# Ontario Mental Health System Reporting

DATA SOURCES AND METHODOLOGY

IC/ES

# Ontario Mental Health System Reporting

## Data Sources and Methodology

MHAP Research Team

# Authors' Affiliations

The Mental Health and Addictions Program Framework (MHAP) Research Team includes the following individuals (in alphabetical order):

**Amreen Babujee, MPH**
Epidemiologist, ICES

**Michael Campitelli, MPH**
Staff Scientist, ICES

**Matthew Crocker, MPH**
Epidemiologist, ICES

**Kinwah Fung, MSc**
Research Methodologist, ICES

**Sima Gandhi, MSc**
Research Program Manager, ICES

**Astrid Guttmann, MDCM, MSc, FRCPC**
Chief Science Officer and Senior Core Scientist, ICES / Staff Paediatrician and Senior Scientist, Division of Paediatric Medicine, Hospital for Sick Children / Professor, Department of Paediatrics, Temerty Faculty of Medicine, and Institute of Health Policy, Management and Evaluation, Dalla Lana School of Public Health, and Co-Director, Edwin S.H. Leong Centre for Healthy Children, University of Toronto

**Anjie Huang, MSc**
Senior Research Analyst, ICES

**Paul Kurdyak, MD, PhD, FRCPC**
Program Lead, Mental Health and Addictions Program and Core Senior Scientist, ICES / Professor and Chair, Addictions and Mental Health Policy, Department of Psychiatry and Dalla Lana School of Public Health, University of Toronto / Vice President, Clinical, Mental Health and Addictions Centre of Excellence

**Hong Lu, MSc, PhD**
Associate Research Methodologist, ICES

**Andrea Mataruga, MSc**
Research Analyst, ICES

**Aditi Patrikar, MSPH**
Research Analyst, ICES

**Natasha Saunders, MD, MSc, FRCPC**
Adjunct Scientist, ICES / Staff Paediatrician, Division of Paediatric Medicine, Hospital for Sick Children / Associate Professor, Department of Paediatrics, Temerty Faculty of Medicine, and Institute of Health Policy, Management and Evaluation, Dalla Lana School of Public Health, University of Toronto / Associate Scientist, Child Health Evaluative Sciences, SickKids Research Institute

**Isobel Sharpe, MSc**
Research Analyst, ICES

**Mélody Tondeur, MSc**
Research Project Manager, ICES

**Alène Toulany, MD, MSc, FRCPC**
Adjunct Scientist, ICES / Paediatrician and Adolescent Medicine Specialist, Division of Adolescent Medicine, Hospital for Sick Children / Associate Professor, Department of Paediatrics, Temerty Faculty of Medicine, University of Toronto

**Simone N. Vigod, MD, MSc, FRCPC**
Senior Adjunct Scientist, ICES / Professor, Department of Psychiatry, Temerty Faculty of Medicine, University of Toronto / Head, Department of Psychiatry, and Shirley A. Brown Memorial Chair in Women's Mental Health Research, Women's College Hospital

**Fiona Wong, MSc, PhD**
Senior Research Project Manager, ICES

# Acknowledgements

## ICES

**Data Quality and Information Management**
Shrey Virmani, BTech

**Communications**
Anu Yadav, BA, BFA

## Former Mental Health and Addictions Program Framework (MHAP) Research Team members

**Maria Chiu, MSc, PhD**
Staff Scientist, ICES / Assistant Professor, Institute of Health Policy, Management and Evaluation, Dalla Lana School of Public Health, University of Toronto

**Bhumika Deb, MPH**

**Michael Lebenbaum, MSc**

**Rachel Strauss, MPH**

**Winnie Yu, MSc**

## Data

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

## Funding

# Abbreviations

| | | | | | |
|---|---|---|---|---|---|
| **CA** | Census Agglomeration | **ICD-8-CM** | International Classification of Diseases, 8th Revision, Clinical Modification | **MHAP** | Mental Health and Addictions Program Framework Research Team |
| **CMA** | Census Metropolitan Area | **ICD-9-CM** | International Classification of Diseases, 9th Revision, Clinical Modification | **NACRS** | National Ambulatory Care Reporting System |
| **DA** | Dissemination Area | **ICD-10-CA** | International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada | **OHIP** | Ontario Health Insurance Plan |
| **DAD** | Discharge Abstract Database | | | **OMHRS** | Ontario Mental Health Reporting System |
| **DSM-5** | Diagnostic and Statistical Manual of Mental Disorders, 5th Edition | **ICD-10-CM** | International Classification of Diseases, 10th Revision, Clinical Modification | **PC** | primary care |
| **ED** | emergency department | **IPPE** | income per single-person equivalent | **PCCF** | Postal Code Conversion File |
| **FP/GP** | family physician/general practitioner | **MHA** | mental health and addictions | **RPDB** | Registered Persons Database |

# Data Sources

### Discharge Abstract Database (DAD)

The DAD is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures/interventions), and demographic information for all admissions to acute care hospitals and rehabilitation, chronic care and day surgery facilities 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.

### National Ambulatory Care Reporting System (NACRS)

NACRS is compiled by the Canadian Institute for Health Information and contains administrative, clinical (diagnoses and procedures), and demographic 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.

### 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.

### 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 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 dashboard

**EXHIBIT 1.1** Mental health and addictions system performance indicators[1]

| Quality Dimension Indicators[2] | | | Health Service Use Indicators |
|---|---|---|---|
| **Effective** | **Timely** | **Efficient** | |
| • Rates of emergency department visits for intentional self-injury<br><br>• Rates of eating disorder-related hospitalizations<br><br>• Rates of eating disorder-related emergency department visits | • 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<br><br>• Rates of 30-day hospital readmission following a mental health and addictions–related hospital discharge<br><br>• 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<br><br>• Rates of mental health and addictions–related emergency department visits<br><br>• Rates of mental health and addictions–related hospitalizations<br><br>• Length of stay for psychiatric hospitalizations<br><br>• Rates at which individuals were seen by a psychiatrist, primary care provider or paediatrician for mental health and addictions care |

[1] Indicators will be assessed through four dimensions: age group, sex, diagnostic category and neighbourhood income quintile.
[2] Quality dimension indicators were identified by the Institute of Medicine in 2001 and subsequently adopted by Health Quality Ontario (now Ontario Health Quality).

