

Opioid-related harms in Canada (March 2020)

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Deaths

Definitions

Apparent opioid-related death (AORD): A death caused by intoxication/toxicity (poisoning) resulting from substance use, where one or more of the substances is an opioid, regardless of how it was obtained (e.g. illegally or through personal prescription).

Ongoing investigation: Coroners and medical examiners continue to collect information on how and why the death occurred. Data for ongoing investigations are considered preliminary and subject to change.

Completed investigation: Coroners and medical examiners have collected all available information on how and why a death occurred. The time required to complete an investigation and related administrative processes is case-dependent and can range from approximately three to twenty-four months.

Manner of death - Accident: Deaths with completed investigations where the coroner or medical examiner determined that the death was unintentional. This category also includes deaths with ongoing investigations where the manner of death was believed to be unintentional or had not been assigned at the time of reporting.

Manner of death - Suicide: Deaths with completed investigations where the coroner or medical examiner determined that the opioids were consumed with the intent to die. This category also includes deaths with ongoing investigations where suicide was believed to be the manner of death at the time of reporting.

Manner of death - Undetermined: Deaths with completed investigations where a specific manner of death (e.g. accident, suicide) could not be assigned based on available or competing information. For this manner of death category, provinces and territories report only completed investigations with the exception of British Columbia which also includes data from ongoing investigations.

Opioid origin – Pharmaceutical: Deaths with completed investigations where all opioids that directly contributed to death were manufactured by a pharmaceutical company and approved for medical purposes in humans. Pharmaceutical origin does not indicate how the opioids were obtained (e.g. through personal prescription or by other means)

Opioid origin – Non-pharmaceutical: Deaths with completed investigations where all opioids that directly contributed to the death were not manufactured by a pharmaceutical company or not approved for medical purposes in humans.

Opioid origin – Both pharmaceutical and non-pharmaceutical: Deaths with completed investigations where the opioids that directly contributed to the death were a combination of pharmaceutical and non-pharmaceutical opioids, without any opioids of undetermined origin.

Opioid origin – Undetermined: Deaths with completed investigations where, for one or more opioids that directly contributed to the death, it was not possible to determine whether the opioid was pharmaceutical or non-pharmaceutical.

How apparent opioid-related deaths are counted

Counts are provided by the provinces and territories that collect data from their respective offices of Chief Coroners or Medical Examiners. Crude rates are calculated using the most current population data from Statistics Canada.

The data provided by the provinces and territories can include deaths:

- with completed or ongoing investigations
- where manner of death is classified as accident, suicide, or undetermined

These data **do not** include deaths due to:

- the medical consequences of long-term substance use or overuse (for example, alcoholic cirrhosis)
- medical assistance in dying
- trauma where use of the substance(s) contributed to the circumstances of the injury that lead to the death, but was not directly involved in the death
- homicide

However, some provincial and territorial differences remain in the type of data reported and in the time periods for which data are available (refer to [Table A](#)).

Limitations of the data on apparent opioid-related deaths

Data presented in this update should be interpreted with caution.

- This update is based on data submitted to the Public Health Agency of Canada on or before February 13, 2020. New or revised data reported after this date will be reflected in future updates.
- Data released by provinces and territories may differ from the data provided in this update due to the availability of updated data, differences in the type of data reported (e.g. manners of death), the use of alternate age groupings, differences in time periods presented and/or population estimates used for calculations, etc.
- As some data are based on ongoing investigations by coroners and medical examiners, they are considered preliminary and subject to change. The time required to complete an investigation and related administrative processes is case-dependent and can range from approximately three to twenty-four months.
- This update is based on data that do not specify how the opioids were obtained (e.g. illegally or through personal prescription); the level of toxicity may differ depending on the opioid (substance(s) involved, concentration, and dosage).
- Provincial and territorial differences in the death investigation process, death classification method, toxicology testing, and the manners of death reported may impact the interpretation and comparability of the data presented in this update over time and between provinces and territories.
- Rates reported here have not been adjusted for existing differences in provincial and territorial age distributions.
- The estimated annual rates for 2019 are based on available data from January to September 2019.
- Percentages for sex and age breakdown are based exclusively on data where the information was known.

