

CHAPTER 4: DISEASES SPREAD BY CLOSE PERSONAL CONTACT

Highlights

- In Peel, Meningococcal disease is most common among children aged less than one year, followed by those aged 15 to 19 years and one to four years of age.
- The incidence of reported invasive group A streptococcal infection (GAS) decreased in 2002, after steadily increasing from 1993 to 2001. Part of the increase from 1993 to 2001 is explained by a more inclusive case definition that has been used since 1995. Two outbreaks in 2001 raised rates in that year.
- Invasive Group A Streptococcal infection is most common in children less than one year of age and those over 60 years of age.
- The incidence of tuberculosis was generally stable in Peel from 1993 to 2002 and more common in the older age group.

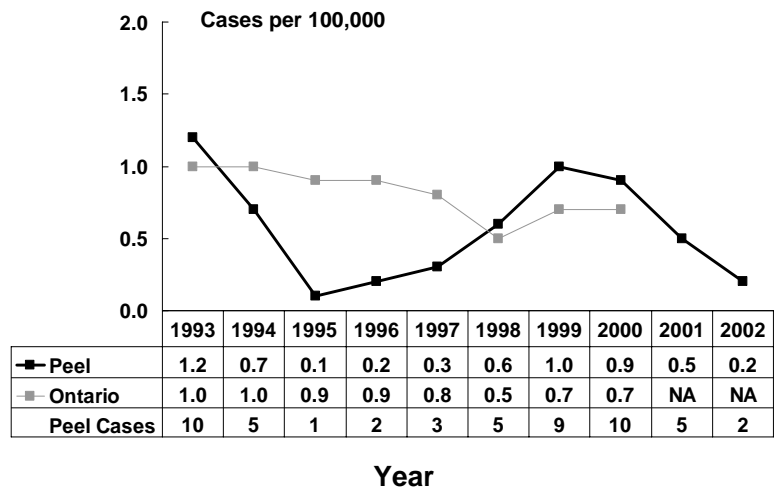
INTRODUCTION

Diseases spread by close personal contact are most often passed between family members or people who share living arrangements. Spread also occurs among casual contacts, but is much less likely since repeated, close and prolonged exposure is usually required for infection. Streptococcal and meningococcal infections are spread from the nasal and throat secretions of a person infected by or carrying the bacteria. Infections can occur directly or from large droplets produced by coughing and sneezing. Many people carry these organisms without being sick. Some types of meningococcal disease can be prevented by non-routine immunization. Tuberculosis (TB) is spread in the air when a person coughs up TB bacteria from their lungs.

MENINGOCOCCAL DISEASE

Invasive (life-threatening) meningococcal disease is caused by the bacterium *Neisseria meningitidis* (also known as meningococcus). Invasive disease arises as a result of infection of the lining of the brain (meningitis) or the blood stream. Canadian children under one year of age are most at risk for meningococcal infection, followed by children under five and those 15 to 19 years of age.²¹

Figure 4.1: Incidence of Meningococcal Disease, Region of Peel and Ontario, 1993-2002



NA: 2001 and 2002 Ontario data not available.

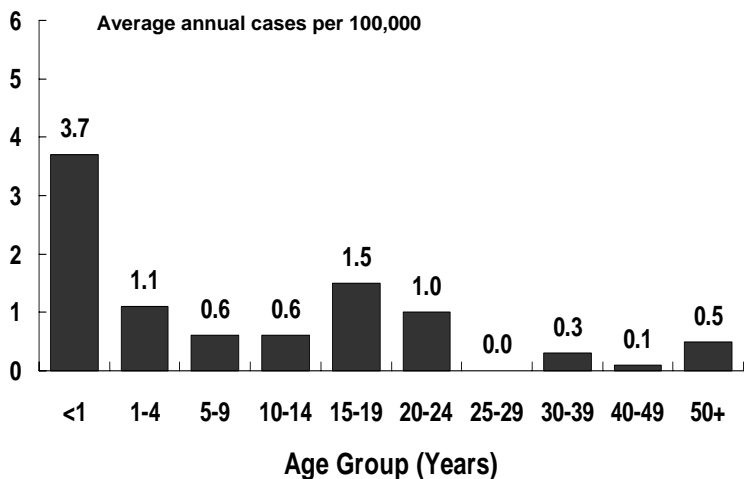
Note: Rates age-standardized using 1991 (adjusted) Canadian population.

Sources: Ontario Data from RDIS, Ontario Ministry of Health and Long-Term Care, as of 06/13/2003.

Peel Data from RDIS, Region of Peel Health Department, as of 09/23/2003.

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

Figure 4.2: Incidence of Meningococcal Disease by Age Group, Region of Peel, 1993-2002 Combined



Sources: Peel Data from RDIS, Region of Peel Health Department, as of 09/23/2003.

