

## About the Data: Children and Youth

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1. **Children and Youth. Injuries: All Admissions and Emergency Department (ED) visits 2014/15 to 2015/16**
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3. **Children and Youth. Chronic Illness – Asthma 2014/15**

### Introduction

This document provides an overview of the topic, Children and Youth, and describes definitions, data sources, methods and appropriate references for selected Child and Youth indicators. Information about each of the indicators will be added to this document as each new indicator is added.

These datasets were linked using unique, encoded identifiers and analyzed at the Institute for Clinical Evaluative Sciences (ICES).

The Children and Youth data are provided at the following levels of geography:

- City of Toronto
- Ontario Neighbourhoods
  - 140 Toronto Neighbourhoods (LHIN 7)
  - 105 Neighbourhoods in Central LHIN (LHIN 8)
- 14 Ontario Local Health Integration Networks (LHIN)
- Province of Ontario

1. **Children and Youth. Injuries: All Admissions and Emergency Department (ED) visits 2014/15 to 2015/16**

### Introduction

Using ICD-10 diagnostic codes for injuries, including both unintentional and intentional injury codes, we generated data for children and youth for Age 0-4, Age 5-9, Age 10-14, Age 15-24, All Ages 0-24 for hospitalizations or emergency department visits for injuries (i.e. the number of visits to a hospital or ED for an injury). Two years of data, 2014/15 to 2015/16 were used to generate injury rates. A list of the ICD-10 injury codes appear at the bottom of this document.

### Data Source

The following information was derived from documentation available from the Institute for Clinical Evaluative Sciences (ICES): <http://www.ices.on.ca/>

-Canadian Institute for Health Information (CIHI), Discharge Abstract Database  
-Canadian Institute for Health Information (CIHI), National Ambulatory Reporting System (NACRS)

Demographics - Based on 2011 Census population estimates. (Statistics Canada, 2011 Census of Population)

Numerator: All Admissions and Emergency Department (ED) *visits* for Injuries for 2014/15 to 2015/16 (April 1, 2014 - March 31, 2016) observation period.

Data source: Discharge Abstract Database (DAD-CIHI), National Ambulatory Care Reporting System (NACRS-CIHI).

Methods:

All unscheduled hospital admissions and emergency department visits for injuries for Age 0-4, Age 5-9, Age 10-14, Age 15-24, All Ages 0-24.

1. Using CIHI-DAD and CIHI-NACRS, all records with ICD-10 codes for injury(ies) for 2014/15 to 2015/16 (April 1, 2014 - March 31, 2016) observation period were generated;

Note: Data is for the number of visits and does not include the specific type of injury only for visits to the hospital or emergency department coded as an “injury”.

Denominator: Demographics - Based on 2011 Census population estimates. (Statistics Canada, 2011 Census of Population)

Age and sex standardized rates (ASR):

Rates are Age-Standardized using the direct method and the 1991 Canada population as the standard population.

**Below are the ICD-10 codes used in defining injuries.**

**Injuries are defined based on the following ICD 10 codes as recorded in NACRS or CIHI/DAD**

- [S00-S09](#) 📖 Injuries to the head
- [S10-S19](#) 📖 Injuries to the neck
- [S20-S29](#) 📖 Injuries to the thorax
- [S30-S39](#) 📖 Injuries to the abdomen, lower back, lumbar spine, pelvis and external genitals
- [S40-S49](#) 📖 Injuries to the shoulder and upper arm
- [S50-S59](#) 📖 Injuries to the elbow and forearm
- [S60-S69](#) 📖 Injuries to the wrist, hand and fingers
- [S70-S79](#) 📖 Injuries to the hip and thigh
- [S80-S89](#) 📖 Injuries to the knee and lower leg
- [S90-S99](#) 📖 Injuries to the ankle and foot
- [T07-T07](#) 📖 Injuries involving multiple body regions
- [T14-T14](#) 📖 Injury of unspecified body region
- [T15-T19](#) 📖 Effects of foreign body entering through natural orifice
- [T20-T25](#) 📖 Burns and corrosions of external body surface, specified by site
- [T26-T28](#) 📖 Burns and corrosions confined to eye and internal organs
- [T30-T32](#) 📖 Burns and corrosions of multiple and unspecified body regions

