Opioid Related Harms in New Brunswick:

Deaths, Overdoses and Take Home Naloxone Kits

2020 – Quarter 3 & 4

May 2021

Table of Contents

Introduction

This quarterly surveillance report describes data on apparent opioid-related harms including suspect overdoses, apparent opioid-related deaths, hospitalizations, and take-home naloxone kit distribution and use. Together these data sources add to our understanding of the complex opioid overdose situation in New Brunswick; however, comparisons should not be made between different data sources as each represents a different population. All data are reported to Public Health New Brunswick (PHNB).

Data Sources

Ambulance New Brunswick

Data from ANB are aggregate and include information about:

a) patients who were administered naloxone by a paramedic for a suspected opioid overdose, and
b) patients who responded to naloxone.

The number of patients who were administered naloxone might be an overestimation of the actual number of opioid overdoses; therefore, the number of patients responding to naloxone was also collected and reported. If a patient responds to naloxone, this indicates that the patient was experiencing an opioid-related overdose as naloxone only has an effect if opioids were consumed. Data in this report reflect data received from ANB as of February 3, 2021.

Limitations: The number of accidental/suspect opioid overdoses is an estimate based on the decision to administer naloxone by a paramedic. As such, the data do not include overdoses where patients were already dead on arrival or those who were not given naloxone by a paramedic.

See Appendix A for a detailed description of ANB data.

Chief Coroner's Office

Data received from the Chief Coroner's Office include a line list of all apparent drug-related (opioid and non-opioid) overdose deaths. Data in this report reflect data received from the Chief Coroner's Office as of January 14, 2021.

Limitations: Due to the inherent delay in investigating deaths, data are preliminary and may change over time as investigations are concluded and more information is acquired, or new cases are added.

See Appendix A for a detailed description of Coroner Data.

Non-Government Organizations, Detoxification Centres and Correctional Centres

Data for take home naloxone kits (THN kit) come from three non-government organizations (NGOs) (AIDS NB in Fredericton, Avenue B in Saint John, and Ensemble in Moncton), eight detoxification centres (located in Bathurst, Campbellton, Edmundston, Fredericton, Miramichi, Moncton, Saint John, and Tracadie-Sheila), and three correctional centres (Saint John Regional

Correctional Centre, Southeast Regional Correctional Center, and the New Brunswick Women's Correctional Centre / NB Youth Centre). Data include the number of THN kits that are distributed and used. An individual may be given a THN kit if 1) the individual is at risk of an opioid overdose due to current opioid use, or they have previously used opioids and are at risk of using opioids again; or 2) they are a family member, friend, or other person who is likely to witness and respond to an overdose. The data in this report reflect data received from the 13 centres as of February 1, 2021.

Limitations: Certain data elements are disclosed at the client's discretion and level of comfort, therefore not all variables requested may be collected. Data may be updated as additional information is obtained and reported, and as forms continue to be validated.

See Appendix A for a detailed description of the take home naloxone kit data.

Hospital Data

Data for opioid-related poisoning hospitalizations are extracted from the Discharge Abstract Database. Data in this report reflect data received as of January 18, 2021.

An opioid-related poisoning hospitalization is defined by any acute care hospitalizations which has a diagnosis for opioid-related poisoning.

Limitations: Due to the inherent delay in data coding, there exists a data lag of several months.

See Appendix A for a detailed description of hospital data.

Methodology

Data were received from ANB, the Chief Coroner's Office, the NGOs, detoxification centres, correctional centres, and the Discharge Abstract Database then validated and analyzed by PHNB. Descriptive analyses were conducted for each data source.

Throughout this report, estimated rates were calculated using person-time contributed to the specified period. This method is used to provide a better estimate of rates that are calculated for partial years. Caution should be used when interpreting data in this report as small numbers can lead to wide variations.

The reported apparent opioid overdose death data and take home naloxone kit data are preliminary, and numbers are subject to change in the coming reports. Since the last report, updates have been made to previously reported counts and rates based on revised data.

See Appendix B for a detailed description of the methodology.

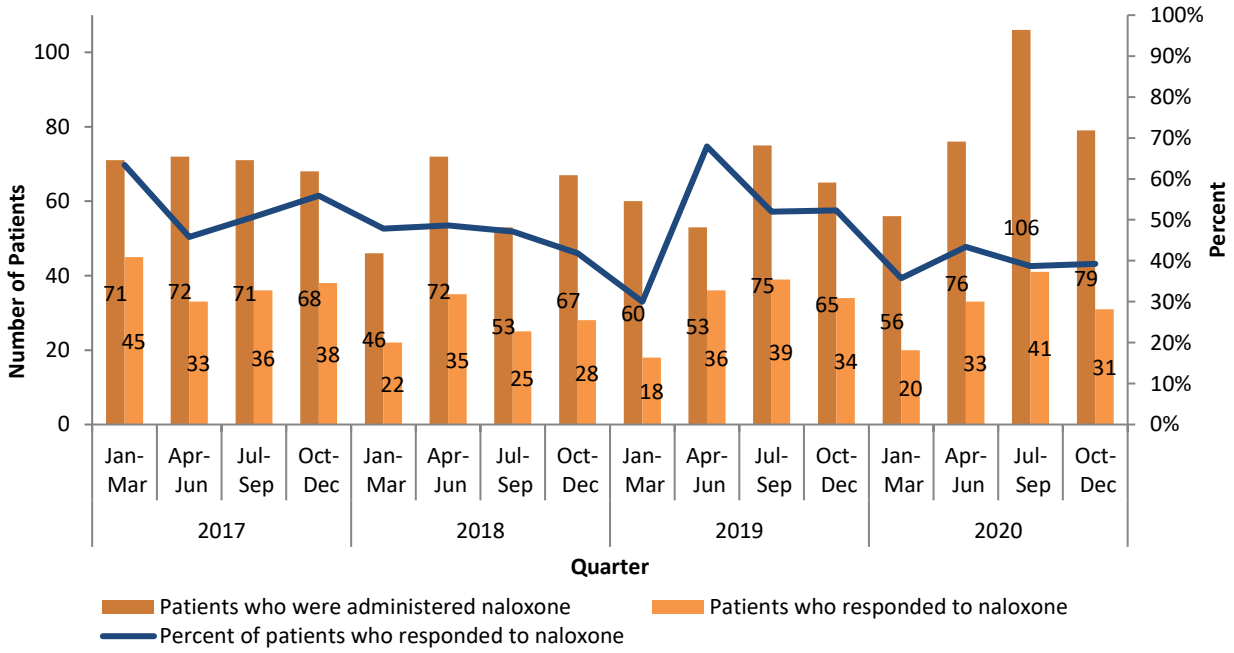
Suspect Opioid Overdoses

Ambulance New Brunswick

2020 Q1-4 (January 1 to December 31)

In 2020, **naloxone was administered to 317 suspect opioid overdose patients** (Graph 1), with an average of 26 patients per month. Of the 317 suspect opioid overdose patients, **125 (39%) responded to naloxone** which corresponds to an average of 10 patients per month (range: 5 to 17).