Notes on provincial and territorial data

Due to differences in identifying and reporting cases, comparisons over time and between provinces and territories should be interpreted with caution.

General notes

1. Data reported by some provinces and territories do not include all manners of death (accident, suicide, undetermined) or stages of investigation (ongoing, completed); refer to [Table A](#) for more details.
2. Data presented here will be updated on a quarterly basis based on results of completed investigations.
3. Rates for provinces and territories with relatively smaller populations may change substantially with even slight changes in the number of deaths.
4. Data from British Columbia include deaths related to all illicit drugs (including opioids) used alone or in combination with prescribed/diverted medication.
5. Quebec data for 2016 and 2017 include deaths with completed investigations only; 1% of the investigations for deaths that occurred in 2016 and 3% of investigations of deaths that occurred in 2017 were underway. Available 2018 and 2019 data from Quebec include unintentional deaths with ongoing investigations related to all illicit drugs including, but not limited to, opioids. Preliminary data for drug-related poisonings, for which toxicology information was available, indicate that 49% of deaths between January 2018 and September 2019 involved an opioid. Data presented here will be updated quarterly based on results of completed investigations.
6. Data from Yukon include deaths with completed investigations only. In 2018, one apparent opioid-related death occurred in a different province following an overdose in Yukon. This death is included in the data from the jurisdiction where the death occurred and is not reported in the data from Yukon.
7. Data from Prince Edward Island include accidental deaths with completed investigations only. Only annual totals were available for 2016 data from Prince Edward Island; quarterly data for 2016 were not available at the time of this publication.
8. In Ontario, apparent opioid-related death data were captured using an enhanced data collection tool by the Office of the Chief Coroner as of May 1, 2017. Prior to this time period, retrospective case information was collected using a different tool.
9. Data from Nunavut were not included in national counts or percentages.

Data on manner of death

10. Manner of death is assigned by the coroner or medical examiner during, or following an investigation. The data in this update include accidental, suicide or undetermined deaths.
11. Suicide data were unavailable from Prince Edward Island and Nunavut.

Data on sex and age group

12. For most provinces/territories, data on the sex of the individual was based on biological characteristics or legal documentation.
13. Data on deaths where sex was categorized as "Other" were excluded from analyses by sex, but were included in overall analyses.
14. Data on sex were unavailable for less than five individuals in 2017. Due to rounding, percentages may not add to 100%.
15. For Ontario, from January 2016 to April 2017, data on the sex of the individual reflected the sex assigned at birth or was based on biological characteristics at the time of death; as of May 2017, the perceived or projected identity of the individual was reported.
16. Alberta uses data on the sex of the individual based on the medical examiner's decision, which is largely based on biological characteristics. In the small subset of cases where the individual was known to identify with a gender different than their biological sex, the medical examiner may indicate their identified gender.
17. Data on deaths where age group was categorized as "Unknown" were excluded from analyses by age group, but were included in overall analyses.
18. Data on age group were unavailable for less than five individuals in 2017. Due to rounding, percentages may not add to 100%.

Fentanyl and fentanyl analogues

19. Refer to [Table B](#) below for details on opioids.
20. Observed trends of accidental apparent opioid-related deaths involving fentanyl or fentanyl analogues should be interpreted with caution until additional data become available. In addition, changes to testing practices during the reporting period may affect observed trends.
21. Given provincial and territorial differences in death classification methods, the term "involving" includes deaths where the substance was either detected and/or directly contributed to the death.
22. Data from British Columbia and available 2018 and 2019 data from Quebec on deaths related to illicit drugs where toxicology information was available and fentanyl (or fentanyl analogues) was detected were used to approximate apparent opioid-related deaths involving fentanyl (or fentanyl analogues).

