

Population Health Profile: Waterloo Wellington LHIN

Health System Intelligence Project (HSIP)

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Produced by HSIP for the Local Health Integration Networks (LHINs). HSIP is an independent, credible source of information and an initiative of the Health Results Team for Information Management (HRT-IM).

Executive Summary: This report provides an overview of the Waterloo Wellington LHIN using the most recently available data on social and demographic characteristics, health status, health practices and outcomes of the population. Rates or proportions for Ontario are provided as a comparator.

Relative to the province, Waterloo Wellington has a higher

- proportion of the population who say their health is 'Excellent' or 'Very Good'
- proportion of the population consuming fruits and vegetables five or more times per day

and a lower

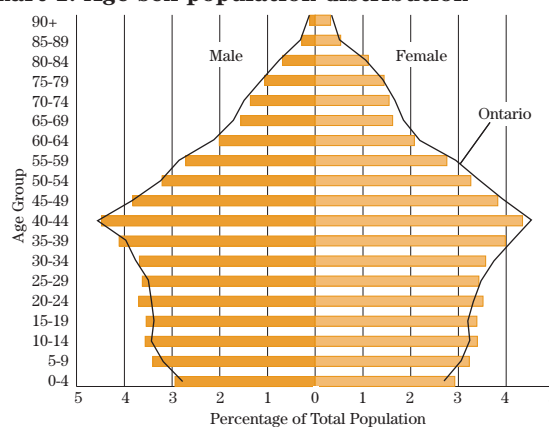
- proportion of seniors, immigrants and visible minorities
- proportion of the population having consulted with an MD in the past year
- all-cause mortality (age-standardized) and PYLL rates
- unemployment rate

The Waterloo Wellington LHIN has a relatively young population with high labour force participation and low unemployment. While health practices and health outcomes are similar to the province, the population in this LHIN has the highest prevalence of residents assessing their health as very good or excellent.

The Population: Waterloo Wellington is home to 685,400 people; 5.5% of the population of Ontario. During the 1994-2004 time period the population of Waterloo Wellington increased, on average, by 1.7% each year. The population of Ontario increased by 1.5% annually during this same time. Table 1 provides an overview of the social and demographic characteristics of this population. Although almost 20% of the population of Waterloo Wellington are immigrants and 9.3% are visible minorities, these percentages are lower than the provincial average. One and a half percent of the population is Francophone (i.e. claim French as their mother tongue). Both the unemployment and low income rates in Waterloo Wellington are lower than provincial rates. Forty-seven percent of adults (age 20+) have attained post-secondary education credentials, and almost 27% have not completed high school.

Chart 1 shows the population structure of Waterloo Wellington. The black line provides the Ontario population distribution for comparison. The population pyramid shows that the population structure of Waterloo Wellington is somewhat younger than the provincial age structure. Compared to the province Waterloo Wellington has a slightly greater proportion of the population in the 0-44 age groups, and a smaller proportion of seniors (ages 60-74 in particular).

Chart 1: Age-sex population distribution



Data Source: 2004 Population estimates, Statistics Canada

Table 1: Socio-demographic characteristics

	WATERLOO WELLINGTON	ONTARIO	LHIN Range
Total population (2004)†	685,400	12,392,700	242,500 - 1,542,900
Senior population, age 65+ (2004)†	11.6%	12.8%	9.4 - 15.7%
Population with English mother tongue	80.1%	71.9%	55.7 - 92.2%
Population with French mother tongue	1.5%	4.7%	1.2 - 25.1%
Population who are immigrants	19.8%	26.8%	6.4 - 45.7%
Population who are recent immigrants (arrived between 1996-2001)	2.9%	4.8%	0.3 - 9.7%
Population who are visible minorities	9.3%	19.1%	1.3 - 38.8%
Population of Aboriginal identity	0.7%	1.7%	0.3 - 13.9%
Labour force participation rate (age 15+)	71.8%	67.3%	60.0 - 72.0%
Unemployment rate (age 15+)	5.1%	6.1%	5.0 - 9.8%
Population in low income	10.2%	14.4%	10.0 - 22.3%
Families (with children) headed by a lone parent	20.6%	23.4%	19.4 - 30.0%
Population (age 20+) with less than grade 9 education	8.7%	8.7%	6.3 - 12.0%
Population (age 20+) without high school graduation certificate	26.6%	25.7%	19.2 - 33.4%
Population (age 20+) with completed post-secondary education	47.0%	48.7%	42.4 - 55.8%

