

The BC Public Health Opioid Overdose Emergency

March 2017 Update

In January 2017, we published the first report on BC's public health emergency summarizing available information on overdoses and overdose deaths. In 2016, illegal fentanyl was detected in 60% of deaths categorized by the BC Coroners Service as an *apparent illicit drug overdose**.

BC Centre for Disease Control (BCCDC) continues to collaborate with the BC Ministry of Health, BC Observatory for Population and Public Health (BCOPPH), BC Emergency Health Services, BC Coroners Service, Regional Health Authorities**, the Provincial Overdose Surveillance and Naloxone Task Groups, and other stakeholders to support the response. (See Appendix 1 for a complete listing of partner organizations)

BCCDC's priorities are to:

- Monitor the epidemic and provide evidence for public health actions (surveillance and analysis)
- Expand harm reduction activities
- Expand Take Home Naloxone (THN) sites in emergency departments, correctional facilities, and communities
- Distribute facility overdose response boxes (containing multiple doses of naloxone) through the new Facility Overdose Response Box (FORB) program

This report provides an update on surveillance and other information relevant to the BC Public Health Opioid Overdose Emergency.

*In BC, the *apparent illicit drug overdose* category is defined by the BC Coroners Service. It includes unintentional illicit drug overdose deaths in British Columbia (accidental and undetermined). It includes confirmed and suspected illicit overdose deaths. Data is subject to change as investigations are concluded. See Appendix 3 for inclusion criteria.

**There are five geographic Health Authorities in BC: Interior, Fraser, Vancouver Coastal, Island, and Northern Health. Health Authorities are further subdivided into Health Services Delivery Areas (HSDA) and Local Health Regions (LHA). See Appendix 2 for reference map.

Key Points

- In 2016, 922 British Columbians died from an *illicit drug overdose*. Illegal fentanyl was detected in 60% of these fatalities (based on data to October, 2016).
- In 2016, 744 of the 922 deaths (81%) were in men. However, only 2/3 of Emergency Department patients were males. This raises questions about if males are more likely to use substances alone, not have someone nearby who can call 911, or use in less safe ways.
- Illicit drug overdose deaths/month reached unprecedented highs in 2016. November was the first month ever where deaths surpassed 100, with 128 deaths and this was followed by 142 deaths in December.
- In December, 2016, overdose prevention sites (OPS) were opened in each regional health authority in direct response to the increased need for support related to the overdose crisis. OPS staff has naloxone on hand to respond in the event of an overdose and provide education and support to enhance safety.
- As of March, 2017, there are 20 OPS across BC. Despite almost 67,000 visits and 1000 managed overdoses, there have been no deaths at any OPS.
- Based on 1,080 overdose response information forms (received at the BCCDC when naloxone is used) from January, 2016 to February, 2017, only 601 (56%) indicated 911 was called during the overdose event.
- In January and February of 2017, provisional data indicates 117 and 102 suspected overdose deaths, respectively. It is too early in the year to say if this will represent a reduction in mortality rates from 2016 to 2017.
- A highly toxic synthetic opioid, carfentanil, has been detected in all five geographic health authorities of BC.



BC Centre for Disease Control



How do we track overdose events and deaths?

This report summarizes the provincial drug overdose situation based on BC Emergency Health Services 911 Dispatch Calls and Paramedic data (BCEHS); Emergency Department (ED) data from three Regional Health Authorities, and BC Coroners Service (BCCS) data on illicit drug deaths.

It is important to understand that each data source captures overdose differently.

BCCS defines *apparent illicit drug overdose deaths* as unintentional death involving street drugs and/or medications not prescribed to the deceased person.

BCEHS uses the Medical Priority Dispatch System to categorize 911 calls for *Ingestion Poisoning*. A separate Patient Care Report is completed by Paramedics on assessment and treatment of overdose. In cases of suspected opioid overdose, naloxone is administered to reverse the overdose. Naloxone is an antidote opioid which, when administered in a timely manner, reverses overdose. BC Emergency Health Services tracks the administration of naloxone by paramedics.

Emergency Departments complete case reports on those patients with *suspected or confirmed opioid-related overdose*.

Overdose Prevention Sites in each Health Authority report (as able) on numbers of visitors and overdose events.

Information on overdose events is collected through forms returned through the BC Take Home Naloxone program, the BC Facility Overdose Response Program, and through data collection forms implemented at each OPS in collaboration with their Health Authorities.

(See Appendix 3 for a complete description of each data source, associated case definitions, and data limitations)

What is in this report?

In the January, 2017 BCCDC/BCOPPH report*, we described BC's increase in overdoses, rates of overdose and overdose deaths by Health Region, naloxone administrations by paramedics, age and sex distribution of those affected by overdose, as well as data on the increasing severity of overdoses since the emergence of fentanyl in 2015 – 2016.

This report provides surveillance updates on the BC Public Health Opioid Overdose Emergency where there is both data available and changes to report. Additional topics include youth, calling 911, and the confirmation of circulating toxic substances in BC.

* http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/Epid/Other/Public%20Facing%20Surveillance%20Report_Jan2017.pdf

