



Chronic Diseases



Chapter 8

Chronic diseases are the leading causes of death in York Region and in Ontario. This chapter provides an overview of selected chronic diseases in York Region. It examines heart disease, stroke, cancer, chronic lung diseases (such as emphysema), diabetes, and selected others.

The control of chronic diseases has three main components: prevention, early detection, and treatment. Early detection of disease is an important means of reducing illness, hospitalization and death. The Screening for Cancer section examines trends in screening for both breast cancer and cervical cancer.

Treatment and early detection efforts are important, however it is prevention that has the greatest potential to reduce the significant burden of chronic diseases and increase the overall level of the population's health.⁷³ In York Region, over three-quarters of the population have one or more of the major risk factors for cardiovascular disease. Risk factors (outlined in Chapter 5) include smoking, having a low physical activity level or having an unhealthy body weight. These risk factors are also associated with other chronic diseases, such as some cancers, chronic lung diseases and diabetes. Health promotion programs that encourage tobacco use prevention, reduction of exposure to environmental tobacco smoke, regular physical activity, and healthy eating can help residents make changes that will have a positive impact on their overall health.

Prevalence of Selected Chronic Conditions

Nearly two out of three York Region residents (ages 12 years and over) interviewed in the 2000/2001 Canadian Community Health Survey reported some chronic condition. The most commonly reported conditions were non-food allergies, back problems, arthritis, high blood pressure, migraine headaches, food allergies, asthma, heart disease, thyroid conditions and diabetes (Table 8.1). Back problems, arthritis, high blood pressure, heart disease, thyroid conditions and diabetes increased in frequency with increasing age. Asthma was more frequent in children and youth ages 12 to 19, compared to people over age 20. York Region respondents were just as likely as the general Ontario population to report having chronic conditions.

At a Glance

The mortality rates for ischemic heart disease and stroke decreased by 53% and 40% respectively in York Region between 1986 and 1999.

Hospitalization rates for ischemic heart disease in York Region were 19% lower than the provincial average between 1997 and 2001.

The mortality rates for ischemic heart disease and lung cancer among males has been declining faster than among females. This likely reflects increased rates of smoking among females.

In 2000/01, 12% of York Region children ages 12 to 19 reported being diagnosed with asthma. Asthma is the leading cause of hospitalization among York Region children 14 years of age and younger, from 1997 to 2001.

The incidence of cervical cancer among York Region females was approximately 13% lower than the provincial average between 1986 and 2000.

In 2000/01, only 62% of women in York Region aged 50 to 69 reported that they had a screening mammogram within the last two years.

Table 8.1 Prevalence of Selected Chronic Conditions, Ages 12 and Over York Region, 2000/2001

Selected Chronic Conditions	Percent of Ages 12+ Reporting Condition(s)
Allergies other than food allergies	27
Back problems	17
Arthritis or rheumatism	14
High blood pressure	12
Migraine headaches	12
Food allergies	9
Asthma	7
Heart disease	5
Thyroid condition	5

Source: Canadian Community Health Survey 2000/2001, Cycle 1.1, Statistics Canada, 2002

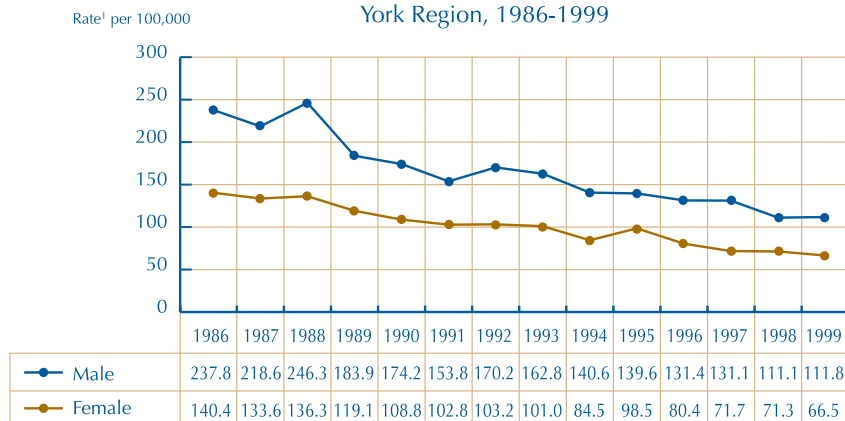
Selected Chronic Diseases

Ischemic Heart Disease

Ischemic heart disease (IHD) was the leading cause of death and premature death in York Region in 1999, accounting for 17% of all deaths. Since 1986, the death rate from IHD for York Region males has been consistently higher than the rate for females (Figure 8.1). During this time period, the IHD death rate decreased 53% among both York Region males and females.

