

## SUPPLEMENTARY MATERIALS

**Table S1. Administrative databases included in the BC Provincial Overdose Cohort**

BC Client Roster	Enhanced Emergency Department Records
BC Coroner's Service (BCCS)	Medical Services Plan (MSP)
BC Corrections	Mental Health Data Warehouse
BC Emergency Health Services (BC EHS)	National Ambulatory Care Reporting System (NACRS)
Chronic Disease Registries	PharmaNet
Discharge Abstract Database (DAD)	Vital Statistics Deaths
Drug and Poison Information Centre (DPIC)	

**Table S2. Numbers of deaths, person-years, and incidence rates used to make Figure 1**

Week	Overdose-Related Death			Non-Overdose-Related Death		
	No of Death	Person-Years	Incidence per 1000 Person-Years (95% CI)	No of Death	Person-Years	Incidence per 1000 Person-Years (95% CI)
0-2	20	515.4	38.8 (23.7 - 59.9)	4	515.4	7.8 (2.1 - 19.9)
3-4	12	973.2	12.3 (6.4 - 21.5)	2	973.5	2.1 (0.2 - 7.4)
5-6	8	1388.9	5.8 (2.5 - 11.3)	5	1389.9	3.6 (1.2 - 8.4)
7-8	5	1770.5	2.8 (0.9 - 6.6)	3	1771.7	1.7 (0.3 - 4.9)
0-52	84	6595.5	12.7 (10.2 - 15.8)	36	6595.5	5.5 (3.8 - 7.6)

**Diagnosis of Opioid Overdose:** Overdose cases were identified by linking various administrative health data and using the International Statistical Classification of Diseases 9th (ICD-9) and 10th Revisions (ICD-10) <sup>1</sup>. An overdose event was defined using the following criteria: (1) An unintentional illicit drug toxicity death identified by the BC Coroners Service; (2) An emergency department visit with a diagnosis of opioid overdose (ICD-10: T40.1 or T40.6); (3) An ambulance-attended event in which the patient was provided naloxone by paramedics; (4) A hospitalization record with a diagnosis of opioid overdose (ICD-10: T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6 as major discharge diagnosis ); (5) An outpatient visit with a diagnosis of opioid overdose (ICD-9: 965.0, 965.00, 965.01, 965.02, 965.09, or E850.0 ); (6) A phone call to the BC Drug and Poison Information Centre for an opioid overdose event; (7) A death registration record with an overdose-related diagnosis (ICD-10: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6) in the Vital Statistics Death. If multiple overdose records were identified for the same person, and the time period for these records was within 24 hours, these records were treated as a single overdose event.

**Substance Use Disorder and Mental Illness:** Substance use disorder (SUD) and mental illness were determined using outpatient data and hospitalization data. Persons were identified as having SUD or mental illness if they had two outpatient visits within one year or one hospitalization record for a specific disease during the 5-year exposure period <sup>2</sup>.

**Substance Use Disorder:** SUD was identified using ICD-9 codes [drug-induced mental disorders (292); drug dependence (304); nondependent abuse of drugs (305) excluding alcohol abuse (305.0)] and ICD-10 codes [mental and behavioural disorders due to use of opioids (F11), cannabinoids (F12), sedatives or hypnotics (F13), cocaine (F14), other stimulants including caffeine (F15), hallucinogens (F16), tobacco (F17), volatile solvents (F18), and multiple drugs and other psychoactive substances (F19)].

**Mental Illness:** Mental illness included depression (ICD-9: 300.4; 311; 50B. ICD-10: F32; F33; F34.1), anxiety disorder (ICD-9: 300 excluding 300.4; 50B. ICD-10: F40; F41), stress disorder (ICD-9: 308; 309. ICD-10: F43), bipolar disorder (ICD-9: 296. ICD-10: F30; F31; F34 excluding F34.1; F38; F39), and/or schizophrenia (ICD-9: 295; 297; 298. ICD-10: F20-F25; F28; F29).

## References

1. MacDougall L, Smolina K, Otterstatter M, Zhao B, Chong M, Godfrey D, et al. Development and characteristics of the Provincial Overdose Cohort in British Columbia, Canada. *PloS one*. 2019;14(1):e0210129.
2. Marquart JW, Merianos DE, Hebert JL, Carroll L. Health Condition and Prisoners: A Review of Research and Emerging Areas of Inquiry. *Prison Journal*. 1997;77(2):184-208.