



# The Guide to Health Neighbourhoods

Durham Region Health Department  
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## **Information in this Guide**

*The Guide to Health Neighbourhoods* is a technical document that describes the methods of analysis used in Durham Region's Health Neighbourhoods Project. The report is divided into four main sections:

- 1) General Background
- 2) Methodological Notes
- 3) Data Sources
- 4) Indicators

# General Background

## The Health Neighbourhoods Project

The Health Neighbourhoods project examines information for 50 Health Neighbourhoods in Durham Region to better understand patterns of health in our communities. The ultimate goal is to support strong, safe and equitable Neighbourhoods that improve the health and well-being of all residents.

The project was started by the Durham Region Health Department and is expanding to include other partners. The information provides a picture of how health varies by where we live and includes indicators on population, income, education, births, breastfeeding, early child development, injury, smoking, physical activity, obesity, infectious disease, life expectancy and more. Each indicator is mapped and summarized, and each Neighbourhood is compared to Durham Region as a whole. The January 2015 release presents 62 indicators. In February 2016, 20 indicators were added as part of release 2, and the dental decay indicator was updated. Figure 1 shows the map of Health Neighbourhoods in Durham Region.

## Health Neighbourhood Products

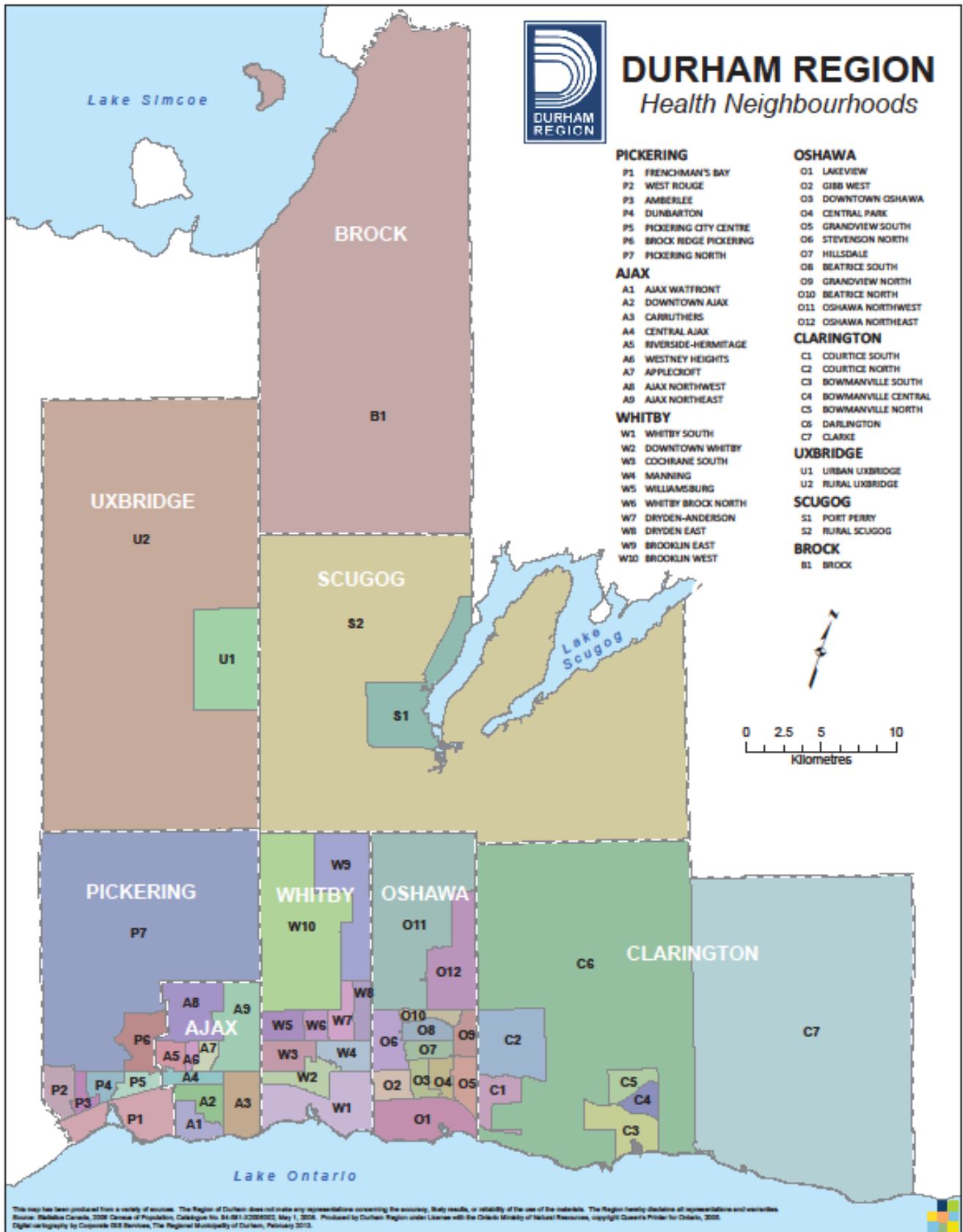
The [Neighbourhoods information](#) is available through the Region of Durham website at [durham.ca/neighbourhoods](http://durham.ca/neighbourhoods), which provides access to reports, the Map Viewer, Indicator Summaries, and Neighbourhood Profiles.

The Map Viewer allows users to zoom in to specific Neighbourhoods and view roads and various points of interest, such as schools and recreational facilities. The “Demographic”, “Early Child Development”, and “Health” tabs provide access to maps on specific indicators, as well as the Summaries and Profiles.

Each Indicator Summary consists of an indicator map, summary table, ordered summary table, and indicator notes. The notes include the definition, data source and other information about the indicator. This information is also summarized in this report.

Each Neighbourhood Profile has a descriptive map that shows the boundaries and features of the Neighbourhood including major roads, parks, schools, and trails, as well as a profile table with a description of the Neighbourhood and rates for all indicators compared to Durham Region. Profiles are available for each of the 50 Neighbourhoods, the eight municipalities and Durham Region as a whole. The Durham Region profile includes a comparison to Ontario, where available.

The maps and Map Viewer were created in-house in the Region of Durham by GIS Services, a division of Corporate Services – Information Technology.



## Using the Health Neighbourhoods Information

The Health Department uses Neighbourhoods information to improve programs and services for the residents of Durham Region. For example, smoking cessation programs may be focused in areas with higher smoking rates. Maps on breastfeeding duration can help us to better understand what is needed to support breastfeeding in our communities. The information is also valuable to our community partners including school boards, municipalities, health care providers, health and family service agencies, social planning councils, and other Regional Departments such as Social Services.

Information about Neighbourhoods helps us to understand patterns of health in our communities. It is not meant to prove associations or causal factors – the scientific literature does this much more effectively. However, we can use our knowledge of health from the literature to inform our understanding of the patterns that we see in Durham Region.

The Neighbourhoods information can be used to:

- Target programs and initiatives to areas of Durham Region that really need them
- Inform planning, research, and capacity building to improve health
- Provide rationale and statistics to support funding proposals
- Form a basis for communications to Durham Region residents
- Inspire dialogue about how health varies across Neighbourhoods

## Creating the Boundaries

The Health Neighbourhood boundaries were devised with the intention of creating areas of sufficient population size that health information could be presented accurately. On average, there are 12,000 people in each Neighbourhood although the population varies from 8,300 in Rural Uxbridge to 17,800 in Lakeview, Oshawa. The Neighbourhoods are typically larger than what most would think of as a “neighbourhood” but this was necessary for reporting health statistics. Durham Region is diverse with a mix of urban, suburban and rural areas. We have some very fast-growing communities. We also have rural Neighbourhoods that cover large geographical areas but have relatively small populations with little growth. The Neighbourhoods show the diversity of Durham Region across a wide range of demographic and health characteristics.

The Neighbourhood areas are groupings of adjacent Statistics Canada Dissemination Areas (DAs). DAs cover all areas of Canada and have populations of approximately 400 to 700 persons per DA, although areas of high population growth often have larger populations prior to being divided before a census. The Durham Region DAs were grouped within the eight municipalities into Neighbourhoods based on population size and demographic characteristics such as income. Boundaries tended to be formed by physical barriers such as highways, major roads, railway lines, and rivers and creeks. Table 1 lists the Health Neighbourhoods and some key information about population size and the number of DAs.

## Naming Convention

Each of the Neighbourhoods has a common name and an identification code (ID) with a letter and number, e.g. Frenchman’s Bay (P1). The letter in the ID corresponds to first letter of the municipality, i.e., Pickering, Ajax, Whitby, Oshawa, Clarington, Scugog, Uxbridge, Brock. The municipalities are ordered from west to east starting in the south, then moving to the north. The Neighbourhoods are similarly numbered within each municipality from west to east, and south to north. Thus the first Neighbourhood in a municipality is in the southwest corner and the last Neighbourhood is in the northeast corner.



**Table 1: List of Health Neighbourhoods with municipality, ID, 2011 population count, and number of Dissemination Areas (DAs)**

	<b>Health Neighbourhood</b>	<b>Municipality</b>	<b>ID</b>	<b>2011 Population</b>	<b>Number of DAs</b>
1	Frenchman's Bay	Pickering	P1	16,875	29
2	West Rouge	Pickering	P2	13,835	18
3	Amberlee	Pickering	P3	9,975	15
4	Dunbarton	Pickering	P4	13,685	23
5	Pickering City Centre	Pickering	P5	14,170	20
6	Brock Ridge Pickering	Pickering	P6	9,435	15
7	Pickering North	Pickering	P7	10,720	18
8	Ajax Waterfront	Ajax	A1	11,345	20
9	Downtown Ajax	Ajax	A2	11,505	19
10	Carruthers	Ajax	A3	12,260	14
11	Central Ajax	Ajax	A4	11,475	21
12	Riverside-Hermitage	Ajax	A5	13,025	17
13	Westney Heights	Ajax	A6	8,370	16
14	Applecroft	Ajax	A7	11,515	19
15	Ajax Northwest	Ajax	A8	15,170	27
16	Ajax Northeast	Ajax	A9	14,965	8
17	Whitby South	Whitby	W1	13,715	21
18	Downtown Whitby	Whitby	W2	15,760	26
19	Cochrane South	Whitby	W3	9,130	15
20	Manning	Whitby	W4	15,250	32
21	Williamsburg	Whitby	W5	8,725	10
22	Whitby Brock North	Whitby	W6	11,820	16
23	Dryden-Anderson	Whitby	W7	11,125	16
24	Dryden East	Whitby	W8	12,165	18
25	Brooklin East	Whitby	W9	12,020	14
26	Brooklin West	Whitby	W10	12,330	15
27	Lakeview	Oshawa	O1	17,805	33
28	Gibb West	Oshawa	O2	11,660	22
29	Downtown Oshawa	Oshawa	O3	10,855	22
30	Central Park	Oshawa	O4	11,235	24
31	Grandview South	Oshawa	O5	11,430	21
32	Stevenson North	Oshawa	O6	16,770	32
33	Hillsdale	Oshawa	O7	11,430	19
34	Beatrice South	Oshawa	O8	12,835	24
35	Grandview North	Oshawa	O9	11,720	16
36	Beatrice North	Oshawa	O10	10,215	10
37	Oshawa Northwest	Oshawa	O11	10,605	15
38	Oshawa Northeast	Oshawa	O12	13,070	13
39	Courtice South	Clarington	C1	15,170	19
40	Courtice North	Clarington	C2	10,270	16

	<b>Health Neighbourhood</b>	<b>Municipality</b>	<b>ID</b>	<b>2011 Population</b>	<b>Number of DAs</b>
41	Bowmanville South	Clarington	C3	14,350	23
42	Bowmanville Central	Clarington	C4	9,305	16
43	Bowmanville North	Clarington	C5	11,230	10
44	Darlington	Clarington	C6	9,240	19
45	Clarke	Clarington	C7	14,930	26
46	Port Perry	Scugog	S1	9,495	15
47	Rural Scugog	Scugog	S2	12,120	23
48	Urban Uxbridge	Uxbridge	U1	12,355	13
49	Rural Uxbridge	Uxbridge	U2	8,285	16
50	Brock	Brock	B1	11,330	24

## **Methodological Notes**

### **Geocoding Data into Health Neighbourhoods**

Data from the 2011 Census and National Household Survey were directly categorized from Dissemination Area (DA) into Health Neighbourhood. For postal code based data, a conversion file was used to assign postal code to DA and then Neighbourhood.

