



Region of Waterloo
PUBLIC HEALTH

A horizontal strip of four diverse children's faces, including a girl with long brown hair, a boy with short black hair, a girl with short black hair, and a boy with short brown hair, all smiling.

Child Health Report Series

Child and Family Demographics

Technical Data Summary

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1.0 Technical Summary

Local public health units in Ontario are mandated to work on reducing the burden of preventable diseases of public health importance, including chronic disease.

One of the ways Region of Waterloo Public Health (ROWPH) fulfills this mandate is through regular population health status assessment and surveillance. By measuring, monitoring, and reporting on the status of a population's health, particularly for priority populations, public health programs and services can be tailored to meet local needs and then evaluated for their health impact.

This technical data summary is one chapter in a series of brief health status reports that examine a specific sub-population of interest: children. The Child and Family Demographics technical data summary provides information on socio-demographic factors that influence a child's health, including individual and household characteristics, language and immigration, level of household income, and parental education and employment. For this report, a child is defined as anyone below the age of 19 years.

The technical data summaries are intended for audiences interested in knowing more about the data and evidence presented. To compliment this technical summary, an accompanying public product is available that highlights key findings and provides information on activities undertaken by Region of Waterloo Public Health in response to trends identified in this report. The accompanying public product is available at: <http://chd.region.waterloo.on.ca>.

2.0 Data Sources, Notes and Limitations

2.1 Analysis Software

Data analysis and visualization for this report were completed using SAS version 9.3 and Microsoft Excel 2010.

2.2 Data Sources

Census

Household indicators on languages spoken in the home and family structure were obtained from the Canadian Census.

The Census is conducted every five years by Statistics Canada to provide a picture of population and dwelling counts, as well as information on demographic, social and economic characteristics of the population. Census data is collected from one member of each household on behalf of all household members. The most recent Census was conducted in 2011, and data are available at many geographic levels including census division (CD) and census subdivision (CSD).

The Census undercounts some groups, such as the homeless, young adults and Aboriginal people on reserves. Non-response errors can occur when members of the household are away during the census period or refuse to complete the form. The data is also subject to recall and social desirability bias, as well as errors due to proxy reporting. Comparisons between different censuses may also be affected by changes in question wording and in the definition of the population concerned.

Rounding and suppression of counts due to small sample sizes are done by Statistics Canada to maintain the confidentiality of respondents and reduce the possibility of identifying individuals. Therefore, data could not be combined across age groups or geographic areas, and results can only be presented for categories as they are defined in the census data tables.

IntelliHealth

IntelliHealth is a repository of health information that contains datasets within the Provincial Health Planning Database (PHPDB). It is maintained by the Ontario Ministry of Health and Long-Term Care (MOHLTC) and contains information on a variety of health topics at the individual level, including hospital services, community care, medical services, vital statistics and population estimates and projections.

Statistics Canada data and Ministry of Finance assumptions extracted from IntelliHealth were used to calculate population estimates and projections. The population estimates are based on

a single year of age and sex for Ontario's Subdivisions as of July 1 for each year. They are produced by the Demography Division of Statistics Canada, and are based on census counts adjusted for net under-coverage. The population estimates in this report may differ from those presented elsewhere due to differences in methodology.

Students attending school out of town but who return home when school is not in session are included on their parents' questionnaire, as part of the regular household. As a result, the student population in Waterloo Region may be under-represented.

Labour Force Survey

Data on unemployment rates were obtained from the Labour Force Survey (LFS).

The Labour Force Survey is a household survey carried out monthly by Statistics Canada among working-aged individuals (15 years of age and older) from approximately 53,000 Canadian households. It is conducted nationwide and provides a current picture of major labour market trends, such as shifts in employment across industrial sectors, hours worked, labour force participation and unemployment rates.

Excluded from the survey are persons living on reserves and other Aboriginal settlements in the provinces, full-time members of the Canadian Armed Forces and the institutionalized population. These groups together represent an exclusion of approximately two per cent of the population 15 years and older. Data may be subject to recall bias and errors from proxy reporting.

Data available from the LFS is rounded and cannot be combined across age categories or geographic areas.

National Household Survey (NHS)

Data on immigrant populations and dwelling type were obtained from the National Household Survey (NHS).

The NHS is a national, cross-sectional survey conducted by Statistics Canada that provides estimates of the demographic, social and economic characteristics of people residing in Canada. The survey was launched in 2011 to replace the Census. Data is collected at the national, provincial, regional, and health unit levels. The survey is conducted every 5 years.

The NHS target population includes all persons who typically reside in the provinces or territories and includes persons living on reserves and other Aboriginal settlements, permanent residents, and non-permanent residents (refugee claimants, holders of work or study permits, and their families living with them). Foreign residents are excluded in this survey, including representatives of a foreign government assigned to an embassy, members of the armed

forces of another country stationed in Canada and residents of another country visiting Canada temporarily.

NHS data are self-reported and may be subject to recall bias and social desirability bias and may result in an under or overestimate of the true prevalence in the population.

