



YOUTH UNREGULATED DRUG TOXICITY DEATHS IN BRITISH COLUMBIA January 1, 2019 – December 31, 2023

Introduction

In British Columbia, unintentional youth unregulated drug toxicity deaths have increased since 2016. One of the main drivers of this increase was the introduction of the toxic synthetic opioid, fentanyl, into the unregulated drug market.

The BC Coroners Service (BCCS) is mandated to investigate all deaths of children under the age of 19 that occur in B.C. A coroner's investigation identifies the decedent and determines the cause and manner of death, along with when, where and by what means the death occurred. The [Coroners Act](#) also mandates the review of all deaths of children under 19 years of age.

This report reviews all accidental and undetermined youth unregulated drug toxicity deaths that occurred in B.C. between January 1, 2019, and December 31, 2023. During that time, there were 126 suspected youth unregulated drug toxicity deaths. This review was completed through analysis of BCCS investigative records, toxicology reports, and post-mortem examinations, as well as through available medical and social service case records secured by BCCS under [section 11\(1\) of the Coroners Act](#).

When investigating suspected unregulated drug toxicity deaths, the coroner typically attends the scene of death to gather information about the circumstances and conduct an examination of the scene and the decedent. Subsequently, medical history is gathered, including any history of substance use, and toxicology testing is always completed. An autopsy may also be conducted.

Inclusion Criteria

The unregulated drug toxicity category includes the following:

- Controlled drugs: fentanyl, heroin, cocaine, MDMA, methamphetamine, etc.
- Medications not prescribed to the decedent but obtained/purchased from unknown means or where the origin of drug is unknown.
- Combinations of the above with prescribed medications.
- Includes accidental or undetermined deaths.
- Deaths were excluded if the death was suspected to be due to intentional self-harm or due solely to one's own prescribed medications.

Data Limitations & Confidentiality

The BCCS operates in a live database environment. The preliminary data presented within this review is based on open and closed BCCS case files as of May 13, 2024. It includes analysis of BCCS investigative notes, toxicology results, medical records and other documents collected. It also includes analysis of the

investigative protocol data, an additional set of questions used by coroners to provide more insight into deaths due to unregulated substances. Some of the deaths were in the early stage of investigation; therefore, the information was incomplete.

This review presents data subsets with small numbers which should be interpreted with caution as when the 'n' is low, conclusions are less certain than with larger groups. Provisions under the *Coroners Act* and the *Freedom of Information and Protection of Privacy Act* allow for the BCCS to disclose information to meet its legislative mandate and support the findings and recommendations generated by the review process. For the purposes of this report, information is presented in aggregate. Details that could identify individuals have been omitted to respect the privacy of the youth who died and their families. The BCCS is sensitive to the privacy of individuals and families that it serves and proceeds with caution when reporting findings.

Summary

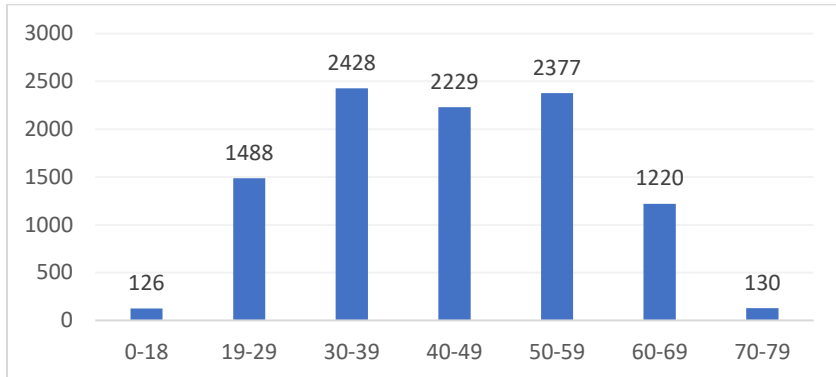
- From January 1, 2019, to December 31, 2023, there were 126 unregulated drug toxicity deaths in B.C. of persons younger than 19 years of age.
- The number of deaths equates to about 25 deaths a year.
- Unregulated drug toxicity is the leading cause of unnatural death among youth during this period.
- Females accounted for 51% of deaths and 60% were individuals between 17-18 years of age.
- By health authority, the largest number of deaths occurred in Fraser Health, followed by Island Health and Interior Health.
- The townships experiencing the highest number of unregulated drug toxicity deaths are Vancouver, Greater Victoria, and Kamloops.
- More than 70% of the deaths occurred within private residences.
- More than half of the deaths occurred among youth using alone.
- About two-thirds (66%) of decedents were in receipt of current or previous services offered through the Ministry of Children and Family Development.
- 67% of decedents had a mental health diagnosis or anecdotal evidence of a mental health disorder.
- Fentanyl or its analogues were detected in 83% of all deaths, either alone or in combination with other substances.
- Hydromorphone was detected in 16 (13%) deaths and in 11 (69%) of those deaths, was found in concentrations below or within therapeutic range¹ and unlikely to have contributed significantly to the death. In all 16 deaths, at least one other substance was found that contributed to the death.