# 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<br>• 10–13<br>• 14–17<br>• 18–21<br>• 22–24 | • 25–44<br>• 45–64<br>• 65–84<br>• 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<br>• Female | |
| **Diagnostic category** | Some indicators were stratified by diagnosis. These diagnostic groups do not add up to the overall MHA category since the presented diagnostic categories do not include all available diagnostic codes. For more information on diagnostic codes and definitions, see **Section 2.3**. | • Substance use disorder<br>• Schizophrenia spectrum and other psychotic disorders<br>• Mood disorders<br>• Anxiety disorders<br>• Trauma- and stressor-related disorders<br>• Obsessive-compulsive and related disorders<br>• Personality disorders<br>• Intentional self-injury | |
| **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 household income per single-person equivalent (IPPE) (adjusted for household size), was obtained from the Census of Canada for 2016. DAs within each Census Metropolitan Area (CMA), Census Agglomeration (CA), or provincial residual area not in any CMA or CA were ranked and assigned to five groups, or quintiles, of approximately equal population based on the DA average IPPE. The corresponding neighbourhood income quintile of that DA was assigned to the individual. | • Quintile 1 (lowest)<br>• Quintile 2<br>• Quintile 3<br>• Quintile 4<br>• Quintile 5 (highest) | |
| **Health region** | Areas of the province established by Ontario Health to regionally manage, plan, support, and co-ordinate the delivery of health services. Health regions are based on consolidated geographical boundaries previously used to define the Local Health Integration Networks (LHINs).[1] | • Central (formerly Mississauga Halton, Central West, Central, and North Simcoe Muskoka LHINs)<br>• East (formerly Central East, South East, and Champlain LHINs)<br>• North East (formerly North East LHIN)<br>• North West (formerly North West LHIN)<br>• Toronto (formerly Toronto Central LHIN)<br>• West (formerly Erie St. Clair, South West, Hamilton Niagara Haldimand Brant, and Waterloo Wellington LHINs) | |

Note: For the indicator Rates of emergency department visits for intentional self-injury, the age groups were 10–13, 14–17, 18–21, 25–44, 45–64, 65–84 and 85–105 years.

[1] https://www.ontariohealth.ca/about-us/our-programs/ontario-health-regions

## 2.1.3 Indicator rates that were calculated

| Method | Calculation | Categories |
| --- | --- | --- |
| **Indicator/rate calculation** | Monthly from January 2017 to the current available date | • Ontario<br>• Age group<br>• Sex<br>• Diagnostic category<br>• Neighbourhood income quintile<br>• Health region |
| **Standardization** | Direct standardization method | • Ontario |
| | Standard population | 2016 Ontario population standardized by age and sex:<br>• Males: 0–9, 10–13, 14–17, 18–21, 22–24, 25–44, 45–64, 65–84, 85–105 years<br>• Females: 0–9, 10–13, 14–17, 18–21, 22–24, 25–44, 45–64, 65–84, 85–105 years |

# 2.2 Indicator calculation

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

## 2.2.1. Rates of mental health and addictions–related outpatient visits

| | |
|---|---|
| **Data sets** | OHIP, RPDB, PCCF |
| **Denominator** | Ontario population aged 0–105 years from January 2017 to the current available date |
| **Numerator** | Monthly number of mental health and addictions (MHA)–related outpatient visits from OHIP<br>• Family physicians/general practitioners, psychiatrists, paediatricians<br><br>For a definition of MHA-related outpatient visits based on physician specialties and diagnostic codes, see Section 2.3. |
| **Exclusions** | See general exclusions in Section 2.1.1 |
| **Stratifications** | In addition to indicator stratifications in Section 2.1.2, also stratified by:<br>Physician specialty<br>• Any specialty<br>• Family physician/general practitioner<br>• Psychiatrist<br>• Paediatrician<br><br>Visit modality<br>• In-person<br>• Virtual |
| **Index** | Date of OHIP claim |
| **Additional specifications** | • The numerator was derived separately from the denominator.<br>• Exclusions have been pre-applied to the denominator.<br>• 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."<br>• 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 month). |
| **Limitations** | • 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).<br>• Data did not capture most non-physician mental health and addictions services.<br>• General limitations of health administrative data include potential coding errors and lack of clinical detail. |

## 2.2.2. Rates of mental health and addictions–related hospitalizations

| | |
|---|---|
| **Data sets** | DAD, OMHRS, RPDB, PCCF |
| **Denominator** | Ontario population aged 0–105 years from January 2017 to the current available date |
| **Numerator** | Monthly number of MHA-related hospitalizations |
| **Exclusions** | See general exclusions in Section 2.1.1 |
| **Stratifications** | See indicator stratifications in Section 2.1.2 |
| **Index** | Hospital discharge date |
| **Additional specifications/ notes** | • Hospitalizations were constructed as episodes of care:<br>  – 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.<br>• The numerator was derived separately from the denominator.<br>• Exclusions were pre-applied to the denominator.<br>• Exclusions were applied to the numerator at index.<br>• Diagnoses-specific numerators do not add up to the overall numerator.<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual intentional self-injury, i.e., the presence of a self-injury 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. |

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

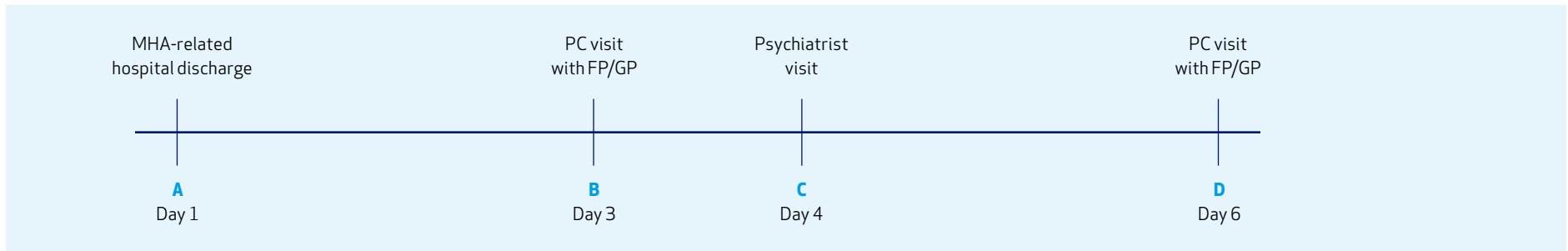| | |
|---|---|
| **Data sets** | NACRS, RPDB, PCCF |
| **Denominator** | Ontario population aged 0–105 years from January 2017 to the current available date |
| **Numerator** | Monthly number of MHA-related ED visits |
| **Exclusions** | In addition to general exclusions in Section 2.1.1, also excluded were:<br>• Scheduled ED visits<br>• 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.<br>• Removed duplicates and kept the first visit in the case of transfers.<br>• The numerator was derived separately from the denominator.<br>• Exclusions have been pre-applied to the denominator.<br>• Exclusions for the numerator were applied at index.<br>• Presented as rates, which includes multiple visits per person per month.<br>• Emergency department visit episodes were constructed to avoid double counting visits that were transfers between multiple institutions and to better identify ED episode discharges.<br>• Diagnoses-specific numerators do not add up to the overall numerator (see Section 2.3).<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual intentional self-injury, i.e., the presence of a self-injury 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. |

