

Section B

child and

infant health

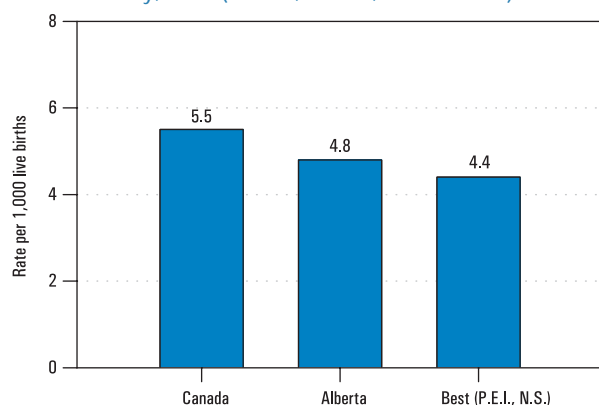
H E A L T H T R E N D S

B.1 Infant Mortality

Infant mortality - death in the first year of life - is recognized internationally as an indicator of population health. The infant mortality rate is defined as the number of babies, out of every 1,000 live births, who die before their first birthday.

In 1997, the infant mortality rate in Alberta was 4.8 per 1,000 live births, lower than the Canadian average of 5.5 per 1,000 live births, and similar to the best provinces, Prince Edward Island and Nova Scotia (4.4 per 1,000 live births).

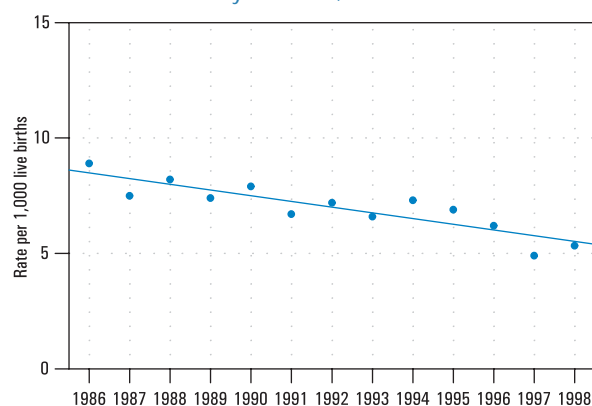
Figure B.1.1
Infant Mortality, 1997 (Canada, Alberta, Best Province)



Source: Statistics Canada, Daily News, June 16, 1999

For the past decade, the infant mortality rate has declined in Alberta.

Figure B.1.2
Trends in Infant Mortality in Alberta, 1986 - 1998



Source: Vital Statistics Death File and Birth File, December 1999 release

The infant mortality rate reflects the health of infants and their mothers. Infant mortality is closely related to congenital anomalies, premature births and low birth weight. Determinants affecting the previous factors include the mother's age, use of tobacco, alcohol, or other drugs; her access to adequate prenatal care; adequacy of nutrition and living conditions and presence of acute or chronic disease.

In the following map (Figure B.1.3), infant mortality is assigned to a region based on the mother's residence.