¹ - Instances where toxicological testing indicates the presence of a substance in amounts that fall within an effective (therapeutic) range.

Youth Unregulated Drug Toxicity Deaths

From 2019 to 2023, a total of 10,005 unregulated drug toxicity deaths were reported to the BC Coroners Service. Of those, 126 deaths (1.3%) involved youth under the age of 19 years.

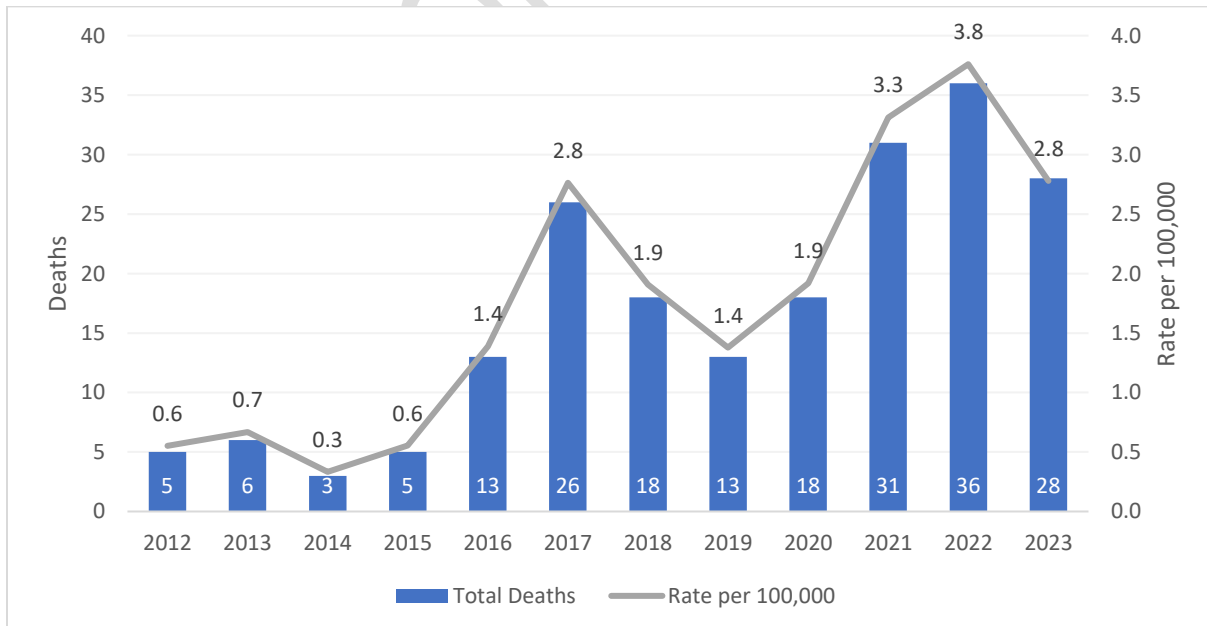
Figure 1: Unregulated drug toxicity deaths by age from 2019-2023



*7 were of unknown age at time of publication but are not considered <19 years

The 126 youth unregulated drug toxicity deaths in 2019-2023 averages to about 25 deaths per year. The average is almost double the average number of deaths in the previous 5-years between 2014-2018 (13 deaths per year). The rate of death has increased from 0.6 per 100,000 in 2012 to 2.8 per 100,000 in 2023.

