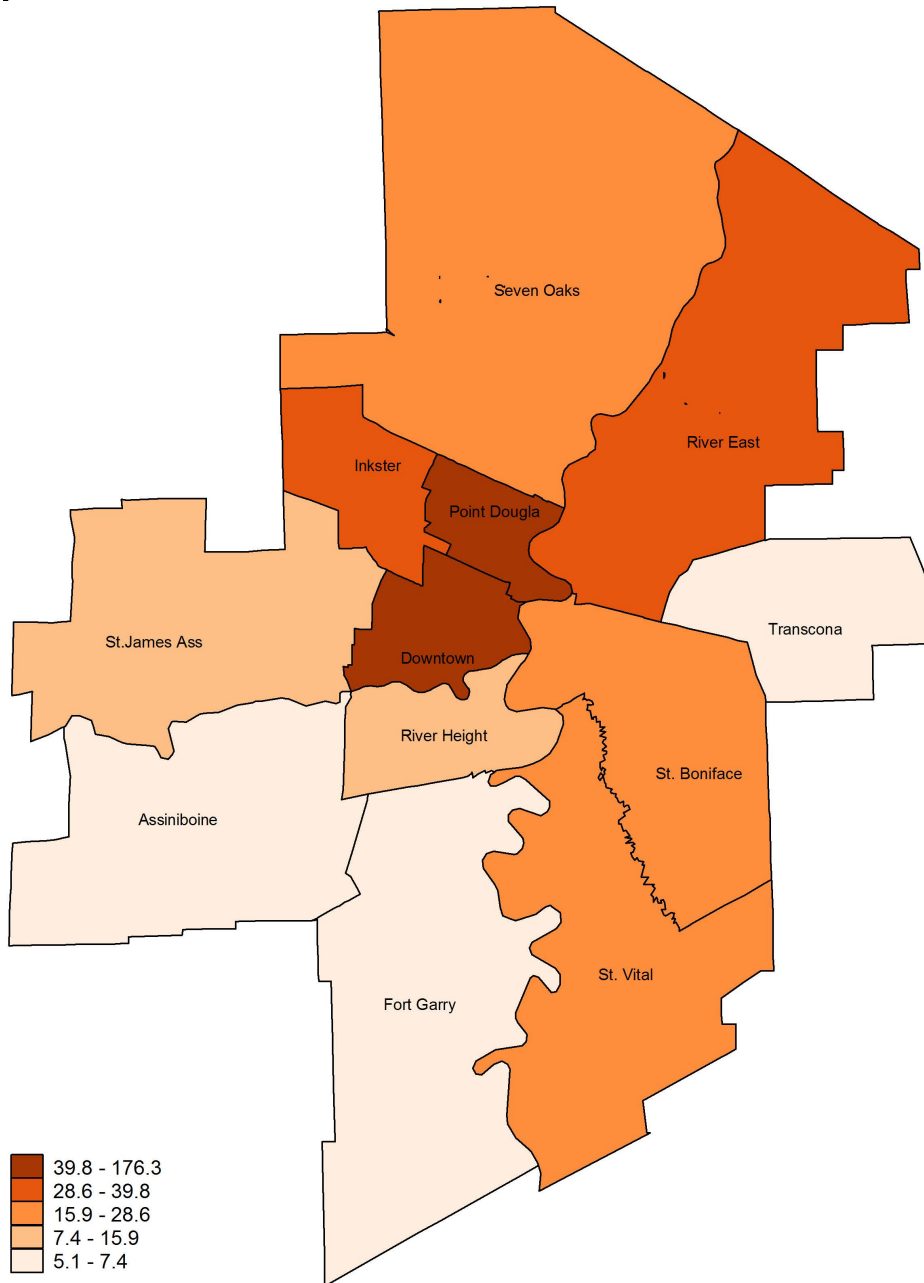


\*Data provided by WFPS; Includes only those greater than 9 years of age. Events up to 30Jun2017