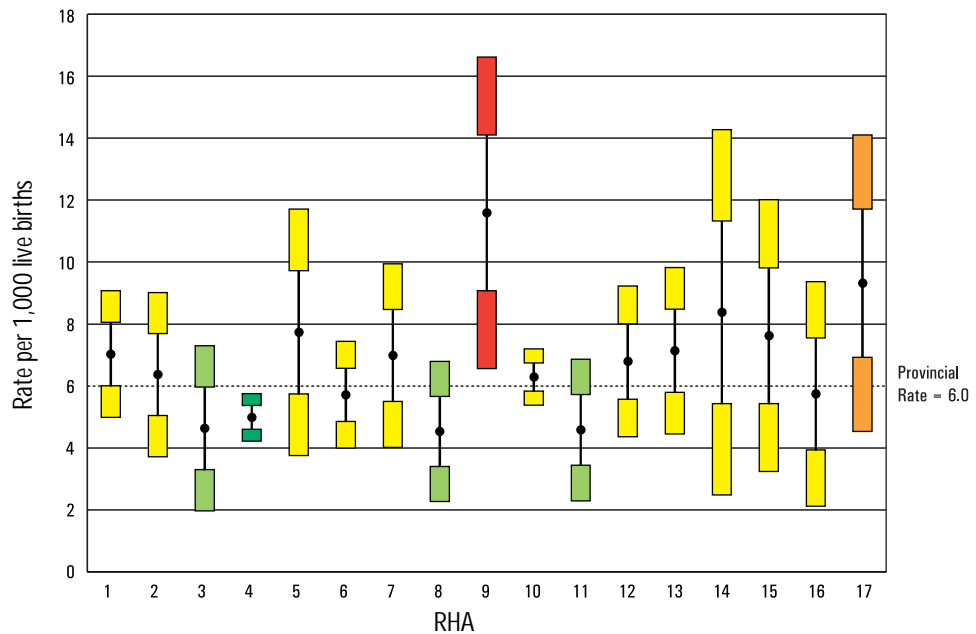
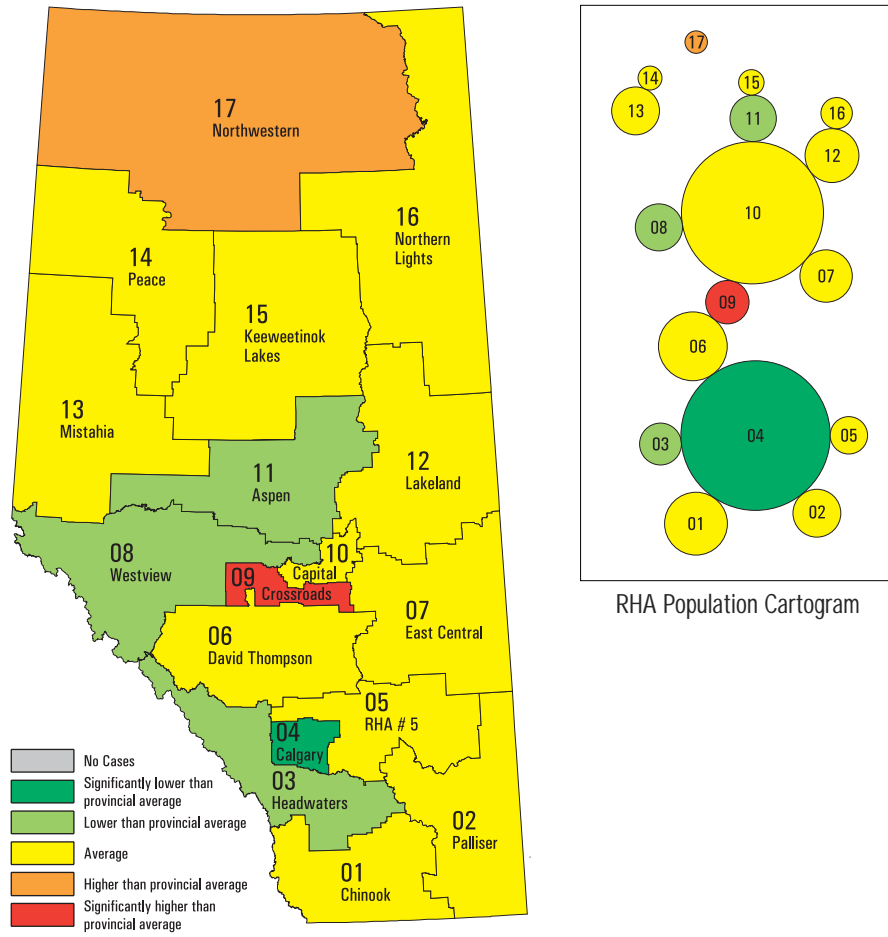
Provincial Business Plan Targets

The provincial target for 2000 is that the infant mortality rate will be at most six per 1,000 live births.