Between 1997-2001, York Region hospitalization rates for IHD were 19% lower than the provincial average (17% lower for males and 24% lower for females).

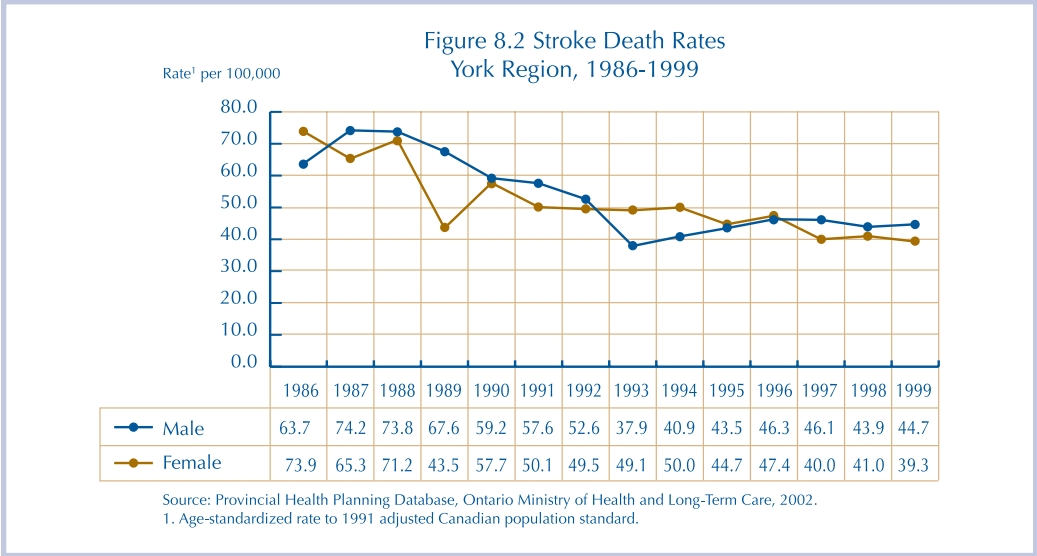
Figure 8.1 Ischemic Heart Disease Death Rates York Region, 1986-1999



Source: Provincial Health Planning Database, Ontario Ministry of Health and Long-Term Care, 2002.
1. Age-standardized rate to 1991 adjusted Canadian population standard.

Stroke

Between 1986 and 1999 in York Region, there was a decline in the death rate from stroke for both males and females, 30% and 47% respectively (Figure 8.2). From 1990 to 1999, there were 1,885 stroke deaths among York Region residents. During this period, the stroke death rate among York Region residents was 8% lower than the Ontario average.