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23. National-level, quarterly data on accidental apparent opioid-related deaths involving fentanyl or fentanyl analogues do not include data from Prince Edward Island (2016 only), Newfoundland and Labrador, or Nunavut.
24. For Ontario, only data on deaths with completed investigations, where relevant toxicology information was available, were included in percentages for fentanyl or fentanyl analogues.

Other non-opioid substances

25. Refer to [Table B](#) below for details on other non-opioid substances.
26. National-level percentages of accidental apparent opioid-related deaths involving other non-opioid substances do not include data from British Columbia and Nunavut as these data were not available.
27. For Alberta, only data on deaths with completed investigations and specific substances causing death listed on the death certificate were included in percentages of accidental apparent opioid-related deaths involving other non-opioid substances.
28. For Ontario, only data on deaths with completed investigations, where relevant toxicology information was available, were included in percentages of accidental apparent opioid-related deaths involving other non-opioid substances. Data for non-opioid substances from Ontario between January 2016 and April 2017 were based on their detection and do not include alcohol; as of May 1, 2017, data on non-opioid substances are based on their direct effects and include alcohol.

Origin of opioid(s)

29. The origin of opioid(s) refers to whether the opioids that directly contributed to the death were pharmaceutical, non-pharmaceutical, both or undetermined.
30. Data on origin were only available for deaths with completed investigations from 2018 onward from six provinces and territories. Completed investigations represented 95% of apparent opioid-related death investigations from these provinces/territories over that period; refer to [Table A](#) for more details.
31. Summary data and trends based on origin of opioid(s) should be interpreted with caution until additional data become available.
32. Origin categorization is based on toxicology results and scene evidence and does not indicate how the consumed substances were prepared, their appearance, or how they were 'advertised'; nor should it be used to infer the timing or mode of consumption.
33. Pharmaceutical opioids also include those approved for use in humans in other countries, but not necessarily in Canada.
34. For the purposes of origin categorization, deaths involving fentanyl are categorized as "suspected non-pharmaceutical" when there is: 1) no evidence of a patch, vial, or other

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pharmaceutical formulation at the scene, or 2) no/unknown evidence of a prescription. These deaths are grouped with deaths involving non-pharmaceutical opioids.

35. Origin categorization represents the best estimate based on the information available and should be interpreted with caution.
36. Origin refers only to the opioid(s) that directly contributed to the death and should not be used as an indication of prior use of opioids of the same or other origin.

Data suppression

The suppression of data in this update is based on the preferences of individual provinces or territories to address concerns around releasing small numbers for their jurisdiction.

- Prince Edward Island suppressed counts between one and four for quarterly data, and for any data related to sex or age distribution.
- Newfoundland and Labrador suppressed counts between one and four for quarterly data, and data related to substances involved and sex or age distribution.
- Quebec suppressed counts less than five for deaths with ongoing investigations (2018 and 2019 data).
- Nunavut suppressed all counts less than five.

In addition, suppression was applied in some instances where all data for a province or territory fell in a single category of a given table or figure.

Table A. Reporting periods, manners of death, and availability of opioids origin data included in this update by province or territory.

		BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	YT	NT	NU
Reporting period (as of February 13, 2020)														
2016	January to December	✓	✓	✓ (C)	✓	✓	✓ (C)	✓	✓	✓ (C)	✓ (C)	✓ (C)	✓	✓
2017	January to December	✓	✓	✓ (C)	✓	✓	✓ (C)	✓	✓	✓ (C)	✓ (C)	✓ (C)	✓	✓
2018	January to December	✓	✓	✓ (C)	✓	✓	✓	✓	✓	✓ (C)	✓ (C)	✓ (C)	✓	✓
2019	January to September	✓	✓	✓ (C)	✓	✓	✓	✓	✓	✓ (C)	✓ (C)	✓ (C)	✓	✓
Classification of deaths included in the reported data														
Accident	Completed investigations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Ongoing investigations where manner of death was believed to be unintentional	✓	-	N/A	✓	-	✓	✓	✓	N/A	N/A	N/A	✓	N/A
	Ongoing investigations where manner of death had not been assigned at the time of reporting	-	✓	N/A	✓	✓	N/A	✓	✓	N/A	-	-	✓	N/A
Suicide	Completed investigations	✓	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	✓	✓
	Ongoing investigations where the manner of death was believed to be suicide	✓	N/A	N/A	✓	-	N/A	✓	✓	N/A	N/A	N/A	✓	N/A
Deaths with completed investigations and an undetermined manner of death		✓	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	✓	✓
Classification of deaths by origin of opioid(s)														
2018	January to December	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A
2019	January to September	N/A	✓	✓	✓ (INC)	✓	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A