Statistics Canada, Population Estimates and Projections distributed by the Ontario Ministry of Health and Long-Term Care.

INVASIVE GROUP A STREPTOCOCCAL (GAS) INFECTIONS

Invasive Group A streptococcal (GAS) infections are caused by bacteria that are responsible for a number of different infections. Common infections include pharyngitis and tonsillitis, scarlet fever and ear infections.²² Much more rarely, invasive GAS causes severe life threatening (invasive) infections resulting in necrotizing fasciitis (flesh eating disease) and toxic shock.²² In 1996 the case definition of invasive GAS was made more inclusive. In Peel in 2001 there were two outbreaks of invasive GAS in long term care facilities.

Figure 4.3: Incidence of Invasive Group A Streptococcal Infections, Region of Peel and Ontario, 1993-2002

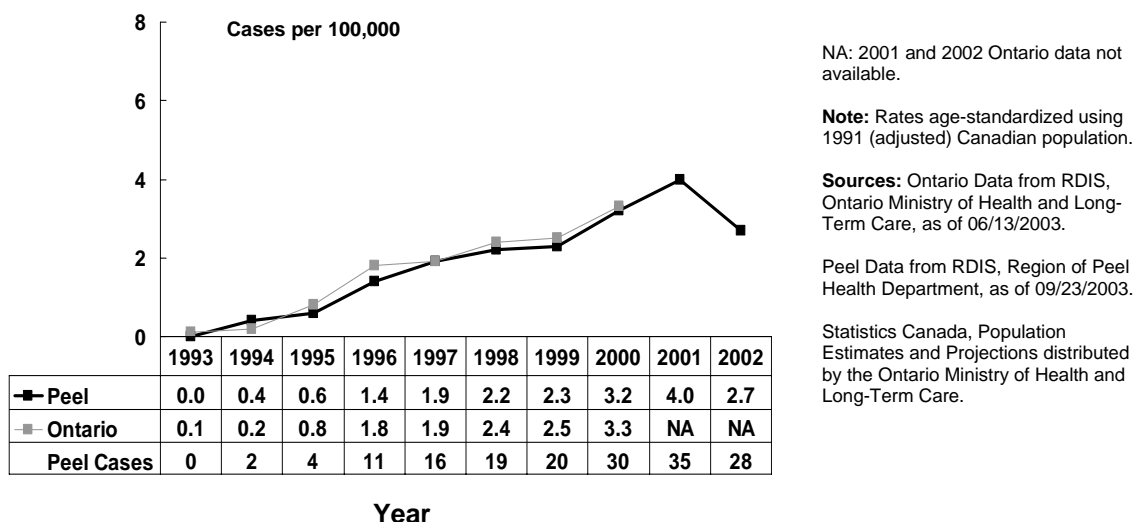
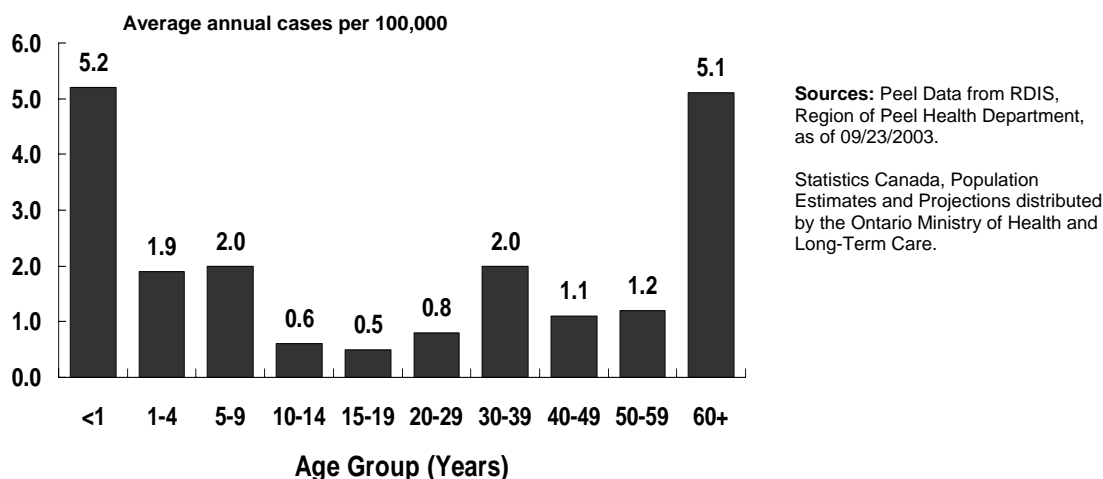


