Appendix IV: Definitions used to identify history of substance use toxicity, infective endocarditis, hepatitis C, HIV and sudden deaths in administrative databases

Other substance harms (1+ hospitalization or ED visit within three-year lookback window):

Substance harm	Data sources and codes	Data source details
Benzodiazepine poisoning	DAD, NACRS ICD-10: T42.4	DAD: source = inpatient, refdate = admdate, inclsuspect = F, dxtype = alldx, acute = T NACRS: source = ed, dedup = T, inclsuspect = F, inclscheduled = F, inclfrom_typee= T, inclto_typeip = T, inclnotseen = T, dxtype = alldx
Stimulant use disorder and poisoning	DAD, NACRS ICD-10 codes: F14.0, F15, T43.6, T40.5	DAD (%getdadsds): source = inpatient, refdate = ddate, inclsuspect = F, dxtype = alldx, acute = T NACRS (%getnacrs): source = ed, dedup = T, inclsuspect = F, inclscheduled = F, inclfrom_typee= T, inclto_typeip = T, inclnotseen = T, dxtype = alldx
Infective Endocarditis[A]	DAD, NACRS ICD-10: I38, I39.8, I33.9, I33.0, B37.6	
Harms associated with alcohol[B]	DAD, NACRS, OHIP OHIP: 291 and 303 DAD, NACRS: F10.0, F10.1, F10.2, F10.3, F10.4, F10.5, F10.6, F10.7, F10.8, F10.9, K70.0, K70.1, K70.2, K70.3, K70.4, K70.9, K29.2, X45, Y15, X65, G31.2, G62.1, G72.1, I42.6, K85.2, K86.0, E24.4, T51.0, T51.9, R78.0, Q86.0, P04.3	OHIP: refdate=SERVDATE, FEECODE (see 291 & 303) DAD: source = inpatient, refdate = admdate, inclsuspect = F, dxtype = alldx, acute = T NACRS: source = ed, dedup = T, inclsuspect = F, inclscheduled = F, inclfrom_typee= T, inclto_typeip = T, inclnotseen = T, dxtype = alldx

Legend: ICD-10 = International Disease Classification (ICD)-10 diagnosis codes, DAD = Discharge Abstract Database, NACRS = National Ambulatory Care Reporting System, OHIP = Ontario Health Insurance Plan

Reference:
A: Weir MA, Slater J, Jandoc R, Koivu S, Garg AX, Silverman M. The risk of infective endocarditis among people who inject drugs: a retrospective, population-based time series analysis. CMAJ. 2019 Jan 28;191(4):E93-9.

B: Myran, D. T., Hsu, A. T., Smith, G., & Tanuseputro, P. (2019). Rates of emergency department visits attributable to alcohol use in Ontario from 2003 to 2016: a retrospective population-level study. *Cmaj*, *191*(29), E804-E810.

Definition for Hepatitis C

One or more of the following within a five-year lookback:

1) CIHI-DAD with the following diagnosis codes:
   $DAD_DX10CODE 1-10: B171, B182, B19.2, B192
2) NACRS discharge record with the following diagnosis codes:
   . $NACRS_DX10CODE 1-10: B171, B182, B19.2, B192
3) Hepatitis C treatment drug claims from the Ontario Drug Benefits (ODB) claim database:

DIN	Drug name	Subclass	Strength
02370816	BOCEPREVIR	ANTIVIRAL AGENTS	200MG
02371448	BOCEPREVIR & PEGINTERFERON ALFA 2B & RIBAVIRIN	ANTIVIRAL AGENTS	200MG/80MCG
02371456	BOCEPREVIR & PEGINTERFERON ALFA 2B & RIBAVIRIN	ANTIVIRAL AGENTS	200MG/100MCG
02371464	BOCEPREVIR & PEGINTERFERON ALFA 2B & RIBAVIRIN	ANTIVIRAL AGENTS	200MG/120MCG
02371472	BOCEPREVIR & PEGINTERFERON ALFA 2B & RIBAVIRIN	ANTIVIRAL AGENTS	200MG/150MCG
09857396	BOCEPREVIR & PEGINTERFERON ALFA 2B & RIBAVIRIN	ANTIVIRAL AGENTS	200MG/150MCG
02444755	DACLATASVIR HCL	ANTIVIRAL AGENTS	60MG
02444747	DACLATASVIR HCL	ANTIVIRAL AGENTS	30MG
02436027	DASABUVIR & OMBITASVIR & PARITAPREVIR & RITONAVIR	ANTIVIRAL AGENTS	250MG/75MG/50MG/12.5MG
02451131	ELBASVIR & GRAZOPREVIR	ANTIVIRAL AGENTS	100MG/50MG
02432226	LEDIPASVIR & SOFOSBUVIR	ANTIVIRAL AGENTS	400MG/90MG
09854791	PEGINTERFERON ALFA-2B & RIBAVIRIN	ANTIVIRAL AGENTS	150MCG/0.5ML & 200MG
02416441	SIMEPREVIR SODIUM	ANTIVIRAL AGENTS	150MG
02418355	SOFOSBUVIR	ANTIVIRAL AGENTS	400MG
02456370	SOFOSBUVIR & VELPATASVIR	ANTIVIRAL AGENTS	400MG/100MG
02467542	SOFOSBUVIR & VELPATASVIR & VOXILAPREVIR	ANTIVIRAL AGENTS	400MG/100MG/100MG

02371553	TELAPREVIR	ANTIVIRAL AGENTS	375MG
02452294		ANTIVIRAL AGENTS	100MG
02467550	GLECAPREVIR & PIBRENTASVIR	ANTIVIRAL AGENTS	200MG

Definition for HIV

- 3 OHIP physician claims in 3 years with a diagnosis code of "042", "043", or "044"
- If a person has a previous hospitalization in CIHI-DAD or OHIP claim with an HIV code (ICD-9: "042", "043", "044", ICD-10: "B24", OHIP dx code: "042", "043", "044") that occurs prior to the first physician claim, then that hospitalization or OHIP date is used as the incidence/diagnosis date.

Definition for sudden death

The first three characters of the ICD-10 code for underlying cause of death in ORGD database is one of the following: E89, R95-R97, S00-S99, T00-T98, V01-V99, W00-W46, W49, W59-W60, W64-W70, W73-W81, W83-W94, W99, X00-X54, X57-X99, Y00-Y36