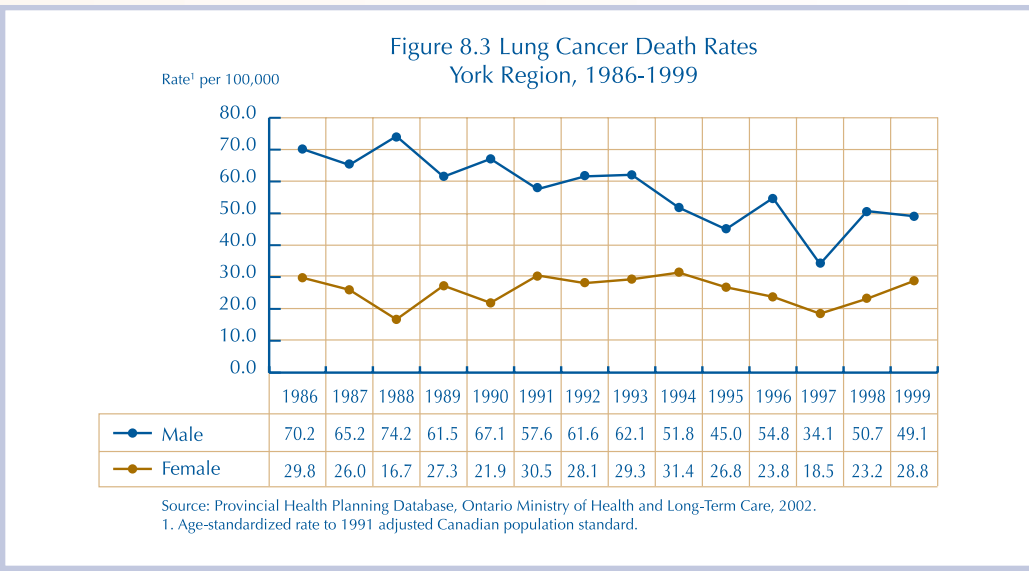


Lung Cancer

Lung cancer is the second leading cause of premature death in York Region and Ontario, behind ischemic heart disease. Lung cancer is also the second most commonly diagnosed cancer among York Region males and females. The death rate from lung cancer for males in York Region has been consistently higher than the rate for females. However, between 1986 and 1999 in York Region, rates for males declined by 30%, while the lung cancer death rate among females remained relatively stable (Figure 8.3). This is most probably related to the increase in female smoking rates following World War II. Lung cancer death rates among York Region residents were 20% lower than the Ontario average from 1986 to 1999.

York Region's incidence rate for lung cancer was also below the provincial average. Between 1986 and 2000, the incidence rate was 23% lower for York Region males and 20% lower for females compared to the Ontario average.



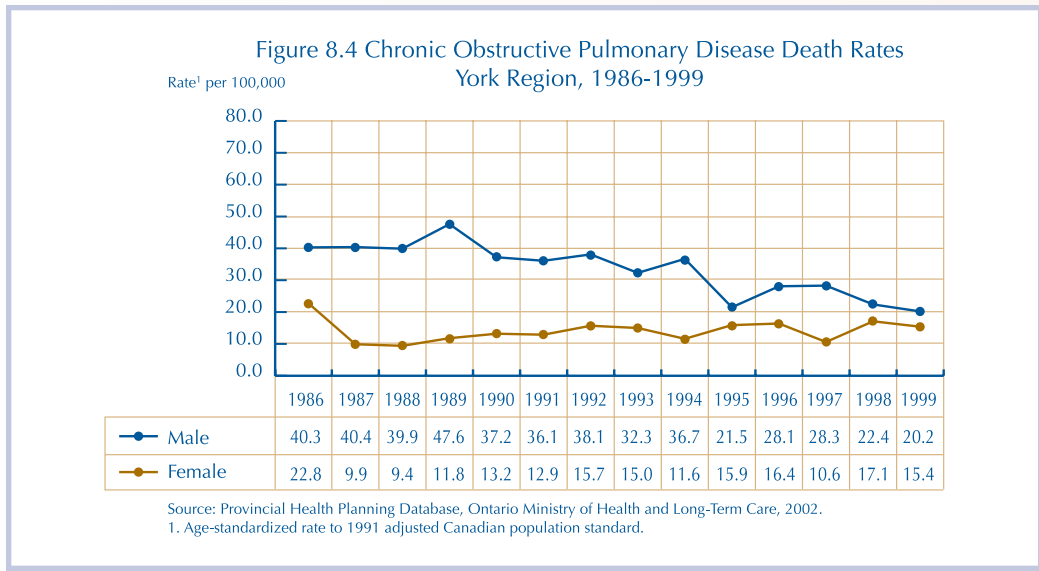


In York Region, an estimated 82% of all lung cancer in men and 68% in women is caused by tobacco.^{74,75} Smoking prevalence has declined for the general Canadian population (ages 15 and over) to 22% in 2001 from 35% in 1985. Smoking rates among teens aged 15 to 19, which increased during the early 1990s, has been on the decrease since 1999. In 2001, 22.5% of Canadian teens reported themselves as current smokers. This represents 24% of teen girls and 21% of teen boys.⁷⁶

Smoking is a major public health concern. To address it, local health units are mandated by the provincial government to provide programs targeted to tobacco use prevention and smoking cessation. Treatment for lung cancer has met with only limited success. With an estimated five-year survival rate of only 13%, lung cancer has the poorest prognosis for cancer of any site other than the pancreas.

Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease (COPD) includes conditions such as chronic bronchitis and emphysema. In York Region, the death rates of COPD for males have been higher than the rate for females. Between 1986 and 1999 in York Region, there was a decline in the death rate for both males and females (50% and 32%, respectively). This is illustrated in Figure 8.4.