Provincial Strategies

- Alberta Health and Wellness is collaborating with federal, provincial and territorial government departments on a number of initiatives related to child health. These include the National Children's Agenda (a national framework for children's strategies), the National Child Benefit (a child health benefit plan for children in low income families), the Canada Prenatal Nutrition Program and Community Action Program for Children.
- Alberta Health and Wellness is also collaborating with Alberta Learning, Human Resources and Employment, Children's Services, Justice and Attorney General, International and Intergovernmental Relations, Community Development and other partners to implement the **Alberta Children's Initiative**. This is a provincial business plan focused on improving the well being of children. It includes a shared vision, a policy framework, expected outcomes, and strategies to support the healthy development of all Alberta's children.

Figure B.1.3
Regional Differences in Infant Mortality Rate in Alberta, 1995 - 1997 combined



Source: Vital Statistics, Death File & Birth File, April 1998 release

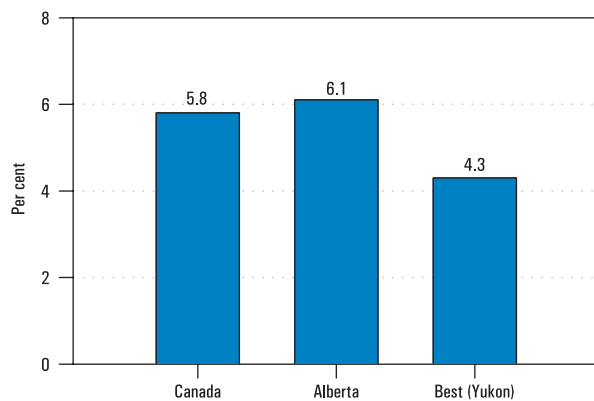
B.2 Low Birth Weight

Birth weight is an indicator of the health status of newborns. Adequate prenatal growth is essential for future growth and development. Low birth weight (LBW) babies - those who weigh less than 2,500 grams (5.5 pounds) at birth - are more likely to have birth-related complications, disabilities, and other health problems. They are also more likely to have developmental delays, learning and behavioural problems and long-term health problems. Low birth weight is a major factor in infant mortality.

Very low birth weight (VLBW) babies - those under 1,500 grams or 3.5 pounds - are especially likely to have long-term health problems and to require higher levels of health care throughout their lives.

In 1996, 6.1 per cent of all live births in Alberta were considered to be low or very low birth weight infants. This rate is somewhat higher than the Canadian average (5.8 per cent), and far higher than the best province, Saskatchewan (5.0 per cent). Yukon (4.3 per cent) has the lowest rate in Canada.

Figure B.2.1
Low Birth Weight, 1996 (Canada, Alberta, Best Province)

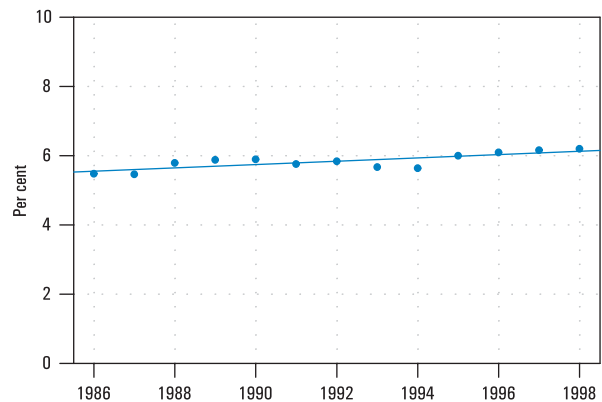


Source: Statistics Canada, Daily News, July 8, 1998

Low birth weight babies may be pre-term, small-for-gestational-age, or both. These types of low birth weight may have different underlying causes, as well as different effects on later development. Compared to pre-term, appropriate-for-gestational-age babies, pre-term, small-for-gestational-age babies have greater risk of health problems.

The incidence of low birth weight in Alberta has varied over time, with a slight but steady increase over the last five years.

