

Section E

communicable

diseases

Communicable Diseases

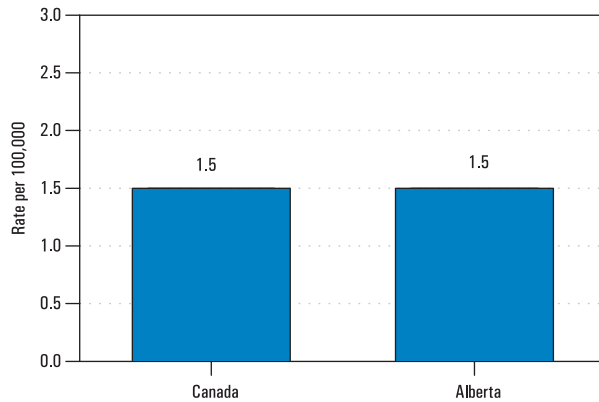
H E A L T H T R E N D S

E.1 HIV and AIDS

Acquired immunodeficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV), which continues to infect increasing numbers of Canadians. From the first report of AIDS in Canada in 1979 through 1994, there has been a fairly steady increase in cases reported, with Alberta following the same pattern. Since 1994, the number of new cases of AIDS reported and the mortality rate have declined due to improved treatment.

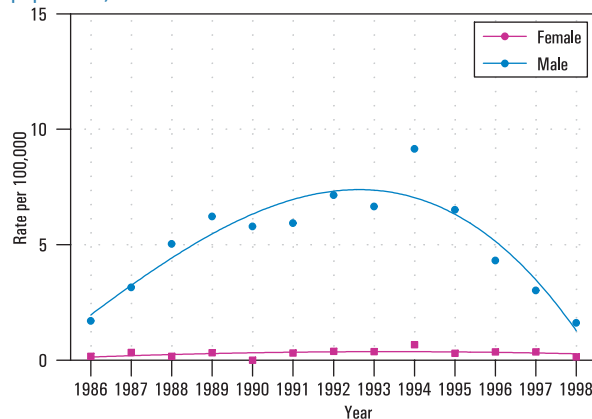
Currently, new cases of AIDS are declining in Alberta, even though HIV infections continue to occur at a fairly steady rate. In 1997, the rate for new AIDS cases in Alberta was 1.5 per 100,000, the same as the Canadian average.

Figure E.1.1
Incidence of AIDS, 1997 (Canada, Alberta) (Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

Figure E.1.2
Incidence of AIDS in Alberta, 1986 - 1998 (Rates per 100,000 population)

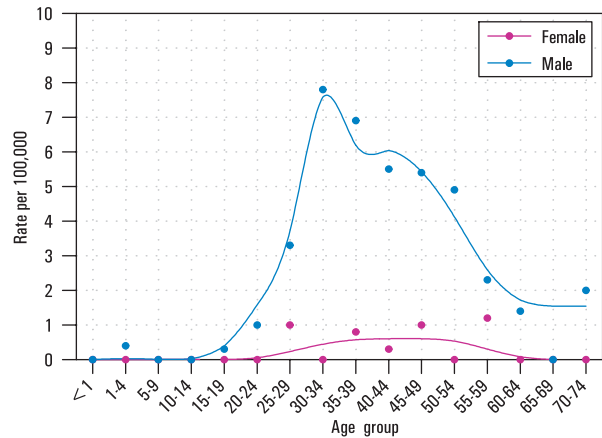


Source: Bloodborne Pathogens Database, Alberta Health and Wellness, 1986 - 1997; Communicable Disease Reporting System, 1998

Since the beginning of the epidemic, AIDS has been more prevalent among males than females. However, more recent HIV infection rates (see Figures E.1.4 and E.1.5 below) indicate an increase in the number of HIV infections among women, and subsequently, among children.

Figure E.1.3
Age-Specific Incidence of AIDS in Alberta, 1996 - 1998

Source: Bloodborne Pathogens Database, Alberta Health and Wellness, 1986-



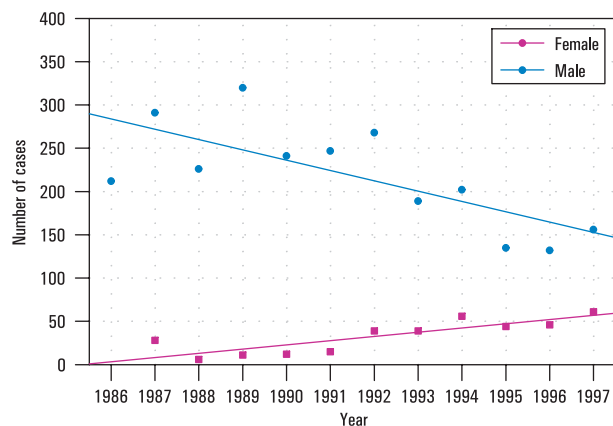
1997; Communicable Disease Reporting System, 1998

HIV was added to the list of reportable diseases in Alberta on May 1, 1998, and has been included with other screening tests offered to pregnant women as part of routine pre-natal care since September 1, 1998. Prior to May 1, 1998, informal, non-nominal reports of persons who tested positive for HIV were provided in aggregate form to Alberta Health and Wellness by the Provincial Laboratories in Calgary and Edmonton. The total number of laboratory tests performed and the number of positive test results are not a true indicator of the number of persons infected with HIV, as an individual could have more than one test in a year.

From May 1 to December 31, 1998, a total of 116 reports of newly recognized cases of HIV infection were received from regional health authorities. Since the statistics apply only to the last eight months of 1998, the absolute numbers should not be compared to past calendar years.

Among those who tested HIV-positive, the percentage of women has risen considerably since 1986. Women are increasingly becoming infected, representing 36 per cent of all HIV cases reported in 1998.

Figure E.1.4
HIV Cases in Alberta by Gender and Year (1986 - 1997)



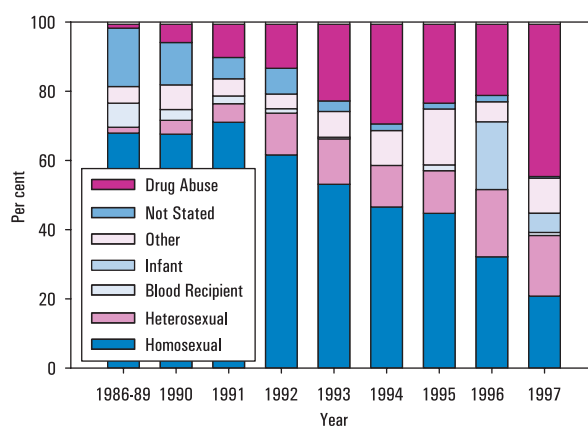
Source: Bloodborne Pathogens Database, Alberta Health and Wellness, 1986 - 1997. HIV/AIDS Statistical Reports, March 1999

HIV positive results due to homosexual/bisexual activity (men who have sex with other men - MSM) have decreased steadily since 1991. This category accounted for only 20 per cent of new HIV cases in 1998, a major drop from 72 per cent in 1991. The injection drug use (IDU) risk category has increased considerably since 1986. In 1998, IDU was the highest category of new infections in Alberta, comprising approximately 46 per cent (28.4 per cent men and 17.2 per cent women) compared to 10 per cent in 1991. Almost half of the women who tested positive were IDU. Intravenous drug use and heterosexual transmission have become increasingly important risk factors since 1991.

Infants were included in the "Other" category from 1986 through 1996 and were not identified separately until 1997. In 1998, approximately 31 per cent of all new HIV cases were younger people under age 30, with a number of these probably infected in their teens. There was one infant infected perinatally.

Newly recognized cases of HIV infection in 1998 continue to be high among population groups that were not prominent in the earlier years of the epidemic: IDU, women and youth. A disproportionate number of all persons with HIV infection are aboriginal, but the information is incomplete regarding the ethnic backgrounds of all new cases. Among 108 persons whose ethnic background was reported, 24 per cent were aboriginal.

Figure E.1.5
Percentage Distribution of HIV Cases in Alberta by Year and Risk Factor, 1986 -1997



Source: Bloodborne Pathogens Database, Alberta Health and Wellness, 1986 - 1997. HIV/AIDS Statistical Reports, March 1999

Provincial Strategies

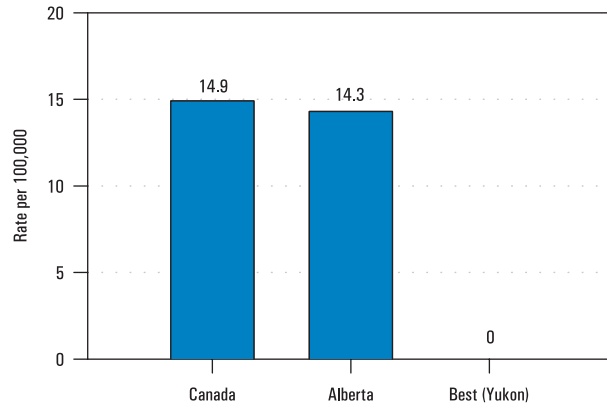
Alberta Health and Wellness' strategies are based on its roles and responsibilities, and take into consideration the work of the regional health authorities, community AIDS organizations, and Health Canada. The Alberta Health and Wellness HIV Strategy includes the following initiatives:

- Community AIDS organization grants
- HIV education for the public
- Provision of HIV clinics and anti-retroviral therapies
- Research in prevention and management of HIV infection
- Surveillance of HIV infection
- Routine prenatal screening for HIV
- HIV and families
- Young adults HIV prevention
- Aboriginal HIV strategy
- HIV offenders and ex-offenders
- Non-prescription needle use
- HIV housing issues
- HIV and mental health

E.2A Gonorrhoea

Gonorrhoea is a common sexually transmitted disease in Alberta that usually responds well to treatment. Complications from untreated infection can include pelvic inflammatory disease (which can lead to infertility), ectopic pregnancy and chronic pelvic pain.