Self-reported measures are subject to such sources of bias as social desirability bias and recall bias. The 'Don't know', refused and not stated responses were removed from analysis when they represented less than five per cent of the sample. In removing these responses from the denominator, the assumption is that the missing values are random, which is not always the case.

The 'Townships' category combines responses from North Dumfries, Wellesley, Wilmot and Woolwich townships. Estimates provided at the municipal level may not be representative of the given population as the NHS sampling frame was not designed for analysis below the health region level.

Taxfiler

Data on median after-tax income and low income households were obtained using Statistics Canada's Annual Estimates for Census Families and Individuals (or Taxfiler data) accessed through the Community Data Program.

This data is generated from income tax returns and provides information on income and some demographic indicators (age and family type) for residents across Canada, including Waterloo Region. Taxfiler data offers income-related information down to the Census Tract (CT) and rural six-digit postal code level. This information is generated from individual tax files from the Canada Revenue Agency, and published on a yearly basis.

The Taxfiler data set consists of administrative data that is generated by matching personal income tax records with other records, such as the Canada Child Tax Benefit, SIN, addresses and birth files. The data is then aggregated into population profiles for families and people not in families. Statistics Canada follows strict confidentiality procedures to develop the data and no personal information or identifiers are provided. It is a reliable data set based on near complete (>94 per cent) coverage of the Canadian and Ontario populations.

Income tax data uses Statistics Canada's Low Income Measure After-Tax (LIM-AT) to identify people who are living with low income. LIM-AT is calculated as income levels that are 50 per cent of the Canadian after tax median income adjusted for family size and age of children. A person is considered low income if the income of the family they live in (or, in the case of a person not living in a family, their individual income) fell below the LIM-AT for their family size.

Statistics Canada uses census families to calculate LIM-AT for income tax data. A census family includes couples living in the same dwelling with or without children, and lone parents with one or more children. All other people are classified as persons not in census families. They may live alone or with another person, such as a family to whom they are related (e.g., brother-in-law, cousin, grandparent) or with a roommate.

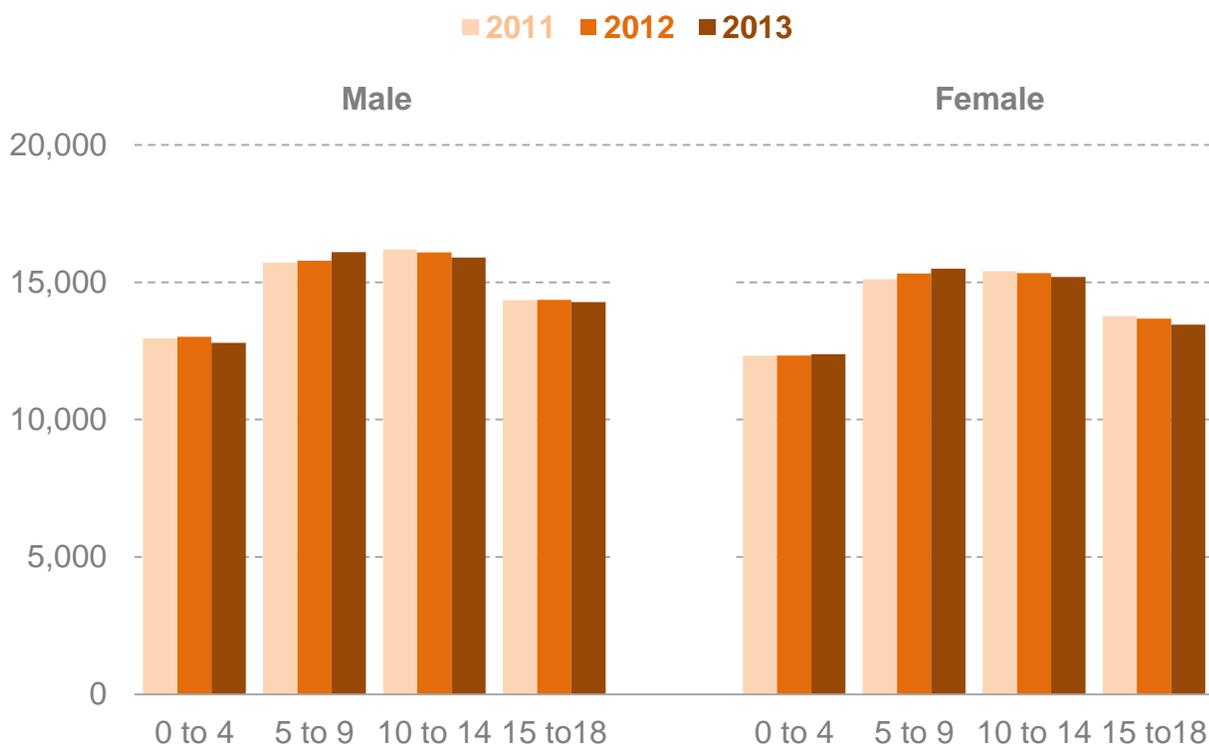
LIM-AT is just one of several low income lines Statistics Canada uses to track and analyze income trends in Canada. Other measures of low income include the Low Income Cut-Off (LICO) and Market Basket Measure (MBM). Each has their own methodology and different low income thresholds. Income tax data is only available with Low Income Measure (LIM).

