



**Topic:** Analyzing patterns of health care utilization among people who overdose from illegal drugs in British Columbia

**Date:** March 5, 2018

**Data Source:** B.C. Provincial Overdose Cohort

**Purpose:**

- To summarize key findings on patterns of healthcare utilization and diagnoses among people who overdosed compared to a matched control group.

**Background:**

- The B.C. 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.
- Understanding how people who overdose use the healthcare system helps to identify points of contact for engagement in supportive care and delivery of evidence-based interventions. Furthermore, investigating healthcare diagnoses may reveal patterns that indicate a high risk of overdose or provide information on comorbidities that increase risk of overdose death.
- Overdose cases refer to people 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.
- Matched controls are 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 for patterns of health service utilization of overdose cases during the same calendar period. It includes approximately 50,000 individuals.
- These preliminary findings summarise patterns of healthcare use in the year prior to first recorded overdose based on the primary diagnoses listed in administrative health data from emergency departments, hospitals and community physicians in BC. These findings are presently under review for upcoming publication in a peer-reviewed journal.

**Key Findings:**



*Overall*

- People who overdosed from illegal drugs had high rates of healthcare service use in the year prior to their overdose, through emergency department visits, hospital admissions, and appointments with community physicians.
- Yet, one in six people who overdosed had no contact with emergency departments, hospitals or community physicians in the year before overdose.
- In the year prior to overdose, substance use and mental health-related concerns were the most common diagnoses, whereas pain related diagnoses were relatively rare. Yet, a substantial fraction of overdose cases did not have any substance or mental health related diagnoses in the year prior to overdose.
- People who experienced a fatal overdose had similar patterns of health care utilization as those who experienced a non-fatal overdose.

*Emergency department visits and hospital admissions in the year prior to first recorded overdose*

- People who experienced an overdose visited emergency departments and were admitted to hospital four to eight times more often than control individuals.
- In the emergency department, one in five people who went on to overdose left without being seen by a doctor, or against medical advice. Roughly 40% of overdose cases who left emergency departments without being seen had no other healthcare encounters in the following week, and seven individuals died of overdose within a week of leaving without being seen.
- Diagnoses related to substance use and mental health conditions were significantly more common among people who overdosed than among controls. Nevertheless, 60% of overdose cases did not have diagnoses related to substance use and mental health conditions recorded as the primary reason for visits to emergency departments or admissions to hospitals.
- People who experienced a fatal overdose had similar diagnoses in both emergency departments and hospitals compared to those who experienced non-fatal overdoses.

*Community physician visits in the year prior to first recorded overdose*

- People experiencing an overdose visited community physicians as often as controls. Drug dependence was the most common community physician diagnosis among overdose cases. Three quarters of these visits for drug dependence were during periods when the individual was on opioid agonist therapy (OAT).



- Many community physician diagnoses among people who experienced an overdose were mental health related, with rates above those seen in matched controls.
- People who experienced a fatal overdose were diagnosed with similar conditions during community physician visits as people who experienced non-fatal overdoses.

**Key Messages:**

- Overdose cases have high rates of healthcare use, suggesting opportunities to identify at-risk individuals prior to overdose and connect them with care.
- The proportion of people not engaged with medical care (~16%) highlights a need for interventions outside a clinical setting, such as supervised consumption sites/overdose preventions sites and advocacy organizations of people who use drugs. Furthermore, overdose prevention efforts must also focus on identifying and reducing barriers to care for people who use drugs.
- A substantial proportion (~20%) of people who went on to overdose left emergency departments without being seen or against medical advice, which suggests missed opportunities for engagement in care. Interventions to reduce leaving against medical advice include provision of harm reduction services in hospitals, improving responses to subjective symptoms such as pain and withdrawal, and initiatives to challenge stigma from health care providers.
- Frequent healthcare visits for substance misuse and mental health concerns may be expected given the high morbidity of these conditions among people who use illegal drugs. Yet, a large proportion of people (~60% in ED and hospital) did not have these as a primary diagnosis in the year prior to overdose. Although there may be under-diagnosis due to stigma and other factors, substance misuse and mental health concerns are not characteristic for all those who go on to overdose.
- Pain related diagnoses were not consistently more common among overdose individuals, suggesting these may not be reliable identifiers for at-risk individuals in the year prior to overdose.

**Next Steps:**

Upcoming analyses of the BC Provincial Overdose Cohort will assess the influence of other characteristics of patients (e.g. age, gender, socio-economic status, prescribing history, comorbidities, etc.) and how those relate to healthcare utilization and risk of overdose death. In addition, analytic work will consider regional variation in these characteristics and how the results can be used to guide public health programs and interventions aimed at preventing drug overdose.



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