

KNOWLEDGE UPDATE



TOPIC: Preliminary Results from the 2017 B.C. Provincial Overdose Cohort Refresh

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DATA SOURCE: B.C. Provincial Overdose Cohort

BACKGROUND

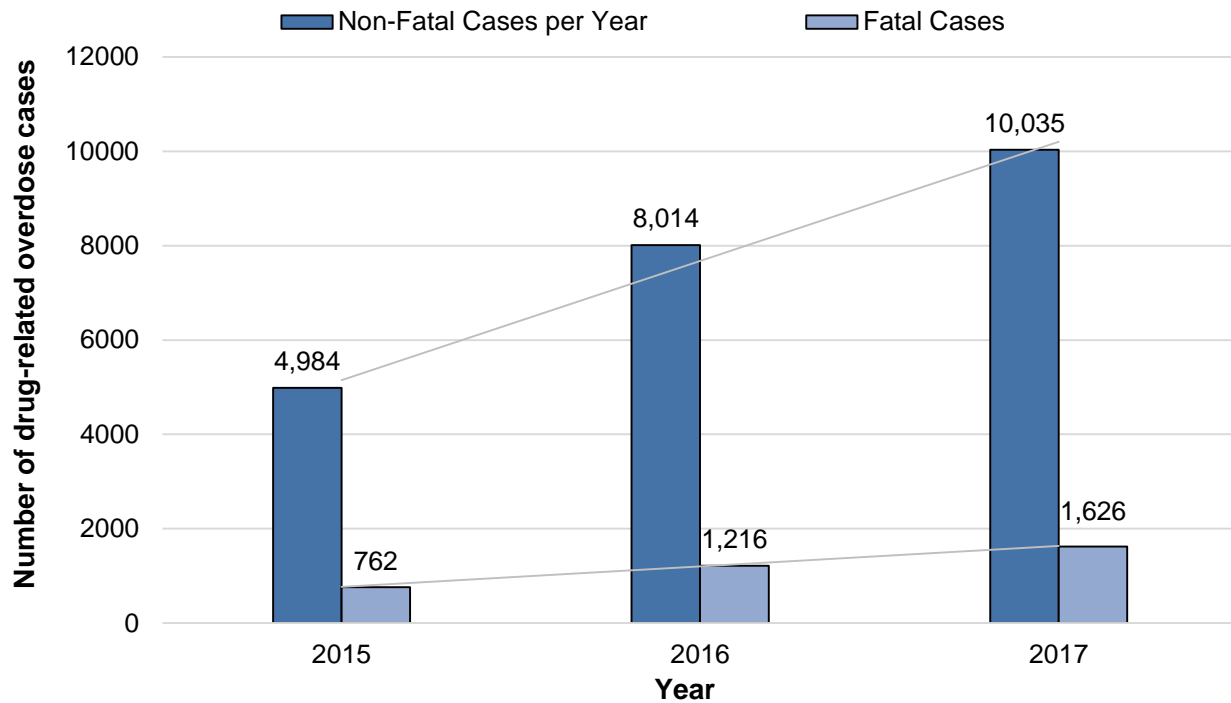
- The B.C. Provincial Overdose Cohort is a set of linked datasets which identifies drug-related overdose events, including death, ambulance, emergency room, hospital, physician, and prescription records. The datasets were brought together to better understand the factors associated with drug-related overdose in order to target provincial, regional, and local response efforts.
- An overdose **encounter** is defined as any health care interaction related to an overdose from any single data source included in the Cohort (BC Coroners Service, Discharge Abstract Database, BC Emergency Services, Drug and Poison Information Centre, National Ambulance Care Reporting System, Enhanced Emergency Department, Medical Services Plan, BC Vital Statistics).
- An overdose **episode** is defined as a grouping of overdose encounters that are related (i.e. part of a single overdose but recorded across multiple data sources) and no more than 24 hours apart. A minimum of one encounter is required to meet our case definition for overdose.
- Overdose **cases** are persons with at least one drug-related overdose episode that occurred between January 1st, 2015 and December 31st, 2017. This group includes 23,161 people, most of whom experienced a non-fatal overdose. Overdose cases are people who had an overdose and interacted with health care services through any of the above mentioned data sources. People who had an overdose and did not interact with any health care services were not captured, therefore, the true number of overdose cases in B.C. is higher.
- A reference population of randomly selected B.C. residents and a matched control population are available for comparison to examine patterns of health service utilization. Controls were matched based on sex, age, and local health area, and include over 1,000,000 people.
- The focus of this update is to summarize preliminary characteristics of people who experienced drug-related fatal and non-fatal overdoses in 2017 using the updated B.C. Provincial Overdose Cohort data.

KEY FINDINGS:

Overall

- There were 23,161 people who experienced a drug-related overdose between 2015 and 2017. Of these overdose cases, 3,604 (15.6%) were **fatal**.
- There were 36,576 drug-related overdose episodes in B.C. between 2015 and 2017. Of these overdose episodes, 3,604 (9.9%) were **fatal**.
- The 3,604 fatal drug-related overdoses were identified using the episodes algorithm. The algorithm includes persons whose primary cause of death was an ICD-code indicating drug poisoning or where a drug-related overdose was indicated in an overdose episode in which death occurred.
- The number of persons who have had a fatal or non-fatal drug-related overdose doubled between 2015 and 2017. There was a 113% increase in fatal drug-related overdose cases and a 101% increase in drug-related non-fatal cases.