- [T33-T34](#) 📖 Frostbite
- [T36-T50](#) 📖 Poisoning by, adverse effect of and underdosing of drugs, medicaments and biological substances
- [T51-T65](#) 📖 Toxic effects of substances chiefly nonmedicinal as to source
- [T66-T78](#) 📖 Other and unspecified effects of external causes
- [T79-T79](#) 📖 Certain early complications of trauma
- [T80-T88](#) 📖 Complications of surgical and medical care, not elsewhere classified

### External causes of Morbidities

- [V00-V09](#) 📖 Pedestrian injured in transport accident
- [V10-V19](#) 📖 Pedal cycle rider injured in transport accident
- [V20-V29](#) 📖 Motorcycle rider injured in transport accident
- [V30-V39](#) 📖 Occupant of three-wheeled motor vehicle injured in transport accident
- [V40-V49](#) 📖 Car occupant injured in transport accident
- [V50-V59](#) 📖 Occupant of pick-up truck or van injured in transport accident
- [V60-V69](#) 📖 Occupant of heavy transport vehicle injured in transport accident
- [V70-V79](#) 📖 Bus occupant injured in transport accident
- [V80-V89](#) 📖 Other land transport accidents
- [V90-V94](#) 📖 Water transport accidents
- [V95-V97](#) 📖 Air and space transport accidents
- [V98-V99](#) 📖 Other and unspecified transport accidents
- [W00-W19](#) 📖 Slipping, tripping, stumbling and falls
- [W20-W49](#) 📖 Exposure to inanimate mechanical forces
- [W50-W64](#) 📖 Exposure to animate mechanical forces
- [W65-W74](#) 📖 Accidental non-transport drowning and submersion
- [W85-W99](#) 📖 Exposure to electric current, radiation and extreme ambient air temperature and pressure
- [X00-X08](#) 📖 Exposure to smoke, fire and flames
- [X10-X19](#) 📖 Contact with heat and hot substances
- [X30-X39](#) 📖 Exposure to forces of nature
- [X52-X58](#) 📖 Accidental exposure to other specified factors
- [X71-X83](#) 📖 Intentional self-harm
- [X92-Y09](#) 📖 Assault
- [Y21-Y33](#) 📖 Event of undetermined intent
- [Y35-Y38](#) 📖 Legal intervention, operations of war, military operations, and terrorism
- [Y62-Y69](#) 📖 Misadventures to patients during surgical and medical care
- [Y70-Y82](#) 📖 Medical devices associated with adverse incidents in diagnostic and therapeutic use
- [Y83-Y84](#) 📖 Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure
- [Y90-Y99](#) 📖 Supplementary factors related to causes of morbidity classified elsewhere

## **Background reference for this document**

We referred to the Association of Public Health Epidemiologists document available at <http://core.apheo.ca/index.php?pid=306> for background information on how to present and

### **2. Children and Youth. Mental Health and Addiction-related Emergency Department (ED) visits 2012/13 to 2014/15**

Brief description of indicator: Mental Health and addiction-related ED visits among young adult population aged 16-25, male and female.

#### **Data Source**

Numerator: Unscheduled ED visits that are Mental Health and addiction related during fiscal years 2012/13 to 2014/15. Data source: Canadian Institute for Health Information (CIHI)-National Ambulatory Care Reporting System (NACRS).

#### Denominator

Demographics - Based on 2011 Census population estimates. (Statistics Canada, 2011 Census of Population)

Notes: Mental health and addictions-related visits to the Emergency Department were defined based on the ICD codes as outlined in the paper by Gandhi et al. (reference below). All diagnostic codes reported for each ED visit were used in identifying mental health and addiction-related visits to emergency room. See Appendix A, below, for the list of codes.

Reference: Gandhi, S., Chiu, M., Lam, K., Cairney, J. C., Guttman, A., & Kurdyak, P. (2016). Mental Health Service Use Among Children and Youth in Ontario: Population-Based Trends Over Time. *The Canadian Journal of Psychiatry*, 61(2), 119-124.