## 2.2.4. Rates of emergency department visits for intentional self-injury

| | |
|---|---|
| **Data sets** | DAD, NACRS, OMHRS, PCCF, RPDB |
| **Denominator** | Number of Ontario residents aged 10–105 years from January 2017 to the current available date |
| **Numerator** | Monthly number of emergency department (ED) visits for intentional self-injury<br><br>ICD-10-CA (NACRS) codes: X60.x–X84.x, Y10.x–Y19.x, Y28.x as a secondary diagnosis, regardless of whether the primary diagnosis is mental health-related (primary diagnosis of F06.x-F99.x) or not mental health-related (primary diagnosis is not F06.x-F99.x) |
| **Exclusions** | In addition to general exclusions in Section 2.1.1, other exclusions include:<br>• Age <10 years |
| **Stratifications** | In addition to indicator stratifications in Section 2.1.2, also stratified by:<br>• Admission following self-injury<br>• Transfer to ICU/Death during ED visit or hospitalization<br>• Method of self-injury:<br>  – Self poisoning only<br>  – Self-cutting only<br>  – Other<br>  – Multiple |
| **Index** | Date of ED visit |
| **Additional specifications/ notes** | • The numerator includes suspect diagnoses, unscheduled ED visits, patients who were admitted, and the first ED visit in the case of ED to ED transfers.<br>• The numerator was derived separately from the denominator.<br>• Exclusions have been pre-applied to the denominator.<br>• Exclusions for the numerator were applied at index.<br>• Presented as rates, which includes multiple visits per person per month.<br>• For all exhibits, rates of ED visits for intentional self-injury are presented where this diagnosis was made as a secondary reason for the ED visit, regardless of the main reason for the visit. |
| **Limitations** | • Individuals who self-injure but do not present to the ED were not included.<br>• Self-injury treated in a non-hospital setting cannot be assessed.<br>• Whether the individual who self-injured had suicidal or non-suicidal intent cannot be determined.<br>• 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, RPDB, PCCF |
| **Denominator** | Number of mental health and addictions (MHA)–related hospitalizations with a status of discharged alive among Ontario residents aged 0–105 years from January 2017 to the current available date |
| **Numerator (subset of denominator)** | Outpatient visit within 7 days following hospital discharge<br>• Family physicians/general practitioners, psychiatrists, paediatricians |
| **Exclusions** | In addition to general exclusions in Section 2.1.1, also excluded were death/readmission in follow-up period without outcome, and outpatient visit on same day as discharge |
| **Stratifications** | • In addition to indicator stratifications in Section 2.1.2, also stratified by:<br>  – Any specialty<br>  – Family physician/general practitioner<br>  – Psychiatrist<br>  – Paediatrician |
| **Index** | • Date to identify the denominator: Hospital discharge date (follow-up begins after discharge date)<br>• Date used to identify the numerator: OHIP claim service date |
| **Additional specifications/ notes** | • Hospitalizations were constructed as episodes of care.<br>• The final discharge of the hospital episode must have resulted in one of the following:<br>  – a discharge home (with or without supportive services)<br>  – 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<br>  – a sign-out against medical advice/absent without leave<br>• Index hospital discharges were restricted to calendar months, but the 7-day follow-up could cross over into the next calendar month. MHA diagnostic codes are not specified for outpatient visits (only for hospitalization).<br>• Numerators are not mutually exclusive: a maximum of one numerator per specialty per follow-up per period.<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual intentional self-injury, i.e., the presence of a intentional self-injury diagnosis where the main reason for the hospital admission is non-MHA-related.<br>• Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3). |
| **Limitations** | • Data did not capture most non-physician MHA services (i.e., psychologists, counsellors and social workers) that may have been provided post-discharge.<br>• 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:

| MHA-related hospital discharge | PC visit with FP/GP | Psychiatrist visit | PC visit with FP/GP |
|:---:|:---:|:---:|:---:|
| **A** | **B** | **C** | **D** |
| Day 1 | Day 3 | Day 4 | Day 6 |

- 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 month 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
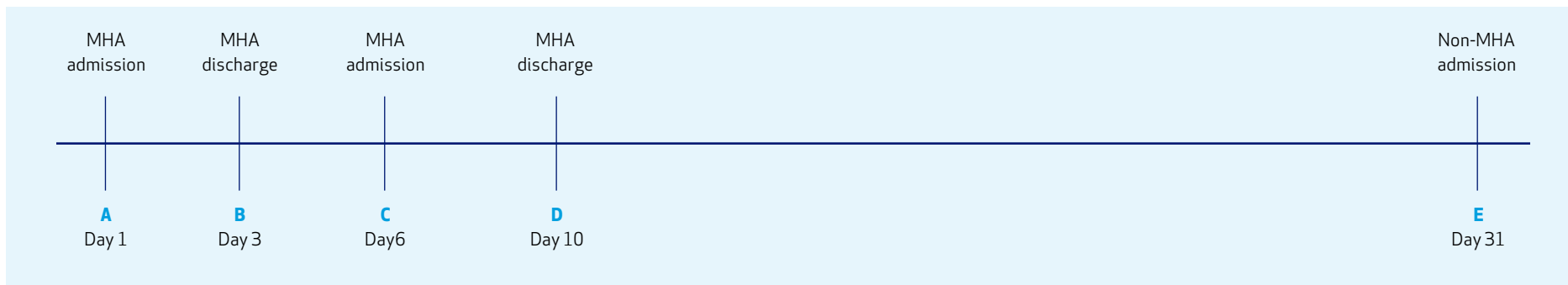
## 2.2.6. Rates of emergency department visits as first point of contact for mental health and addictions–related care

