



## chapter 9

### LUNG DISEASE

About three million Canadians are affected by five serious respiratory diseases – asthma, chronic obstructive pulmonary disease (which includes bronchitis and emphysema), lung cancer, tuberculosis and cystic fibrosis. In 2004, respiratory diseases were the third most common main diagnosis resulting in hospitalization in Canada.<sup>1</sup>

#### ***Chronic Obstructive Pulmonary Disease***

Smoking cigarettes causes about 90% of chronic obstructive pulmonary disease (COPD) cases. COPD primarily affects older adults and the elderly. Contributing factors for COPD include cigarette smoking, exposure to second-hand smoke, air pollution, a history of respiratory infections and occupational exposures.<sup>2</sup>

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*More than 90% of cases of COPD are caused by tobacco smoking*

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In 2006/2007 in Peel, 2% of residents aged 35 years and older, representing about 13,000 people, were treated for chronic obstructive pulmonary disease (COPD). This was lower than the 4% of Ontario residents treated. More males than females (3% vs. 2%) were treated for COPD and more males died from it.<sup>A</sup> The convergence of mortality rates for men and women reflects rates of smoking decades ago (Figure 9.1 on next page).

#### ***Asthma***

Measuring the prevalence of asthma is difficult because it is a chronic disease that fluctuates in severity over time. Most people with asthma have not been tested objectively for the condition, for example, with a spirometer.<sup>3</sup> Asthma prevalence is most often measured by self-reported survey data.

### Asthma affects one in twelve Peel residents

In 2005, about 8% of Peel residents reported they had asthma that had been diagnosed by a health professional – a figure comparable to that for Ontario. There has been no significant difference in the self-reported prevalence of asthma since 2001.<sup>c</sup>

From 1994/1995 to 2001/2002 in Ontario, the overall prevalence of asthma among residents aged 0 to 39 years decreased from 6.3 cases per 100 population to 5.8 per 100 population (Figure 9.2 on next page). During the same time period, the prevalence of asthma decreased slightly among younger age groups and remained stable or increased slightly among people aged 25 years and older.<sup>4</sup>

In Ontario in 2001/2002, the incidence of asthma was highest among children aged 0 to 4 years at 38.5 per 1,000 population. By age five, the incidence of asthma falls to 11.2 per 1,000 population.<sup>4</sup>

There are about 5,000 emergency department visits each year by Peel residents for the treatment of asthma. The most frequent visitors are aged 0 to 4 years (Figure 9.3 on next page).

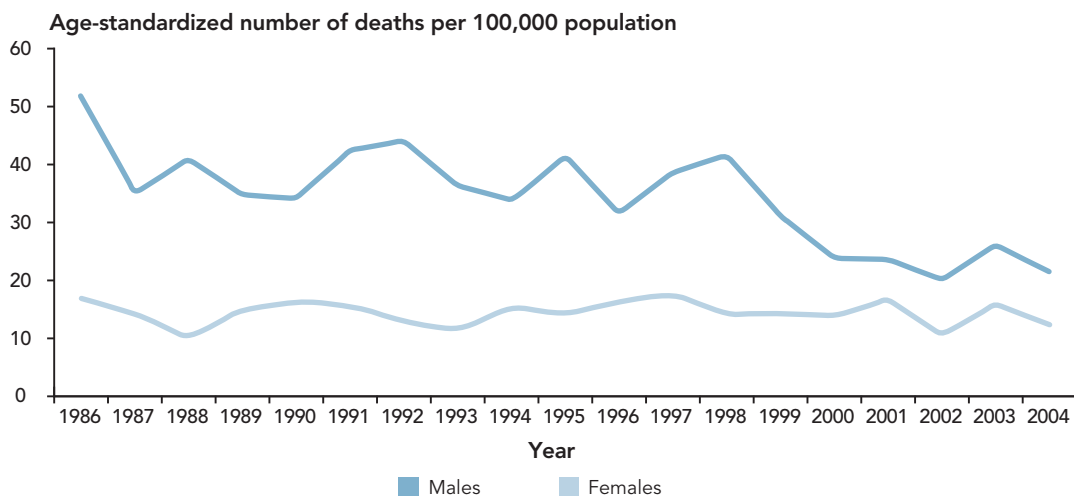
In 2006, emergency department visits for asthma peaked in the month of May and again in September. The May peak was likely caused by increased levels of air pollution and the fall upswing was probably related to the return to school and exposure to viral infections among school children.

In 2005 in Peel, an estimated 52 hospitalizations for asthma, (about 5% of all asthma hospitalizations) and 136,000 “asthma symptom days” were likely caused by air pollution, based on extrapolation from Ontario data.<sup>R</sup>

In Peel and Ontario, mortality rates for asthma have decreased over the last two decades. In Ontario, mortality rates for asthma have been higher for women than men. Asthma is rarely fatal.