**TABLE A.3:** CRUDE AND AGE STANDARDIZED RATES (CASES PER 100,000) OF SUSPECTED OVERDOSE CASES RECEIVING NALOXONE BY COMMUNITY AREA OF RESIDENCE AND SEX, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2017 – JUNE 30, 2017)

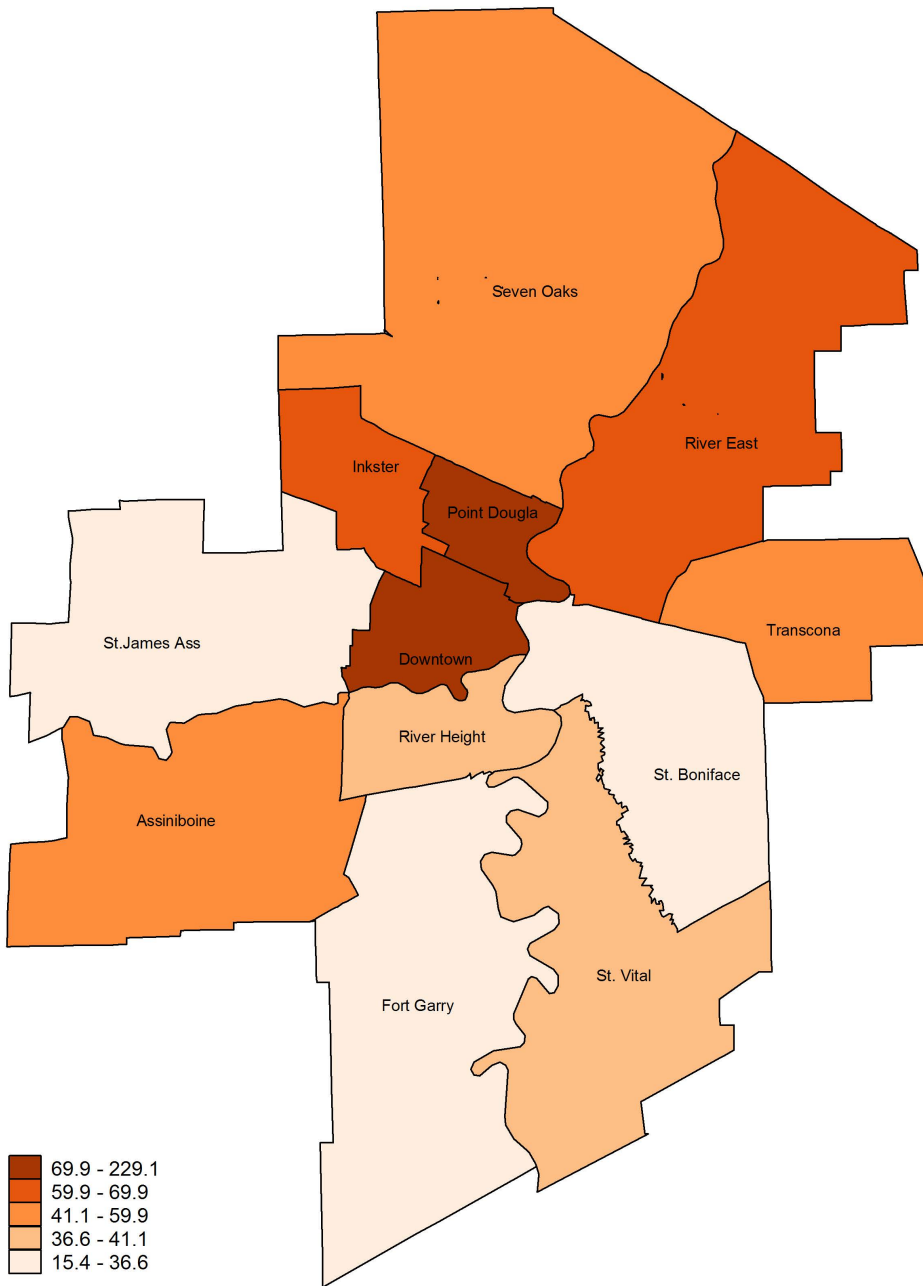
Sex	Community Area of Residency	Number	Crude Rate	Age-Standardized Rate	95%CI
Female	St. James	4	14.1	15.9	4.3 - 41.1
	Assiniboine South	1	6.0	6.3	0.2 - 37.3
	Fort Garry	3	7.6	7.4	1.5 - 22.0
	St. Vital	9	27.7	25.8	11.7 - 50.0
	St. Boniface	7	26.0	24.4	9.8 - 51.1
	Transcona	1	5.8	5.1	0.1 - 30.5
	River East	16	35.6	34.5	19.5 - 56.7
	Seven Oaks	10	29.2	28.6	13.6 - 53.0
	Inkster	7	46.6	39.8	16.0 - 83.4
	Point Douglas	38	191.5	176.3	124.2 - 242.8
	Downtown	46	131.4	114.2	83.2 - 153.4
	River Heights	5	18.4	14.7	4.7 - 37.5
	<i>Total</i>	<i>147</i>	<i>43.6</i>	<i>41.7</i>	<i>35.2 - 49.1</i>
Male	St. James	10	38.5	36.6	17.5 - 68.2
	Assiniboine South	6	39.2	46.5	16.7 - 100.9
	Fort Garry	8	20.9	19.8	8.4 - 39.4
	St. Vital	12	39.8	41.1	21.1 - 72.0
	St. Boniface	4	15.7	15.4	4.2 - 39.8
	Transcona	11	65.6	59.9	29.8 - 108.1
	River East	28	66.5	65.4	43.2 - 94.9
	Seven Oaks	16	49.1	45.7	26.1 - 74.6
	Inkster	11	73.7	69.9	34.3 - 125.8
	Point Douglas	49	243.1	229.1	168.9 - 303.7
	Downtown	56	152.5	139.5	104.7 - 182.1
	River Heights	11	44.6	40.1	19.7 - 73.7
	<i>Total</i>	<i>222</i>	<i>68.7</i>	<i>65.2</i>	<i>56.8 - 74.4</i>

