Mental Health and Addictions System Performance in Ontario

2021 Scorecard

TECHNICAL APPENDIX

February 2021

Ontario Health
Mental Health and Addictions
Centre of Excellence

IC/ES

Mental Health and Addictions System Performance in Ontario: 2021 Scorecard

Technical Appendix

MHAP Research Team

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Data

Data were linked using unique encoded identifiers and analyzed at ICES.

Parts of this report are based on data and/or information compiled and provided by Service Ontario and the Canadian Institute for Health Information (CIHI). However, the analyses, conclusions, opinions and statements expressed in the report are those of the authors and not necessarily those of Service Ontario or CIHI.

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About the Organizations Involved in This Report

ICES

ICES (formerly the Institute for Clinical Evaluative Sciences) is an independent, nonprofit research institute that uses population-based health information to produce knowledge on a broad range of health care issues. ICES' unbiased evidence helps measure health system performance, provides a clearer understanding of the shifting health care needs of Ontarians, and creates discussion of practical solutions for using scarce resources. ICES' knowledge is highly regarded in Canada and abroad, and is widely used by governments, hospitals, planners and practitioners to make decisions about care delivery and develop policy.

Mental Health and Addictions Centre of Excellence

The Mental Health and Addictions Centre of Excellence will support Ontario in building a comprehensive and connected mental health and addictions system.

The Centre has been embedded in Ontario Health, the government agency created to oversee health care delivery in Ontario, so that it can take what has worked to improve quality of care for other conditions and apply the same approaches to mental health and addictions in Ontario.

The Centre is working with partners across the health care system to develop programs and resources to support people who need care and their families.

Statement on Indigenous Mental Health Data

In this scorecard, we do not present Indigenous-specific mental health data. ICES has relationships and data governance agreements with Indigenous organizations that acknowledge the inherent rights of First Nations, Métis and Inuit peoples to determine how data are used to tell their stories. As a result, ICES works directly with Indigenous partners and communities to ensure that indicators are contextualized in a way that supports the substantial work that Indigenous people are undertaking. This involves working in close partnership, respecting the diversity of Indigenous communities, integrating Indigenous perspectives and acknowledging the impacts of ongoing colonialism.

Abbreviations

CHC	Community Health Centre
DA	Dissemination Area
DAD	Discharge Abstract Database
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
ED	emergency department
FP/GP	family physician/general practitioner
ICD-8-CM	International Classification of Diseases, 8th Revision, Clinical Modification
ICD-9-CM	International Classification of Diseases, 9th Revision, Clinical Modification
ICD-10-CA	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada
IKN	ICES key number
LHIN	Local Health Integration Network
MHA	mental health and addictions
MHAP	Mental Health and Addictions Program Framework Research Team
NACRS	National Ambulatory Care Reporting System
NAS	neonatal abstinence syndrome
NMS	Narcotics Monitoring System
OCD	obsessive-compulsive disorder
OHIP	Ontario Health Insurance Plan
OMHRS	Ontario Mental Health Reporting System
ORGD	Office of the Registrar General – Deaths (Vital Statistics Database)
PC	primary care
PCCF	Postal Code Conversion File
POE	prenatal opioid exposure
RPDB	Registered Persons Database

Data Sources

Community Health Centre (CHC)

The CHC data file includes client and encounter level details for all people who have received service from a physician, nurse practitioner or member of the interprofessional team. The client and encounter data included is a subset of standardized, coded data recorded by providers employed at Community Health Centres in Ontario.

Discharge Abstract Database (DAD)

The DAD is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures/interventions), demographic and administrative information for all admissions to acute care hospitals and rehabilitation, chronic and day surgery institutions in Ontario. At ICES, consecutive DAD records are linked together to form "episodes of care" among the hospitals to which patients have been transferred after their initial admission.

Local Health Integration Network (LHIN)

The LHIN database contains information on LHIN information tables, Dissemination Areas, LHIN/ sub-LHIN population estimates and projections, and postal code lookup tables.

MOMBABY

The MOMBABY database, which is derived from the DAD, contains inpatient records of delivering mothers and their newborns in Ontario.

National Ambulatory Care Reporting System (NACRS)

NACRS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), demographic, and administrative information for all patient visits made to hospital-and community-based ambulatory care centres(emergency departments, day surgery units, hemodialysis units and cancer care clinics). At ICES, NACRS records are linked with other data sources (DAD, OMHRS) to identify transitions to other care settings, such as inpatient acute care or psychiatric care.

Narcotics Monitoring System (NMS)

Data on dispensed prescriptions for narcotics, controlled substances and other monitored drugs.

Office of the Registrar General – Deaths (ORGD) Vital Statistics Database

The ORGD Vital Statistics Database contains information on all deaths registered in Ontario beginning on January 1, 1990. Information on the causes of death (immediate, antecedent and underlying) recorded on the death certificate is captured. At ICES, a single cause of death variable is derived based on the underlying cause of death if available and, otherwise, the immediate cause of death using the ICD-9 coding system.

Ontario Health Insurance Plan (OHIP)

The OHIP claims database contains information on inpatient and outpatient services provided to Ontario residents eligible for the province's publicly funded health insurance system by fee-for-service health care practitioners (primarily physicians) and "shadow billings" for those paid through non-fee-for-service payment plans. The main data elements include patient and physician identifiers (encrypted), codes for service provided, date of service, associated diagnosis and fee paid.

Data Sources

Ontario Mental Health Reporting System (OMHRS)

OMHRS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), demographic and administrative information for all admissions to adult designated inpatient mental health beds. This includes beds in general hospitals, provincial psychiatric facilities and specialty psychiatric facilities. Clinical assessment data is ascertained using the Resident Assessment Instrument for Mental Health (RAI-MH), but different amounts of information are collected using this instrument depending on the length of stay in the mental health bed. Multiple assessments may occur during the length of a mental health admission.

Postal Code Conversion File (PCCF)

The PCCF database will link to postal codes within a given cohort and determine other census geographic identifiers such as, dissemination/enumeration area, census division, longitude/latitude, urban/rural flag and neighbourhood income quintile.

Registered Persons Database (RPDB)

The RPDB provides basic demographic information (age, sex, location of residence, date of birth, and date of death for deceased individuals) for those issued an Ontario health insurance number. The RPDB also indicates the time periods for which an individual was eligible to receive publicly funded health insurance benefits and the best-known postal code for each registrant on July 1 of each year.

Contents

1.0
Mental health and addictions indicators reported in this scorecard

EXHIBIT 1.1 Mental health and addictions system performance indicators

Quality Dimension Indicators				Health Service Use Indicators	Opioid-Related Indicator
Safe	**Effective**	**Timely**	**Efficient**		
• Use of physical restraints during psychiatric hospitalizations	• Rates of emergency department visits for deliberate self-harm • Rates of death by suicide	• Rates of emergency department visits as first point of contact for mental health and addictions–related care	• Rates of outpatient visits within 7 days following a mental health and addictions–related hospital discharge • Rates of 30-day hospital readmission following a mental health and addictions–related hospital discharge • Rates of 30-day emergency department revisits following a mental health and addictions-related emergency department visit	• Rates of mental health and addictions–related outpatient visits • Rates at which individuals were seen by a psychiatrist, primary care provider or paediatrician for mental health and addictions care • Rates of mental health and addictions–related emergency department visits • Rates of mental health and addictions–related hospitalizations • Length of stay for psychiatric hospitalizations	• Rates of prenatal opioid exposure and neonatal abstinence syndrome

Note: Indicators will be assessed through five dimensions: age group, sex, diagnostic category, neighbourhood income and Local Health Integration Network.