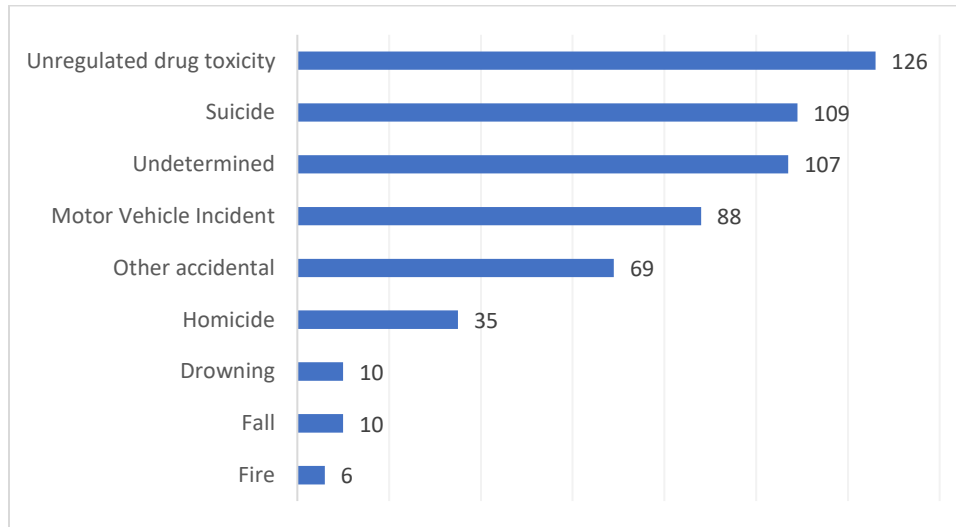
Figure 2: Youth unregulated drug toxicity deaths and rates of death per 100,000 by year 2012-2023



Unnatural Causes of Death

Poisoning from unregulated drug toxicity was the leading cause of unnatural deaths among youth from 2019-2023, followed by deaths by suicide and motor vehicle incidents. The number of undetermined deaths is expected to decline as investigations are completed.

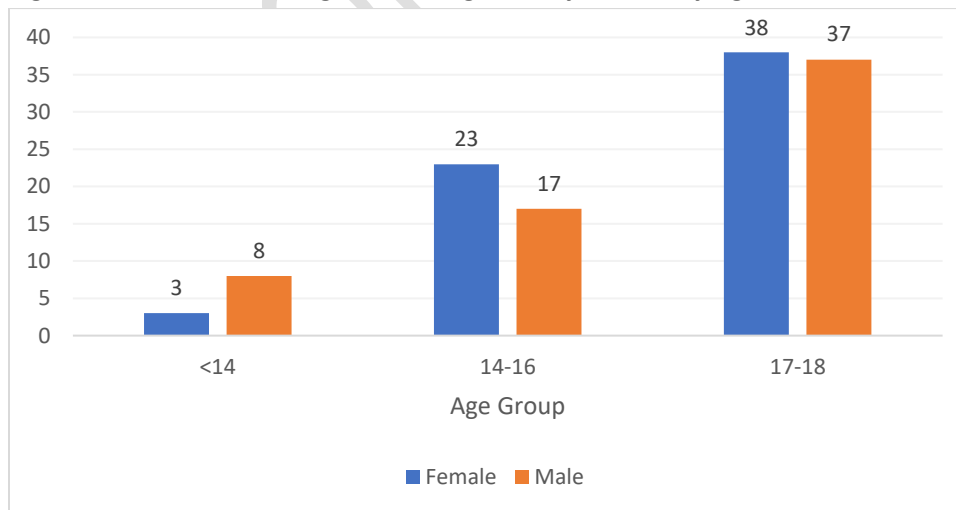
Figure 3: Unnatural Causes of Death among Youth, 2017-2022



Age & Biological Sex

Youth between 17-18 years of age accounted for 60% (75) and females accounted for 51% (64) of deaths. The near equal split between male and female deaths among children differ in comparison with adults in which males account for approximately 80% of unregulated drug toxicity deaths.