**FIGURE A.2:** AGE STANDARDIZED RATE (PER 100,000) MAP OF SUSPECTED OVERDOSE FEMALE CASES RECEIVING NALOXONE BY COMMUNITY AREA OF RESIDENCE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2017 – JUNE 30, 2017)



Female Events up to 30jun2017. Total annual population (>9years) used in rate calculations.

**FIGURE A.3:** AGE STANDARDIZED RATE (PER 100,000) MAP OF SUSPECTED OVERDOSE MALE CASES RECEIVING NALOXONE BY COMMUNITY AREA OF RESIDENCE, WINNIPEG FIRE AND PARAMEDIC SERVICE (JANUARY 1, 2017 – JUNE 30, 2017)



Male Events up to 30jun2017. Total annual population (> 9years) used in rate calculations.



## APPENDIX B: EMERGENCY DEPARTMENT INFORMATION SYSTEM

**TABLE B.1:** CHARACTERISTICS OF SUSPECTED OVERDOSE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2017 – JUNE 30, 2017)

	Female		Male		Total	
	No.	%	No.	%	No.	%
<b>Age group</b>						
10-14	60	11.9	13	5.1	73	9.6
15-19	141	27.9	50	19.5	191	25.1
20-24	94	18.6	42	16.4	136	17.8
25-29	46	9.1	43	16.8	89	11.7
30-34	36	7.1	33	12.9	69	9.1
35-39	40	7.9	21	8.2	61	8.0
40-44	22	4.3	21	8.2	43	5.6
45-49	13	2.6	12	4.7	25	3.3
50+	54	10.7	21	8.2	75	9.8
<i>Total</i>	<i>506</i>	<i>100.0</i>	<i>256</i>	<i>100.0</i>	<i>762</i>	<i>100.0</i>
<b>Community Area</b>						
St. James	27	6.8	9	4.6	36	6.1
Assiniboine South	13	3.3	8	4.1	21	3.6
Fort Garry	33	8.3	11	5.7	44	7.4
St. Vital	30	7.6	13	6.7	43	7.3
St. Boniface	29	7.3	9	4.6	38	6.4
Transcona	12	3.0	10	5.2	22	3.7
River East	57	14.4	26	13.4	83	14.0
Seven Oaks	28	7.1	13	6.7	41	6.9
Inkster	23	5.8	8	4.1	31	5.2
Point Douglas	60	15.1	37	19.1	97	16.4
Downtown	73	18.4	40	20.6	113	19.1
River Heights	12	3.0	10	5.2	22	3.7
<i>Total</i>	<i>397</i>	<i>100.0</i>	<i>194</i>	<i>100.0</i>	<i>591</i>	<i>100.0</i>