Data Source: †2004 Population estimates. Remaining indicators based on 2001 Census of Canada

Health Status: Life expectancy at birth is the average years of life an individual could live on the assumption that current, cross-sectional age-specific mortality rates remain constant over the life span. Life expectancy among males and females in Waterloo Wellington is similar to life expectancy for Ontario overall (see Table 2). Low birthweight is an important determinant of infant morbidity and mortality. In Waterloo Wellington 5.1% of infants born in 1999-2001 were of low birthweight. Infant mortality is a long-established measure, not only of child health, but also of the well-being of a society. The infant mortality rate in Waterloo

Wellington of 5.1 per 1000 livebirths is slightly lower than the provincial experience but the difference is statistically significant. Self-reported health, an indicator of overall health status, can reflect aspects of health not captured in other measures, such as disease severity, aspects of positive health status, physiological and psychological reserves and social and mental function. Residents of Waterloo Wellington are significantly more likely than Ontarians overall to rate their health as “Excellent” or “Very Good”. One in four residents report being limited in their activities because of a physical or mental condition or health problem which

has lasted or is expected to last longer than six months.

Health Practices and Preventive Care:

Poor health practices are known to be related to increased risk of chronic disease, mortality and disability. Chart 2 shows that Waterloo Wellington has rates of daily smoking, heavy drinking, exposure to ETS, physical inactivity and overweight/obesity that are similar to the province. Based on Body Mass Index 32.6% of the adult population of Waterloo Wellington is considered overweight and 17.0% are obese. A significantly higher proportion of the Waterloo Wellington population (compared to Ontario) consume fruits and vegetables 5 or more times daily. Waterloo Wellington residents are just as likely as Ontarians to report that they have a lot of life stress.

The use of preventive health care services can lead to early detection of disease, which ultimately results in reduced morbidity and mortality. The rates of preventive care use for mammography, Pap smears and flu shots in Waterloo Wellington are not significantly different from the province (see Table 3).

The point of access for most medical care is through a primary care physician. Medical doctors also play a key role in coordinating care and managing chronic conditions. The majority of people (77.5%) in Waterloo Wellington had at least one contact,

Table 2: Health status

	WATERLOO WELLINGTON	ONTARIO	LHIN Range
Female life expectancy at birth (years), 2001†	82.0 (±0.5)	82.1 (±0.1)	79.5 - 82.2
Male life expectancy at birth (years), 2001†	77.8 (±0.5)	77.5 (±0.1)	74.7 - 80.6
Low birth weight babies (1999-2001)‡	5.1%	5.6%	3.7 - 6.2%
Infant mortality rate per 1000 livebirths (1999-2001)†‡	5.1 (±1.0)	5.4 (±0.2)	3.9 - 6.1
Population who say their health is Excellent or Very Good, 2003 (age 12+)#	61.5%* (±2.5)	57.4% (±0.7)	51.0 - 61.5%
Population with an activity limitation, 2003 (age 12+)#	24.7% (±2.3)	24.6% (±0.6)	19.3 - 30.0%

* Significantly different from provincial average based on assessment of 95% confidence intervals.