The narrowing of the gap between the death rates experienced by males and females for both lung cancer and COPD indicates differences in the adoption of risk behaviours, particularly smoking. The rise in female COPD death rates is similar to the lung cancer death rates and is most probably due to the large increase in smoking following World War II.⁷⁷ For men, the decline in deaths due to lung cancer and COPD largely reflects a decline in the prevalence of smoking since the mid-1960s, particularly among young and middle-aged men.

Breast Cancer

During their lifetimes, 1 in 8.8 Canadian women are expected to develop breast cancer, and 1 in 26.6 women are expected to die from it.⁷⁸ Increasing age is the strongest risk factor for breast cancer. The older a woman is, the more likely she is to develop the disease. There is some evidence that increased risk of breast cancer may be linked to a high intake of dietary fat, obesity after menopause, alcohol use and hormonal replacement therapy after 5 years.^{79,80}

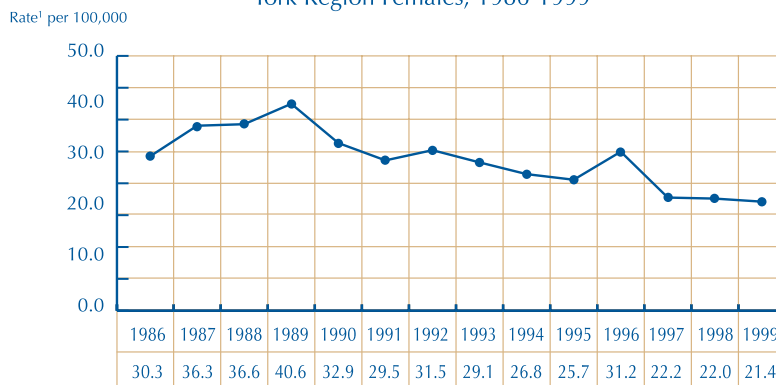
Between 1986 and 2000, the incidence rate of breast cancer for York Region females was the same as the average rate for Ontario.

The decrease in breast cancer mortality rates among York Region women since 1989 (Figure 8.5) may, in part, be related to increased accessibility to, and the use of, screening and medical services throughout the Region. If this is the case, breast cancers are detected earlier and treatments are provided in a timely manner. There is an ongoing need for screening and detection services that are accessible to women in all areas throughout the Region.





Figure 8.5 Breast Cancer Death Rates Among York Region Females, 1986-1999



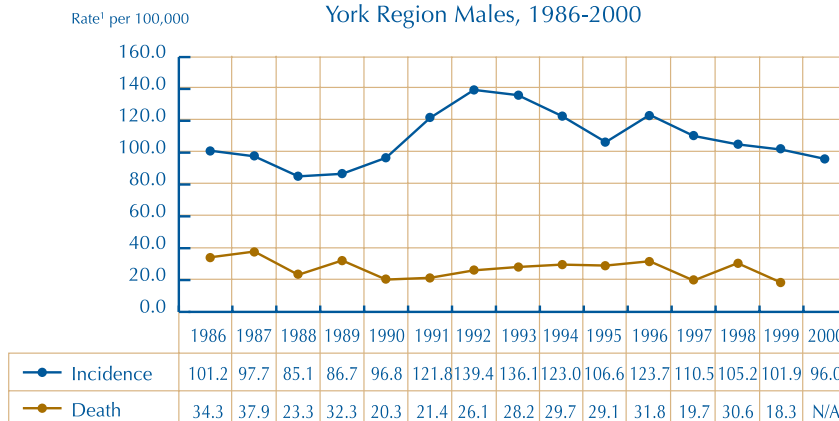
Source: Provincial Health Planning Database, Ontario Ministry of Health and Long-Term Care, 2002.
 1. Age-standardized rate to 1991 adjusted Canadian population standard.

Despite lower mortality rates, breast cancer was the leading cause of both cancer incidence (1995-2000) and cancer death (1995-99) for women living in York Region.

Prostate Cancer

Among York Region males, prostate cancer (Figure 8.6) is the most commonly diagnosed cancer and the third leading cause of cancer deaths after lung cancer and colorectal cancer. The use of the prostate-specific antigen (PSA) screening test may have led to earlier and increased detection of the disease.⁸¹ The overall incidence rate of prostate cancer among York Region males between 1986 and 2000 was the same as the provincial average.