- ✓ These data have been reported by the province or territory and are reflected in this update, unless otherwise specified
- (C) Data includes deaths with completed investigations only
- (INC) Data was not available for the entire period
- The classification is not used in the province or territory
- N/A Data were not available at the time of this publication

Table B. Opioids and other substances

Category	Includes (but are not limited to):	
Fentanyl and fentanyl analogues	<ul style="list-style-type: none"> • 3-methylfentanyl • acetylfentanyl • acrylfentanyl • butyrylfentanyl • carfentanil • cyclopropyl fentanyl 	<ul style="list-style-type: none"> • despropionyl-fentanyl • fentanyl • fluoroisobutyrylfentanyl (FIBF) • furanylfentanyl • methoxyacetylfentanyl • norfentanyl
Non-fentanyl-related opioids	<ul style="list-style-type: none"> • buprenorphine metabolites • codeine • dihydrocodeine • heroin • hydrocodone • hydromorphone • loperamide • meperidine 	<ul style="list-style-type: none"> • methadone • monoacetylmorphine • morphine • normeperidine • oxycodone • tapentadol • tramadol • U-47700
Non-opioid substances	<ul style="list-style-type: none"> • alcohol • benzodiazepines • cocaine 	<ul style="list-style-type: none"> • gabapentin • methamphetamine • W-18

Hospitalizations

Definitions

Opioid-related poisoning hospitalization: Acute care hospitalizations that recorded a significant diagnosis for opioid-related poisoning. Please see [Table A](#) for a list of diagnosis codes for opioid-related poisonings.

Accidental opioid-related poisoning hospitalization: An opioid-related poisoning hospitalization that is considered to be non-intentional in nature and is defined by a diagnostic "X42" ICD -10-CA code associated with any significant opioid-related poisoning codes (T40.0-T40.4 and T40.6, see [Table A](#) for more information).

Intentional opioid-related poisoning hospitalization: An opioid-related poisoning hospitalization that occurred as a result of purposely self-inflicted harm and is defined by a diagnostic "X62" ICD-10-CA code associated with any significant opioid-related poisoning codes (T40.0-T40.4 and T40.6, see [Table A](#) for more information).

Undetermined opioid-related poisoning hospitalization: An opioid-related poisoning hospitalization that is categorized by physician documentation of undetermined/unknown intent and is defined by a diagnostic "Y12" ICD-10-CA code associated with any significant opioid-related poisoning codes (T40.0-T40.4 and T40.6, see [Table A](#) for more information).

How opioid-related poisoning hospitalizations are counted

Data on opioid-related poisoning hospitalizations are extracted from the Discharge Abstract Database (DAD), a national administrative database from the Canadian Institute for Health Information (CIHI) that compiles information on hospital discharges (including deaths, sign-outs, and transfers) from acute care institutions in all provinces and territories, except Quebec. CIHI receives the data directly from acute care facilities or from their health/regional authority or ministry/department of health. Data were extracted for analyses using the CIHI Portal by Health Canada. Only inpatient hospitalizations from acute care facilities were included in the analyses.