2.0 Indicator methodology

2.1 General instructions for indicator creation

2.1.1 General exclusion criteria for indicators

Unless otherwise stated, the following numerator and denominator exclusion criteria were consistent for all indicators (for additional indicator-specific exclusions, see **Section 2.2**):

- Age older than 105 years
- Non-residents of Ontario
- Individuals with an invalid health card number
- Missing sex information

For indicators that use the Ontario population as the denominator, additional exclusions were applied. These include:

- Individuals who were born after or died before the midpoint of the calendar year (July 1)
- Individuals who were not eligible for OHIP at the midpoint of the calendar year
- Individuals whose date of last contact with the health care system was equal to or greater than 8 years from the midpoint of the calendar year

For indicators that used a general Ontario population denominator, exclusion criteria were applied to the numerator independently, as the denominator is a population estimate at the midpoint of the year (i.e., the numerator is not a subset of the population denominator).

2.1.2 Indicator stratifications

These variables are used for the stratification of indicators. Please note that stratifications may vary across indicators. For indicator-specific calculations, see **Section 2.2**.

Stratification	Definition	Categories
Age group[1]	Age group cut-offs were defined in order to examine transitions between youth and adult services.	• 0–9 years • 10–13 • 14–17 • 18–21 • 22–24 • 25–44 • 45–64 • 65–84 • 85–105
Sex	Sex of a person – male or female – is determined based on demographic information available in the existing databases. In almost all cases, sex is collected as a binary male/female variable, which is not inclusive of intersex people. When sex is derived from administrative data, this is most often the sex assigned at birth.	• Male • Female
Diagnostic category, 2009–2016	Some indicators were stratified by diagnosis. These diagnostic groups do not add up to the overall Mental Health and Addictions (MHA) category, as only specific diagnostic groupings were examined, rather than all of the mental health diagnostic groupings contributing to the overall category. For a list of the diagnostic codes used to calculate indicators, see Section 2.3.	• Substance-related disorders • Schizophrenia • Mood disorders • Anxiety disorders • Deliberate self-harm
Diagnostic category, 2017	Some indicators were stratified by diagnosis. These diagnostic groups do not add up to the overall MHA category as they are more specific. For more information on diagnostic codes and definitions, see Section 2.3.	• Substance-related and addictive disorders • Schizophrenia spectrum and other psychotic disorders • Mood disorders • Anxiety disorders • Trauma and stressor-related disorders • Obsessive-compulsive and related disorders • Personality disorders • Deliberate self-harm
Neighbourhood income quintile	In the absence of individual-level income data, neighbourhood-based income was calculated according to methods developed by Statistics Canada. Individuals' postal codes were first matched to Dissemination Areas (or DAs, the smallest census areas), where the average income per single-person equivalent (weighted for household size) was obtained from the Census of Canada for 2006 and 2016. DAs within each census metropolitan area were ranked and assigned to five groups, or quintiles, of approximately equal population. The corresponding neighbourhood income quintile of that DA was assigned to the individual.	• Quintile 1 (lowest) • Quintile 2 • Quintile 3 • Quintile 4 • Quintile 5 (highest)
Local Health Integration Network	Local Health Integration Networks (LHINs) are the regional health authorities responsible for administering public health care services funded by the Ontario Ministry of Health.[2] Individual postal codes were first mapped to census geography and then to a LHIN.	1. Erie St. Clair 2. South West 3. Waterloo Wellington 4. Hamilton Niagara Haldimand Brant 5. Central West 6. Mississauga Halton 7. Toronto Central 8. Central 9. Central East 10. South East 11. Champlain 12. North Simcoe Muskoka 13. North East 14. North West

Notes:
1. For the indicator Use of physical restraints during psychiatric hospitalizations, the age groups were 16–24, 25–44, 45–64, 65–84 and 85–105 years. For the indicator Rates of emergency department visits for deliberate self-harm, the age groups were 10–13, 14–17, 18–21, 25–44, 45–64, 65–84 and 85–105 years. For the indicator Rates of death by suicide, the age groups were 10–13, 14–17, 18–21, 25–44, 45–64, 65–84 and 85–105 years.
2. Ontario Ministry of Health. Ontario's LHINs. Accessed on October 22, 2020 at http://www.lhins.on.ca.

2.1.3 Indicator rates that were calculated

Method	Calculation	Categories
Rate calculation	Over time, for calendar years 2009–2017, where possible	• Ontario • Age • Sex • Diagnostic category
	Three-year average rate, for calendar years 2015–2017	• Ontario • Age • Sex • Diagnostic category • Neighbourhood income quintile • Local Health Integration Network
Standardization	Direct standardization method	• Ontario • Local Health Integration Network
	Standard population	2011 Ontario population standardized by age and sex: • Males: 0–9, 10–13, 14–17, 18–21, 22–24, 25–44, 45–64, 65–84, 85–105 years • Females: 0–9, 10–13, 14–17, 18–21, 22–24, 25–44, 45–64, 65–84, 85–105 years
Calculation of three-year averages, where possible	Crude rate	• (N1/D1 + N2/D2 + N3/D3) / 3 where N1 = numerator for 2015 and D1 = denominator for 2015
	Standardized rate	• (N1/D1 + N2/D2 + N3/D3) / 3 where N1 = (SR1 + SR2 + SR3) / 3 and SR1 = standardized rate for 2015 and D1 = reference population denominator

2.2 Indicator calculation

For a list of the diagnostic codes used to calculate indicators, see **Section 2.3**.

2.2.1 Use of physical restraints during psychiatric hospitalizations

Data sets	DAD, OMHRS, RPDB, PCCF
Denominator	Number of mental health and addictions (MHA)–related hospitalizations among Ontario residents aged 16–105 years in calendar years 2009–2015
Numerator	Any restraint use during the hospitalization, including mechanical restraints or chair to prevent rising or physical or manual restraint by staff
Exclusions	In addition to general exclusions outlined in Section 2.1.1, other exclusions include: • Hospitalization episodes that do not contain a stay in a psychiatric bed (OMHRS) • Age <16 years
Stratifications	See indicator stratifications in Section 2.1.2
Index	Hospital admission date
Additional specifications	The MHA diagnosis was ascertained from the last discharge record of the episode where an MHA diagnosis was included.
Notes	• Restraint use ascertained using all records in the episode • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the hospital admission is non-MHA-related.
Limitations	General limitations of health administrative data include potential coding errors and lack of clinical detail.

