

POPULATION HEART HEALTH PROFILE CHAMPLAIN DISTRICT

DRAFT 2: APRIL 2005

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ACKNOWLEDGEMENTS

The population heart health profile is a summary of previously published or reports and/or internal database queries. We would like to acknowledge the contributions of the District Health Council for their role in providing access to cardiac related outcomes data from their monitoring databases.

IN THIS DOCUMENT

The Champlain Heart Health Profile was developed as a tool to support the planning activities for the establishment of a regional heart disease prevention strategy within the Champlain region. The profile provides the following:

- 1) The demographics make-up of our catchment area,
- 2) The prevalence of heart disease, and the incidence of cardiovascular events and risk factors in our region

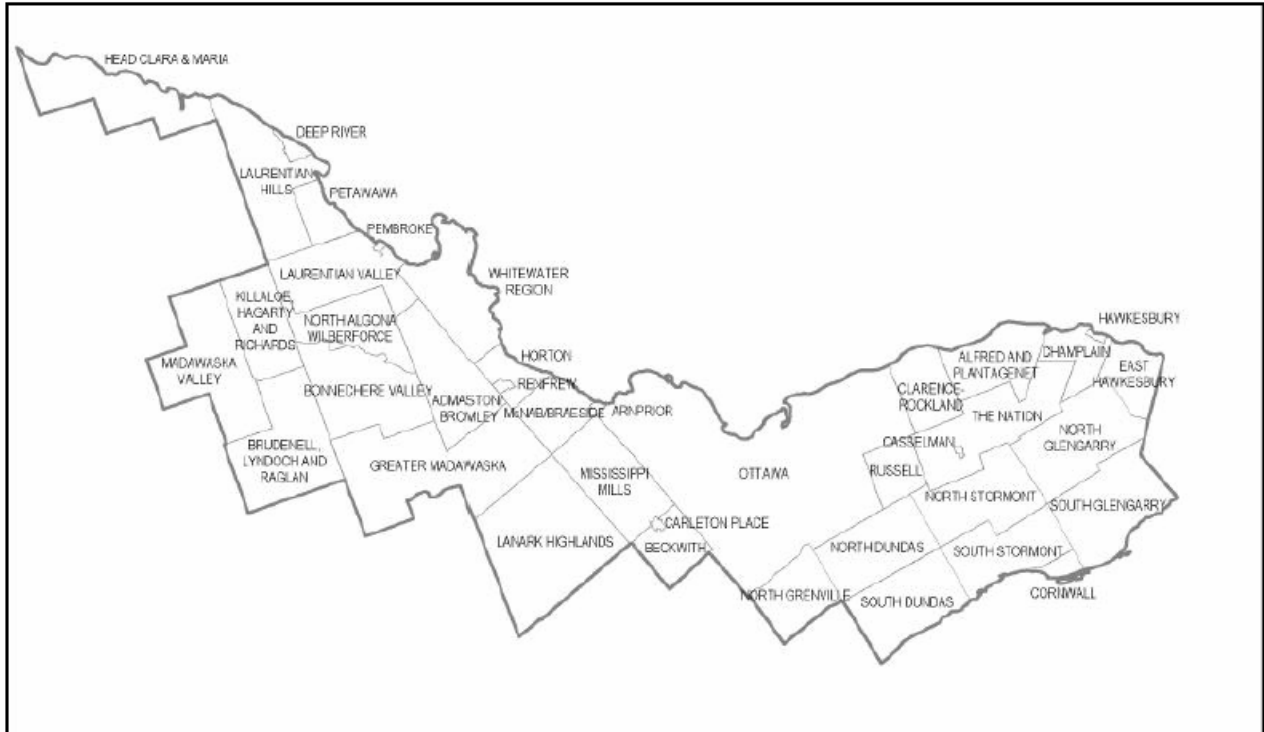
The data presented in this report will be used in combination with expert opinion to identify regional needs related to the prevention and management of cardiovascular disease as well as identify gaps in our knowledge to date.

CHAMPLAIN DISTRICT HEALTH PROFILE

Population Health Profile of the Champlain District

Champlain district encompasses a significant portion of southeastern Ontario. It covers almost 15,500 square kilometers and includes three municipal planning areas: City of Ottawa, Renfrew County, and the Eastern County of Prescott and Russell, and Stormont, Dundas & Glengarry, and the northern parts of Leeds, Grenville, & Lanark county. It boasts a combination of urban and rural communities.

Map of Champlain District (April 1st, 2005 Local Health Integration Network)



1. Demographic Trends

1.1 Population Growth and Aging

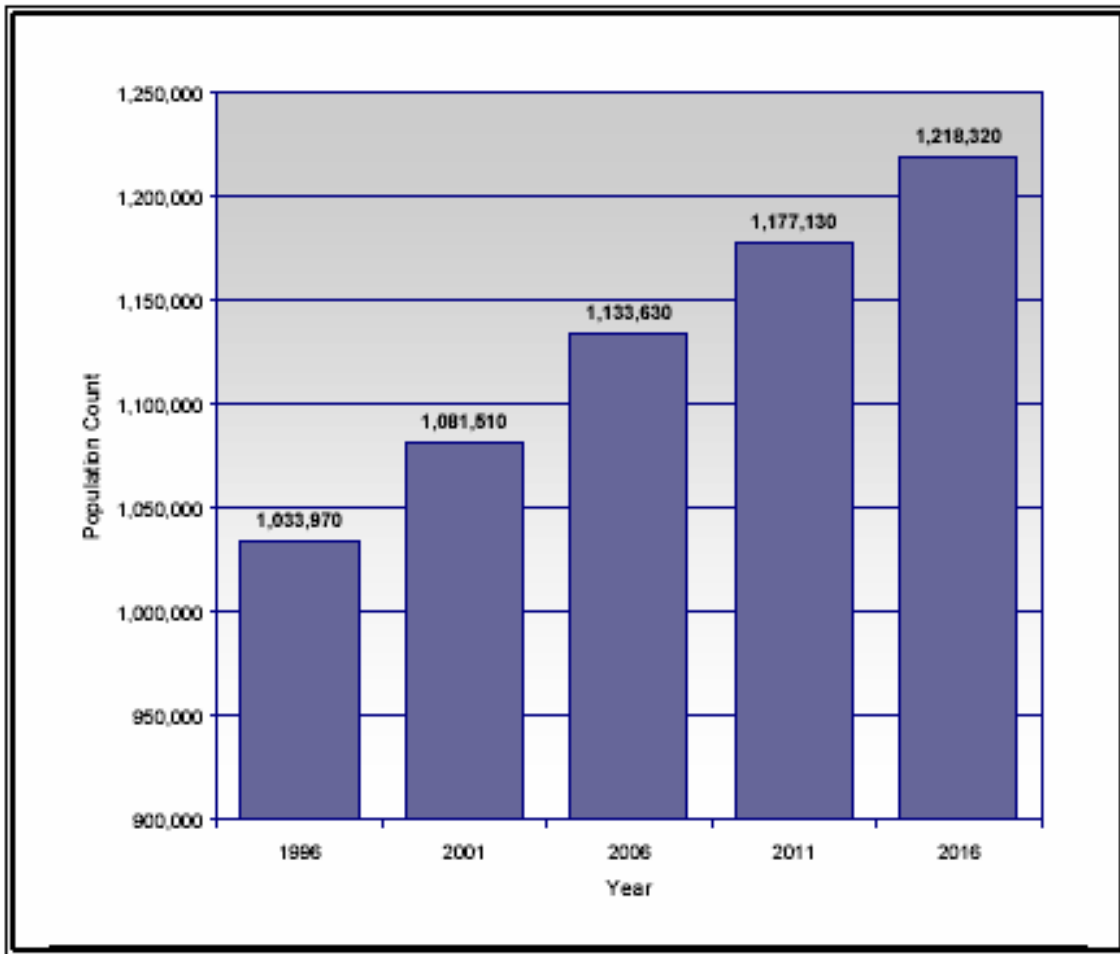
- The Champlain District is home to more than 1.1 million residents with 85% of Champlain residents living in approximately 20% of Champlain's geographic area (Ottawa, Cornwall, Pembroke & Petawawa);
- In the Champlain region, population growth levels of 3.5% are projected over the next 15-years;
- Growth rates of greater than 15% are projected over 5-years for residents aged 45-65, with a 20% increase in residents aged 65 or older by 2011 (DHC 2002).