Data sources: † Ontario Vital Statistics, Mortality Database, ‡ Ontario Vital Statistics, Livebirths Database

Canadian Community Health Survey, 2003

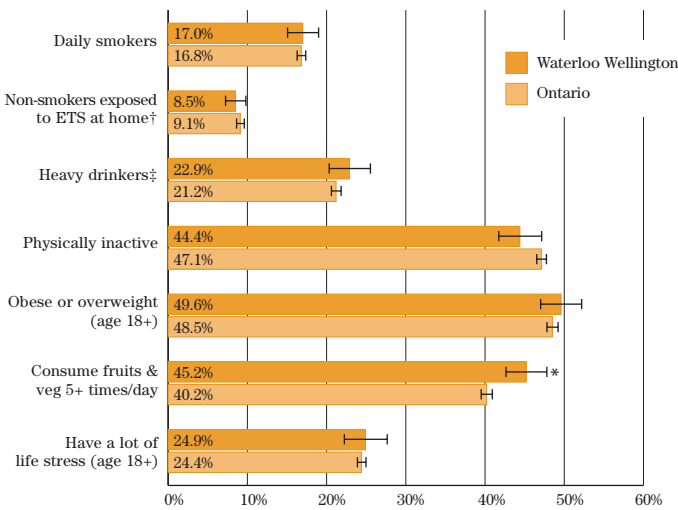
Table 3: Use of preventive care

	WATERLOO WELLINGTON	ONTARIO	LHIN Range
Had mammogram in past 2 years (females age 50-69)	76.1% (±5.4)	70.6% (±1.9)	65.8 - 77.2%
Had Pap smear test in past 3 years (females age 18+)	69.2% (±3.0)	69.2% (±1.0)	65.4 - 75.5%
Had flu shot in past year (age 12+)	31.8% (±2.2)	34.2% (±0.7)	30.3 - 39.0%
Contact with Medical Doctor in past year (age 12+)	77.5%* (±2.3)	81.4% (±0.6)	76.4 - 83.7%

* Significantly different from provincial average based on assessment of 95% confidence intervals.

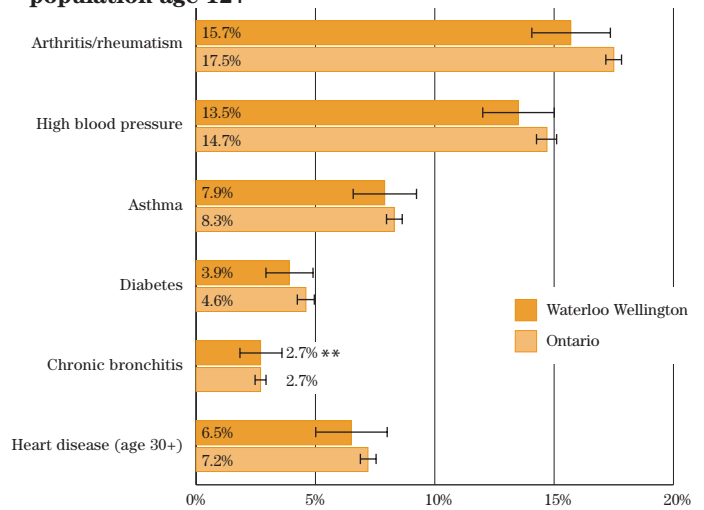
Data source: Canadian Community Health Survey, 2003

Chart 2: Health practices, population age 12+



† ETS - environmental tobacco smoke (second-hand smoke)
 ‡ as a proportion of current drinkers
 * Significantly different from provincial average based on assessment of 95% confidence interval.
 Data Source: Canadian Community Health Survey, 2003

Chart 3: Prevalence of selected chronic conditions, population age 12+



* Significantly different from provincial average based on assessment of 95% confidence interval.
 **Estimates for Chronic bronchitis have a high degree of sampling variability and must be interpreted with caution.
 Data Source: Canadian Community Health Survey, 2003

either in person or by phone, with a medical doctor in the past year; a proportion that is significantly lower than the provincial average of 81.4%.

Morbidity and Mortality: Chronic conditions place a high burden on the health care system and reduce the quality of life of those who suffer from the condition. Chart 3 shows that, compared to Ontario, Waterloo Wellington has a slightly lower prevalence of most chronic conditions

including arthritis/rheumatism, asthma, diabetes, heart disease, and high blood pressure but the difference is not statistically significant. Note that the prevalence estimate for chronic bronchitis must be interpreted with caution because of high sampling variability. Prevalence rates presented in Chart 3 are not age-standardized, and therefore areas with a high proportion of seniors will tend to have higher rates of chronic conditions.

