Information Management

*A System We Can Count On*

# Socio-Economic Indicators Atlas

## Hamilton Niagara Haldimand Brant LHIN

*Health System Intelligence Project – Spring 2006*

Ontario

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# About HSIP

## The Health System Intelligence Project (HSIP)

This atlas is produced by the Health System Intelligence Project (HSIP). HSIP consists of a team of health system experts retained by the Ministry of Health and Long-Term Care's (MOHLTC) Health Results Team for Information Management (HRT-IM) to provide the Local Health Integration Networks (LHINs) with:

- Sophisticated data analysis;
- Interpretation of results;
- Orientation of new staff to health system data analysis issues; and
- Training on new techniques and technologies for health system analysis.

HSIP was created as part of the Ontario government's Information Management Strategy. HSIP is designed to complement and augment the existing analytical capacity within the MOHLTC. The project team is working in concert with MOHLTC analysts to ensure that the LHINs are provided with the analytical supports they need for their local health system planning activities.

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# Executive Summary

In 2001, the area of the Hamilton Niagara Haldimand Brant Local Health Integration Network (LHIN) was home to 1,261,900 people, or 11.1% of Ontario's population[1] spread across 20 census subdivisions[i] (CSDs), ranging in population from 6,300 (less than 1% of the Hamilton Niagara Haldimand Brant population) to 490,300 (38.9% of the LHIN's population). These areas vary by more than just population size. Substantial differences in the age structure, economic conditions and social characteristics of these places have implications not only for health services planning but also for potential health status. Even within these CSDs, substantial variation is apparent, especially in the LHIN's urban areas. Based on 2001 census data at the census subdivision and census tract[ii] (CT) level, this report seeks to provide a comprehensive overview of socio-economic status across the Hamilton Niagara Haldimand Brant LHIN.

Compared to the province of Ontario, a **higher** percentage of the Hamilton Niagara Haldimand Brant LHIN population:

- Are 65 years of age and older;
- Have not completed a high school education.

Again, compared to the province of Ontario, **lower** percentages are observed for:

- Have no knowledge of English or French;
- Are recent immigrants;
- Are visible minorities.

It is important to note that one community within the Hamilton Niagara Haldimand Brant LHIN is shared with another LHIN. The Norfolk CSD is shared with the South West LHIN. Percentages shown in this report, however, refer to the entire CSD and not just those portions completely within the Hamilton Niagara Haldimand Brant LHIN. Additionally, data are suppressed by Statistics Canada for four First Nations communities in the LHIN due to incomplete enumeration.

i CSD: Area that is a municipality or that is deemed to be equivalent to a municipality for statistical reporting purposes.

ii CT: Area that is small and relatively stable. Census tracts usually have a population of 2,500 to 8,000. They are located in large urban centres that must have an urban core population of 50,000 or more.

# How to Navigate and Use this Report

This report is organized into five sections:

- a general *Introduction* that explains why socio-economic status is important, from the perspective of health risk and planning;
- a section on *The Elements of SES* that identifies the key indicators of socio-economic status used in this report, and their relationship to health status;
- a *Methods* section detailing the procedures used to generate the Index of Relative Socio-Economic Disadvantage and the maps;
- an *Atlas* of the Hamilton Niagara Haldimand Brant LHIN that maps out the distribution of these indicators at the municipal *(or census subdivision)* and, where appropriate, the neighbourhood *(census tract)* scale;
- an *Appendix*, which provides socio-economic data to accompany the maps. References are also provided for more information on socio-economic status.

A detailed review of the literature and the methodology used for this project can be found in two accompanying HSIP documents: *'Socio-economic Indicators and their Relationship to Health'* [2], and *'HSIP Research Note - Principal Components Analysis: Methods and Data Considerations'*.[3]

## Interpretation of the Maps

The first three maps presented in this report set the context for the remaining maps and results. The first map shows the boundaries of the 14 Local Health Integration Networks (LHINs) within Ontario. The second map shows the Ontario-wide population distribution. The boundaries of the census subdivisions within the Hamilton Niagara Haldimand Brant LHIN are provided for context in the third map.

The individual indicator maps show the geographical distribution of socio-economic indicators across the Hamilton Niagara Haldimand Brant LHIN. The maps present data for the census subdivisions and census tracts within major urban centres (shown as an inset). It should be noted that only selected CSDs within census metropolitan areas[i] (CMAs) are mapped at the census tract level. Decisions on which CSDs were tracted were based on population size. Only CSDs with populations greater than 75,000 persons were mapped in more detail. Each map is also accompanied by comments highlighting important differences in the Hamilton Niagara Haldimand Brant LHIN relative to the province.

Maps presented in this report are *choropleths*, using shading to divide the distribution of the indicator such as unemployment or population age 65 and over into four equal categories or *quartiles*. The category break for each variable is based on the Ontario distribution and not just for the Hamilton Niagara Haldimand Brant LHIN. Thus, the maps provide information on how an indicator varies across the LHIN, as well as how it varies in relationship to the province. Within each map, values are represented by a colour gradient, from low (the lightest colour) to high (the darkest colour). The exception is the map for the Index of Relative Socio-Economic Disadvantage. Here, the data classes for this variable are based on standard deviations from the mean. In all other maps, the break between the second and third classes is the median of the data. As a complement, the comments for each map are included and may refer to the value of the variable across the LHIN or to specific CSDs in relation to the province as a whole.

A histogram of frequencies for each variable is included to illustrate the distribution of values for each SES indicator across all CSDs in Ontario. A table showing percent values by Hamilton Niagara Haldimand Brant CSDs is presented as an Appendix to this report.

i CMA: Area consisting of one or more adjacent municipalities situated around a major urban core. To form a census metropolitan area, the urban core must have a population of at least 100,000.

# Introduction

Socio-economic status (SES) is recognized as an important determinant of health and the link between health status, utilization of health services and SES is well established.[4,5,6,7] Socio-economic disadvantage is an important determinant of inequalities in health; people with higher incomes can generally expect to live longer and healthier lives than those earning less, unemployed individuals and their families suffer an increased risk of premature death, and low levels of education are associated with riskier health behaviours. At the individual level, socio-economic inequalities in health are generally thought to be related to the prevalence of behavioural risk factors and/or access to material resources.[8]

A population health perspective recognizes the importance of these links, suggesting that the most important determinants of human health are the social and economic characteristics of communities.[9] Population health models suggest that health is influenced by social, economic and physical environments, personal health practices, individual capacity, coping skills and health services.[10,11] Understanding that income is not the only component of socio-economic disadvantage[12] we adopt a more relative concept of deprivation.

The primary objective of this report is to illustrate the relative socio-economic disadvantage of communities and provide a broad-ranging social, economic and demographic profile for the Hamilton Niagara Haldimand Brant LHIN. Using data from the 2001 Census of Canada, variables relating to income, education, labour force activity, housing, immigration, aboriginal status, language and family characteristics are mapped at the census subdivision (CSD) level, and within census metropolitan areas (CMAs), at the census tract (CT) level, for the Hamilton Niagara Haldimand Brant LHIN. These data are presented as a series of 13 maps.

As well, we attempt to consolidate data for a range of SES indicators into a single summary measure (the Index of Relative Socio-Economic Disadvantage) that can be used to examine geographic variation in socio-economic status across Hamilton Niagara Haldimand Brant, building on work previously done in other jurisdictions.[7,9,13,14,15] This measure summarizes variables related to the economic and social characteristics of families and households as well as individual characteristics such as educational attainment. Creating a weighted summary measure is an important step in estimating socio-economic disadvantage in Ontario, as different groups have different probabilities of suffering from deprivation and poverty. As a result, deprivation measures that give equal weight to all component variables are likely to yield less precise results. The methodology for the construction of the index is outlined in detail. Figure 1 provides a visual summary of the entire project, showing the steps involved in creating the index.

**Figure 1: Project Concept and Process**

# From Concept to Cartography

Project at a Glance

## 1 Define Socio-Economic Status

**HSIP Literature Review:**
Socioeconomic Status and Health

## 2 Identify Dimensions of SES Three Broad Domains:

- Economic
- Demographic
- Social

## 3 Determine Census Variables for Analysis

Refining of variable list based on:
- Availability of data
- Theoretical involvement with SES
- Capturing deprivation rather than advantage

Age 65 or older
Lack of home ownership
Female lone parent families
Lack of knowledge of official languages
Recent immigrants
Visible minorities
Aboriginal population
Unemployment
Youth unemployment
Lack of high school education
Government transfer payments
Incidence of economic family low income
Lack of housing affordability

## 4 Conversion to Percentages and Univariate Exploratory Data Analysis

Selection of appropriate denominators
Histograms, descriptive statistics

## 5 Composite Socioeconomic Indicator

Variable Selection for separate **CSD** and **CT** analyses

Removal of highly correlated variables

Transformations for normality

**Principal Components Analysis (PCA)** Initial Run

Removal of variables with low correlation to first component of PCA (< 0.30)

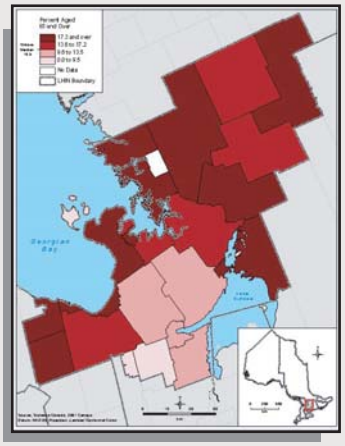
**CSD Variable List**
Age 65+, lack of home ownership; female lone parent families; aboriginals; unemployment; youth unemployment; non-participation rate; non-high school graduation; government transfers; economic family low income; housing affordability

**CT Variable List**
Age 65+, lack of home ownership; female lone parent families; male lone parent families; recent immigrants; visible minorities; unemployment; non-participation rate;

**Principal Components Analysis (PCA)** Second Run

Derive scores for first component of PCA

## Cartography



## Supplementary Documents:

**HSIP Research Note**
Principal Components Analysis: Methods and Data Considerations

**HSIP Literature Review**
Socioeconomic Status and Health

# Elements of Socio-Economic Status

In the past decade research on the social determinants of health has reinforced the notion that factors associated with health status may not be adequately captured by an analysis of individuals alone.[5,10,12] In fact, aggregate measures of health status and the social determinants of health form one of the basic tools of population health research.[10] Other studies have found that because there are a number of variables which contribute to any particular dimension of socio-economic status, it is often a combination of variables that best reflects the status of a population.[5,7,14,16] From a planning perspective, the socio-economic characteristics of a population are important not only to gain knowledge about local populations but also because they may be markers of potential health risk, and may help explain existing patterns of health care use.

One of the main challenges when examining the socio-economic dimension is determining which set of indicators is relevant. Traditionally, income, education, employment, housing and family characteristics are the most common measures of socio-economic status.[17] As mentioned earlier, population health researchers have also begun to include information on immigration, labour force participation, language and ethnicity when examining the socio-economic status of an area. We reviewed a number of articles and reports that effectively used both traditional and non-traditional measures of socio-economic status, and created a list of variables with established links to socio-economic status at the regional and community level. Variables were chosen based on their plausible connection to health and the availability of relevant data at both the CSD and CT levels. These variables, representing labour and income, education, demographic and family characteristics, were also chosen to reflect deprivation rather than socio-economic advantage.