Opioid-related poisoning hospitalizations were identified as follows:

- Diagnoses for opioid-related poisonings were based on the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Canada (ICD-10-CA), which is used to code up to 25 diagnoses per hospital record, as it is the national standard for reporting morbidity. Refer to [Table A](#) for details on the ICD-10-CA codes used to identify opioid-related poisonings (T40.0-T40.4 and T40.6). Additional ICD-10-CA codes were used to classify the hospitalizations by intent.
- Hospitalizations were included if the opioid-related poisoning diagnosis was considered influential to the time spent and/or treatment received while in hospital, identified by diagnosis types "M" (most responsible diagnosis (MRD)), "1" (pre-admission comorbidity), "2" (post-admission comorbidity), "W", "X", "Y" (service transfer diagnosis), and "6" (proxy MRD).
- Hospitalizations where the diagnosis was considered questionable, as indicated by prefix code of "Q", were excluded.

To calculate age-standardized rates, direct standardization was applied using the most current population data from Statistics Canada. The population of reference is the 2016 Canadian population.

Limitations of the data on opioid-related poisoning hospitalizations

General notes

37. The unit of observation for this analysis was a discharged inpatient hospitalization visit, rather than an individual patient.
38. To facilitate comparisons over time as well as across jurisdictions, age-standardized rates per 100,000 population per year were calculated using the latest population estimates from Statistics Canada.
39. The estimated annual rates for 2019 are based on available data from January to September 2019. However, the April-September 2019 data are preliminary as the collection of 2019-2020 data is ongoing and not all cases may be reported yet. The 2019-2020 DAD data will be finalized and publicly available in summer 2020.
40. Data on hospitalizations from Quebec are not included in the Discharge Abstract Database. As a result, Quebec is excluded from these analyses.
41. Data from Yukon, Northwest Territories and Nunavut were combined due to small numbers.
42. Data collected through DAD or the ICD-10-CA codes do not specify how the opioids were obtained (e.g. illegally or through personal prescription); the level of toxicity may differ depending on the opioid (substance(s) involved, concentration, and dosage).

Data on intention

43. Opioid-related poisonings were further examined by the documented reason for the poisoning, based on diagnostic type "9" (external cause of injury), and classified into three categories: accidental (ICD-10-CA: X42), intentional (X62), and undetermined/unknown (Y12).
44. Poisonings are classified as accidental unless there is clear documentation of intentional self-harm or undetermined intent.
45. When there was no documentation of intent, hospitalizations were excluded from analysis by intention, but were included in the total number of cases.

Data on sex and age group

46. For most provinces/territories, data on the sex of the individual was based on biological characteristics or legal documentation. Data on hospitalizations where sex was categorized as "Other" were excluded from analyses by sex, but were included in the overall analyses. Due to rounding, percentages may not add to 100%.

Fentanyl and fentanyl derivatives

47. Data on accidental opioid-related poisoning hospitalizations involving fentanyl or fentanyl analogues should be interpreted with caution as data on fentanyl-related poisoning

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hospitalizations became available starting April 1, 2018. As a result, fentanyl-related data presented for 2018 are limited to April to December. The ICD-10-CA classification codes to describe outcomes related to fentanyl and fentanyl analogues (“T40.40 – Poisoning by fentanyl and derivatives”) was used in data collection starting 2018-19 fiscal year, as they did not exist prior to that.

Other non-opioid substances

48. Accidental opioid-related poisoning hospitalizations were further examined for diagnoses of poisoning from one or more other non-opioid substances in the same hospital stay.

Diagnoses for non-opioid substance-related poisoning were identified using ICD-10-CA codes and included poisonings from psychoactive substances. These codes were limited to diagnoses considered influential to the time spent/treatment received in hospital and cases where the diagnosis was considered questionable, as indicated by prefix code “Q”, were excluded. Co-occurring poisonings due to non-psychoactive substances (such as non-opioid analgesics, etc.) and anti-depressants were not included. Refer to [Table B](#) for details on ICD-10-CA codes used to identify non-opioid-related poisonings.

Data suppression

Counts less than five have been suppressed as per CIHI privacy guidelines.