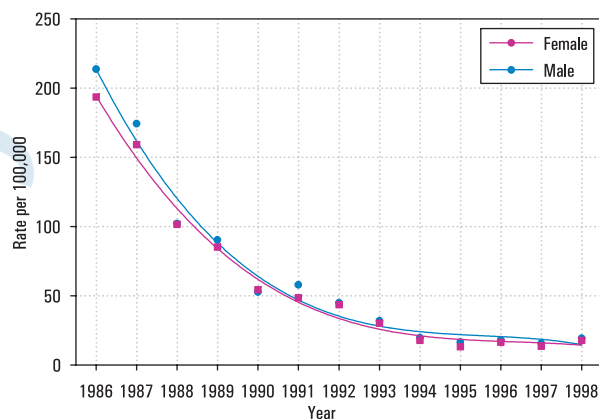
Figure E.2A.1
Incidence of Gonorrhoea, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

In Alberta, the reported rate of gonorrhoeal infection has declined considerably over the last 10 years (Figure E.2A.2). The 1997 rate of 14.3 per 100,000 was lower than the Canadian average of 14.9. Low rates in some provinces may reflect differences in reporting practices.

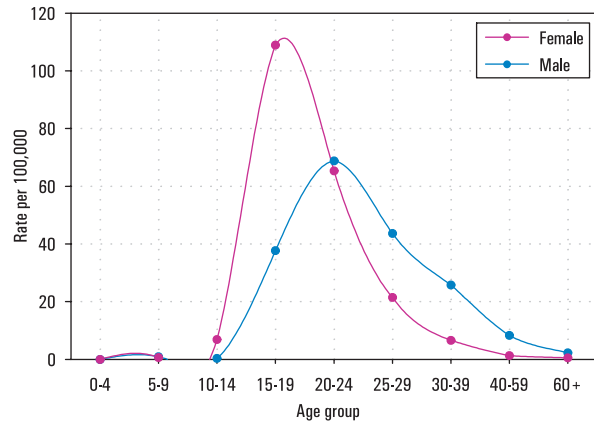
Figure E.2A.2
Incidence of Gonorrhoea in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1986 - 1998

From 1996 to 1998, women aged 15 to 19 had the highest rates of infection, followed by men aged 20 to 24. Females contract the disease at a younger age than males, likely due to unprotected sexual intercourse commencing at an earlier age for females.

Figure E.2A.3
Age-Specific Incidence of Gonorrhoea in Alberta, 1996 - 1998



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1986 - 1998

Provincial Strategies

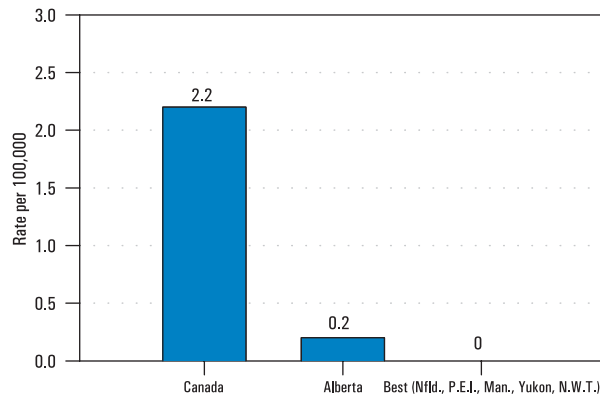
- Alberta Health and Wellness provides consultation and support to regional health authorities for the delivery of sexually transmitted disease programs. This includes the following activities:
 - STD case management
 - STD partner notification coordination
 - development of provincial treatment and management guidelines and standards
 - monitoring of program effectiveness
 - STD educational support
 - funding for the STD/HIV information line (1-800-772-2437)

E.2B Syphilis

Syphilis is caused by a spirochete, *Treponema pallidum*. There are few cases of syphilis reported on an annual basis, but the consequences of delaying treatment for this STD are serious. If left untreated, syphilis can affect the fetus of a pregnant woman. Also, syphilis infections can persist over a period of years, and can attack any organ system in the body. Treatment during any stage is with antibiotics. Contact tracing is important in controlling the disease.

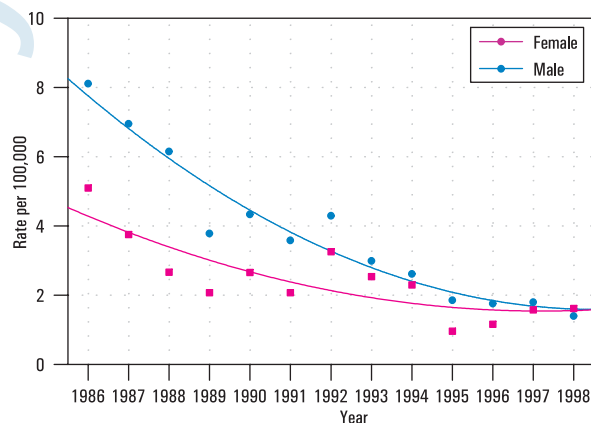
The reported rate of syphilis infection has declined in Alberta during the past decade (Figure E.2B.2). In 1997, it was 0.2 per 100,000, much lower than the Canadian average of 2.2. Newfoundland, Prince Edward Island, Manitoba, Northwest Territories and the Yukon reported no cases.

Figure E.2B.1
Incidence of Syphilis, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

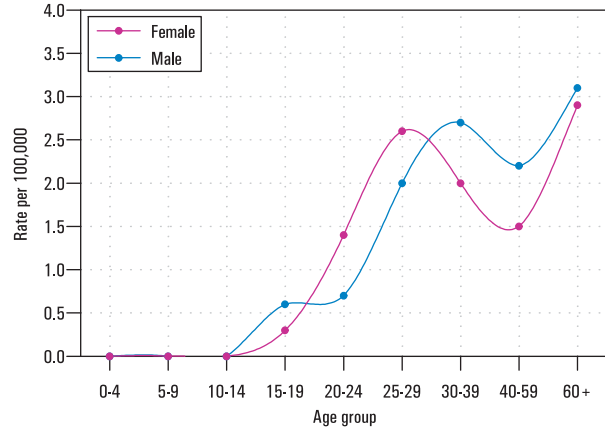
Figure E.2B.2
Incidence of Syphilis in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1986-1998

The highest rates for syphilis appear to be among men aged 30 to 39, women aged 25 to 29 and men and women aged 60 years and older. The older group is partly explained by the fact that untreated infections have gone undetected previously (latent infections). Some of the people in the older age groups may have been infected years ago.

Figure E.2B.3
Age-Specific Incidence of Syphilis in Alberta, 1996 - 1998



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1986-1998

Provincial Strategies

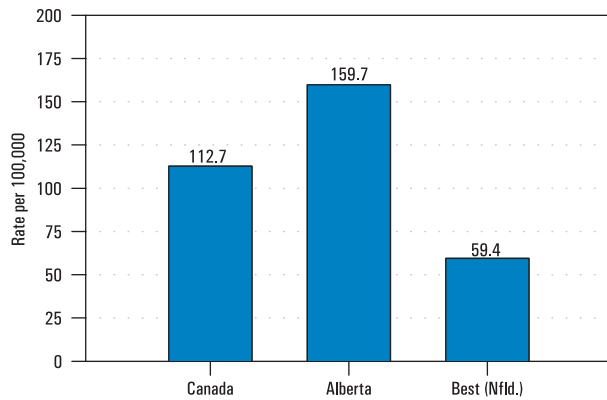
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 - STD partner notification coordination
 - Development of provincial treatment and management guidelines and standards
 - Monitoring of program effectiveness
 - STD educational support
 - funding for the STD/HIV information line (1-800-772-2437)

E.2C Chlamydia

Chlamydia infection of the genitourinary tract is the most commonly reported STD in Alberta. If untreated, these infections can result in pelvic inflammatory disease, which can cause infertility and chronic pelvic pain.

While Alberta's rate appears high in comparison to the rest of the country (in 1997 it was 159.7, compared to the national average of 112.7), this reflects the current screening activity in Alberta for chlamydia among young females. Provinces with lower rates may not be actively screening for this disease.