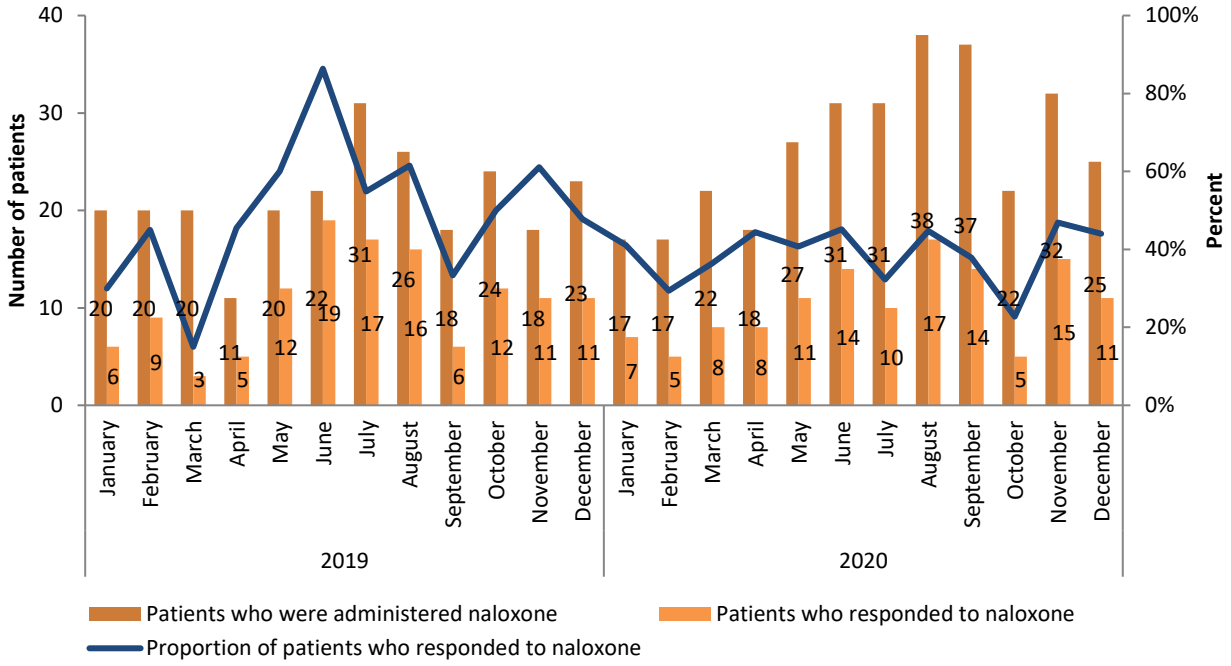
Graph 1. Number of suspect opioid overdose patients who were administered naloxone and number and percentage of patients who responded to naloxone, quarterly in New Brunswick, from January 2017 to December 2020*.



Data source: Ambulance New Brunswick, February 3, 2021.
*These numbers may change pending data entry completion

Between January and August 2020, data demonstrate an overall increase in the number of individuals administered naloxone, but the proportion of individuals responding to naloxone (i.e. a suspect opioid overdose) remained stable at roughly 40% (Graph 2). In August and September, the number of individuals administered naloxone reached an all-time high. Since then, there has been an overall decrease in the number of individuals administered naloxone, but the proportion of individuals responding has continued to remain somewhat stable at around 37%. This is the lowest annual proportion of individuals who responded to naloxone since surveillance began in 2017.

Graph 2. Number of suspect opioid overdose patients who were administered naloxone and number and percentage of patients who responded to naloxone, monthly in New Brunswick, from January 2019 to December 2020*.

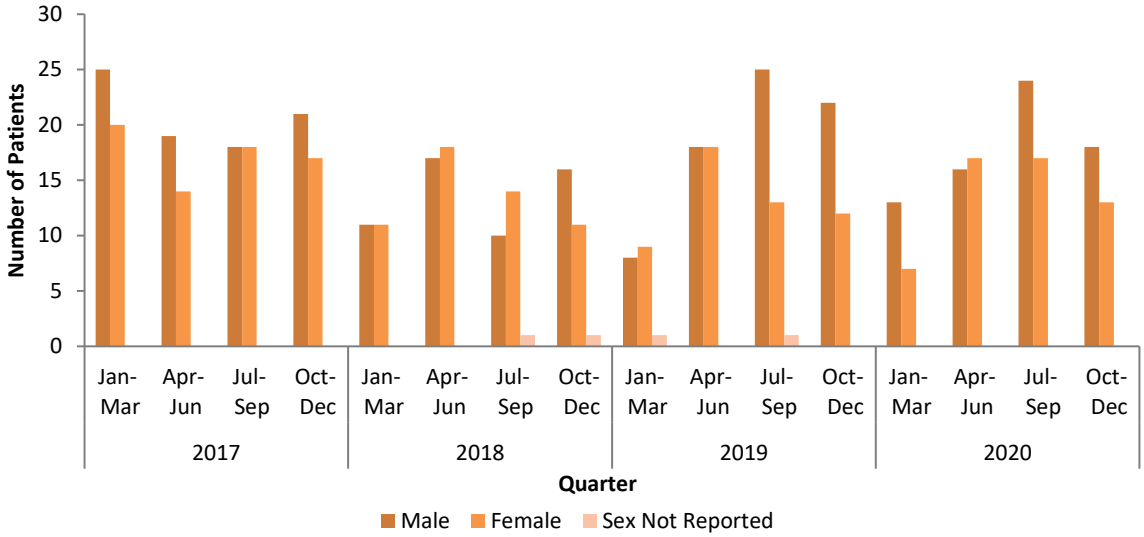


Data source: Ambulance New Brunswick, February 3, 2021.
*These numbers may change pending data entry completion

Among the 125 patients who responded to naloxone in 2020:

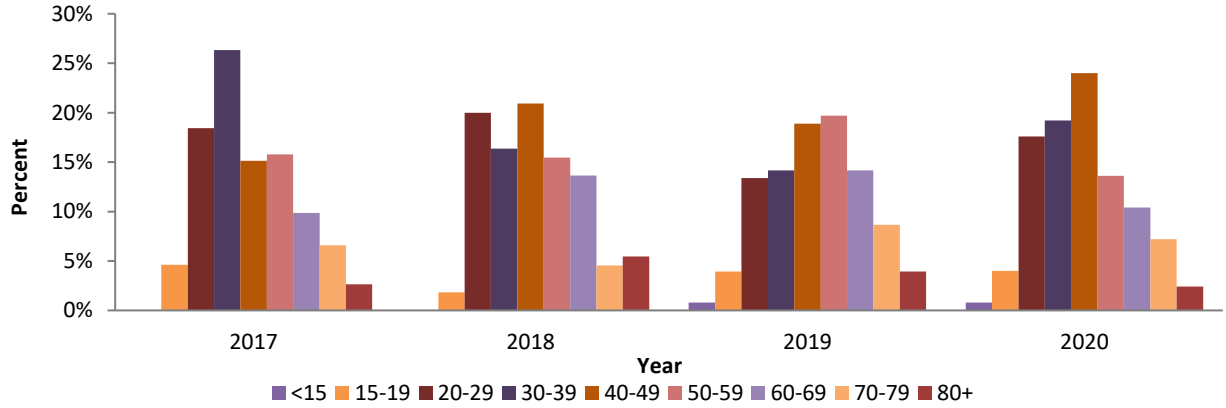
- **There were slightly more males than females:** 71 (57%) were male and 54 (43%) were female (Graph 3).
- **The largest proportion of individuals were between 40 and 49 (24%)** (Graph 4). The age distribution is similar to previous years.

Graph 3. Number of suspect opioid overdose patients who responded to naloxone by sex, quarterly in New Brunswick, from January 2017 to December 2020*.



Data source: Ambulance New Brunswick February 3, 2021.
*These numbers may change pending data entry completion

Graph 4. Distribution by age group of suspect opioid overdose patients who responded to naloxone in New Brunswick in 2017, 2018, 2019 and 2020*.



Data source: Ambulance New Brunswick, February 3, 2021.
*These numbers may change pending data entry completion

The estimated crude rate of suspect opioid overdose patients who responded to naloxone in New Brunswick in **2020 is 16.1 cases per 100,000 person-years**. This is comparable to the 2019 crude rate of 16.3 cases per 100,000 person-years, and within the range of rates from 2017 and 2018 (19.8 and 14.3 per 100,000 person-years, respectively).

Apparent Opioid Overdose Deaths

Chief Coroner's Office

Drug-related deaths have taken a toll on the lives of New Brunswickers, their families, and their friends. Between January 2016 and September 2020, there were 289 drug-related deaths (Figure 1). Apparent opioid-related deaths were responsible for more than half (55%) of these deaths. Furthermore, apparent opioid-related deaths classified as accidental or pending intent account for 44% of all drug-related deaths. In 2019, **63 deaths** due to any type of drug (opioids and non-opioids) occurred, of which **35 (56%) were related to opioids.**

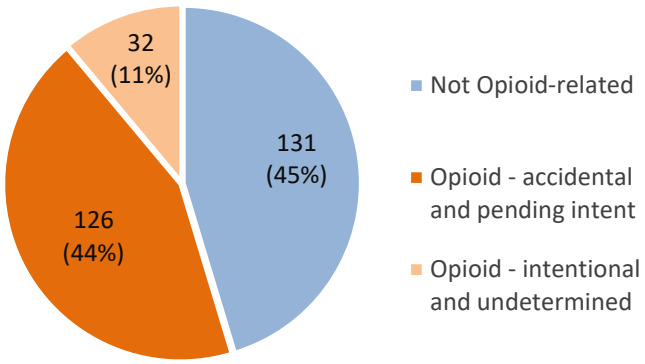


Figure 1. Distribution of drug related deaths in New Brunswick, by drug type and intent, January 2016 to September 2020*.
Data Source: Chief Coroner's Office, January 14, 2021*
These numbers may change as more information becomes available and coroner investigations are concluded.

Accidental and Pending Intent Deaths Due to Opioids

2019

Of the 63 apparent drug-related overdose deaths in 2019, **35 (56%) were opioid-related,** of which **27 (77%) were accidental or pending intent** (Graph 5). **Five accidental or pending intent cases were associated with fentanyl or fentanyl analogues.**

Of the 27 apparent opioid-related overdose deaths classified as accidental or with pending intent:

- **The majority were female** (52% female and 48% male) (Graph 6).
- **The largest proportion of individuals were between 30 and 39 years old** (Graph 7)**.** The average and median age for 2019 is 47 years and 43 years, respectively.
- **Eleven (41%) of the deaths involved illicit opioids**, 9 (33%) involved prescribed opioids, and 7 (26%) involved opioids of unknown source.

In 2019, the estimated annual crude mortality rate for accidental or pending intent opioid-related deaths in New Brunswick was **3.5 deaths per 100,000 person-years**. To date, 2017 continues to have the highest rate of 4.2 per 100,000 person-years. Regional rates are not reported as the small numbers involved can lead to unstable rates.

2020

In Q1-3 of 2020, there were 45 substance-related deaths, of which **21 (47%) were apparent opioid-related deaths**. Among the opioid-related deaths, **17 were accidental or pending intent** (Graph 5), and **2 have involved fentanyl or fentanyl analogues.**

Of the 17 apparent opioid-related deaths classified as accidental or with pending intent:

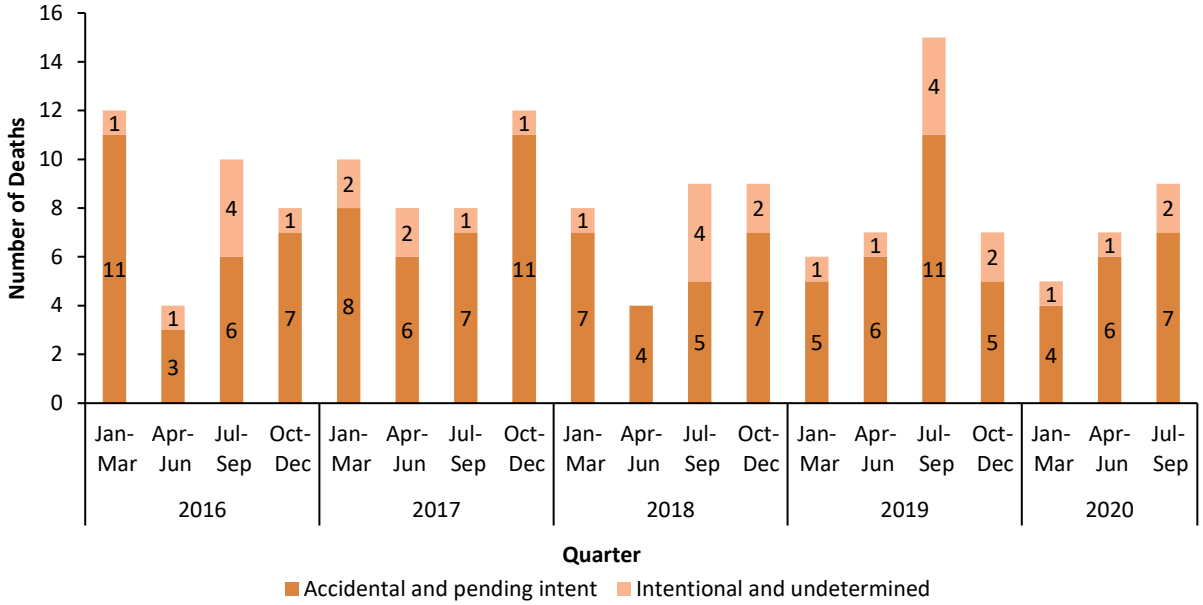
- The **majority were male** (65% male, 35% female) (Graph 6).
- The **largest proportion of individuals were between 50 and 59 years old** (41%) (Graph 7). The average and median age for 2020 is 49 and 47, respectively. These values are similar to previous years.
- Five (29%) of the deaths involved illicit opioids, 5 (29%) involved prescribed opioids, and 7 (41%) involved opioids of unknown source.