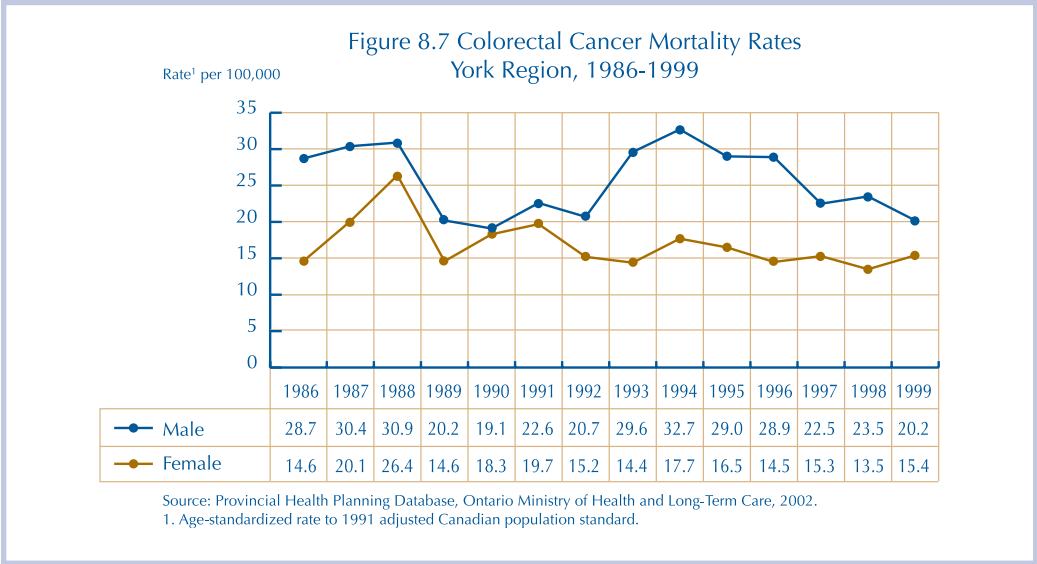
Figure 8.6 Prostate Cancer Incidence & Mortality Rates Among York Region Males, 1986-2000



Source: Provincial Health Planning Database, Ontario Ministry of Health and Long-Term Care, 2002.
 1. Age-standardized rate to 1991 adjusted Canadian population standard. N/A - not available.

Colorectal Cancer

Several groups of individuals have been identified as being at high risk for developing colorectal cancer. These individuals have risk factors that include genetic history and a lifestyle that reflects tobacco use, obesity, low levels of physical activity, high levels of alcohol consumption, high intake of red meat and low intake of fruit and vegetables. By age 50, the risk of developing colorectal cancer is 18 to 20 times greater than the risk for a 30-year-old person, and the risk continues to double every seven years thereafter.⁸² As seen in Figure 8.7, colorectal cancer mortality rates for York Region have fluctuated from 1986 to 1999 with males having higher deaths rates from colorectal cancer compared to females. Mortality rates for males in York Region have been similar to provincial rates over the latest five-year period. Between 1986 and 2000, the incidence of new cases of colorectal cancer among York Region residents was 8% lower than the provincial average.



Cervical Cancer

Between 1986 and 2000, the incidence of cancer of the cervix among York Region females fluctuated between 4.2 and 12.0 cases per 100,000 female population. Overall, the York Region rate was about 13% lower than for Ontario as a whole. This may be partly due to increased accessibility and utilization of early detection screening programs throughout the Region. Certain factors have been identified which increase a woman's risk of developing cervical cancer including: history of genital human papilloma virus infection, early age at first sexual intercourse (16 years or younger) and a history of multiple sexual partners and active or passive smoking.



Cervical cancer occurs more frequently in women of low socioeconomic status and in immigrant and aboriginal women.⁸³ As shown in Table 8.2, the cervical cancer incidence rate generally increases with increasing age.

Screening programs that include the Pap test are designed to detect pre-cancerous conditions at a stage when treatment and a cure are highly possible. Based on 2000/01 Canadian Community Health Survey results, 78% of York Region women ages 18 and over reported having had a Pap test within the last 3 years, compared to the Ontario average of 73%. Although the screening and educational programs provided by health professionals throughout the Region do not totally eliminate the disease, it is believed that they have contributed significantly to the decline in mortality from this form of cancer.