Table A. List of diagnosis codes included for opioid-related poisonings

Code	Details
T40.0	Poisoning by opium
T40.1	Poisoning by heroin
T40.2	Poisoning by other opioids
T40.20*	Poisoning by codeine and derivatives
T40.21*	Poisoning by morphine
T40.22*	Poisoning by hydromorphone
T40.23*	Poisoning by oxycodone
T40.28*	Poisoning by other opioids not elsewhere classified
T40.3	Poisoning by methadone
T40.4	Poisoning by other synthetic narcotics
T40.40*	Poisoning by fentanyl and derivatives
T40.41*	Poisoning by tramadol
T40.48*	Poisoning by other synthetic narcotics not elsewhere classified
T40.6	Poisoning by other and unspecified narcotics

*Introduced as of April 1, 2018

Table B. List of diagnosis codes included for poisonings related to other non-opioid substances

Code	Details
T40.5	Poisoning by cocaine
T40.7	Poisoning by cannabis (derivatives)
T40.8	Poisoning by lysergide (LSD)
T40.9	Poisoning by other and unspecified psychodysleptics (hallucinogens)
T42.3	Poisoning by barbiturates
T42.4	Poisoning by benzodiazepines
T42.6	Poisoning by other antiepileptic and sedative-hypnotic drugs
T43.6	Poisoning by psychostimulants with abuse potentials (excl. cocaine)
T43.8	Poisoning by other psychotropic drugs, not elsewhere classified
T43.9	Poisoning by psychotropic drug, unspecified
T44.9	Poisoning by other and unspecified drugs primarily affecting the autonomic nervous system
T51	Toxic effect of alcohol
T51.0	Toxic effect of ethanol
T51.1	Toxic effect of methanol
T51.2	Toxic effect of 2-propanol
T51.3	Toxic effect of fusel oil
T51.8	Toxic effect of other alcohols
T51.9	Toxic effect of alcohol, unspecified

Disclosure

Parts of this material are based on data and information compiled and provided by CIHI. However, the analyses, conclusions, opinions and statements expressed herein are those of the authors, and not necessarily those of CIHI.

Data Source

Discharge Abstract Database (DAD), Canadian Institute for Health Information, 2015-2016 to 2019-2020.

Emergency Medical Services

Case definitions

There is currently no national case definition for suspected opioid overdoses attended by Emergency Medical Services. Therefore, each region reports data based on their respective provincial or territorial case definition. Due to differences in case definitions, comparisons over time and between provinces and territories should be interpreted with caution.

Table 1. Case definitions for suspected opioid-related overdose Emergency Medical Services (EMS) responses for provinces and territories with available data as of February 13, 2020.

Region	Data Source	Primary Case Definition
British Columbia	BC Emergency Health Services (BCEHS)	The current BCCDC Overdose Surveillance definition for paramedic attended overdose events is based on a cluster analysis algorithm, which codes ambulance-attended events as overdose cases when naloxone was administered by paramedics OR where the paramedic impression codes are related to recreational drug overdose and the Medical Priority Dispatch System (MPDS) code was consistent with possible drug overdose.
Alberta	Alberta Health Services	Documentation of opioid medical control protocol or administration of naloxone.
Saskatchewan	Road Ambulance Information System Saskatchewan	Emergency response calls where Narcan (naloxone) is administered by ambulance crews and the patient has an assessment code for Possible Narcotic Overdose.
Winnipeg, Manitoba	Winnipeg Fire Paramedic Service	The number of suspected overdose cases receiving naloxone from Winnipeg Fire Paramedic Service (WFPS).
Northern and rural Manitoba	Medical Transportation Coordination Centre	The number of suspected overdose cases in northern and rural Manitoba receiving naloxone from EMS dispatched through the Medical Transportation Coordination Centre (MTCC) or a bystander on scene.
Ontario	Ontario Ambulance Call Reports	Suspected opioid overdose requiring administration of naloxone by paramedics (as indicated by Medication Code "Naloxone (610)")
New Brunswick	Ambulance New Brunswick	A patient who responded to naloxone that was administered by an Ambulance New Brunswick first responder for a suspected opioid overdose.