The conversion file used was the “Environics PCCF 2011 Excel file” obtained through the Community Data Program. For release 2 indicators, the postal code conversion file was updated to the Environics July 22, 2015 version. These files assign postal codes to a specific DA, even though some may not fit precisely into one DA. If the postal code was missing or did not link to a DA, some manual coding was done to try to assign a neighbourhood based on other available address information. Cases were excluded from the Neighbourhood analysis if they could not be linked to a DA. The number of cases excluded varied by data source but was generally minimal (less than 5%).

### **Data Based on Residence**

All Neighbourhood data were analyzed by place of residence and not where the event occurred. The only exception to this is ambulance call data in release 2, which were geocoded to the pickup location of the patient and not the patient’s address. Durham Region residents who visit an emergency department or are hospitalized at any Ontario facility are captured and coded by where they live. Events occurring outside of Ontario are not included.

### **Mapping of Indicators – Quintiles and Direction Related to Health**

Indicator maps are available on the [durham.ca/neighbourhoods](http://durham.ca/neighbourhoods) web page through the Map Viewer or as PDFs. For each indicator, Neighbourhoods are ranked from lowest to highest rates and divided into five groups called quintiles. Quintile 1 has the Neighbourhoods with the lowest rates of the indicator, Quintile 2 the next highest, etc. Quintile 5 includes Neighbourhoods with the highest rates.

For indicators where the number of people/cases/events is available and relevant, the quintiles were formed in such a way that there are approximately equal numbers of people/cases/events in each quintile. The number of Neighbourhoods in each quintile will be unequal if the number of people/cases/events is not evenly distributed across the Neighbourhoods.

For indicators based on survey data or where the number of people/cases/events is not meaningful or reported, or if the data are age-standardized, the Neighbourhoods are sorted by rate and divided equally into quintiles, i.e. approximately 10 Neighbourhoods per quintile. This is the case for indicators from the National Household Survey, the Rapid Risk Factor Surveillance System, the Kindergarten Parent Survey, the Infant Feeding Surveillance System and two breastfeeding indicators from the Integrated Services for Children Information System. The age-standardized indicators are disease prevalence rates (diabetes, lung disease and asthma), cancer screening rates, population with a primary care physician, and residence ambulance calls. Note that the number of Neighbourhoods is not necessarily exactly 10 in each quintile because Neighbourhoods with the same rate must be grouped together and as a result there may be 11 Neighbourhoods in one quintile and 9 in another. As well, Neighbourhoods with rates that are not releasable due to small numbers are excluded from the quintiles.

Indicators may be neutral, positive or negative in terms of their impact on health (see Table 2). Neutral indicators, such as population age groups and birth rate, may be associated with health in some way but increasing or decreasing the rate will not improve health in those populations. Maps of neutral indicators show Neighbourhoods with the lowest rates in pale yellow and those

with the highest rates in dark red. Positive indicators, such as life expectancy and physical activity, have a positive association with health with higher rates being better. Maps of positive indicators show Neighbourhoods with the best, highest rates in pale yellow and those with the worst, lowest rates in dark red. Negative indicators, such as smoking and injury, are those where a higher rate is associated with worse health. Maps of negative indicators show Neighbourhoods with the lowest, best rates in pale yellow and the worst, highest rates in dark red.

For the positive and negative indicators, the simplest overall message is that the dark red areas on maps highlight Neighbourhoods with poorer health behaviours or outcomes.

## Demographic Indicators

**Table 2: List of Demographic Indicators and their direction related to health**

	Grouping	Indicator	Direction
1	Population growth	Population growth rate	Neutral
2	Population age groups	Population aged 0-14 years	Neutral
3	Population age groups	Population aged 0-4 years	Neutral
4	Population age groups	Population aged 5-9 years	Neutral
5	Population age groups	Population aged 10-14 years	Neutral
6	Population age groups	Population aged 15-19 years	Neutral
7	Population age groups	Population aged 20-24 years	Neutral
8	Population age groups	Population aged 25-29 years	Neutral
9	Population age groups	Population aged 30-39 years	Neutral
10	Population age groups	Population aged 40-49 years	Neutral
11	Population age groups	Population aged 50-59 years	Neutral
12	Population age groups	Population aged 60-64 years	Neutral
13	Population age groups	Population aged 65+ years	Neutral
14	Seniors Living Alone	Seniors living alone	Neutral
15	Lone-Parent Families	Female lone-parent families	Neutral
16	Income	Low income rate	Negative
17	Income	Children less than 6 years in low income households	Negative

	<b>Grouping</b>	<b>Indicator</b>	<b>Direction</b>
18	Income	Median after-tax household income	Positive
19	Education	No high school completion	Negative
20	Unemployment	Unemployment rate	Negative
21	Commuting to work	Commuting duration	Neutral
22	Aboriginal Population	Aboriginal population	Neutral
23	Immigrants	Recent immigrants	Neutral
24	Visible minorities	Visible minorities	Neutral
25	Housing	Movers	Neutral
26	Housing	Renters	Neutral
27	Housing	Shelter costs	Negative
28	Housing	Not suitable housing	Negative
29	Housing	Major dwelling repairs	Negative

## Early Child Development Indicators

**Table 3: List of Early Childhood Development Indicators and their direction related to health**

	<b>Grouping</b>	<b>Indicator</b>	<b>Direction</b>
30	Early Development Instrument (EDI)	EDI - Vulnerable in physical health and well-being	Negative
31	EDI	EDI - Vulnerable in social competence	Negative
32	EDI	EDI - Vulnerable in emotional maturity	Negative
33	EDI	EDI - Vulnerable in language and cognitive development	Negative
34	EDI	EDI - Vulnerable in communication skills and general knowledge	Negative
35	EDI	EDI - Vulnerable in one or more domains	Negative
36	EDI	EDI - Vulnerable in two or more domains	Negative

	<b>Grouping</b>	<b>Indicator</b>	<b>Direction</b>
37	Kindergarten Parent Survey (KPS)	Parent-rated health of SK children	Positive
38	KPS	Child-friendly neighbourhood	Positive
39	KPS	SK children walking or biking to school	Positive

## Health Indicators

**Table 4: List of Health Indicators and their direction related to health**

	<b>Grouping</b>	<b>Indicator</b>	<b>Direction</b>
40	Self-rated health	Self-rated health	Positive
41	Self-rated mental health	Self-rated mental health	Positive
42	Life expectancy	Life expectancy - Males	Positive
43	Life expectancy	Life expectancy - Females	Positive
44	Births	Live birth rate	Neutral
45	Births	Births to young mothers ages 23 and younger	Negative
46	Births	Births to older mothers ages 35+	Neutral
47	Births	Preterm birth rate in singletons	Negative
48	Births	Small-for-gestational age (SGA) rate	Negative
49	Births	Large-for-gestational age (LGA) rate	Negative
50	Teen pregnancy	Teen pregnancy rate	Negative
51	Breastfeeding	Breastfeeding at hospital discharge rate	Positive
52	Breastfeeding	Breastmilk only at hospital discharge rate	Positive
53	Breastfeeding	Breastfeeding duration rate at 6 months	Positive
54	Well-Baby Visit	Well-baby visit rate	Positive
55	Asthma in children	Asthma ED visit rate, ages 0-14 years	Negative
56	Asthma in children	Asthma prevalence rate, ages 0-14 years	Negative

	<b>Grouping</b>	<b>Indicator</b>	<b>Direction</b>
57	Dental decay	Dental decay in Grade 2 students by school	Negative
58	Injuries	All injuries, Emergency Department (ED) visit rate	Negative
59	Injuries	Sports injuries, ED visit rate, ages 10-14 years	Negative
60	Injuries	Motor vehicle traffic collisions, ED visit rate, ages 15-24 years	Negative
61	Injuries	Falls, ED visit rate, ages 0-4 years	Negative
62	Injuries	Falls, ED visit rate, ages 65+ years	Negative
63	Smoking	Smoking rate, ages 18+ years	Negative
64	Obesity	Obesity rate, ages 18+ years	Negative
65	Nutrition	Vegetable and fruit consumption rate, ages 18+ years	Positive
66	Alcohol use	Alcohol use in excess of Canada's Low-Risk Alcohol Drinking Guidelines, ages 18+	Negative
67	Physical activity	Physical activity rate, ages 18-69 years	Positive
68	Immunization	Flu immunization rate, ages 18+ years	Positive
69	Cancer Screening	Breast cancer screening (mammography) rate, females ages 52-74 years	Positive
70	Cancer Screening	Cervical cancer screening (Pap test) rate, females ages 23-70 years	Positive
71	Cancer Screening	Overdue for colorectal cancer screening, ages 50-74 years	Negative
72	Cardiovascular disease	Cardiovascular disease hospitalization rate, ages 45-64	Negative
73	Diabetes	Diabetes prevalence, ages 20+ years	Negative
74	Lung disease	Lung disease (COPD), ages 35+ years	Negative
75	Infectious diseases	Chlamydia incidence rate, females ages 15-24 years	Negative
76	Infectious diseases	Enteric diseases incidence rate	Negative

	Grouping	Indicator	Direction
77	Infectious diseases	Influenza incidence rate	Negative
78	Infectious diseases	Hepatitis C incidence rate	Negative
79	Infectious diseases	Latent Tuberculosis Infection (LTBI) incidence rate	Negative
80	Primary care physicians	Population with primary care physician	Positive
81	Ambulance calls	Residence ambulance calls	Negative
82	Ambulance calls	Residence ambulance calls in seniors ages 65+	Negative

## Determining Highs and Lows

In addition to colour shading based on quintile, Neighbourhoods are classified as higher, lower or similar as compared to Durham Region. For Demographic indicators, "Lower" refers to at least 20% lower than the Durham Region rate and "Higher" refers to at least 20% higher. The 20% value was chosen arbitrarily but has been used by other organizations such as the City of Toronto. For Early Child Development and Health indicators, "Lower" or "Higher" means that the 95% confidence intervals do not overlap and that the rates are significantly different from Durham Region. "Similar" means that the Neighbourhood is similar to Durham Region as a whole for that indicator. Durham Region and Ontario were compared in the same way. Maps show Neighbourhoods that are lower or higher with an "L" or "H" respectively.

## Calculation of Confidence Intervals

Rates for all indicators, with the exception of those from the Census and National Household Survey, are accompanied by 95% confidence intervals in the summary table (Table 1) of each Indicator Summary. Confidence intervals indicate the amount of variability and precision of an estimate and are also used to determine if rates are significantly different. An estimate with wide confidence intervals is less precise, possibly because it is based on a smaller number of cases or a small population or, in the case of survey data, based on a small number of people sampled.