Table 4: Mortality, PYLL and hospitalization rates by ICD-10 chapter

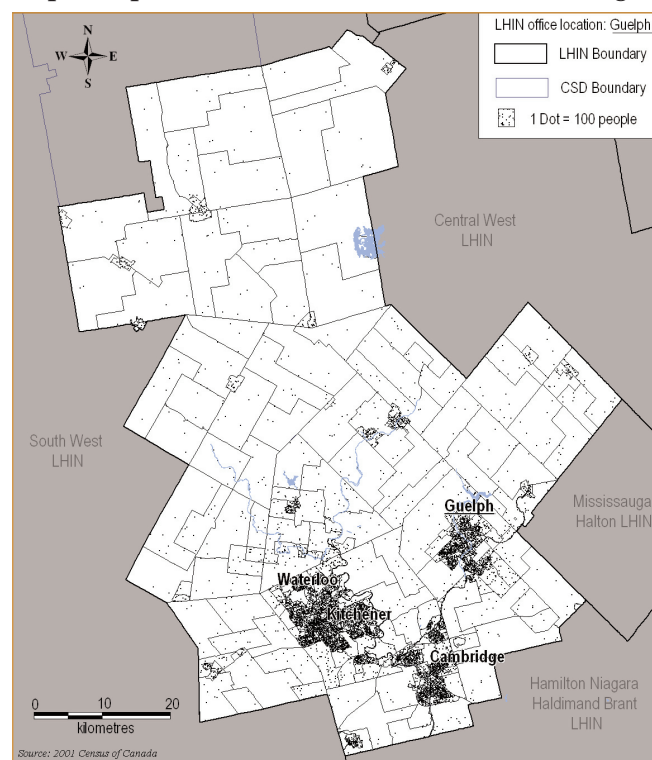
Cause (ICD-10 chapter)	Age-standardized mortality rate per 100,000 (avg. 2000-01)†		Potential Years of Life Lost rate per 100,000 (avg. 2000-01)†		Age-standardized hospitalization rate per 100,000 (2003-04)‡	
	WATERLOO WELLINGTON	ONTARIO	WATERLOO WELLINGTON	ONTARIO	WATERLOO WELLINGTON	ONTARIO
ALL CAUSES	593.7	60.26	4,443	4,864	7,836.6	7,746.7
I. Infectious diseases	6.2	9.3	81.3	122.3	130.4	119.9
II. Neoplasms	178.5	181.4	1,530.9	1,590.3	536.0	549.6
III. Diseases of blood	1.9	2.1	20.0	18.4	74.8	76.2
IV. Endocrine/nutritional disorders	26.2	26.1	161.0	171.0	172.8	173.7
V. Mental & behavioural disorders	14.1	15.0	42.9	59.2	574.1	502.7
VI. Nervous system diseases	29.2	24.8	173.6	142.9	116.7	111.6
VII. Eye diseases	0	-	0	-	23.6	20.1
VIII. Ear diseases	-	-	0	1.1	22.0	20.7
IX. Circulatory system diseases	217.0	209.1	793.0	852.9	922.2	1,007.5
X. Respiratory system diseases	42.9	45.4	110.9	150.5	660.7	624.6
XI. Digestive system diseases	19.2	22.6	137.5	191.1	737.0	761.2
XII. Skin diseases	-	1.0	-	3.9	64.2	65.9
XIII. Musculoskeletal diseases	4.8	3.8	31.5	24.8	334.9	356.0
XIV. Genitourinary diseases	9.6	11.1	41.1	38.2	473.6	421.0
XV. Maternal conditions	-	0.1	3.6	4.6	1,412.4	1,367.8
XVI. Perinatal conditions	3.9	4.2	259.3	266.5	82.8	71.7
XVII. Congenital abnormalities	2.7	3.1	145.2	158.0	51.1	47.9
XVIII. Symptoms not elsewhere classified	9.0	10.8	170.5	234.0	425.0	457.9
XIX. Injury & poisoning	n/a	n/a	n/a	n/a	611.0	578.6
XX. External causes of mortality	27.8	32.6	740.5	834.3	n/a	n/a
XXI. Factors influencing use of services	n/a	n/a	n/a	n/a	411.1	408.6