| | |
|---|---|
| **Data sets** | DAD, OMHRS, NACRS, OHIP, RPDB, PCCF |
| **Denominator** | Number of unique Ontario residents aged 0–105 years with an incident (first in a calendar month) unscheduled mental health and addictions (MHA)–related emergency department (ED) visit from January 2017 to the current available date |
| **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 in Section 2.1.1, also excluded was scheduled ED visits (from denominator only). |
| **Stratifications** | See indicator stratifications in 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.<br>• Visits on the same day as the index are not considered prior contact.<br>• Look-back can include scheduled ED visits.<br>• Person-level indicator: one index visit per person.<br>• Diagnostic categories represent the reason for the incident ED visit (i.e., the denominator).<br>• Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3).<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual intentional self-injury, i.e., the presence of a self-injury diagnosis where the main reason for the ED visit is non-MHA-related. |
| **Limitations** | • Data did not capture most non-physician mental health and addictions services (i.e., psychologists, counsellors and social workers).<br>• General limitations of health administrative data include potential coding errors and lack of clinical detail. |

## 2.2.7. 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 with a status of discharged alive among Ontario residents aged 0–105 years from January 2017 to the current available date |
| **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 in Section 2.1.1, also excluded were individuals who:<br>– died without a readmission within 30 or fewer days of the index hospital discharge<br>– were transferred to another hospital |
| **Stratifications** | See indicator stratifications in Section 2.1.2. |
| **Index** | Hospital discharge date |
| **Additional specifications/ notes** | • Index discharges (i.e., the denominator) were restricted to calendar months but hospital readmission can cross over to the next calendar month, can be for a different MHA diagnosis than index, and does not have to result in a status of discharged alive.<br>• Count only the first readmission per person per follow-up period.<br>• Hospitalizations were constructed as episodes of care.<br>• The final discharge of the hospital episode must result in one of the following:<br>  – a discharge home (with or without supportive services)<br>  – 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<br>  – a sign-out against medical advice/absent without leave<br>• Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3).<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual deliberate self-injury, i.e., the presence of a self-injury 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:

| MHA admission | MHA discharge | MHA admission | MHA discharge | Non-MHA admission |
|---|---|---|---|---|
| **A** | **B** | **C** | **D** | **E** |
| Day 1 | Day 3 | Day6 | Day 10 | Day 31 |

- 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 month.

## 2.2.8. 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 from January 2017 to the current available date |
| **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 in Section 2.1.1, also excluded were:<br>• Left index ED visit without being seen<br>• Died in the ED<br>• Admitted to hospital<br>• Death in follow-up period without outcome |
| **Stratifications** | See indicator stratifications in Section 2.1.2. |
| **Index** | • Date of ED visit |
| **Additional specifications/ notes** | • Index ED visits were restricted to calendar months, but ED revisits can cross over to the next calendar month, result in a hospital admission, include those who left without being seen , or be for a different MHA diagnosis than the index diagnosis.<br>• Only the first revisit per person per follow-up period was counted.<br>• For ED to ED transfers, the last record was kept, and transfers were not counted as ED revisits.<br>• Diagnoses-specific denominators do not add up to the overall denominator (see Section 2.3).<br>• Intentional self-injury may be present as a secondary diagnosis in any of the other diagnostic types. Intentional self-injury refers to residual deliberate self-injury, i.e., the presence of a self-injury diagnosis where the main reason for the ED visit is non-MHA-related.<br>• 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:
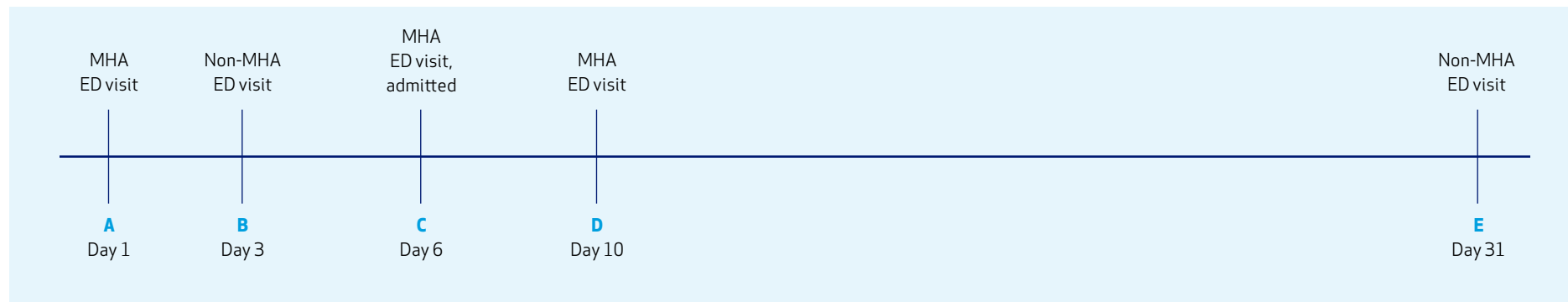
| MHA<br>ED visit | Non-MHA<br>ED visit | MHA<br>ED visit,<br>admitted | MHA<br>ED visit | | Non-MHA<br>ED visit |
|---|---|---|---|---|---|
| **A**<br>Day 1 | **B**<br>Day 3 | **C**<br>Day 6 | **D**<br>Day 10 | | **E**<br>Day 31 |

- 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 month.