At the national level, the majority of accidental apparent opioid-related deaths occurred among males and females aged 20 to 49[1]; however, the majority of accidental and pending intent opioid-related deaths in New Brunswick are among males aged 40-59 and females aged 50-69.

The estimated annual crude mortality rate for accidental or pending intent opioid-related deaths in New Brunswick is **2.9 deaths per 100,000 person-years**. Rates in 2020 continue to be the lowest rates reported to date since surveillance began in 2016. Regional rates are not reported as the small numbers involved can lead to unstable rates.

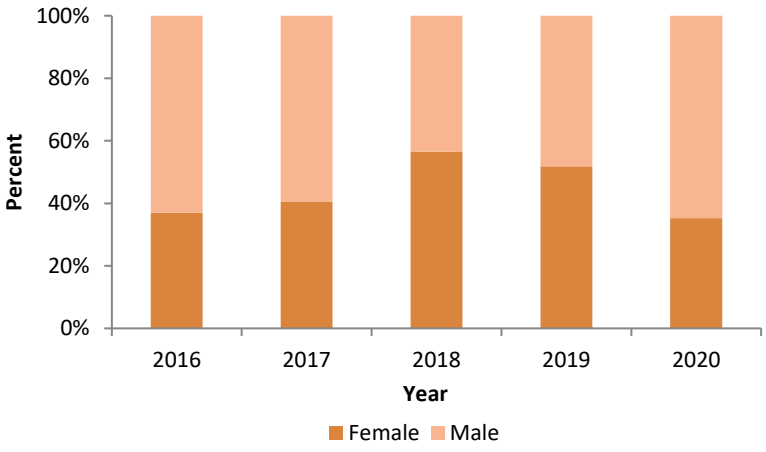
[1] Special Advisory Committee on the Epidemic of Opioid Overdoses. Opioids and stimulant-related Harms in Canada. Ottawa: Public Health Agency of Canada; December 2020. https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants

Graph 5. Number of apparent opioid-related overdose deaths by intent (intentional, accidental, pending intent or undetermined), quarterly in New Brunswick, from January 2016 to September 2020*.



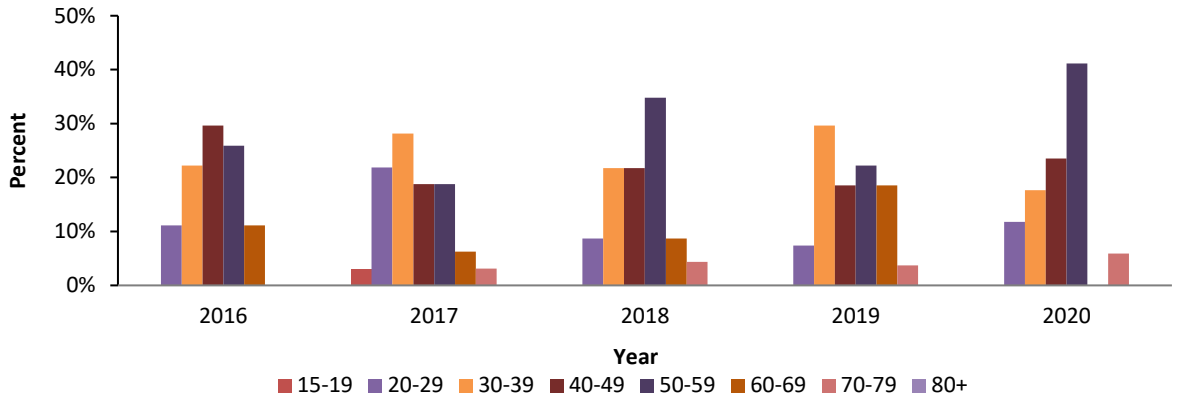
Data Source: Chief Coroner's Office, January 14, 2021.
*These numbers may change as more information becomes available and coroner investigations are concluded.

Graph 6. The proportion of apparent opioid-related overdose deaths classified as accidental or with pending intent by sex, quarterly, in New Brunswick from January 2016 to September 2020*.



Data source: Chief Coroner's Office, January 14, 2021.
*These numbers may change as more information becomes available and coroner investigations are concluded.

Graph 7. Number of apparent opioid-related overdose deaths classified as accidental or with pending intent, by age group in New Brunswick, from January 2016 to September 2020*.



Data source: Chief Coroner's Office, January 14, 2021
*These numbers may change as more information becomes available and coroner investigations are concluded.

Polysubstance Use

Given that most substance-related deaths in New Brunswick demonstrate that multiple substances were consumed at the time of death, polysubstance use is of notable concern. Of the 158 decedents who died from an apparent opioid-related overdose between January 2016 and September 2020, **156 (98.7%) consumed opioids in conjunction with one or more non-opioid substance** (e.g. alcohol or non-opioid drugs)[2]. **Benzodiazepines and antidepressants were the most commonly co-consumed substance type** having been consumed by 103 (65%) and 87 (55%) of the decedents who died from an apparent opioid-related overdose, respectively (Table 1).

Table 1. Number (percent) of decedents who died from an apparent opioid-related overdose (AORD) who also consumed one or more non-opioid substance, from January 2016 to September 2020*.

Substance Type**	Total (% of AORD)	Number by sex (% of row total)	
		Female	Male
Benzodiazepines	103 (65%)	58 (56%)	45 (44%)
Antidepressants	87 (55%)	48 (55%)	39 (45%)
Stimulants	66 (42%)	31 (47%)	35 (53%)
Cannabinoids	51 (32%)	23 (45%)	28 (55%)
Antipsychotics	35 (22%)	19 (54%)	16 (46%)
Alcohol	23 (15%)	10 (44%)	13 (56%)

Data source: Chief Coroner's Office, January 14, 2021
*These numbers may change as more information becomes available and coroner investigations are concluded
**See Appendix D for a description of the specific substances in each substance category. Categories are subject to change.

[2] Substances were identified as having been consumed around the time of death based on toxicology testing, rapid toxicology testing, and any circumstantial evidence in the absence of testing.