To categorize the denominator into diagnoses:

A	B	C	D	To obtain diagnostic category
DAD	OMHRS	DAD	OMHRS	Use discharge record from D
DAD	OMHRS	DAD-MHA		Use discharge record from C
	OMHRS	DAD		Use discharge record from B
	OMHRS			Use discharge record from B

To flag restraint use (numerator):

Scenario	Code
Missing at discharge, missing restraint use (no other non-missing assessments, only a discharge assessment)	Missing
Missing at provisional, missing restraint use (no other non-missing assessments, only provisional/short-stay)	Missing
Missing at discharge, no restraint use from other assessments	No
Missing at discharge, yes restraint use from other assessments	Yes
Missing at provisional, no restraint use from other assessments	No
Missing at provisional, yes restraint use from other assessments	Yes
No missing information, no restraint use	No
No missing information, yes restraint use	Yes

2.2.2. Rates of emergency department visits for deliberate self-harm

Data sets	NACRS, RPDB, PCCF
Denominator	Number of Ontario residents aged 10–105 years in calendar years 2009–2017
Numerator	Annual number of emergency department (ED) visits for deliberate self-harm
Exclusions	In addition to general exclusions (see Section 2.1.1), other exclusions include: • Age <10 years • Scheduled ED visits • Transfers from another ED
Stratifications	In addition to indicator stratifications in Section 2.1.2, also by method of self-harm: • Self-poisoning only • Self-cutting only • Other • Multiple (more than one type of self-harm)
Index	Date of ED visit
Additional specifications/ notes	• The numerator includes suspect diagnoses, unscheduled ED visits, individuals who left without being seen, patients who were admitted, and the first ED visit in the case of ED to ED transfers. • The numerator was derived separately from the denominator. • Exclusions have been pre-applied to the denominator. • Exclusions for the numerator were applied at index. • Presented as rates, which includes multiple visits per person per year. • For all exhibits, rates of ED visits for deliberate self-harm are presented where this diagnosis was made as a primary, secondary or other reason for the ED visit.
Limitations	• Individuals who self-harm but do not present to the ED were not included. • Self-harm treated in a non-hospital setting cannot be assessed. • Whether the individual who self-harmed had suicidal or non-suicidal intent cannot be determined. • General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.3. Rates of death by suicide

Data sets	ORGD, RPDB, PCCF
Denominator	Number of Ontario residents aged 10–105 years in calendar years 2009–2015
Numerator	Number of deaths caused by suicide
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded was age <10 years
Stratifications	In addition to indicator stratifications in Section 2.1.2, also by method of suicide: • Poisoning • Cutting • Hanging • Drowning • Firearms • Jumping • Other
Index	Date of death (from ORGD)
Additional specifications/ notes	• The numerator was derived separately from the denominator. • Exclusions have been pre-applied to the denominator. • Exclusions for the numerator were applied at index.
Limitations	• Cause of death has to be clearly suicide (potential for underreporting due to misclassification). • Due to data availability, method of suicide is reported to December 2012 only and deaths by suicide are reported to December 2015 only. • General limitations of health administrative data include potential coding errors and lack of clinical detail.

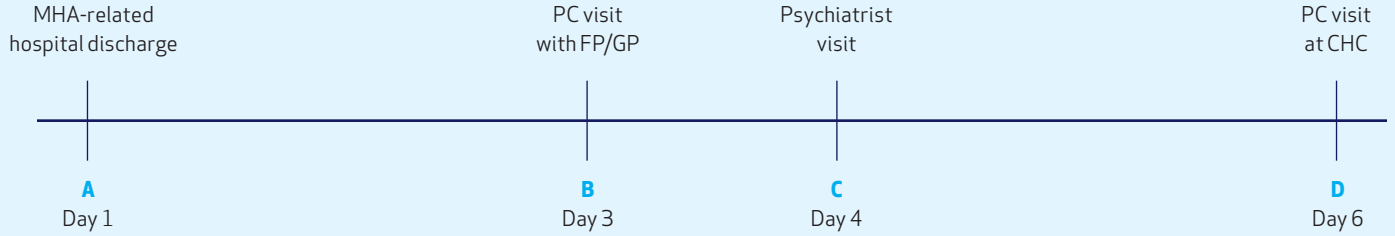
2.2.4. Rates of emergency department visits as first point of contact for mental health and addictions–related care

Data sets	DAD, OMHRS, NACRS, OHIP, CHC, RPDB, PCCF
Denominator	Number of unique Ontario residents aged 0–105 years with an incident (first in a calendar year) unscheduled mental health and addictions (MHA)–related emergency department (ED) visit in calendar years 2009–2017
Numerator (subset of denominator)	Number of individuals in Ontario without an MHA-related service contact in a 2-year look-back period; includes only those who did not have an MHA-related outpatient visit to a psychiatrist, primary care provider or pediatrician or an MHA-related ED visit (scheduled or unscheduled) or an MHA-related hospitalization in the 2 years preceding the index ED visit (see Section 2.3).
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded was scheduled ED visits (from denominator only).
Stratifications	See indicator stratifications (Section 2.1.2).
Index	Date of ED visit
Additional specifications/ notes	• Index ED visit includes individuals who left without being seen and those admitted to hospital. • Visits on the same day as the index are not considered prior contact. • Look-back can include scheduled ED visits. • Person-level indicator: one index visit per person. • Diagnostic categories represent the reason for the incident ED visit (i.e., the denominator). • Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3). • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the ED visit is non-MHA-related.
Limitations	• CHC data were not available for 2010/11 and after March 31, 2017. • Data did not capture most non-physician mental health and addictions services (i.e., psychologists, counsellors and social workers). • General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.5. Rates of outpatient visits within 7 days following a mental health and addictions–related hospital discharge

Data sets	DAD, OMHRS, OHIP, CHC, RPDB, PCCF
Denominator	Number of mental health and addictions (MHA)–related hospitalizations discharged alive among Ontario residents aged 0–105 years in calendar years 2009–2017
Numerator (subset of denominator)	Outpatient visit within 7 days following hospital discharge • Primary care providers, psychiatrists, paediatricians
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded was death/readmission in follow-up period without outcome
Stratifications	• In addition to indicator stratifications in Section 2.1.2, also by: – Any specialty – Primary care provider (OHIP family physician/general practitioner and CHC physician/nurse practitioner) – Psychiatrist – Paediatrician
Index	• Date to identify the denominator: Hospital discharge date (follow-up begins after discharge date) • Date used to identify the numerator: OHIP claim service date
Additional specifications/ notes	• Hospitalizations were constructed as episodes of care. • The final discharge of the hospital episode must have resulted in one of the following: – a discharge home (with or without supportive services) – a transfer to a long-term or continuing care facility or to other ambulatory care, palliative care/hospice, addiction treatment centre, jail or social service agency – a sign-out against medical advice/absent without leave • Index hospital discharges were restricted to calendar years, but the 7-day follow-up could cross over into the next calendar year. MHA diagnostic codes are not specified for outpatient visits (only for hospitalization). • Numerators are not mutually exclusive: a maximum of one numerator per specialty per follow-up per period. • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the hospital admission is non-MHA-related. • Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3).
Limitations	• CHC data were not available for 2010/11 and after March 31, 2017. • Data did not capture most non-physician MHA services (i.e., psychologists, counsellors and social workers) that may have been provided post-discharge. • General limitations of health administrative data include potential coding errors and lack of clinical detail.