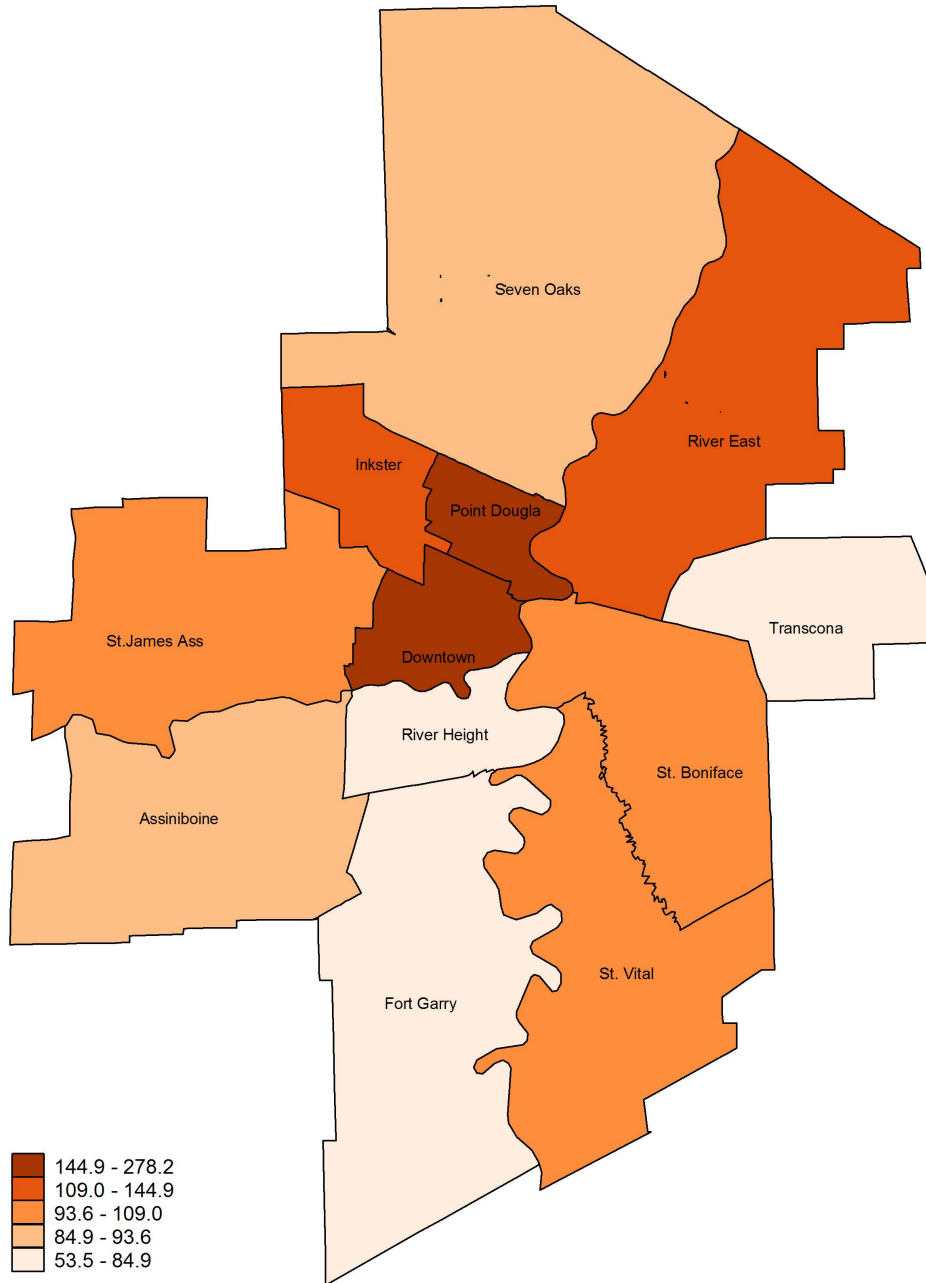
**TABLE B.2:** NUMBER OF SUSPECTED OVERDOSE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY SEX AND YEAR, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2012 – JUNE 30, 2017)