Of the decedents who died from an apparent opioid-related overdose, **57 (36% of AORD; 65% female, 35% male) decedents consumed both benzodiazepines and antidepressants** around the time of death.

It is important to note that the presence of other substances in addition to opioids does not necessarily indicate that they contributed to death, but only indicates that the substance was consumed around the time of death; therefore, this data should not be used to identify the number of individuals who died as a result of the indicated substances but should be used only to identify the number of people in whom these drug types were detected from toxicological testing or circumstantial evidence.

Hospitalization Data

For the first time, this report includes data for opioid-related poisoning hospitalizations from January 2016 to August 2020. During this time, **487 hospitalizations have occurred**.

There were **66 hospitalizations in January to August[3] 2020** (Graph 8). Monthly numbers for January to August 2020 are within an expected range. The annual and monthly averages for 2016 to 2019 is 105 and 9 hospitalizations, respectively; the monthly average for 2020 to date is 8.

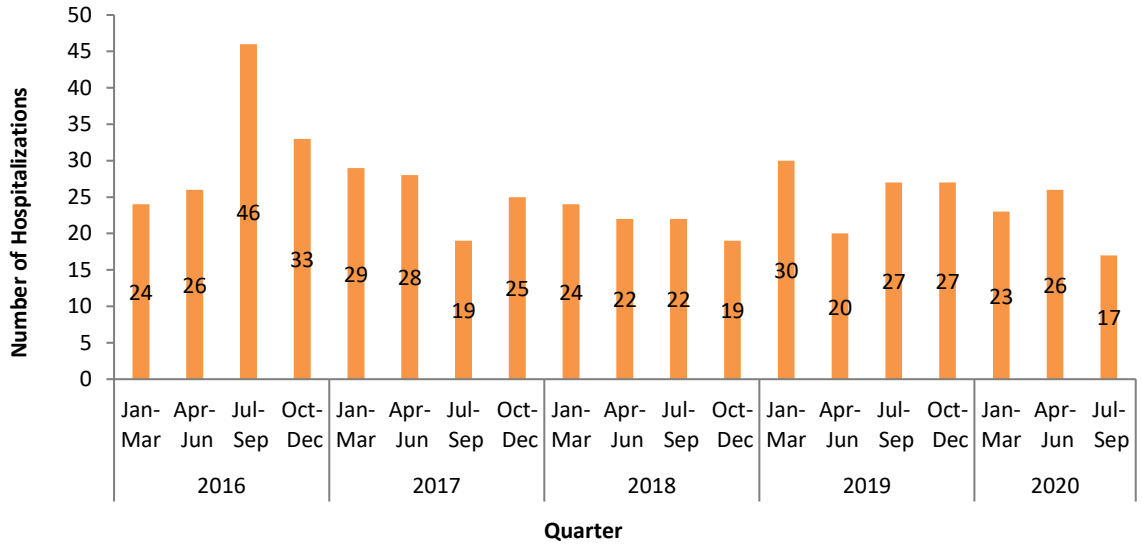
The **proportion of hospitalizations who are male and female is roughly equal** (49% and 51%, respectively) (Graph 9). Between Q1 2019 and Q1 2020, there was a general increase in the proportion of hospitalizations who were male (43% up to 61%), but **Q2 to Q3 2020 demonstrates a sharp increase of 57% to 71% of hospitalizations being female**.

Since January 2016, the **highest proportion of hospitalizations were among individuals aged 50 to 59 years old (19%).** In 2020, there is a notable peak of the number of hospitalizations of individuals aged 60 to 69 (27%) (Graph 10). The average age for 2020 is the highest to date (53 years).

There has been a **steady increase in the proportion of hospitalizations classified as accidental intent since January 2019**, with Q3 2020 having the highest proportion to date (53%) (Graph 11).

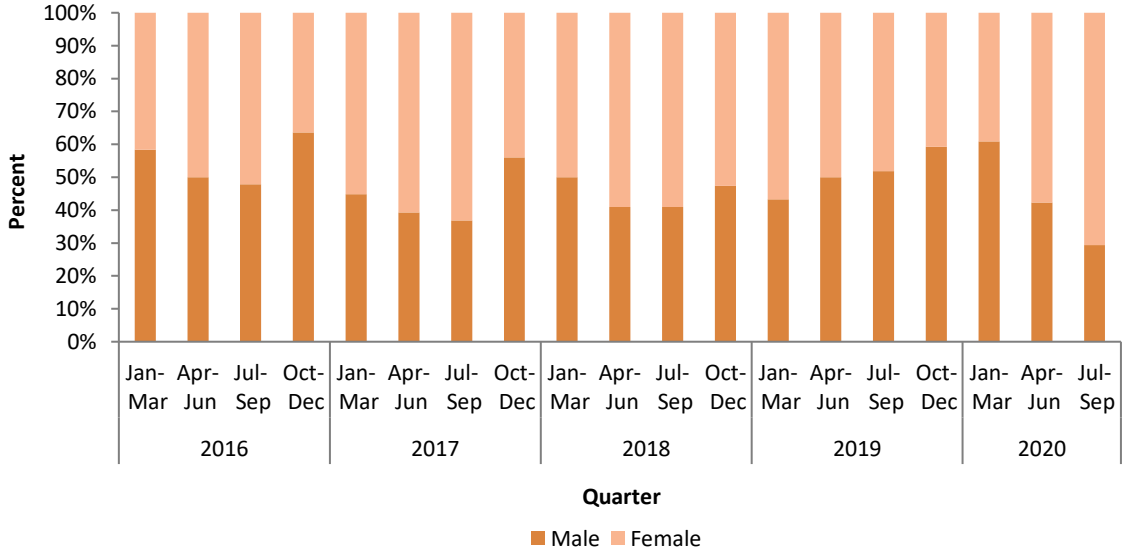
[3]Data for September have not been finalized yet; data from August may be considered preliminary and may change in later reports.