For example, this diagram shows the events that would be considered in the numerator following an MHA-related hospital discharge:



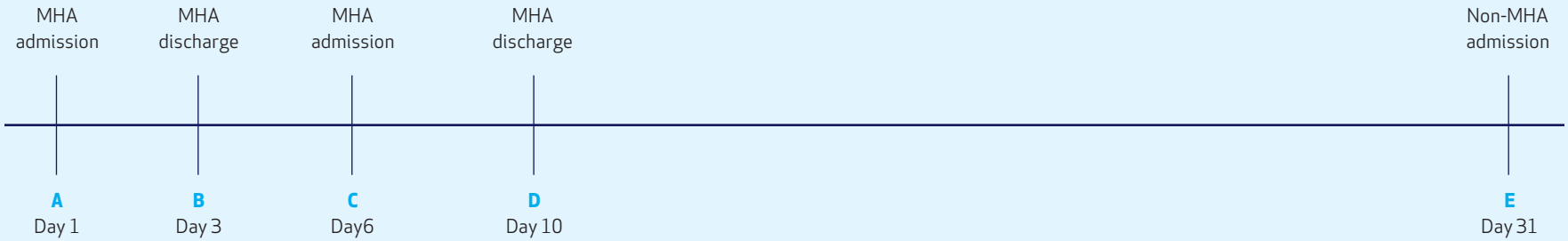
- Denominator includes MHA-related hospital discharge **A**.
- Numerator includes **B**, **C**.
  A index → **B** Follow-up visit with a PC provider within 7 days. Only the first visit counts toward follow-up (i.e., **B** but not **D**).
  A index → **C** Follow-up visit with a psychiatrist within 7 days.
  A index → No follow-up visit with a paediatrician within 7 days.
- This individual contributed in the calendar year to (independently):
  Any specialty = 1/1; PC provider = 1/1; Psychiatrist = 1/1; Paediatrician = 0/1

Abbreviations: PC = primary care; FP/GP = family physician/general practitioner; CHC = community health centre

2.2.6. Rates of 30-day hospital readmission following a mental health and addictions–related hospital discharge

Data sets	DAD, OMHRS, RPDB, PCCF
Denominator	Number of mental health and addictions (MHA)–related hospitalizations that were discharged alive among Ontario residents aged 0–105 years in calendar years 2009–2017
Numerator (subset of denominator)	Number of individuals in Ontario with a hospital admission for any MHA-related reason within 30 days following the index hospital discharge visit.
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded were individuals who died without a readmission within 30 or fewer days of the index hospital discharge.
Stratifications	See indicator stratifications (Section 2.1.2).
Index	Hospital discharge date
Additional specifications/ notes	• Index discharges (i.e., the denominator) were restricted to calendar years but hospital readmission can cross over to the next calendar year, can be for a different MHA diagnosis than index, and does not have to result in a discharge alive. • Count only the first readmission per person per follow-up period. • Hospitalizations were constructed as episodes of care. • The final discharge of the hospital episode must result in one of the following: – a discharge home (with or without supportive services) – a transfer to a long-term or continuing care facility or to other ambulatory care, palliative care/hospice, addiction treatment centre, jail or social services agency – a sign-out against medical advice/absent without leave • Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3). • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the hospital admission is non-MHA-related.
Limitations	General limitations of health administrative data include potential coding errors and lack of clinical detail.

For example, this diagram shows which events would be considered in the numerator following an MHA-related admission and which other admissions would be considered in the denominator:

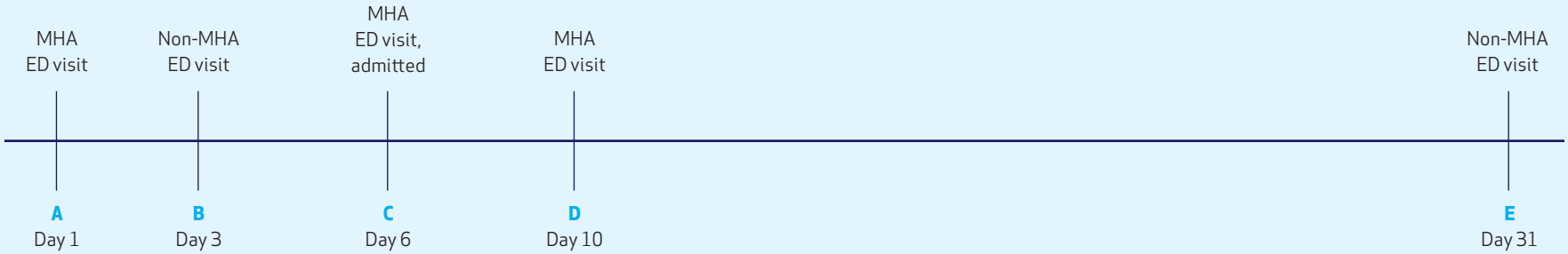


- Denominator includes **A**—**B** and **C**—**D** episodes.
- Numerator includes **C**—**D**.
  A—**B** index → **C**—**D** readmission within 30 days.
  There is no MHA readmission after **C**—**D** discharge.
- This individual contributed denominator = 2, numerator = 1 in this calendar year.

2.2.7. Rates of 30-day emergency department revisits following a mental health and addictions-related emergency department visit

Data sets	NACRS, RPDB, PCCF
Denominator	Number of unscheduled mental health and addictions (MHA)–related emergency department (ED) visits that were discharged home among Ontario residents aged 0–105 years in calendar years 2009–2017
Numerator (subset of the denominator)	Number of individuals in Ontario with an unscheduled ED visit for any MHA-related reason within 30 days following the index ED visit
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded were: • Left index ED visit without being seen • Died in the ED • Admitted to hospital • Death in follow-up period without outcome
Stratifications	See indicator stratifications (Section 2.1.2)
Index	• Date of ED visit
Additional specifications/ notes	• Index ED visits were restricted to calendar years, but ED revisits can cross over to the next calendar year, result in a hospital admission, include those who left without being seen or be for a different MHA diagnosis than the index diagnosis. • Only the first revisit per person per follow-up period was counted. • For ED to ED transfers, the last record was kept, and transfers were not counted as ED revisits. • Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3). • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the ED visit is non-MHA-related. • Data did not capture non-physician mental health and addictions care that may have been provided in the period between ED discharge and repeat visit.
Limitations	• General limitations of health administrative data include potential coding errors and lack of clinical detail.

For example, this diagram shows which events would be considered in the numerator following an MHA-related ED visit and which other visits would be considered in the denominator:



- Denominator includes **A**, **D**.
  C resulted in a hospital admission and thus is not in the denominator.

- Numerator includes **C**.
  A index → **C** revisit within 30 days, regardless of hospital admission.
  For **A** index, **D** is not the numerator (count only one numerator [the first applicable] per denominator follow-up).
  There is no MHA-related ED revisit after **D**.

- This individual contributed denominator = 2, numerator = 1 in this calendar year.

2.2.8 Rates of mental health and addictions–related outpatient visits

Data sets	OHIP, CHC, RPDB, PCCF
Denominator	Ontario population aged 0–105 years in the calendar years 2009–2017
Numerator	Number of mental health and addictions (MHA)–related outpatient visits from OHIP and CHC • Primary care providers, psychiatrists, paediatricians For a definition of MHA-related outpatient visits based on physician specialties and diagnostic codes, see Section 2.3.
Exclusions	General exclusions (see Section 2.1.1)
Stratifications	In addition to indicator stratifications in Section 2.1.2, also by: • Any specialty • Primary care provider (OHIP family physician/general practitioner and CHC physician/nurse practitioner) • Psychiatrist • Paediatrician
Index	Date of OHIP or CHC service claim
Additional specifications	• The numerator was derived separately from the denominator. • Exclusions have been pre-applied to the denominator. • Exclusions for the numerator were applied at index.
Notes	• When reporting on visits rather than unique individuals, the numerators for different physician specialties add up to "any specialty." • A visit is, at most, one claim per patient per physician per service date (individuals may contribute more than one visit to various physician specialties in a calendar year)
Limitations	• CHC data were not available in 2010/11 and after March 31, 2017. • Rates may be undercounted because some specialists only "shadow bill" (i.e., they submit claims for services provided to patients that are funded through sources other than fee-for-service). • Data did not capture most non-physician mental health and addictions services. • General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.9 Rates at which individuals were seen by a psychiatrist, primary care provider or paediatrician for mental health and addictions care