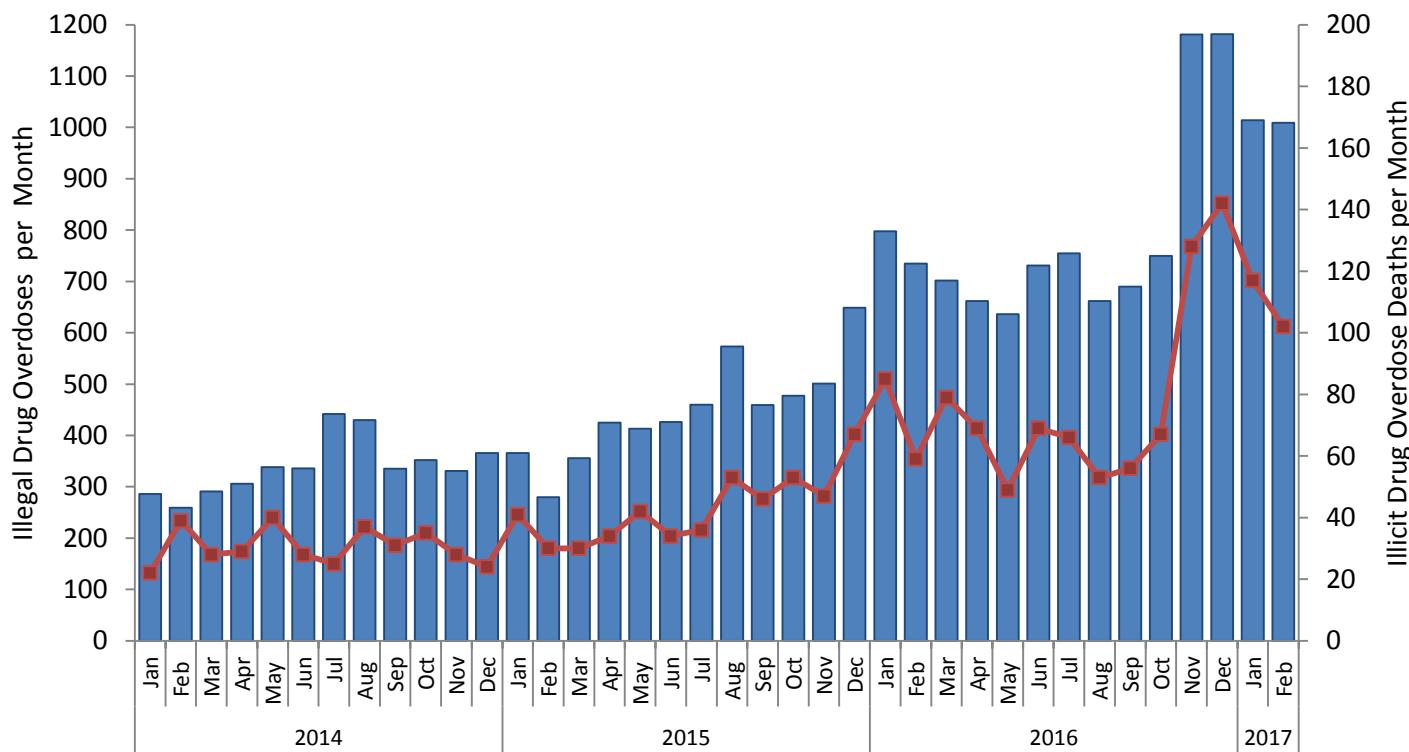
BC's Overdose Trends

Figure 1 - The number of illegal drug overdoses attended by BC ambulance personnel (left side axis) is represented by the blue bars. This measure is currently being used to monitor the overdose crisis and is based on paramedic assessment of overdose in patients. To narrow the focus to illegal drug overdose, overdoses due to alcohol and prescription drugs are excluded.

The red line is the number of illicit drug overdose deaths reported by the BC Coroners Service (right side axis). In Figure 1, both measures are presented monthly from January, 2014 to February, 2017. In general, the trends in overdose reflect the trends in deaths.

The majority of people who experience an overdose and are attended by paramedics survive; while, for those who died from overdose, in many cases 911 was not called.

Figure 1. Monthly Illegal Drug Overdoses Attended by Paramedics (blue bars, left axis) and Monthly Illicit Drug Overdose Deaths (red line, right axis), BC, January, 2014 – February, 2017



SOURCE:

Illegal Drug Overdoses: British Columbia Emergency Health Services, BC Ambulance Service, Medical Priority Dispatch System Data and Patient Care Record Data. NB: overdose counts in the last 2 weeks in February 2017 are projected based on 911 calls.

Illicit Drug Deaths: British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – February 28, 2017

<http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>

Calling 911 in Overdose Situations

The probability of surviving an overdose depends on the timely availability of help. Factors such as using drugs alone and not calling 911 reduce the chances of survival. Highly toxic drugs are increasing the severity and rapidity of overdose. The overdose reversal effects of naloxone wear off after 20 minutes and overdose can recur.

- During the first six months of enhanced data collection in the EDs in Interior, Island, and Northern Health, information about using drugs alone was not recorded in 1/3 of ED case reports; of those with information, 40% indicated he/she was alone at the time of the overdose.
- When naloxone from the BC Naloxone Program is used to reverse an overdose, an overdose response information form is completed and sent to the BCCDC. From January, 2016 to the end of February, 2017, BCCDC received 1,080 overdose forms, 601 (55.7%) indicated that 911 had been called.
- In a 2016 Report by BCCDC, Overdose Recognition and Response in the BC Take Home Naloxone Program, barriers and facilitators to appropriate overdose response, including calling 911, were evaluated:
(http://towardtheheart.com/assets/naloxone/thn-report-aug-final_197.pdf)
- The March 2017 Bulletin from the Canadian Community Epidemiology Network (CCENDU) reported on data between 2013 and 2016 suggesting that, across Canada, laypeople trained to administer naloxone and who had used a naloxone kit to treat an overdose did not call 911 in 30% to 65% of overdoses. (<http://www.ccsa.ca/Resource%20Library/CCSA-CCENDU-Calling-911-Drug-Poisoning-2017-en.pdf>)
- In the CCENDU and BCCDC reports, the most common reasons for not calling 911 were: 1) thought the situation was controlled/person would recover unaided 2) fear of police/prosecution 3) fear of being blamed 4) no access to a phone