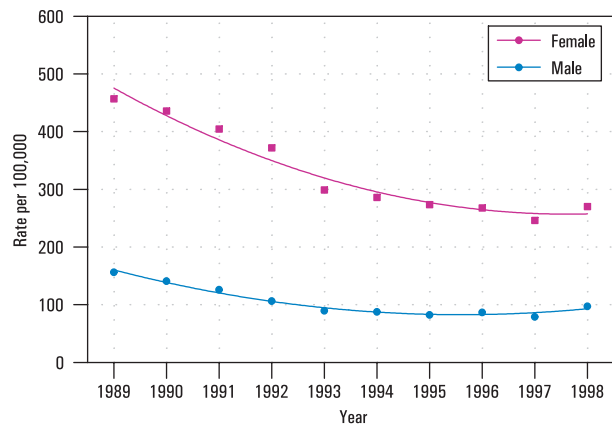
Figure E.2C.1
Incidence of Chlamydia, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

The reported rate of genito-urinary chlamydia has decreased during the past nine years. The 1998 Alberta rate was 184 per 100,000. The gradual decline since 1989 reflects the education initiatives that have been targeted at both health care workers and individuals at risk of becoming infected. It may also be attributable to partner notification, which helps with early identification and treatment.

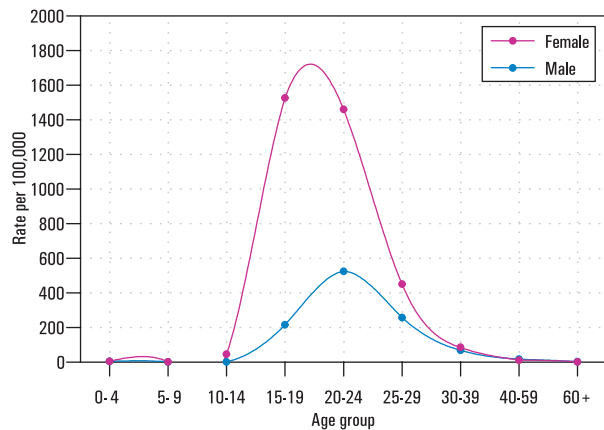
Figure E.2C.2
Incidence of Chlamydia in Alberta, 1989 - 1998 (Rates per 100,000 population)



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1989 - 1998

The reported chlamydia rate is much higher for young females than for young males. This is related to current screening and treatment practices. Increased detection has come from screening of young women who do not have symptoms. Male partners of these women are treated to prevent further spread, without having laboratory confirmation of the disease (and therefore without being reported as cases).

Figure E.2C.3
Age-Specific Incidence of Chlamydia in Alberta, 1996 - 1998



Source: Statistical Reports, STD Control, Alberta Health and Wellness, 1989 - 1998

Provincial Strategies

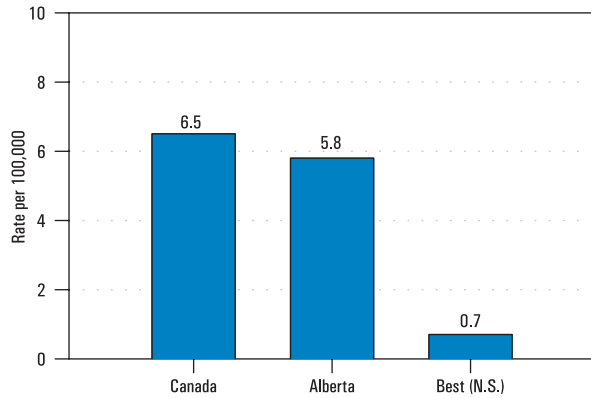
- Alberta Health and Wellness provides consultation and support to regional health authorities for the delivery of sexually transmitted disease programs. This was described in section E.2A

E.3 Tuberculosis

Tuberculosis (TB) is a disease caused by the *Mycobacterium tuberculosis* bacterium. The disease can damage the lungs and other organs. It is transmitted through the air, from one person to another

The 1997 Alberta rate was 5.8 per 100,000, lower than the Canadian average of 6.5, but higher than Canadian best province, Nova Scotia (0.7).

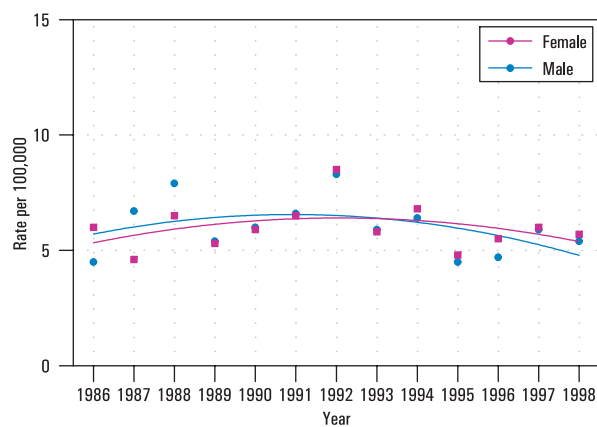
Figure E.3.1
Incidence of Tuberculosis, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

Tuberculosis was once a major cause of death in Alberta. Diligent contact tracing, treatment protocols, and monitoring have largely controlled the disease. The current rates of infection in Alberta are about five per 100,000 population.

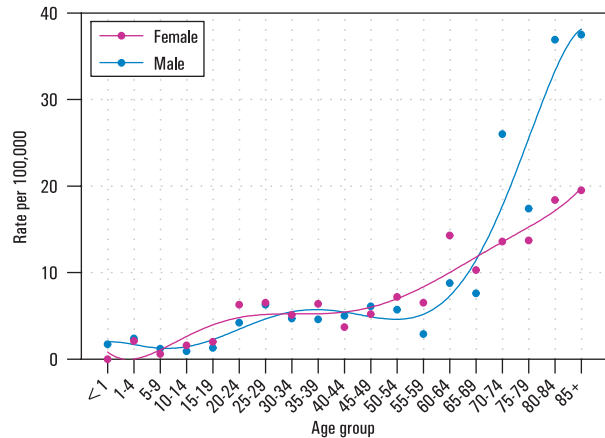
Figure E.3.2
Incidence of Tuberculosis in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Tuberculosis Database, Alberta Health and Wellness, 1986 - 1998

Not everyone who comes in contact with these bacteria develops the active disease; some may have an inactive infection that remains dormant for many years. The disease can become active if the immune system is weakened. Infants and young children, women during their childbearing years and especially male seniors have higher rates of active disease.

Figure E.3.3
Age-Specific Incidence Rates for Tuberculosis in Alberta, 1996 - 1998



Source: Tuberculosis Database, Alberta Health and Wellness, 1986 - 1998

Provincial Business Plan Targets

The provincial target for the year 2000 is that incidence of tuberculosis should not exceed 4.5 new cases per 100,000 population.

Provincial Strategies

- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of tuberculosis control programs. This includes the services of a provincial medical consultant and guidelines for professionals such as the *Tuberculosis Teaching Package* (for use in educating professionals and the public); *Guidelines for Preventing the Transmission of Tuberculosis in Health Care Facilities and Other Institutions*; and the *TB Control Manual* for public health staff.

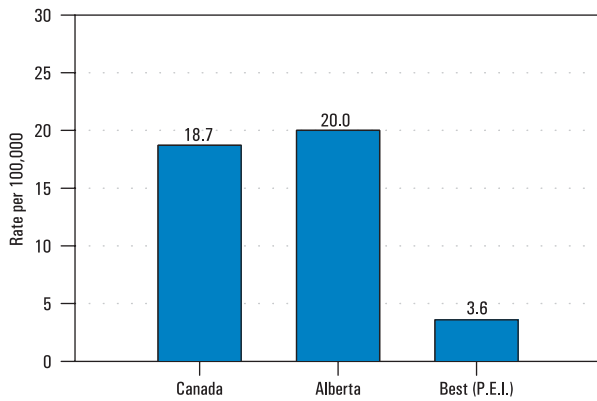
E.4A Giardiasis

Giardia lamblia is an intestinal protozoan that infects humans and other mammals. *Giardia* can persist in cyst form for months in cold water. Infection occurs from drinking contaminated water, or by person-to-person spread. Major symptoms include diarrhea, abdominal cramps and nausea. Symptoms may last for four to six weeks.

The disease is prevented in municipal water supplies through appropriate water treatment. Untreated surface water is still a common source of infection.

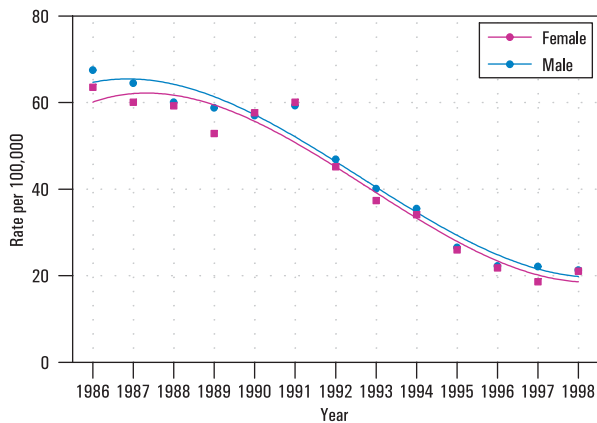
The reported rate of giardiasis has steadily declined in Alberta over the last decade. In 1997, the rate in Alberta was 20 per 100,000, which was slightly higher than the Canadian average of 18.7.