## 2.2.9. Length of stay for psychiatric hospitalizations

| | |
|---|---|
| **Data sets** | DAD, OMHRS, RPDB, PCCF |
| **Indicator calculation** | Median length of stay (in days) for mental health and addictions (MHA)–related hospitalizations among individuals aged 0–105 years in Ontario from January 2017 to the current available date |
| **Exclusions** | See general exclusions in Section 2.1.1 |
| **Stratifications** | See indicator stratifications in Section 2.1.2 |
| **Index** | Hospital discharge date |
| **Additional specifications/ notes** | • Hospitalizations were constructed as episodes of care:<br>  – 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.<br>• Diagnoses-specific lengths of stay do not add up to the overall length of stay. |
| **Limitations** | General limitations of health administrative data include potential coding errors and lack of clinical detail. |

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

| | |
|---|---|
| **Data sets** | OHIP, RPDB, PCCF |
| **Denominator** | Ontario population aged 0–105 years from January 2017 to the current available date |
| **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** | See general exclusions in Section 2.1.1 |
| **Stratifications** | In addition to indicator stratifications in Section 2.1.2, also stratified by:<br>• Any specialty<br>• Family physician/general practitioner<br>• Psychiatrist<br>• Paediatrician |
| **Index** | Date of OHIP claim |
| **Additional specifications/ notes** | • The numerator was derived separately from the denominator.<br>• Exclusions have been pre-applied to the denominator.<br>• Exclusions for the numerator were applied at index.<br>• 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** | • 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).<br>• Data did not capture most non-physician mental health and addictions services.<br>• General limitations of health administrative data include potential coding errors and lack of clinical detail. |

## 2.2.11 Rates of eating disorder-related hospitalizations

| | |
|---|---|
| **Data sets** | DAD, OMHRS, RPDB, PCCF |
| **Denominator** | Ontario population aged 0–105 years from January 2017 to the current available date |
| **Numerator** | Quarterly number of eating disorder–related hospitalizations<br><br>ICD-10-CA (DAD) codes: F50.0, F50.1, F50.2, F50.3, F50.8, F50.9, F98.2, F98.3<br>ICD-9-CM (OMHRS, 2016/17 to 2018/19) codes: 307.10, 307.50, 307.51, 307.52, 307.53, 307.59 or a provisional diagnosis = 10<br>ICD-10-CM (OMHRS, 2019/20 onward) codes: F50.0, F50.1, F50.2, F50.3, F50.8, F50.9, F98.2, F98.3 or a provisional diagnosis = 10 |
| **Exclusions** | See general exclusions in Section 2.1.1 |
| **Stratifications** | • By age group (0-17, 18-24, 25-64, and 65-105) |
| **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.<br>• We include ALL diagnosis codes in DAD (except where diagnosis type = 3) and OMHRS records<br>• The numerator was derived separately from the denominator.<br>• Exclusions were pre-applied to the denominator.<br>• Exclusions were applied to the numerator at index. |
| **Limitations** | • These codes may undercount the true estimate of eating disorders in adult populations as acute care visits may not be appropriately coded as eating disorders if presenting for medical issues such as bradycardia, electrolyte abnormalities, gastroparesis, etc.<br>• There are fewer adult hospital beds dedicated to eating disorders in the province, and it is rare for these patients to be admitted to general psychiatry units. |
| **References** | Smith S. A. (2023) Characteristics of Children and Adolescents Hospitalized with Eating Disorder Diagnoses in Ontario Over Time [MSc Thesis, Institute of Health Policy, Management and Evaluation, University of Toronto]. TSpace Repository (https://tspace.library.utoronto.ca/handle/1807/126918), accessed on May 25, 2023. |

## 2.2.12 Rates of eating disorder-related emergency department visits

| Data sets | NACRS, RPDB, PCCF |
|---|---|
| Denominator | Ontario population aged 0–105 years from January 2017 to the current available date |
| Numerator | Quarterly number of eating disorder–related ED visits<br><br>ICD-10-CA (NACRS) codes: F50.0, F50.1, F50.2, F50.3, F50.8, F50.9, F98.2, F98.3 |
| Exclusions | See general exclusions in Section 2.1.1 |
| Stratifications | • By age group (0-17, 18-24, 25-64, and 65-105) |
| Index | Date of ED visit |
| Additional specifications/ notes | • The numerator includes suspect diagnoses, unscheduled ED visits, visits with admissions to hospital, and those who left without being seen.<br>• Includes ALL diagnosis codes in NACRS<br>• Removed duplicates and kept first visit in the case of transfers.<br>• The numerator was derived separately from the denominator.<br>• Exclusions have been pre-applied to the denominator.<br>• Exclusions for the numerator were applied at index.<br>• Presented as rates, which includes multiple visits per person per month.<br>• Emergency department visit episodes were constructed to avoid double counting visits that were transfers between multiple institutions and to better identify ED episode discharges. |
| Limitations | • These codes may undercount the true estimate of eating disorders in adult populations as ED visits may not be appropriately coded as eating disorders if presenting for medical issues such as bradycardia, electrolyte abnormalities, gastroparesis, etc. |
| References | Smith S. A. (2023) Characteristics of Children and Adolescents Hospitalized with Eating Disorder Diagnoses in Ontario Over Time [MSc Thesis, Institute of Health Policy, Management and Evaluation, University of Toronto]. TSpace Repository (https://tspace.library.utoronto.ca/handle/1807/126918), accessed on May 25, 2023. |

# 2.3 Diagnostic groupings used in indicator calculation

## 2.3.1. Outpatient visits

| Outpatient visits | OHIP algorithm |
|---|---|
| **Any physician specialty** | Psychiatrist, paediatrician or family physician/general practitioner, 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 |
| **Paediatrician** | Any outpatient OHIP-funded visit/consultation held at a paediatrician's office, patient's residence, long-term care facility, or virtual, with a mental health diagnostic code listed below (exclude all laboratory fee codes G.x)<br>OR<br>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:<br>• K122 Developmental and/or behavioural care – individual developmental and/or behavioural care<br>• K123 Developmental and/or behavioural care – family developmental and/or behavioural care<br>• K704 Paediatric outpatient case conference |
| **Primary care provider** | Any OHIP-funded visit/consultation held at a FP/GP's office, patient's residence, long-term care facility, or virtual, with a mental health diagnostic code listed below (exclude all laboratory fee codes G.x) |
| **Mental health diagnostic codes** | OHIP diagnostic codes: 291–292, 295–299, 300–304, 306–307, 309, 311, 313-315, 897–902, 904–906, 909<br>Virtual care codes: B099, B100, B200, B103, B203, B209, K080, K081, K082, K083 |

Note: In September 2022, we changed the algorithm of identifying MHA outpatient visits by applying the MHA diagnosis codes to ALL age groups. Previously the diagnosis codes 291, 292, 299, 307, 313, 314, and 315 were only applied to a) those aged 24 or under, or b) those aged over 24 and seen by psychiatrists. Now, we include all these diagnosis codes submitted by GP/FP, paediatrician, or psychiatrist regardless of the patient's age. With this update, the overall change is about 4% higher. However, in the 85+ group, we see significant increase in rate, and relatively small increase in absolute counts. The diagnosis code 307 (Habit spasms, tics, stuttering, tension headaches, anorexia nervosa, sleep disorders, enuresis) is the driving force; many of these diagnoses are made in individuals who also have a history of dementia or stroke, suggesting that perhaps they are in these cases neurological sequelae of the dementia/stroke or another medical condition and not mental disorders per se. This caveat should be considered when the algorithm is being used in the context of specific research studies.