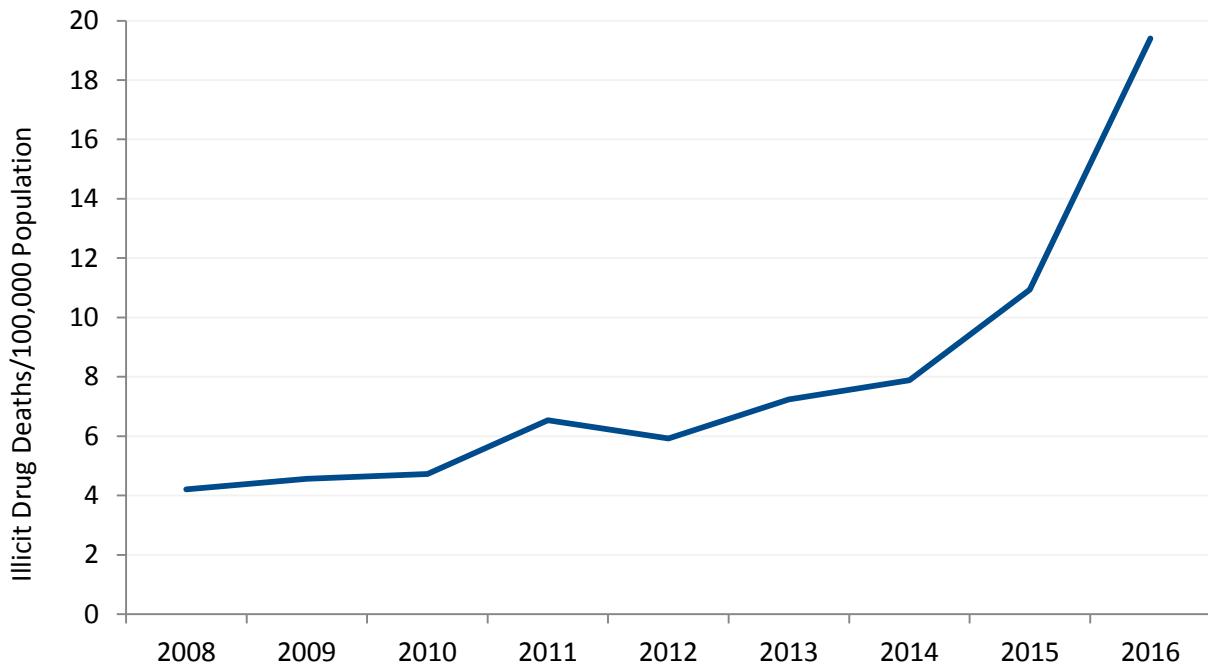
Measures to Improve Rates of Calling 911

- Since 2006, the Vancouver Police have had a policy not to attend 911 calls for overdose unless requested by the BC Emergency Health Services. This policy was put in place specifically to increase the likelihood that bystanders call 911.
- As part of a review by Parliament regarding amendments the Good Samaritan Drug Overdose Act [Bill C-224], proposed legislation would provide immunity from prosecution for possession of a controlled substance for a person seeking assistance for themselves or others for overdose. This Bill is currently under review by Senate.
- In the March 2017 Bulletin, CCENDU provides specific suggestions for better education and counselling on overdose interventions with laypeople to improve rates of calling 911.

The BC Provincial Opioid Cohort is a collaborative data linkage, including death and emergency services data. This linkage is currently underway and will help BC to better understand factors that lead to overdose and contribute to death in order to better target provincial, regional, and local prevention activities. This work will include analyses to better characterize those who die from overdose without calling 911 in order target actions to prevent these deaths.

In BC, the annual mortality rate from illicit drug overdose is extremely high, reaching 19.4 deaths per 100,000 persons in 2016 (Figure 2) (Appendix 3). The most common causes of death in BC are cancer, heart disease, stroke, lung disease, diabetes, and accidents. Comparing the top causes of death in 2015 to the number of drug overdose deaths in 2016, places overdose deaths at the 8th highest cause of death in BC. Deaths due to drug overdose now exceed those due to Alzheimer's disease, chronic liver disease, and suicide. (Source: Vital Statistics Agency of the Province of British Columbia, BC Coroners Service)

Figure 2. Annual Rates of Illicit Drug Overdose Deaths, BC Coroners Service, British Columbia, 2007 – 2016



NB: 2017 annual rate were not estimated for this report due to the short timeframe

SOURCE:

Numerator Data: British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – February 28, 2017, <http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>

2017 Denominator Data: BC Statistics PEOPLE,

<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationProjections.aspx>

2007 – 2016 Denominator Data: BC Statistics Population Estimates,

<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>

Rates of Overdose and Overdose Mortality by Health Regions

Rates of ambulance-attended illegal drug overdoses are highest in Vancouver Coastal Health. Rates of overdose deaths are highest in Vancouver Coastal Health and Interior Health (Table 1).

It is important to note that, in all health authorities in BC, the overdose mortality rates are very similar to each other across regions and are all extremely high.

Table 1. Rates of Illegal Drug Overdoses Attended by BC Paramedics and Rates of Illicit Drug Deaths, BC, by Health Authority, 2016

Health Authority	2016 Estimated Rates of Illegal Drug Overdose* Illegal Drug Overdose Events Attended by BC Paramedics / 100,000 Population	2016 Rates of Illicit Drug Overdose Deaths** Illicit Drug Overdose Deaths / 100,000 Population
Interior Health	168.9	21.3
Fraser Health	170.0	17.3
Vancouver Coastal Health	253.0	21.6
Island Health	172.1	19.7
Northern Health	162.3	17.8
British Columbia	190.1	19.4

NB: 2017 annual rate were not estimated for this report due to the short timeframe

*The Estimated Number of Illegal Drug Overdoses are defined as paramedic attended events indicating the patient experienced an overdose of illegal substances, excluding alcohol or the patient's own prescription drugs, and who may or may not have received naloxone.