Figure E.4A.1
Incidence of Giardiasis, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

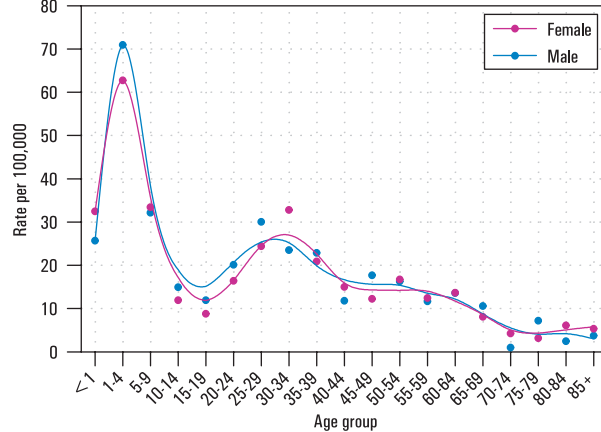
Figure E.4A.2
Incidence of Giardiasis in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

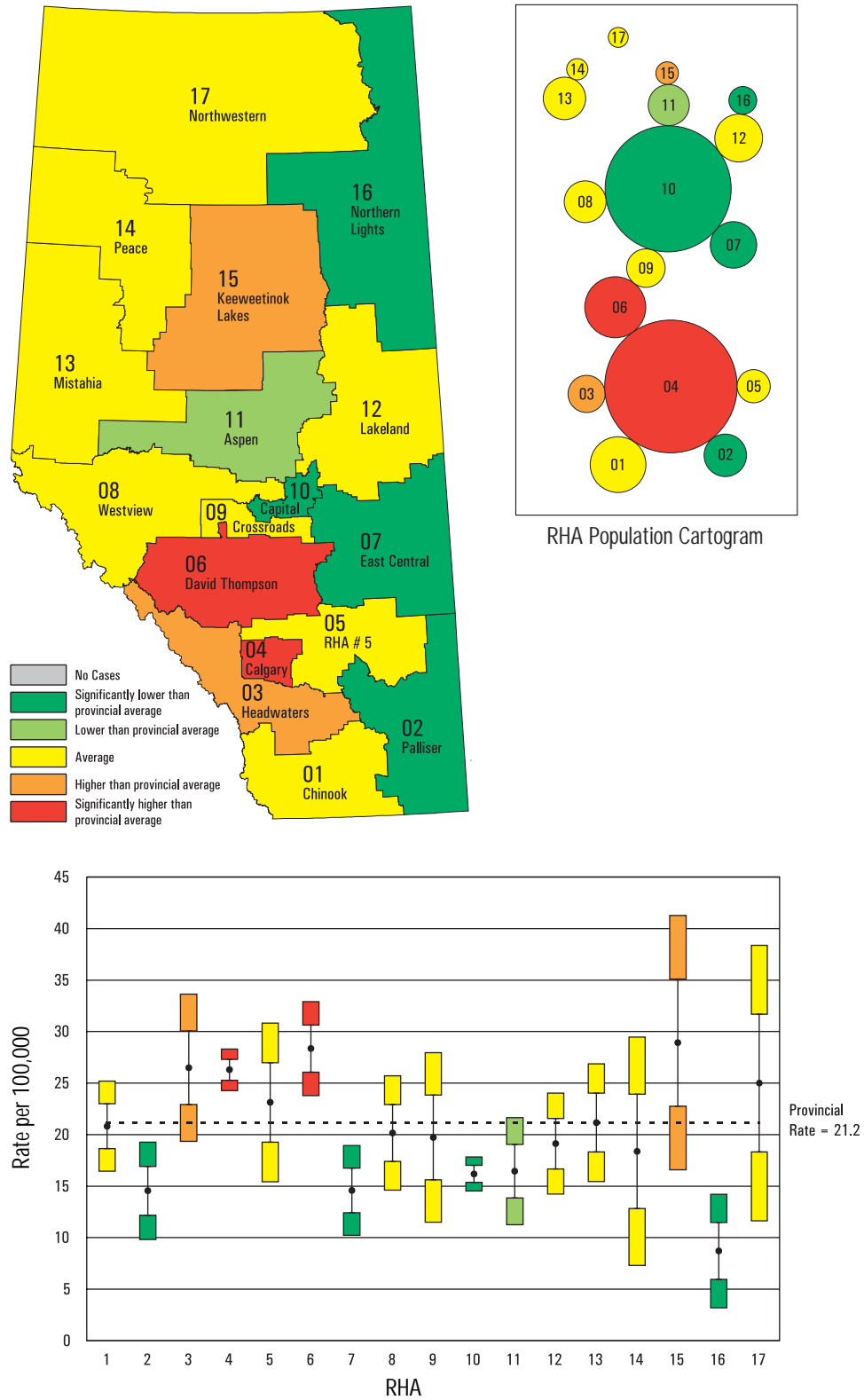
As with other enteric infections, rates are highest among children (in this case particularly among boys), where the potential for person-to-person spread is greatest.

Figure E.4A.3
Age-Specific Incidence of Giardiasis in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Figure E.4A.4
Regional Differences for Giardiasis in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

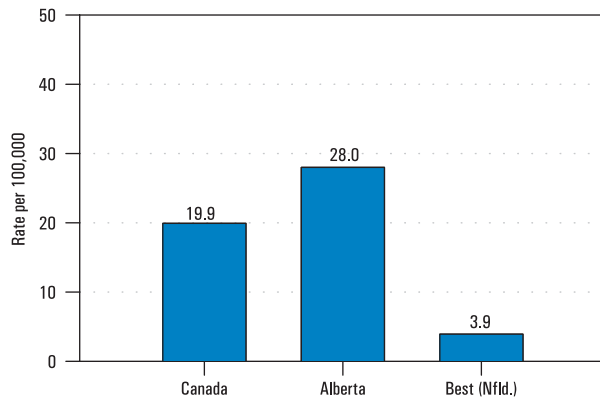
E.4B Salmonellosis

Salmonellosis is a gastrointestinal and occasionally systemic infection caused by ingesting a species of *Salmonella* in contaminated food or beverages. Transmission from infected pets to children and others can also occur.

Symptoms include fever and watery diarrhea occurring six to 48 hours after ingesting the bacteria. Nausea and vomiting are common. Symptoms usually last from two to five days, but may persist for up to two weeks. Treatment with antibiotics is usually reserved for these more serious infections.

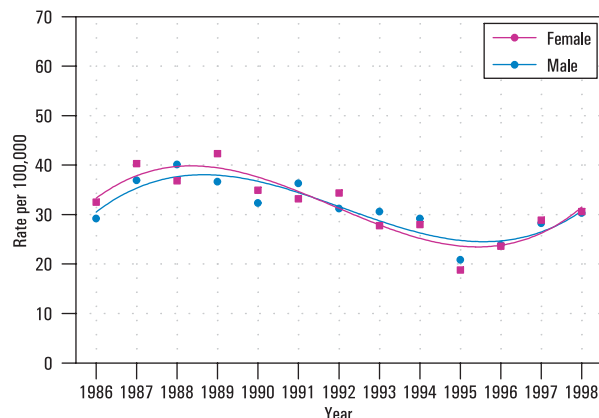
The reported rate of salmonellosis has decreased steadily during the past decade. In 1997, the Alberta rate was 28 per 100,000, higher than the Canadian average of 19.9. The lowest reported rate was in Newfoundland (3.9).

Figure E.4B.1
Incidence of Salmonellosis, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

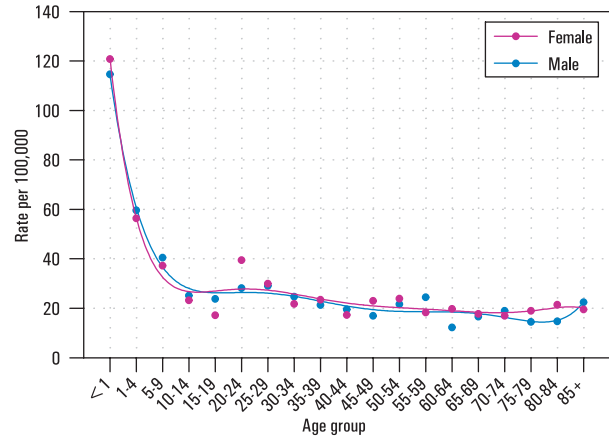
Figure E.4B.2
Incidence of Salmonellosis in Alberta, 1986 - 1998
(Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 -1998

As with other enteric infections, the potential for person-to-person spread is highest among young children.

Figure E.4B.3
Age-Specific Incidence of Salmonellosis in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

To help reduce the risk of food poisoning, Alberta Health and Wellness works with other provincial departments and the federal government to develop food safety standards and practices. Cooking food thoroughly, properly refrigerating unused food, careful hand washing, and monitoring of food facility establishments will help prevent transmission.

Provincial Strategies

- Section 43 of the food regulations mandates food handler education. Food Safe programs are delivered through regional health authorities.
- Outbreak investigation in conjunction with local and federal authorities determines sources of food borne illness and applies interventions and food protection strategies.