Data sets	OHIP, CHC, RPDB, PCCF
Denominator	Ontario population aged 0–105 years in the calendar years 2009–2017
Numerator	Number of unique individuals who received MHA-related service from a care provider, including primary care providers, psychiatrists and paediatricians, in an outpatient setting,
Exclusions	General exclusions (see Section 2.1.1)
Stratifications	In addition to indicator stratifications in Section 2.1.2, also by: • Any specialty • Primary care provider (OHIP family physician/general practitioner and CHC physician/nurse practitioner) • Psychiatrist • Paediatrician
Index	Date of OHIP or CHC service claim
Additional specifications/ notes	• The numerator was derived separately from the denominator. • Exclusions have been pre-applied to the denominator. • Exclusions for the numerator were applied at index. • If a patient had multiple OHIP claims, only the first claim for each physician specialty was considered (i.e., each patient was counted once per specialty).
Limitations	• CHC data were not available in 2010/11 and after March 31, 2017. • Rates may be undercounted because some specialists only "shadow bill" (i.e., they submit claims for services provided to patients that are funded through sources other than fee-for-service). • Data did not capture most non-physician mental health and addictions services • General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.10. Rates of mental health and addictions–related emergency department visits

Data sets	NACRS, RPDB, PCCF
Denominator	Ontario population aged 0–105 years in the calendar years 2009–2017
Numerator	Number of MHA-related ED visits
Exclusions	In addition to general exclusions (see Section 2.1.1), also excluded were: • Scheduled ED visits • Transfers from another ED
Stratifications	See indicator stratifications (Section 2.1.2)
Index	Date of ED visit
Additional specifications/ notes	• Includes suspect diagnoses, visits with admissions to hospital and those who left without being seen. • Removed duplicates and kept the first visit in the case of transfers. • The numerator was derived separately from the denominator. • Exclusions have been pre-applied to the denominator. • Exclusions for the numerator were applied at index. • Presented as rates, which includes multiple visits per person per year. • Emergency department visit episodes were constructed to avoid double counting visits that were transfers between multiple institutions and to better identify ED episode discharges. • Diagnoses-specific numerators do not add up to the overall numerator (see Section 2.3). • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the ED visit is non-MHA-related.
Limitations	General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.11. Rates of mental health and addictions–related hospitalizations

Data sets	DAD, OMHRS, RPDB, PCCF
Denominator	Ontario population aged 0–105 years in the calendar years 2009–2017
Numerator	Number of MHA-related hospitalizations
Exclusions	General exclusions (see Section 2.1.1)
Stratifications	See indicator stratifications (Section 2.1.2)
Index	Hospital discharge date
Additional specifications/ notes	• Hospitalizations were constructed as episodes of care: – A DAD-OMHRS episode of care is a series of inpatient admissions to acute care inpatient hospitals (records including DAD and OMHRS) that are linked because the patient was transferred from one hospital to another. • The numerator was derived separately from the denominator. • Exclusions were pre-applied to the denominator. • Exclusions were applied to the numerator at index. • Diagnoses-specific numerators do not add up to the overall numerator. • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the hospital admission is non-MHA-related.
Limitations	General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.12. Length of stay for psychiatric hospitalizations

Data sets	DAD, OMHRS, RPDB, PCCF
Denominator	Not applicable
Numerator	Median length of stay (in days) for mental health and addictions (MHA)–related hospitalizations among individuals aged 0–105 years in Ontario in the calendar years 2009–2017
Exclusions	General exclusions (see Section 2.1.1)
Stratifications	See indicator stratifications (Section 2.1.2)
Index	Hospital discharge date
Additional specifications/ notes	• Hospitalizations were constructed as episodes of care: – A DAD-OMHRS episode of care is a series of inpatient admissions to acute care inpatient hospitals (records including DAD and OMHRS) that are linked because the patient was transferred from one hospital to another. • Diagnoses-specific lengths of stay do not add up to the overall length of stay. • Deliberate self-harm may be present as a secondary diagnosis in any of the other diagnostic types. Deliberate self-harm refers to residual deliberate self-harm, i.e., the presence of a self-harm diagnosis where the main reason for the hospitalization is non-MHA-related.
Limitations	General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.2.13. Rates of prenatal opioid exposure and neonatal abstinence syndrome

Data sets	MOMBABY, RPDB, NMS, DAD, NACRS, OHIP, PCCF
Denominator	Number of live births in Ontario between January 1, 2013, and December 31, 2017
Numerator	• For prenatal opioid exposure (POE): Total number of live births with POE • For neonatal abstinence syndrome (NAS): Total number of live births with NAS
Exclusions	In addition to general exclusions outlined in Section 2.1.1, also excluded were: • For mother: Invalid maternal IKN; non-Ontario residents • Missing information on gestational weeks; stillbirths
Stratifications	In addition to indicator stratifications in Section 2.1.2, also by maternal age at first delivery
Index	Date of live birth
Definition of prenatal opioid exposure	• Time window to measure POE: From the date of conception to the date of live birth • Prenatal opioid exposure was defined as three hierarchical and mutually exclusive categories: – Opioid maintenance therapy (OMT): Included prescription records for methadone and buprenorphine (indicated for OMT), and OHIP fee codes for opioid maintenance program (K682, K683, K684) – Opioids for pain control: Included prescription records for narcotics (including opioid agonists and partial agonists), and methadone and buprenorphine (indicated for pain control) – Other: Included either the maternal health care encounters for opioid addiction during pregnancy or NAS in babies without an associated maternal prescription use of opioids – This group likely includes at least mothers who used illicit opioids; however, it wouldn't capture all of them. For example, if the mother used heroin during pregnancy, but her infant didn't have NAS and she didn't seek health care use that suggested it, than she wouldn't be captured. – Some of the NAS cases may involve the use of substances other than opioids.
Note	• The POE category "Opioids for pain control" includes only the chronic use of opioids analgesics, i.e., a prescription for opioid analgesics for >10 days
Limitations	• The MOMBABY database captures in-hospital births only • The NMS database does not have prescription information if identification other than an OHIP card is used, or in cases where physicians dispense Subutex (buprenorphine) directly to patients • It is not possible to identify a mother with illicit drug use unless she receives opioid-related medical care during pregnancy or her baby is diagnosed with NAS. • For 2013, some live births were not captured if the mother's conception was not covered by the period when NMS was available. • General limitations of health administrative data include potential coding errors and lack of clinical detail.