Table 1.1-1: Champlain District Population Projections

| Year | 0-14 | 15-24 | 25-44 | 45-64 | 65-74 | 75+ | All Ages |
|-----------|-------|-------|-------|-------|-------|-------|----------|
| 1996-2001 | -2.6% | 2.2% | -0.2% | 17.7% | 1.8% | 20.3% | 4.6% |
| 2001-2006 | -5.2% | 8.5% | -2.9% | 18.3% | 8.6% | 11.7% | 4.8% |
| 2006-2011 | -6.1% | 4.0% | -3.0% | 12.2% | 20.6% | 8.2% | 3.8% |
| 2011-2016 | -0.2% | -6.0% | 2.0% | 2.8% | 28.8% | 10.4% | 3.5% |

Source: Champlain District Health Council, Monitoring Report (2003)

Figure 1.1-1: Projected population in the Champlain District, 1996-2016



Source: Champlain District Health Council, Monitoring Report (2003)

1.2 Francophone Populations

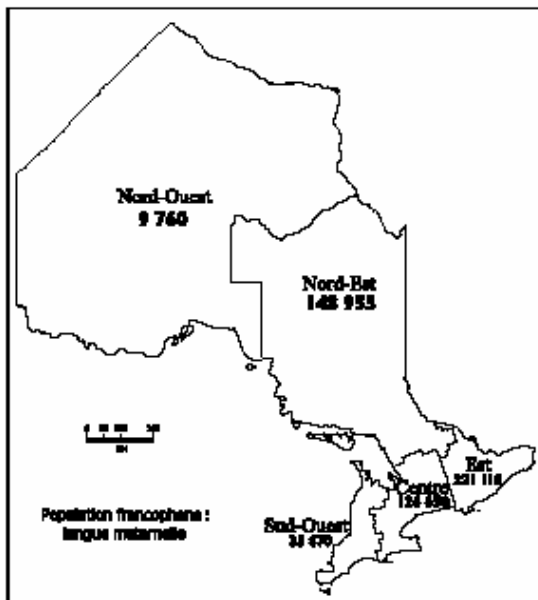
- The Champlain District is home to the greatest number of Francophones in Ontario (38.4%), with more than 208,055 Francophone residents, representing 20.7% of the total regional population.
- Significantly higher rates of Francophones reside in the region of Prescott Russell (69.8%), Stormont, Dundas, and Glengarry (25%), as compared to Ottawa (21%) (LeBlanc 2003).

Table 1.2-1: Distribution of Francophone in Champlain District

| Region | Total Population | Francophone Population | % of Francophones | % of Ontario Residents |
|-----------------------------|------------------|------------------------|-------------------|------------------------|
| Stormont, Dundas, Glengarry | 111,300 | 28,100 | 25.2 | 5.2 |
| Prescott Russell | 74,015 | 51,405 | 69.5 | 9.5 |
| Ottawa | 721,138 | 123,595 | 17.1 | 22.8 |
| Renfrew | 96,225 | 4,955 | 5.1 | 0.9 |
| Champlain | 1,002,678 | 208,055 | 20.7 | 38.4 |
| Ontario | 10,084,907 | 542,340 | 5.0 | 100 |

Source: Francophones in Ontario

Figure 1.2-1: Francophone resident by Provincial district



Source: Statistique Canada, Recensement 1996

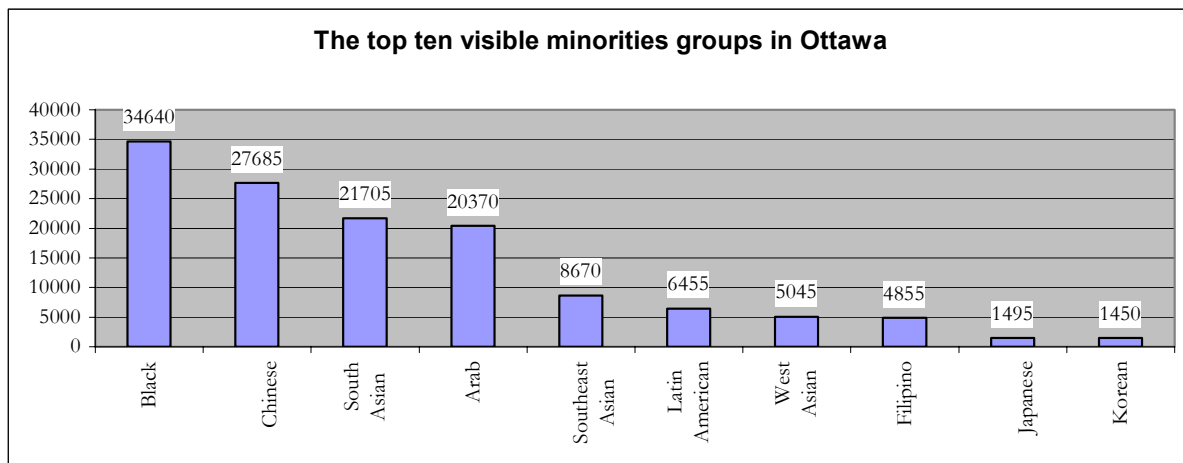
1.3 Visible Minorities & Immigration Trends

Visible minorities represent less than 2% of the population in all districts except Ottawa, where visible minorities represent 18% of Ottawa total population (see Figure 2.2).

A recent City of Ottawa analysis of Immigration and ethno-cultural diversity in the region reported(Ottawa 2003) the following:

- The visible minority population in Ottawa increased by 27.9%. This compares to the 7.3% increase observed nationally.
- In 2001 immigrants represented 22% of the Ottawa population, accounting for 39% of the population growth in Ottawa since 1996.
- Ottawa residents belong to more than 61 different ethnicities and speak more than 70 languages. The top 4 places of birth for recent immigrants are China, India, Somalia and Iran, respectively;
- The immigrant population of Ottawa constitutes a younger population comprised of school age and working age individuals. (Ottawa 2003).

