BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Topic: Analyzing prescription drug histories among people who overdose

Date: February 15, 2018   **Data Source:** B.C. Provincial Overdose Cohort

Purpose:

- To summarize key findings from analyses that examined prescription medication histories among people who overdosed (i.e. Overdose Cohort) relative to a control group.

Background:

- The BC Provincial Overdose Cohort is a set of linked datasets related to overdose events, including death, ambulance, emergency room, hospital, physician, and prescription records. The datasets were brought together to better understand factors associated with overdose to enhance the targeting of provincial, regional, and local response activities.

- Exploring prescribing history among those who overdose is important in enhancing our understanding of the similarities and differences in medication use among those who experienced an overdose and those who did not.

- The Overdose Cohort refers to individuals with at least one drug-related overdose that occurred between January 1st, 2015 and November 30, 2016. This group includes approximately 10,000 individuals, most of whom experienced a non-fatal overdose.

- The Control Cohort refers to a set of randomly selected B.C. residents who are of same sex, age, and reside in the same local health authority as those who overdosed. This group is used as a comparator to understand similarities and differences between those who experienced an overdose and members of the general population who did not. It includes approximately 50,000 individuals.

Key Findings:

- Consumption of opioids for pain is measured by morphine equivalent units, which take into account both the number of prescriptions and their strength.

- Opioid consumption in the general B.C. population started to decline in late 2015, prior to the June 2016 release of new prescribing standards for opioids, benzodiazepines/sedative hypnotics and stimulants by the College of Physicians and Surgeons of BC.

- Regional differences in consumption of opioids for pain exist across the province.

- Use of opioid agonist therapy (OAT) for treatment of opioid use disorders (e.g. methadone (Methadose) or buprenorphine (Suboxone)) increased during 2015 and 2016 both in the Overdose Cohort and the Control Cohort.
  - This increase corresponds with the point in time at which buprenorphine/naloxone (Suboxone) was put on the provincial formulary – meaning it was available at reduced or no cost to people eligible for PharmaCare.

- Individuals in the Overdose Cohort are more likely to have a history of consumption of OAT compared with the Control Cohort.

- Individuals in the Overdose Cohort are more likely to have history of chronic use of opioids for pain compared with the Control Cohort.

- However, the majority of those who overdosed did not have an active prescription for OAT at the time of overdose or in the past 5 years.

- Similarly, the majority of those who overdosed did not have a history of use of opioids for pain use at the time of overdose or in the past 5 years.

- Results suggest that while past or current use of prescribed opioids for pain may be a contributing factor to the overdose crisis for some individuals, other factors are likely involved and will be confirmed through future work.

- Individuals in the Overdose Cohort have a higher level of consumption of psychotropic medications (e.g., antidepressants, antipsychotics, benzodiazepines) compared to the Control Cohort, suggesting a potentially higher burden of mental illness in this group.

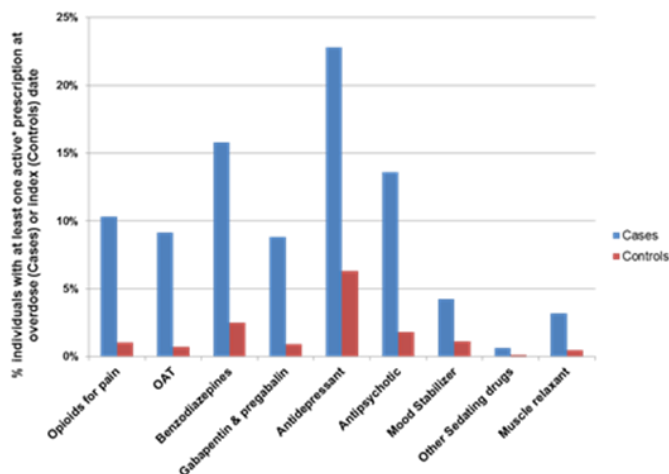- The level of prescribing indicates that many who overdosed were using healthcare services.

Figure 1. Active prescriptions at the time of overdose

Next Steps:

Upcoming analyses of the BC Provincial Overdose Cohort will examine prescription-related and other risk factors associated with experiencing an overdose, such as discontinuation or initiation of opioid therapy. Researchers will also examine initiation and retention of individuals on therapy indicated for substance use disorder prior to and following overdose events.

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