## Income

Income is perhaps the most commonly used measure of SES. Lower income, both relative and absolute, has been found to consistently result in lower health outcomes whether the measure is morbidity or mortality.[18] While average or median income in a region may be a good indicator of relative advantage, it does not capture deprivation directly. A measurement of the percentage of the population below the *low income cut-off (LICO)* not only captures deprivation but is also designed to control for family size and urban/rural residence. This is a consistently-used measure of relative deprivation. A second measure that also captures economic deprivation in this report is the proportion of total income derived from *government transfers*. Since these government transfers may take the form of guaranteed income supplements and old age security, some of the variable's distribution will be confounded with age and aboriginal status.

## Labour Force

Employment status is associated with SES, and those who are unemployed tend to have lower incomes. According to Health Canada, paid work provides not only money, but also a sense of identity and purpose and social contacts.[17] *Unemployment rates* are used in this report as an indicator of SES. *Participation rates*, which measure the proportion of the population over age 15 in the labour force, are also used to capture these characteristics.

## Education

Education is a core marker of SES. Although highly correlated with income and age, education also encompasses other health-related dimensions. Beyond resource deprivation, lower education may be associated with having an occupation where there are more risks of occupational injury/exposure and learned risk behaviours.[18] Knowledge of risk factors, the health care system, and the ability to navigate it may also link higher education to better health outcomes. Some research has suggested that the education effect is not continuous on years of education. Instead, it may have distinct and separate breaks for those who did not complete high school, high school but no post-secondary degree, and a college degree, with individual health status increasing at each level.[18] In this report, our focus is on the percentage of the *population without a completed high school education*.

## Demography

The age structure of a population – in particular the proportion of older residents – is an important element of a region's SES because of its relationship to income and health status.[19] In this report we use the percent of the *population age 65 years and over* as an indicator. Firstly, post-retirement incomes are substantially lower than working-age incomes, although the introduction of income support programs has evened out the income distribution among elders.[20] Secondly, from a planning perspective, the proportion of older Canadians is an indicator of potential health care needs in an area.

Family composition, in terms of *lone parenthood*, may also impact health status. On its own, single-mother family status is a significant predictor of aggregated psychiatric problems, controlling for income, gender, family size, education and personal psychosocial characteristics of the parent.[21] Because female-headed lone parent families have substantially lower income than male lone parent families, each was included separately rather than combining genders into a single lone parent category.

*Aboriginal status* is also a marker of SES.[22] Aboriginal Canadians face substantially greater health inequalities relative to the rest of the Canadian population, including lower life expectancy and higher rates of a wide range of illnesses.[23] Within Canada's cities, the low income rate in 2000 for Aboriginals is 42% compared to 17% among other Canadians.[24]

There are also a number of variables related to *immigration status*. While being an immigrant itself is not related to SES, time since immigration is, with more recent arrivals having substantially lower income than non-immigrants, and higher rates of unemployment.[25] Given the substantial changes in the source of immigrants to Canada in the past 30 years, there is an association between visible minority status and recent immigration. Although *visible minorities* are not more likely to have short periods of low income relative to the rest of the population, there has been an increased risk of long-term, persistent low income among visible minority adults. [25]

Not speaking an *official language* is also related to SES. Over recent decades, immigrants have increasingly come from countries where English and French are not official languages, with the result that the lack of knowledge of official languages is related to recent immigrant status and to lower income.[26] These characteristics have, however, a distinct geography that introduces an element of bias when using these variables. Immigrants to Canada tend to reside on arrival in urban areas, and the proportion doing so during the 1990s increased substantially. By 2001, 94% of individuals who arrived in Canada during the previous ten years resided in a CMA.[25]

## Housing

*Home ownership rates* are direct markers of socio-economic status and also have substantial geographic implications. Ownership is linked to mobility and population stability, with home owners far less likely to undertake intra-or-inter-community moves compared to renters.[27] In urban areas, the differentiation between rental and owned housing results in population sorting and consequent income segregation. Above and beyond its status as a marker of material success, home ownership may also reflect other elements of well-being that may potentially impact health. [28]

The HSIP document, *'Socio-economic Indicators and their Relationship to Health'* provides a more expansive discussion on the dimensions and definitions of SES, as well as an extensive review of the variable domains described here. Further discussion is provided on aggregate measures of SES and the construction of indicators relating to multiple dimensions of SES.[2]

# Methods

## Data Collection and Indicator Calculation

The indicators used in this report are based on census data from Statistics Canada's 2001 Census of Canada. The population data are based on the 100% sample file, while data for income, housing, employment, and individual and household characteristics are based on the 20% sample file.[29] As described in the Literature Review section, variables with known and established links to socio-economic status were considered for inclusion. Variables were only selected if data were available at both the census tract and census subdivision level for all of Ontario. The initial list of socio-economic indicators included variables relating to income, employment, immigration, education, housing, family and households, language and aboriginal status. The accompanying HSIP document, *'SES Indicators: Data Notes'* provides detailed explanation on how each indicator is defined and calculated. This document describes the significance of each variable as it relates to SES and includes notes on data quality and limitations.

## Index of Relative Socio-Economic Disadvantage

Although individual aspects of socio-economic status (SES) are often highly related, their patterns are not necessarily similar; this is why a composite indicator can often show a more complete picture of socio-economic status across a region. In this report, the Index of Relative Socio-Economic Disadvantage was constructed using census data as a means of summarizing multiple indicators of SES. In other research, a number of different methods have been used to create similar indicators. One approach is to standardize variables and then add the data for each spatial unit to construct an additive index.[30,31] However, this approach assumes that each variable has the same 'worth' in the composite indicator. An alternative approach is to derive weights from the data themselves, either through multiple regression[30] or through Principal Components Analysis (PCA).[32,33,34,35] In this report, SES across Ontario is summarized through the use of PCA.

## Principal Component Analysis

PCA is a multivariate technique that is used to summarize a large number of quantitative variables (such as income, employment and housing), that are related to a measure of interest (in this case, socio-economic status). The PCA approach attempts to determine which combination of variable weights best explains the variation in the total dataset, which includes information on all variables in the dataset. By conducting PCA on a group of variables related to socio-economic status, a summary measure relating to socio-economic disadvantage can be created. PCA produces results based on the variables that were considered for the index and specifies the contribution (or weight) of each original variable to the summary measure. These summary measures are derived from the components, or groupings of weighted variables.

The loadings, or weights, reflect the relative contribution of each variable, as well as the direction of the variable's influence in the original dataset. The weights can be applied to the individual cases (census tracts or census subdivisions are used here) to calculate component scores that can then be used for further analysis or, as in this instance, displayed as thematic maps. In this report, only the first component score, which explains the largest proportion of variance in the dataset, was mapped. These scores are not interpreted as a strict, validated index of SES or potential health risk but rather as a means of exploring the distribution of multiple factors associated with SES. PCA analyses were run for CSDs and CTs in the province separately because of substantial differences in the nature of SES at these scales. Since the weights are derived from the data, composite indicators produced in this way provide a better summary of the distribution of socio-economic status at the time of the census.

## Limitations

Although the maps in this project are useful for examining the distribution of socio-economic status across the LHIN, there are limitations that need to be acknowledged. Firstly, all data are from 2001. While many social conditions are unlikely to drastically

change in the interim, some dimensions, such as unemployment, are more cyclical and may not reflect current conditions. Secondly, the classification scheme used in each map are based on data across the entire province, resulting in maps that for some variables may look relatively 'flat' because the data for the CSDs in a particular LHIN may cluster in one area of the distribution. Thirdly, the percentage of the population below the low income cut-off strongly influences the composite indicator of socio-economic status. Because LICOs are higher in areas with larger populations, the composite indicator, when mapped, shows a bias towards greater values in urban rather than rural areas. Fourthly, in the comments attached to each map we do not statistically test the difference between the LHIN or CSD and the provincial value of each indicator.

## Future Steps

1. This report examines a variety of socio-economic characteristics of residents of Ontario that may be related to differences in health status. The Index of Relative Socio-Economic Disadvantage is constructed to reflect potential relationships between socio-economic status of a population and both its health status and utilization of health services. Further analysis will be necessary to validate this PCA model against such outcomes as crude mortality rates, hospital separations, and other related measures of a population's health status.

2. The maps in this report provide a broad overview of socio-economic status in this LHIN. Further research at finer scales on the spatial and temporal dynamics of socio-economic status and their relationships to health, may be an important future direction.

# Local health integration network reference map

# Population density in Ontario

# Census subdivisions in the Hamilton Niagara Haldimand Brant LHIN

LHIN Boundary
Census Subdivision
Major Highway

CENTRAL WEST LHIN
MISSISSAUGA HALTON LHIN
WATERLOO WELLINGTON LHIN
SOUTH WEST LHIN

HAMILTON NIAGARA HALDIMAND BRANT LHIN

A
Burlington
Hamilton
Grimsby
Lincoln
Brantford
Brant
Six Nations
New Credit
Haldimand
Norfolk
West Lincoln
Wainfleet
Port Colborne
Fort Erie
B
St. Catharines
Niagara-on-the-Lake
Thorold
Pelham
Niagara Falls
Welland

Lake Ontario
Lake Erie
401

0 10 20 30
km

Source: 2001 Census, Statistics Canada.