3.0 Indicators

3.1 Age and Gender Distribution

Children between the ages of zero to 18 years comprised 21.6 per cent of the Waterloo Region population in 2013. The following figures depict the age and gender distribution of children throughout Waterloo Region (Figures 1 and 2). In addition, Table 1 describes the changes in population distribution from 2011 to 2013.

Figure 1. Number of children, by age group and sex, Waterloo Region, 2011, 2012 and 2013



Source: Population Estimates (2011-2013), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Extracted October 22, 2014.

Between 2011 and 2013, the number of children in Waterloo Region was fairly equally distributed between males and females across all age groups. The greatest numbers of children were between 5 to 9 years (31,577) and 10 to 14 years of age (31,090) compared to the other age groups. Children aged 0 to 4 years comprised the smallest proportion of the Waterloo Region youth population at about 25,000 children.

Table 1 displays the per cent change in the population of children for each age group between 2011 and 2013 in Waterloo Region.

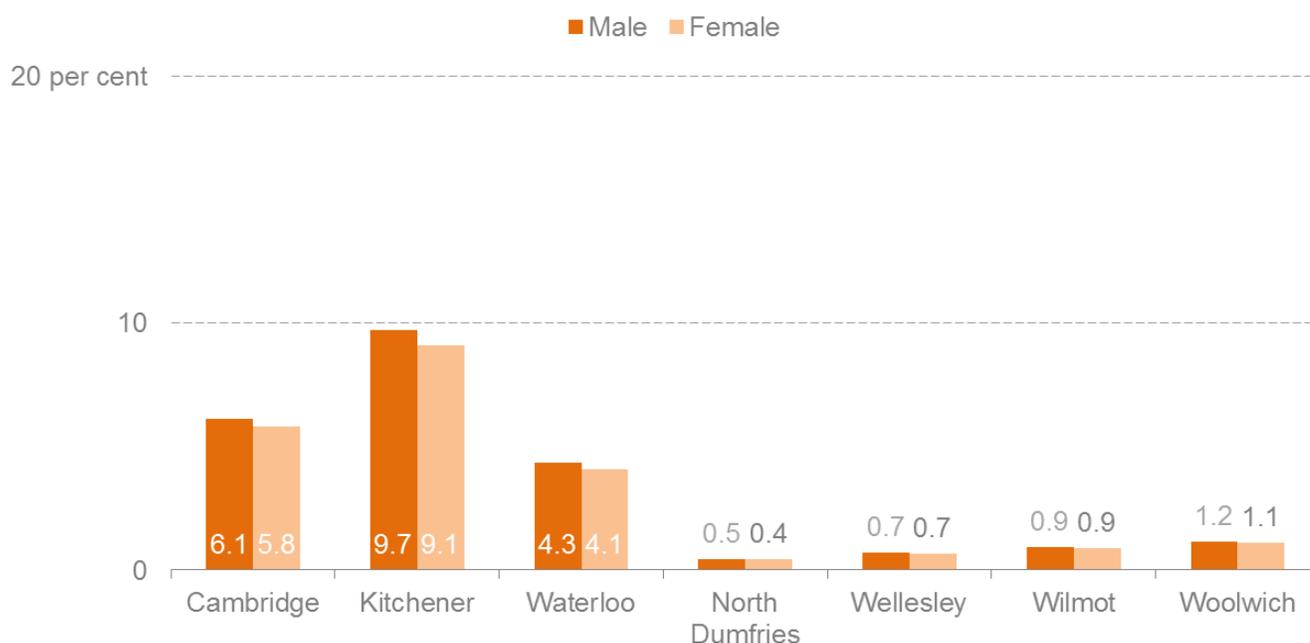
Table 1. Population estimates and per cent change for children, by age group, Waterloo Region, 2011, 2012 and 2013

Age Group	Population Estimates			Per cent change	
	2011	2012	2013	2011 to 2013	
1 to 4	25,287	25,334	25,172	-0.5%	
5 to 9	30,826	31,092	31,577	2.4%	
10 to 14	31,578	31,412	31,090	-1.5%	
15 to 18	28,114	28,029	27,733	-1.4%	
Total	115,805	115,867	115,572	-0.2%	

Source: Population Estimates (2011-2013), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Extracted October 22, 2014.

In Waterloo Region, the proportion of children aged 5 to 9 years has increased by 2.4 per cent from 2011 to 2013. The proportion of children between 10 and 18 years has decreased by approximately 1.5 per cent over the same time period. Overall, the number of children in Waterloo Region has remained fairly stable between 2011 and 2013, decreasing by only 0.2 per cent.

Figure 2. Proportion of children, by municipality and sex, Waterloo Region, 2013



Source: Population Estimates (2013), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, Extracted October 22, 2014.