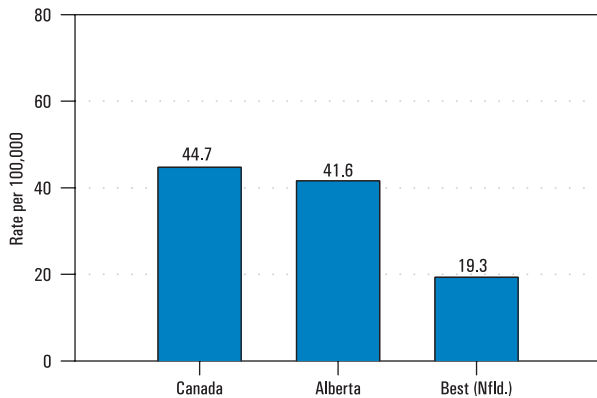
E.4C *Campylobacter* Enteritis

Campylobacter enteritis is an acute enteric disease caused by the *Campylobacter* bacterium. It is normally contracted by ingesting the bacteria in unpasteurized milk, in undercooked pork or chicken, or in other contaminated food and water. The disease is also passed through contact with infected pets or farm animals.

Usually lasting from two to five days, the most common symptoms of campylobacteriosis are diarrhea, abdominal pain, malaise, fever, nausea and vomiting. The most effective means of prevention are ensuring that food is thoroughly cooked, milk is pasteurized and hands are washed after contact with pets and animals.

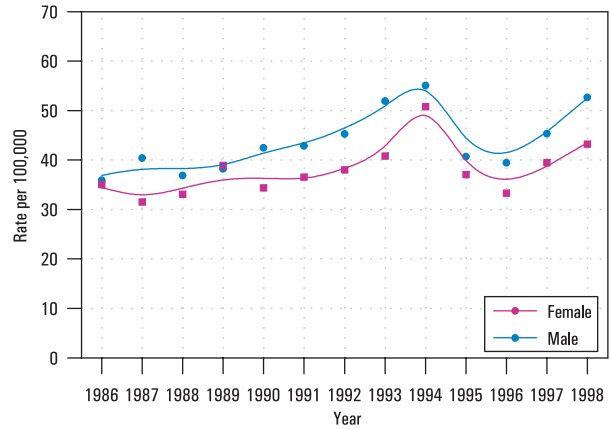
In 1997, the Alberta rate was 41.6 per 100,000, somewhat lower than the national rate of 44.7. The lowest reported rate was in Newfoundland (19.3).

Figure E.4C.1
Incidence of *Campylobacter* Enteritis, 1997 (Canada, Alberta, Best Province) (Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

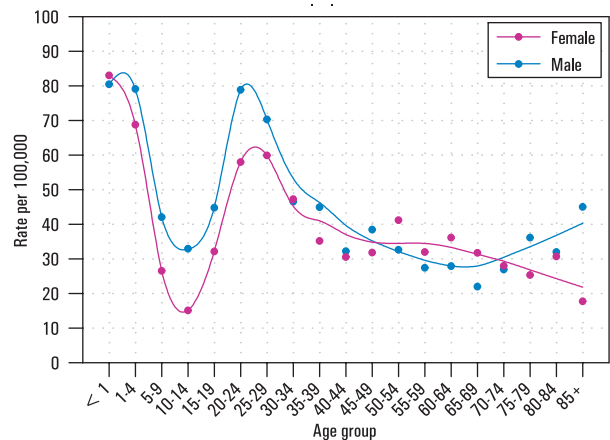
Figure E.4C.2
Incidence of *Campylobacter* Enteritis in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Children under five and young adults have the highest rates of infection.

Figure E.4C.3
Age-Specific Incidence of *Campylobacter* Enteritis in Alberta, 1996 - 1998

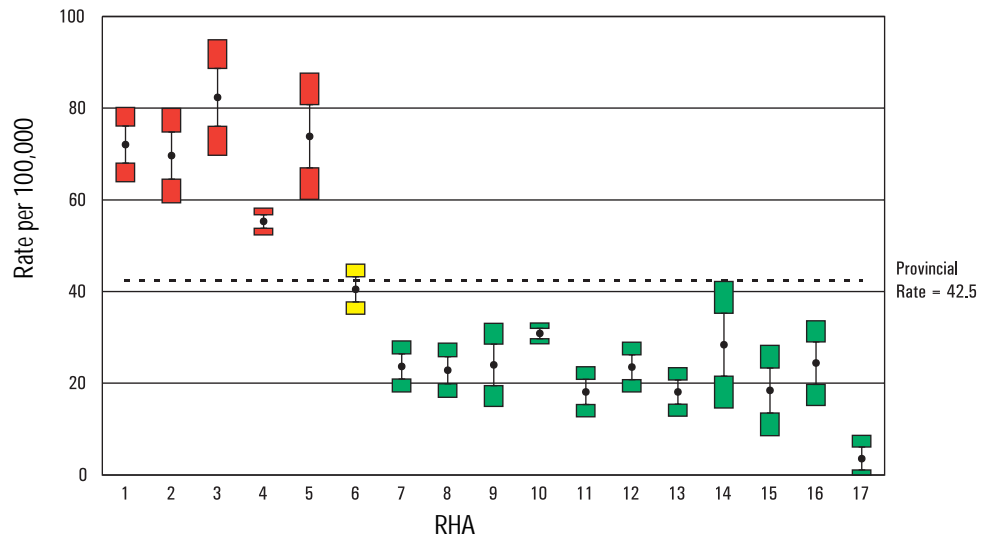
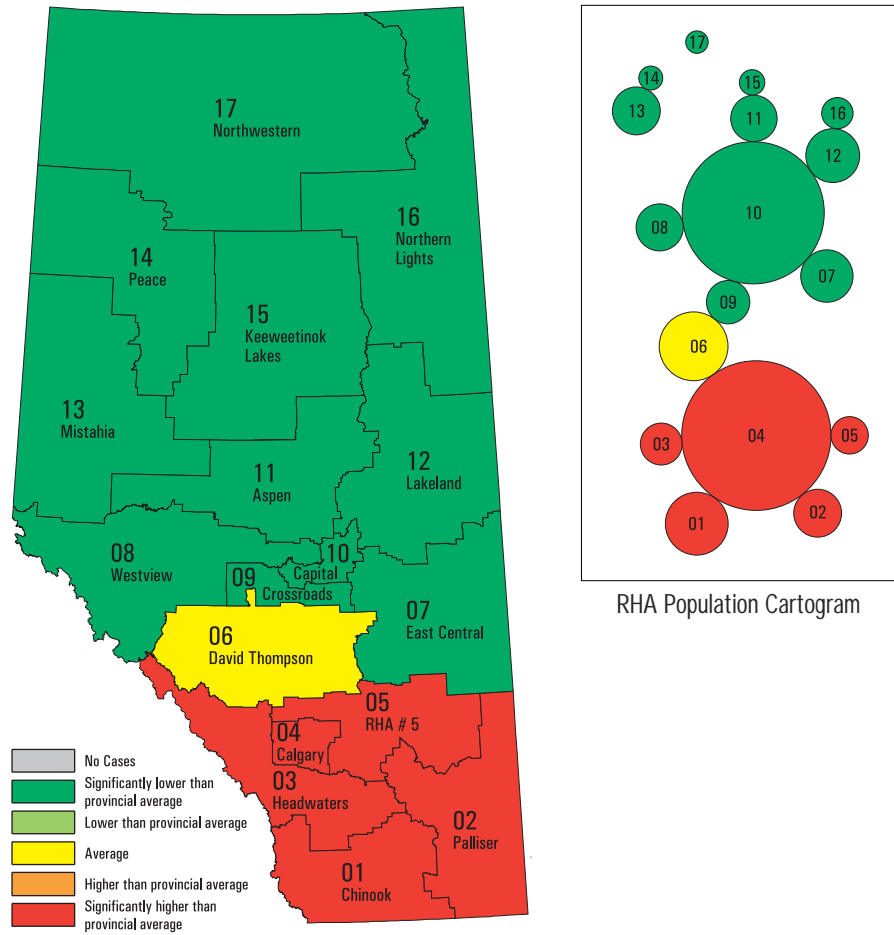


Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Provincial Strategies

- See section E.4B.

Figure E.4C.4
Regional Differences for Campylobacter Enteritis in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

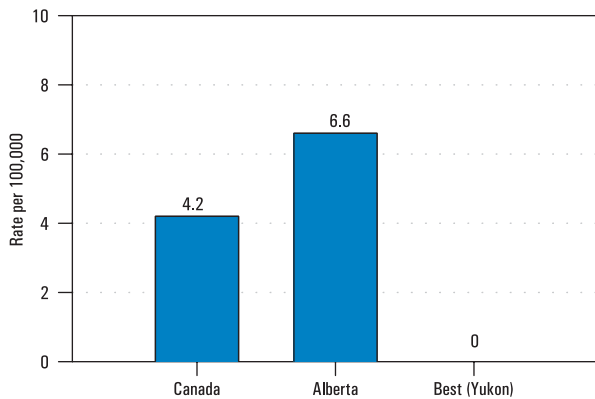
E.4D E. Coli 0157:H7

Escherichia coli (E. coli) are bacteria that normally exist in the colon without causing any disease. Some strains, however, produce gastrointestinal illness. Certain strains, most commonly 0157:H7, produce toxins that cause severe gastroenteritis and hemolytic uremic syndrome (HUS). HUS, most common in young children, can cause permanent vascular and kidney damage and can be fatal.