Figure B.2.2
Trends in Low Birth Weight in Alberta, 1986 - 1998



Source: Vital Statistics, Birth File, July 1999 release

Factors associated with low birth weight include premature birth, congenital anomalies, multiple pregnancy, acute or chronic disease in the mother, and young or old maternal age. Alcohol consumption, smoking and drug abuse during pregnancy have also been linked to low birth weight birth. Low socioeconomic status can contribute through inadequate nutrition, poor living conditions, and a lack of prenatal care.

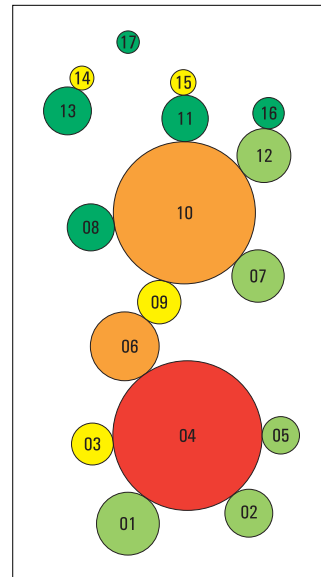
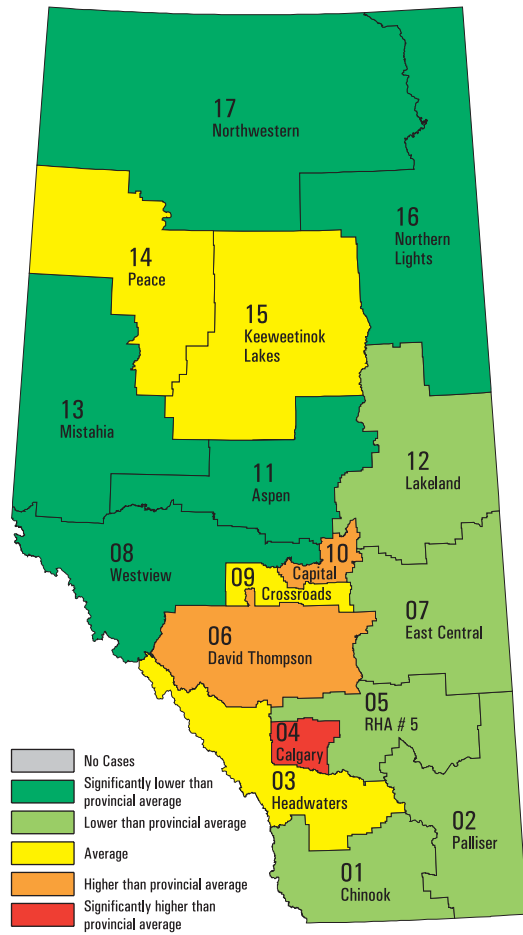
Provincial Business Plan Targets

The provincial target for the year 2002 is that the percentage of newborn babies weighing less than 2,500 grams should not exceed 5.5.