Figure 1.3-1: Top ten visible minority groups in Ottawa Hospital



Source: *Immigration and ethno-cultural diversity: 1996 and 2001 Census Data Highlights*. 2003, Strategic Business Planning Division, Innovation, Development and Partnerships Branch, City of Ottawa: Ottawa.

1.4 Socioeconomic Data

As shown in Table 1.4.-1 the lowest population of people with income below the Statistics Canada low-income cut-off lives in Leeds, Grenville and Lanark counties; whereas the size of the low-income population in other counties is similar to those in Canada and Champlain, respectively.

| | Economic families - incidence of low income (2000) | Unattached individuals - incidence of low income (2000) | Population in private households - incidence of low income (2000) |
|------------------------------------|---|--|--|
| Ontario | 11.7 | 34.0 | 14.4 |
| Champlain | 11.0 | 32.5 | 14.3 |
| Leeds, Grenville and Lanark | 7.8 | 26.3 | 9.8 |
| City of Ottawa | 11.4 | 32.0 | 15.0 |
| Renfrew County | 9.3 | 33.2 | 11.7 |
| Eastern Ontario | 10.3 | 35.3 | 13.0 |

Table 1.4.-1 Population in economic families, unattached individuals and Population in private households with incomes below the Statistics Canada low-income cut-off (LICO), by household status, Canada, provinces, territories (2000)

Data source: Statistics Canada, 2001 Census (20% sample)

The LICOs represent levels of income where people spend disproportionate amounts of money for food, shelter, and clothing.

Low income cut-offs (LICOs) are based on family and community size; cut-offs are updated to account for changes in the Consumer Price Index.

The term economic family refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption.

2.0 Mortality

2.1 Mortality Rates

Ischemic heart disease is the leading cause of death in Canada, Ontario, and Champlain district, respectively. (Figure 2.1.-1 and Table 2.1.-1).

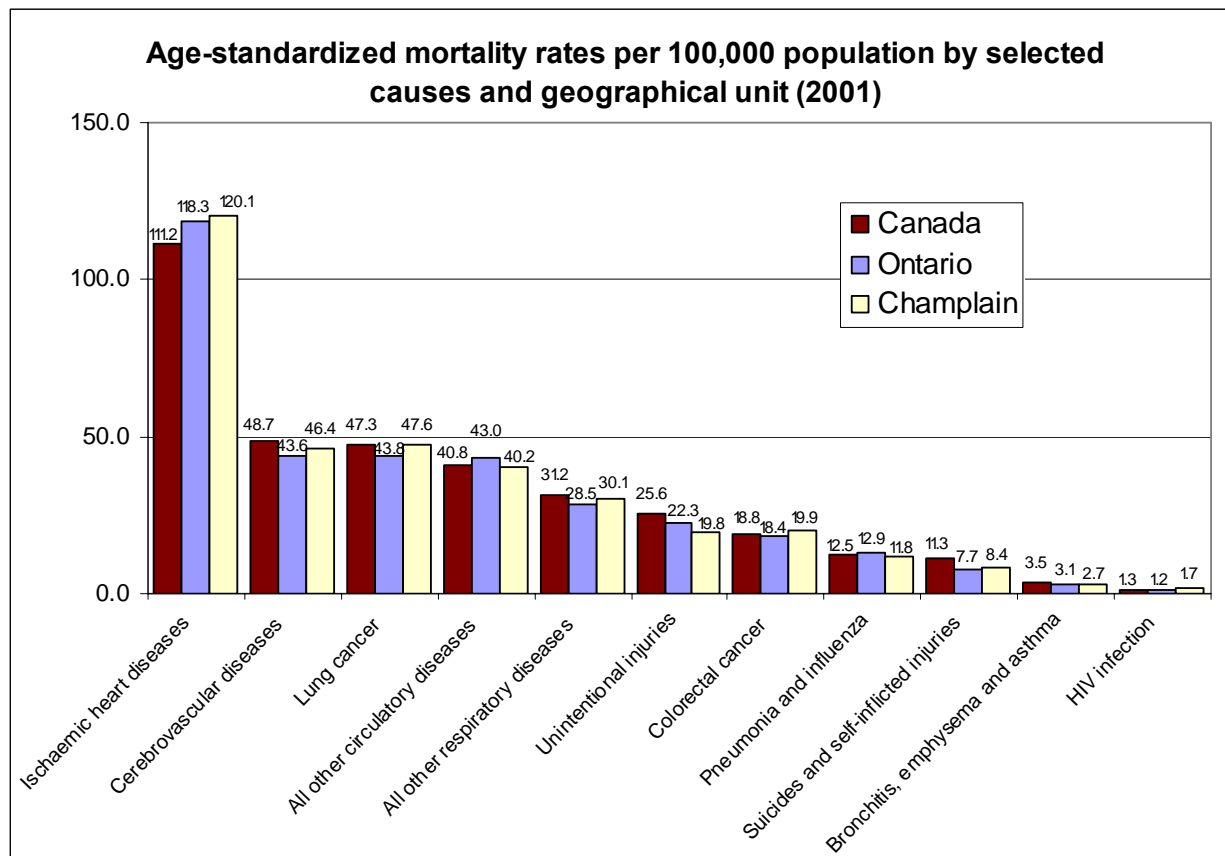


Figure 2.1.-1: Age Standardized Mortality rates per 100,000 by selected causes of death (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths3.htm>

| Cause of Death | Canada | Ontario | Champlain |
|--------------------------------------|--------|---------|-----------|
| Ischemic heart diseases | 111.2 | 118.3 | 120.1 |
| Cerebrovascular diseases | 48.7 | 43.6 | 46.4 |
| Lung cancer | 47.3 | 43.8 | 47.6 |
| All other circulatory diseases | 40.8 | 43.0 | 40.2 |
| All other respiratory diseases | 31.2 | 28.5 | 30.1 |
| Unintentional injuries | 25.6 | 22.3 | 19.8 |
| Colorectal cancer | 18.8 | 18.4 | 19.9 |
| Pneumonia and influenza | 12.5 | 12.9 | 11.8 |
| Suicides and self-inflicted injuries | 11.3 | 7.7 | 8.4 |
| Bronchitis, emphysema and asthma | 3.5 | 3.1 | 2.7 |
| HIV infection | 1.3 | 1.2 | 1.7 |

Table 2.1.-1: Age Standardized Mortality rates per 100,000 by selected causes of death (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths3.htm>

- The standardized mortality rate of Champlain district ranged from a low of 559.8/100,000 in Ottawa to a high of 677.6/100,000 in Renfrew County (Figure 2.1.-2 and Table 2.1.-2)