In 2013, the greatest number of children in Waterloo Region resided in Kitchener (47,496 children) followed by Cambridge (30,365) and Waterloo (21,575). A smaller number of children resided in the four Regional Townships of North Dumfries, Wellesley, Wilmot and Woolwich, ranging from 3,000 and 6,000 people.

As a proportion of the total population in Waterloo Region, Kitchener had the greatest proportion of children at 9.4 per cent (data not shown). Municipalities with the lowest proportions of children were the four townships, ranging from 0.5 to 1.2 per cent. There were similar proportions of male and female children across all municipalities.

3.2 Immigration and Language

Table 2 depicts the distribution of immigrant children in Waterloo Region by age group.

Table 2. Proportion of immigrant children, by municipality and age group, Waterloo Region, 2011

Municipality	Age Groups	Number of Immigrants	Per cent Immigrants
Waterloo Region			
	0 to 4	655	2.1%
	5 to 9	2,010	6.5%
	10 to 14	3,210	10.3%
	15 to 19	4,360	12.7%
	Total	10,235	8.0%
Cambridge			
	0 to 4	125	1.6%
	5 to 9	360	4.4%
	10 to 14	570	6.9%
	15 to 19	710	8.0%
	Total	1,765	5.3%
Kitchener			
	0 to 4	345	2.5%
	5 to 9	1,100	8.8%
	10 to 14	1,685	13.4%
	15 to 19	2,270	16.4%
	Total	5,400	10.3%
Waterloo			
	0 to 4	140	2.8%
	5 to 9	430	7.5%
	10 to 14	850	14.1%
	15 to 19	1,240	17.2%
	Total	2,660	11.2%
Townships			
	0 to 4	20	0.5%
	5 to 9	105	2.4%
	10 to 14	95	2.1%
	15 to 19	135	3.0%
	Total	355	2.0%

Source: Statistics Canada, 2011 National Household Survey.

In Waterloo Region in 2011, 8.0 per cent of the overall youth population 19 years of age and younger were immigrants. By age group, the greatest proportion of immigrant children was among children aged 15 to 19 years (12.7 per cent), while the smallest proportion was among children aged 0 to 4 years (2.1 per cent). Across the municipalities and townships, Waterloo and Kitchener had the greatest proportion of immigrant children (11.2 per cent and 10.3 per cent, respectively). Among all four townships, 2.0 per cent of the population consisted of immigrant children.

The top 10 languages spoken by children in Waterloo Region are presented below (Table 3).

Table 3. Top 10 most prevalent languages spoken by children aged 0 to 19 years, Waterloo Region, 2011

Rank	Language	Number	Per cent
1	English	113,525	89.2%
2	German	2,380	1.9%
3	Spanish	1,120	0.9%
4	French	880	0.7%
5	Arabic	855	0.7%
6	Serbian	825	0.6%
7	Romanian	590	0.5%
8	Chinese, not otherwise specified	580	0.5%
9	Urdu	565	0.4%
10	Panjabi (Punjabi)	565	0.4%

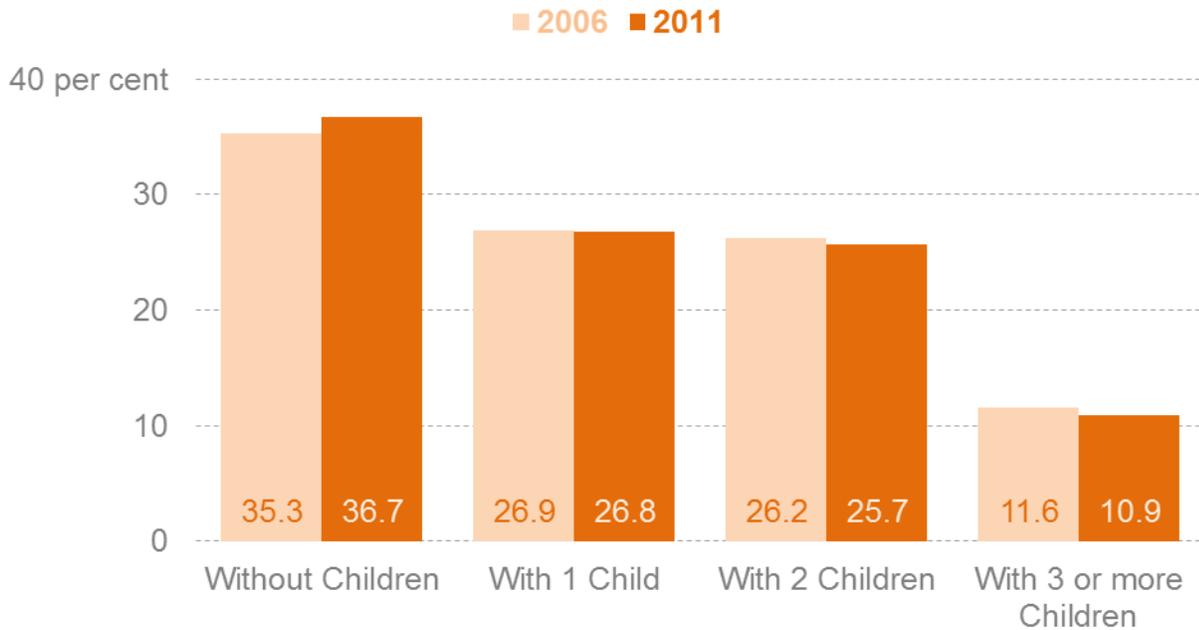
Source: Statistics Canada, 2011 Census.