Nova Scotia	Emergency Health Services Nova Scotia	The number of emergency responses where naloxone was administered by an intensive care Paramedic, an advanced care Paramedic or a critical care Paramedic when respiration or airway were compromised despite basic life support airway management AND an opioid intoxication was suspected.
Newfoundland and Labrador	Provincial Medical Oversight Office	Emergency response to an opioid-related overdose where naloxone is administered by paramedics.
Whitehorse, Yukon	Yukon Emergency Medical Services	<p>Paper-based patient care reports:</p> <ol style="list-style-type: none"> 1. Suspected opioid overuse is identified during the 9-1-1 call taking process; and/or 2. Opioid overuse or overdose are identified in the Patient Care Report's narrative, history of event, or chief complaint; and/or 3. Naloxone administered by a designated emergency responder, allied health care provider, or layperson at the scene. <p>Electronic-based patient care reports:</p> <ol style="list-style-type: none"> 1. Primary problem or final primary problem classified as "suspected opioid overdose"; and/or 2. Procedure code: Naloxone administered by designated emergency responder, allied health care provider, or layperson at the scene.
Yellowknife, Northwest Territories	Yellowknife Fire and Ambulance Services	Suspected overdose identified as chief complaint and an opioid identified as the overdose product OR suspected overdose identified as the chief complaint and naloxone administered by paramedics

How suspected opioid overdoses are counted

Counts are provided by the provinces and territories that collect data from their respective Emergency Medical Services.

The data provided by the provinces and territories include EMS responses to suspected overdoses:

- Where naloxone was administered by a member of the Emergency Medical Services or a bystander on site, or
- Where naloxone was not necessarily administered but an opioid-related overdose was suspected

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These data **do not** include suspected overdoses:

- Where Emergency Medical Services were not contacted

However, some provincial and territorial differences remain in the type of data reported and in the time periods for which data are available (refer to [Table A](#) and [Table B](#)).

Limitations of the EMS data on suspected opioid overdoses

Data presented in this update should be interpreted with caution.

- This update is based on data submitted to the Public Health Agency of Canada on or before February 13, 2020. New or revised data reported after this date will be reflected in future updates.
- Data released by provinces and territories may differ from the data provided in this update due to the availability of updated data, the use of alternate age groupings, differences in time periods presented and/or population estimates used for calculations, etc.
- This update is based on data that do not specify how the opioids were obtained (e.g. illegally or through personal prescription); the level of toxicity may differ depending on the opioid (substance(s) involved, concentration, and dosage).
- No drug or laboratory testing is undertaken by any province or territory to confirm whether ingestion of an opioid has occurred. As a result, the number of patients receiving naloxone might be an overestimation of the actual number of opioid overdoses as naloxone will not have an effect if opioids were not taken.

Notes on provincial and territorial data

Due to differences in case definitions, comparisons over time and between provinces and territories should be interpreted with caution.

General notes

1. Data reported by some provinces and territories may not include age group and sex information; refer to [Table A](#) for more details.
2. Data presented here will be updated on a quarterly basis and are subject to change as new or updated information becomes available.
3. Data were not available for Quebec, Prince Edward Island and Nunavut.
4. Data from British Columbia include EMS responses to suspected overdoses related to all illicit drugs including but not limited to opioids. While data are updated quarterly, there may be a lag in reporting. As a result, discrepancies may be noted between the national quarterly reporting of suspected overdoses in BC and the quarterly reporting of suspected overdoses by BCEHS, please refer to section 1 of the following [report](#).
5. Starting in 2018, Alberta provincial EMS data covers nearly 100% of ground ambulance services in Alberta. Data from air ambulance and interfacility transfers are not included. In 2017, EMS data were only available for the cities of Calgary and Edmonton.
6. Saskatchewan reports data from licensed ambulance services only. These data do not include events where naloxone was administered by bystanders or other first responders (e.g. police or firefighters).
7. Manitoba reports data for two distinct regions: 1) Winnipeg, and 2) Northern and rural Manitoba.
8. Northern and rural Manitoba data include land and air transports, but exclude interfacility transports. Naloxone administration counts are based on information either collected from the on scene caller or provided by the dispatched EMS personnel to the MTCC during call back.
9. Ontario data relies on documentation by paramedics and extraction from Ministry of Health designated Base Hospitals. Data submitted for the province for April to June 2018 and for January to March 2019 were only available for the geographical area containing ~95.5% and ~99.6% of the Ontario population (based on 2016 Statistics Canada Census), respectively.
10. The number of patients receiving naloxone may overestimate the actual number of opioid overdoses as naloxone will not have an effect if opioids were not consumed. Therefore, New Brunswick reports the number of patients responding to naloxone. These data do not include overdoses where patients were dead on arrival or were not given naloxone by Ambulance New Brunswick.