Table 8.2 Cervical Cancer Incidence Rate By Age Group
York Region Females, 1990-2000

Age Group	Rate per 100,000
25-34	7.2
35-44	13.4
45-54	8.3
55-64	14.6
65-74	17.6
75-84	12.3
85+	16.9

Source: Cancer Care Ontario, 2002.

Malignant Melanoma

Malignant melanoma is a form of eye and skin cancer that is associated with exposure to ultraviolet light and strong sunlight. Fair-skinned individuals exposed to the sun are at higher risk. Exposure to excessive sunlight and/or exposure that causes the skin to burn, particularly at a young age, are risk factors for the development of melanoma later in life.⁸⁴ According to York Region's Rapid Risk Factor Surveillance System (RRFSS), 30% of surveyed adults 18 years of age and over indicated they have had a sunburn in the past 12 months (Table 8.3).

In York Region from 1986 to 2000, the incidence of malignant melanoma was approximately 15 percent lower than Ontario as a whole, fluctuating between 6.6 and 12.7 cases per 100,000 population.

Health professionals have introduced a variety of sun safety education and awareness programs that are targeted especially at children and outdoor workers in order to reduce their risks for skin cancer.

Table 8.3 Risk Factors for Malignant Melanoma
York Region Adults (Ages 18 and over), May 2001-September 2001

Risk Factors	Estimated population '000	%
Total (Aged 18 and over)	635,400	100
Sunburn in past 12 months		
Yes	190,600	30
No	444,800	69
Avoided sun between 11 a.m. and 4 p.m.		
Always/Often	247,800	39
Sometimes/Rarely/Never	387,600	61

Source: Rapid Risk Factor Surveillance System (RRFSS), 2001/02, York Region Health Services Department.

Did You Know?

Between 1986-2000, the cancer incidence rate for York Region residents has been lower than the provincial average for the following cancers:

- oral,
- melanoma,
- cervical,
- colorectal,
- prostate,
- female breast, and
- lung.

Oral Cancer

Cancers of the oral cavity and pharynx collectively rank as the 9th most common cancers diagnosed in Ontario men, and 16th in Ontario women, with the incidence in males being approximately twice that in females.

The greatest risk factor for oral cancer is smoking, including cigarettes, pipes and cigars. Use of smokeless (chewing) tobacco is also associated with cancer of the oral cavity and pharynx. Alcohol is also a risk factor and the combination of smoking and alcohol is particularly dangerous due to their synergistic effects.⁸⁵

In York Region from 1986 to 2000, the incidence of oral cancer was approximately 17 percent lower than Ontario as a whole, fluctuating between 5.6 and 12.2 cases per 100,000 population. There were 65 new cases of oral cancer in York Region in 2000.



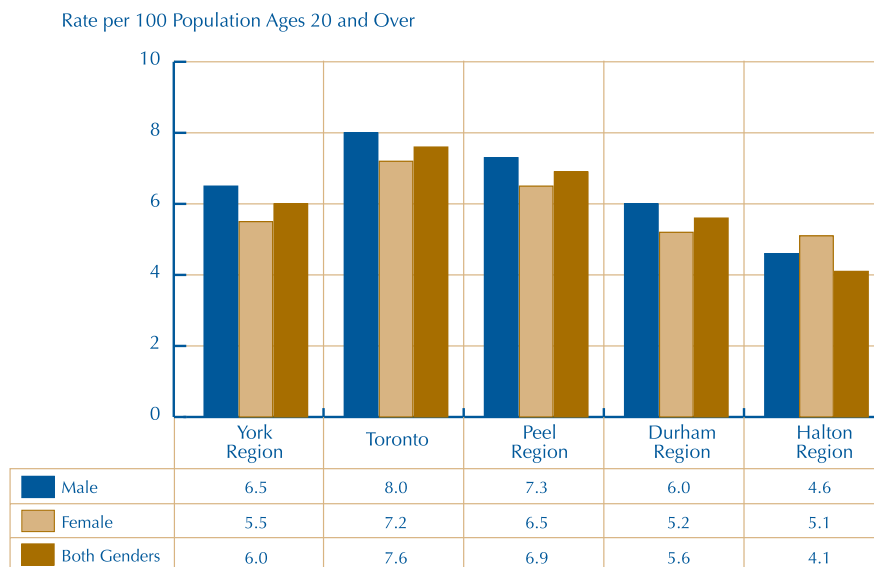
Diabetes

Diabetes mellitus is a chronic condition in which the concentration of glucose (sugar) in the blood is not properly regulated due to the body's inability to produce insulin (type 1 diabetes) or to use insulin effectively (type 2 diabetes).⁸⁶ Insulin is a hormone produced by the pancreas and is essential for regulating glucose levels in the blood and for taking glucose into body cells.⁸⁷ Type 2 diabetes accounts for 90 per cent of all diabetes and is largely preventable. People at increased risk of developing type 2 diabetes include those who are overweight, physically inactive, over age 55, or belong to certain ethnic groups (such as Aboriginal, African, Latin-American, or Asian).⁸⁸