Graph 8. Number of opioid-related poisoning hospitalizations, quarterly, New Brunswick from January 2016 and August* 2020



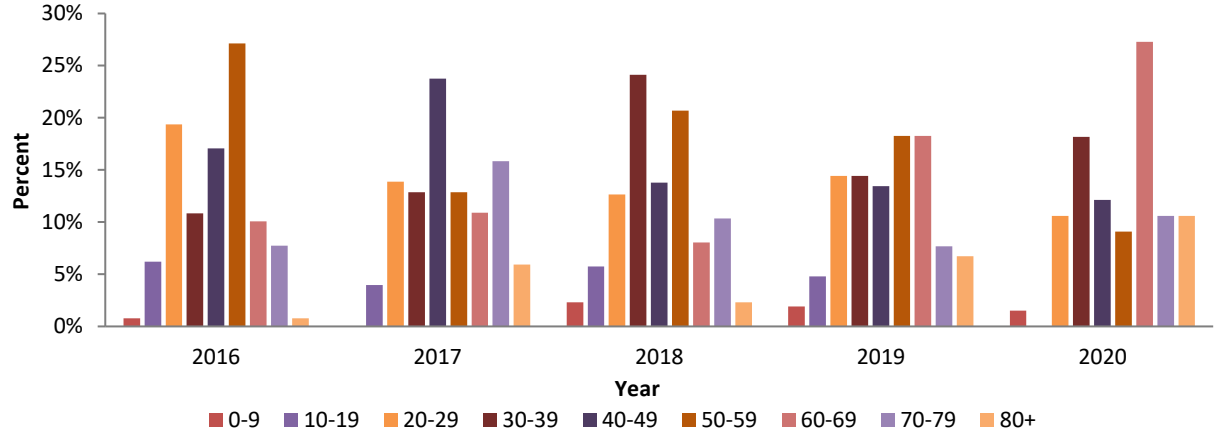
Data source: Discharge Abstract Database, January 18, 2021
*Data for September have not yet been reported; as such Q3 is an underestimation of the true number of opioid-related poisoning hospitalizations that occurred during Q3.

Graph 9. Percent of opioid-related poisoning hospitalizations by sex, yearly, in New Brunswick from January 2016 to August* 2020.



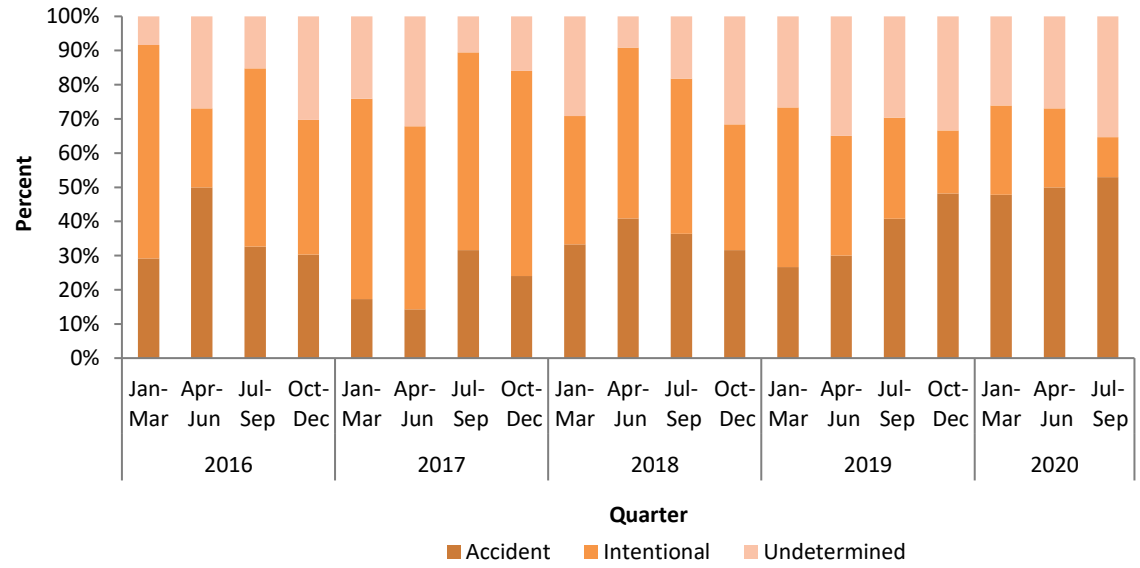
Data source: Discharge Abstract Database, January 18, 2021
*Data for September have not yet been reported; as such Q3 is an underestimation of the true number of opioid-related poisoning hospitalizations that occurred during Q3.

Graph 10. Percent of opioid-related poisoning hospitalizations by age group, yearly, in New Brunswick from January 2016 to August 2020.



Data source: Discharge Abstract Database, January 18, 2021

Graph 11. Percent of opioid-related poisoning hospitalizations by intent, quarterly, in New Brunswick from January 2016 to August* 2020.



Data source: Discharge Abstract Database, January 18, 2021
*Data for September have not yet been reported; as such Q3 is an underestimation of the true number of opioid-related poisoning hospitalizations that occurred during Q3.

Take-Home Naloxone Kit Data

Non-Government Organizations, Detoxification Centres and Correctional Centres

2019 and 2020[4]

Overall, **1698 take home naloxone kits (THN kits) were distributed** into the community since October 2018. In 2020, **737** THN kits were distributed (Table 2). The number of kits distributed in November is the greatest number of kits distributed in a single month since the first month THN kits were offered (October 2018). Q4 2020 has distributed the most kits per quarter since surveillance began.

Table 2. Number of kits distributed by site, from October 2018 to December 31, 2020.

Site Name	2018*	2019	2020**	Total
AIDS NB - Fredericton	87	166	98	351
Avenue B - Saint John	118	330	262	710
Ensemble - Moncton	28	91	253	372
Detoxification Centres	34	107	82	223
Correctional Centres	N/A	N/A	42	42
Total	**267**	**694**	**737**	**1698**

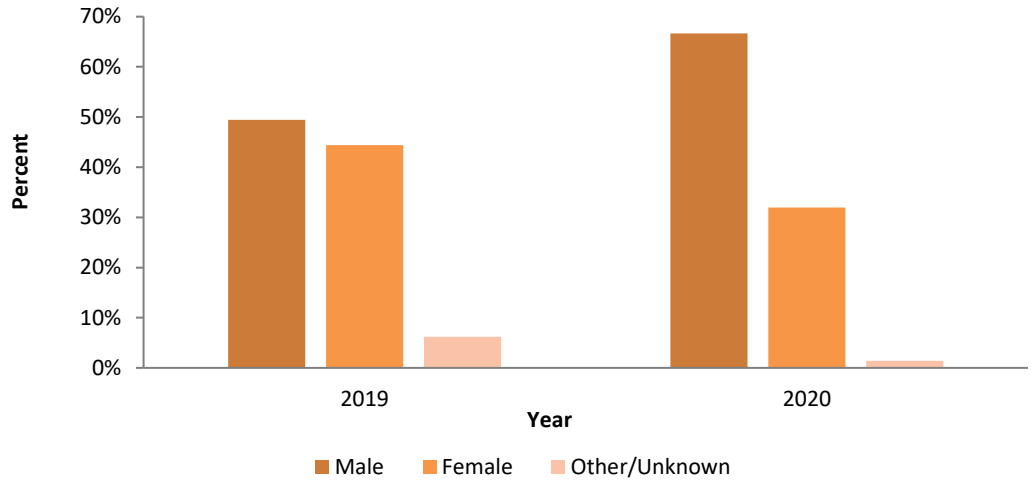
Data source: Non-government organizations, detoxification centres, and correction centres February 1, 2021
*Data are only for Q4 in 2018.
**Data for 2020 are preliminary and expected to change as some sites are experiencing delays in data reporting.