Special Advisory Committee on the Epidemic of Opioid Overdoses. Opioid-related Harms in Canada. Ottawa: Public Health Agency of Canada; March 2020.

<https://health-infobase.canada.ca/substance-related-harms/opioids>

11. Newfoundland and Labrador EMS data may underestimate the burden of suspected opioid-related overdose instances in the province. The number of suspected opioid-related EMS responses is subject to change due to a lag in reporting of retrospective naloxone administration.
12. Yukon EMS data were only available for the city of Whitehorse.
13. Northwest Territories data were only available for the city of Yellowknife.

Data on sex and age group

14. EMS data on suspected opioid overdoses where sex was categorized as “Unknown” were excluded from analyses by sex, but were included in overall analyses.
15. EMS data on suspected opioid overdoses where age group was categorized as “Unknown” were excluded from analyses by age group, but were included in overall analyses.
16. British Columbia data by age group were not reported.
17. Saskatchewan data by sex and age group were not reported.
18. Winnipeg, Manitoba data do not include individuals nine years or younger.
19. Newfoundland and Labrador data by sex and age group were not reported.
20. Yukon data by sex and age group were not reported.

Data suppression

Counts of five or less were suppressed to address concerns around releasing small numbers.

Table A. Reporting periods and available variables included in suspected opioid overdose EMS data used for this update by province or territory.

		BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	YT	NT	NU
Reporting period (as of February 13, 2020)														
2017	January to December	✓	✓	N/A	✓ (INC)	N/A	N/A	✓	N/A	N/A	✓ (INC)	✓	✓	N/A
2018	January to December	✓	✓	✓ (INC)	✓	✓ (INC)	N/A	✓	✓ (INC)	N/A	✓ (INC)	✓	✓	N/A
2019	January to December	✓ (INC)	✓	✓ (INC)	✓ (INC)	✓	N/A	✓	✓	N/A	N/A	✓	✓	N/A
Data availability by variables collected														
Sex data		✓	✓	N/A	✓	✓	N/A	✓	✓	N/A	N/A	N/A	✓	N/A
Age group data		N/A	✓	N/A	✓	✓	N/A	✓	✓	N/A	N/A	N/A	✓	N/A

- ✓ These data have been reported by the province or territory and are reflected in this update, unless otherwise specified
- (INC) Data were not reported for the full time period. Please refer to [Table B](#) for more details.
- N/A Data were not available at the time of this publication

Table B. Specific reporting periods included in suspected opioid overdose EMS data used for this update, by region.

Region	Reporting period
British Columbia	January 2017 to October 2019
Alberta	January 2017 to December 2019
Saskatchewan	April 2018 to November 2019
Winnipeg, Manitoba	January 2017 to September 2019
Northern and rural Manitoba	May 2017 to December 2019
Ontario	April 2018 to December 2019
New Brunswick	January 2017 to December 2019
Nova Scotia	June 2018 to December 2019
Newfoundland and Labrador	April 2017 to March 2018
Whitehorse, Yukon	January 2017 to December 2019
Yellowknife, Northwest Territories	January 2017 to December 2019