For events such as infectious diseases or teen pregnancies that are based on complete counts, confidence intervals are useful because there may be relatively few events that occur in a given year, particularly at the Neighbourhood level. When the number of events is low and there is a small probability of such an event occurring, there are more random fluctuations within the time period. Rates are unstable from year to year. Grouping multiple years reduces this random fluctuation. Confidence intervals help to quantify how unstable the rates are by indicating that 95% of the time the "true" estimate will be within the range of the 95% confidence interval.

Confidence intervals for estimates from the Rapid Risk Factor Surveillance System were calculated using complex samples in IBM SPSS. Life expectancy confidence intervals were calculated in Excel using the Chiang II method of calculation.

All other confidence intervals were calculated in Excel using a method outlined by Fleiss for proportions close to zero or one. The formula for this calculation is shown below.

- 95% Lower Confidence Interval= $\frac{((2*n*p+1.96*1.96-1)-1.96*\text{SQRT}(1.96*1.96-(2+1/n)+4*p*(n*q+1)))/2*(n+1.96*1.96))$



- 95% Upper Confidence Interval=  $\left(\frac{((2 \cdot n \cdot p + 1.96 \cdot 1.96 + 1) + 1.96 \cdot \sqrt{(1.96 \cdot 1.96 + (2 - 1/n) + 4 \cdot p \cdot (n \cdot q - 1))})}{2 \cdot (n + 1.96 \cdot 1.96)}\right)$
- where p = numerator/denominator, q = 1-p, n = denominator

## Non-Releasable Estimates

In some cases, an estimate may not be released because the number of cases is too small. The threshold depends on the data source but usually if the numerator is less than 5 or the denominator less than 30, the estimate is suppressed and marked as “Not Releasable”. This practice protects confidentiality and ensures a minimum standard in terms of the precision of estimates.

For estimates from the Rapid Risk Factor Surveillance System, Kindergarten Parent Survey and the Infant Feeding Surveillance System, the coefficient of variation was also used to assess whether an estimate has sufficient precision to be released. The coefficient of variation expresses the standard error of an estimate as a percentage of the estimate itself. The higher the coefficient of variation is, the larger the variability and the less precise the estimate. If the coefficient of variation is between 16.5% and 33.3% the estimate is marked as qualified and should be used with caution. Estimates with a coefficient of variation greater than 33.3% are not releasable.

## Municipality Rates and Counts

Counts for municipalities are equal to the sum of the Neighbourhood counts which may result in municipal counts and rates that are inconsistent with other Health Department reports. This inconsistency is because cases with missing or incorrect postal codes that could not be coded to a Health Neighbourhood are excluded.

## Age Differences across Neighbourhoods

Age is an important determinant of health. Certain health problems are more prevalent among specific age groups, which means that Neighbourhoods may have higher rates of a health problem simply because they have a higher proportion of people in that age group. Sometimes age standardization is used so that different geographical areas can be compared even though they may have different age structures in their populations. Age-standardization was done for the following release 2 indicators: disease prevalence rates (diabetes, lung disease, asthma), cancer screening rates, population with primary care physician, and residence ambulance calls.

Age standardization was not used in analyzing other indicators because of the difficulty in obtaining population counts by sex and age group, and methodological issues with small populations. Instead, age-specific rates were used where possible with restrictions to the age group with the highest incidence. For example, chlamydia rates were presented for females aged 15-24, and sports injury rates for ages 10-14. In both of these cases, limiting the data to these specific populations allows for a better comparison of incidence across Neighbourhoods. In some cases, the sample size was not large enough to restrict to the most relevant age group. For example, flu shots would ideally be presented for those age groups at highest risk for flu-related complications but the sample size did not allow for this breakdown.

## Use of 2011 Census Population Counts for Denominators

For some indicators, such as injury rates or teen pregnancy rate, the denominator used for calculating the indicator is the 2011 population from the Census. Population counts by DA or Health Neighbourhood are only available from the Census. As a result, rates are calculated for years close to 2011 or that straddle the Census year, e.g. 2010-2011-2012 combined. These

may not be the most current years of data available. As well, Neighbourhoods that experience very high population growth may have rates that are under-estimated or overestimated if the numerator is far away from the Census year.

As a result of a data request to the Institute for Clinical Evaluative Sciences (ICES) in 2015, we obtained estimated population counts by Health Neighbourhood from the Registered Persons Database (RPDB), a population-based register maintained by the Ministry of Health and Long-Term Care to manage services funded under the Ontario Health Insurance Plan (OHIP). These counts were used as denominators for the release 2 indicator rates. Inaccuracies in the RPDB data have been documented, but the estimates appeared reasonable when considering census numbers and population growth.

## **Multiple Testing**

Each Neighbourhood and municipality was compared to Durham Region for all indicators. Because of the many comparisons using 95% confidence intervals, 1 out of 20 (5%) might be statistically high or low simply by chance. It is thus important to examine overall patterns and understand the context of the indicators and the Neighbourhoods rather than look at a specific rate in isolation.

## **Complex Nature of Health**

The Health Neighbourhoods project provides a wide range of demographic and health indicators for Durham Region residents that cover the lifespan from birth to death. Many indicators are inter-related. All are complex. Some limited information has been provided within the Indicator Summaries to highlight how these indicators may be affected by other factors.

## Data Sources

The Health Neighbourhoods project uses a variety of data sources and presents a wide range of indicators that cover the lifespan. Each data source is documented below along with links to more information and a brief discussion of limitations. In many cases, indicators are defined following guidelines from Core Indicators for Public Health in Ontario, as defined by the Association of Public Health Epidemiologists in Ontario (APHEO). Information about the indicators and data sources is available at [APHEO Core Indicators](#).

### Census

The Canadian Census is conducted every five years by Statistics Canada, providing important demographic data for many different geographical levels. By definition, a census includes everyone in the population. Information about the Census is available from Statistics Canada at: [Canadian Census](#).

Census data by Health Neighbourhood, including population counts, were obtained through the Community Data Group which the Regional Municipality of Durham accesses as a member of the Durham Consortium. Health Neighbourhood is a custom geography for the Durham Consortium.

The main limitation with the Census is that the most recent data available is 2011, which may be out-of-date for Neighbourhoods with fast-growing populations. The Population Growth Rate indicator identifies which Neighbourhoods experienced substantial growth between 2006 and 2011.

### National Household Survey (NHS)

The NHS replaced the long-form Census in 2011. Information about the NHS is available from Statistics Canada at: [Statistics Canada NHS](#). As with Census data, NHS data were obtained through the Community Data Group. Health Neighbourhood is a custom geography for the Durham Consortium.

As a voluntary survey, the NHS has more non-response bias than a census which means that there is a risk that the results are not representative of the actual population, especially in smaller areas or population groups. Comparisons between the 2011 NHS and previous Censuses should not be considered reliable. Statistics Canada uses the global non-response rate (GNR) to assess the quality of the NHS estimates for various geographies. NHS estimates for any area with a GNR greater than or equal to 50% have a high level of error and should not be released. The GNR ranges by Health Neighbourhood from 19.3% to 46.9%. In general, rural areas tend to have a higher GNR. See Table 3 for the GNRs for each Neighbourhood.

Eight indicators from the NHS are provided in this release. Due to imprecision, only percentages are presented with no counts or estimates of the number of people. The indicators are presented without confidence intervals at this time. To determine whether the Neighbourhood percentages were similar or different from Durham Region, the same criterion was used as for Census indicators. "Lower" refers to at least 20% lower than the Durham Region rate and "Higher" refers to at least 20% higher. Unlike other data sources, the municipality percentages were not calculated by summing the Neighbourhood values but were the actual values calculated by Statistics Canada. Summing Neighbourhood values would have resulted in inaccurate estimates due to the rounding that occurs in NHS estimates.

**Table 5: Global Non Response Rate (GNR) for the 50 Health Neighbourhoods**

#	Neighbourhood	GNR	#	Neighbourhood	GNR
1	Frenchman's Bay, Pickering	27.3%	26	Brooklin West, Whitby	34.3%
2	West Rouge, Pickering	23.3%	27	Lakeview, Oshawa	37.8%
3	Amberlee, Pickering	24.8%	28	Gibb West, Oshawa	23.1%
4	Dunbarton, Pickering	23.6%	29	Downtown Oshawa, Oshawa	42.7%
5	Pickering City Centre, Pickering	30.3%	30	Central Park, Oshawa	32.1%
6	Brock Ridge, Pickering	25.1%	31	Grandview South, Oshawa	32.7%
7	Pickering North, Pickering	23.1%	32	Stevenson North, Oshawa	19.3%
8	Ajax Waterfront, Ajax	23.3%	33	Hillsdale, Oshawa	32.4%
9	Downtown Ajax, Ajax	34.9%	34	Beatrice South, Oshawa	33.7%
10	Carruthers, Ajax	25.0%	35	Grandview North, Oshawa	35.9%
11	Central Ajax, Ajax	26.8%	36	Beatrice North, Oshawa	39.1%
12	Riverside-Hermitage, Ajax	27.8%	37	Oshawa Northwest, Oshawa	35.8%
13	Westney Heights, Ajax	24.5%	38	Oshawa Northeast, Oshawa	33.9%
14	Applecroft, Ajax	27.8%	39	Courtice South, Clarington	28.6%
15	Ajax Northwest, Ajax	29.5%	40	Courtice North, Clarington	26.1%
16	Ajax Northeast, Ajax	30.8%	41	Bowmanville South, Clarington	31.5%
17	Whitby South, Whitby	23.9%	42	Bowmanville Central, Clarington	34.7%
18	Downtown Whitby, Whitby	28.2%	43	Bowmanville North, Clarington	26.0%
19	Cochrane South, Whitby	29.9%	44	Darlington, Clarington	38.3%
20	Manning, Whitby	20.9%	45	Clarke, Clarington	30.2%
21	Williamsburg, Whitby	30.3%	46	Port Perry, Scugog	34.3%
22	Whitby Brock North, Whitby	26.4%	47	Rural Scugog, Scugog	39.4%
23	Dryden-Anderson, Whitby	19.7%	48	Urban Uxbridge, Uxbridge	21.2%
24	Dryden East, Whitby	23.0%	49	Rural Uxbridge, Uxbridge	42.0%
25	Brooklin East, Whitby	28.9%	50	Brock	46.9%

## Early Development Instrument (EDI)

The EDI is a teacher-completed instrument developed by the Offord Centre for Child Studies at McMaster University to measure children's ability to meet age appropriate developmental expectation at school entry. Teachers assess senior kindergarten (SK) children on five core areas of early child development (domains) that have been shown to influence future health, education and well-being. The five EDI domains are:

1. physical health and well-being
2. social competence
3. emotional maturity
4. language and cognitive development
5. communication skills and general knowledge

Children with low scores are not ready to meet the day-to-day demands of school. Children are classified as vulnerable if they score below the 10<sup>th</sup> percentile of Ontario baseline scores. Ontario baseline scores were based on EDI results for all SK children in Ontario collected in the 3-year period from 2003/04 to 2005/06 (Cycle 1). Seven EDI indicators are available by Neighbourhood, assessing the percentage of children vulnerable in each of the five domains as well as the percentage vulnerable in one or more domains, and in two or more domains. More information about the EDI is available at: [Offord Centre - EDI](#).