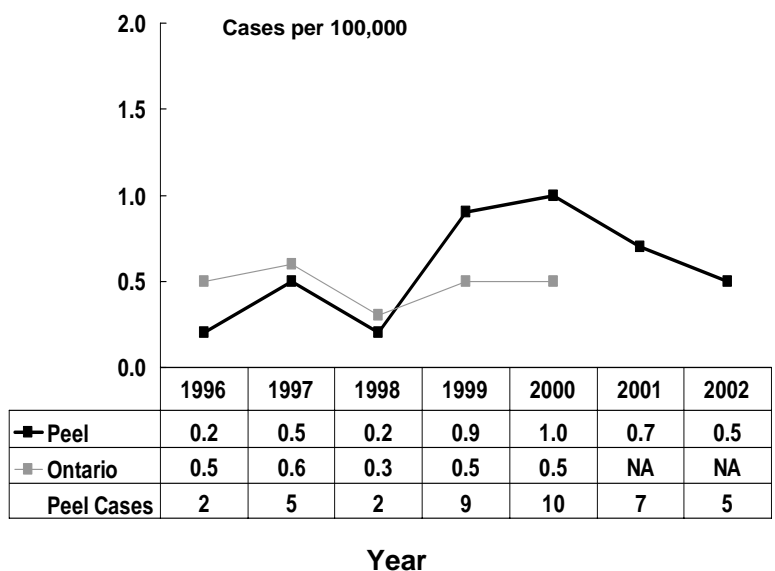
Figure 4.4: Incidence of Invasive Group A Streptococcal Infections by Age Group, Region of Peel, 1993-2002 Combined



NEONATAL GROUP B STREPTOCOCCAL (GBS) INFECTIONS

Group B streptococcal infections (GBS) are a major cause of serious infections in infants from birth to three months of age.²³ GBS are transmitted from mother to infant during birth.²³ GBS can cause pneumonia, meningitis or a systemic infection. GBS can be prevented by screening women at 35-37 weeks of pregnancy and offering antibiotics.²³ Older children and adults can also be infected with GBS.

Figure 4.5: Incidence of Neonatal* Group B Streptococcal Infections, Region of Peel and Ontario, 1996-2002



*All cases were among children less than one year old.

NA: 2001 and 2002 Ontario data not available.

Note: Rates age-standardized using 1991 (adjusted) Canadian population.

Sources: Ontario Data from RDIS, Ontario Ministry of Health and Long-Term Care, as of 06/13/2003.

Peel Data from RDIS, Region of Peel Health Department, as of 09/23/2003.

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TUBERCULOSIS

Tuberculosis is a disease caused by a bacterium called *Mycobacterium tuberculosis*.²⁴ It mainly affects the lungs but can affect any other parts of the body as well. Tuberculosis organisms are released into the air when someone with infectious, active tuberculosis in their lungs or larynx coughs. The disease spreads when these organisms are inhaled. Tuberculosis found in other parts of the body cannot be spread to other people.²⁴

Figure 4.6: Incidence of Active Tuberculosis, Region of Peel and Ontario, 1993-2002

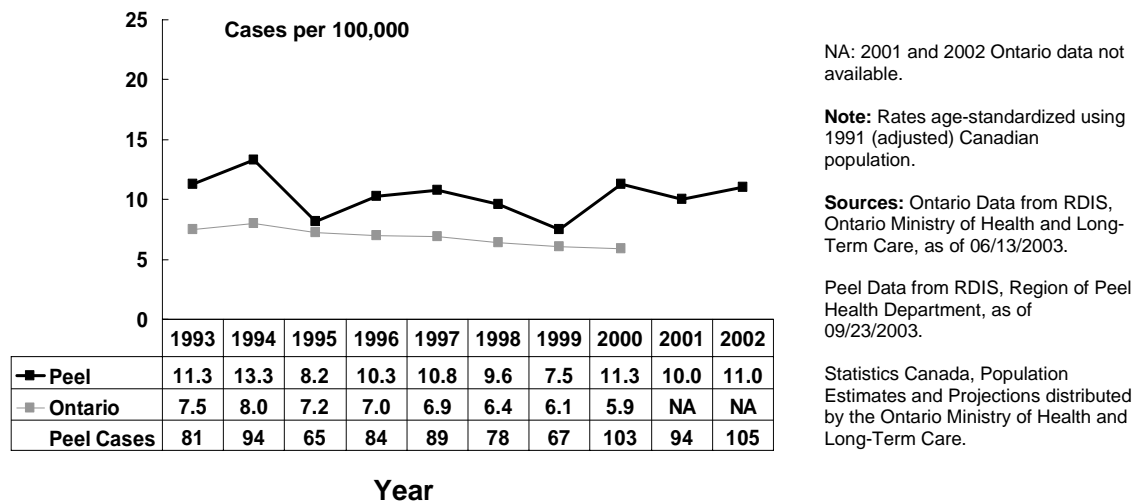


Figure 4.7: Incidence of Active Tuberculosis by Age Group, Region of Peel, 1993-2002 Combined