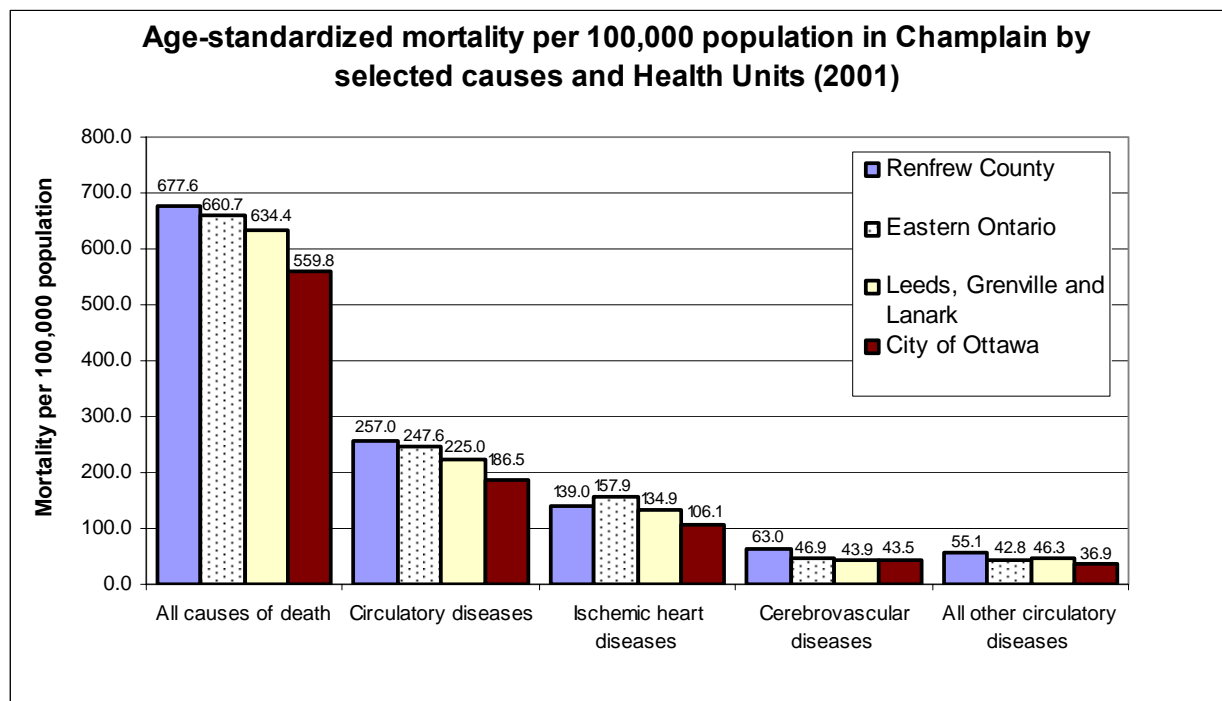


Figure 2.1.-2: Age Standardized Mortality rates per 100,000 by selected causes of death and Health Units (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths3.htm>

| Cause of Death | Renfrew County | Eastern Ontario | Leeds, Grenville and Lanark | City of Ottawa |
|--------------------------------|----------------|-----------------|-----------------------------|----------------|
| All causes of death | 677.6 | 660.7 | 634.4 | 559.8 |
| Circulatory diseases | 257.0 | 247.6 | 225.0 | 186.5 |
| Ischemic heart diseases | 139.0 | 157.9 | 134.9 | 106.1 |
| Cerebrovascular diseases | 63.0 | 46.9 | 43.9 | 43.5 |
| All other circulatory diseases | 55.1 | 42.8 | 46.3 | 36.9 |

Table 2.1.-2: Age Standardized Mortality rates per 100,000 selected causes of death and Health Units (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths3.htm>

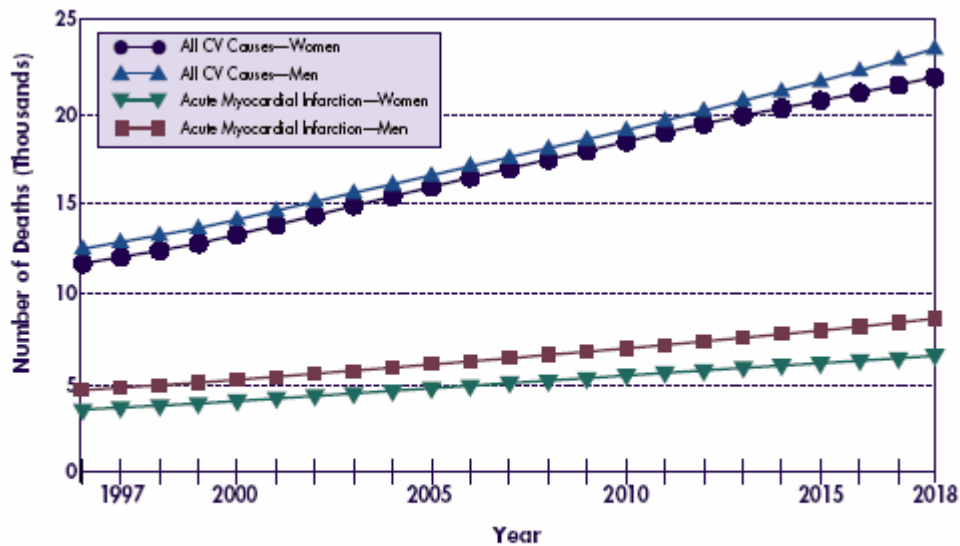
- The Renfrew County is one of five provincial hot spots for CVD and ischemic mortality. Mortality rates in Ottawa are similar to the provincial average. Mortality rates in Renfrew County are higher than the provincial average in men (Naylor, 1999, DHC, 2003).

2.2 Trends in Mortality Rates

Figure 2.2.-1 shows the projected number of all-cause cardiovascular disease mortality and AMI-only deaths over time if the age- and sex-adjusted mortality did not change after 1996/97. Based on population projections prepared by the provincial government, the number of deaths in the cardiovascular category would almost double (an increase of 90%) by the year 2018, due to population growth and aging. However, it is possible that the continuing slow decline in mortality rates will blunt the impact of population aging.

Figure 2.2.-1: Projected Number of Deaths from All Cause Cardiovascular Disease and Acute Myocardial Infarction Only in Ontario, 1997 to 2018*

ICES, 1999: http://www.ices.on.ca/file/3_CVA_Chapter1.pdf



*Note: Projected deaths based on assumption that age-sex mortality remains constant from 1996 onwards.

Data Source: Office of the Registrar General, Ministry of Consumer and Commercial Relations, Annual Report, 1997, Ontario Ministry of Finance, and County Population Projections, April 1995

2.3 Potential Years of Life Lost (PYLL)

The leading causes of potential years lost in 2001 for Canada in males are unintentional injuries followed by ischemic heart disease; however, the order in Ontario and the Champlain region is reversed with the leading cause of PYLL being ischemic heart disease (Fig. 2.3.-1 and Table 2.3.-1).