2.3 Diagnostic groupings used in indicator calculation

2.3.1 Hospitalizations

DIAGNOSTIC CODES PRIOR TO 2017 (DSM-IV)

Category	ICD-9-CM code (OMHRS)	ICD-10-CA (DAD)
Any mental health disorders and addictions	Any diagnosis (including missing, except for 290.x, 294.x in primary diagnosis). If primary diagnosis missing and provisional diagnosis = 2, exclude	Primary diagnosis at discharge = F06–F99 (which excludes dementia) or secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99
Substance-related disorders	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). Provisional diagnosis = 4	F10 to F19, F55
Schizophrenia	295.x (all 295 codes), 297.x (all 297 codes), 298.x (all 298 codes). Provisional diagnosis = 5	F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1
Mood disorders	296.x (all 296 codes), 300.4x, 301.13. Provisional diagnosis = 6	F30, F31, F32, F33, F34, F38, F39, F53.0
Anxiety disorders	300, 300.0x, 300.2x, 300.3x, 308.3x, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.8x, 309.9x. Provisional diagnosis = 7, 15	F40, F41, F42, F43, F48.8, F48.9, F93.1, F93.2
Deliberate self-harm	Not applicable (DAD/NACRS only)	Secondary diagnosis fields X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99

DIAGNOSTIC CODES FROM 2017 ONWARD (DSM-5)

Category	ICD-9-CM code (OMHRS)	ICD-10-CA
Any mental health disorders and addictions	Any diagnosis (including missing, except for 290.x, 294.x in primary diagnosis). If primary diagnosis missing and provisional diagnosis = 17, exclude	Primary diagnosis at discharge = F06–F99 (which excludes dementia) or secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99
Substance-related and addictive disorders	291.x (all 291 codes), 292.x (all 292 codes), 303.x (all 303 codes), 304.x (all 304 codes), 305.x, 312.31. Provisional diagnosis = 16	F10–F19, F55, F63.0
Schizophrenia spectrum and other psychotic disorders	293.81, 293.82, 295.x (all 295 codes), 297.x (all 297 codes), 298.x (all 298 codes). Provisional diagnosis = 2	F06.0-2, F20, F22–F29, F53.1
Mood disorders	293.83, 296.x (all 296 codes), 300.4x, 301.13, 311.x, 625.4. Provisional diagnosis = 3, 4	F06.3, F30.x-F34.x, F38.x, F39.x, F53.0
Anxiety disorders	293.84, 300, 300.0x, 300.2x, 309.21, 313.23. Provisional diagnosis = 5	F06.4, F40, F41, F93.0-2, F94.0
Trauma and stressor-related disorders	308.3x, 309, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.81, 309.89, 309.9x, 313.89. Provisional diagnosis = 7	F43.x, F94.1, F94.2
Obsessive-compulsive disorder and related disorders	300.3x, 300.7x, 312.39, 698.4x. Provisional diagnosis = 6	F42.x, F45.2, F63.3
Personality disorders	301, 301.0x, 301.2x, 301.4x, 301.5x, 301.6x, 301.7x, 301.81-3, 301.89, 301.9x 310.1. Provisional diagnosis = 18	F07.0, F21, F60, F61, F62, F68, F69
Deliberate self-harm	Not applicable (DAD/NACRS only)	Secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99

Note: For more details on standard mental health and addictions diagnostic codes, see Section 2.3.4.

2.3.2 Emergency department visits

DIAGNOSTIC CODES PRIOR TO 2017 (DSM-IV)

Emergency department visits	ICD-10-CA (NACRS)
Overall, any mental health disorder or addiction	Primary diagnosis field = F06–F99 (which excludes dementia), or secondary diagnoses fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99
Substance-related disorders	F10–F19, F55
Schizophrenia	F20 (excluding F20.4), F22, F23, F24, F25, F28, F29, F53.1
Mood disorders	F30, F31, F32, F33, F34, F38, F39, F53.0
Anxiety disorders	F40, F41, F42, F43, F48.8, F48.9, F93.1, F93.2
Deliberate self-harm	Secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99

DIAGNOSTIC CODES FROM 2017 ONWARD (DSM-5)

Emergency department visits	ICD-10-CA (NACRS)
Any mental health disorders and addictions	Primary diagnosis field = F06–F99 or secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when DX10CODE1 is not F06–F99
Substance-related and addictive disorders	F10-19, F55, F63.0
Schizophrenia spectrum and other psychotic disorders	F06.0-2, F20, F22–F29, F53.1
Mood disorders	F06.3, F30.x–F34.x, F38.x, F39.x, F53.0
Anxiety disorders	F06.4, F40, F41, F93.0-2, F94.0
Trauma and stressor-related disorders	F43.x, F94.1, F94.2
Obsessive-compulsive disorder and related disorders	F42.x, F45.2, F63.3
Personality disorders	F07.0, F21, F60, F61, F62, F68, F69
Deliberate self-harm	Secondary diagnosis fields = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99

2.3.3. Outpatient visits

Outpatient visits	OHIP algorithm
Any physician specialty	Psychiatrist, paediatrician or primary care provider, as defined below
Psychiatrist	Any outpatient OHIP-funded visit/consultation held at a psychiatrist's office, patient's residence, long-term care facility, or virtually but not by telephone (exclude all laboratory fee codes G.x)
Paediatrician	Any outpatient OHIP-funded visit/consultation held at a paediatrician's office, patient's residence, long-term care facility, or virtually but not by telephone, with a mental health diagnostic code listed below (exclude all laboratory fee codes G.x) OR Any OHIP-funded visit/consultation with a paediatrician held at an undefined location, with a mental health diagnostic code listed below and one of the following fee codes: • K122 Developmental and/or behavioural care – individual developmental and/or behavioural care • K123 Developmental and/or behavioural care – family developmental and/or behavioural care • K704 Paediatric outpatient case conference
Primary care provider	Any OHIP-funded visit/consultation held at a GP/FP's office, patient's residence, long-term care facility, or virtually but not by telephone, a mental health diagnostic code listed below (exclude all laboratory fee codes G.x) OR Any CHC visit with an ICD-10-CA diagnostic code F06–F99 to identify MHA-related visits to physicians and nurse practitioners
Mental health diagnostic codes	OHIP diagnostic codes: 291–292, 295–299, 300–304, 306–307, 309, 311, 313-315, 897–902, 904–906, 909

2.3.4 Standard mental health and addictions diagnostic codes

DIAGNOSTIC CODES PRIOR TO 2017 (DSM-IV)

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA) codes	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) codes
Substance-related disorders	F10: Mental and behavioural disorders due to use of alcohol F11: Mental and behavioural disorders due to use of opioids F12: Mental and behavioural disorders due to use of cannabinoids F13: Mental and behavioural disorders due to use of sedatives or hypnotics F14: Mental and behavioural disorders due to use of cocaine F15: Mental and behavioural disorders due to use of other stimulants, including caffeine F16: Mental and behavioural disorders due to use of hallucinogens F17: Mental and behavioural disorders due to use of tobacco F18: Mental and behavioural disorders due to use of volatile solvents F19: Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances F55: Abuse of non-dependence-producing substances	291.00: Alcohol – Intoxication or withdrawal delirium 291.10: Alcohol – Induced persisting amnestic disorder 292.20: Alcohol – Induced persisting dementia 291.30: Alcohol – Induced psychotic disorder, with hallucinations 291.50: Alcohol – Induced psychotic disorder, with delusions 291.81: Alcohol – Withdrawal 291.89: Alcohol – Induced anxiety/mood disorder or sexual dysfunction 291.90: Alcohol – Related disorder not otherwise specified (NOS) 292.00: Substance – Withdrawal 292.11: Substance – Induced psychotic disorder, with delusions 292.12: Substance – Induced psychotic disorder, with hallucinations 292.81: Substance – Intoxication or withdrawal delirium 292.82: Substance – Induced persisting dementia 292.83: Substance – Induced persisting amnestic disorder 292.84: Substance – Induced mood disorder 292.89: Substance – Intoxication or induced anxiety disorder/sexual dysfunction 292.90: Substance – Related NOS 303.00: Alcohol intoxication 303.90: Alcohol dependence 304.00: Opioid dependence 304.10: Sedative, hypnotic or anxiolytic dependence 304.20: Cocaine dependence 304.30: Cannabis dependence 304.40: Amphetamine dependence 304.50: Hallucinogen dependence 304.60: Inhalant or phencyclidine dependence 304.80: Polysubstance dependence 304.90: Other (or unknown) substance dependence 305.00: Alcohol abuse 305.10: Nicotine dependence 305.20: Cannabis abuse 305.30: Hallucinogen abuse 305.40: Sedative, hypnotic or anxiolytic abuse 305.50: Opioid abuse 305.60: Cocaine abuse 305.70: Amphetamine abuse 305.90: Other (or unknown) substance abuse