In Waterloo Region, 89.2 per cent of the population less than 20 years of age spoke English most often at home in 2011. The second and third most commonly spoken languages at home were German (1.9 per cent), followed by Spanish (0.9 per cent).

3.3 Family Size and Household Characteristics

The proportion of families with and without children in Waterloo Region in 2006 and 2011 is shown below (Figure 3). In addition, the proportion of two parent and single parent families are presented (Figure 4). The proportion of families with children living in single detached homes, apartments and other dwellings are depicted in Figure 5.

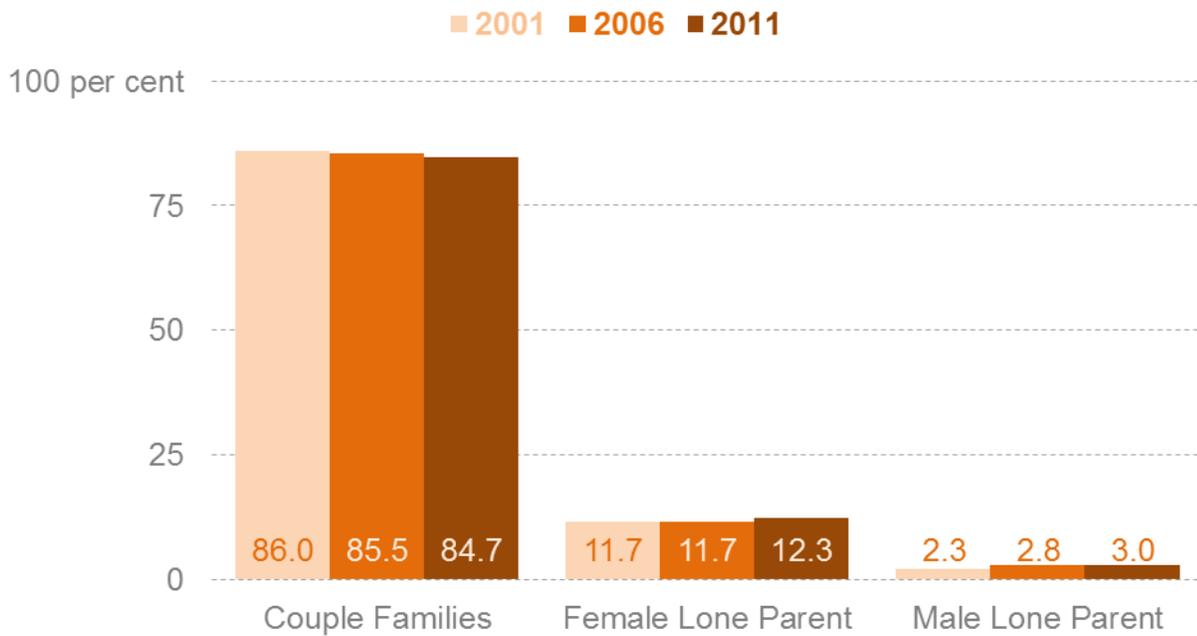
Figure 3. Proportion of families with and without children, by number of children, Waterloo Region, 2006 and 2011



Source: Statistics Canada, 2006 and 2011 Census.

In 2011, about one-third of families in Waterloo Region did not have children (36.7 per cent). Approximately one-quarter of families had either one (26.8 per cent) or two children (25.7 per cent), while 10.9 per cent of families had three or more children. The distribution of family types by the number of children has not varied greatly since 2006, except for a slight increase in the number of families without children.

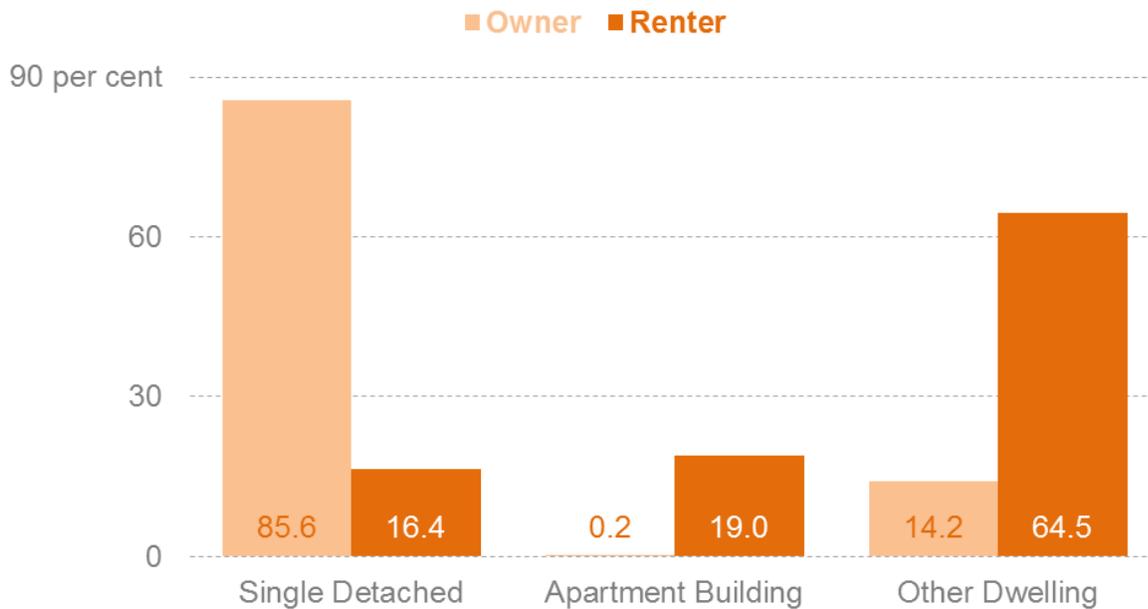
Figure 4. Proportion of families, by family structure, Waterloo Region, 2001, 2006 and 2011