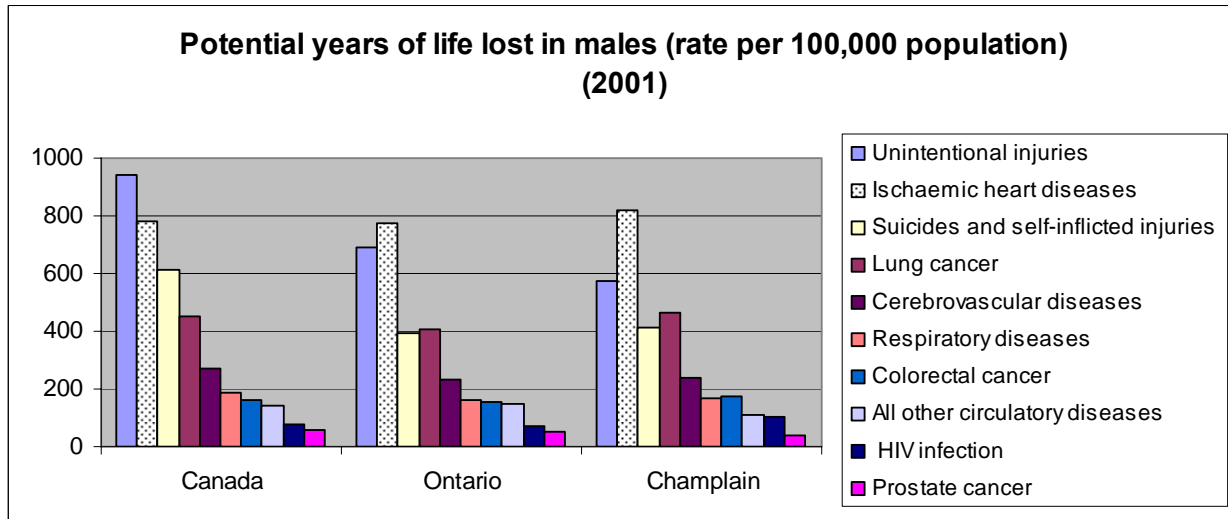


Figure 2.3.-1: Potential years of life lost in males (rate per 100,000 population) (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths4.htm>

| 2001 | Canada | Ontario | Champlain |
|--------------------------------------|--------|---------|-----------|
| Unintentional injuries | 942.7 | 690.3 | 576.0 |
| Ischaemic heart diseases | 783.2 | 772.8 | 820.4 |
| Suicides and self-inflicted injuries | 610.2 | 391.7 | 412.9 |
| Lung cancer | 453.0 | 404.2 | 463.6 |
| Cerebrovascular diseases | 269.9 | 233.3 | 237.5 |
| Respiratory diseases | 185.4 | 162.6 | 167.1 |
| Colorectal cancer | 160.8 | 152.6 | 171.5 |
| All other circulatory diseases | 141.9 | 147.1 | 106.7 |
| HIV infection | 76.7 | 72.4 | 101.3 |
| Prostate cancer | 56.6 | 51.6 | 40.0 |

Table 2.3.-1: Potential years of life lost in males (rate per 100,000 population) (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths4.htm>

- In females, the leading cause for PYLL in Ontario is breast cancer; whereas the leading cause for PYLL in Canada and Champlain is lung cancer. Ischemic heart disease is the fourth cause for PYLL in Canada and Ontario, and the third cause in Champlain (Fig. 2.3.-2 and Table 2.3.-2).

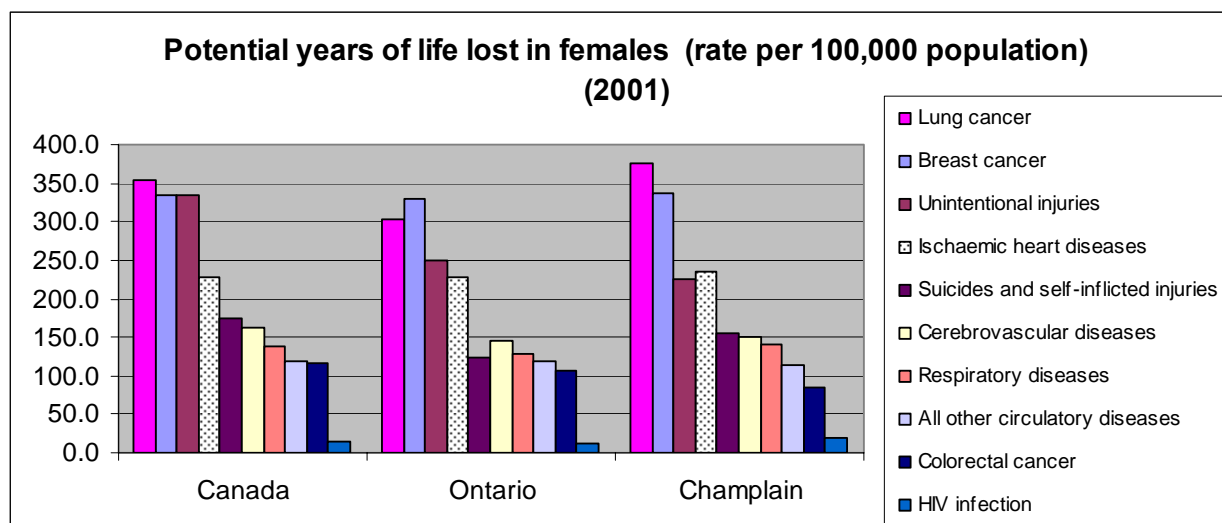


Figure 2.3.-2: Potential years of life lost in females (rate per 100,000 population) (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths4.htm>

| 2001 | Canada | Ontario | Champlain |
|--------------------------------------|--------|---------|-----------|
| Lung cancer | 353.5 | 302.5 | 374.9 |
| Breast cancer | 334.5 | 330.3 | 337.1 |
| Unintentional injuries | 334.1 | 250.3 | 226.6 |
| Ischemic heart diseases | 228.3 | 227.0 | 236.1 |
| Suicides and self-inflicted injuries | 174.8 | 124.1 | 154.8 |
| Cerebrovascular diseases | 162.3 | 145.9 | 149.7 |
| Respiratory diseases | 138.5 | 128.9 | 141.3 |
| All other circulatory diseases | 118.3 | 119.8 | 113.6 |
| Colorectal cancer | 115.3 | 107.8 | 85.9 |
| HIV infection | 15.7 | 11.2 | 19.9 |

Table 2.3.-2: Potential years of life lost in females (rate per 100,000 population) (2001)

Statistics Canada's mortality data: <http://www.statcan.ca/english/freepub/82-221-XIE/2004002/hlthstatus/deaths4.htm>

3. Cardiac Events

3.1 Cardiac Bypass Graft Surgery (CABG)

- In the Champlain District rate of CABG in 2004 was 86.2/100,000 residents, with lowest rates observed in Ottawa. The rate of CABG in Champlain District was lower than the rates in Canada and Ontario, respectively (95.1 and 97.4, resp). (Figure 3.1-1; Table 3.1-1).