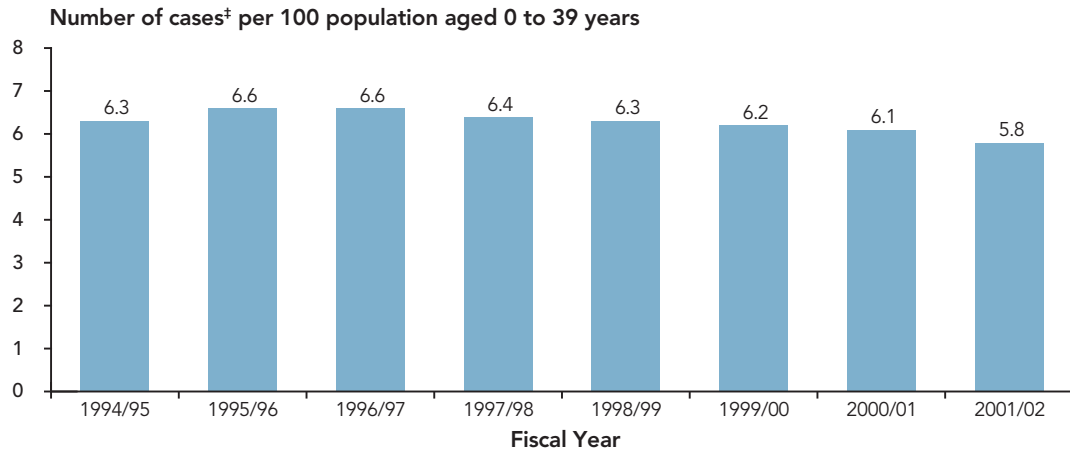


**Figure 9.1**  
Mortality from Chronic Obstructive Pulmonary Disease by Sex,  
Peel, 1986–2004



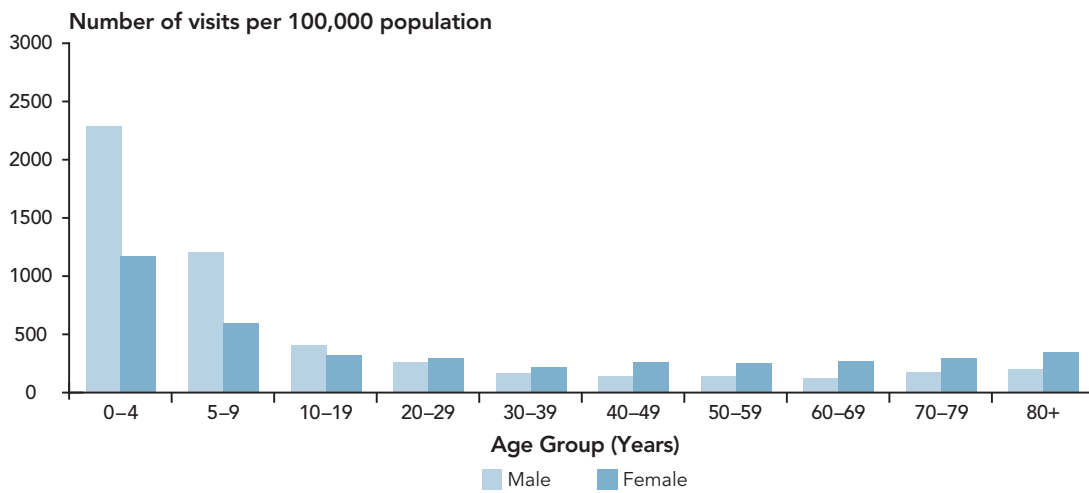
Sources: Ontario Mortality Database 1986-2004, HELPS (Health Planning System), Ministry of Health Promotion  
Population Estimates 1986-2004, Provincial Health Planning Database (PHPDB), Ontario Ministry of Health and Long-Term Care

**Figure 9.2**  
**Asthma Prevalence Rate,**  
**Ontario, 1994/1995 to 2001/2002**



‡ Number of cases includes those who had at least two OHIP claims or one hospitalization for asthma within a three-year period from 1994/95 to 2001/02. Fiscal year: extends from April 1st of one calendar year to March 31st of the next calendar year. Source: Institute for Clinical Evaluative Sciences, in-Tool

**Figure 9.3**  
**Emergency Room Visits for Asthma by Age Group and Sex,**  
**Peel, 2006**



Sources: National Ambulatory Care Reporting System Data 2003-2006 and Population Estimates 1986-2004, Provincial Health Planning Database (PHPDB), Ontario Ministry of Health and Long-Term Care