Source: Statistics Canada, 2001, 2006 and 2011 Census.

In 2011, the majority of families in Waterloo Region were couple families (84.7 per cent). There were a greater proportion of female lone parent families (12.3 per cent) than male lone parent families (3.0 per cent). Family structures have remained similar in Waterloo Region between 2001 and 2011.

Figure 5. Proportion of families with children, by type of dwelling, Waterloo Region, 2011



Source: Statistics Canada, 2011 National Household Survey.

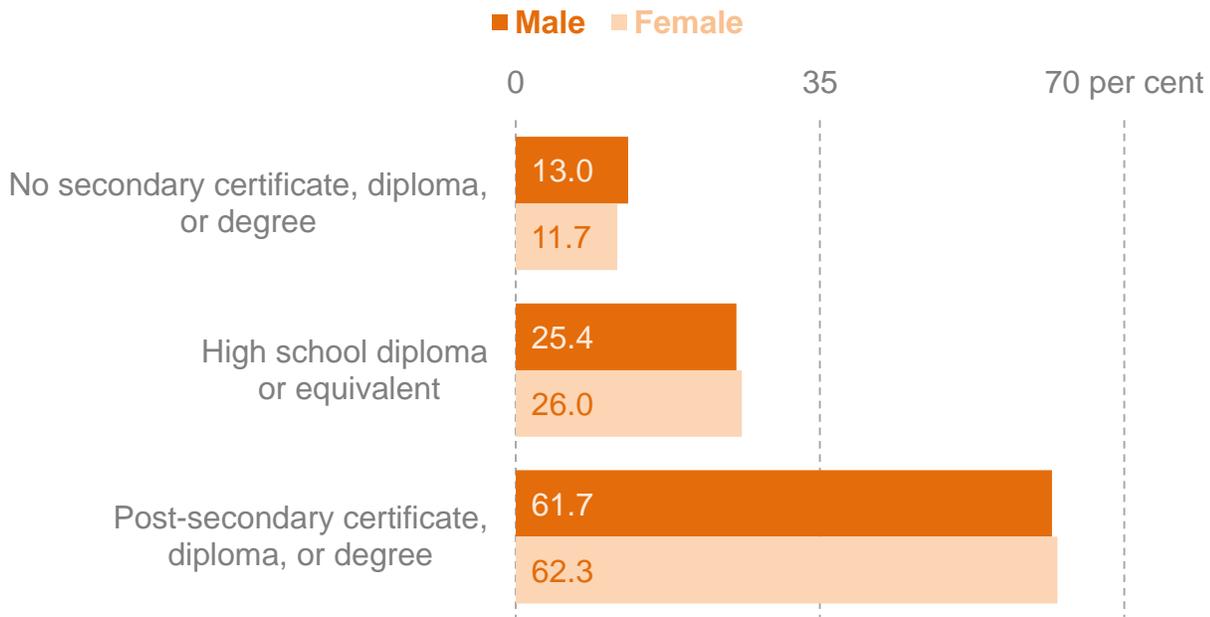
In Waterloo Region, most families with children (86.2 per cent) owned their home, while a small proportion rented their home (13.8 per cent) (data not shown).

Among families who owned their home, 85.6 per cent lived in a single detached dwelling, compared to only 16.4 per cent of families who rented their home (Figure 5). The majority of families with children who rented their home lived in an apartment building (19.0 per cent) or other type of dwelling (64.5 per cent). Other dwelling types include a semi-detached house, row house, apartment or flat in a duplex, apartment in a building that has fewer than five storeys, and mobile homes.

3.4 Education

With a greater level of education, income security and health status can improve (1). The highest level of education achieved for individuals aged 25 to 64 years is presented in Figure 6. This figure is an estimate for the number of parents who have attained a specific level of education. Data specific to parents is not available.

Figure 6. Highest level of education achieved for individuals 25 to 64 years, Waterloo Region, 2011



Source: Statistics Canada, 2011 National Household Survey.