Diabetics may develop a variety of complications including blindness, kidney disease, heart disease, stroke, limb amputation and other significant health problems. Diabetes also contributes to loss of productivity from disability, sickness, premature retirement and premature death.⁸⁹

An estimated 25,400 people or 6% of the York Region adult population age 20 and over had diabetes in 1999.⁹⁰ The rate of diabetes among York Region residents is lower than the rates for the City of Toronto and Peel Region but higher than Halton Region and Durham Region (Figure 8.8). These figures probably underestimate the number of people afflicted with diabetes since up to 30% of people with the disease may be undiagnosed.⁹¹

Figure 8.8 Prevalence of Diabetes Mellitus per 100 Population 20 Years and Over York Region and Other GTA Health Units, 1999



Source: Institute for Clinical Evaluative Sciences, 2002.
Note: Rates based on type 1 and type 2 diabetes.

Diabetes caused the death of 748 York Region residents from 1990-1999. During this period, the York Region death rate was similar to the Ontario average. In 1999, diabetes was the eighth leading cause of death among York Region males and the ninth leading cause among York Region females. These figures are also underestimates since they do not take into account those who die from diabetic complications such as heart disease.⁹²

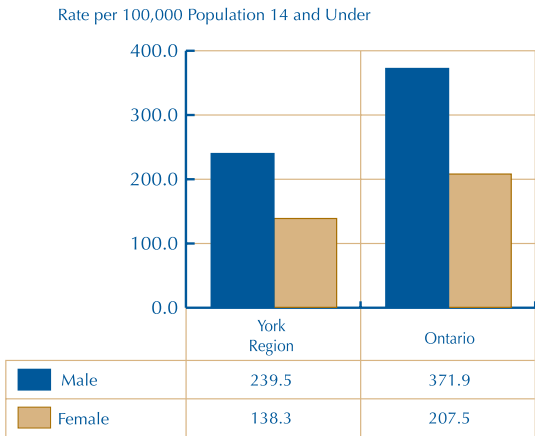
Asthma

Asthma is a chronic lung condition characterized by difficulty in breathing.⁹³ Asthma affects the quality of life of those with the disease and is a significant cause of school and work absenteeism. Asthma can also cause premature death in otherwise healthy individuals.

Based on 2000/01 Canadian Community Health Survey results, an estimated 44,500 York Region residents had asthma that had been diagnosed by a health professional (12% of children ages 12 to 19 years and 6% of adults). Of these, one out of every three individuals reported restricted activity due to asthma either at home, school, or work.

Currently, asthma is the leading cause of hospitalization for children ages 14 and under in York Region. There were 1,400 hospitalizations due to asthma among York Region children from 1997 to 2001. In York Region and Ontario, male children have a higher hospitalization rate for asthma than female children (Figure 8.9). Between 1997 and 2001, the York Region hospitalization rate for asthma in children decreased by 13% and remained lower than the Ontario average. Hospitalization rates do not reflect visits to family physicians, clinics, and emergency rooms due to asthma, or undiagnosed cases of asthma.

Figure 8.9 Hospitalization Rate of Asthma
York Region and Ontario Children Ages 0-14, 1997-2001



Source: Provincial Health Planning Database, Ontario Ministry of Health and Long-Term Care, 2002.





There were 70 deaths directly attributable to asthma among York Region residents of all ages from 1990 to 1999. During this period, the death rate from asthma among York Region residents of all ages remained close to the Ontario average.