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA) codes	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) codes
Schizophrenia	F20: Schizophrenia (excluding F20.4: Post-schizophrenic depression) F22: Persistent delusional disorders F23: Acute and transient psychotic disorders F24: Induced delusional disorder F25: Schizoaffective disorders F28: Other nonorganic psychotic disorders F29: Unspecified nonorganic psychosis F53.1: Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified	295.10: Schizophrenia, disorganized type 295.20: Schizophrenia, catatonic type 295.30: Schizophrenia, paranoid type 295.40: Schizophreniform disorder 295.60: Schizophrenia, residual type 295.70: Schizoaffective disorder 295.90: Schizophrenia, undifferentiated type 297.10: Delusional disorder 297.30: Shared psychotic disorder 298.80: Brief psychotic disorder 298.90: Psychotic disorder NOS
Mood disorders	F30: Manic episode F31: Bipolar affective disorder F32: Depressive episode F33: Recurrent depressive disorder F34: Persistent mood [affective] disorders F38: Other mood [affective] disorders F39: Unspecified mood [affective] disorder F53.0: Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified	296.0x: Bipolar I disorder, single manic episode 296.2x: Major depressive disorder, single episode 296.3x: Major depressive disorder, recurrent 296.4x: Bipolar I disorder, most recent episode manic 296.5x: Bipolar I disorder, most recent episode depressed 296.6x: Bipolar I disorder, most recent episode mixed 296.7: Bipolar I disorder, most recent episode unspecified 296.80: Bipolar disorder NOS 296.89: Bipolar II disorder 296.90: Mood disorder NOS 300.4: Dysthymic disorder 301.13: Cyclothymic disorder
Anxiety disorders	F40: Phobic anxiety disorders F41: Other anxiety disorders F42: Obsessive-compulsive disorder F43: Reaction to severe stress and adjustment disorders F48.8: Other specified neurotic disorders F48.9: Neurotic disorder, unspecified F93.1: Phobic anxiety disorder of childhood F93.2: Social anxiety disorder of childhood	300.00: Anxiety disorder NOS 300.01: Panic disorder without agoraphobia 300.02: Generalized anxiety disorder 300.21: Panic disorder with agoraphobia 300.22: Agoraphobia without history of panic disorder 300.23: Social phobia 300.29: Specific phobia 300.3: Obsessive-compulsive disorder 308.3: Acute stress disorder 309.0: Adjustment disorder with depressed mood 309.24: Adjustment disorder with anxiety 309.28: Adjustment disorder with mixed anxiety and depressed mood 309.3: Adjustment disorder with disturbance of conduct 309.4: Adjustment disorder with mixed disturbance of emotions and conduct 309.81: Posttraumatic stress disorder 309.9: Adjustment disorder unspecified

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA) codes	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) codes
Deliberate self-harm	X60: Intentional self-poisoning by and exposure to non-opioid analgesics, antipyretics and antirheumatics X61: Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, NOS X62: Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], NOS X63: Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system X64: Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances X65: Intentional self-poisoning by and exposure to alcohol X66: Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours X67: Intentional self-poisoning by and exposure to other gases and vapours X68: Intentional self-poisoning by and exposure to pesticides X69: Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances X70: Intentional self-harm by hanging, strangulation and suffocation X71: Intentional self-harm by drowning and submersion X72: Intentional self-harm by handgun discharge X73: Intentional self-harm by rifle, shotgun and larger firearm discharge X74: Intentional self-harm by other and unspecified firearm discharge X75: Intentional self-harm by explosive material X76: Intentional self-harm by smoke, fire and flames X77: Intentional self-harm by steam, hot vapours and hot objects X78: Intentional self-harm by sharp object X79: Intentional self-harm by blunt object X80: Intentional self-harm by jumping from a high place X81: Intentional self-harm by jumping or lying before a moving object X82: Intentional self-harm by crashing of motor vehicle X83: Intentional self-harm by other specified means X84: Intentional self-harm by unspecified means Y10: Poisoning by and exposure to non-opioid analgesics, antipyretics and antirheumatics, undetermined intent Y11: Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent Y12: Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent Y13: Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent Y14: Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent Y15: Poisoning by and exposure to alcohol, undetermined intent Y16: Poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours, undetermined intent Y17: Poisoning by and exposure to other gases and vapours, undetermined intent Y18: Poisoning by and exposure to pesticides, undetermined intent Y19: Poisoning by and exposure to other and unspecified chemicals and noxious substances, undetermined intent Y28: Contact with sharp object, undetermined intent	Not applicable

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada (ICD-10-CA) codes	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) codes
Death caused by suicide (from ICD-9)	E950: Suicide and self-inflicted poisoning by solid/liquid substances E951: Suicide and self-inflicted poisoning by gases in domestic use E952: Suicide and self-inflicted poisoning by other gases and vapours E953: Suicide and self-inflicted injury by hanging, strangulation and suffocation E954: Suicide and self-inflicted injury by submersion (drowning) E955: Suicide and self-inflicted injury firearms and explosives E956: Suicide and self-inflicted injury by cutting and piercing instruments E957: Suicide and self-inflicted injury jumping from a high place E958: Suicide and self-inflicted injury by other and unspecified means E959: Late effects of self-inflicted injury	

DEFINITIONS OF CODES FROM 2017 ONWARD (BASED ON DSM-5)

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), Canadian Enhancement codes	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) codes[1]
Substance-related and addictive disorders	F10: Mental and behavioural disorders due to use of alcohol F11: Mental and behavioural disorders due to use of opioids F12: Mental and behavioural disorders due to use of cannabinoids F13: Mental and behavioural disorders due to use of sedatives or hypnotics F14: Mental and behavioural disorders due to use of cocaine F15: Mental and behavioural disorders due to use of other stimulants, including caffeine F16: Mental and behavioural disorders due to use of hallucinogens F17: Mental and behavioural disorders due to use of tobacco F18: Mental and behavioural disorders due to use of volatile solvents F19: Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances F55: Abuse of non-dependence-producing substances F63.0: Pathological gambling	291.x (all 291 codes), 292.x (all 292 codes), 303.x (all 303 codes), 304.x (all 304 codes), 305.x, 312.31. Provisional = 16
Schizophrenia spectrum and other psychotic disorders	F06.0-2: Other mental disorders due to brain damage and dysfunction and to physical disease F20: Schizophrenia (excluding F20.4: Post-schizophrenic depression) F22: Persistent delusional disorders F23: Acute and transient psychotic disorders F24: Induced delusional disorder F25: Schizoaffective disorders F28: Other nonorganic psychotic disorders F29: Unspecified nonorganic psychosis F53.1: Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified	293.81, 293.82, 295.x (all 295 codes), 297.x (all 297 codes), 298.x (all 298 codes). Provisional = 2

[1] For descriptions of DSM-5 codes, see the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition. Arlington, VA: American Psychiatric Association; 2013.