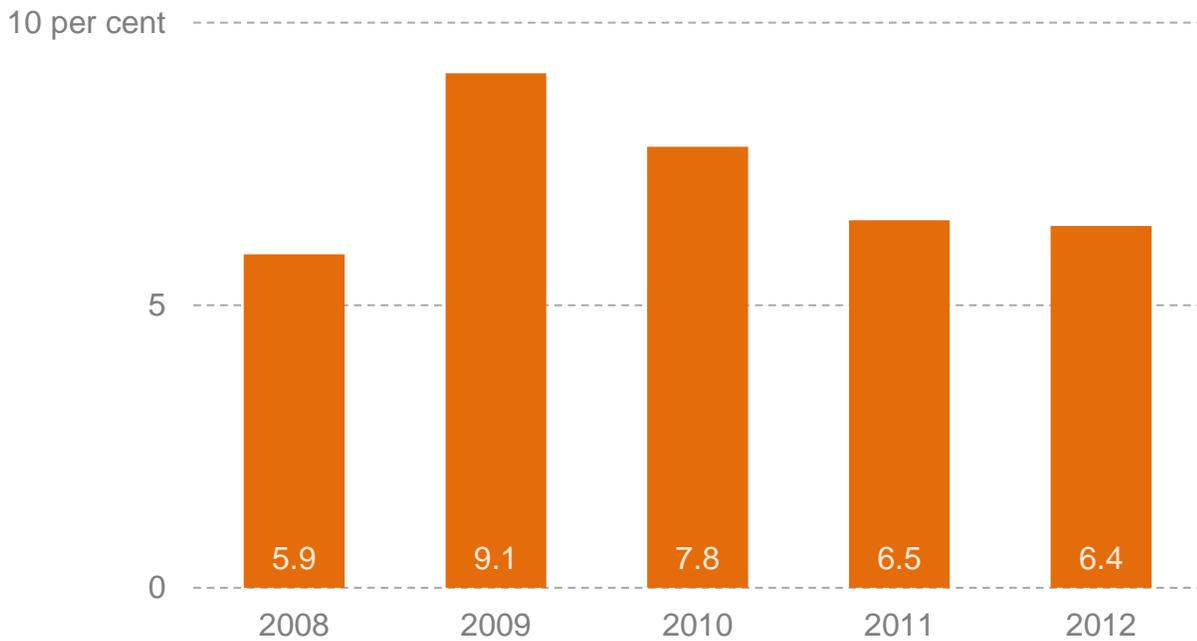
In 2011, approximately 62 per cent of males and females aged 25 to 64 years in Waterloo Region had obtained a post-secondary certificate, diploma or degree. For one-quarter of adults, a high school diploma or equivalent was the highest level of education achieved. Thirteen per cent of males and 11.7 per cent of females had not obtained a secondary certificate, diploma or degree.

3.5 Employment and Income

Employment and income are considered important social determinants of health. It is known that the health status of individuals improves at higher income levels (1).

The unemployment rate among working-aged individuals (15 years of age and older) from 2008 to 2012 in Waterloo Region is shown below (Figure 7). In addition, the median family income after tax and the proportion of families with low income are presented in Figures 8 and 9.

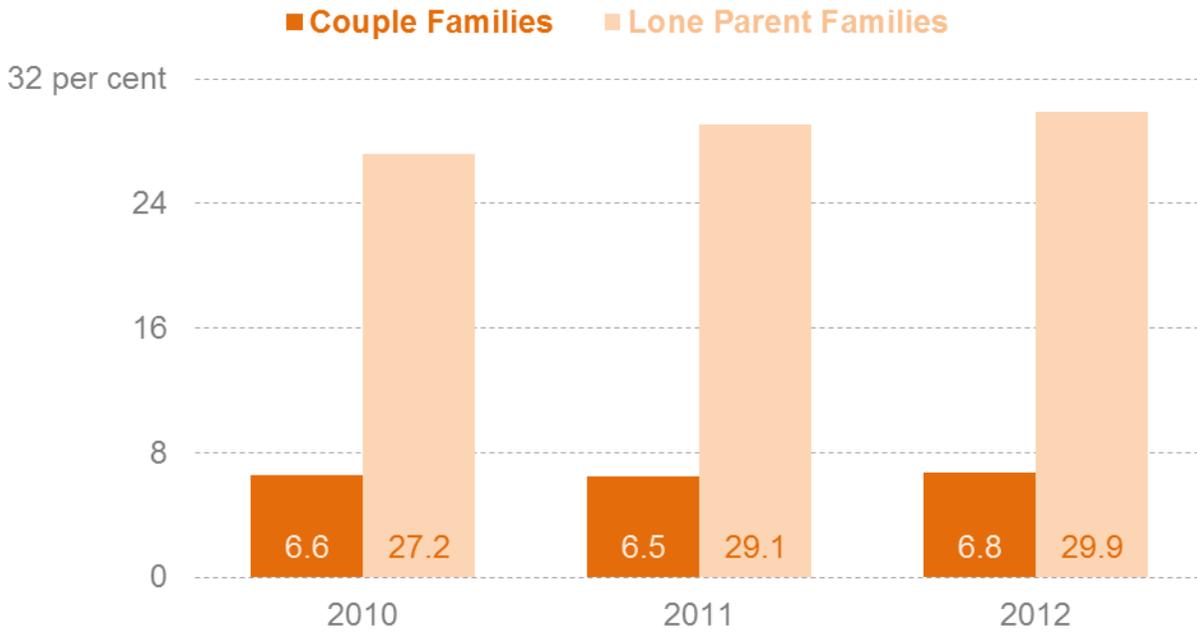
Figure 7. Unemployment rate for working-aged individuals, by year, Waterloo Region, 2008-2012