Hamilton and Burlington Census Subdivisions by Census Tract

A

0 2.5 5 7.5
km

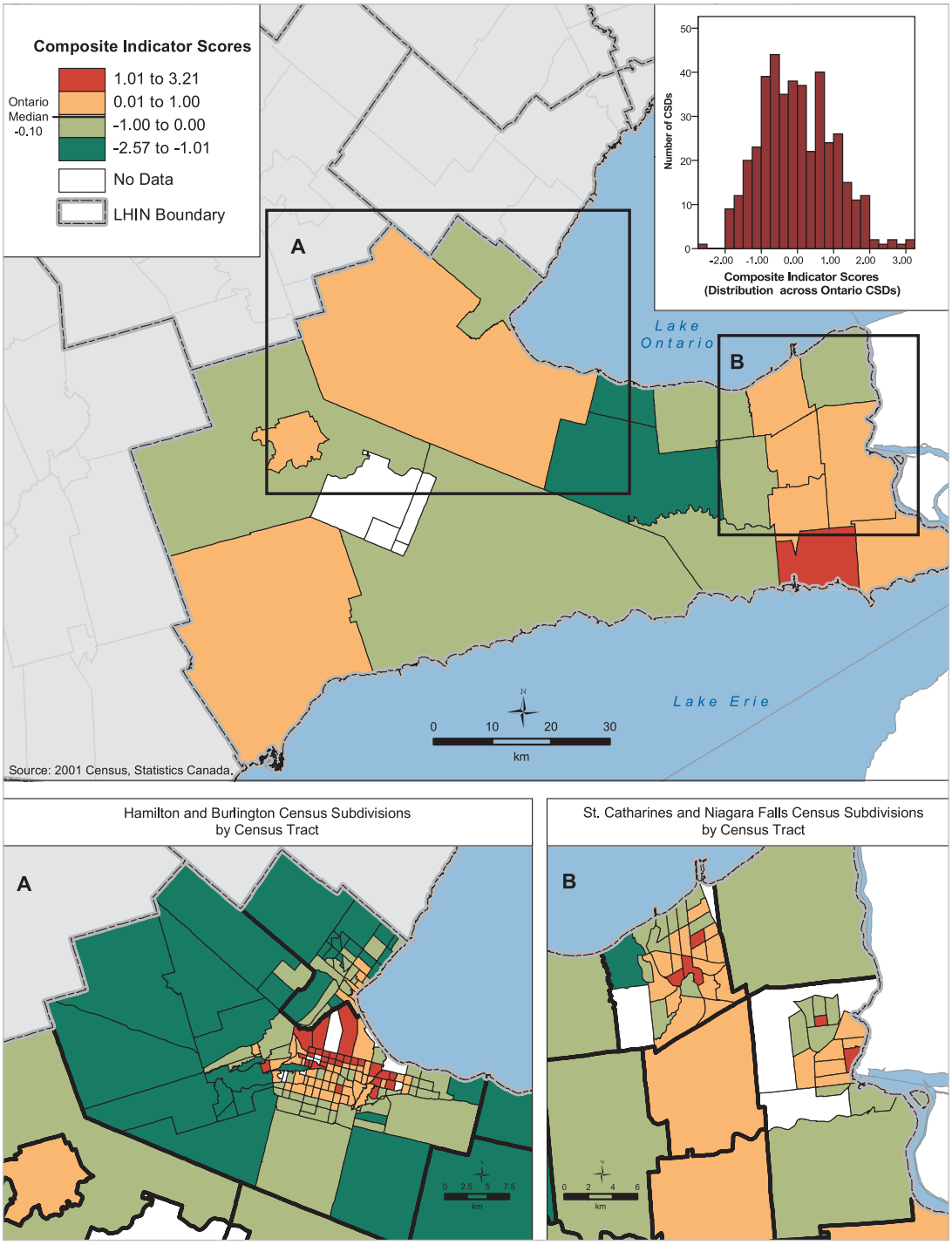
Census Subdivision
Census Tract

St. Catharines and Niagara Falls Census Subdivisions by Census Tract

B

0 2 4 6
km

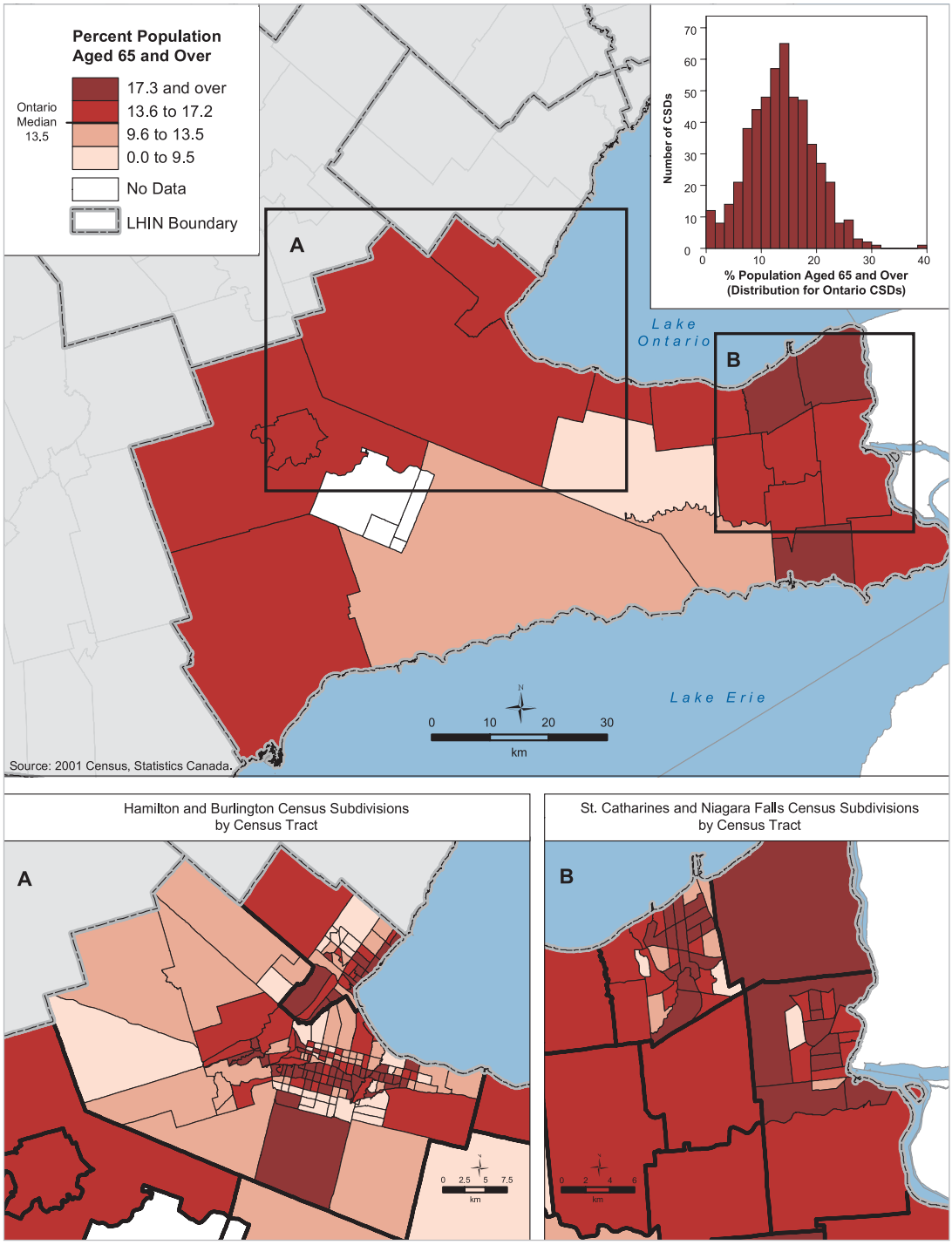
# Index of relative socio-economic disadvantage




**Relative to the province as a whole, census subdivisions in the Hamilton Niagara Haldimand Brant LHIN have a slightly lower index score (-0.11 compared to 0), indicating lower levels of relative socio-economic disadvantage on average. The highest values of this indicator are found in Port Colborne (1.06) and Welland (0.76), both found in the eastern part of the LHIN.**

NOTES: This composite score combines many of the indicators included in the body of the atlas, providing a general picture of SES. For more detail on creating the Index of Relative Socio-Economic Disadvantage, please see 'HSIP Research Note: Principal Components Analysis: Methods and Data Considerations'.[3]

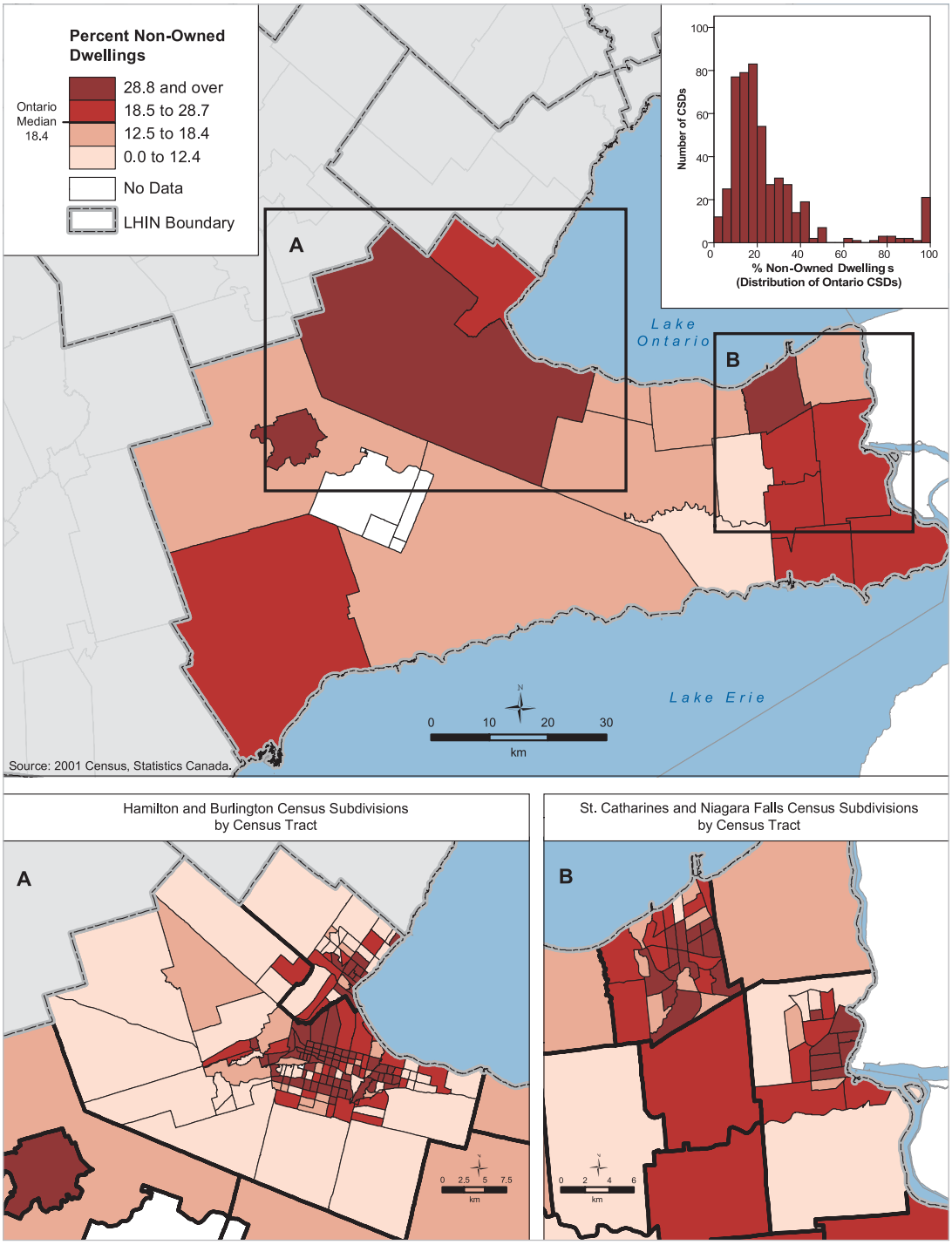
# Percent population aged 65 and older




**The percent of the population in the Hamilton Niagara Haldimand Brant LHIN that is 65 years of age and older is higher than the province as a whole (15.2% and 12.9% age 65 years and over, respectively). Higher percentages of seniors are found in Niagara-on-the-Lake (22.6%) and in Port Colborne (20.7%). West Lincoln CSD has the lowest percentage of seniors (9.1%).**

NOTES: For more detail on this, and other indicators, please see the HSIP document, 'SES Indicators: Data Notes'.[36]