The presence of E. coli 0157:H7 in milk, meat products or water usually results from fecal contamination of these products. Undercooked hamburger has been the most commonly implicated food associated with E. coli 0157:H7 infection.

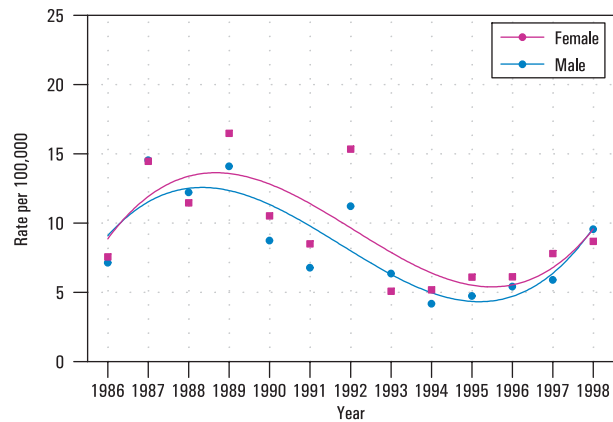
In 1997, the Alberta rate was 6.6 per 100,000, higher than the Canadian average and much higher than the Yukon, where there were no reported cases. Unlike other jurisdictions, most cases in Alberta occur as sporadic events rather than as part of an outbreak. Reported rates show a decrease in the rate of E. coli 0157:H7 over the last 10 years.

Figure E.4D.1
Incidence of E. Coli 0157:H7, 1997 (Canada, Alberta, Best Province) (Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

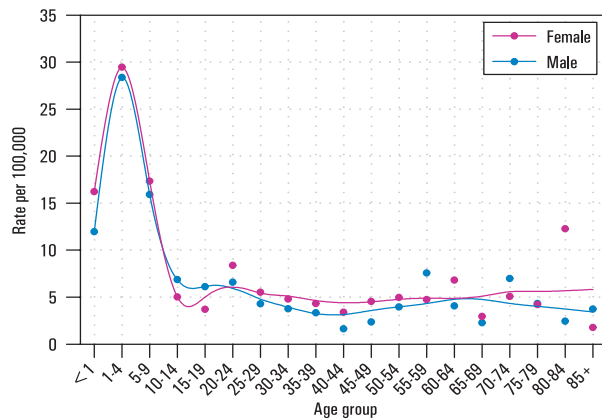
Figure E.4D.2
Incidence of E. Coli 0157:H7 in Alberta, 1986 - 1998. (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

As with other enteric infections, young children have the highest rates. There is also an increase in reported cases among older women in particular.

Figure E.4D.3
Age-Specific Incidence of E. Coli 0157:H7 in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Provincial Business Plan Targets

The provincial target for the year 2000 is that the number of new cases of E. coli infection will not exceed four cases per 100,000 population.

Provincial Strategies

- See section E.4B.

E.5A Measles

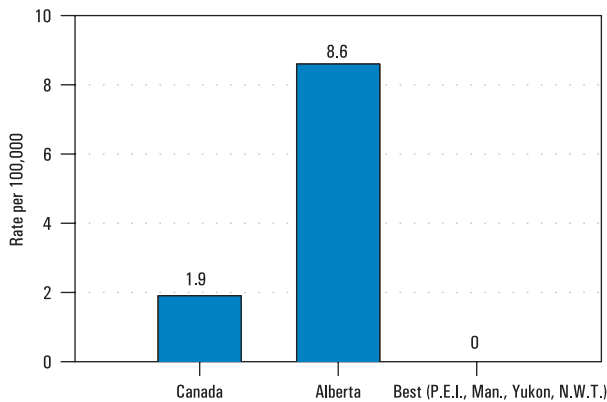
Measles is an acute, highly contagious disease caused by the measles virus. Major symptoms are a high fever, sore eyes, cough, cold-like symptoms and red rash lasting four to seven days.

Pneumonia occurs in up to six per cent of reported cases and accounts for 60 per cent of deaths attributed to measles. Other complications include middle ear infection, convulsions and encephalitis.

Measles is acquired by breathing the same air as an infected person or through direct contact with nasal or throat secretions. It is preventable with measles vaccine and permanent immunity is acquired after contracting the disease.

In 1997, the Alberta rate was 8.6 per 100,000, much higher than the Canadian average of 1.9. No cases were reported in the territories, Manitoba, and P.E.I.

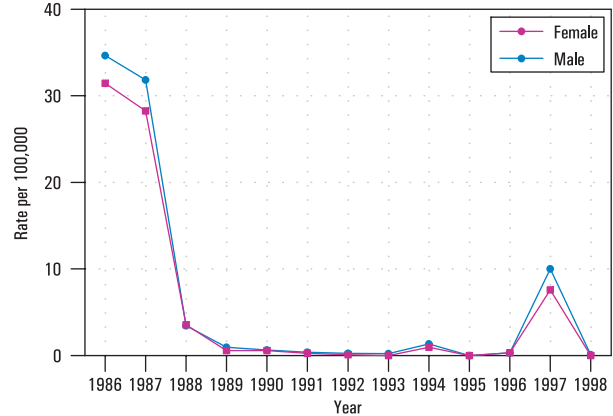
Figure E.5A.1
Incidence of Measles, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

The rate of measles has decreased during the past decade, but outbreaks are possible with a single-dose vaccine schedule (Alberta introduced a two-dose schedule in 1996).

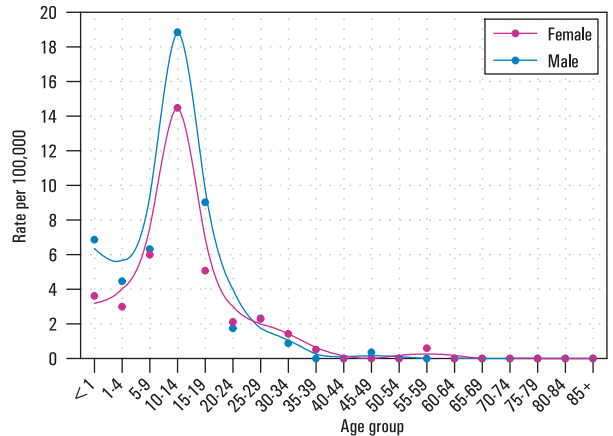
Figure E.5A.2
Incidence of Measles in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Measles is most prevalent among school-aged children, but can occur at any age. The average age of infection has increased since the advent of measles immunization programs.

Figure E.5A.3
Age-Specific Incidence of Measles in Alberta, 1996 - 1998



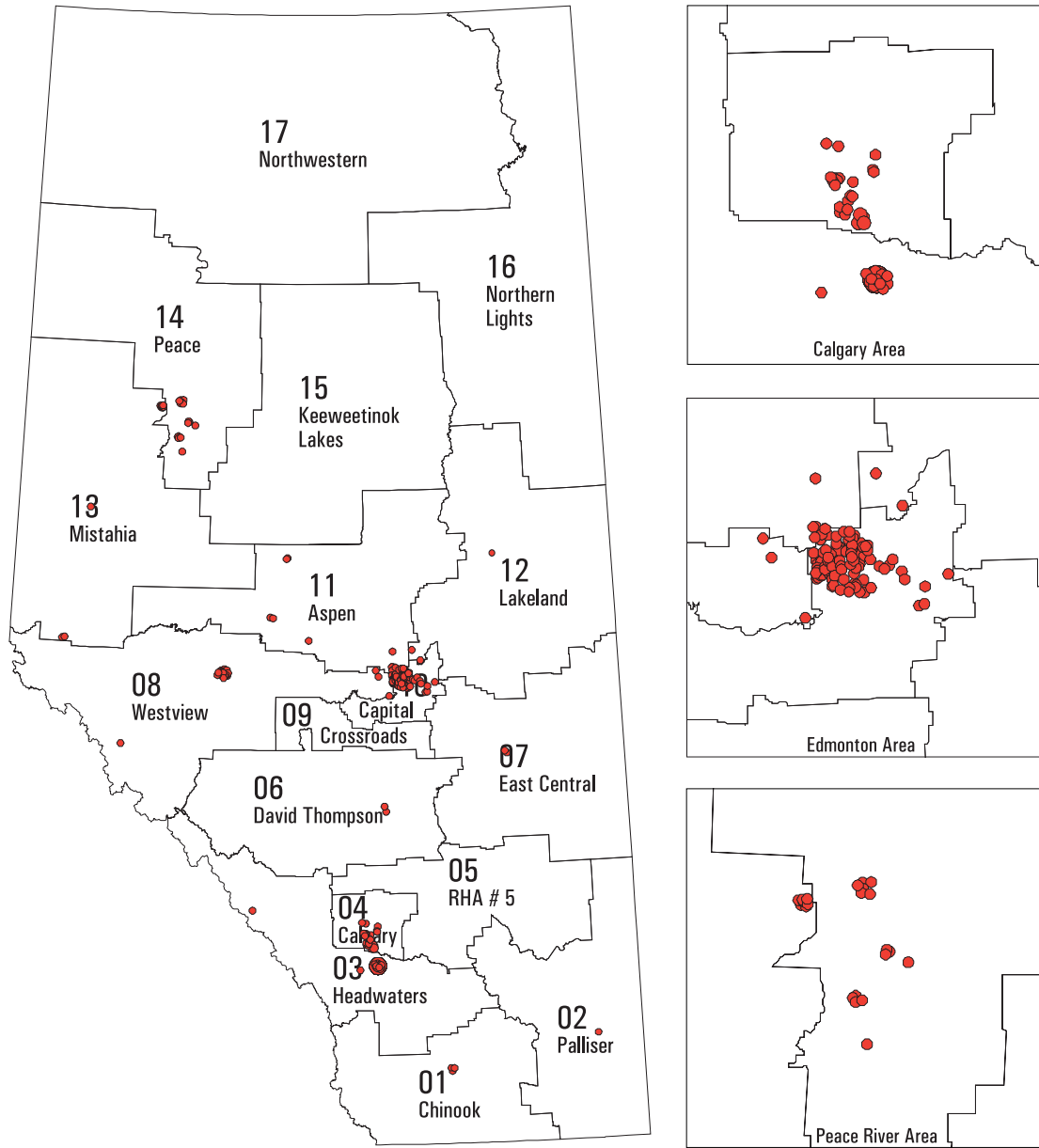
Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

In 1997, there was an outbreak of measles in Alberta (Figure E.5A.4 following page) related to the importation of the disease from another province. Cases occurred throughout Alberta but most could be traced to exposure in Edmonton and Calgary.