**Illicit Drug Overdose Deaths are defined as unintentional death involving street drugs and/or medications not prescribed to the decedent

(See Appendix 3 for complete definitions of above)

SOURCE: 2016 Estimated Rates of Illegal Drug Overdose: Numerator Data: British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record Data. Denominator Data: BC Statistics Population Estimates

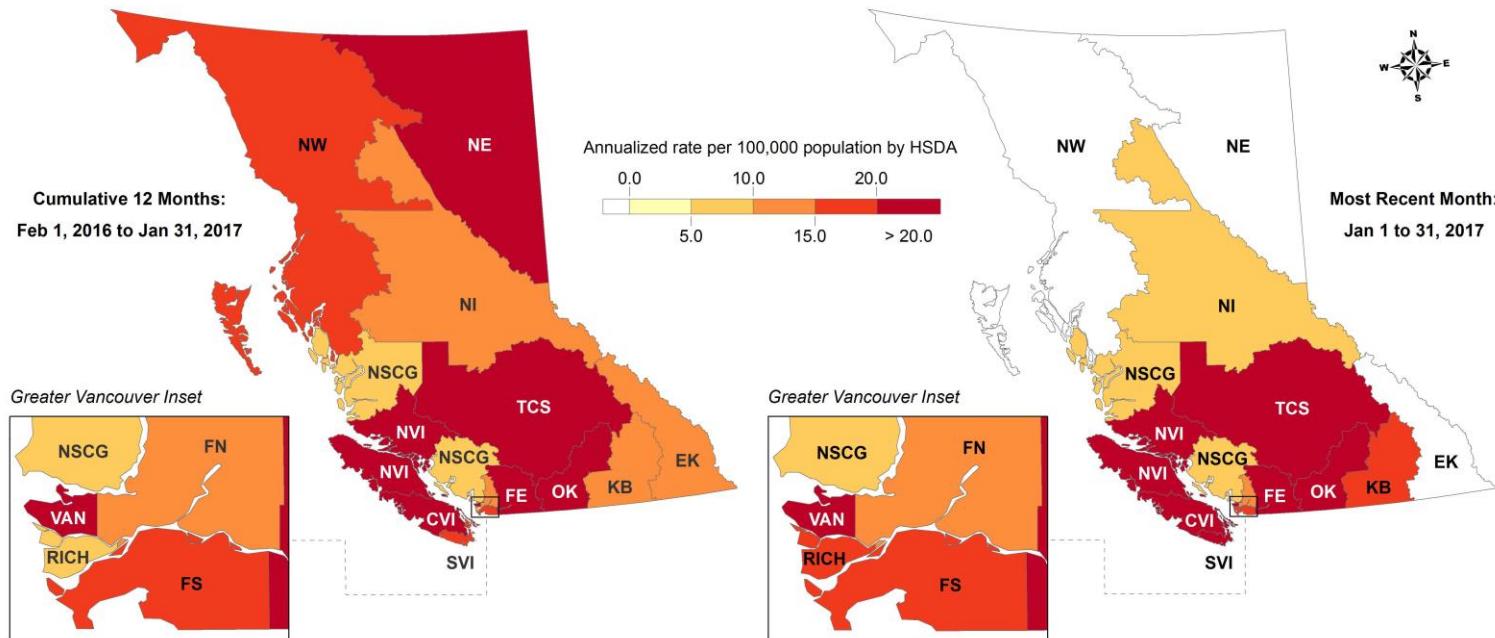
SOURCE: 2016 Rates of Illicit Drug Deaths: Numerator Data: British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – February 28th, 2017, <http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>. Denominator Data: BC Statistics Population Estimates

Mapping rates of illicit drug overdose deaths by Health Services Delivery Area (HSDA) or Local Health Area (LHA) (See Appendix 2) assists in local and regional overdose prevention activities and resource allocation. The BC Coroners reports are updated and released publicly on monthly basis and include mortality maps at the HSDA level. Mortality maps can also be found at: <http://www.bccdc.ca/health-professionals/clinical-resources/harm-reduction/overdose-data-reports>

In the 12 months from February 1st, 2016 to January 31st, 2017 (left hand map in Figure 3), HSDAs with overdose mortality rates greater than 15 deaths per 100,000 population are:

- Thompson Cariboo Shuswap and Okanagan in Interior Health
- Northeast and Northwest in Northern Health
- Vancouver in Vancouver Coastal Health
- North Vancouver Island, Central Vancouver Island, and South Vancouver Island in Island Health
- Fraser East and Fraser South in Fraser Health

Figure 3. Annualized Rates of Illicit Drug Overdose Deaths, BC Coroners Service, British Columbia, February 1st, 2016 to January 31st, 2017 (12 months) side-by-side with January, 2017 (1 month)



The map on the right shows the most recent month with mapping available, January, 2017, in which 117 deaths due to illicit drug overdose were reported by BCCS. In February, 2017 (not mapped), there were 102 deaths reported.

SOURCE:

Numerator Data: British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – February 28, 2017, <http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>
 2017 Denominator Data: BC Statistics PEOPLE,
<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationProjections.aspx>

2007 – 2016 Denominator Data: BC Statistics Population Estimates,
<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>

What are the characteristics of those who are overdosing in the recent epidemic?

In the January, 2017 BCCDC/BCOPPH report, based on enhanced ED case reporting in three British Columbia health authorities (Interior, Island and Northern Health), we characterized sex and age distribution, proportion experiencing unstable housing, and the most common drugs reported by patients experiencing an overdose and attending an ED. (See January, 2017 BCCDC/BCOPPH report for technical details on enhanced ED case reporting)

Summary (includes additional data up to March 4th, 2017):

- A total of 1,509 reports were received from 47 hospital and community health centre EDs across the three participating health authorities between June 5, 2016 and March 4, 2017. A number of patients had multiple encounters due to overdose. Therefore, **1,261 different individuals were seen at an ED for a known or suspected opioid overdose** during the nine months.
- **Males made up two-thirds of patients attending ED for a known or suspected opioid overdose.** Differences between health authorities were noted; males comprised 59% of the cases in Northern Health compared with 74% in Island Health.
- The mean age at the time of ED visit due to opioid-related overdose was **35 years** in all Health Authorities. Nearly two-thirds of patients were between 20 and 39 years of age, and **approximately 80% were between 20 and 49**.
- **Unstable housing was common.** Nearly 1 in 5 patients had no fixed address and the address was unknown for another 10% of cases, suggesting up to 30% may be experiencing unstable housing. There was significant variation by region. From other data, we know that **those with no fixed address are more likely to experience repeat overdoses**.
- **The largest proportion of patients reported using only opioids, most commonly heroin** followed by other illicit opioids. In about one-third, opioids and another drug type, such as cocaine or alcohol, was reported. The smallest proportion of patients was taking only non-opioid drugs, most commonly an illicit stimulant such as cocaine or methamphetamine.
- Information on location of drug use was not provided for 15% of reported cases. Among those with responses, approximately **half (51%) indicated consuming the drug in a private residence**. Meanwhile, one in three (32%) indicated they consumed in a public space/street. Various other locations such as a shelter or hotel were also listed.
- Most ED visits due to an opioid-related overdose occurred in **larger urban centres**. However, **overdoses were reported in a large number of smaller communities** in each Health Authority – a total of 18 communities in Interior Health, 10 in Island Health, and 19 in Northern Health.
- Only 60% of cases reported on the frequency of their drug use, of those, two-thirds reported daily use and the remainder weekly or less often. **Naloxone was given to patients in the ED in 77% of the overdose cases** reported between June 5, 2016 and March 4, 2017.