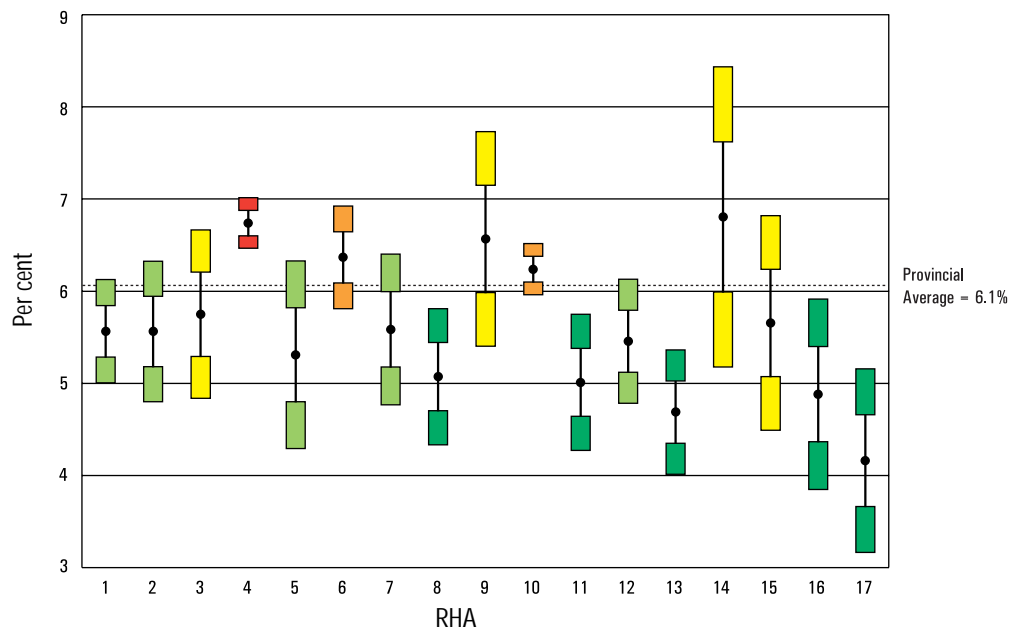
Provincial Strategies

- Alberta Health and Wellness has released *Maternal Risk Factors in Relationship to Birth Outcomes (July 1999)*. The report uses data from the “Notice of a Live Birth or a Stillbirth” forms to examine the influence of factors such as smoking, alcohol, drug use, maternal age and use of prenatal care on birth outcomes, including birth weight.
- The department works with regional health authorities, the Alberta Medical Association Committee on Reproductive Care and service providers to produce the annual report *Alberta Reproductive Health: Pregnancy Outcomes*.
- The department is also exploring the development of strategies to address low birth weight and enhance the health of infants in the province. It is also leading the Children’s Health Study, which will examine the long-term impact of low birth weight on health status and the use of health services.
- Alberta Health and Wellness collaborates with Health Canada and other partners to support the Canada Prenatal Nutrition Program, which is intended to decrease the occurrence of low birth weight in babies.
- Smoking during pregnancy has been identified as a significant factor in low birth weight babies. Alberta Health and Wellness provides funds to the **Alberta Tobacco Reduction Alliance (ATRA)** to implement the Alberta Tobacco Reduction Plan.

Figure B.2.3
Regional Differences in Low Birth Weight in Alberta, 1995 - 1997 combined



RHA Population Cartogram



Source: Vital Statistics, Birth File, April 1998 release

B.3 Congenital Anomalies

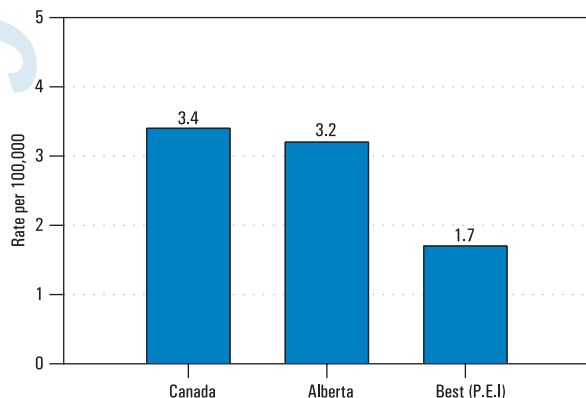
Congenital anomalies are a major contributor to infant mortality. Congenital anomalies represent a wide range of birth defects including heart malformations, skeletal deformities, and body chemistry imbalances. They range from minor to severe, and may result in debilitating disease, physical or mental disability, or early death.

Congenital anomalies may be inherited, or they may result from interference in the womb or from environmental factors such as chemicals or pollutants. Although the causes of most birth defects are unknown, several have been identified. These causes include heredity, genetic abnormalities, chromosomal abnormalities, infections, drugs and medicines, alcohol, smoking, malnutrition, and environmental effects.

Few birth defects can be attributed to a single cause; most result from the interaction between environmental factors and heredity. The outcome depends on inherited susceptibility, the degree of exposure to a hazard, and the stage of pregnancy at which exposure occurs.

