Risk Factors Atlas of Ontario
Frequently Asked Questions

Contents

How can this atlas be used?

This atlas examines the geographic distribution of modifiable risk factors at the local level that contribute to cancer and chronic disease. The maps within this atlas display small-area prevalence estimates of the selected modifiable risk factors compared to the Ontario (design-based) estimates. Risk factor maps are displayed for Ontarians age 12 and older and, where possible, for adolescents ages 12 to 18.

By providing detailed, local information on key risk factors, this atlas addresses a knowledge gap and supports public health units and Local Health Integration Networks in better understanding the health of their communities, including identifying priority populations and priority areas. The information provided in this atlas can be used to inform the development of community-tailored prevention efforts to improve health and reduce health disparities in their regions. For example, understanding where current smokers are living can identify priority areas and populations for smoking cessation programs and reduce future cancer burden (e.g., lung and bladder cancers).

Why is the atlas organized by Local Health Integration Networks?
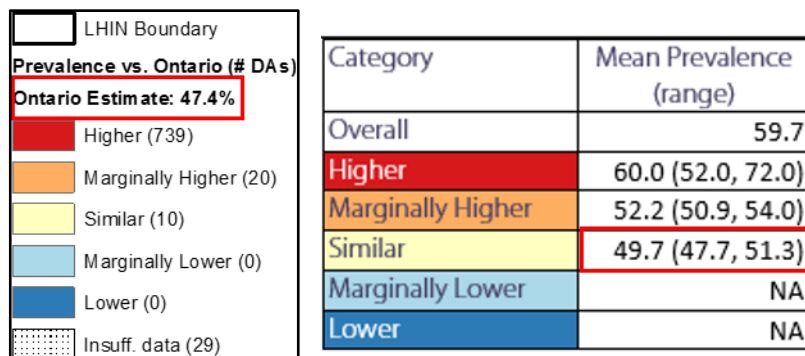
For feasibility and to keep the volume of data presented in this report manageable, this atlas was organized by Local Health Integration Networks (LHIN). Stratifying the data for each of the 14 LHINs by age group and sex resulted in almost 400 maps. Organizing the atlas by alternate boundaries, such as public health units, would yield approximately 1000 maps. However, all data are provided in an Excel workbook posted on the website so that it can be organized by various levels of geography, including public health units.

Why are the priority population estimates from the 2006 census population?

The 2006 Census of Population provided a standard geographic framework applicable to the multiple Canadian Community Health Survey cycles used to estimate the small-area risk factor prevalence. This atlas used the census dissemination areas as the unit of analysis. The boundaries of dissemination areas changed from earlier (e.g., 2001) to more recent censuses (e.g., 2016), which makes recent population estimates based on prior census boundaries difficult. The primary intent of providing the priority population estimates is to assist with prioritizing the burden of modifiable risk factors for local areas. The calculation of these estimates is described in the Methods and in each Local Health Integration Network section of the atlas.

Why are some of the Ontario prevalence estimates outside the range of the "similar" category?

For example, the Ontario estimate in the map legend (image on the left) is outside the range of the "Similar" prevalence category in the prevalence table (image on the right), as shown below:

	LHIN Boundary
Prevalence vs. Ontario (# DAs)	
Ontario Estimate: 47.4%	
	Higher (739)
	Marginally Higher (20)
	Similar (10)
	Marginally Lower (0)
	Lower (0)
	Insuff. data (29)

Category	Mean Prevalence (range)
Overall	59.7
Higher	60.0 (52.0, 72.0)
Marginally Higher	52.2 (50.9, 54.0)
Similar	49.7 (47.7, 51.3)
Marginally Lower	NA
Lower	NA

The prevalence estimates are produced from different sources:

- The map legend (image on the left) shows the Ontario estimate produced for the entire province using the survey weights provided for the Canadian Community Health Survey cycles.
- Small-area estimates in the prevalence table (image on the right) produced by modelling are: a) specific to the Local Health Integration Network (LHIN), and; b) grouped according to statistical evidence that the prevalence estimate was different from the Ontario estimate (i.e., the estimates are based on the posterior distribution of the modeling results).

As a result, it is possible that the Ontario estimate is not within the range of the LHIN's "Similar" category. Please refer to the Methods and Technical Appendix in the atlas for further details.
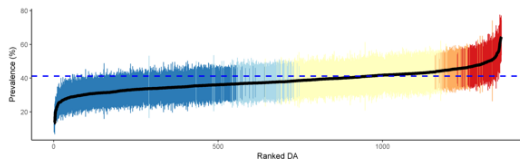
Why does the graph for *Prevalence by 2006 dissemination area (DA)* for LHIN 14 look different?

There are fewer dissemination areas in Local Health Integration Network (LHIN) 14 compared to the other LHINs. Therefore, there are fewer vertical lines in the *Prevalence by 2006 dissemination areas (DA) and 95% credibility intervals* graph for LHIN 14 than there are for other LHINs. This makes the colours appear less saturated although the figures show the same type of data.
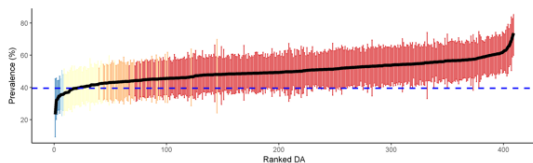
Example:

Graph from LHIN 5

Prevalence by 2006 dissemination areas (DA) and 95% credibility intervals

Graph from LHIN 14

Prevalence by 2006 dissemination areas (DA) and 95% credibility intervals

Why do the ranges for the prevalence estimate categories overlap?

For example, in the image below, the lower range of the higher category overlaps with the upper range of marginally higher category:

Category	Mean Prevalence (range)
Overall	59.7
Higher	60.0 (52.0 72.0)
Marginally Higher	52.2 (50.9, 54.0)
Similar	49.7 (47.7, 51.3)
Marginally Lower	NA
Lower	NA

The categories are based on the statistical evidence for a local estimate being different from the Ontario estimate (posterior probabilities), not on the prevalence estimates. Please refer to the Methods and Interpretation sections and Technical Appendix B in the atlas for further details.

Can I get the numeric values of the prevalence estimates?

The numeric values of the prevalence estimates are not presented in the atlas. The areas were categorized based on the statistical evidence compared to the Ontario estimate (using posterior probabilities), to demonstrate potential sampling-related variability in the estimates. This variability is important to recognize and was used as a replacement for the coefficients of variation, which would not have been applicable for the methods used. Please see the Methods section and Technical Appendix B in the atlas for further details.

However, numeric values of the prevalence estimates are provided in the data table for areas considered to have a higher level of statistical evidence of being different from Ontario (i.e. the "higher" category for most risk factors and the "lower" category for physical activity). This decision is in recognition of the sampling variability underlying the estimates.

What is a "shapefile" and how is it used?

A shapefile is a computer file format used by software that can create maps. These files contain representations of geographic features (e.g., cities as points, streets as lines, areas as polygons) and attributes. The shapefile format comes with three or more files with specific file extensions, i.e., .shp (main file), .shx (index file) and .dbf (database file). For additional details please visit: http://desktop.arcgis.com/en/arcmap/10.3/manage-data/shapefiles/what-is-a-shapefile.htm.

A shapefile for the atlas has been provided on the website. Using the shapefile provided, you can create customized maps showing the risk factor prevalence estimates by small-areas (dissemination areas) or for one or more specific region(s) (i.e., Local Health Integrated Network or public health unit). A variety of software programs can use this file format, including ArcGIS, QGIS and R software (the R project for statistical computing).