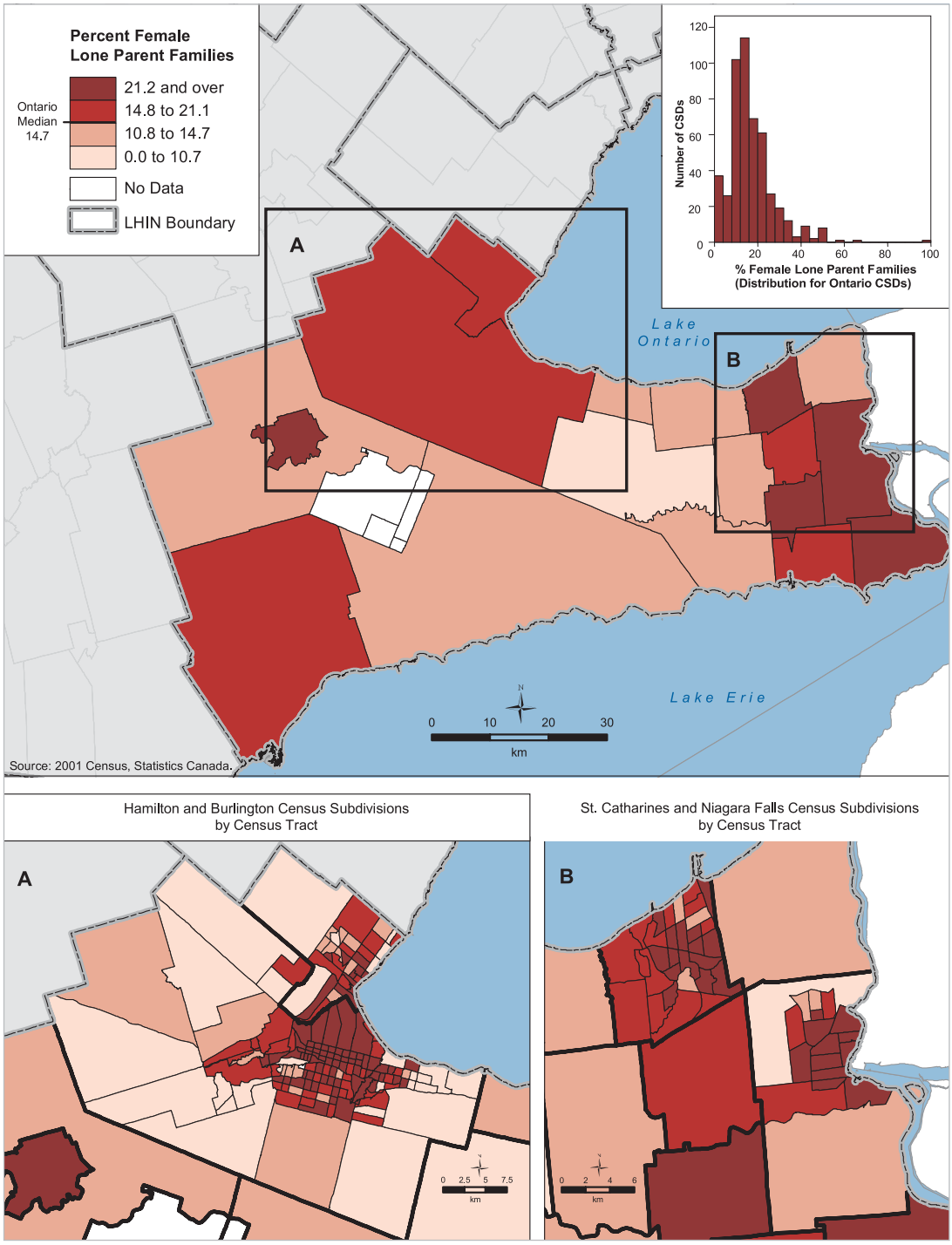
# Percent of non-owned dwellings




**Non-ownership rates for dwellings in the Hamilton Niagara Haldimand Brant LHIN (28.9%) are lower than for the province as a whole (32.2%). The highest rates of non-ownership in this LHIN are found in the Hamilton (34.8%), Brantford (33.2%) and St. Catharines (31.7%) CSDs. The lowest rates of non-ownership are found in the Wainfleet (9.6%) and Pelham (10.9%) CSDs.**

NOTES: Non-ownership rates may be affected by age structure, marital status, and the availability of rental accommodation.

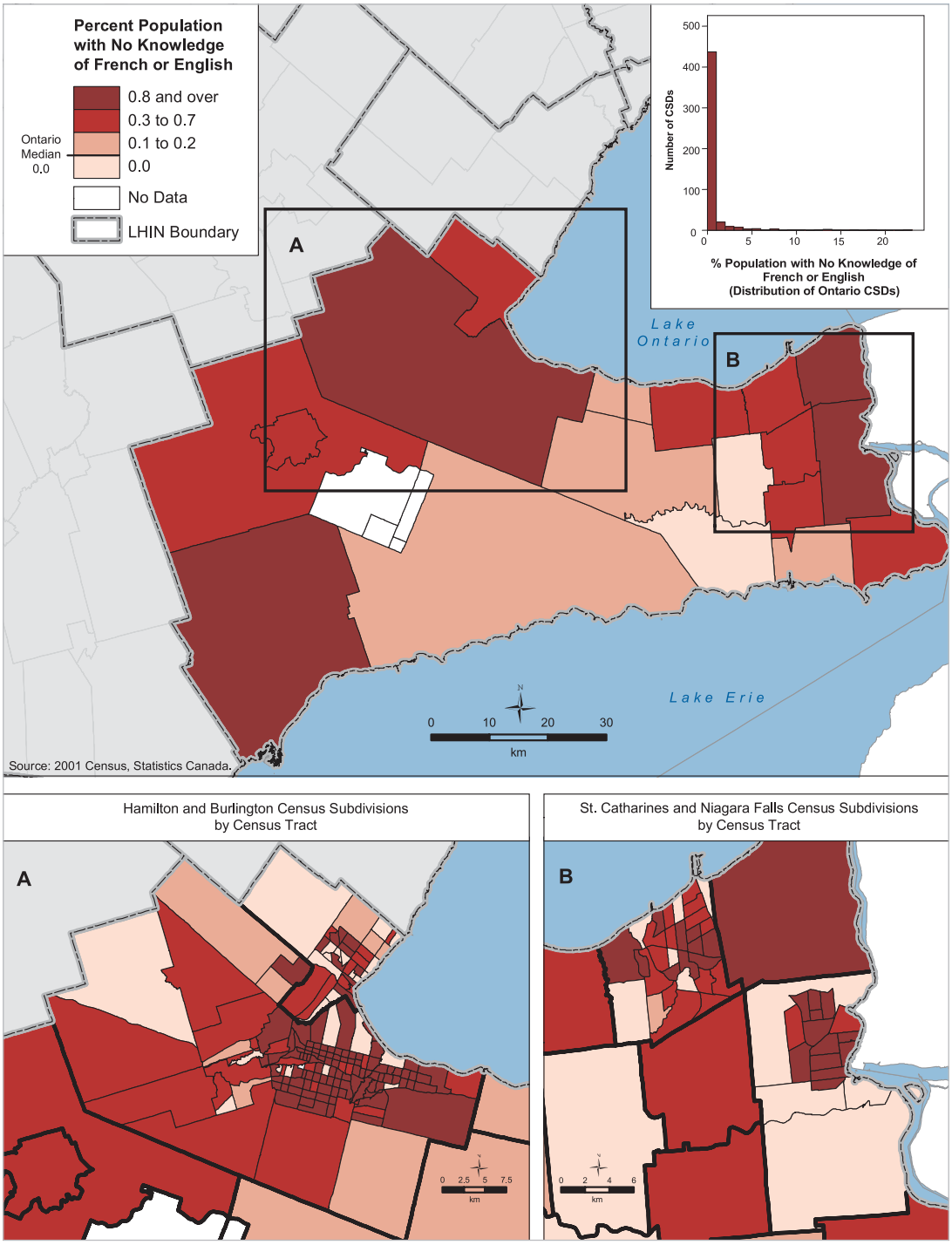
# Percent female lone parent families




**The percentage of female lone parent families in the Hamilton Niagara Haldimand Brant LHIN (19.8%) is similar to the province as a whole (19.3%). Higher rates of female lone parenthood are evident in the Welland, Niagara Falls and Fort Erie CSDs, where close to one quarter of all families with children are headed by a female lone parent. The lowest rate of female lone parenthood is found in West Lincoln (9.2%).**

NOTES: Dependency relationships in lone parent families may be affected by age structure, where adult children may be cohabitating with elderly parents.

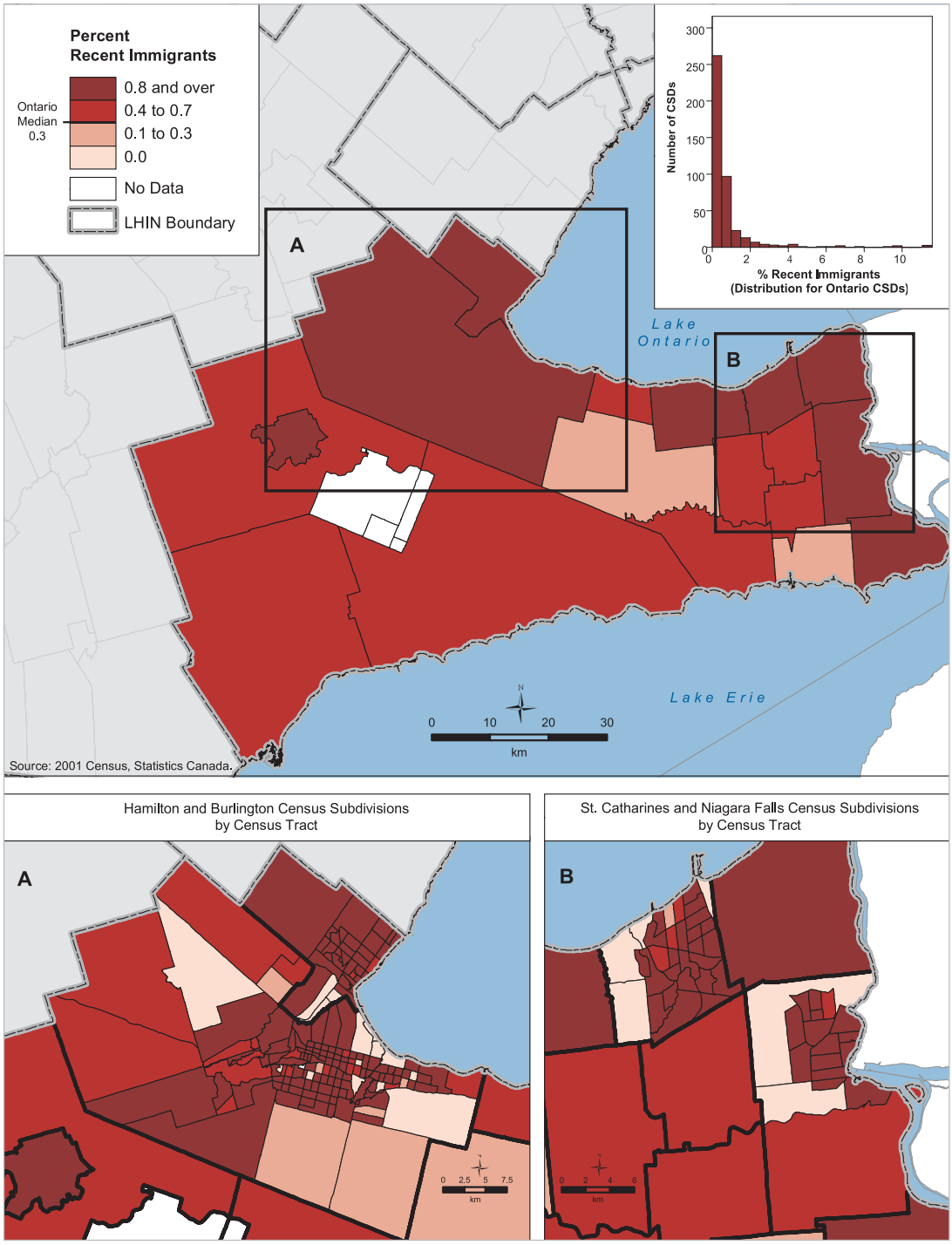
# Percent population with no knowledge of English or French