Provincial Strategies

- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of immunization programs.
- In addition, the department funds specialized immunization strategies, including immunization programs targeted against vaccine-preventable diseases.

Figure E.5A.4
Spot Map for Measles in Alberta, 1997



Note: Number of cases = 245
Source: Notifiable Disease Database, Alberta Health, 1986 - 1998

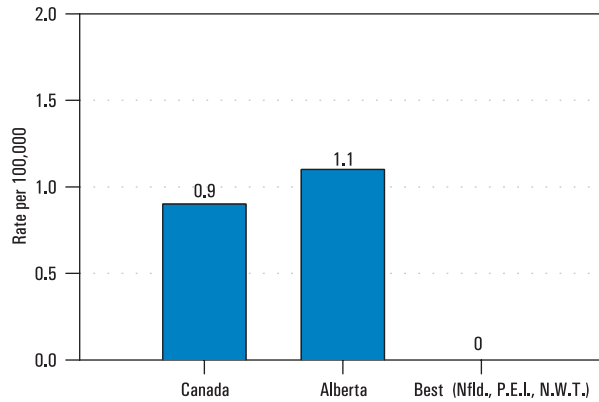
E.5B Mumps

Mumps is a disease affecting primarily school-aged children. The virus can infect many parts of the body, especially the parotid and other salivary glands. Parotid swelling is associated with fever, headache and loss of appetite. Infections frequently occur without any symptoms being present.

Internal organs can be involved. Males may develop orchitis, a painful inflammation of the testicles. Mumps in females may affect the ovaries, causing pain and tenderness in the abdomen. It is a cause of viral meningitis. Other organs can also be involved.

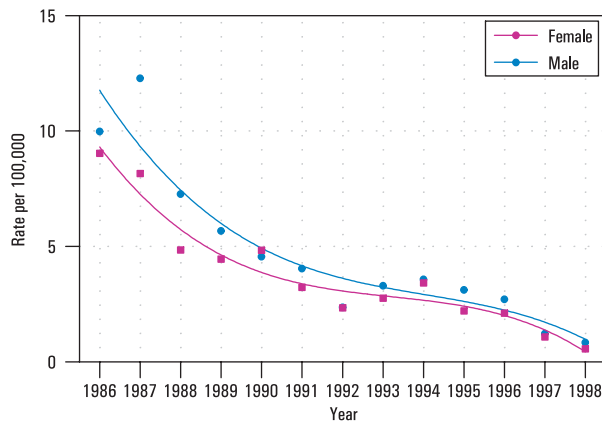
In 1997 Alberta's reported rate for mumps (1.1 per 100,000) exceeded the national average of 0.9. No cases were reported in Newfoundland, P.E.I., or the Northwest Territories. The rate of mumps infections has declined steadily in Alberta over the last decade.

Figure E.5B.1
Incidence of Mumps, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

Figure E.5B.2
Incidence of Mumps in Alberta, 1986 - 1998 (Rates per 100,000 population)

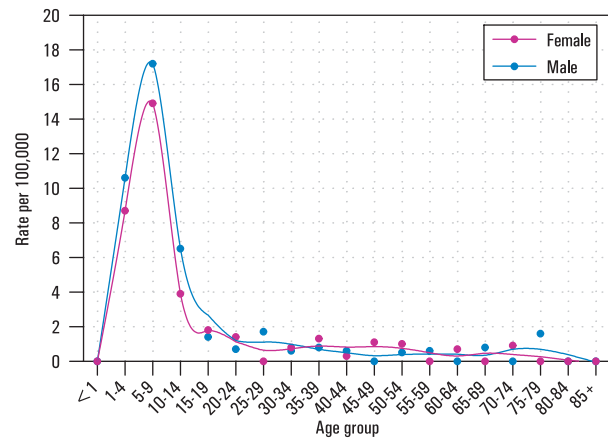


Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Immunity to mumps can be conferred by vaccine, usually administered as part of the measles-mumps-rubella (MMR) immunizations. Mumps vaccine is 75 to 95 per cent effective. Mumps infection almost always gives lifelong protection.

Symptomatic mumps infection is rare in children younger than two years, but more likely to be reported for children aged five to 14.

Figure E.5B.3
Age-Specific Incidence of Mumps in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Provincial Strategies

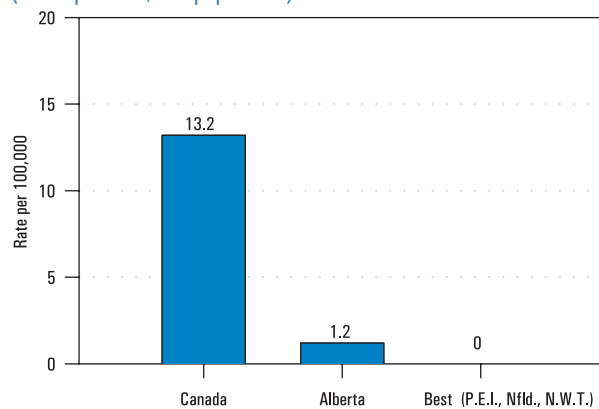
- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of immunization programs.
- In addition, the department funds specialized immunization strategies, including immunization programs targeted against vaccine-preventable diseases.

E.5C Rubella

Rubella, or German measles, is a generally mild infection in children. It causes swollen glands behind the ears and back of the neck, followed by a short-lived rash. The virus is transmitted through droplets in the air, through close personal contact and from a pregnant woman to her unborn child.

Infection during the first trimester of pregnancy can lead to congenital rubella syndrome (CRS) in up to 85 per cent of the babies of these mothers. These babies may be born with congenital heart disease, low birth weight, deafness, blindness, mental retardation and other neurological defects.

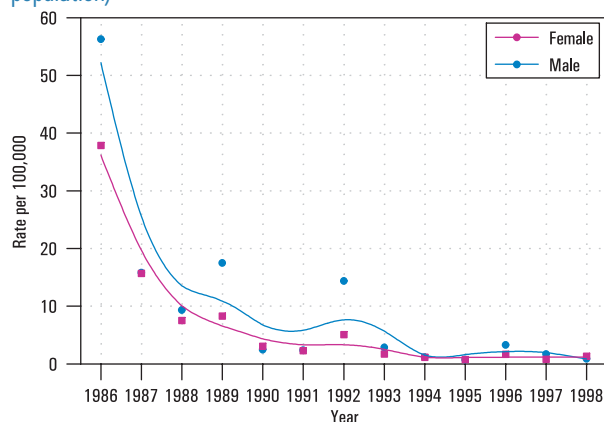
Figure E.5C.1
Incidence of Rubella, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

The reported rate of rubella infections in Alberta has decreased in the last few years. The 1997 Alberta rate of 1.2 per 100,000 is much lower than the national average of 13.2. The rate of CRS in Alberta has been significantly reduced because of the effective control of rubella.

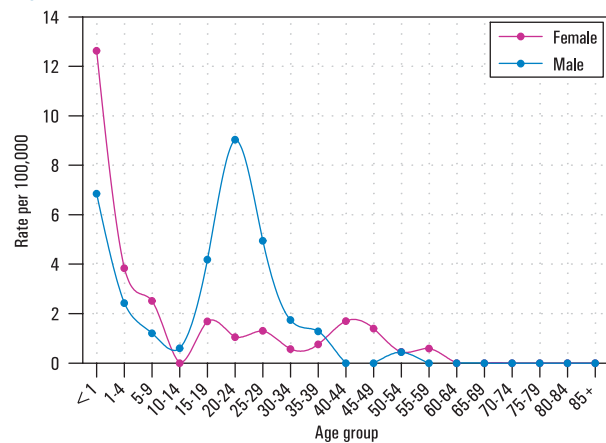
Figure E.5C.2
Incidence of Rubella in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Initially, immunization strategies were targeted at females only and for this reason, males historically had higher infection rates (Figure E.5C.2). Now, both males and females are immunized.