Figure 1: Fatal and Non-Fatal Drug-Related Overdose Cases between 2015 and 2017



Events by Health Authority

- The highest number of **fatal** drug-related overdose cases between 2015 and 2017 occurred in the Fraser Health Authority (N=1,231). However, taking population into account (drug-related fatal overdoses per 100,000 residents in B.C. in 2017) Interior Health had the highest at 38.2 overdoses per 100,000 residents followed by Vancouver Coastal Health (35.7), Vancouver Island Health Authority (34.8), Fraser Health Authority (30.5), and Northern Health (27.2).
- The highest number of **non-fatal** drug-related overdose cases between 2015 and 2017 occurred in the Fraser Health Authority (N=6,838). Taking population into account (non-fatal overdoses per 100,000 residents in B.C. in 2017) Vancouver Coastal Health had the highest at 234.9 overdoses per 100,000 residents followed by Northern Health (230.8), Vancouver Island Health Authority (212.1), Interior Health (203.3), and Fraser Health Authority (178.9).

Table 1: Fatal Drug-Related Overdose Cases per 100,000 by Health Authority			
Health Authority (Total N Cases)	2015	2016	2017
Interior (N=612)	13.9	29.5	38.2
Fraser (N=1,231)	16.1	22.4	30.5
Vancouver Coastal (N=926)	17.1	26.1	35.7
Vancouver Island (N=603)	16.8	25.3	34.8
Northern (N=206)	16.1	30.8	27.2

^26 cases missing geographical information

Table 2: Non-Fatal Drug-Related Overdose Cases per 100,000 by Health Authority			
Health Authority (Total N Cases)	2015	2016	2017
Interior (N=2,958)	83.4	156.9	203.3
Fraser (N=6,838)	111.8	162.6	178.9
Vancouver Coastal (N=5,040)	119.1	175.6	234.9
Vancouver Island (N=3,124)	81.9	165.7	212.1
Northern (N=1,262)	117.6	176.2	230.8

^335 cases missing geographical information

Repeat Overdose Episodes

- Repeat drug-related overdose episodes are calculated for each calendar year and are not additive over the 3 year period (2015-2017).
- There is a decreasing proportion of persons who have experienced one drug-related overdose episode. In 2015, 87.7% of people had one overdose episode while in 2017, 78.5% of people had one overdose episode in the calendar year.
- In contrast, an increasing proportion of people are experiencing 3 or more drug-related overdose episodes in a calendar year, from 3.6% of cases in 2015 to 8.7% in 2017.

Health Care Utilization

- 92.1% of persons who had a non-fatal drug-related overdose in 2017 had a visit to an ED, physician or hospital in the 12 months prior to their overdose, compared to 93.8% of non-fatal cases in 2015.
- 84.7% of persons who had a fatal drug-related overdose in 2017 had a visit to an ED, physician or hospitalization in the 12 months prior to their overdose. This is similar to previous years, with 90.9% in 2015 and 88.4% in 2016.

Table 3: Health Care Utilization	2015	2016	2017
Any ED visit in previous 12 months prior to last drug-related overdose			
Fatal cases	68.5%	64.1%	58.5%
Non-Fatal Cases	82.2%	82.8%	82.3%
Any physician visit to a community practitioner in the 12 months prior to last drug-related overdose			
Fatal cases	82.2%	77.4%	73.5%
Non-Fatal Cases	79.6%	76.6%	74.8%
Any ED, physician or hospitalization in the 12 months prior to last drug-related overdose			
Fatal cases	90.9%	88.4%	84.7%
Non-Fatal Cases	93.8%	92.9%	92.1%

KEY MESSAGES AND NEXT STEPS:

- From 2015 to 2017, there was an increase in the number of fatal and non-fatal drug-related overdose events across health authorities in British Columbia. An increasing proportion of persons who have a drug-related overdose experience more than one overdose per year.
- There are changing patterns of health care utilization by persons who have had a drug-related overdose. There is a slight decrease in health care utilization over time (2015 – 2017). Additional analyses are required to explore the factors which may be leading to shifts in health care utilization among people who overdose.

NEXT STEPS:

- Additional multi-year analyses that are forthcoming:
 - Injury location and geography/demographic variations
 - Prescribing of OAT and opioids for pain
 - OAT initiation and retention
 - Decline transport cases seen by BCEHS
 - Post-emergency department follow up and future overdose/health care utilization patterns
 - Time to overdose among persons released from incarceration
 - Others as requested

- New data that has been received or that is under development to be incorporated into the Cohort in the future includes:
 - BC Corrections
 - Mental Health Data Warehouse, Ministry of Health
 - Social Assistance Data, Ministry of Social Development and Poverty Reduction

FOR MORE INFORMATION

- If you have any questions please contact Chloé Xavier at Chloe.Xavier@bccdc.ca

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