The EDI was administered to all SK children in Ontario publicly funded schools over the 3-year period from 2009/10 to 2011/12 (Cycle 3), but excluded special needs children and those who had been in their class for less than a month. Durham Region SK children were assessed in 2012. Because almost all SK children were assessed, the data are complete and represent a census rather than a survey.

EDI data for Durham Region is owned by the Children's Services Division of the Social Services Department. The Data Analysis Coordinator (DAC) from Children's Services geocoded data from both the EDI and Kindergarten Parent Survey (see below) using a file provided by the Health Department that linked postal code to Neighbourhood. The data was then analyzed at the Neighbourhood level and provided to the Health Department for mapping. Individual record-level data was maintained within the Social Services Department.

## Kindergarten Parent Survey (KPS)

The KPS is a questionnaire for parents of SK children that complements the EDI by collecting information about the family and the child's experiences before entering kindergarten. It is a provincial initiative but not all local areas participate. In Durham Region, the KPS was completed by 2,704 parents, representing a 40% response rate among parents of SK children attending publicly funded schools in Durham Region in spring 2012. A total of 2,696 surveys were coded to a Health Neighbourhood.

The confidence intervals around the survey estimates are wide due to the imprecision in the data at the neighbourhood level. Estimates marked with an asterisk (\*) should be used with caution due to small sample sizes as defined by a denominator of between 11 and 29 surveys or a coefficient of variation between 16.6% and 33.3%. Estimates are not releasable (NR) if there are fewer than 11 responses or the coefficient of variation is greater than 33.3%.

## **Integrated Services for Children Information System (ISCIS)**

ISCIS is a data system used for collecting information for Healthy Babies Health Children (HBHC), a program for families, pregnant women, and children aged 0-6 years. A screening tool, generally applied in hospital by maternity nurses, consists of a series of questions for women who have just delivered, including questions about breastfeeding status. The tool identifies factors associated with risk of parenting problems and is the main source of information in ISCIS. A completed screening form is sent to the health unit of residence for each woman who consented to participate in HBHC. Since the consent rate for participation is over 90% in Durham Region, breastfeeding information is quite complete but does not include all women who gave birth. For more information, see [APHEO Core Indicators - ISCIS](#).

## **Infant Feeding Surveillance System (IFSS)**

The IFSS was developed by the Durham Region Health Department in 2007 to regularly assess infant feeding practices of Durham Region mothers. IFSS data is collected in two phases. Since 2009, ISCIS (see above) has provided base information about births to Durham Region mothers. This is referred to as Phase I and is the sampling frame for Phase II, a telephone survey of a random selection of mothers at 6 to 7 months postpartum. Selected data, including demographic information, gestational age, birth weight, delivery hospital and breastfeeding status, are imported from Phase I to Phase II. Phase II collects detailed information on infant feeding practices. For more information, see [Durham Region IFSS](#).

The main limitation with IFSS Phase II data is that it is survey data and based on a limited number of respondents. Multiple years of data were grouped to obtain sufficient sample size at the Neighbourhood level. Confidence intervals are wide due to the imprecision in the data at this geographical level. This is compounded by the small target group: mothers who gave birth in the past 6 to 7 months.

## **Oral Health Screening**

The Health Department conducts dental screening for children in JK, SK and grades 2, 4, 6 and 8 on an annual basis. Screening involves dental hygienists conducting a quick visual inspection of a child's dental condition. Children absent from school on the day of dental screening, schooled at home, or who refuse to participate are excluded. For information about oral health screening processes as defined by the Ontario Public Health Standards, see [Oral Health Assessment and Surveillance Protocol](#). The oral health screening data were used to determine dental decay prevalence among Grade 2 students. The main limitation with this data is that it is presented at the school level and not for the individual.

## **Mortality Data (Life Expectancy)**

Mortality data, specifically the number of deaths by age group, is used to calculate life expectancy. The Office of the Registrar General (ORG), ServiceOntario, obtains information about mortality from death certificates which are completed by physicians. All deaths within Ontario are registered in the municipality where the death occurs. The ORG provides death registration data to Statistics Canada for national reporting, which in turn provides the Ministry of Health and Long Term Care with an edited and standardized dataset of deaths that occurred in Ontario. Public health units access this mortality data through IntelliHEALTH. For more information, see [APHEO Core Indicators - Mortality](#).

Population counts are available from the 2011 Census by 5-year age grouping, which is sufficient for life expectancy calculations except that population counts of <1 and 1-4 years are needed. Since this breakdown is not available, these counts were calculated by assuming that

the number of children in each single year is evenly distributed, i.e. the number of infants <1 is equal to the total number of children aged 0-4 divided by 5.

## Hospital In-Patient Discharges

In-patient hospitalization data are collected by the Canadian Institute for Health Information (CIHI) and are coded using the Tenth Revision of the International Classification of Diseases (ICD-10). For hospitalizations, the main diagnostic code gives the primary reason for the hospital stay or "most responsible diagnosis". A hospitalization is typically a "hospital separation" (discharge, death or transfer from a hospital) and is counted upon discharge, not admission. Hospitalization rates are based on patient residence and not where the hospital is located. All hospitals in Ontario are captured. For more information, see [APHEO Core Indicators - Hospitalization](#).

Hospitalization data was used for birth information (births, preterm birth, birth weights) because it is relatively complete, capturing all births in Ontario except for approximately 2% of births that occur at home. Hospitalization data were used to count the number of deliveries (live births and stillbirths) among 15-19 year old females as one of the components of the teen pregnancy rate. Birth information comes from the newborn record, whereas delivery information such as age of mother, comes from the maternal hospital record.

Hospitalization data were also used to assess cardiovascular disease. Because not everyone with the disease is hospitalized, CVD hospitalizations may not necessarily correspond to how common the condition is but may also reflect how the disease is managed and treated in hospital. For example, the degree to which a heart procedure is done on an outpatient basis versus requiring hospitalization may vary by physician, area or over time. As well, patients in rural areas may be more likely to be admitted to hospital than those in urban areas where alternative services are more readily available.

## National Ambulatory Care Reporting System (NACRS)

As with hospitalization data, emergency department (ED) visit information is collected by CIHI. The ED data is one component of the National Ambulatory Care Reporting System (NACRS). The main diagnostic code is the "main problem" that is deemed to be the clinically significant reason for the visit. For injuries, there are also external cause codes to classify the environmental events, circumstances and conditions that cause an injury. They are examined separately from the main problem. The main problem and external cause are coded using ICD-10. For more information, see [APHEO Core Indicators - NACRS](#). For information specifically about injury ICD-10 codes, see [APHEO Core Indicators - Injury Codes](#).

Multiple external cause codes can exist for each visit. Counts of groupings of external cause codes (e.g. ICD-10 codes W00-W19 for falls) are actually counts of codes, not counts of visits. A small number of visits may be double or triple counted when an individual has two or more codes within a code range for the same visit (e.g. an individual visits the ED for a fall down stairs [W10] involving a skateboard [W02.03]). ED visit rates are based on patient residence and not where the hospital is located. All hospitals in Ontario are captured.

The main limitation with ED data is that it can be heavily influenced by how people in an area use emergency departments generally. People in some Neighbourhoods may be more likely to visit a local ED for care if family doctors or walk-in clinics are not readily available in their community, or if the local ED tends to have short wait times.

In addition to injury and asthma indicators, NACRS was one of the data sources used to count the number of therapeutic abortions among 15-19 year old females, a component of the teen pregnancy rate. Therapeutic abortion data were obtained from the Ministry of Health and Long-Term Care. A complex query counts the number of abortions performed as ambulatory care

services (NACRS) and in-patient hospitalizations, as well as those performed in free-standing abortion clinics and physician offices through OHIP medical services (see below). An algorithm identifies duplicate records and provides a final count. For more information, see [APHEO Core Indicators - TA Data](#).

## Medical Services (or OHIP data)

Medical Services data, also known as data from the Ontario Health Insurance Plan (OHIP), was used to calculate the Well-Baby Visit rate, the three cancer screening indicators, and primary care physician indicator. OHIP data was used by the Institute for Clinical Evaluative Sciences to build the databases for asthma, diabetes and chronic obstructive pulmonary disease (COPD) to estimate prevalence of these conditions.

Medical Services data was also used to calculate the number of therapeutic abortions among 15-19 year old females, a component of the teen pregnancy rate. This data provides information about abortions performed in free-standing abortion clinics and physician offices, and is combined with in-patient hospitalization and NACRS data to provide a complete count of live births, stillbirths and therapeutic abortions in the teen population.

For more information about medical services data, see [APHEO Core Indicators - Medical Services](#).

## Rapid Risk Factor Surveillance System (RRFSS)

RRFSS is an ongoing survey of adults in Durham Region that collects data related to health knowledge, attitudes and behaviours. The Institute for Social Research at York University conducts the telephone survey on behalf of the Durham Region Health Department and other public health units. Participants aged 18 years and older are selected through random digit dialing. For more information, see [RRFSS](#).

Because RRFSS is a survey and based on a limited number of respondents, three to five years of data were grouped to obtain sufficient sample size to report at the Neighbourhood level. Confidence intervals are wide due to imprecision in the data at this geographical level. Estimates marked with an asterisk (\*) should be used with caution due high variability as defined by a coefficient of variation between 16.6% and 33.3%. Estimates are not releasable (NR) if the numerator is less than 5, the denominator is less than 30 or the coefficient of variation is greater than 33.3%.

## Institute for Clinical Evaluative Sciences (ICES) Data

ICES is a not-for-profit research institute encompassing a community of research, data and clinical experts, and a secure and accessible array of Ontario's health-related data. The Durham Region Health Department requested data from ICES on chronic diseases, cancer screening, access to primary care physicians, and estimates of population counts. Although a number of different data sources were accessed to provide this data, they are grouped here because of the unique nature of ICES data sources and analysis.

**Asthma Database:** The Asthma Database consists of Ontario asthma patients identified since 1991. A patient is said to have asthma if, within a two year period, they had at least two Ontario Health Insurance Plan (OHIP) claims with an asthma diagnostic code or a hospital admission for asthma.

**Ontario Diabetes Database (ODD):** The ODD consists of Ontario diabetes patients identified since 1991. A patient is said to have diabetes if, within a two year period, they had a least two Ontario Health Insurance Plan (OHIP) claims with a diabetes diagnostic code or one selected diabetes-related OHIP service claim, or a hospital admission for diabetes.



**Chronic Obstructive Pulmonary Disease (COPD) Database:** The COPD Database consists of Ontario COPD patients identified since 1991. A patient is said to have COPD if, within a two year period, they had at least one Ontario Health Insurance Plan (OHIP) claim with a COPD diagnostic code or a hospital admission for COPD.

**Breast Cancer Screening Data:** This data combines information from the Ontario Breast Cancer Screening Program (OBSP), Ontario Health Insurance Plan (OHIP), and the Ontario Cancer Registry (OCR). The OCR is a Cancer Care Ontario database of Ontario residents newly diagnosed with cancer or who have died of cancer.

**Cervical Cancer Screening Data:** This data combines information from the Ontario Health Insurance Plan (OHIP) and the Ontario Cancer Registry (OCR).

**Colorectal Cancer Screening Data:** This data combines information from the Discharge Abstract Database (DAD), Ontario Health Insurance Plan (OHIP), and the Ontario Cancer Registry (OCR).