**The percentage of people in the Hamilton Niagara Haldimand Brant LHIN with no knowledge of English or French (1.0%) is considerably less than in Ontario (2.1%). Within this LHIN the highest rates are found in the Hamilton CSD (1.8%), while the lowest rates are in Wainfleet and Pelham (0%). Across the province, most CSDs have a very low percentage of the population with no knowledge of official languages: only 11% of CSDs have more than 1% of the population who speak neither English nor French.**

NOTES: Persons who cannot speak English or French may have different demographic, social, economic and health characteristics. Access to health services from initial consultations to emergency care is likely quite different among populations without knowledge of official languages.

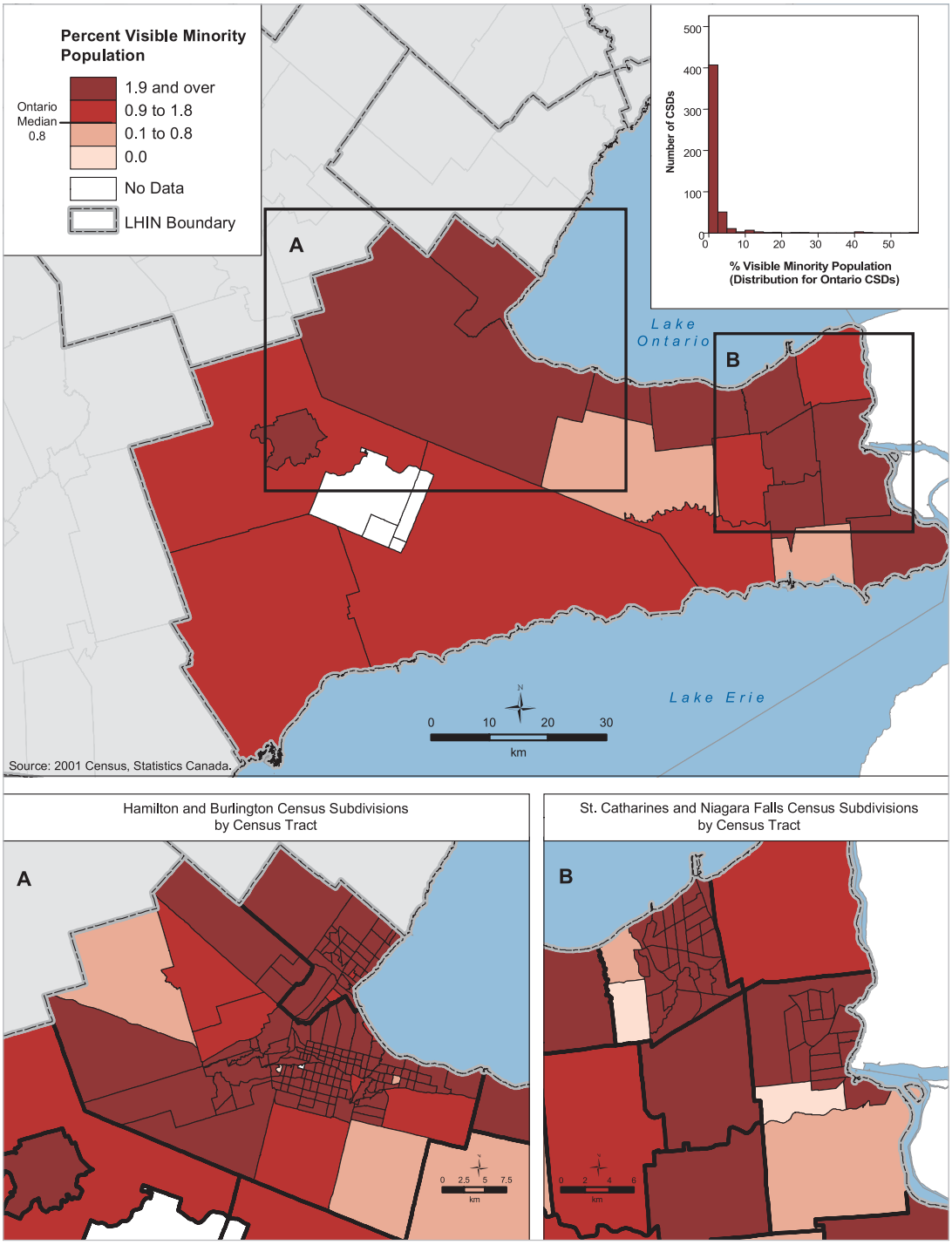
# Percent population who are recent (five-year) immigrants




**Most CSDs in Ontario have a very low percentage of recent immigrants; only 11% of CSDs have percentages greater than 1%. Overall, the percentage of recent immigrants in the Hamilton Niagara Haldimand Brant LHIN is 2.1%, considerably less than the province as a whole (4.8%). The highest concentrations of recent immigrants in this LHIN are found in the more urban centers of Hamilton (3.3%), St. Catharines (2.1%) and Niagara Falls (2.0%).**

NOTES: Recent immigrants have different health experiences from the general population in that their health is usually better, and access to health care services may be compromised. This indicator does not include non-landed immigrants, refugees, foreign students, or individuals on work or Minister's permits.

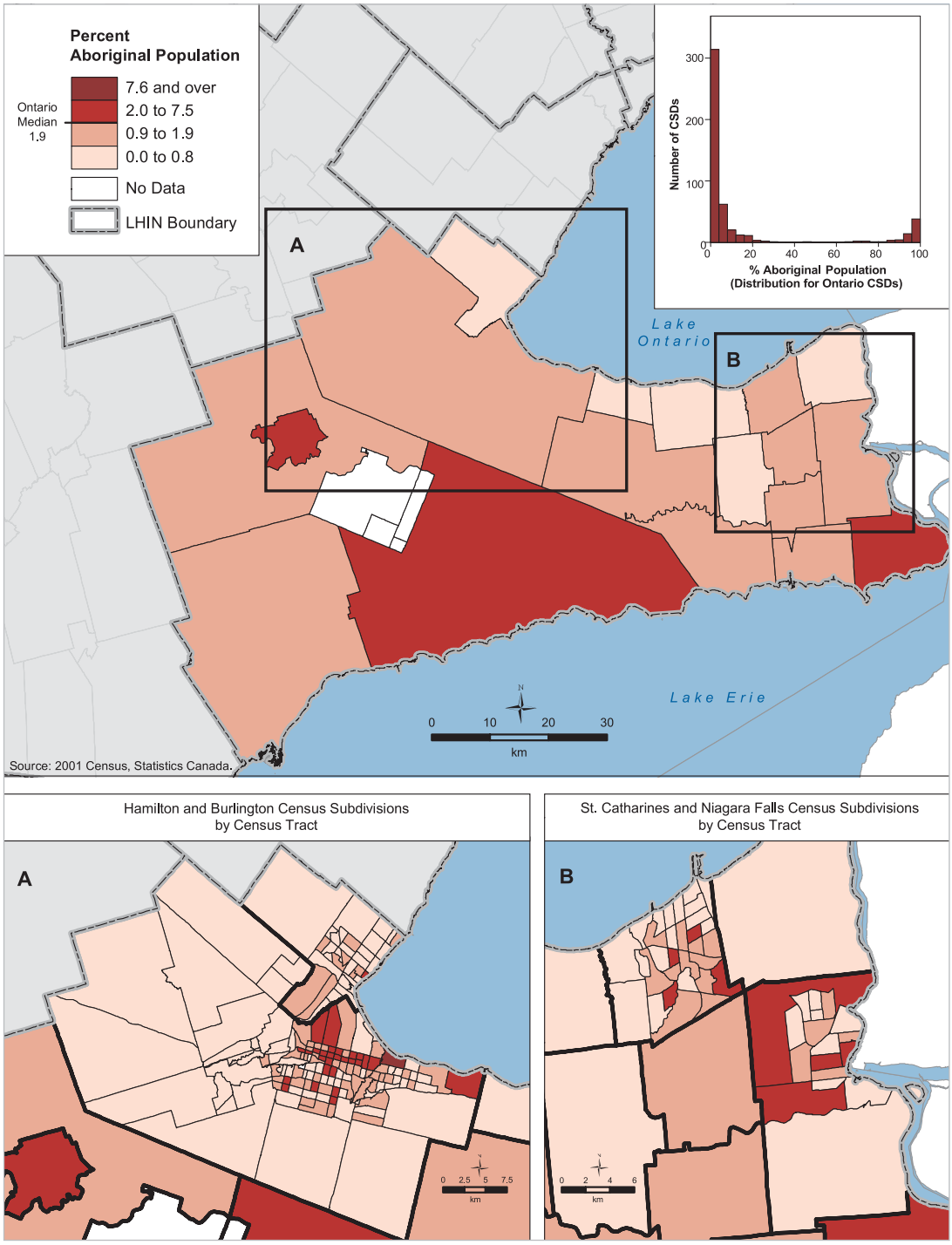
# Percent visible minority population




**The percent of the population in the Hamilton Niagara Haldimand Brant LHIN who are visible minorities is 7.0%, which is considerably lower than for the province overall (19.1%). The highest percentages of visible minorities are found in the Hamilton (10.9%) and Burlington (7.5%) CSDs. Within the Hamilton CSD, over a third of CTs have a percentage of visible minorities greater than 10%.**

NOTES: Across Ontario CSDs the proportion of the population who are visible minorities is quite small. Concentrations tend to be higher in urban areas. Fewer than 10% of Ontario CSDs have percentages of visible minorities exceeding 5%.