Appendix A from Gandhi, S., et.al., paper:

#### **eAppendix A - Standard Mental Health Diagnostic Codes**

<b>Diagnostic Categories</b>	<b>ICD-10-CA codes</b>	<b>DSM-IV codes</b>
Substance-related disorders	F55, F10-F19	291.x (0, 1, 2, 3, 5, 81, 89, 9), 292.0, 292.11, 292.12, 292.81, 292.82, 292.83, 292.84, 292.89, 292.9, 303.xx (00, 90), 304.xx (00, 10, 20, 30, 40, 50, 60, 80, 90), 305.xx (00, 10 to 90 excluding 80)
Schizophrenia, delusional and non-organic psychotic disorders	F20 (excluding F20.4), F22, F23, F24, F25, F28, F29	295.xx (10, 20, 30, 40, 60, 70, 90), 297.1, 297.3, 298.8, 298.9

Mood/affective disorders	F30, F31, F32, F33, F34, F39;	293.83, 296.0x, 296.2x, 296.3x, 296.4x, 296.5x, 296.6x, 296.7, 296.80, 296.89, 296.90, 300.4, 301.13
Anxiety disorders	F40, F41, F42, F43, F48.8, F48.9, F93.0	300.xx (00, 01, 02, 21, 22, 23, 29), 300.3, 308.3, 309.21, 309.81
Other selected childhood-disorders	F80, F81, F82, F83, F84, F88, F89, F90, F91, F92, F93 (excluding F93.0), F94, F95, F98	315.xx, 299.xx, 314.xx, 312.xx, 313.81, 307.5x, 307.2x, 307.6x, 307.7x, 787.6x, 309.21, 313.23, 313.89, 307.3x, 313.9x

### **3. Children and Youth. Chronic Illness – Asthma 2014/15**

Brief description of indicator: Asthma in 2014/15 among the children and young adult population, male and female, Age 0-15, Age 16-24, All Ages 0-24.

#### **Data Source**

##### Numerator

The proportions of children and youth with asthma were derived from validated, disease registries maintained by the Institute for Clinical Evaluative Sciences (ICES). These databases were created using hospital discharge abstracts from the Canadian Institute for Health Information (CIHI)-Discharge Abstract Database (DAD), including same day surgery, and physician service claims from the Ontario provincial health insurance database (OHIP).

Numerator for this indicator is based on prevalence cases reported in ICES Asthma database in 2014/15.

##### Denominator

Information regarding persons eligible for health care coverage in Ontario derived from the Ontario Ministry of Health and Long-Term Care (MOHLTC) Registered Persons Database (RPDB).

For this indicator population is defined as (Alive at April 1, 2015 and date of last contact after April 1, 2010) based on Ontario Ministry of Health and Long-Term Care Registered Persons Database (RPDB) with at least one health claim in the previous five years.

#### **About the ICES-derived validated disease registries**

##### Asthma

Individuals are considered to be asthmatic if they have 2 physician claims or one hospital admission (including same day surgery) with an asthma diagnosis within two years. Once a person is considered to be asthmatic, they remain in the asthma database until death.

The asthma algorithm was validated through two chart abstraction studies. The algorithm yielded 89% sensitivity and 72% specificity in children (aged 0-17) and 84% sensitivity and 76% specificity in adults (aged 18+).

Reference: Gershon A.S., Wang C., Vasilevska-Ristovska J., Guan J., Cicutto L., To T. Identifying patients with physician diagnosed asthma in health administrative databases. Canadian Respiratory Journal 2009 Nov-Dec;16(6):183-8.

#### NOTE

All the chronic disease data are based on physician-diagnosed cases and do not capture individuals who may have a condition, but who have not been diagnosed by a physician. In addition, Community Health Centre (CHC) claims and non-OHIP visits are not available.

Community Health Centres account for approximately 7% of physician claims in the province.

See the information at the bottom of this document that provides further details regarding the definitions for each of the chronic illnesses listed and validation methods.

#### **A Note About Community Health Centres (CHCs):**

Ontario's Community Health Centres (CHCs) are community governed not-for-profit primary health care organizations. In Ontario, a total of 75 CHCs, 17 located in the Toronto Central LHIN, serve approximately 500,000 people with 250, 000 of these accessing primary care services.

#### **Who do CHCs serve?**

Each of Ontario's CHCs is unique. CHCs offer clinical care that include doctors, nurse practitioners, nurses, dietitians, social workers and other kinds of health providers under one roof. They offer care to those populations that have, for whatever reason, traditionally faced barriers accessing health care. CHCs offer culturally-adapted programs for the needs and preferences of the communities they serve including delivering services in many different languages.

Information about CHCs from <http://aohc.org/> accessed on January 26, 2015. For more information about CHCs, see the link, above.