In 1997, deaths due to congenital anomalies in Alberta (3.2) were slightly lower than the national average (3.4), but higher than that of the best province, Prince Edward Island (1.7) or the second best province, British Columbia (2.8).

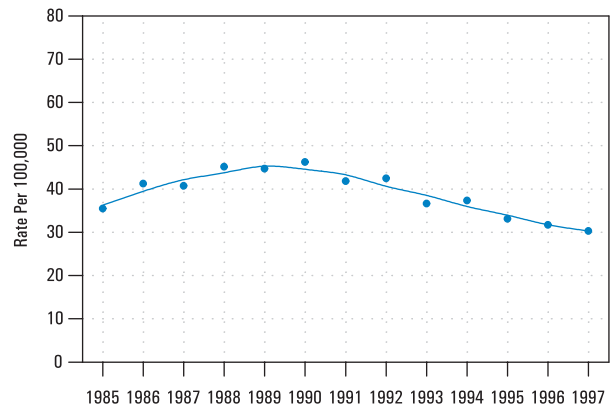
Figure B.3.1
Mortality Rate from Congenital Anomalies, 1997 (Canada, Alberta, Best Province) (Deaths per 100,000 population, age-standardized)



Source: Statistics Canada, Health Indicators Database, 1999

In Alberta there are over 1,200 babies annually diagnosed with birth defects before their first birthday. Over the past 10 years, the birth prevalence of congenital anomalies has decreased from 41 per 1,000 births in 1986 to 30 in 1997. Improvement of prenatal and neonatal care, prenatal screening programs, and other medical interventions and educational programs have likely contributed to the decline.

Figure B.3.2
Trends in Congenital Anomalies in Alberta, 1985 - 1997 (Cases* per 1,000 births)



Source: Alberta Congenital Anomalies Surveillance System (ACASS), October 1999 release

* Infants diagnosed with congenital anomalies before their first birthday.

Pre-conception screening for maternal infections and other conditions that may affect the first eight weeks of fetal development is important in preventing congenital anomalies. Establishing good health habits before conception is also important. For example, folic acid supplements taken prior to conception can help prevent neural tube defects.