Since January 2019, one third (475, 33%) of the kits distributed have been distributed directly to the person at risk of an overdose. A higher proportion of individuals at risk received a kit in 2019 than in 2020 (37% vs 29%, respectively). In Q4 2020, there was a notable increase in the number of kits distributed to an unknown individual as a result of the new Interactive Dispensing Service located at Ensemble, Moncton.

Among these individuals, **more males received kits than females** or individuals of other/unknown gender in both 2019 and 2020 (49% and 67%, respectively) (Graph 12).

[4] All data for THN kits represent data from January 2019 to June 2020 for all sites excluding the detoxification centre in Saint John (data up until May 2020).

Graph 12. The proportion of individuals at risk of an overdose who received take home naloxone kits by gender, yearly, New Brunswick, 2019 and 2020*.



Data source: Non-government organizations, detoxification centres, and correction centres February 1, 2021
*Data for 2020 are preliminary and expected to change as some sites are experiencing delays in data reporting.

Replacement kits were sought out by 59 individuals in 2019 and 113 individuals in 2020. Using a kit was the primary reason provided for seeking a replacement in 2019, whereas replacing an expired kit was the primary reason in 2020.

Since 2018, **52 kits were reportedly used. In 2020, 20 kits were reportedly used.** Overall, an **equal number of kits were reportedly used to treat males and females** (50% for males and 50% for females).

Overall, **44 individuals were not alone (85%)** at the time of overdose, 3 were alone (6%), and the remaining instances were unknown or not reported (10%). The **majority of overdoses occurred in a private residence** (26, 50%) followed by a hotel/motel (7, 13%).

Among the 52 instances of THN kit use, **30 (58%) report not calling 911 (7 in 2018, 13 in 2019, 10 in 2020)**. The primary reason was **fear the police would come** (12 of 30, 40%).

The reported number of kits used may be an underestimation of the total number of kits being used due to potential barriers that may inhibit individuals from reporting kit use (e.g. stigma, fear of re-traumatization, accessibility, fear of criminality). Data are subject to change as forms continue to be validated.

Summary

- Q3 2020 had the highest number of people administered naloxone by emergency medical services
- The proportion of individuals responding to naloxone in 2020 is the lowest to date.
- The demographic for apparent opioid-related deaths appears to have shifted compared to previous years as there is a higher proportion of males who have died in Q1-3 2020 than in previous years
- Two fentanyl-related deaths have occurred in Q1-3 2020 to date.
- The total number of opioid-related poisoning hospitalizations in 2020 to date are within an expected range; however, early data suggests that there may be changes in the demographics of individuals being hospitalized.

Though there have been changes in the data and trends since the last report and previous years, interpretation of these results should be done with caution due to the small number of events observed and the short duration during which some of these trends have been observed.

Appendix A: Data Sources

Ambulance New Brunswick

Data from ANB are abstracted in aggregate form and do not contain patient-level data. Monthly totals for the following variables are broken down by sex (male, female, and sex not reported) and age group in years (<15, 15-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+, and age not reported):

- Accidental/suspect opioid overdoses
- Repeat individual opioid overdose cases
- Individuals who received 1 dose of naloxone
- Individuals who received 2 doses of naloxone
- Individuals who received 3 or more doses of naloxone
- Individuals who responded to naloxone

Data also include the monthly total of referrals to hospitals for patients with accidental/suspect opioid overdoses and those who responded to naloxone. The monthly totals of reason for dispatch are also included.

Chief Coroner Office

Data from the Chief Coroner's Office include individual-level data. Data include all drug-related deaths and collect the following variables.

Variable	Variable Description	Response Options
Coroner Case ID	Unique ID number that coroner office assigns to each death	Number - Up to 8 digits
Quarter	The quarter of the year in which the death occurred	1, 2, 3, 4
Year	Year in which the death occurred	yyyy
DOD	Date of death based on the date the death is pronounced	(dd-mmm-yy)
Age	Age of case in years	
Sex	Sex of the case	Male Female
Case Status	Status of the case investigation.	Active Completed
Death Manner	The coroner assigns each case a manner of death	Accident Suicide Undetermined
Judicial District	The judicial district in which the death occurred.	Bathurst Campbellton Edmundston Fredericton

		Miramichi Moncton Saint John Woodstock
Residential First 3 Digits of Postal Code	The first three digits of the residential postal code of the case	
Opioid Related	Whether the case is opioid-related or not. This is determined using all available evidence.	Opioid Not Opioid
Source of Opioid	The source of the opioid taken by the case. This information is obtained by reviewing the file.	Prescribed Illicit Unknown NA
With/Without Other Substances	Whether the opioid was taken with or without other substances. Other substances include alcohol or non-opioid drugs. This is determined through the toxicology results.	With Other Substance Without Other Substance Unknown NA
Drug 1 - 15	List of drugs that were present in the toxicology report.	

Non-Government Organizations, Detoxification Centres and Correctional Centres

Data from the three NGOs, seven detoxification centres, and three correctional centres include individual-level data. Data are collected from two forms: a distribution form and a use form.

Hospital Data

Data are obtained from the discharge abstract database on a monthly basis and include record-level data for all discharged related to opioid-related poisonings as defined by select diagnoses. In addition to variables containing diagnostic information, demographic and hospital-related variables are collected and include but not limited to age, sex, residence area, date of admission, date of discharge, length of stay, etc.

Population Estimates

All population estimates were from 2019 population estimates received from Statistics Canada, Demography Division, March 2020.

Appendix B: Methodology

Ambulance New Brunswick

Data are sent to the PHNB monthly and analyzed on a quarterly basis. Aggregate data are organized into various tables used to conduct descriptive analyses for apparent/suspect opioid overdoses and individuals who responded to naloxone; this includes counts, proportions, means, and rates. Health region specific rates, if reported, are estimated based on the hospital of referral as the location of dispatch pick-up is not available. Denominator data for the current year are based on the most recent estimates available (e.g. the 2019 version of the population estimates were used for the 2018 population estimates).

Data in this report primarily focus on individuals who responded to naloxone and referrals to hospitals for those who responded to naloxone. Any data for monthly totals of individuals who responded to naloxone are a subset of the totals for individuals with an accidental/suspect opioid overdose. Data include accidental/suspect opioid overdoses regardless of intent, and therefore may differ in terms of demographics from other data sources (e.g., apparent opioid overdose deaths).

All analyses were conducted using Excel 365 ProPlus.

Chief Coroner Office

Cases for drug-related deaths are identified by coroner investigations. Once data are received by PHNB, the data are validated prior to analyses. The data validation process includes verifying the classification of all variables by using case files and the coroner database, identifying any changes to previous cases, and identifying new cases since the last data submission. Once data are validated, they are further classified by intent (accidental, pending intent, intentional and undetermined) and drug type (non-opioids, non-fentanyl opioids, fentanyl opioids).