**Primary Care Physician Data:** This data combines information from the Client Agency Enrollment Program (CAPE) and the Ontario Health Insurance Plan (OHIP). CAPE is a registry of patients enrolled in primary care groups.

**Registered Persons Database (RPDB):** The RPDB is a population-based register maintained by the Ministry of Health and Long-Term Care to manage services funded under the Ontario Health Insurance Plan (OHIP). It is used for assessing OHIP eligibility and determining Ontario population counts. The RPDB provided denominator data for various indicators, including the ambulance call indicators which were not from ICES data. Various data quality issues have been documented for the RPDB because of inaccurate and out-of-date addresses linked to health cards. Data quality is improving as more Ontario residents move to new health cards with photo identification.

The above data were obtained from ICES through an Applied Health Research Question (AHRQ) data request, Project 2016 0900 784 000. ICES provided counts, crude rates, age- and sex-standardized rates, and confidence intervals by Health Neighbourhood, Durham Region municipality and for Durham Region and Ontario.

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## **Integrated Public Health Information System (iPHIS)**

iPHIS is the information system used in Ontario for reporting case information on all reportable communicable diseases for provincial and national surveillance, as described in the Health Protection and Promotion Act. Each public health unit is responsible for collecting case information on reportable communicable diseases occurring within their boundaries and entering this information into iPHIS. The most common source of case identification is through laboratory notification of confirmed test results (serology, microbiology cultures, etc.). Physicians are required to report cases that fulfill laboratory or clinical case definitions. For more information, see APHEO Core Indicators - iPHIS.

The main limitation with iPHIS data is that not all cases of a disease are reported. An infected person who is asymptomatic or has mild clinical symptoms may not seek medical care and/or laboratory testing may not be performed. While a lower incidence of infectious diseases is desirable, a higher number of cases can be a good thing if it means a higher proportion of cases are being detected, reported and treated.

## **Ambulance Call Report Database/Dispatch Database**

The Ambulance Call Report Database (ACR) and Dispatch Database are the information systems used in by Durham Region Paramedic Services for reporting events related to ambulance services. The ACR contains case report data, as recorded by Emergency Medical Attendants, for each patient they serve. The Dispatch Database contains initial contact data for Paramedic Services requests.

# Indicator Definitions, Data Sources and Notes

## Demographic Indicators

### Population growth rate

**Definition:** The population growth rate reflects how much the population grew in the five years between 2006 and 2011. It is calculated by subtracting the 2006 population count from the 2011 population count and dividing by the 2006 population count, multiplied by 100.

**Source:** 2006, 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

#### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Health Neighbourhood populations for 2006 and 2001 were estimated in cases where the 2006 and 2001 DAs did not correspond with Neighbourhood boundaries. A centroid methodology was used whereby the population of a DA would be attributed to a Neighbourhood if the center of the DA was within that Neighbourhood. An exception was made in Whitby where a DA population was split evenly between the four Neighbourhoods of Dryden-Anderson, Dryden East, Brooklin West, and Brooklin East because the DA centroid was located in the center of these four Neighbourhoods.
- Population counts from the Census differed from the Statistics Canada estimates that are commonly used by the Health Department. As a result, counts and rates for Durham Region and the municipalities may vary from those presented in other Health Department reports.

### Population age groups

**Indicators:** Population Aged 0-14, Aged 0-4, Aged 5-9, Aged 10-14, Aged 15-19, Aged 20-24, Aged 25-29, Aged 30-39, Aged 40-49, Aged 50-59, Aged 60-64, Aged 65+ years

**Definition:** The percentage is calculated by dividing the number of people in the specific age group by the total population, multiplied by 100.

**Source:** 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of people in each quintile.

#### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Population counts from the 2011 Census differed from the Statistics Canada 2011 estimates that are commonly used by the Health Department, which are adjusted for undercounts. As a result, counts and rates for Durham Region and the municipalities may vary from those presented in other Health Department reports.

### Seniors living alone

**Definition:** The percentage of seniors aged 65+ who are living alone.

**Source:** 2011 Census, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on counts, approximately equal numbers in each quintile.

**Data Notes:**

- Neutral indicator with higher percentages shown on maps in dark red.
- Seniors living alone refers to persons aged 65 years and older in private households who are living alone.

**Female lone-parent families**

**Definition:** The percentage of female lone-parent families

**Source:** 2011 Census, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on counts, approximately equal numbers of families in each quintile.

**Data Notes:**

- Neutral indicator with higher percentages shown on maps in dark red.
- A female lone-parent family refers to a female of any marital status with at least one child living in the same dwelling. Children may be children by birth, marriage or adoption regardless of their age or marital status as long as they live in the dwelling and do not have their own spouse or child living in the dwelling.

**Low income rate**

**Definition:** The percentage of people who live in low income households as determined by the 2010 low income measure after-tax (LIM-AT).

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The after-tax income refers to total 2010 income from all sources minus federal, provincial and territorial income taxes paid for 2010.
- For this measure, the income used is after-tax income of households. This line is set at half the median of adjusted household after-tax income. To account for potential economies of scale, the income of households with more than one member is divided by the square root of the size of the household.
- The low-income measure after tax (LIM-AT) is a fixed percentage (50%) of median adjusted after-tax income of households observed at the person level, where 'adjusted' indicates that a household's needs are taken into account. Adjustment for household sizes reflects the fact that a household's needs increase as the number of members increase, although not necessarily by the same proportion per additional member. The LIMs derivation begins by calculating the 'adjusted household income' for each household by dividing household income by the square root of the number of persons in the household, otherwise known as the 'equivalence scale.' This adjusted household income is assigned to each individual in the private household, and the median of the adjusted household income (where half of all individuals will be above it and half below) is determined over the population. The LIM for a household of one person is 50% of this median, and the LIMs for other sizes of households are equal to this value multiplied by their equivalence scale.

## **Children less than 6 years in low income households**

**Definition:** The percentage of children under the age of 6 years who live in low income households as determined by the 2010 low income measure after-tax (LIM-AT).

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The after-tax income refers to total 2010 income from all sources minus federal, provincial and territorial income taxes paid for 2010.

## **Median after-tax household income**

**Definition:** The median after-tax household income for 2010 income.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on medians, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Positive indicator with higher values better for health; lower values shown on maps in dark red.
- The after-tax income refers to total 2010 income from all sources minus federal, provincial and territorial income taxes paid for 2010. The median is the household income that splits the higher half of all the income values from the lower half.

## **No high school completion (low education)**

**Definition:** The percentage of adults aged 25-64 years who did not complete high school.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The number with no high school completion corresponds to the number aged 25-64 years without a certificate, diploma or degree and who did not complete high school. This indicator was limited to those aged 25-64 years because those less than 25 may still be in school and those older than 64 tend to have lower levels of education because of fewer educational opportunities available to this cohort. Restricting the age groups allows better comparisons between Neighbourhoods that have different age structures.

## Unemployment rate

**Definition:** The percentage aged 15 and older who were unemployed.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Unemployment applies to those persons aged 15+ years who, during the week of Sunday, May 1 to Saturday, May 7, 2011, were without paid work or without self-employment work and were available for work and either: (a) had actively looked for paid work in the past four weeks; or (b) were on temporary lay-off and expected to return to their job; or (c) had definite arrangements to start a new job in four weeks or less.

## Commuting duration

**Definition:** The number of minutes it took for a person to travel from home to work.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on medians, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Refers to how many minutes it took for a person to travel from home to work. Median commuting duration is the value that divides the number of commuters into two equal halves, with one half of individuals having a commuting duration below the median and the other half having a commuting duration above the median. Commuting applies to the population aged 15 years and over in private households who, when asked at the time of the NHS, worked at some time since January 1, 2010, and who reported having a usual place of work or no fixed workplace address.

## Aboriginal population

**Definition:** The percentage of the population that reported identifying with the Aboriginal peoples of Canada.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on counts, approximately equal numbers in each quintile.

### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Refers to whether the person reported identifying with the Aboriginal peoples of Canada. This includes those who reported being an Aboriginal person (First Nations, Métis or Inuit), and/or those who reported Registered or Treaty Indian status, and/or those who reported membership in a First Nation or Indian band. Aboriginal peoples of Canada are defined in the Constitution Act, 1982, Section 35(2) as including the Indian, Inuit, and Métis peoples of Canada.

## Recent immigrants

**Definition:** The percentage of the population that immigrated to Canada between 2001 and 2011.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Recent immigrants are immigrants who landed in Canada between January 1, 2006 and May 10, 2011. Immigrant refers to a person who is or has ever been a landed immigrant/permanent resident. This person has been granted the right to live in Canada permanently by immigration authorities. Some immigrants have resided in Canada for a number of years, while others have arrived recently. Some immigrants are Canadian citizens, while others are not. Most immigrants are born outside Canada, but a small number are born in Canada.

## Visible minorities

**Definition:** The percentage of the population that indicated they were non-Caucasian in race or non-white in colour.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- The Employment Equity Act defines visible minorities as “persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour.”

## Movers in the past year

**Definition:** The percentage of the population that moved their place of residence in the past year.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Neutral indicator with higher percentages shown on maps in dark red.
- Mobility refers to the status of a person with regard to the place of residence on the reference day, May 10, 2011, in relation to the place of residence on the same date one year earlier. Persons who have moved from one residence to another are referred to as movers. Movers include non-migrants (persons who did move but remained in the same city, town, township, village or Indian Reserve), and migrants (persons who moved to a different city, town, township, village or Indian Reserve from within or outside of Canada).

## Households that rent

**Definition:** The percentage of households that rent.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- This indicator is classified as neutral in terms of the direction related to health. The quality and affordability of housing is most important, rather than whether a dwelling is rented or owned.

## Shelter costs of 30% or more of income

**Definition:** The percentage of households that have shelter costs that are 30% or more of their total household income.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Shelter costs include rent/mortgage payments, utilities (e.g. heating, water, electricity), and insurance costs.

## Not suitable housing

**Definition:** The percentage of households without suitable housing (i.e., housing smaller than what the family needs).

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Not suitable housing refers to households that do not have the required number of bedrooms as measured by the National Occupancy Standard, based on the age, sex, and relationships among household members.

## Major dwelling repairs needed

**Definition:** The percentage of households with major repairs needed to the dwelling.

**Source:** National Household Survey (NHS) 2011, Statistics Canada.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.



**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Dwellings in need of major repairs, includes dwellings with defective plumbing or electrical wiring and those needing structural repairs to walls, floors or ceilings.

**Early Child Development Indicators (EDI)****EDI – Vulnerable in physical health and well-being**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for physical health and well-being.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Physical health and well-being includes gross and fine motor skills, e.g., holding a pencil, running on the playground, motor coordination, and having adequate energy levels for classroom activities.

**EDI – Vulnerable in social competence**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for social competence.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Social competence includes curiosity about the world, eagerness to try new experiences, knowledge of standard acceptable behaviour in a public place, the ability to control own behaviour, cooperation with others, following rules, and the ability to play and work with other children.

**EDI – Vulnerable in emotional maturity**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for emotional maturity.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Emotional maturity includes the ability to reflect before acting, display a balance between too fearful and too impulsive, deal with feelings at an age appropriate level, and have an empathetic response to other people's feelings.

**EDI – Vulnerable in language and cognitive development**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for language and cognitive development.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Language and cognitive development includes reading awareness, age appropriate reading, writing and numeracy skills, and the ability to play board games, understand similarities and differences and to recite back specific pieces of information from memory.