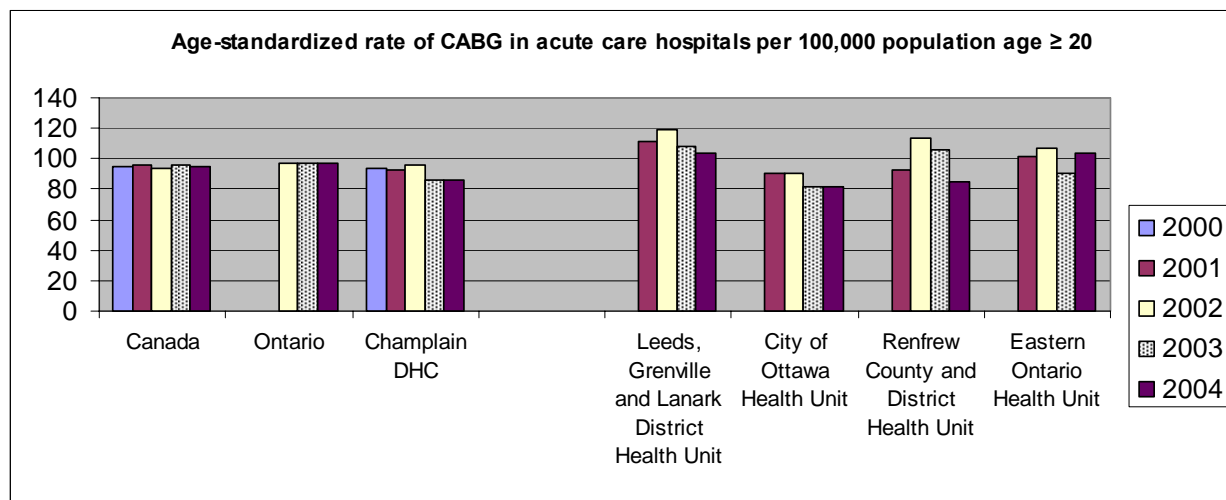


Figure 3.1-1: Age-standardized rate of CABG per 100,000 population age 20 and over

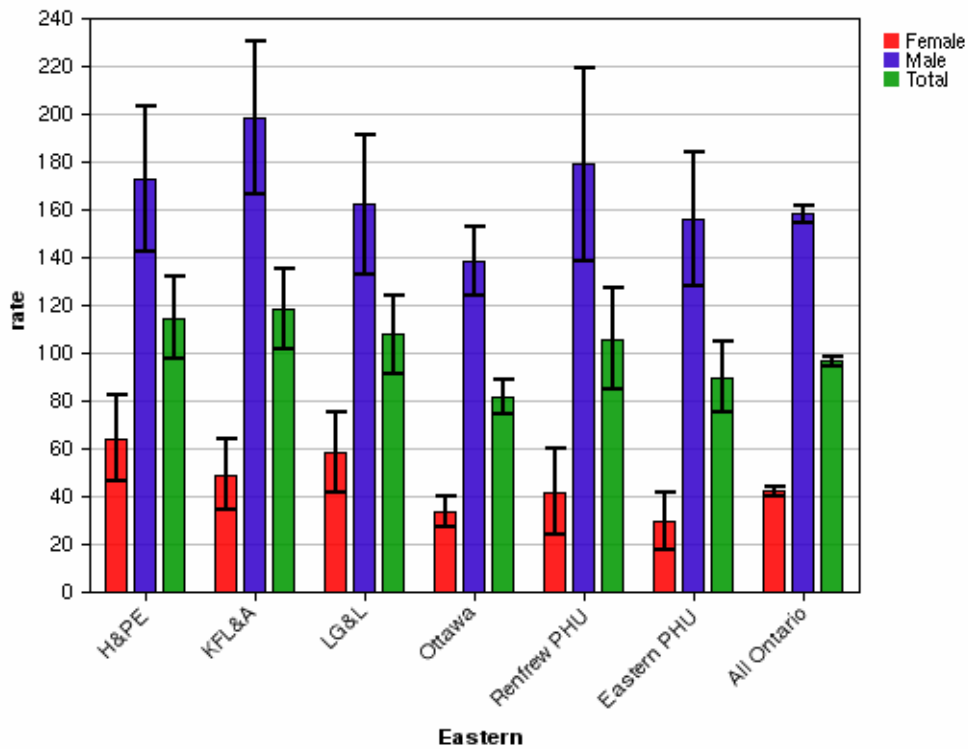
CIHI Health Indicators: http://secure.cihi.ca/indicators/2005/en/tables05_e.shtml#health

| | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|------|-------|-------|-------|-------|
| Canada | 94.3 | 95.5 | 94.2 | 95.5 | 95.1 |
| Ontario | .. | .. | 97 | 96.6 | 97.4 |
| Champlain DHC | 93.3 | 92.6 | 96.3 | 85.5 | 86.2 |
| Leeds, Grenville and Lanark District Health Unit | .. | 111.4 | 118.9 | 107.7 | 103.8 |
| City of Ottawa Health Unit | .. | 90.6 | 90.7 | 81.5 | 81.8 |
| Renfrew County and District Health Unit | .. | 92.2 | 113.9 | 105.7 | 84.7 |
| Eastern Ontario Health Unit | .. | 101.6 | 106.5 | 89.9 | 104.1 |

Table 3.1-1: Age-standardized rate of CABG per 100,000 population age 20 and over

CIHI Health Indicators: http://secure.cihi.ca/indicators/2005/en/tables05_e.shtml#health

.. - Data not available



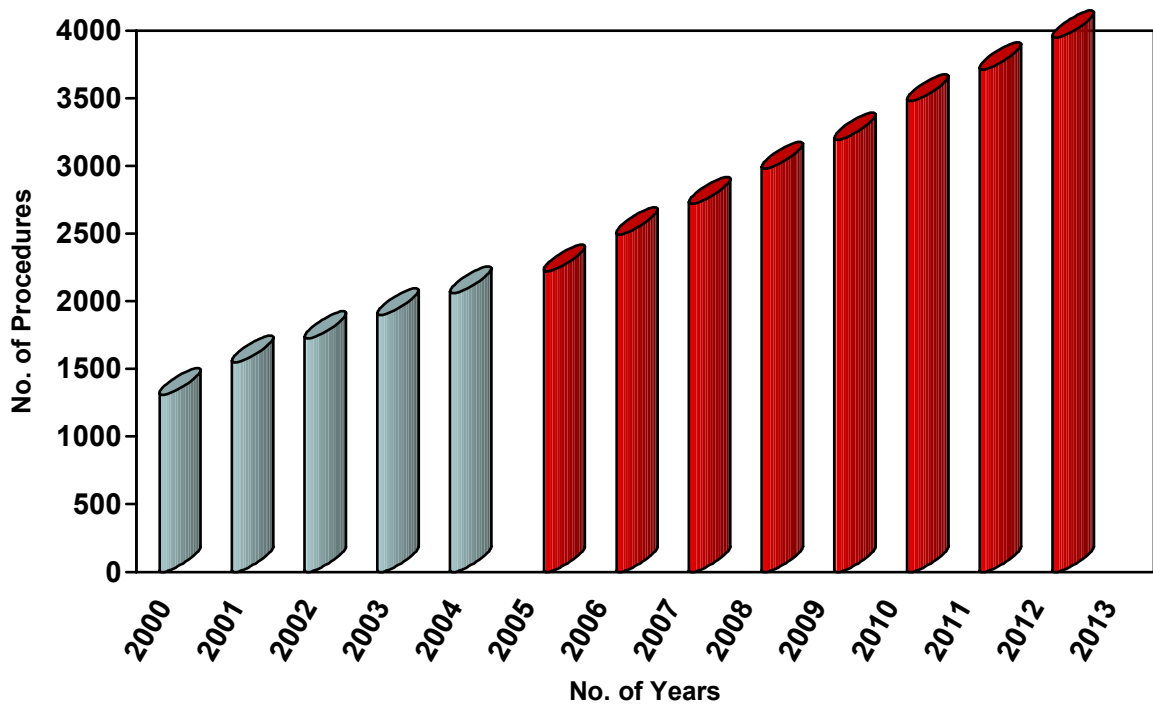
H&PE= Hasting Prince Edward County, KFL&A=Kingston, Frontenac, Lennox & Addington, LG&L= Leeds, Grenville, and Lanark Source: DHC, 2004

