

TECHNICAL NOTES

Chronic Disease Incidence and Prevalence Snapshot

Updated: September 2024

Introduction

This Snapshot captures people with a chronic condition of interest, reported by calendar year of discharge for 34 Public Health Units (PHUs) and other geographic comparators in Ontario from 2013–2022. Data for these indicators are based on derived chronic condition cohorts developed at ICES using linked data algorithms.

Specific Indicators

- Incidence of asthma
- Prevalence of asthma
- Incidence of COPD in adults 20+
- Prevalence of COPD in adults 20+
- Incidence of diabetes in adults 20+
- Prevalence of diabetes in adults 20+
- Incidence of hypertension in adults 20+
- Prevalence of hypertension in adults 20+

Measures

Age-standardized rates

- Age-standardized rate (both sexes)
- Age-standardized rate (males)
- Age-standardized rate (females)

Standardized incidence ratios (SIR)

- Standardized incidence ratio (both sexes)
- Standardized incidence ratio (males)
- Standardized incidence ratio (females)

Crude rates

- Crude rate (both sexes)
- Crude rate (males)
- Crude rate (females)

Age-specific rates

- Age-specific rate (ages 0 to 19) (Asthma only)
- Age-specific rate (ages 20 to 44)
- Age-specific rate (ages 45 to 64)
- Age-specific rate (ages 65 to 74)
- Age-specific rate (ages 75+)

Metrics

- Rates (Age-standardized, SIRs, crude, age-specific)
- 95% confidence intervals (CIs for rates calculated using a Poisson approximation of the binomial distribution, CIs for SIRs calculated using Byar's Approximation)
- Statistical significance compared to Ontario (for rates, confidence interval around the difference between the health unit rate and the Ontario rate does not include zero; for SIRs, confidence interval around SIR does not include one)
- Cases (numerator)
- Population (denominator)
- Suppression flag (§ = As per data sharing agreement, results with small case counts between 1 and 4 have been suppressed)

Geographic Comparisons

- Ontario
- PHU Region

TABLE 1: MAPPING BETWEEN PHU REGIONS AND PHUS

Region	Public Health Unit
North West	<ul style="list-style-type: none"> • Northwestern Health Unit • Thunder Bay District Health Unit
North East	<ul style="list-style-type: none"> • Algoma Public Health • North Bay Parry Sound District Health Unit • Porcupine Health Unit • Public Health Sudbury & Districts • Timiskaming Health Unit
South West	<ul style="list-style-type: none"> • Chatham-Kent Public Health • Grey Bruce Public Health • Huron Perth Public Health (merged January 1, 2020: Huron County Health Unit and Perth District Health Unit) • Lambton Public Health • Middlesex-London Health Unit • Southwestern Public Health (merged May 1, 2018: Elgin St. Thomas Public Health and Oxford County Public Health Unit) • Windsor-Essex County Health Unit
Central West	<ul style="list-style-type: none"> • Brant County Health Unit • City of Hamilton Public Health Services • Haldimand-Norfolk Health Unit • Halton Region Public Health • Niagara Region Public Health • Region of Waterloo Public Health and Paramedic Services • Wellington-Dufferin-Guelph Public Health
Toronto	<ul style="list-style-type: none"> • Toronto Public Health
Central East	<ul style="list-style-type: none"> • Durham Region Health Department • Haliburton, Kawartha, Pine Ridge District Health Unit • Peel Public Health • Peterborough Public Health • Simcoe Muskoka District Health Unit • York Region Public Health
East	<ul style="list-style-type: none"> • Ottawa Public Health • Eastern Ontario Health Unit • Hastings Prince Edward Public Health • Kingston, Frontenac and Lennox & Addington Public Health • Leeds, Grenville & Lanark District Health Unit • Renfrew County and District Health Unit

Exclusion Criteria

- Excluded records without a valid age from overall age-standardized rates and standardized incidence ratios. Excluded records without a valid sex from sex-specific age-standardized rates, standardized incidence ratios and crude rates.

Other Methodological Notes

- Calculated indicators for merged PHUs (i.e., Southwestern Public Health and Huron Perth Public Health) by summing case counts and population counts from their component PHUs (Table 2).
- An individual is considered as both an incident case and a prevalent case in the year they were diagnosed and will be considered a prevalent case in subsequent years up to and including the year of their death.
- Denominators for incidence rates exclude individuals who were identified as having that chronic disease in the previous year. Denominators for prevalence rates include the entire population regardless of disease status.

TABLE 2: MERGED PUBLIC HEALTH UNITS

Public Health Unit (Year of Merger)	Component Public Health Units
Southwestern Public Health (2018)	<ul style="list-style-type: none"> • Elgin St. Thomas Public Health • Oxford County Public Health and Emergency Services
Huron Perth Public Health (2020)	<ul style="list-style-type: none"> • Huron County Health Unit • Perth District Health Unit

Considerations

- Due to the dynamic nature of the ICES chronic disease cohort/Registered Persons Database (RPDB) data, results in this Snapshot may not match previous versions particularly in the more recent years.
- ICES no longer uses Ontario Drug Benefit (ODB) claims to identify individuals with diabetes due to increasing use of glucose-lowering drugs (e.g., Ozempic or metformin) for other indications (excerpt from unpublished ICES report shared with permission by Baiju Shah; unreferenced). Diabetes incidence and prevalence counts and rates may be lower than previously reported in this Snapshot.
- Please interpret 2020, 2021 and 2022 results with caution due to changes in the availability of health care and health seeking behaviour during the COVID-19 pandemic.

Data Sources

Numerator:

ICES. Derived chronic disease cohorts (asthma, 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Aug 02].

ICES. Derived chronic disease cohorts (COPD, 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 16].

ICES. Derived chronic disease cohorts (diabetes, 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 18].

ICES. Derived chronic disease cohorts (hypertension, 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 19].

Denominator:

ICES. Registered Persons Database (RPDB), 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Aug 02]

ICES. Registered Persons Database (RPDB), 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 16]

ICES. Registered Persons Database (RPDB), 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 18]

ICES. Registered Persons Database (RPDB), 2013-2022 [database]. Toronto, ON: ICES; 2024 [extracted 2024 Jul 19]

How to Cite this Snapshot

Generic Citation

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Example Citation

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