

Table S1: Diagnostic billing codes for mental illness and substance use disorders.<sup>1-4</sup>

Mental Illness	ICD-10-CA	DSM-IV	Provisional diagnosis
<b>DAD/ OMHRS – Hospitalization</b>			
Any disorder	DX10CODE1 = F04 to F99; or DX10CODE2 to DX10CODE10 = X60-X84, Y10-Y19, Y28 AND DX10CODE1 ne F04 to F99	Any mental health code if AXIS1_DSM4CODE_DISCH1 is complete (not 290.x or 294.x); if not complete, use PROVDX1 (as below)  if AXIS1_DSM4CODE_DISCH1 missing and PROVDX1=2, then exclude	
Psychotic disorders	F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1;	295.x (all 295 codes), 297.x (all 297 codes), 298.x (all 298 codes)	PROVDX1: 5
Mood/affective/anxiety and related disorders	F30, F31, F32, F33, F34, F38, F39, F53.0; F40, F41, F42, F43, F48.8, F48.9;	296.x, 300.4x, 301.13 300, 300.0x, 300.2x, 300.3x, 308.3x, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.8x, 309.9x	PROVDX1: 6 PROVDX1: 7, 15
Substance-related disorders	F55, F10 to F19;	291.x (all 291 codes, excluding 291.82), 292.x (all 292 codes, excluding 292.85), 303.x (all 303 codes), 304.x (all 304 codes), 305.x (all 305 codes)	PROVDX1: 4
Other: e.g. personality and behaviour disorders	F60, F61, F62, F68, F69, F21;	300.16, 300.19, 301.x (all 301 codes excluding 301.1x)	PROVDX1: 1, 16
<b>NACRS – Emergency Department Visit</b>			
Any disorder	ICD-10-CA: F04 to F99 (excludes dementia); X60-X84, Y10-Y19, Y28 in Dx10Code2 to Dx10Code10 and no specified mental health code in Dx10Code1 (F04 to F99)		
Psychotic disorders	F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1;		
Mood/ affective/anxiety and related disorders	F30, F31, F32, F33, F34, F38, F39, F53.0;		

	F40, F41, F42, F43, F48.8, F48.9;		
Substance-related disorders	F55, F10 to F19;		
Other: e.g. personality and behaviour disorders	F60, F61, F62, F68, F69, F21;		
OHIP* – physician visit			
Any disorder	Any outpatient OHIP visit or consult to a psychiatrist (spec = 19); exclude all G fee-codes (lab codes)  Any outpatient OHIP visit or consult to a FP/GP (spec = 00) with a mental health diagnostic code listed below; excluding all G fee-codes (lab codes); including all other fee-codes with a mental health diagnostic code		
Psychotic disorders	295, 296, 297, 298		
Mood/affective/anxiety and related disorders	300, 309, 311		
Substance-related disorders	303, 304		
Other: e.g. personality and behaviour disorders	301, 302		

\* Based on a modified version of the algorithm developed by Steele et al. (2004) <sup>4</sup>

1. World Health Organization. *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines*. . World Health Organization.
2. Canadian Institute for Health Information. *Hospital Mental Health Database Data Dictionary for Fiscal Year 2015-2016*. Canadian Institute for Health Information;2017.
3. MHASEF Research Team. *The Mental Health of Children and Youth in Ontario: 2017 Scorecard. Technical Appendix*. . Toronto, ON: Institute for Clinical Evaluative Sciences;2017.
4. Steele LS, Glazier RH, Lin E, Evans M. Using administrative data to measure ambulatory mental health service provision in primary care. *Medical care*. 2004;42(10):960-965.