**EDI – Vulnerable in communication skills and general knowledge**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for communication skills and general knowledge.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Communication skills and general knowledge includes skills to communicate needs and wants in socially appropriate ways, symbolic use of language, story-telling, and age appropriate knowledge about life and the world around.

**EDI - Vulnerable in one or more domains**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for one or more EDI domains. This is an overall measure of the percentage of vulnerable children.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The five EDI domains are: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge.

**EDI - Vulnerable in two or more domains**

**Definition:** The percentage of senior kindergarten children who scored below the 10th percentile Ontario Cycle 1 baseline for two or more EDI domains. This is an overall measure of the percentage of vulnerable children.

**Source:** Early Development Instrument (EDI), Durham Region, Cycle 3 2012.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of vulnerable children in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The five EDI domains are: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge.

**Parent-rated health of SK children**

**Definition:** Percentage of senior kindergarten children whose parents rated their child's health as excellent or very good.

**Source:** Kindergarten Parent Survey (KPS), 2012, Durham Region.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- KPS question: "In general, would you say your child's health is: Excellent, Very Good, Good, Fair, Poor". This indicator combines "Excellent" and "Very Good" categories.

**Child-friendly neighbourhood**

**Definition:** Percentage of senior kindergarten children whose parents answered "true" to the statement "My neighbourhood is child-friendly".

**Source:** Kindergarten Parent Survey (KPS), 2012, Durham Region.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- KPS question: "My neighbourhood is child-friendly: True, Sometimes True, Not True". This indicator reports the percentage responding "True". This question was the last of a series of statements related to the neighbourhood. The preceding nine questions asked about safety, parks and playgrounds, and neighbours.

**SK Children walking or biking to school**

**Definition:** Percentage of senior kindergarten (SK) children whose parents reported that their child gets to school most often by walking or biking.

**Source:** Kindergarten Parent Survey (KPS), 2012, Durham Region.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- KPS question: "How does your child get to school most often? 1) Walks/bikes with parent/guardian, 2) Walks/bikes with another adult, sibling or friend, 3) Rides with or takes transit with parent, 4) Rides or takes transit with another child, 5) Takes school bus/taxi, 6) Takes special transit". This indicator combines categories 1 and 2.

**Health Indicators****Self-rated health**

**Definition:** The percentage of adults aged 18 years or older who rate their health as excellent or very good.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2009-2013. Ontario data - Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project, 2011.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Five years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked to rate their health as excellent, very good, good, fair or poor. This indicator combined the excellent and very good categories.

**Self-rated mental health**

**Definition:** The percentage of adults aged 18 years or older who rate their mental health as excellent or very good.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2013-Aug.2015.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Approximately two and a half years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked to rate their mental health as excellent, very good, good, fair or poor. This indicator combined the excellent and very good categories.

**Life expectancy – Males**

**Definition:** The number of years a newborn boy is likely to live based on current mortality rates.

**Source:** Deaths, 2007-2011, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on life expectancy, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher values better for health; lower values shown on maps in dark red.
- Life expectancy at birth is an overall measure of the health status of the population. Population counts and the number of deaths by age group are used to calculate the average number of years that a newborn is expected to live if current mortality rates continue to apply. The Chiang II method of calculation was used, as recommended for small geographical areas by the Office for National Statistics in the United Kingdom. Life expectancy was calculated separately for males and females.
- The 2011 census population was used to calculate the annual mortality rates for 2007 to 2011. For Neighbourhoods with high population growth from 2007 to 2011, mortality rates will be underestimated for the earlier years causing life expectancy to be overestimated. For consistency with the Neighbourhood data, the same method of using only 2011 population counts was applied for Durham Region and Ontario, even though more accurate population estimates are available for each year.

**Life expectancy – Females**

**Definition:** The number of years a newborn girl is likely to live based on current mortality rates.

**Source:** Deaths, 2007-2011, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on life expectancy, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher values better for health; lower values shown on maps in dark red.
- Life expectancy at birth is an overall measure of the health status of the population. Population counts and the number of deaths by age group are used to calculate the average number of years that a newborn is expected to live if current mortality rates continue to apply. The Chiang II method of calculation was used, as recommended for small

geographical areas by the Office for National Statistics in the United Kingdom. Life expectancy was calculated separately for males and females.

- The 2011 census population was used to calculate the annual mortality rates for 2007 to 2011. For Neighbourhoods with high population growth from 2007 to 2011, mortality rates will be underestimated for the earlier years causing life expectancy to be overestimated. For consistency with the Neighbourhood data, the same method of using only 2011 population counts was applied for Durham Region and Ontario, even though more accurate population estimates are available for each year.

## **Live birth rate**

**Definition:** The number of live births divided by the total population, multiplied by 1,000.

**Source:** Hospital In-Patient Discharges 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of births in each quintile.

### **Data Notes:**

- Neutral indicator with higher percentages shown on maps in dark red.
- The live birth rate is also known as the crude birth rate. It includes the number of live births in hospital based on the mother's place of residence, not where the birth occurred. The number of births and population size were based on 2011 hospitalization and 2011 Census data respectively. We excluded births with postal codes that were missing or could not be coded to a Neighbourhood. Population counts from the 2011 Census differed from the Statistics Canada 2011 estimates that are commonly used by the Health Department. As a result, counts and rates for Durham Region and the municipalities may vary from those presented in other Health Department reports.

## **Mothers aged 23 or younger**

**Definition:** The percentage of deliveries that are among young mothers aged 23 years or younger.

**Source:** Hospital In-Patient Discharges 2010-2014, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** February 2016

**Quintiles:** Based on counts, approximately equal numbers of deliveries in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Deliveries include both live births and stillbirths and were determined using Z37 codes on the maternal hospital record. A multiple birth is counted as one delivery.

## **Mothers aged 35+**

**Definition:** The percentage of deliveries that are among mothers aged 35 years or older.

**Source:** Hospital In-Patient Discharges 2010-2014, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** February 2016

**Quintiles:** Based on counts, approximately equal numbers of deliveries in each quintile.

**Data Notes:**

- This indicator is classified as neutral in terms of health; higher percentages shown on maps in dark red.
- Deliveries include both live births and stillbirths and were determined using Z37 codes on the maternal hospital record. A multiple birth is counted as one delivery.

**Preterm birth rate in singletons**

**Definition:** The percentage of singleton (non-multiple) live births delivered in hospital before 37 completed weeks of gestation.

**Source:** Hospital In-Patient Discharges 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of preterm births in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Multiple births were excluded because they are at high risk of prematurity and have different risk factors than preterm singleton births. A focus on singletons ensures that a chance occurrence of preterm twins in a Neighbourhood with few births will not inflate the rate in that Neighbourhood.

**Small-for-gestational age (SGA) rate**

**Definition:** The SGA rate is the percentage of live births with birth weight below the standard 10th percentile of the sex-specific birth weight for gestational age.

**Source:** Hospital In-Patient Discharges 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of SGA births in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Since most low birth weight babies are preterm, it is important to consider how far along the pregnancy is when the baby was born. SGA measures birth weight relative to gestational age. For example, a boy born at 39 weeks weighing less than 2,942g (6.5 lbs.) would be SGA. SGA rates include only singleton live births of male and female newborns with gestational age 22-43 weeks. The reference percentile tables for Canadian babies are based on Kramer, 2001. These percentile cut-offs may misclassify healthy infants of some ethnicities as SGA because newborns of parents originating from non-European/ Western nations tend to be smaller at birth.

**Large-for-gestational age (LGA) rate**

**Definition:** The LGA rate is the percentage of live births with birth weight above the standard 90th percentile of the sex-specific birth weight for gestational age.

**Source:** Hospital In-Patient Discharges 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of LGA births in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Birth weight must be examined within the context of how far along the pregnancy is when the baby was born. LGA measures the birth weight of a baby relative to their gestational age. For example, a girl born at 40 weeks weighing more than 4,034g (8.9 lbs.) would be considered LGA. LGA rates include only singleton live births of male and female newborns with gestational age 22-43 weeks. The reference percentile tables for Canadian babies are based on Kramer, 2001.

## **Teen pregnancy rate**

**Definition:** The number of live births, stillbirths and therapeutic abortions among females aged 15-19 years per 1,000 population of females aged 15-19.

**Source:** Hospital In-Patient Discharges, National Ambulatory Care Reporting System & Medical Services 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of teen pregnancies in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The number of live births and stillbirths were determined by counting the number of hospital deliveries (Z37 codes on the maternal record). Therapeutic abortions included those occurring in hospitals, clinics and private physician offices, which were determined by combining hospital and medical services (OHIP) data.

## **Breastfeeding at hospital discharge rate**

**Definition:** The number of women who were breastfeeding their baby when discharged from hospital divided by the total number of women who delivered multiplied by 100.

**Source:** Integrated Services for Children Information System (ISCIS) 2010-2012, Durham Region Health Department.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- This indicator reflects the percentage of mothers providing breastmilk only (exclusive breastfeeding) as well as both breastmilk and breastmilk substitute (formula) combined. Breastfeeding status was determined in hospital and the information was entered into ISCIS. Approximately 13% of records were excluded because they did not have a postal code that could be coded to a Neighbourhood or were missing breastfeeding status.



## Breastmilk only at hospital discharge rate

**Definition:** The number of women who were feeding their baby only breastmilk when discharged from hospital divided by the total number of women who delivered multiplied by 100.

**Source:** Integrated Services for Children Information System (ISCIS) 2010-2012, Durham Region Health Department.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- This indicator reflects the percentage of mothers providing breastmilk only (exclusive breastfeeding) at the time they were discharged from hospital. Breastfeeding status was determined in hospital and the information was entered into ISCIS. Approximately 13% of records were excluded because they did not have a postal code that could be coded to a Neighbourhood or were missing breastfeeding status.

## Breastfeeding duration rate at 6 months

**Definition:** The number of mothers who breastfed their babies for at least 6 months divided by the total number of women who completed the telephone survey as part of the Infant Feeding Surveillance System, multiplied by 100.

**Source:** Infant Feeding Surveillance System (IFSS) 2007-2012, Durham Region Health Department.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- This indicator reflects the combined percentage of mothers providing either breastmilk only (exclusive breastfeeding) or breastmilk and breastmilk substitute (formula) six months following delivery. This does not account for any formula the infant may have received prior to discharge. Breastfeeding status was determined through a telephone survey of mothers conducted by public health nurses six to seven months after the birth of their baby. Six years of data were grouped to obtain sufficient sample size at the neighbourhood level. Because the IFSS oversamples teen mothers, the data were weighted accordingly to reflect the distribution of teen and adult mothers in the population.

## Well-Baby Visit rate

**Definition:** The number of children who visited a physician for an enhanced 18-month well-baby visit between April 1, 2010 and March 31, 2012 (fiscal years 2010 and 2011) divided by the total number of children aged two years in 2010 and 2011 as estimated from Ontario Registered Persons database.

**Source:** Medical Services, Fiscal Years 2010, 2011 and Ontario Registered Persons Database, March 31, 2013, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of well-baby visits in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- The Enhanced 18-month Well-Baby Visit is a provincial government strategy to support standardized developmental review and evaluations at 18-months for each child in Ontario. It is the last regularly scheduled visit with a doctor or nurse practitioner before the child enters school and an opportunity to see how well a child is developing and reaching key milestones.
- Well-baby visits are determined using fee codes A002 for family physicians and A268 for paediatricians. The number of two-year old children was estimated from the Ontario Registered Persons database through the Ministry of Health and Long-Term Care. The fee schedule codes were introduced provincially in October 2009. The billing requirement to claim this increased fee is the documentation of a discussion of the child's development using screening tools completed by the parent/caregiver and the physician.
- An important limitation of the data is that since not all health care providers submit for remuneration, visit rates may be underestimated. Of particular note, well-baby visits done by community health centres are not captured in this data.