## 2.3.2. Hospitalizations

### DIAGNOSTIC CODES FROM 2016/17 TO 2018/19 (DSM-5)

| Category | ICD-9-CM code (OMHRS) | ICD-10-CA (DAD/NACRS) |
|---|---|---|
| **Any mental health disorders and addictions** | Any diagnosis (including missing, except for 290.x, 294.x in primary diagnosis). If primary dx missing and provisional = 17, exclude | Primary diagnosis at discharge F06.x–F99.x or secondary diagnosis fields = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |
| **Substance use disorder** | 291.x, 292.x , 303.x , 304.x , 305.x. Provisional = 16 | F10.x–F19.x, F55.x |
| **Schizophrenia spectrum and other psychotic disorders** | 293.81, 293.82, 295.x, 297.x, 298.x. Provisional = 2 | F06.0, F06.1, F06.2, F20.x, F22.x–F29.x, F53.1 |
| **Mood disorders** | 293.83, 296.x, 300.4x, 301.13, 311.x, 625.4x. 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.x, F41.x, F93.0, F93.1, F93.2, 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, 301.82, 301.83, 301.89, 301.9x, 310.1. Provisional = 18 | F07.x, F21.x, F60.x, F61.x, F62.x, F68.x, F69.x |
| **Intentional self-injury (residual)** | Not applicable (DAD/NACRS only) | Secondary diagnosis fields = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |

## DIAGNOSTIC CODES FROM 2019/2020 ONWARD (BASED ON DSM-5 WITH ICD-10-CM DIAGNOSTIC CODES)

| Category | ICD-10-CM code (OMHRS) | ICD-10-CA |
|---|---|---|
| **Any mental health disorders and addictions** | Any diagnosis (including missing, except for neurocognitive disorders in primary diagnosis):<br>F01.50 without behavioural disturbances<br>F01.51 with behavioural disturbances<br>F02.80 without behavioural disturbances<br>F02.81 with behavioural disturbances<br>F05.x Delirium due to multiple etiologies<br>G31.84 Mild neurocognitive disorder due to *<br>G31.9x Probable major neurocognitive disorder due to *, possible major neurocognitive disorder due to *<br>R41.0x Other specified delirium and unspecified delirium<br>R41.9x Unspecified neurocognitive disorder<br><br>*<br>Alzheimer's disease<br>Frontotemporal lobular degeneration<br>Lewy bodies<br>Vascular neurocognitive disorder<br>Traumatic brain injury<br>HIV infection<br>Prion disease<br>Parkinson's disease<br>Huntington's disease<br>Another medical condition<br>Multiple etiologies<br><br>If primary dx missing and provisional = 17, exclude | Primary diagnosis at discharge = F06.x–F99.x or secondary diagnosis = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |
| **Substance use disorder** | F10.x-F19.x, Z72.0. Provisional = 16 | F10.x–F19.x, F55.x |
| **Schizophrenia spectrum and other psychotic disorders** | F20.81, F20.9x, F22.x, F23.x, F25.x, F06.0x, F06.1x, F06.2x, F28.x, F29.x. Provisional = 2 | F06.0, F06.1, F06.2, F20.x, F22.x–F29.x, F53.1 |
| **Mood disorders** | F06.3x, F31.x, F32.x, F33.x, F34.x. Provisional = 3, 4 | F06.3, F30.x–F34.x, F38.x, F39.x, F53.0 |
| **Anxiety disorders** | F06.4x, F40.0x, F40.1x. F40.2x, F41.0x, F41.1x, F41.8x, F41.9x, F93.0x, F94.0x. Provisional = 5 | F06.4, F40.x, F41.x, F93.0, F93.1, F93.2, F94.0 |
| **Trauma- and stressor-related disorders** | F43.0x, F43.1x, F43.2x, F43.8x, F43.9x, F94.1x, F94.2x. Provisional = 7 | F43.x, F94.1, F94.2 |
| **Obsessive-compulsive disorder and related disorders** | F06.8x, F42.2x, F42.3x, F42.4x, F42.8x, F42.9x, F45.2x, F63.3x. Provisional = 6 | F42.x, F45.2, F63.3 |

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

| Category | ICD-10-CM code (OMHRS) | ICD-10-CA |
|---|---|---|
| **Personality disorders** | F07.x, F21.x, F60.x. Provisional = 18 | F07.x, F21.x, F60.x, F61.x, F62.x, F68.x, F69.x |
| **Intentional self-injury (residual)** | Not applicable (DAD/NACRS only) | Secondary diagnosis fields = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |

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

Note: Unless specified otherwise, we use the primary discharge diagnosis (or the main provisional diagnosis at discharge if the primary discharge diagnosis is missing) of the hospitalization to place the event into a single diagnostic category.

## 2.3.3. Emergency department visits

### DIAGNOSTIC CODES FROM 2016/17 ONWARD (BASED ON DSM-5)

| Emergency department visits | ICD-10-CA (NACRS) |
|---|---|
| **Any mental health disorders and addictions** | Primary diagnosis field = F06.x–F99.x or secondary diagnosis fields = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |
| **Substance use disorder** | F10.x–F19.x, F55.x |
| **Schizophrenia spectrum and other psychotic disorders** | F06.0, F06.1, F06.2, F20.x, F22.x–F29.x, F53.1 |
| **Mood disorders** | F06.3, F30.x–F34.x, F38.x, F39.x, F53.0 |
| **Anxiety disorders** | F06.4, F40.x, F41.x, F93.0, F93.1, F93.2, 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.x, F21.x, F60.x, F61.x, F62.x, F68.x, F69.x |
| **Intentional self-injury (residual)** | Secondary diagnosis = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |

Note: Unless specified otherwise, we use the primary diagnosis of the ED visit to place the event into a single diagnostic category.