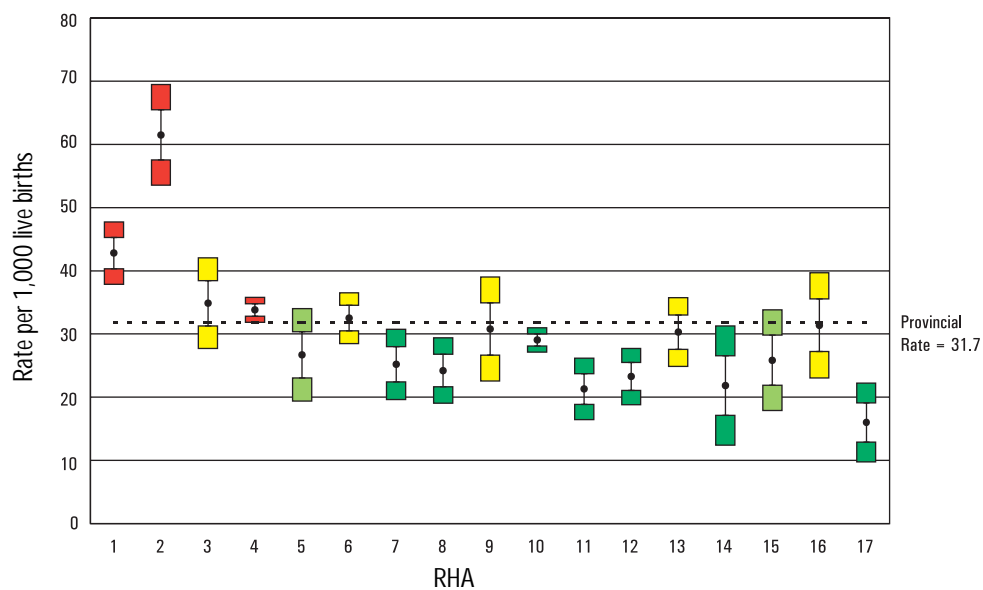
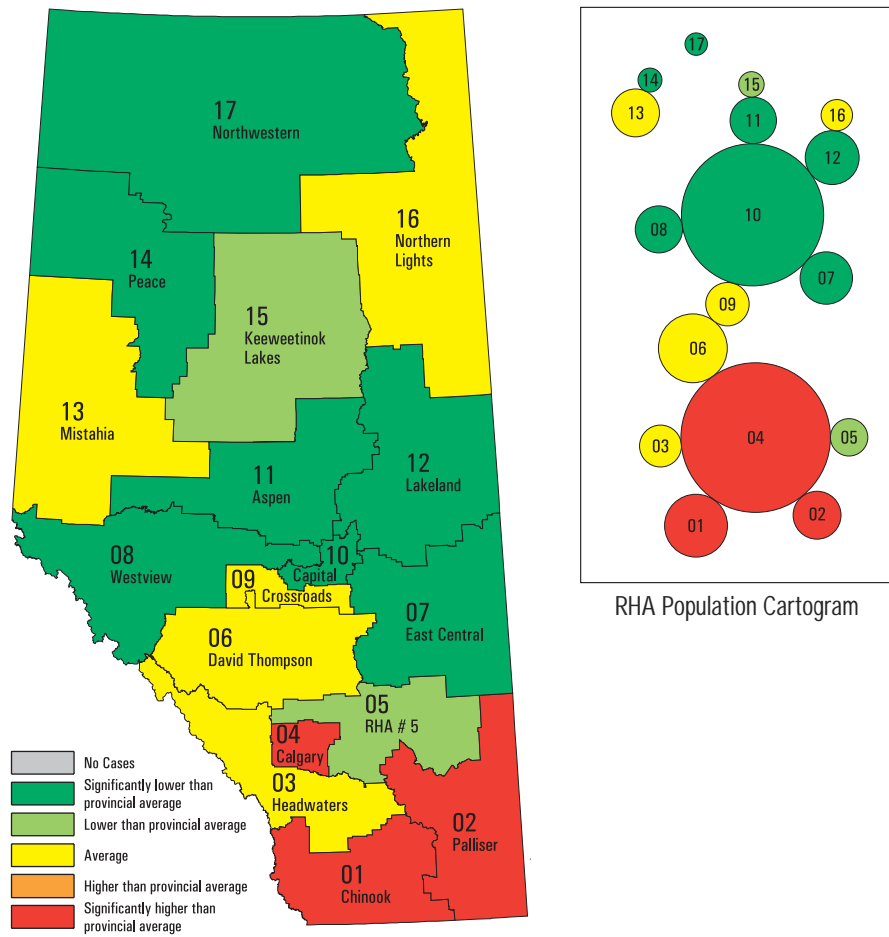
The availability of genetic services for at-risk couples can help reduce congenital anomalies. Gene analysis, chromosome studies, and biochemical analyses can be done to gather data for diagnosis and treatment of genetic disorders, and to give accurate information to those concerned. Education is also an indispensable tool in preventing congenital anomalies. Teaching prospective parents about how to have a healthy pregnancy is essential.

For more detailed information on specific birth defects as they pertain to the Alberta context please refer to the report entitled *Alberta Congenital Anomalies Surveillance System, 1980 - 1995*. This report will be updated on an ongoing basis.

Provincial Strategies

- Alberta Health and Wellness is a member of the **Partnership on Fetal Alcohol Syndrome and effects (FAS/FAE)** to implement initiatives focused on the prevention of FAS/FAE. Other partners include regional health authorities, the Alberta Mental Health Board, the Alberta Medical Association, AADAC, Alberta Children's Services, Alberta Justice, Alberta Learning, and Health Canada.
- Along with the regional health authorities, the department has also launched a new provincial initiative to improve screening for metabolic disorders. The goal is to have the **Metabolic Screening for Newborns** program in place by the spring of 2000. The purpose of the program is to ensure that all Alberta infants are screened for phenylketoneuria, congenital hypothyroidism and biotinidase deficiency at birth.
- Alberta Health and Wellness funds the **Alberta Congenital Anomalies Surveillance System (ACASS)** and is developing an enhanced surveillance system through the Hereditary Diseases Surveillance Program.