**Asthma ED visit rate, ages 0-14 years**

**Definition:** The number of ED visits for asthma among those aged 0-14 years, divided by the total population aged 0-14, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Asthma ED visits were defined as those with ICD10-CA code J45. The ED visits are based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is asthma.

**Asthma prevalence rate, ages 0-14 years**

**Definition:** The number of children aged 0-14 years diagnosed with asthma, per 100 children. The rate was age- and sex-standardized using the 1991 Canadian census population.

**Source:** Asthma Database 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- A patient is said to have asthma if, within a two year period, they had at least two OHIP claims with an asthma diagnostic code or a hospital admission for asthma. The Asthma Database identifies patients since 1991. For 2013 data, patients with a diagnosis on or before December 31, 2013 and who are alive as of this date are included. Prevalence counts those living with the disease at a point in time. The rates were age standardized to control for different age structures of populations, allowing for better comparisons.

**Dental decay prevalence in schools in grade 2 students**

**Definition:** Dental decay prevalence is determined by the oral health screening results of all Grade 2 (G2) students in Durham Region public schools. Schools with high dental decay are those with 14% or more of G2 students with at least two decayed teeth; medium with 9.5% to 13.9%; and low decay with fewer than 9.5% with at least two decayed teeth. Schools with enhanced screening are those with low or medium decay results but are treated as if they have high decay because of other information.

**Source:** Oral Health School Screening Program, 2013/14 & 2014/15, Durham Region Health Department.

**Release:** January 2015, updated February 2016

**Data Notes:**

- Dental decay information is provided by school and not by Health Neighbourhood.
- Oral health screening is done every year in all public elementary schools for students in JK, SK, and G2. More grades are screened if decay results from the previous year were medium or high. Screening consists of a quick visual inspection by a Registered Dental Hygienist (RDH) to identify dental conditions that are causing pain or may soon cause pain. Parents are notified if their child has an urgent dental problem or if preventive services are needed. Decayed teeth can be either primary or permanent teeth.
- Low decay schools result in screening for JK, SK, G2 students. Schools with medium decay will have JK, SK, G2 and G8 screened. High decay schools will have a minimum of JK, SK, G2, G4, G6 and G8 screened and sometimes all students screened. Reasons for providing enhanced screening include the school's previous decay history, overall decay results of a school not limited to G2s, community water fluoridation in the neighbourhood, small school populations where it may be reasonable to screen more grades, school with large priority populations, reasonable school requests with an identified need, and RDH professional judgment.
- This indicator was updated in February 2016 from 2012/13 data to combining the two school years of 2013/14 and 2014/15. Some schools will change decay results from year to year; combining two years of data helps to reduce this fluctuation. As well, the enhanced screening category was added in this update.

**All injuries, ED visit rate**

**Definition:** The number of unscheduled ED visits where there is an injury external cause diagnosis for the visit, divided by the total population, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2011, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- The ICD-10-CA codes used to classify cause of injury are taken from Chapter 19 - External Causes of Morbidity and Mortality, ICD-10-CA codes V01-Y98. The all injuries rate captures ED visits based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is an injury.

**Sports injuries, ED visit rate, ages 10-14 years**

**Definition:** The number of ED visits for sports injuries among those aged 10-14 years divided by the total population aged 10-14 years, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Sports injuries are defined as those with ICD-10-CA codes W02, W21, W22 (.00-.07) and W51 (.00-.07). These codes include falls involving skates, skis, skateboards and rollerblades, and injuries as a result of being struck by sports equipment (i.e., balls, bat, hockey stick or puck) or while playing (i.e., skiing, tobogganing, hockey, soccer, baseball). The ED visits are based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is an injury.

**Motor vehicle traffic collisions, ED visit rate, ages 15-24 years**

**Definition:** The number of ED visits among those aged 15-24 years for a MVTC divided by the total population aged 15-24 years, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- MVTC injuries are those with ICD-10-CA codes V02-V04 (.1,.9), V09.2, V12-V14 (.3-.9), V19 (.4-.6), V20-V28 (.3-.9), V29 (.4-.6,.9), V30-V79 (.4-.9 excluding V39.8, V49.8, V59.8, V69.8, V79.8), V80 (.3-.5), V81-V82 (.1), V83-V86 (.0-.3), V87 (.0-.8), and V89.2. Traffic crashes occur on public streets, roadways or highways involving pedestrians, and/or drivers and passengers of bicycles, motorized tricycles, cars, pick-up trucks or vans, motorcycles, heavy transport vehicles or buses, or other land vehicles such as animal-driven vehicles, railway trains or vehicles, streetcars, all-terrain vehicles and snowmobiles. Includes injuries while boarding or alighting. Non-traffic crashes are excluded. The ED visits are based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is an injury.

## **Falls, ED visit rate, ages 0-4 years**

**Definition:** The number of ED visits for unintentional falls among those aged 0-4 years, divided by the total population aged 0-4, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Falls are defined as ED visits with ICD-10-CA codes W00-W19. This excludes intentional falls (self-inflicted and assault) and falls with undetermined intent. The ED visits are based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is an injury.

## **Falls, ED visit rate, ages 65+ years**

**Definition:** The number of ED visits for unintentional falls among those aged 65 or older, divided by the total population aged 65 or older, multiplied by 1,000.

**Source:** Emergency Department (ED) Visits, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of ED visits in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Falls are defined as ED visits with ICD-10-CA codes W00-W19. This excludes intentional falls (self-inflicted and assault) and falls with undetermined intent. The ED visits are based on patient residence, not the location of the hospital, where the "main problem" that is deemed to be the clinically significant reason for the visit is an injury.

## **Smoking rate, ages 18+ years**

**Definition:** The percentage of adults aged 18 years or older who smoke occasionally or daily.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2009-2013. Ontario data - Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project, 2011.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Five years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked if they currently smoked cigarettes every day, some days or not at all. Those who smoked every day or some days were classified as current smokers. Three Neighbourhoods had rates that were not releasable because the numbers were too small.

## **Obesity rate, ages 18+ years**

**Definition:** The percentage of adults aged 18 years or older who are obese based on a Body Mass Index of 30 or greater.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2009-2013. Ontario data - Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project, 2011.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Five years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked to report their weight and height. The Body Mass Index (BMI) is a ratio of weight-to-height. It is not a direct measure of body fat but it is an indicator of health risk associated with being underweight or overweight. BMI can be classified into ranges associated with health risk. There are four BMI categories in the Canadian weight classification system: underweight (less than 18.5), normal weight (18.5 to 24.9), overweight (25.0 to 29.9) and obese (30 and over).

## **Vegetable and fruit consumption rate, ages 18+ years**

**Definition:** The percentage of adults aged 18 years or older who eat vegetables and fruits five or more times per day.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2007-2009, 2011. Ontario data - Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project, 2011.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Three years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked to report how often they consumed various types of vegetables and fruits. Three Neighbourhoods had rates that were not releasable because the numbers were too small.

## **Alcohol use in excess of Canada's Low-Risk Alcohol Drinking Guidelines, ages 18+ years**

**Definition:** The percentage of adults aged 18 or older who drink in excess of Canada's Low-Risk Alcohol Drinking Guidelines.

**Source:** Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2008, 2010, 2013.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Three years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked to report how often they drank alcohol and the average number of drinks consumed. Adherence to the Guidelines was derived from this information. Pregnant women were excluded from the analysis. Other zero consumption circumstances, such as driving, medication use, or mental health problems were not considered in the calculation. Canada's Low-Risk Alcohol Drinking Guidelines recommend no more than 2 drinks a day, 10 per week for women, and 3 drinks a day, 15 per week for men. Four Neighbourhoods had rates that were not releasable because the numbers were too small.

**Physical activity rate, ages 18-69 years**

**Definition:** The percentage of adults aged 18 to 69 with a high level of physical activity.

**Source:** Durham data - Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2007, 2009, 2011. Ontario data - Rapid Risk Factor Surveillance System (RRFSS) Provincial Sample Pilot Project, 2011.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Three years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked a series of questions taken from the International Physical Activity Questionnaire (IPAQ) that are used to estimate levels of physical activity, assessing physical activity across a comprehensive set of domains including leisure time, domestic and gardening activities, work-related and transport-related activities. The Canadian Physical Activity Guideline for adults recommends at least 150 minutes per week of moderate-to-vigorous physical activity. The IPAQ calculated "high level" of physical activity is above this guideline and is considered a more sensitive measure to show variation between populations.

**Flu immunization rate, ages 18+ years**

**Definition:** The percentage of adults aged 18 years or older who get a flu shot.

**Source:** Rapid Risk Factor Surveillance System (RRFSS), Durham Region Health Department and Institute for Social Research, York University, 2009-2013.

**Release:** January 2015

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

**Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Five years of RRFSS data were combined to provide a large enough sample for analysis at the Neighbourhood level. Respondents were asked if they had received their seasonal flu shot for the year. Four Neighbourhoods had rates that were not releasable because the numbers were too small.

## **Breast cancer screening (mammography) rate, females ages 52-74 years**

**Definition:** The number of females aged 52-74 years with at least one mammogram within a two-year interval, per 100 women in that age group. The rate was age-standardized using the 2011 Canadian census population.

**Source:** Ontario Breast Cancer Screening Program (OBSP) & Ontario Health Insurance Plan (OHIP) & Ontario Cancer Registry (OCR) 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Analysis was restricted to Ontario women aged 52-74 as of December 31, 2013. Women were counted as having been screened if they had at least one mammogram in the previous two years as indicated in the OBSP dataset or if there was an OHIP claim with FEPCODE X185, X172, X178. Some women may appear in both data sources. Women were excluded (from both numerator and denominator) if they had a prior diagnosis of breast cancer in the OCR (ICD-9 code 174).
- Although ICES uses slightly different methods for calculating cancer screening rates than the Cancer Quality Council of Ontario (CQCO), such as different index dates, the general information is the similar. See [CQCO cancer screening information](#) at [www.csqi.on.ca](http://www.csqi.on.ca) for more information.

## **Cervical cancer screening (Pap test) rate, females aged 23-69**

**Definition:** The number of females aged 23-69 years with at least one Pap test within a three-year interval, per 100 women in that age group. The rate was age-standardized using the 2011 Canadian census population.

**Source:** Ontario Health Insurance Plan (OHIP) & Ontario Cancer Registry (OCR) 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- Analysis was restricted to Ontario women aged 23 to 69 as of December 31, 2013. Women were counted as having been screened if they had at least Pap test in the previous three years as indicated with OHIP fee codes: G365 or G394 with FEESUFF = 'A'; E430; or lab codes L812, L713. Women were excluded (from both numerator and denominator) if they had a previous diagnosis of cervical, endometrial or ovarian cancer in OCR (ICD-9: 179, 180.0, 180.1, 180.8, 180.9, 182.0, 182.1, 182.8, 183.0, 183.2-183.5, 183.8, 183.9), or if they had a hysterectomy recorded in the OHIP database (FEPCODE S810, S757, S758, S759, S816, S710, S763, S762, S727, S765, S766, S767).
- Although ICES uses slightly different methods for calculating cancer screening rates than the Cancer Quality Council of Ontario (CQCO), such as different index dates, the general information is the similar. See [CQCO cancer screening information](#) at [www.csqi.on.ca](http://www.csqi.on.ca) for more information.