## 2.3.4 Standard mental health and addictions diagnostic codes

### DIAGNOSTIC CODES FROM 2016/17 TO 2018/19

| 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 use disorder** | F10: Mental and behavioural disorders due to use of alcohol<br>F11: Mental and behavioural disorders due to use of opioids<br>F12: Mental and behavioural disorders due to use of cannabinoids<br>F13: Mental and behavioural disorders due to use of sedatives or hypnotics<br>F14: Mental and behavioural disorders due to use of cocaine<br>F15: Mental and behavioural disorders due to use of other stimulants, including caffeine<br>F16: Mental and behavioural disorders due to use of hallucinogens<br>F17: Mental and behavioural disorders due to use of tobacco<br>F18: Mental and behavioural disorders due to use of volatile solvents<br>F19: Mental and behavioural disorders due to multiple drug use and use of other psychoactive substances<br>F55: Abuse of non-dependence-producing substances | 291.x, 292.x, 303.x, 304.x, 305.x. Provisional = 16 |
| **Schizophrenia spectrum and other psychotic disorders** | F06.0-2: Other mental disorders due to brain damage and dysfunction and to physical disease<br>F20: Schizophrenia<br>F22: Persistent delusional disorders<br>F23: Acute and transient psychotic disorders<br>F24: Induced delusional disorder<br>F25: Schizoaffective disorders<br>F28: Other nonorganic psychotic disorders<br>F29: Unspecified nonorganic psychosis<br>F53.1: Severe mental and behavioural disorders associated with the puerperium, not elsewhere classified | 293.81, 293.82, 295.x, 297.x, 298.x. Provisional = 2 |
| **Mood disorders** | F06.3: Organic mood disorders<br>F30: Manic episode<br>F31: Bipolar affective disorder<br>F32: Depressive episode<br>F33: Recurrent depressive disorder<br>F34: Persistent mood [affective] disorders<br>F38: Other mood [affective] disorders<br>F39: Unspecified mood [affective] disorder<br>F53.0: Mild mental and behavioural disorders associated with the puerperium, not elsewhere classified | 293.83, 296.x, 300.4x, 301.13, 311.x, 625.4x. Provisional = 3, 4 |

[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] |
|---|---|---|
| **Anxiety disorders** | F06.4: Organic anxiety disorder<br>F40: Phobic anxiety disorders<br>F41: Other anxiety disorders<br>F93.0-2: Emotional disorders with onset specific to childhood<br>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<br>F94.1: Reactive attachment disorder of childhood<br>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<br>F45.2: Hypochondriacal disorder<br>F63.3: Trichotillomania | 300.3x, 300.7x, 312.39, 698.4x. Provisional = 6 |
| **Personality disorders** | F07: Organic personality disorder<br>F21: Schizotypal disorder<br>F60: Specific personality disorders<br>F61: Mixed and other personality disorders<br>F62: Enduring personality changes, not attributable to brain damage and disease<br>F68: Other disorders of adult personality and behaviour<br>F69: Unspecified disorder of adult personality and behaviour | 301, 301.0x, 301.2x, 301.4x, 301.5x, 301.6x, 301.7x, 301.81, 301.82, 301.83, 301.89, 301.9x, 310.1. Provisional = 18 |
| **Intentional self-injury (residual)** | X60: Intentional self-poisoning by and exposure to non-opioid analgesics, antipyretics and antirheumatics<br>X61: Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, NOS<br>X62: Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], NOS<br>X63: Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system<br>X64: Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances<br>X65: Intentional self-poisoning by and exposure to alcohol | 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[1] |
|---|---|---|
| Intentional self-injury (residual) | X66: Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours<br>X67: Intentional self-poisoning by and exposure to other gases and vapours<br>X68: Intentional self-poisoning by and exposure to pesticides<br>X69: Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances<br>X70: Intentional self-harm by hanging, strangulation and suffocation<br>X71: Intentional self-harm by drowning and submersion<br>X72: Intentional self-harm by handgun discharge<br>X73: Intentional self-harm by rifle, shotgun and larger firearm discharge<br>X74: Intentional self-harm by other and unspecified firearm discharge<br>X75: Intentional self-harm by explosive material<br>X76: Intentional self-harm by smoke, fire and flames<br>X77: Intentional self-harm by steam, hot vapours and hot objects<br>X78: Intentional self-harm by sharp object<br>X79: Intentional self-harm by blunt object<br>X80: Intentional self-harm by jumping from a high place<br>X81: Intentional self-harm by jumping or lying before a moving object<br>X82: Intentional self-harm by crashing of motor vehicle<br>X83: Intentional self-harm by other specified means<br>X84: Intentional self-harm by unspecified means<br>Y10: Poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics, undetermined intent<br>Y11: Poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent<br>Y12: Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent<br>Y13: Poisoning by and exposure to other drugs acting on the autonomic nervous system, undetermined intent<br>Y14: Poisoning by and exposure to other and unspecified drugs, medicaments and biological substances, undetermined intent<br>Y15: Poisoning by and exposure to alcohol, undetermined intent<br>Y16: Poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours, undetermined intent<br>Y17: Poisoning by and exposure to other gases and vapours, undetermined intent<br>Y18: Poisoning by and exposure to pesticides, undetermined intent<br>Y19: Poisoning by and exposure to other and unspecified chemicals and noxious substances, undetermined intent<br>Y28: Contact with sharp object, undetermined intent | Not applicable |

## DIAGNOSTIC CODES FROM 2019/20 ONWARD (BASED ON DSM-5)

| Category | ICD-10-CM code (OMHRS) | ICD-10-CA (DAD/NACRS) |
|---|---|---|
| **Any mental health disorders and addictions** | Any OMHRS diagnostic code (including missing, except for neurocognitive disorders in primary diagnosis):<br>F01.50 without behavioural disturbances<br>F01.51 with behavioural disturbances<br>F02.80 without behavioural disturbances<br>F02.81 with behavioural disturbances<br>F05 Delirium due to multiple etiologies<br>G31.84 Mild neurocognitive disorder due to *<br>G31.9 Probable major neurocognitive disorder due to *, possible major neurocognitive disorder due to *<br>R41.0 Other specified delirium and unspecified delirium<br>R41.9 Unspecified neurocognitive disorder<br>*<br>Alzheimer's disease<br>Frontotemporal lobular degeneration<br>Lewy bodies<br>Vascular neurocognitive disorder<br>Traumatic brain injury<br>HIV infection<br>Prion disease<br>Parkinson's disease<br>Huntington's disease<br>Another medical condition<br>Multiple etiologies<br><br>If primary dx missing and provisional = 17, exclude | Primary diagnosis at discharge = F06.x–F99.x or secondary diagnosis = X60.x– X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |

| Category | ICD-10-CM code (OMHRS) | ICD-10-CA (DAD/NACRS) |
|---|---|---|
| **Substance use disorder** | F10 – Alcohol induced anxiety disorders<br>F11 – Opioid induced anxiety disorders<br>F12 – Cannabis induced anxiety disorder<br>F13 – Sedative-, hypnotic- or anxiolytic-induced bipolar and related disorder<br>F14 – Cocaine induced anxiety disorder<br>F15 – Other or unspecified stimulant disorder<br>F16 – Phencyclidine-induced anxiety disorder<br>F17 – Tobacco-induced sleep disorder<br>F18 – Inhalant-induced anxiety disorder<br>F19 – Other or unknown substance-induced anxiety disorder<br>Z72.0 – Tobacco use disorder<br>Provisional = 16 | F10.x–F19.x, F55.x |
| **Schizophrenia spectrum and other psychotic disorders** | F20.81 – Schizophreniform disorder<br>F20.9 – Schizophrenia<br>F22 – Delusional disorder<br>F23 – Brief psychotic disorder<br>F25 – Schizoaffective disorder<br>F06.0 – Psychotic disorder due to another medical condition with hallucinations<br>F06.1 – Unspecified catatonia<br>F06.2 – Psychotic disorder due to another medical condition with delusions<br>F28 – Other specified schizophrenia spectrum and other psychotic disorder<br>F29 – Unspecified schizophrenia spectrum and other psychotic disorder<br>Provisional = 2 | F06.0, F06.1, F06.2, F20.x, F22.x–F29.x, F53.1 |
| **Mood disorders** | F06.3 – Bipolar and related disorder due to another medical condition<br>F31 – Bipolar and related disorder<br>F32 – Major depressive disorder, single episode<br>F33 – Major depressive disorder, recurrent episode<br>F34 – Cyclothymic disorder<br>Provisional = 3, 4 | F06.3, F30.x-F34.x, F38.x, F39.x, F53.0 |
| **Anxiety disorders** | F06.4 – Anxiety disorder due to another medical condition<br>F40.0 – Agoraphobia<br>F40.1 – Social anxiety disorder (social phobia)<br>F40.2 – Specific phobia<br>F41.0 – Panic disorder<br>F41.1 – Generalized anxiety disorder<br>F41.8 – Other specified anxiety disorder<br>F41.9 – Unspecified anxiety disorder<br>F93.0 – Separation anxiety disorder<br>F94.0 – Selective mutism<br>Provisional = 5 | F06.4, F40.x, F41.x, F93.0, F93.1, F93.2, F94.0 |

| Category | ICD-10-CM code (OMHRS) | ICD-10-CA (DAD/NACRS) |
|---|---|---|
| Trauma- and stressor-related disorders | F43.0 – Acute stress disorder<br>F43.1 – Posttraumatic stress disorder<br>F43.2 – Adjustment disorder<br>F43.8 – Other specified trauma- and stressor- related disorder<br>F43.9 – Unspecified trauma and stressor related disorder<br>F94.1 – Reactive attachment disorder<br>F94.2 – Disinhibited social engagement disorder<br>Provisional = 7 | F43.x, F94.1, F94.2 |
| Obsessive-compulsive disorder and related disorders | F06.8 – Other specified mental disorder due to another medical condition<br>F42.2 – Obsessive compulsive disorders<br>F42.3 – Hoarding disorder<br>F42.4 – Excoriation (skin picking) disorder<br>F42.8 – Other specified obsessive-compulsive and related disorder<br>F42.9 – Unspecified obsessive-compulsive and related disorder<br>F45.2 – Body dysmorphic disorder<br>F63.3 – Trichotillomania (hair pulling disorder)<br>Provisional = 6 | F42.x, F45.2, F63.3 |
| Personality disorders | F07 – Personality change due to another medical condition<br>F21 – Schizotypal personality disorder<br>F60.0 – Paranoid personality disorder<br>F60.1 – Schizoid personality disorder<br>F60.2 – Antisocial personality disorder<br>F60.3 – Borderline personality disorder<br>F60.4 – Histrionic personality disorder<br>F60.5 – Obsessive-compulsive personality disorder<br>F60.6 – Avoidant personality disorder<br>F60.7 – Dependent personality disorder<br>F60.81 – Narcissistic personality disorder<br>F60.89 – Other specified personality disorder<br>F60.9 – Unspecified personality disorder<br>Provisional = 18 | F07.x, F21.x, F60.x, F61.x, F62.x, F68.x, F69.x |
| Intentional self-injury (residual) | Not applicable (DAD/NACRS only) | Secondary diagnosis fields = X60.x–X84.x, Y10.x–Y19.x, Y28.x when primary diagnosis is not F06.x–F99.x |

## 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** | Visits related to psychotic disorders<br>    295: Schizophrenia<br>    297: Other paranoid states<br>    298: Other psychoses<br><br>Visits related to anxiety and mood disorders<br>    296: Manic-depressive psychoses, involutional melancholia<br>    300: Anxiety neurosis, hysteria, neurasthenia, obsessive-compulsive neurosis, reactive depression<br>    311: Depressive disorder<br><br>Visits related to substance use disorders<br>    291: Alcoholic psychosis, delirium tremens, Korsakov's psychosis<br>    292: Drug psychosis<br>    303: Alcoholism<br>    304: Drug dependence<br><br>Visits related to behavioural and neurodevelopmental disorders<br>    299: Childhood psychoses (e.g., autism)<br>    313: Behaviour disorders of childhood and adolescence<br>    314: Hyperkinetic syndrome of childhood<br>    315: Specified delays in development (e.g., dyslexia, dyslalia, motor retardation)<br><br>Visits related to other mental health disorders<br>    301: Personality disorders<br>    302: Sexual deviations<br>    306: Psychosomatic illness<br>    307: Habit spasms, tics, stuttering, tension headaches, anorexia nervosa, sleep disorders<br>    309: Adjustment reaction<br><br>Visits related to social problems of childhood and adolescence<br>    899: Parent-child problems<br>    902: Education problems<br>    904: Social maladjustment<br>    909: Other problems of social adjustment<br><br>Visits related to other social and family problems<br>    897: Economic problems<br>    898: Marital difficulties<br>    900: Problems with aged parents or in-laws<br>    901: Family disruption/divorce<br>    905: Occupational problems<br>    906: Legal problems |

# Data
# Discovery
# Better Health