Year	Female		Male		Total	
	No.	%	No.	%	No.	%
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	506	66.4	256	33.6	762	100.0
<i>Total</i>	<i>4,646</i>	<i>66.7</i>	<i>2,315</i>	<i>33.3</i>	<i>6,961</i>	<i>100.0</i>

**TABLE B.3:** CRUDE AND AGE STANDARDIZED RATES (PER 100,000) OF SUSPECTED OVERDOSE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY COMMUNITY AREA AND SEX, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2017 – JUNE 30, 2017)

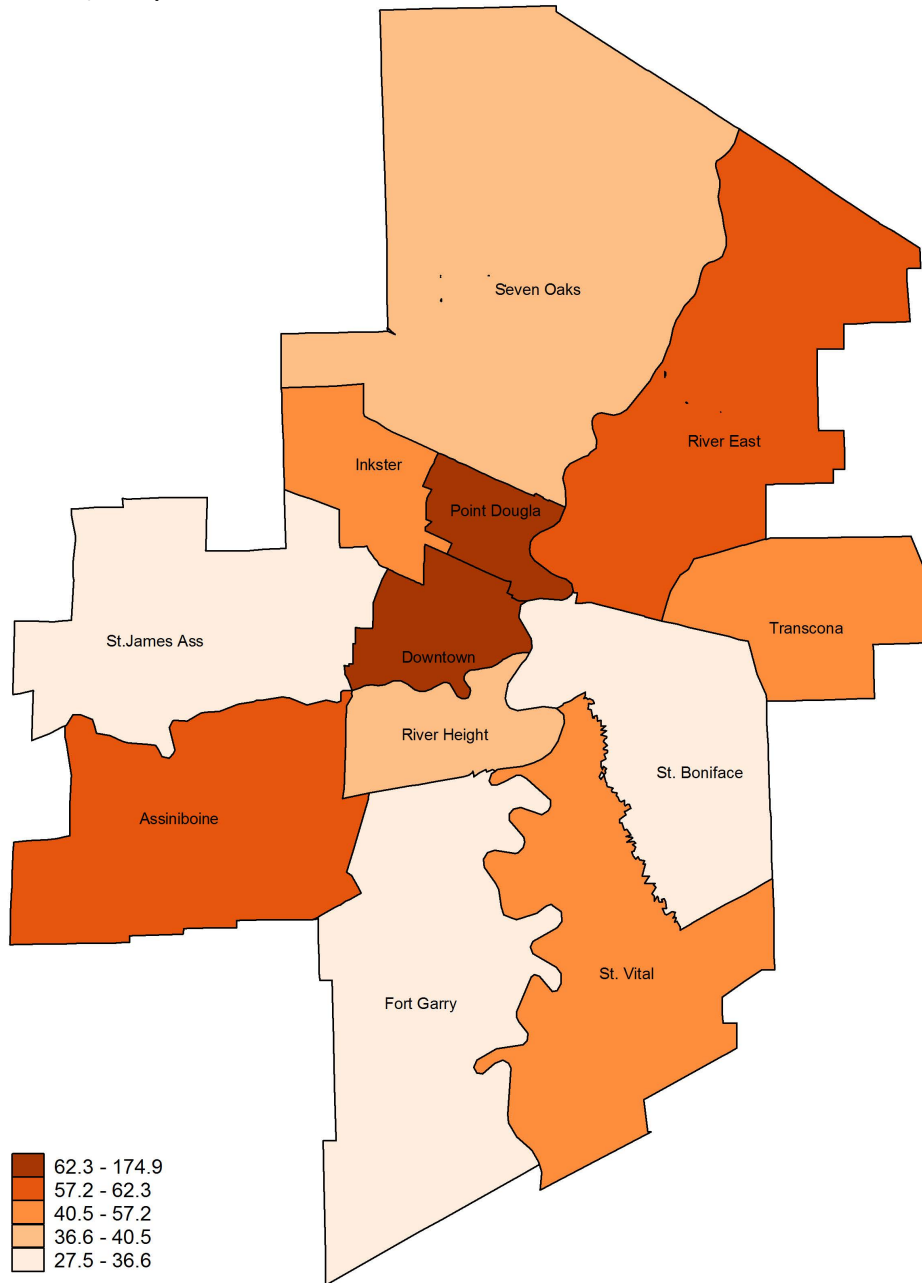
Sex	Community Area	Number	Crude Rate	Age-Standardized Rate	95%CI
Female	St. James	27	95.1	106.6	69.7 - 156.1
	Assiniboine South	13	77.9	93.6	49.6 - 160.3
	Fort Garry	33	83.6	84.9	58.3 - 119.5
	St. Vital	30	92.2	96.1	64.6 - 137.7
	St. Boniface	29	107.7	109.0	72.8 - 157.1
	Transcona	12	69.3	70.2	36.2 - 122.7
	River East	57	126.9	140.8	106.3 - 182.8
	Seven Oaks	28	81.9	87.4	58.0 - 126.4
	Inkster	23	153.2	144.9	91.8 - 217.8
	Point Douglas	60	302.4	278.2	211.7 - 359.0
	Downtown	73	208.5	197.3	153.9 - 249.1