Figure 3.1-2: Coronary Artery Bypass Graft Surgery rate per 100,000 (age 20+) in Eastern Ontario (DHC, 2004)

3.2 Angioplasty

- The rate of angioplasty procedures has surpassed that of coronary bypass surgery for the revascularization provincially and within the Champlain District (ICES, 2003, UOHI, 2003);
- The number of Angioplasty (PCI) procedures performed regionally is expected to double in the next 10-years (UOHI, 2004) (see Figure 3.2-1).
- Re-hospitalization rate following coronary angioplasty ranges between 25%-30% (ICES, 2004).

Figure 3.2-1: Annual Number of Percutaneous Cardiac Interventions (Actual and Predicted)



3.3 Myocardial Infarction

Number of MI episodes in selected Champlain District areas can be seen in Figure 3.3.-1. However, one has to interpret these data with caution as they are not standardized for population. Secondly, University of Ottawa Heart Institute gets referrals from wider region and that can contribute to the distortion of the data as well.

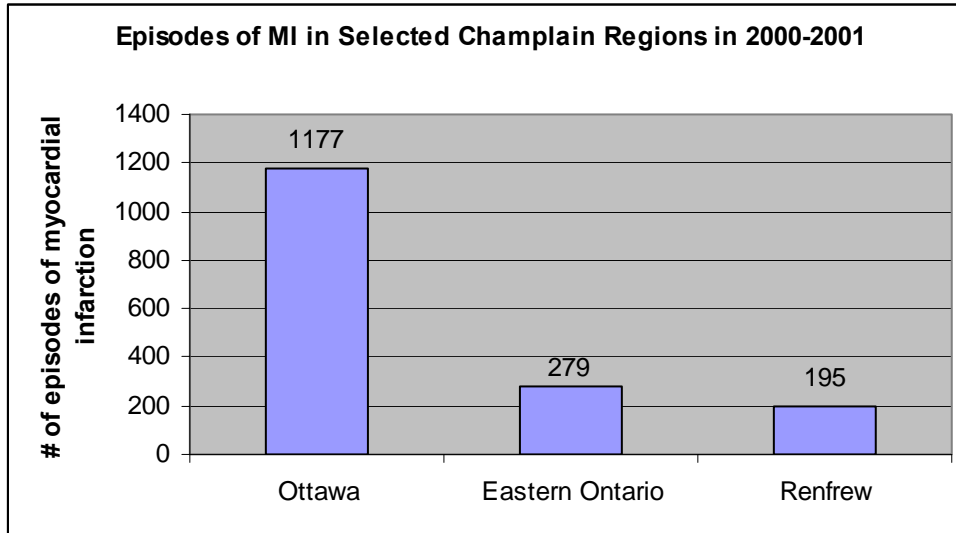


Figure 3.3.-1: Number of MI episodes in 2000-2001. Source: UOHI

4. Health Behaviors and Prevalence of Cardiovascular Risk Factors

- The prevalence of selected cardiovascular risk factors as observed in the Canadian Community Health Survey is shown in Figure 4.1.-1 and 4.1.-2, and Table 4.1.-1 and 4.1.-2.
- The prevalence of hypertension in Champlain District (14%) is lower than in Canada (14.4%) and Ontario (14.7%). Within the Champlain District, the prevalence is highest in Eastern Ontario (17.1%) and Renfrew (16.9%), followed by Leeds, Grenville and Lanark counties (15.5%), and the lowest prevalence is in Ottawa (12.3%).
- The prevalence of diabetes in Champlain District (6%) is higher than in Canada and Ontario, respectively (4.6%). The prevalence of diabetes within Champlain District is ranging from 4.6% (Ottawa) to 5.5 % (Renfrew).
- The prevalence of overweight (BMI 25-29.9) both in Canada and Ontario is 33%; the prevalence in Champlain is 37% with the highest prevalence in Eastern Ontario (41%) and the lowest in Ottawa and Leeds, Grenville and Lanark counties. Same pattern was observed for obesity with 15% prevalence in Canada and Ontario and 14% in Champlain, with the highest prevalence in Eastern Ontario (19%).
- The proportion of smokers is 23% in Canada, 22% Ontario and 21% Champlain. The highest prevalence of smoking within the Champlain District is in Leeds, Grenville and Lanark counties (27%) and the lowest prevalence is in the city of Ottawa (20%), being even below the national average.
- The percentage of physically inactive people is 47% in Canada and Ontario, and 44% in the Champlain District. Within the Champlain District, the higher percentage of inactive people is in Eastern Ontario (49%) and the lowest percentage is in Ottawa (42%), being again lower than the national average.
- The proportion of people eating less than 5 servings of fruits and vegetables per day is 55% in Canada, Ontario, and Champlain, respectively. Within the Champlain District, this number ranges from 58% in Renfrew to 50% in Eastern Ontario.
- The 2000/01 Canadian Community Heart Health Survey did not document the prevalence of elevated cholesterol (blood lipids) as part of the survey methodology. As such there is limited data available which documents the prevalence of elevated cholesterol in the Champlain region. This observation is true for most of Canada.
 - According to the 1985-1990 Heart Health Surveys: 45% of men and 43% of women had total plasma cholesterol level above the desirable level of 5.2 mmol/L;