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), Canadian Enhancement codes	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) codes[1]
Mood disorders	F06.3: Organic mood disorders F30: Manic episode F31: Bipolar affective disorder F32: Depressive episode F33: Recurrent depressive disorder F34: Persistent mood [affective] disorders F38: Other mood [affective] disorders F39: Unspecified mood [affective] disorder F53.0: Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified	293.83, 296.x (all 296 codes), 300.4x, 301.13, 311.x, 625.4. Provisional = 3, 4
Anxiety disorders	F06.4: Organic anxiety disorder F40: Phobic anxiety disorders F41: Other anxiety disorders F93.0-2: Emotional disorders with onset specific to childhood F94.0: Elective mutism	293.84, 300, 300.0x, 300.2x, 309.21, 313.23. Provisional = 5
Trauma and stressor-related disorders	F43: Reaction to severe stress and adjustment disorders F94.1: Reactive attachment disorder of childhood F94.2: Disinhibited attachment disorder of childhood	308.3x, 309, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.81, 309.89, 309.9x, 313.89. Provisional = 7
Obsessive-compulsive disorder and related disorders	F42: Obsessive-compulsive disorder F45.2: Hypochondriacal disorder F63.3: Trichotillomania	300.3x, 300.7x, 312.39, 698.4x. Provisional = 6
Personality disorders	F07.0: Organic personality disorder F21: Schizotypal disorder F60: Specific personality disorders F61: Mixed and other personality disorders F62: Enduring personality changes, not attributable to brain damage and disease F68: Other disorders of adult personality and behaviour F69: Unspecified disorder of adult personality and behaviour	301, 301.0x, 301.2x, 301.4x, 301.5x, 301.6x, 301.7x, 301.81-3, 301.89, 301.9x 310.1. Provisional = 18

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), Canadian Enhancement codes	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) codes[1]
Deliberate self-harm	X60: Intentional self-poisoning by and exposure to non-opioid analgesics, antipyretics and antirheumatics X61: Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, NOS X62: Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], NOS X63: Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system X64: Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances X65: Intentional self-poisoning by and exposure to alcohol X66: Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours X67: Intentional self-poisoning by and exposure to other gases and vapours X68: Intentional self-poisoning by and exposure to pesticides X69: Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances X70: Intentional self-harm by hanging, strangulation and suffocation X71: Intentional self-harm by drowning and submersion X72: Intentional self-harm by handgun discharge X73: Intentional self-harm by rifle, shotgun and larger firearm discharge X74: Intentional self-harm by other and unspecified firearm discharge X75: Intentional self-harm by explosive material X76: Intentional self-harm by smoke, fire and flames X77: Intentional self-harm by steam, hot vapours and hot objects X78: Intentional self-harm by sharp object X79: Intentional self-harm by blunt object X80: Intentional self-harm by jumping from a high place X81: Intentional self-harm by jumping or lying before a moving object X82: Intentional self-harm by crashing of motor vehicle X83: Intentional self-harm by other specified means X84: Intentional self-harm by unspecified means Y11: Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent Y12: Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent Y13: Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent	Not applicable

Diagnostic category	International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), Canadian Enhancement codes	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) codes
Deliberate self-harm	Y14: Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent Y15: Poisoning by and exposure to alcohol, undetermined intent Y16: Poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours, undetermined intent Y17: Poisoning by and exposure to other gases and vapours, undetermined intent Y18: Poisoning by and exposure to pesticides, undetermined intent Y19: Poisoning by and exposure to other and unspecified chemicals and noxious substances, undetermined intent Y28: Contact with sharp object, undetermined intent	Not applicable

ICD-9-CM (OMHRS) AND ICD-10-CA DIAGNOSTIC CODES

Category	International Classification of Diseases, Ninth Revision, Clinical Modification, (ICD-9-CM code) – OMHRS	International Statistical Classification of Diseases and Health Related Problems, Tenth Revision, Canada (ICD-10-CA)
Any mental health and addictions	Any diagnosis (including missing, except for 290.x, 294.x in primary diagnosis). If primary diagnosis missing and provisional = 17, exclude	Primary diagnosis field = F06–F99 or secondary diagnosis field = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99
Substance-related and addictive disorders	291.x (all 291 codes), 292.x (all 292 codes), 303.x (all 303 codes), 304.x (all 304 codes), 305.x, 312.31. Provisional = 16	F10–F19, F55, F63.0
Schizophrenia spectrum and other psychotic disorders	293.81/82, 295.x (all 295 codes), 297.x (all 297 codes), 298.x (all 298 codes). Provisional = 2	F06.0-2, F20, F22–F29, F53.1
Mood disorders	293.83, 296.x (all 296 codes), 300.4x, 301.13, 311.x, 625.4. Provisional = 3, 4	F06.3, F30.x–F34.x, F38.x, F39.x, F53.0
Anxiety disorders	293.84, 300, 300.0x, 300.2x, 309.21, 313.23. Provisional = 5	F06.4, F40, F41, F93.0-2, F94.0
Trauma and stressor-related disorders	308.3x, 309, 309.0x, 309.24, 309.28, 309.3x, 309.4x, 309.81, 309.89, 309.9x, 313.89. Provisional = 7	F43.x, F94.1, F94.2
Obsessive-compulsive disorder and related disorders	300.3x, 300.7x, 312.39, 698.4x. Provisional = 6	F42.x, F45.2, F63.3
Personality disorders	301, 301.0x, 301.2x, 301.4x, 301.5x, 301.6x, 301.7x, 301.81-3, 301.89, 301.9x 310.1. Provisional = 18	F07.0, F21, F60, F61, F62, F68, F69
Deliberate self-harm	Not applicable (DAD/NACRS only)	Secondary diagnosis = X60–X84, Y10–Y19, Y28 when primary diagnosis is not F06–F99

OHIP DIAGNOSTIC CODES (BASED ON ICD-8-CM)

Category	International Classification of Diseases, Eighth Revision, Clinical Modification (ICD-8-CM) code
Any mental health disorder or addiction	Psychotic disorders 295: Schizophrenia 296: Manic-depressive psychoses, involutional melancholia 297: Other paranoid states 298: Other psychoses Non-psychotic disorders 300: Anxiety neurosis, hysteria, neurasthenia, obsessive-compulsive neurosis, reactive depression 301: Personality disorders 302: Sexual deviations 306: Psychosomatic illness 309: Adjustment reaction 311: Depressive disorder Substance use disorders 303: Alcoholism 304: Drug dependence Social problems 897: Economic problems 898: Marital difficulties 899: Parent-child problems 900: Problems with aged parents or in-laws 901: Family disruption/divorce 902: Education problems 904: Social maladjustment 905: Occupational problems 906: Legal problems 909: Other problems of social adjustment Other 291: Alcoholic psychosis, delirium tremens, Korsakov's psychosis 292: Drug psychosis 299: Childhood psychoses (e.g., autism) 307: Habit spasms, tics, stuttering, tension headaches, anorexia nervosa, sleep disorders 313: Behaviour disorders of childhood and adolescence 314: Hyperkinetic syndrome of childhood 315: Specified delays in development (e.g., dyslexia, dyslalia, motor retardation)

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