Figure E.5C.3
Age-Specific Incidence Rates for Rubella in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Protection is conferred by immunization against rubella. Adverse effects from the vaccine are slight, with symptoms such as fever, a mild rash or joint stiffness. The best control for rubella and CRS is to raise the immunization rate.

Provincial Strategies

- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of immunization programs.
- In addition, the department funds specialized immunization strategies, including immunization programs targeted against vaccine-preventable diseases.

E.5D Hepatitis B

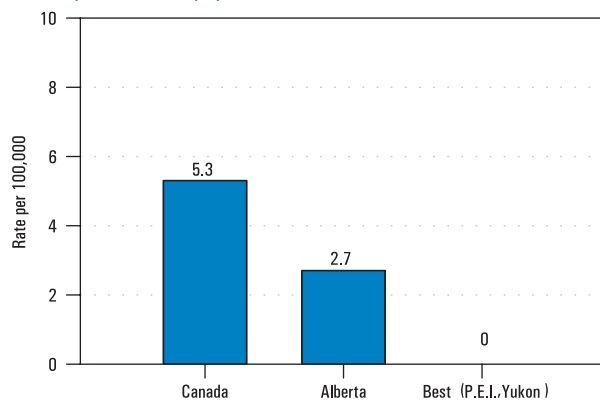
Hepatitis B virus (HBV) is a bloodborne pathogen that causes inflammation of the liver. The following symptoms may slowly emerge anywhere from 40 to 180 days after contracting the virus: lack of appetite, rash, stomach pain, nausea and vomiting, often followed by jaundice. Many people who are infected will have no symptoms.

Hepatitis B is transmitted through sexual contact; contact with infected blood (through such means as sharing needles for injection drug use, or by blood splashes to the eyes or mucous membranes); or from an infected mother to her baby at birth. Tattooing and body piercing have also been implicated. About five per cent of people with hepatitis B become carriers and can spread the disease for a lifetime. A significant proportion of carriers will go on to develop chronic active hepatitis and cirrhosis.

Most people are at low risk for contracting hepatitis B, but injection drug users (who share needles) and health care workers (who are at risk for needlestick injuries) are at increased risk. As a result, those at risk are routinely immunized for hepatitis B.

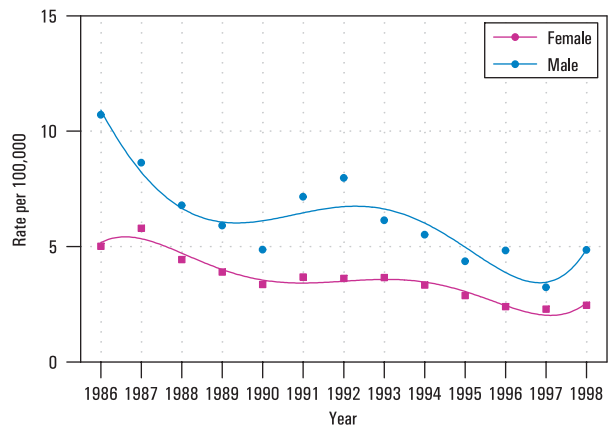
The rate of hepatitis B in Alberta has declined slightly during the past decade. In 1997, it was 2.7 per 100,000, lower than the Canadian average of 5.3 but still well above Prince Edward Island and the Yukon, at zero. (It should be noted that many cases of HBV infection represent cases acquired years previous to testing. The rates labeled incidence include chronic carriers who received a laboratory test for some reason. Most of these are likely to be completely healthy).

Figure E.5D.1
Incidence of Hepatitis B, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



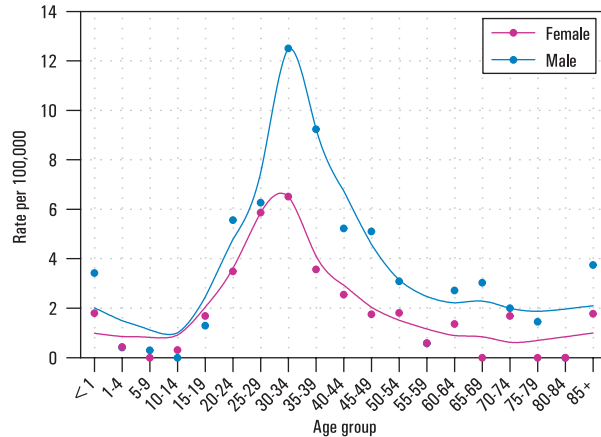
Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

Figure E.5D.2
Incidence of Hepatitis B in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Figure E.5D.3
Age-Specific Incidence of Hepatitis B in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 - 1998

Provincial Strategies

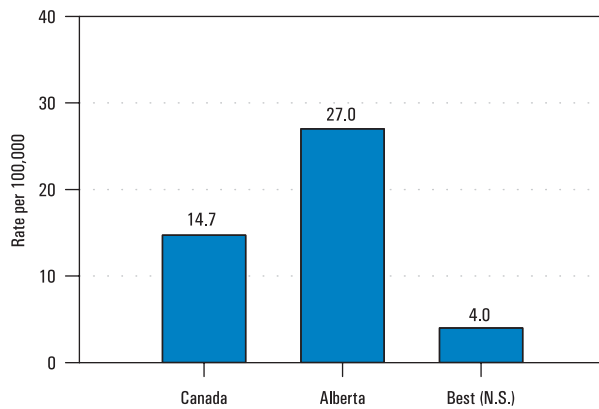
- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of immunization programs.
- A prenatal surveillance program for hepatitis B is in effect in Alberta. In addition, Alberta Health and Wellness funds specialized immunization strategies, including immunization programs targeted against vaccine-preventable diseases.

E.5E Pertussis

Pertussis, or whooping cough, is highly contagious. It is caused by the *Bordetella pertussis* bacterium, found in the mouth, nose and throat of an infected person. It gets its common name from the paroxysmal coughing which is followed by forced inspiration — a crowing or high pitched whoop.

In 1997, the rate of pertussis in Alberta was 27 per 100,000, much higher than the Canadian average of 14.7.

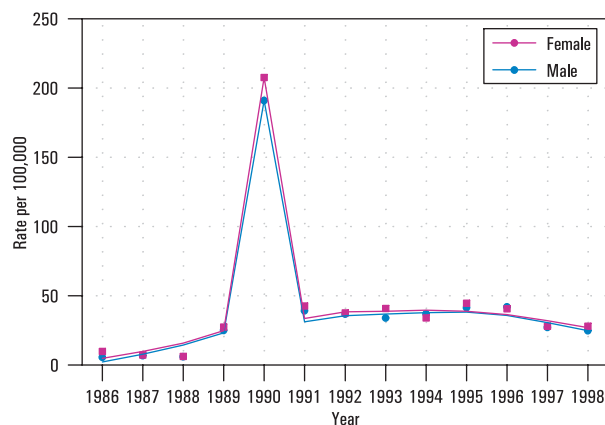
Figure E.5E.1
Incidence of Pertussis, 1997 (Canada, Alberta, Best Province)
(Rates per 100,000 population)



Source: Notifiable Disease Annual Summary, 1997, Statistics Canada

The rate of pertussis in Alberta remained stable from 1991 to 1996, (following a major outbreak in 1990) and has decreased sharply since 1997. The single most effective control measure is maintaining the highest possible level of immunization.

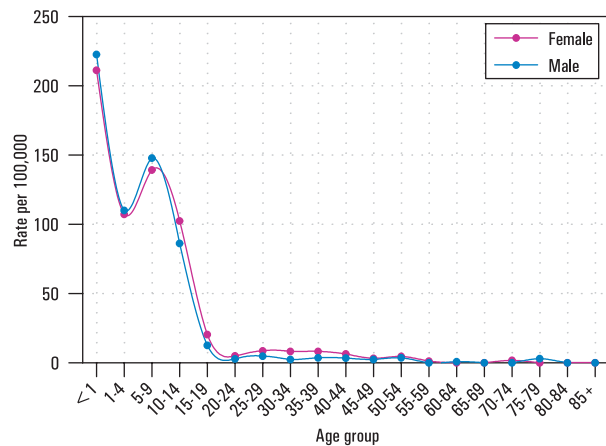
Figure E.5E.2
Trends in Incidence of Pertussis in Alberta, 1986 - 1998 (Rates per 100,000 population)



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 -1998

Pertussis can occur at any age, but severe illness is more common in young children who have not been immunized. It is spread primarily when infected people cough or sneeze. Complications may include pneumonia, middle ear infection, seizures, encephalopathy, apnea (brief cessation of breathing) and death. Eighty per cent of deaths attributed to pertussis occur in children under age one.

Figure E.5E.3
Age-Specific Incidence of Pertussis in Alberta, 1996 - 1998



Source: Notifiable Disease Database, Alberta Health and Wellness, 1986 -1998

An improved vaccine with fewer side effects was introduced in 1997. It is given at two, four, six and 18 months of age, and again between four and six years of age.

Provincial Business Plan Targets

The provincial target for the year 2000 is that reported rates of pertussis in Alberta will not exceed 18 cases per 100,000 population.

Provincial Strategies

- Alberta Health and Wellness provides expert advice and support to regional health authorities for the delivery of immunization programs.
- In addition, the department funds specialized immunization strategies, including immunization programs targeted against vaccine-preventable diseases.