March 2017 Update:

Little has changed over time in regards to these characterizations. It is important to consider that while **81% of deaths in 2016 were in males, only 2/3 of ED patients are males**. This raises important questions such as whether men are more likely to use substances alone, not have someone nearby who can call 911 or use substances in less safe ways, as compared to females. Given **over half of overdoses occurred in private residences**, what are the ways can we reach out to and enhance safety for people using alone in a private residences?

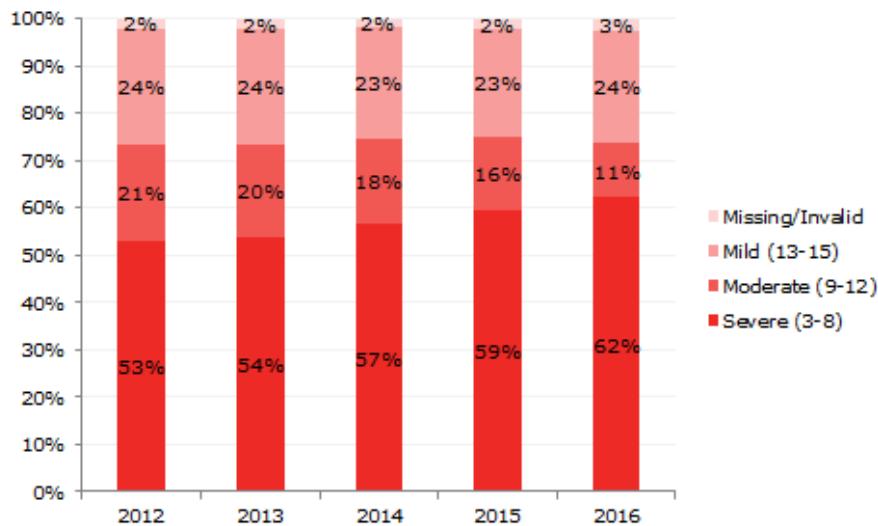
Severity of Overdoses

In the January 2017 BCCDC/BCPPHO report, we examined several indicators to determine if reported overdoses had become more severe throughout 2015 and 2016, as compared to previous years, due to fentanyl emergence. (Figures below are from January, 2017 BCCDC/BCOPPH report, Figures 7 – 9)

Summary:

- The Glasgow Coma Scale evaluates the severity of patient presentation from mild (alert and responding/normal conscious) to severe (deep unconscious, blue) on a 15 point scale. Among paramedic attended events in which naloxone was given, **severity has been increasing each year**.

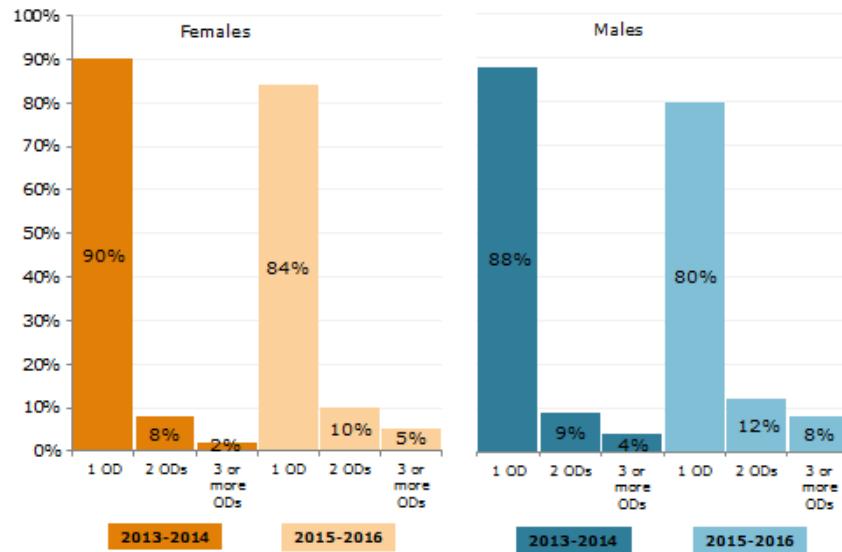
Figure 7. Proportion of Naloxone Administrations by Paramedics categorized by the Glasgow Coma Scale from Mild to Severe, BC, 2012–2016



SOURCE: British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record Data. Analysis and figure by BCCDC.

- Comparing single vs. multiple overdoses in the two-year period prior to fentanyl emergence (2013-2014) with the two years since (2015-2016), the majority of overdoses attended by BC paramedics were in people overdosing once in the period. **Since fentanyl emergence, there has been an increase in repeat overdoses in both sexes.**

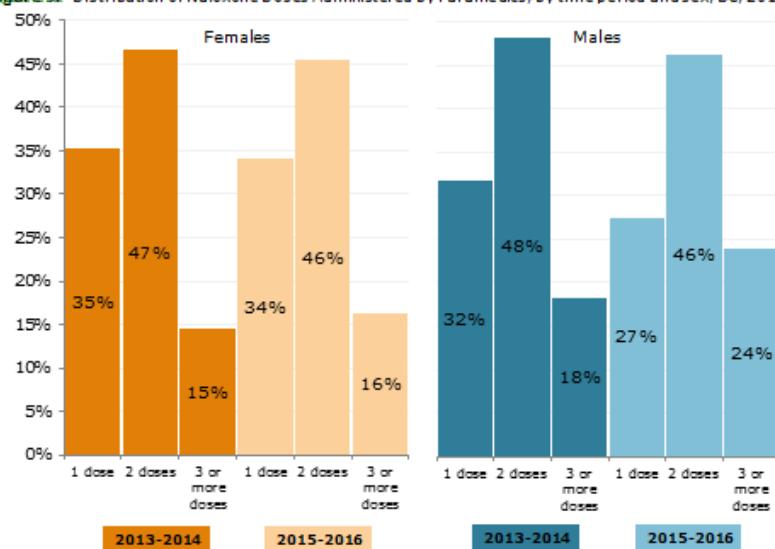
Figure 8. Proportion of Ambulance Attended Repeat Overdoses, by time period and sex, BC, 2013-2016



SOURCE: British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record Data. Analysis and figure by BCCDC.