The cause of asthma is poorly understood. Asthma triggers are factors that exacerbate asthma such as irritants, allergens or viral infections.⁹⁴ Causes of asthma and exposures that trigger asthma episodes need to be reduced, minimized or eliminated where possible. Examples of avoidable asthma triggers include tobacco smoke, dust and domestic mites and air pollutants such as ground-level ozone, acid aerosols and particulate matter.⁹⁵ York Region Health Services Department is active in promoting smoking cessation programs and in enforcing the York Region No-Smoking By-law in public places and workplaces. Individuals with respiratory illnesses should be aware of air pollution health advisories and plan their activities accordingly.

Screening for Cancer

Breast Cancer Screening

Early detection continues to be the best defense against breast cancer. Screening for breast cancer has been shown to reduce the death rate from the disease, particularly among women 50-69 years of age. The two main methods of screening are mammograms and a clinical examination of the breast by a trained health professional.

The Canadian Cancer Society recommends that women between the ages of 50 and 69 have mammography screening every two years and that women of all ages have a clinical breast examination by a trained health professional at least every two years.⁹⁶

Screening with a Mammogram

In 2000/01, only 62% of women in York Region aged 50 to 69 reported that they had a screening mammogram within the last two years (Figure 8.10).

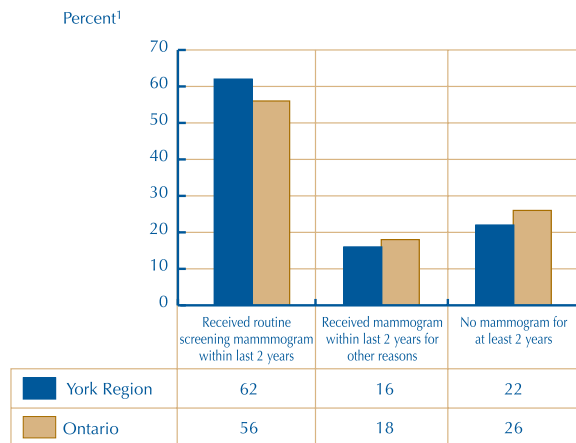
These findings suggest that women in this age group need further information related to the frequency of mammograms as recommended by the Canadian Cancer Society and the Ontario Breast Screening Program (OBSP), and greater access to OBSP sites throughout York Region. Also, these findings may reflect the wide cultural diversity throughout the Region's population and the potential language and cultural barriers that may be limiting access to health information and services.

York Region Health Services Department is an active member of the York Region Breast and Cervical Cancer Coalition.

The Coalition implemented a Lay Health Educator Program targeted at increasing the recruitment of Chinese women to screening programs.

This model has been successful at reaching out to different ethnic groups as well as increasing the awareness of the importance of screening in the early detection of cancer.

Figure 8.10 Screening Mammography Within Past 2 Years
York Region and Ontario Females Ages 50-69, 2000-2001



Source: Canadian Community Health Survey, 2000/01, Cycle 1.1, Statistics Canada, 2002.
1. Percent of female population aged 50 to 69.

Cervical Cancer Screening

Most cases of invasive cervical cancer occur in women who have never been screened or who have not been screened recently. The Ontario Cervical Screening Program focuses on having all women screened, particularly those in the high-risk population groups. Some of the risk factors include tobacco use, multiple sex partners, exposure to human papilloma virus, early age of sexual activity and increasing age. The Pap smear test is an effective screening tool for the early detection of cervical cancer.

In 2000/01, 12.9% of York Region women between the ages of 18 and 69 indicated that they have never had a Pap test. This is higher than the overall provincial rate of 11.6%.

The Canadian Cancer Society estimates that approximately 60% to 70% of cancers in Canada could be prevented if Canadians adopted healthier lifestyles. As a result, York Region Health Services Department continues to fulfill its mandate by working with the community to increase public awareness of risk factors and to provide residents with information that will assist them to make lifestyle changes to reduce their risks of cancer.



Chronic diseases are the leading causes of death in York Region. This chapter has described selected major chronic diseases, discussed incidence in York Region, and outlined some preventive and screening measures. Some of the factors that help explain the occurrence and characteristics of chronic diseases are discussed in other chapters in this report. Chapter 5 (Lifestyle Behaviours and Health) outlines some modifiable behaviours associated with chronic diseases; Chapter 2 (Our Social Environment) discusses some key determinants of health, such as education and income level, that are linked with health status and hence the occurrence of chronic disease; and Chapter 3 (Our Physical Environment) provides some background on air pollution and its links with asthma. Chapter 12 (Use of Health Care Services) discusses York Region residents' access to health care services and ranks the major causes of hospitalization in the Region.