	River Heights	12	44.1	53.5	26.5 - 95.3
	<i>Total</i>	<i>397</i>	<i>117.6</i>	<i>122.0</i>	<i>110.2 - 134.7</i>
Male	St. James	9	34.7	36.6	16.6 - 69.7
	Assiniboine South	8	52.3	61.9	26.4 - 121.5
	Fort Garry	11	28.8	27.5	13.6 - 49.5
	St. Vital	13	43.1	45.8	24.3 - 78.2
	St. Boniface	9	35.3	34.5	15.7 - 65.9
	Transcona	10	59.6	57.2	27.3 - 105.6
	River East	26	61.8	62.3	40.6 - 91.4
	Seven Oaks	13	39.9	38.3	20.3 - 65.8
	Inkster	8	53.6	46.9	20.0 - 93.7
	Point Douglas	37	183.5	174.9	122.6 - 241.8
	Downtown	40	109.0	100.1	71.1 - 137.2
	River Heights	10	40.6	40.5	19.0 - 75.8
	<i>Total</i>	<i>194</i>	<i>60.1</i>	<i>58.3</i>	<i>50.3 - 67.1</i>

**FIGURE B.1:** AGE STANDARDIZED RATE (PER 100,000) MAP OF SUSPECTED OVERDOSE FEMALE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY COMMUNITY AREA OF RESIDENCE, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2017 – JUNE 30, 2017)



Female Visits up to 30jun2017. Total annual population (> 9years) used in rate calculations.