- In both males and females, the proportion of patients administered one and two 0.4mg doses of naloxone declined slightly in 2013-2014 as compared to 2015-2016, whereas **the proportion receiving three or more doses has increased, most notably in males.**

Figure 9. Distribution of Naloxone Doses Administered by Paramedics, by time period and sex, BC, 2013 – 2016



SOURCE: British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record Data. Analysis and figure by BCCDC.

March 2017 Update:

- Since 2012, fentanyl has been increasingly detected in both illicit drug deaths (BCCS) and in urine samples by laboratory testing services and in other settings.
- Illegal fentanyl-detected deaths appear to account for the increase in illicit drug overdose deaths since 2012. <http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>
- On December 5th, 2016, the Alberta government released a bulletin on the toxic opioid, carfentanil, which was linked to 15 deaths. <https://www.alberta.ca/release.cfm?xID=449592B2D1813-CB6E-055D-0800F5C807A854D8>
- On February 1st, 2017, LifeLabs confirmed carfentanil presence in urine drug testing conducted in BC from January 10th, 2017 and have continued to monitor weekly. Percent positivity has been approximately 4%-6% throughout early January to early March, 2017. <https://news.gov.bc.ca/releases/2017HLTH0020-000224>
- On February 8th, 2017, Island Health released a confirmation of carfentanil following a positive urine sample and an illegal drug seizure in South Vancouver Island. <http://www.viha.ca/NR/rdonlyres/9A2C6B92-DAA1-4595-82D7-76CD78DF8792/0/PNLNo283Carfentanilforwebsite.pdf>
- On March 2nd, 2017, Interior Health, BC, released a confirmation of carfentanil following a positive carfentanil drug test in the Kootenay region, reported by Health Canada and positive urine testing in the Thompson Cariboo Shuswap region reported by LifeLabs.
<https://www.interiorhealth.ca/AboutUs/MediaCentre/NewsReleases/Documents/Carfentanil%20presence%20confirmed%20in%20Interior%20Health.pdf>
- Carfentanil presence has been confirmed in all five geographic health authorities in BC.

What do we know about overdose and drug use in youth?

Using multiple data sources to look at the age groups most affected by overdose, the majority of overdose events, non-fatal and fatal, occur in adults aged 20–49 years. Teens make up 1–3% of illicit drug overdose deaths each year and this proportion is not increasing over time, and may be decreasing as a proportion of all overdoses recently.

Most critically, each year from 2007 – 2015, 26 BC teens died from an apparent illicit drug overdose and, in 2016, due to the overall increase in overdose, 12 teens died.

Other Information on Youth:

In January 2016, BCCS released a review focusing on what can be done to prevent death when a young person overdoses and identifying prevention opportunities in youth (13–18 years) and young adults (19–23 years).

<http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/child-death-review-unit/reports-publications/overdose-death-youth-young-adult.pdf>. Recommendations include reducing barriers to calling 911 and accessing take home naloxone, among others.

The Centre for addictions Research of BC (CARBC) conducts a Victoria-based study of youth (14–24 years) who use substances and are recruited from street-based settings such as drop-in and emergency shelter programs.

<https://www.uvic.ca/research/centres/carbc/assets/docs/infographic-youth-street-based.pdf>

Findings from the CARBC study, from 2010 – 2015:

- the average age of participants was 19
- 65% were males
- 49% were experiencing housing instability
- 16% living with parents/caregivers
- Tobacco, marijuana, and alcohol were most commonly reported drugs used in the last 30 days
- 34% reported prescription opioid use and 23% reported heroin use in the last 30 days
- 29% had ever injected drugs

Links to information for parents, caregivers, schools:

- <http://www2.gov.bc.ca/gov/content/overdose/talking-to-youth>
- <http://www.fraserhealth.ca/health-info/health-topics/harm-reduction/overdose-prevention-and-response/overdose-for-schools-and-parents/for-schools-and-parents>
- <http://www.health.alberta.ca/documents/Fentanyl-Information-Parents-Teachers-2016.pdf>
- <http://emcs.web.sd62.bc.ca/wp-content/uploads/sites/8/2016/12/Fentanyl-related-Parenting-Tips.pdf>

Overdose Prevention Sites (OPS)

There are currently 20 overdose prevention sites operating throughout BC in areas with high overdose rates. The purpose of overdose prevention services is to ensure someone who is appropriately trained is present to provide rapid intervention when an overdose occurs, preventing brain injury and death. Teams of community staff who are trained in overdose response provide people who use illegal drugs with a safe space to be monitored. Staff is equipped with naloxone and appropriate overdose response training. Education on safer use of drugs can prevent overdose events and, with careful monitoring, not all overdose events will require naloxone administration but may require oxygen, breaths, and/or keeping the person stimulated/alert.

OPS vary considerably in how they are structured and function. Some OPS were created in new locations; whereas others were enhancements of existing harm reduction services and some are linked to outreach services. Services are tailored to local needs and existing resources for people most at-risk of overdose. Reasons for client visits to these locations include accessing a variety of services and not necessarily for overdose prevention services.