## Overdue for colorectal cancer screening, ages 50-74

**Definition:** The number of people aged 50-74 years who were overdue for colorectal screening, per 100 people in that age group. The rate was age- and sex-standardized using the 2011 Canadian census population.

**Source:** Discharge Abstract Database (DAD) & Ontario Health Insurance Plan (OHIP) & Ontario Cancer Registry (OCR) 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Analysis was restricted to Ontarians aged 52-74 as of December 31, 2013. Individuals were counted as overdue for screening if they did not have any of the following: colonoscopy in the last 10 years as determined by OHIP fee codes Z555 and one of E740, E741, E747, E705; fecal occult blood test (FOBT) in the last 2 years as determined by OHIP fee codes L181, G004, L179, Q152, Q043, Q133 or FEESUFF = A or B; other colorectal investigations in the last 5 years as determined by OHIP fee codes Z535 or Z536 (rigid sigmoidoscopy), Z555 (without E740 or E741 or E747 or E705 on the same day) or Z580 (flexible sigmoidoscopy), X112 (single contrast barium enema), or X113 (double contrast barium enema). People were excluded (from both numerator and denominator) if they had a previous diagnosis of any colorectal cancer prior in the OCR (ICD-9 codes: 153, 154, except cancer of the appendix code 153.5), or if they were diagnosed with any severe inflammatory bowel disease prior to December 31, 2013 (using DAD, SDS) with ICD-9 codes: starting with 555, 556 or ICD-10 codes starting with K50, K51; colonoscopy in the last 10 years, fecal occult blood test (FOBT) in the last 2 years, or other colorectal investigations in the last 5 years including sigmoidoscopy and barium enema.
- Although ICES uses slightly different methods for calculating cancer screening rates than the Cancer Quality Council of Ontario (CQCO), such as different index dates, the general information is the similar. See [CQCO cancer screening information](http://www.csqi.on.ca) at [www.csqi.on.ca](http://www.csqi.on.ca) for more information.

## Cardiovascular disease hospitalization rate, ages 45-64

**Definition:** The number of hospital discharges for cardiovascular disease (CVD) among those aged 45-64 years, divided by the total population aged 45-64, multiplied by 1,000.

**Source:** Hospital In-Patient Discharges, 2010-2012, Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO & 2011 Census, Statistics Canada.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of hospitalizations in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- CVD includes heart disease, stroke and hypertensive disease. CVD is defined as in-patient hospitalization separations with the "most responsible diagnosis" coded by the hospital as ICD10-CA code I00-I99. Separations are discharges, deaths or transfers from hospital. They are based on patient residence, not the location of the hospital.

## Diabetes prevalence rate, ages 20+ years

**Definition:** The number of people aged 20+ years diagnosed with diabetes, per 100 people in that age group. The rate was age- and sex-standardized using the 1991 Canadian census population.

**Source:** Ontario Diabetes Database (ODD) 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- A patient is said to have diabetes if, within a two year period, they had a least two Ontario Health Insurance Plan (OHIP) claims with a diabetes diagnostic code or one selected diabetes-related OHIP service claim, or a hospital admission for diabetes. The ODD identifies patients since 1991. For 2013 data, patients with a diagnosis on or before December 31, 2013 and who are alive as of this date are included. Prevalence counts those living with the disease at a point in time.

## Lung disease (COPD) prevalence rate, ages 35+ years

**Definition:** The number of people aged 35+ years diagnosed with chronic obstructive pulmonary disease (COPD), per 100 people in that age group. The rate was age- and sex-standardized using the 1991 Canadian census population.

**Source:** Chronic Obstructive Pulmonary Disease (COPD) Database 2013, Institute for Clinical Evaluative Sciences. ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### Data Notes:

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- A patient is said to have COPD if, within a two year period, they had at least one Ontario Health Insurance Plan (OHIP) claim with a COPD diagnostic code or a hospital admission for COPD. The COPD Database identifies patients since 1991. For 2013 data, patients with a diagnosis on or before December 31, 2013 and who are alive as of this date are included. Prevalence counts those living with the disease at a point in time.

## Chlamydia incidence rate, females 15-24 years

**Definition:** The number of cases of chlamydia in females ages 15-24 years divided by the number of females ages 15-24 in the population, multiplied by 1,000.

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, 2010-2012, extracted by Durham Region Health Department, September 2013, iPHIS, Ontario, 2010-2012, Ontario Public Health Portal, Accessed October 2013.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of cases in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Chlamydia is a sexually transmitted infection.
- A higher incidence rate may reflect a higher rate of infection but may also be an indication that more cases are being detected and treated. As a reportable infectious disease, physicians, hospitals and laboratories must report cases to the local Medical Officer of Health. Notification is usually through confirmed laboratory results. There is under-reporting of cases because an infected person with mild or no clinical symptoms may not seek medical care and/or laboratory testing may not be performed.

**Enteric diseases incidence rate**

**Definition:** The number of cases of enteric diseases divided by the total population, multiplied by 100,000.

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, 2010-2012, extracted by Durham Region Health Department, September 2013, iPHIS, Ontario, 2010-2012, Ontario Public Health Portal, Accessed October 2013.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of cases in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Enteric diseases affect the stomach and intestines. The reportable enteric diseases captured in this indicator include: amebiasis, botulism, brucellosis, campylobacter enteritis, cholera, cryptosporidiosis, cyclosporiasis, food poisoning (all causes), giardiasis, hepatitis A, listeriosis, paratyphoid fever, salmonellosis, shigellosis, trichinosis, typhoid fever, verotoxin-producing *Escherichia coli* (VTEC) infection, and yersiniosis.
- A higher incidence rate may reflect a higher rate of infection but may also be an indication that more cases are being detected and treated. Physicians, hospitals and laboratories must report cases of these reportable diseases to the local Medical Officer of Health. Notification is usually through confirmed laboratory results. There is under-reporting of cases because an infected person with mild or no clinical symptoms may not seek medical care and/or laboratory testing may not be performed.

**Influenza incidence rate**

**Definition:** The number of cases of influenza divided by the total population, multiplied by 100,000.

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, 2009-2013, extracted by Durham Region Health Department, June 2014, iPHIS, Ontario, 2009-2013, Ontario Public Health Portal, Accessed June 2014.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of cases in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Influenza, commonly called the flu, is an acute respiratory illness caused by a virus. In Canada, the influenza season usually runs from November to April and rates fluctuate from year to year.
- A higher incidence rate may reflect a higher rate of infection but may also be an indication that more cases are being detected and treated. As a reportable infectious disease, physicians, hospitals and laboratories must report cases to the local Medical Officer of Health. Notification is usually through confirmed laboratory results. There is under-reporting of cases because an infected person with mild or no clinical symptoms may not seek medical care and/or laboratory testing may not be performed.

**Hepatitis C incidence rate**

**Definition:** The number of cases of Hepatitis C divided by the total population, multiplied by 100,000.

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, 2009-2013, extracted by Durham Region Health Department, June 2014, iPHIS, Ontario, 2009-2013, Ontario Public Health Portal, Accessed June 2014.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of cases in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Hepatitis C is a liver disease caused by the hepatitis C virus.
- Hepatitis C infections are typically underestimated because they can be asymptomatic. A higher incidence rate may reflect a higher rate of infection but may also be an indication that more cases are being detected and treated. As a reportable infectious disease, physicians, hospitals and laboratories must report cases to the local Medical Officer of Health. Notification is usually through confirmed laboratory results. Under-reporting occurs because an infected person with mild or no clinical symptoms may not seek medical care and/or laboratory testing may not be performed.
- Three Health Neighbourhoods had incidence rates that were not releasable due to small numbers.

**Latent Tuberculosis infection (LTBI) incidence rate**

**Definition:** The number of cases of LTBI divided by the total population, multiplied by 100,000.

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, 2009-2013, extracted by Durham Region Health Department, June 2014, iPHIS, Ontario, 2009-2013, Ontario Public Health Portal, Accessed June 2014.

**Release:** January 2015

**Quintiles:** Based on counts, approximately equal numbers of cases in each quintile.

**Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Tuberculosis (TB) is a bacterial disease present in two forms: 1) active TB, and 2) latent or inactive TB infection. LTBI cases are mainly asymptomatic and are non-infectious. A higher

incidence rate may reflect a higher rate of infection but may also be an indication that more cases are being detected and treated.

- As a reportable infectious disease, physicians, hospitals and laboratories must report cases of LTBI to the local Medical Officer of Health. Notification is usually through confirmed laboratory results. There is under-reporting of cases because an infected person with mild or no clinical symptoms may not seek medical care and/or laboratory testing may not be performed. Two Health Neighbourhoods had incidence rates that were not releasable due to small numbers.

## **Population with a Primary Care Physician**

**Definition:** The number of people over the age of one year with a primary care physician, per 100 people in that age group. The rate was age- and sex-standardized using the 2011 Canadian census population.

**Source:** Client Agency Enrollment Program (CAPE) & Ontario Health Insurance Plan (OHIP) 2013, Institute for Clinical Evaluative Sciences (ICES). ICES AHRQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Positive indicator with higher percentages better for health; lower percentages shown on maps in dark red.
- A person was considered to have a primary care physician if they were rostered to a physician in the CAPE tables or if they received primary care from a physician within the past two-year period, as of December 31, 2013. Non-rostered primary care was assessed using a Core Primary Care OHIP fee code which reflects preventive and primary care, such as annual health exams. A primary care physician is not restricted to General Practitioners.
- Having a primary care physician does not necessarily mean that a person sees their doctor on a regular basis or that they access care when needed.

## **Residence ambulance call rate**

**Definition:** The number of residential ambulance calls, per 100 people. The rate was age-standardized using the 1991 Canadian census population.

**Source:** Ambulance Call Report Database & Dispatch Database, Durham Region Paramedic Services, 2011-2013. Population counts from the Registered Persons Database 2013, ICES ARHQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Residence ambulance calls consist of prompt and urgent calls to a house, townhouse, apartment, condominium or farm. We excluded calls to other sites such as nursing homes, hospitals, medical offices, shopping malls, etc. We also excluded scheduled calls, transfers and standbys. We included all calls where paramedics arrived at a residence regardless of the disposition of the patient (whether or not they were transported). Ambulance calls are geocoded to the pickup location of the patient, not the patient's address.

## **Residence ambulance call rate, ages 65+ years**

**Definition:** The number of residential ambulance calls among those aged 65+, per 100 people aged 65+. The rate was age-standardized using the 1991 Canadian census population.

**Source:** Ambulance Call Report Database & Dispatch Database, Durham Region Paramedic Services, 2011-2013. Population counts from the Registered Persons Database 2013, ICES ARHQ Project 2016 0900 784 000.

**Release:** February 2016

**Quintiles:** Based on rates, approximately equal numbers of Neighbourhoods in each quintile.

### **Data Notes:**

- Negative indicator with lower percentages better for health; higher percentages shown on maps in dark red.
- Residence ambulance calls consist of prompt and urgent calls to a house, townhouse, apartment, condominium or farm. We excluded calls to other sites such as nursing homes, hospitals, medical offices, shopping malls, etc. We also excluded scheduled calls, transfers and standbys. We included all calls where paramedics arrived at a residence regardless of the disposition of the patient (whether or not they were transported). Ambulance calls are geocoded to the pickup location of the patient, not the patient's address.

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