Figure 4: Number of Unregulated Drug Toxicity Deaths by Age and Sex, 2019-2023





Health Authority of Injury

Fraser Health accounted for 32% (40) of deaths followed by Island Health with 28% (35) of deaths and Interior Health with 19% (24).

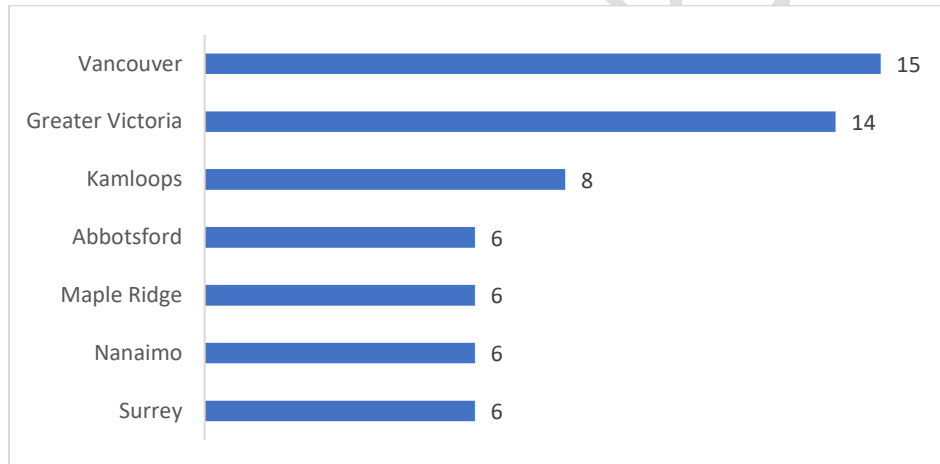
Table 1: Youth Unregulated Drug Toxicity Deaths by Health Authority of Injury, 2019-2023

Health Authority	2019	2020	2021	2022	2023	Total
Interior	1	3	8	5	7	24
Fraser	7	8	7	10	8	40
Vancouver Coastal	3	2	4	4	5	18
Island	2	4	10	13	6	35
Northern	0	1	2	4	2	9
Total	13	18	31	36	28	126

Township of Injury

The townships experiencing the highest number of unregulated drug toxicity deaths among youth are Vancouver, Greater Victoria and Kamloops.

Figure 5: Youth Unregulated Drug Toxicity Deaths by Township of Injury, 2019-2023



Injury Location

In most youth deaths (73%; 92 deaths), the injury location (place where substances were last used) was at a private residence. In 12% (15) of deaths, the injury location was at other types of residences, including substance treatment or recovery houses, group homes, rooming houses, single room occupancies (SROs), hotels/motels, or shelters, and 11% (14) were outdoors.

Table 2: Youth Unregulated Drug Toxicity Deaths by Location of Injury, 2017-2022

Location Type	Number/Percentage of deaths
Private Residence (includes homes, garages, trailer homes, etc.)	92 (73%)
Other Residences (includes substance treatment or recovery houses, group homes, rooming houses, hotels/motels, shelters, single room occupancy (SRO), university dormitories, etc.)	15 (12%)
Outside (includes parking lots, parks, sidewalks, school grounds)	14 (11%)
Other Locations (includes public places, occupational settings, medical facilities, or unknown locations)	5 (4%)