<https://news.gov.bc.ca/releases/2016HLTH0092-002646>

Table 2. Overdose Prevention Site Visits, Overdose Events, and Deaths, by Health Authority, December, 2016 – March, 2017

Health Authority	Overdose Prevention Sites	Estimated Number of Visits to Date*	Number of Overdose Events to Date*	Number of Deaths
Fraser	6	20,885	111	0
Interior	3	3,285	12	0
Northern	1	1,344	13	0
Vancouver Coastal	5	34,228	268	0
Island	5	6,862	77	0
Total	20	66,604	481	0

* Fraser – January 30, 2017 to March 12, 2017; Interior – Inception to March 11, 2017; Northern – Inception to March 12, 2017; Vancouver Coastal to Inception to March 12, 2017; Island – Inception to March 4, 2017.

The BCCDC and the BC Observatory for Population and Public Health gratefully acknowledge our colleagues in the Regional Health Authorities and Overdose Prevention Sites for their work in collecting and providing this data.



BC Centre for Disease Control



Mobile Medical Unit (MMU)

The Mobile Medical Unit is a critical care unit and health care team that can be moved to locations requiring emergency support. Since December 13, 2016 to March 12, 2017, more than 2,158 visits presented at the province's Mobile Medical Unit station in the Downtown Eastside, including **523 overdoses**, relieving pressure on local emergency departments and paramedics. There is some overlap between OPS and MMU, 31 patients with overdoses were transferred to the MMU from an OPS. <http://www.bcmmu.ca/our-services>.

BC Take Home Naloxone Program

BC's Take Home Naloxone Program (THN) began in late 2012 with the mandate to distribute free naloxone kits to individuals at risk of opioid overdose. Recently, the THN program expanded distribution to those who are likely to witness and respond to an overdose. Up to March 4th, 2017, over 32,858 personal naloxone kits have been distributed. In 2016 alone, 294 distribution sites have registered and there are now over 475 THN distribution sites across BC. These sites are located in harm reduction sites, health units, EDs, and correctional facilities.

Table 3. BC Take Home Naloxone Program Information and Statistics from Inception (September, 2012) to March 5th, 2017

	Sept-Dec 2012	2013	2014	2015	2016	2017 (March 5 th)	Total
New Sites Enrolled	6	27	63	17	294	68	475
Kits Dispensed	107	618	1,200	3,392	21,945	5,487	32,858*
THN Kits administration events**	5	36	127	427	4,231	1,331	6,157

*109 dispensation records missing date

**based on kit refills for reason given: used on self or other for to reverse an overdose

SOURCE: British Columbia Centre for Disease Control, Take Home Naloxone administrative data

BC THN Program Statistics by Year

- Program Statistics to Date: <https://infograph.venngage.com/publish/2245254a-ccaa-461b-87ec-ec97a4840525>
- Find a harm reduction or naloxone site near you: <http://towardtheheart.com/site-locator>

BC Facility Overdose Response Box Program

In December, 2016, BC's Facility Overdose Response Box Program (FORB) was launched to provide multi-dose (5, 10, or 20 dose) naloxone boxes to facilities. As of March 16th, 2017, 248 facilities have registered. Prior to receiving an overdose response box, facilities have to develop an overdose policy and commit to staff training and demonstrate the capacity to support staff and provide reports back to the program. (<http://towardtheheart.com/naloxone/forb/>)

To date, 162 boxes have been distributed to community organizations in which overdoses are likely to occur, **including supportive housing (46%), subsidized housing (20%), drop-in centres (21%), shelters (16%)**, among other organization types (not mutually exclusive).

The top five cities that have received boxes are Vancouver, Kelowna, Surrey, Vernon, and Victoria. Boxes have been distributed in all five geographic health authorities.

Table 4. BC Facility Overdose Response Box Program, Distribution by Health Authority,
December 1st, 2016 to March 16th, 2017

Health Authority	Boxes Sent
Fraser	36
Interior	29
Northern	4
Vancouver Coastal	68
Island	25
Total	162

SOURCE: British Columbia Centre for Disease Control, FORB administrative data



BC Centre for Disease Control



BC's Response to the Opioid Overdose Crisis:

On June 9th, 2016, BCCDC hosted the BC Overdose Action Exchange, a meeting that brought together a wide range of stakeholders to propose programs and policies that could strengthen BC's response to the overdose crisis. A report about the outcomes is available at: <http://www.bccdc.ca/resource-gallery/Documents/BCOAE-Meeting-Report.pdf> and supplementary materials: <http://www.bccdc.ca/resource-gallery/Documents/BCOAE-supplementary-materials.pdf>.

To learn more about BC's actions in response to the public health emergency, identifying achievements to date and next steps underway, see the bi-monthly progress reports available at:
<http://www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/current-health-topics>.

Overdose Related Resources:

- If you suspect someone is overdosing, don't wait. Dial 911 right away.**
- Carry a naloxone kit. Know how to use it to save someone's life. Make sure someone is nearby and knows how to use it to save yours. **Naloxone is a temporary fix – you still need to call 911.**
- Need help finding naloxone? Need to review training materials on how to respond to an overdose?
 - <http://towardtheheart.com/site-locator>
 - <http://www2.gov.bc.ca/gov/content/overdose/what-is-naloxone>
- Overdose Information and Resources by Organization:
 - Vancouver Coastal Health: <http://www.vch.ca/your-health/health-topics/overdose-prevention-and-response/>
 - Fraser Health: <http://www.fraserhealth.ca/health-info/health-topics/harm-reduction/overdose-prevention-and-response/>
 - Interior Health: <https://www.interiorhealth.ca/AboutUs/Leadership/MHO/Pages/PHEmergency.aspx>
 - Island Health: <http://www.viha.ca/mho/overdose.htm>
 - Northern Health: <https://northernhealth.ca/YourHealth/OverdosePrevention.aspx>
 - First Nations Health Authority: <http://www.fnha.ca/what-we-do/mental-wellness-and-substance-use/overdose-information>
 - BC Coroners Service: <http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/death-investigation/statistical/illicit-drug.pdf>
 - BC Centre for Disease Control: <http://www.bccdc.ca/health-professionals/clinical-resources/harm-reduction/overdose-data-reports>
- Most importantly, know there are resources available to help you whether you are using drugs for the first time or have used them frequently. If you would like more information or you're concerned about your own or someone else's use of illicit drugs, explore <http://www2.gov.bc.ca/gov/content/overdose>. Resources include:
 - signs of an overdose
 - responding to an overdose
 - tips to prevent an overdose
 - services and treatment support
 - frequently asked questions
 - specific resources for parents and families
- Looking for alerts on what is happening with drugs?
 - <http://towardtheheart.com/> (alerts on right hand sidebar)
 - <https://redcap.mobilityandhealth.ca/redcap/surveys/?s=8WK9MDDTCX%20>
 - <http://towardtheheart.com/ezine/9/2015-substance-use-trends>