Descriptive analyses includes counts, proportions, means, and rates. The rates are calculated using denominator data for the current year based on the most recent estimates available (e.g. the 2020 version of the population estimates were used to populate 2019 population estimates).

Analyses were conducted using Excel 365 ProPlus and Stata MP v16.

Take Home Naloxone Kits: Non-Government Organizations, Detoxification Centres and Correctional Centres

Data are sent to PHNB monthly and cover the previous month. For the purpose of reporting, the date on which a THN kit was used is based on the recorded date of the overdose; if this is unavailable, then it is based on the date at which the form was completed. Basic descriptive analyses includes counts, proportions, means

All analyses were conducted using Excel 365 ProPlus and Stata MP v16.

Hospital Data

Data include any opioid-related poisoning hospitalization as defined[5] by the following International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Canada (ICD-10-CA) codes: T40.0-T40.4 and T40.6. An opioid-related poisoning hospitalization diagnosis required a diagnosis type of “M” (most responsible diagnosis), “1” (pre-admission comorbidity), “2” (post-admission comorbidity), “W”, “X”, or “Y” (service transfer diagnosis). Any hospitalizations where the diagnoses was considered a query, i.e. a prefix code of “Q”, were excluded.

The intent of the opioid-related poisoning hospitalization was defined by the following diagnoses codes: “X42” for accidental, ”X62” for intentional, and “Y12” for undetermined.

All analyses were conducted using Excel 365 ProPlus and Stata MP v16.

[5] Definitions reflect previously published methodologies for opioid-related poisoning hospitalizations. https://health-infobase.canada.ca/substance-related-harms/opioids/

Appendix C: Definitions and Abbreviations

- **Illicit opioid:** Indicates the decedent consumed at least one street opioid or at least one opioid medically prescribed to another person.
- **Manner of death:**
  - **Accidental death:** A death considered to be unintentional in nature based on the coroner investigation.
  - **Death with pending intent:** An open investigation where the intent of death is yet to be determined by the coroner.
  - **Intentional death:** A death classified as a suicide based on the coroner investigation.
  - **Undetermined death:** A closed death investigation where the intent of death was deemed unknown by the coroner.
- **Naloxone:** An opioid antagonist which reverses or prevents the effects of an opioid but has no effect in the absence of opioids.
- **Opioid:** A class of pain-relieving drugs that block pain messages by binding to specific receptors (opioid receptors) on cells in the body. They can include either non-fentanyl opioids or fentanyl and fentanyl analogs.
  - **Fentanyl and fentanyl analogs:** Synthetic opioids that can be extremely toxic. Includes but is not limited to fentanyl, norfentanyl, acetylfentanyl, 3-methylfentanyl, carfentanil, butyrylfentanyl, furanyl-fentanyl, despropionyl-fentanyl.
  - **Non-fentanyl opioids:** Any opioid that is not a fentanyl or fentanyl analog opioid. Includes but is not limited to buprenorphine metabolites, codeine, dihydrocodeine, heroin, hydrocodone, hydromorphone (total, unconjugated), loperamide, meperidine, methadone, monoacetylmorphine, morphine (unconjugated, unconjugated-RIA), normeperidine, oxycodone, tapentadol, tramadol, U-47700.
- **Opioid Related Death**: Death from an acute intoxication resulting from the direct effects of consuming exogenous substance(s) where one or more of the substances is an opioid.
- **Prescription opioid:** Indicates the decedent consumed only opioids that were prescribed to the decedent.
- **Take Home Naloxone Kit (THN Kit):** Take home naloxone kits include two doses of naloxone as well as the necessary supplies to administer naloxone (e.g. alcohol swabs, syringes) and for personal protection (e.g. gloves, face shield).
- **Q1:** Quarter 1, January to March
- **Q2:** Quarter 2, April to June
- **Q3:** Quarter 3, July to September
- **Q4:** Quarter 4, October to December

Appendix D: Polysubstance Use Substance Types

Specific substances, drugs, and metabolites were used to identify individuals who co-consumed specific substance types. An individual was identified as having co-consumed these substances if there was one or more of the following substances detected. The detection of these substances is based on toxicology testing, rapid toxicology testing and circumstantial evidence in the absence of testing. Drug type categories are subject to change, and new substances may be added should they be identified among decedents who died from a substance related overdose death. Further, not all drugs listed in the categories have been detected in decedents.

Benzodiazepine: Adinazolam, Alprazolam (Alpha-Hydroxyalprazolam), Bromazepam (Hydroxybromazepam), Chlordiazepoxide, Clobazam (Norclobazam), Clonazepam (7-Amino Clonazepam), Clonazolam, Clorazepate, Delorazepam, Demoxepam, Diazepam (Nordiazepam), Diclazepam, Estazolam, Etizolam (Deschloroetizolam, Hydroxyetizolam), Flubromazapam, Flubromazolam, Flunitrazapam, Flurazepam (Hydroxyflurazepam, Hydroxyethylflurazepam, Desalkylflurazepam, Norflurazepam, Hydroxyflurazepam), Ketazolam, Loprazolam, Lorazepam (Lorazepam-glucuronide), Meclonazepam, Medazepam, Methazolamide, Midazolam (11-Hydroxymidazolam), Nimetazepam, Nitrazepam (7-Amino Nitrazepam), Oxazepam, Phenazepam, Pyrazolam, Temazepam, Tetrazepam, Triazolam (Hydroxytriazolam)

Antidepressant: Amitriptyline, Bupropion (Hydroxybupropion), Citalopram (Citalopram/Escitalopram, Escitalopram), Duloxetine, Fluoxetine (Norfluoxetine), Mirtazapine, Nortriptyline, Paroxetine, Sertraline (Desmethylsertraline), Trazodone (mCPP), Venlafaxine (O-Desmethylvenlafaxine)

Antipsychotic: Aripiprazole, Asenapine, Clozapine (Desmethylclozapine, Norclozapine), Fluphenazine, Haloperidol, Lurasidone, Loxapine, Olanzapine, Quetiapine (Desalkyquetiapine, Norquetiapine), Risperidone (9-Hydroxyrisperidone)

Stimulants: 6-MAM, Amphetamine, Atomoxetine, Caffeine, Catha, Cocaine (Benzoylecgonine, Cocaethylene), Dexamfetamine, Dextroamphetamine, Ethylphenidate, Ephidrine, Fluorophenmetrazine, Ketamine (Norketamine), Lisdexamfetamine, Methamphetamine, Methylenedioxyamphetamine, Methylenedioxymethamphetamine, Methylphenidate (Ritalinic Acid), Modafinil, Pemoline, Pseudoephedrine (Norpseudoephedrine), TFMPP

Cannabinoids: Tetrahydrocannabinol (Delta-9 THC, Delta-9 Carboxy THC, 11-Hydroxy Delta-9 THC)

Alcohol: Ethanol