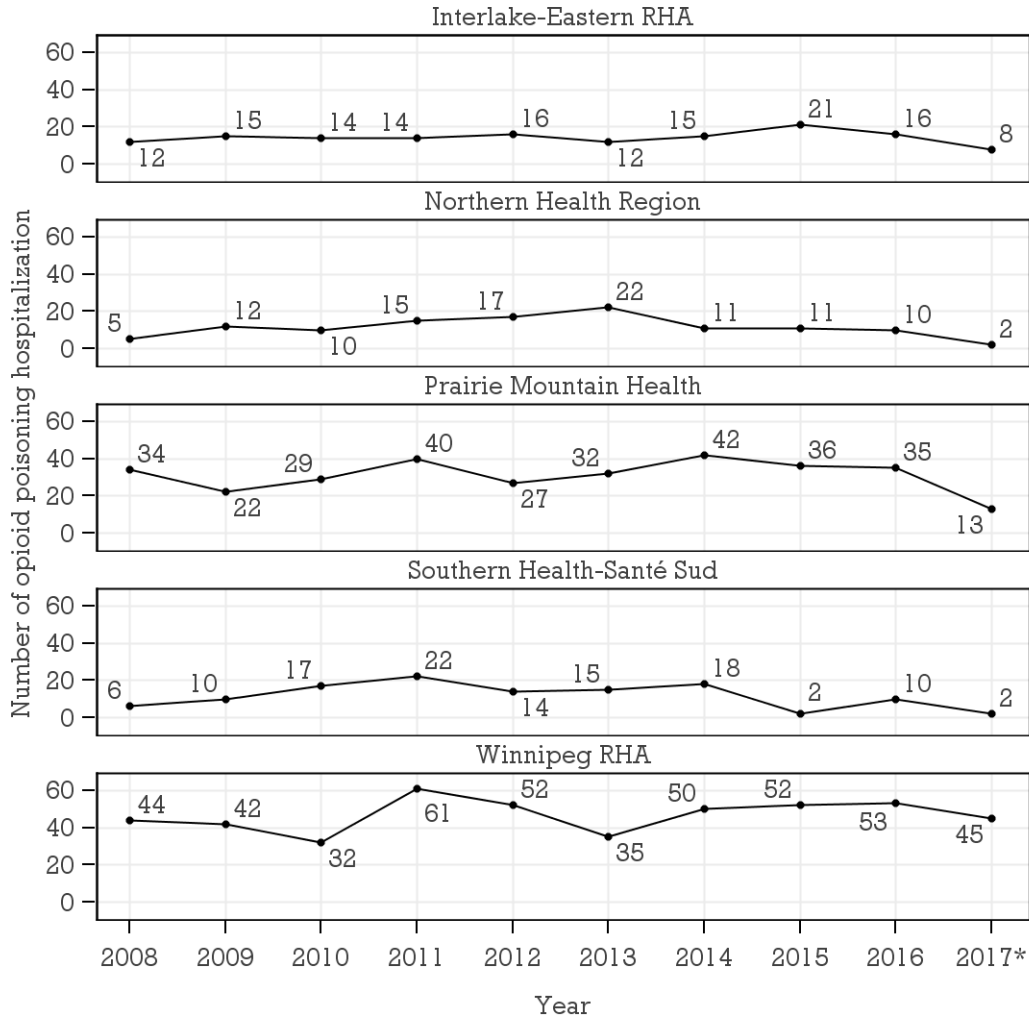
**FIGURE B.2:** AGE STANDARDIZED RATE (PER 100,000) MAP OF SUSPECTED OVERDOSE MALE CASES ARRIVING AT WINNIPEG HEALTH REGION EMERGENCY DEPARTMENTS AND URGENT CARE FACILITIES BY COMMUNITY AREA OF RESIDENCE, EMERGENCY DEPARTMENT INFORMATION SYSTEM (JANUARY 1, 2017 – JUNE 30, 2017)



Male Visits up to 30jun2017. Total annual population (> 9years) used in rate calculations.

### APPENDIX C: HOSPITALIZATIONS

**FIGURE C.1:** NUMBER OF OPIOID POISONING HOSPITALIZATIONS IN MANITOBA, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING (JANUARY 1, 2008 – JUNE 30, 2017)



\*2017 period includes data from January 1<sup>st</sup> to June 30<sup>th</sup>, 2017.

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