BC Centre for Disease Control



Appendix 1: BC Opioid Overdose Surveillance Task Group Partner Organizations

BC Coroners Service
BC Centre for Excellence in HIV/AIDS
BC Drug and Poison Information Centre
BC Emergency Health Services
BC Ministry of Health
BC Observatory for Population and Public Health
Interior Health
First Nations Health Authority
Fraser Health
Vancouver Coastal Health
Vancouver Island Health
Northern Health
Ministry of Public Safety & Solicitor General
Surrey RCMP
Vancouver Police Department

Appendix 2: Reference Map for Geographic Health Authorities:

There are five geographic Health Authorities in BC: Interior, Fraser, Vancouver Coastal, Island, and Northern Health. Health Authorities are further subdivided into Health Services Delivery Areas (HSDA) and Local Health Areas (LHA). A reference map is available at:

<http://www.bcstats.gov.bc.ca/statisticsbysubject/geography/referencemaps/health.aspx>

Appendix 3: list of data sources, definitions, caveats, interpretations

Data Sources for Report:

- 1) British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – November 30, 2016
- 2) British Columbia Emergency Health Services, BC Ambulance Service, Ambulance Dispatch Data
- 3) British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record Data
- 4) British Columbia Statistics, PEOPLE 2016
- 5) British Columbia Statistics, Population Estimates
- 6) Enhanced Emergency Department Case Reporting Data, Interior, Northern, and Island Health Authorities, BC, June 5th to November 5th, 2016
- 7) British Columbia Centre for Disease Control, Take Home Naloxone administrative data

Information on Data Sources:

- 1) British Columbia Coroners Service, Illicit Drug Overdose Death in BC, Report, January 1, 2007 – November 30, 2016:

Report summarizes all unintentional illicit drug overdose deaths in British Columbia (accidental and undetermined). It includes confirmed and suspected illicit overdose deaths. Data is subject to change as investigations are concluded.

Inclusion Criteria: The *apparent illicit drug overdose* category includes:

- Street drugs (controlled and illegal drugs: heroin, cocaine, MDMA, methamphetamine, illicit fentanyl, etc.)
- Medications not prescribed to the decedent but obtained/purchased on the street or from unknown means
- Origin of drug not known
- Combinations of above

Please note that this definition is not restricted to opioid-related deaths. However, in 2016, illegal fentanyl was detected in 60% of this category of fatalities.

- 2) British Columbia Emergency Health Services, BC Ambulance Service, Ambulance Dispatch Data:

This data relies on the Medical Priority Dispatch System Data (MPDS). Information for all pre-hospitalization ambulance calls, provided by the person making the 911 call, is recorded according to one of 33 possible categories. As this is a layperson's assessment, it is subject to inaccuracies and lack of detail. These data are non-nominal (no patient names) and are sent weekly from BC Emergency Health Services (BCEHS) to the BC Centre for Disease Control (BCCDC). The weekly call volumes for code 23, Ingestion Poisoning, are tracked.

- 3) British Columbia Emergency Health Services, BC Ambulance Service, Patient Care Record (PCR) Data:

Paramedics complete paper forms on each event including impression codes and whether naloxone was given and dosage. These paper forms are manually entered as electronic data; hence the lag time for information may be up to 2 months.

BCCDC receives all records from the BCEHS PCR database where the Medical Procedure Code indicates Naloxone was administered OR the Primary Impression code indicates Poisoning/Overdose (1746, 1747, 1780, 1785, 1765, 1770, 1742, 1790, 1708, 1775) OR the MPDS code indicates overdose or ingestion poisoning.

The Estimated Number of Illegal Drug Overdoses is based on an algorithm that defines probable opioid overdoses according to if naloxone was administered, and other probable illegal drug overdoses according to other data in situations where naloxone was not administered. This algorithm excludes events recorded as alcohol poisoning or overdoses due to prescription medications.

- 4) British Columbia Statistics, PEOPLE 2016:

<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationProjections.aspx>

At BC Centre for Disease Control, the practice is to use the Population Estimates dataset for rates denominators for previous years and the current PEOPLE data is used for current and future years.

- 5) British Columbia Statistics, Population Estimates:

<http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx>

At BC Centre for Disease Control, the practice is to use the Population Estimates dataset for rates denominators for previous years and the current PEOPLE data is used for current and future years.

- 6) Enhanced Emergency Department Case Reporting Data, Interior, Northern, and Island Health Authorities, BC, June 5th to November 5th, 2016:

In response to the BC public health emergency declaration, public health officials in three BC health authorities (Interior, Island and Northern Health) implemented an enhanced surveillance program in hospital and health center Emergency Departments. Healthcare providers were asked to complete a case report form for each patient seen in the ED with a known or suspected opioid overdose and provide the information to the local Medical Health Officer. All case report forms are entered into a secure database at each health authority and the information is reviewed by public health epidemiologists. Database extracts are forwarded each week to the British Columbia Centre for Disease Control (BCCDC) where the files are merged. Staff at the British Columbia Observatory for Population and Public Health analyze the merged data and provide regular reports.

- 7) British Columbia Centre for Disease Control, Take Home Naloxone administrative data is largely paper based with forms returned to BC Centre for Disease Control for data entry. Data lags 1-2 months.

- Harm Reduction Sites and Take Home Naloxone Distribution Sites and Facility Overdose Response Box Sites registration information
- Orders placed for harm reduction supplies, take home naloxone kits and separate supplies and boxes
- THN training records
- THN distribution records
- Overdose Response Event Questionnaires