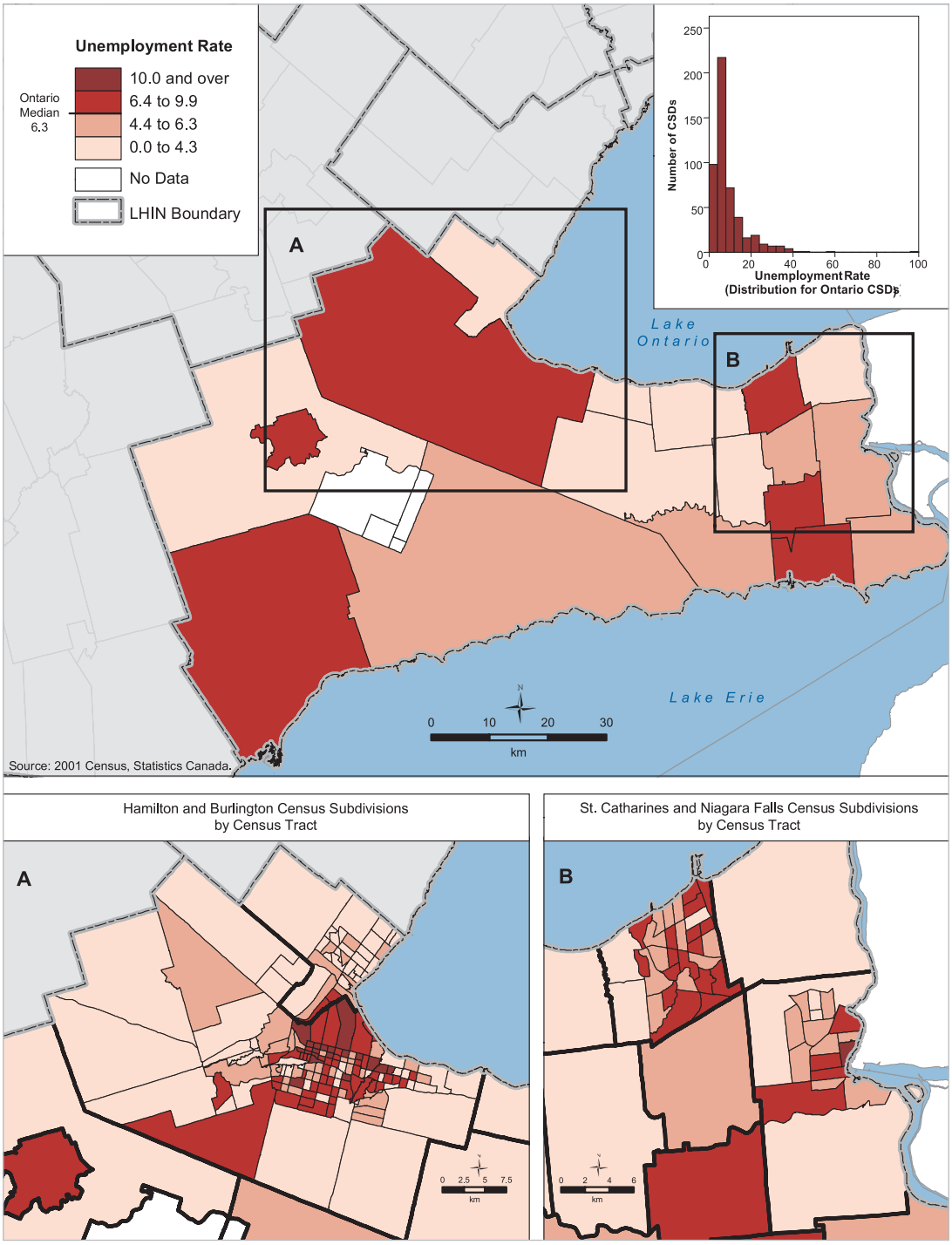
# Percent aboriginal population




**The percentage of Aboriginals in the Hamilton Niagara Haldimand Brant LHIN is lower than in the province overall (1.4% versus 1.7%). The highest percentage of Aboriginal population is found in Fort Erie (3.2%), while in Pelham, Niagara-on-the-Lake, Grimsby, Lincoln and Burlington, less than 1% of the population is of Aboriginal identity. Two First Nations reserves, Six Nations and New Credit, are also in the Hamilton Niagara Haldimand Brant LHIN and likely represent substantial Aboriginal populations, but Census data for these CSDs are not available because of incomplete enumeration.**

NOTES: Health status characteristics and non-medical health determinants of Aboriginal people differ from the non-Aboriginal population, for example, infant mortality, unintentional injury deaths, suicides and smoking rates. Data at the CSD level are particularly susceptible to incomplete enumeration on First Nations reserves.

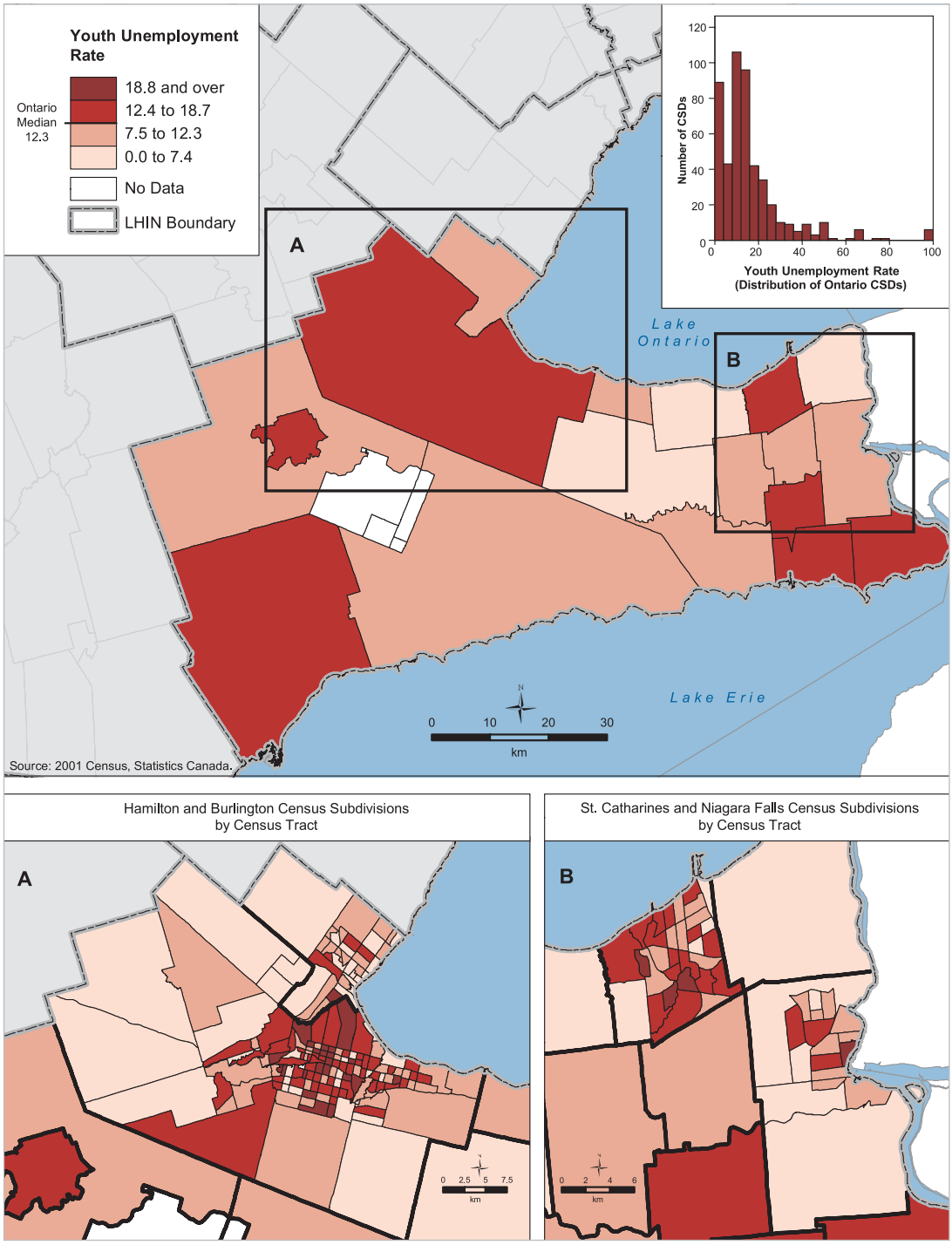
# Unemployment rate




**The overall unemployment rate in the Hamilton Niagara Haldimand Brant LHIN (5.8%) is slightly lower than the rate for Ontario (6.1%). The highest rates of unemployment in this LHIN are found in Welland (6.8%) and Brantford (6.8%). Several Hamilton Niagara Haldimand Brant CSDs have unemployment rates of less than 4%, including Niagara-on-the-Lake (2.7%), West Lincoln (3.4%), Lincoln (3.7%) and Burlington (3.8%).**

NOTES: Unemployment indicates socially disadvantaged status and is associated with difficult living conditions, low socio-economic status, and health and social problems. Unemployment rates are more volatile than many other census indicators and may not reflect current conditions as this indicator uses 2001 census data. Unemployment rates do not capture duration of unemployment.