- Data suppressed due to small numbers
 Data sources: † Ontario Vital Statistics, Mortality Database ‡ Ontario Hospital Inpatient Database

Table 4 provides age-standardized mortality and hospitalization rates as well as rates for potential years of life lost (PYLL) by ICD-10 chapter. In Waterloo Wellington 20.6% of deaths occur before the age of 65, and 40.5% occur before the age of 75 (the Ontario percentages are 21.3% and 41.2% respectively). All-cause mortality and PYLL rates in Waterloo Wellington are lower than provincial rates, as are the cause specific rates for many ICD-10 diagnostic chapters including injuries, neoplasms, and respiratory conditions. PYLL rates are useful for quantifying the number of years of life “lost” from deaths that occur “prematurely” (i.e., before age 75). Table 4 shows that neoplasms contribute to more years of potential life lost than any other cause, followed by circulatory system diseases, and external causes (i.e., injuries). Overall hospitalization rates however are higher in Waterloo Wellington but this is not consistent across ICD-10 chapters. Waterloo Wellington has lower hospitalization rates for some conditions (e.g., circulatory diseases) and higher rates for others (e.g., mental disorders, maternal conditions, respiratory diseases and injuries).

Map 1 shows the 2001 population distribution (mapped by dissemination areas) within the Waterloo Wellington LHIN area. Census subdivision (CSD) boundaries (analogous to municipal boundaries in most areas) and the names of selected communities are shown for reference. Thirty percent of the Waterloo Wellington population resides in the Kitchener CSD (population of approximately 190,400). An additional 48% of the population resides in the CSDs of Cambridge (110,400), Guelph (106,200) and Waterloo (86,500). The remainder of Waterloo Wellington is made up of CSDs ranging in population size from 5,900 to approximately 24,300.

Map 1: Population distribution in Waterloo Wellington



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Glossary

Age-standardization: adjustment for variations in population age distributions over time and place. Mortality and hospitalization rates are adjusted using the Direct Method and the 1991 Canadian population.

Body Mass Index (BMI): a measure of body weight adjusted for height which is correlated with body fat. BMI is defined as weight in kilograms divided by height in meters squared. A BMI of 30 or more is classified as obese.

Census subdivision: area that is a municipality or an area that is deemed to be equivalent to a municipality for statistical reporting purposes (e.g., as an Indian reserve or an unorganized territory). Municipal status is defined by laws in effect in each province and territory in Canada.

Confidence intervals: indicate the degree of variability associated with an estimate. A 95% confidence interval indicates that estimates are accurate within the upper and lower confidence interval 19 times out of 20. Upper and lower bounds are shown as \pm values in tables and error bars in charts.

Dissemination areas (DAs): the smallest standard geographic area for which census data are disseminated. DAs are composed of one or more neighbouring blocks, with a population of 400 to 700 persons.

Hospitalization rate: refers to the hospital separation rate for all hospital inpatients excluding newborns and stillbirths. A separation may be due to death, discharge home, or transfer to another facility.

ICD-10: refers to the International Classification of Diseases, 10th revision. The ICD is used to classify diseases and other health problems recorded on many types of health and vital records including death certificates and hospital records. ICD chapters are broad classifications which are subdivided into more specific conditions.

Potential Years of Life Lost: represents the number of years not lived by an individual from birth to age 75 due to premature death. The PYLL rate provides the total years of life lost before age 75 to the total population under 75.

Sampling variability: estimates derived from survey data, rather than full counts of a population, have a degree of uncertainty that increases as the size of group surveyed decreases.

Statistical significance: an inference that a result is unlikely to have occurred due to chance alone.