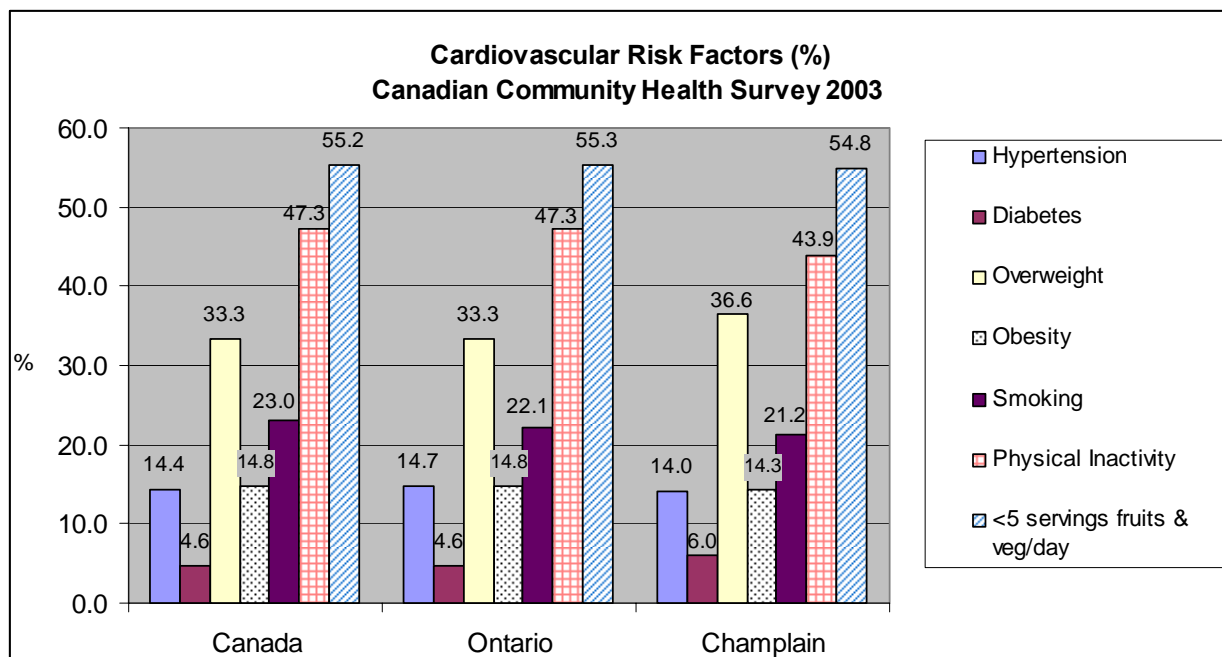


Figure 4.1.-1: Prevalence of cardiovascular risk factors (%) in Canada, Ontario, Champlain (2003)
 Statistics Canada's health indicators data: <http://www.statcan.ca/english/freepub/82-221-XIE/00604/tables.htm>

| | Hypertension | Diabetes | Overweight | Obesity | Smoking | Physical Inactivity | <5 servings fruits & veg/day |
|------------------|--------------|----------|------------|---------|---------|---------------------|------------------------------|
| Canada | 14.4 | 4.6 | 33.3 | 14.8 | 23.0 | 47.3 | 55.2 |
| Ontario | 14.7 | 4.6 | 33.3 | 14.8 | 22.1 | 47.3 | 55.3 |
| Champlain | 14.0 | 6.0 | 36.6 | 14.3 | 21.2 | 43.9 | 54.8 |

Table 4.1.-1: Prevalence of cardiovascular risk factors (%)in Canada, Ontario, Champlain (2003)
 Statistics Canada's health indicators data: <http://www.statcan.ca/english/freepub/82-221-XIE/00604/tables.htm>

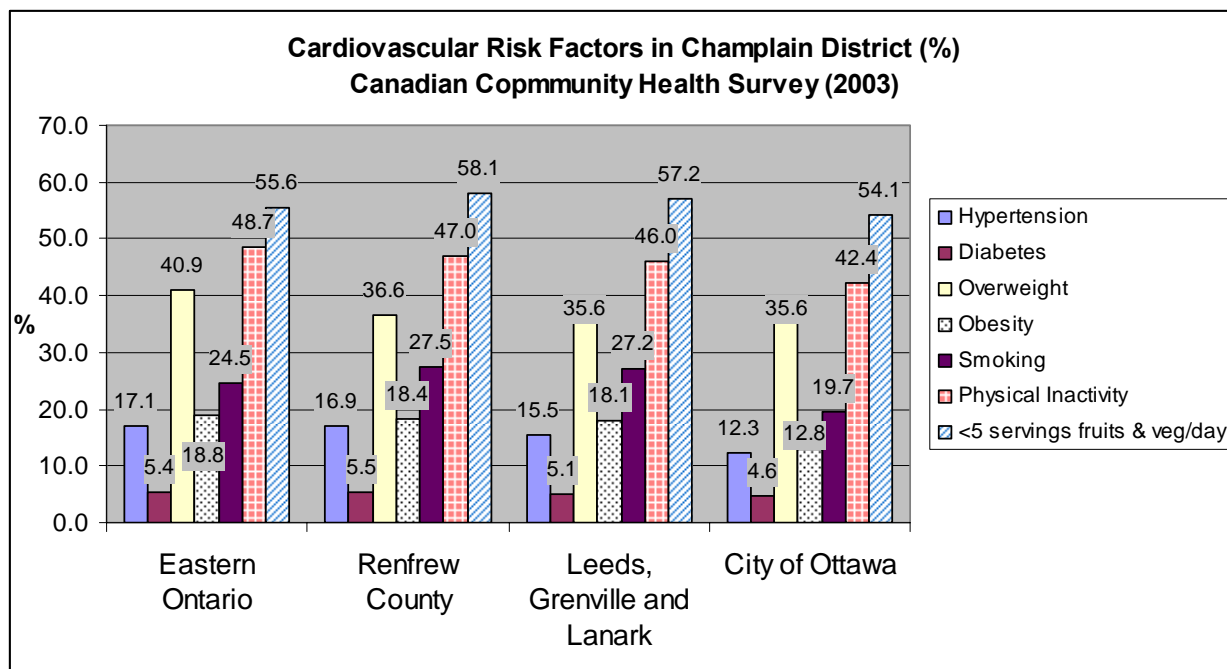


Figure 4.1.-2: Prevalence of cardiovascular risk factors (%) in Champlain District by counties (2003)
 Statistics Canada's health indicators data: <http://www.statcan.ca/english/freepub/82-221-XIE/00604/tables.htm>

| | Hypertension | Diabetes | Overweight | Obesity | Smoking | Physical Inactivity | <5 servings fruits & veg/day |
|-----------------------------|--------------|----------|------------|---------|---------|---------------------|------------------------------|
| Eastern Ontario | 17.1 | 5.4 | 40.9 | 18.8 | 24.5 | 48.7 | 55.6 |
| Renfrew County | 16.9 | 5.5 | 36.6 | 18.4 | 27.5 | 47.0 | 58.1 |
| Leeds, Grenville and Lanark | 15.5 | 5.1 | 35.6 | 18.1 | 27.2 | 46.0 | 57.2 |
| City of Ottawa | 12.3 | 4.6 | 35.6 | 12.8 | 19.7 | 42.4 | 54.1 |

Table 4.1.-2: Prevalence of cardiovascular risk factors (%) in Champlain District by counties (2003)
 Statistics Canada's health indicators data: <http://www.statcan.ca/english/freepub/82-221-XIE/00604/tables.htm>

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