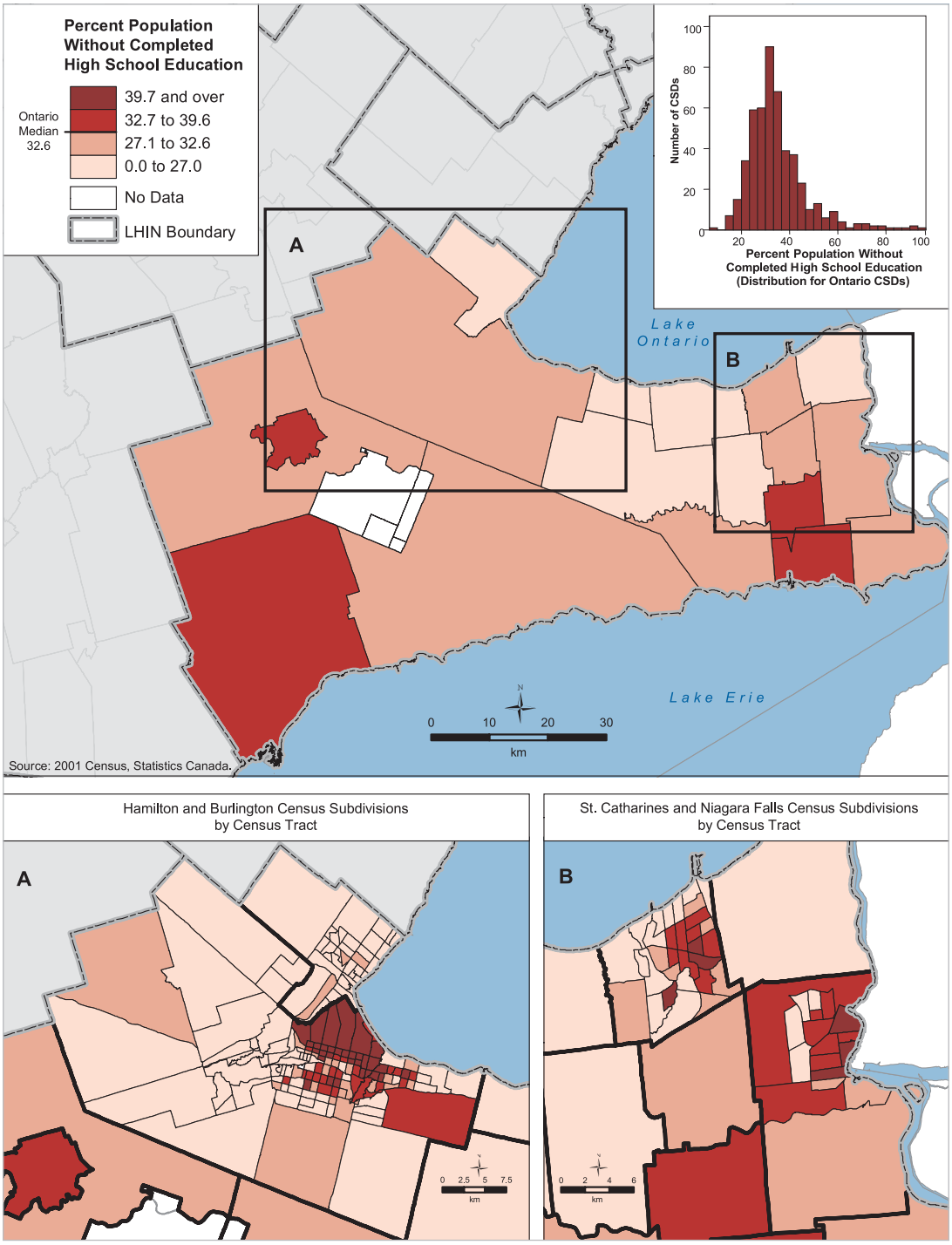
# Youth (age 15-24) unemployment rate




**The rate of youth (age 15-24) unemployment in the Hamilton Niagara Haldimand Brant LHIN (12.2%) is slightly lower than for the province as a whole (12.9%). The highest rates of youth unemployment in this LHIN are in the Brantford (15.2%) and St. Catharines (14.2%) CSDs. Considerably lower rates of youth unemployment are found in Niagara-on-the-Lake (4.0%) and West Lincoln (5.8%).**

NOTES: Youth unemployment is an issue for the government, policy makers and planners, as it is a potential marker of future SES.

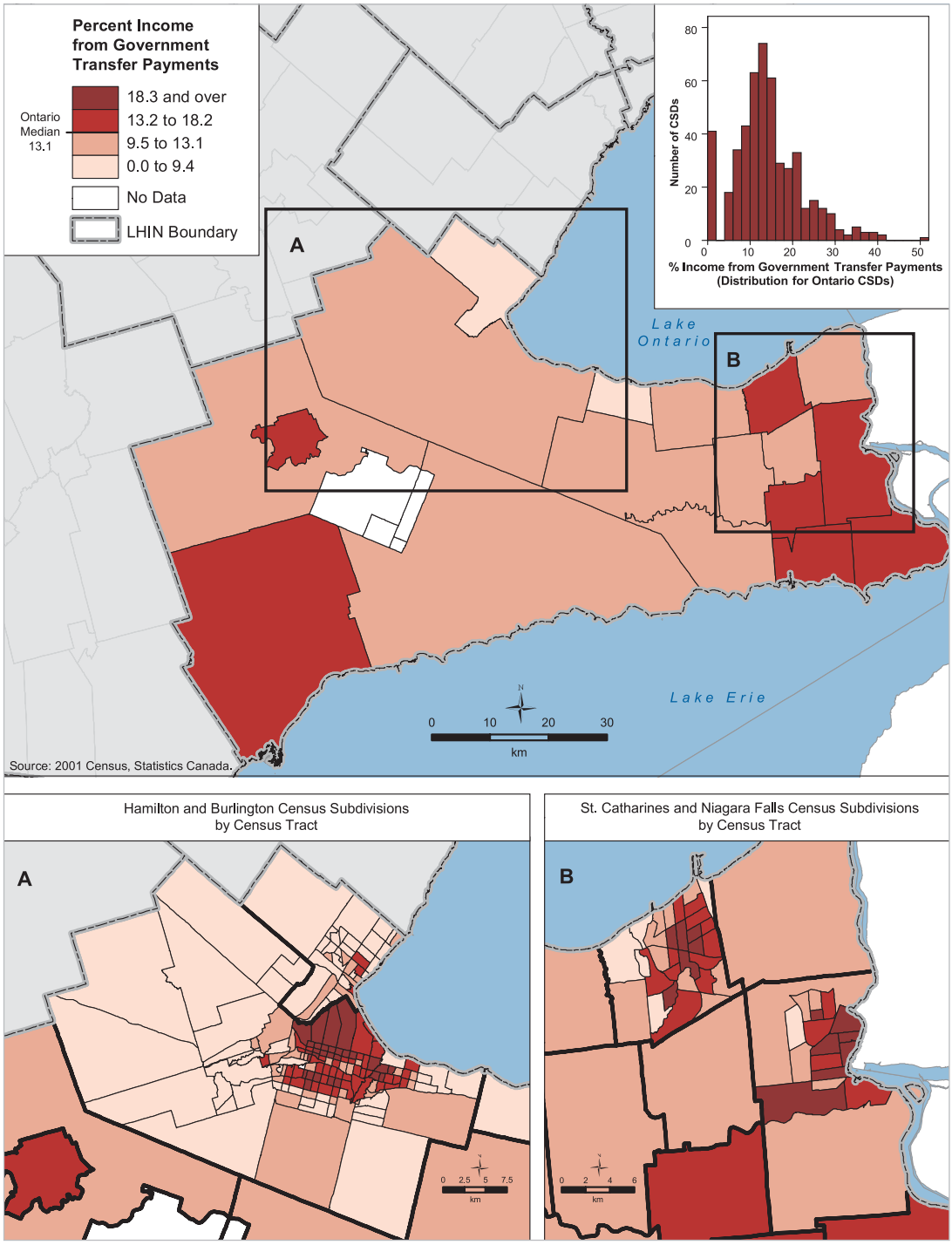
# Percent population without completed high school education




**The percentage of the population without completed high school education in the Hamilton Niagara Haldimand Brant LHIN (28.8%) is higher than in Ontario (25.7%). Higher percentages of the population without completed high school are found in some Hamilton Niagara Haldimand Brant CSDs, notably Norfolk (37.4%) and Port Colborne (36.3%). Within the Hamilton CSD, some CT-level neighbourhoods have more than 50% of the population without a completed high school education. The lowest percentages are found in Burlington (17.7%) and Pelham (18.8%).**

NOTES: This variable may be affected by age structure, with older populations likely to have higher percentages without completed high school education. Percent of the population who did not graduate from high school is a measure of educational attainment, which relates to socio-economic status.

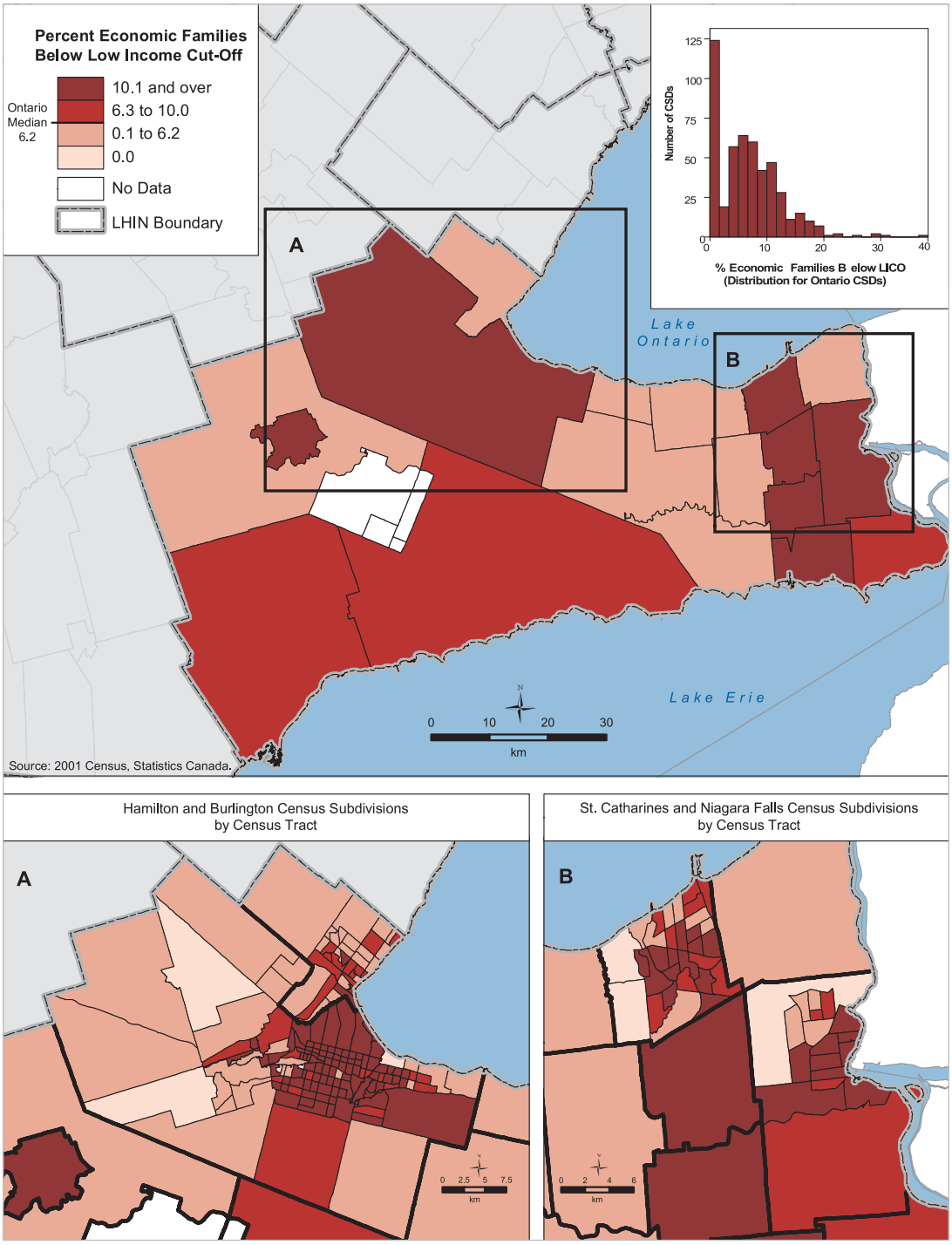
# Percent income from government transfer payments




**The average percent of income derived from government transfer payments across CSDs in the Hamilton Niagara Haldimand Brant LHIN is 11.7%. This is higher than for the province overall (9.8%). The highest percent income from government transfer payments is found in Port Colborne (17.5%), while the lowest is in Burlington (7.1%).**

NOTES: High proportions of income derived from government transfers may be a sign of lower socio-economic status, since the majority of these transfers are income supplements.