Source: Labour Force Survey (2008-2012), Statistics Canada. Extracted March 29, 2013.

From 2009 to 2012, the unemployment rate in Waterloo Region has decreased from 9.1 per cent to 6.4 per cent among working-aged individuals. However, the unemployment rate in 2012 (6.4 per cent) remains larger than the rate reported in 2008 (5.9 per cent).

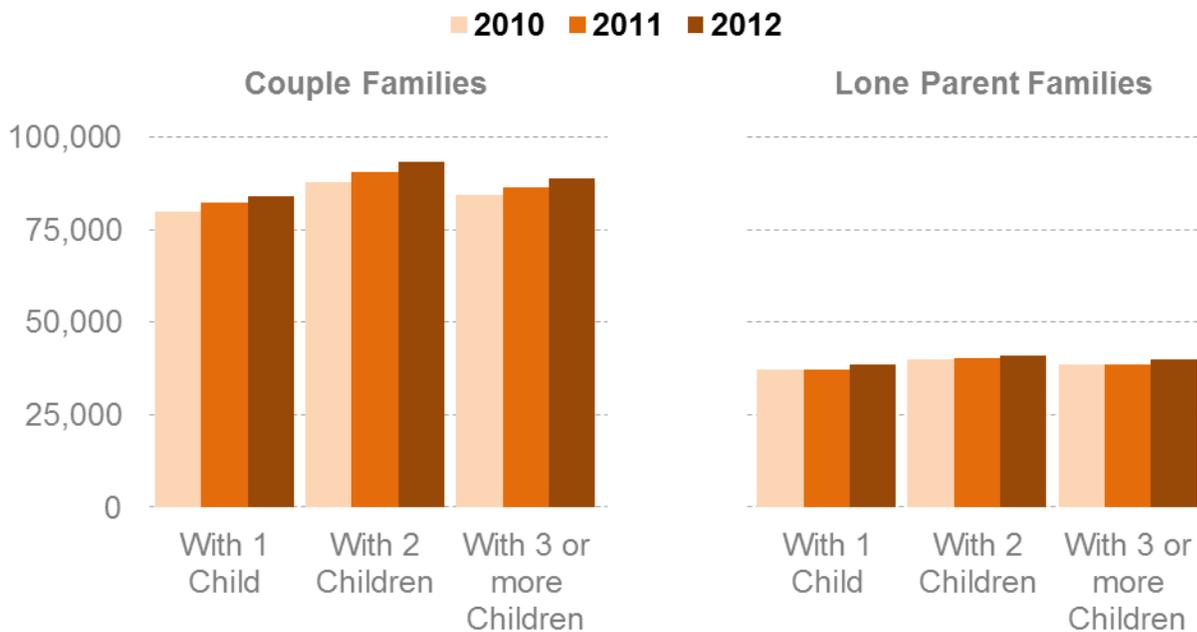
Figure 8. Proportion of low income couple families and lone parent families, Waterloo Region, 2010, 2011, and 2012



Source: Statistics Canada, Income Statistics Division, 2010-2012, Annual Estimates for Census Families and Individuals.

Lone-parent families are more likely to live with low income compared with couple families in Waterloo Region. In 2012, 29.9 per cent of lone parent families were within the low-income bracket compared to only 6.8 per cent of couple families. These proportions are similar to those reported in 2010 and 2011.

Figure 9. Median after-tax income of couple families and lone parent families, by number of children, Waterloo Region, 2010, 2011, and 2012



Source: Statistics Canada, Income Statistics Division, 2010-2012, Annual Estimates for Census Families and Individuals.

Among couple families with children in Waterloo Region, the median after-tax income has increased each year from 2010 to 2012, regardless of the number of children in the household. In 2012, couple families earned between \$84,100 and \$93,350, with families with two children earning the most. This trend was consistent since 2010.

Lone parent families in Waterloo Region had a much lower median after-tax income compared with couple families, and it has increased at a much slower rate over the same time period. In 2012, median after-tax income was lowest among lone-parent families with one child (\$38,410), followed by lone-parent families with three or more children (\$39,840) and those with two children (\$40,930). Median after-tax incomes for lone parent families have risen at a slower rate compared with couple families in Waterloo Region between 2010 and 2012, regardless of the number of children in the household.

References

1. Public Health Agency of Canada. (2011). What makes Canadians Healthy or Unhealthy. Retrieved from: <http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#income>