Using Alone

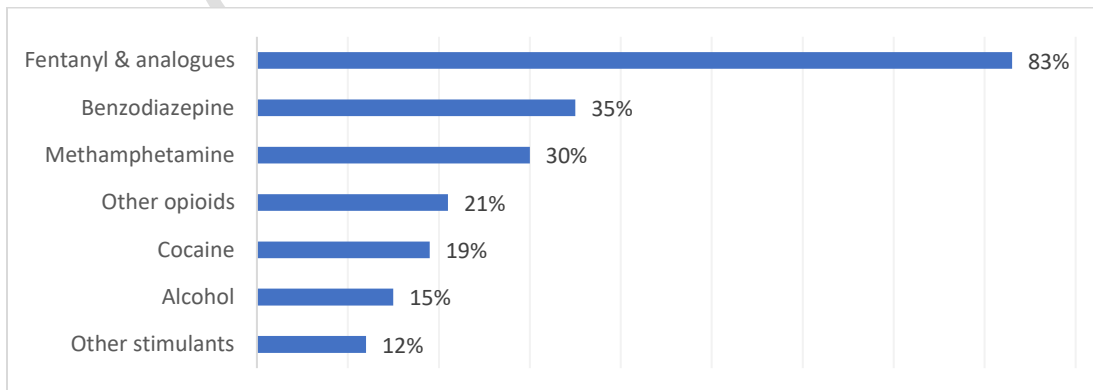
Among the youth who died from unregulated drug toxicity, evidence indicated that 64 (51%) were using alone. In 30 (24%) deaths, there was evidence that the decedent was using with others, and for 32 (25%) it was still too early in the investigations or unknown if they were using alone or with others.

DRUGS DETECTED/TYPE OF DRUG

Toxicological analysis found that:

- Fentanyl or its analogues were detected in 104 (83%) deaths.
- Methamphetamine/amphetamine was detected in 43 (30%) deaths and cocaine was detected in 27 (19%) deaths. Overall, stimulants were detected in 72 (57%) deaths.
- Other opioids, including heroin, morphine, hydromorphone, codeine, methadone, etc., were detected in 30 (21%) of deaths.
- Benzodiazepines were detected in 50 (35%) deaths.

Figure 6: Substances Detected in Youth Unregulated Drug Toxicity Deaths by Drug Type, 2017-2022



Hydromorphone

Of the 126 unregulated youth drug toxicity deaths reported to the BCCS between 2019 and 2023:

- There were zero deaths in which toxicological analysis detected only hydromorphone.
- Hydromorphone presence was detected in 16 (13%) youth deaths.
 - Of the 16 deaths, 1 was in 2020; 3 were in 2021; 8 were in 2022; and 4 were in 2023.
 - In 11 of the 16 youth deaths (69%), the concentration of hydromorphone detected was within or below a therapeutic range and unlikely to have contributed significantly to the death. In 4 of the deaths (25%), the concentration of hydromorphone was above a therapeutic range and for one death, the concentration could not be measured due to degradation of the sample.
 - In 12 of the 16 youth deaths (75%), fentanyl and/or fentanyl analogues and/or stimulants were also detected, including:
 - 7 deaths in which fentanyl or fentanyl analogue was present; and
 - 9 deaths in which at least one stimulant was present.
 - In the 4 hydromorphone-related youth deaths in which fentanyl and/or fentanyl analogues and/or stimulants were not detected, all had either alcohol, benzodiazepines or another opioid present.
 - In all 16 deaths, at least one other substance that contributed to the death was detected.

Testing for hydromorphone was conducted by the Provincial Toxicology Centre and the following should be considered when interpreting the results:

- Hydromorphone can arise from administration of the drug itself or as a metabolite of morphine, codeine, or hydrocodone;
- Hydromorphone may be used for medical support to sustain life. Detection of hydromorphone was excluded if there was evidence it came from medical support; and
- Hydromorphone may be from prescribed or diverted sources. Hydromorphone tablets are prescribed for various types of pain and a small percentage of hydromorphone is prescribed as part of a safer supply initiative.



YOUTH PROFILE

Ministry of Children and Family Development (MCFD)

Of youth who died from unregulated drug toxicity, 83 (66%) were in receipt of Ministry of Children and Family Development (MCFD) services at some point in time. These services include one or more of child and family services, guardianship services, youth services, youth justice, Child and Youth Special Needs (CYSN) and Child and Youth Mental Health (CYMH).

Mental Health

Youth with mental health disorders or who were identified as experiencing mental health issues were disproportionately represented in unregulated drug toxicity deaths.

- 85 (67%) youth who died from unregulated drug toxicity poisoning had a mental health diagnosis or anecdotal evidence of a mental health disorder.
- Mental health conditions include behavioural disorders, anxiety disorders, neuro-cognitive disorders, substance use disorders, mood disorders, personality disorders, psychotic disorders, and other disorders.