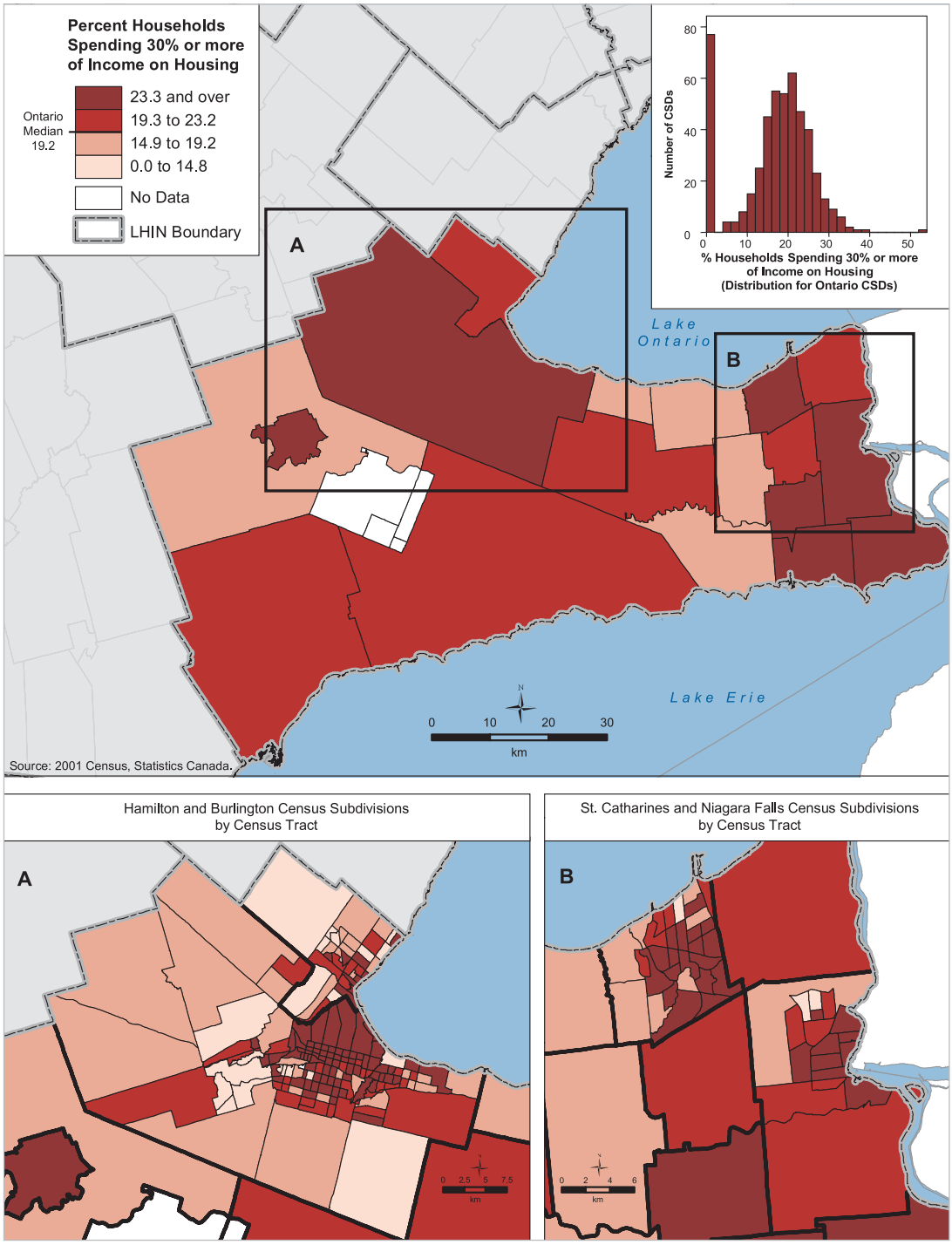
# Percent economic families below low income cut-off




**The percent of economic families below the Low Income Cut-Off (LICO) in the Hamilton Niagara Haldimand Brant LHIN (11.5%) is similar to Ontario overall (11.7%). The highest percentage of low income in this LHIN is found in the Hamilton (16.1%) CSD, while the lowest percentage is in Niagara-on-the-Lake (3.0%). Within the Hamilton CSD, over a third of CTs have a high percentage (greater than 15%) of economic families living in low income.**

NOTES: These averages were not weighted by population size. LICO is a widely used measure of socio-economic status. Low income is associated with low-skilled jobs, high unemployment rates, unfavourable lifestyle and living conditions, and a greater prevalence of disability and health problems.

# Percent households spending 30% or more of income on housing




**The percentage of households spending 30% or more of their income on housing in the Hamilton Niagara Haldimand Brant LHIN (24.3%) is similar to the province as a whole (25.2%). The highest percentages in this LHIN are found in Hamilton (26.8%), St. Catharines (26.1%) Niagara Falls (25.7%) and Brantford (25.5%). The lowest percentage is found in the Brant CSD, where 15.1% of households spend 30% of more of their income on housing.**

NOTES: Households spending over 30% on housing may have inadequate funds for other necessities including food, clothing, transportation, and health care. It should be noted that not all households spending 30% or more of incomes on shelter costs are necessarily experiencing housing affordability problems. Some households may choose to spend higher percentages of their income on housing.

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# Socio-Economic Indicator Data: Hamilton Niagara Haldimand Brant LHIN CSDs, 2001

| LHIN 4: Hamilton Niagara Haldimand Brant | Total Population, 2001 | % CSD population in LHIN 4 | % Population age 65+ | % Private dwellings not owned | % Female lone parent families | % Male lone parent families | % Knowledge neither English or French | % Recent immigrant population (1996-2001) | % Visible minority population | % Aboriginal identity population | Participation rate (age 15+) | Unemployment rate (age 15+) | Youth unemployment rate | % Population with less than high school | % Income Gov't transfer payments | % Economic family incidence of low income | % Shelter expenses > 30% (hhlds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ontario | 11,410,000 | | 12.9 | 32.2 | 19.3 | 4.1 | 2.1 | 4.8 | 19.1 | 1.7 | 67.3 | 6.1 | 12.9 | 25.7 | 9.8 | 11.7 | 25.2 |
| Hamilton Niagara Haldimand Brant LHIN | 1,261,900 | | 15.2 | 28.9 | 19.8 | 4.3 | 1.0 | 2.1 | 7.0 | 1.4 | 65.1 | 5.8 | 12.2 | 28.8 | 11.7 | 11.5 | 24.4 |
| Brant | 31,700 | 100 | 14.1 | 15.4 | 12.8 | 3.4 | 0.3 | 0.4 | 1.2 | 1.4 | 71.0 | 4.0 | 8.3 | 28.4 | 10.1 | 4.9 | 15.1 |
| Brantford | 86,400 | 100 | 14.6 | 33.2 | 22.5 | 5.3 | 0.7 | 1.0 | 5.3 | 2.9 | 65.6 | 6.8 | 15.2 | 33.6 | 13.4 | 12.2 | 25.5 |
| Burlington | 150,800 | 100 | 14.1 | 23.6 | 16.6 | 2.9 | 0.4 | 1.9 | 7.5 | 0.6 | 70.7 | 3.8 | 8.8 | 17.7 | 7.1 | 6.1 | 20.7 |
| Fort Erie | 28,100 | 100 | 17.2 | 23.5 | 23.5 | 4.0 | 0.3 | 1.7 | 4.0 | 3.2 | 62.0 | 6.2 | 12.7 | 31.7 | 15.3 | 9.8 | 24.5 |
| Grimsby | 21,300 | 100 | 14.2 | 15.8 | 14.5 | 3.5 | 0.1 | 0.7 | 2.0 | 0.5 | 70.7 | 4.2 | 9.3 | 20.5 | 7.6 | 5.1 | 18.4 |
| Haldimand | 43,700 | 100 | 12.9 | 15.7 | 13.5 | 3.6 | 0.2 | 0.5 | 1.2 | 2.2 | 68.7 | 4.6 | 10.2 | 30.4 | 11.4 | 6.3 | 19.3 |
| Hamilton | 490,300 | 100 | 14.3 | 34.8 | 21.0 | 4.4 | 1.8 | 3.3 | 10.9 | 1.3 | 63.7 | 6.4 | 13.5 | 30.1 | 12.1 | 16.1 | 26.8 |
| Lincoln | 20,600 | 100 | 15.9 | 16.4 | 11.7 | 4.4 | 0.3 | 1.0 | 2.7 | 0.8 | 67.9 | 3.7 | 7.4 | 23.7 | 10.4 | 3.9 | 18.8 |
| Niagara Falls | 78,800 | 100 | 17.0 | 28.7 | 23.5 | 5.0 | 1.1 | 2.0 | 5.5 | 1.1 | 64.4 | 6.0 | 10.4 | 32.2 | 14.4 | 10.8 | 25.7 |
| Niagara-on-the-Lake | 13,800 | 100 | 22.6 | 15.1 | 11.8 | 3.3 | 1.1 | 1.0 | 1.8 | 0.4 | 65.8 | 2.7 | 4.0 | 23.7 | 10.7 | 3.0 | 19.7 |
| Norfolk | 60,800 | 78.9 | 16.3 | 21.4 | 14.9 | 4.3 | 1.0 | 0.5 | 1.7 | 1.6 | 66.1 | 6.6 | 13.4 | 37.4 | 13.9 | 7.9 | 20.6 |
| Pelham | 15,300 | 100 | 15.2 | 10.9 | 11.9 | 3.5 | 0.0 | 0.6 | 1.8 | 0.3 | 65.2 | 4.1 | 11.7 | 18.8 | 9.5 | 4.2 | 15.5 |
| Port Colborne | 185,000 | 100 | 20.7 | 26.9 | 19.9 | 5.9 | 0.1 | 0.3 | 0.8 | 1.7 | 57.6 | 6.7 | 12.9 | 36.3 | 17.5 | 12.2 | 25.2 |
| St. Catharines | 129,200 | 100 | 18.0 | 31.7 | 22.9 | 4.7 | 0.7 | 2.1 | 6.6 | 1.2 | 62.2 | 6.5 | 14.2 | 29.5 | 13.8 | 11.2 | 26.1 |
| Thorold | 18,000 | 100 | 14.1 | 21.2 | 16.5 | 6.5 | 0.5 | 0.4 | 2.5 | 1.5 | 66.7 | 6.2 | 12.3 | 29.5 | 12.5 | 11.5 | 21.9 |
| Wainfleet | 6,300 | 100 | 12.9 | 9.6 | 12.1 | 0.9 | 0.0 | 0.6 | 1.8 | 1.1 | 67.8 | 4.6 | 10.4 | 28.3 | 10.7 | 3.5 | 17.9 |
| Welland | 48,400 | 100 | 16.9 | 28.0 | 24.5 | 4.2 | 0.5 | 0.5 | 2.8 | 1.8 | 61.6 | 6.8 | 13.5 | 34.2 | 15.3 | 10.9 | 24.8 |
| West Lincoln | 12,300 | 100 | 9.1 | 13.0 | 9.2 | 3.5 | 0.2 | 0.2 | 0.7 | 1.0 | 72.5 | 3.4 | 5.8 | 27.0 | 9.8 | 4.9 | 22.7 |

Data Source: 2001 Census of Canada

# Notes

Ontario