Figure B.3.3
Regional Differences in Congenital Anomalies in Alberta, 1995 - 1997



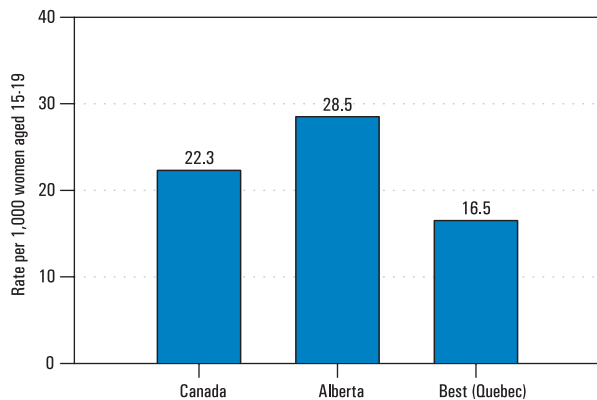
Source: Alberta Congenital Anomalies Surveillance System (ACASS), October 1999 release

B.4 Teenage Fertility

Births to teenage mothers are associated with low birth weight and pre-term birth. Very young pregnant teenagers are at an increased risk of emotional distress and complications related to pregnancy, such as pre-eclampsia and anemia. However, age alone is not a clear risk factor for poor outcomes. Mediating factors, such as poverty, lack of education, poor family support, and lack of prenatal care, are also involved in poor health outcomes.

To allow for Canadian comparisons, the rates presented here are for females 15 to 19 years. In 1996, the teenage fertility rate in Alberta was 28.5 live births per 1,000 women aged 15 to 19. This rate is somewhat higher than the national average (22.3 per 1,000 females age 15 to 19), and far greater than the rate of Quebec, the province with the lowest rate (16.5 per 1,000 females aged 15 to 19).

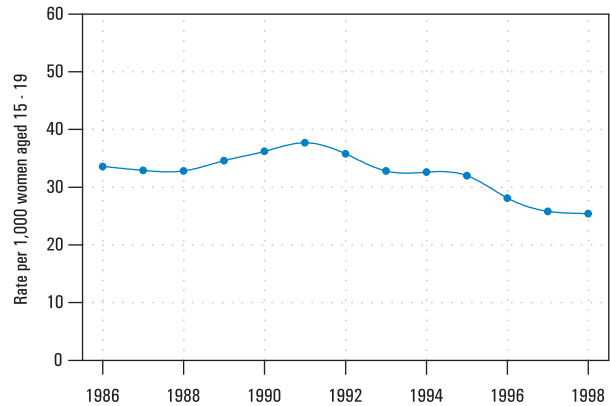
Figure B.4.1
Teenage Fertility, 1996 (Canada, Alberta, Best Province)



Source: Statistics Canada, Births and Deaths, 1996

From 1985 to 1990, the rate of births to teen mothers increased. However, since 1991, the rate in Alberta has decreased.

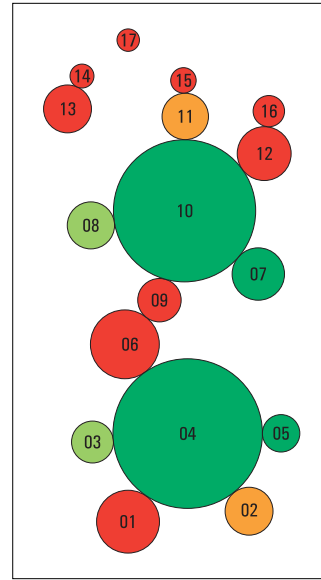
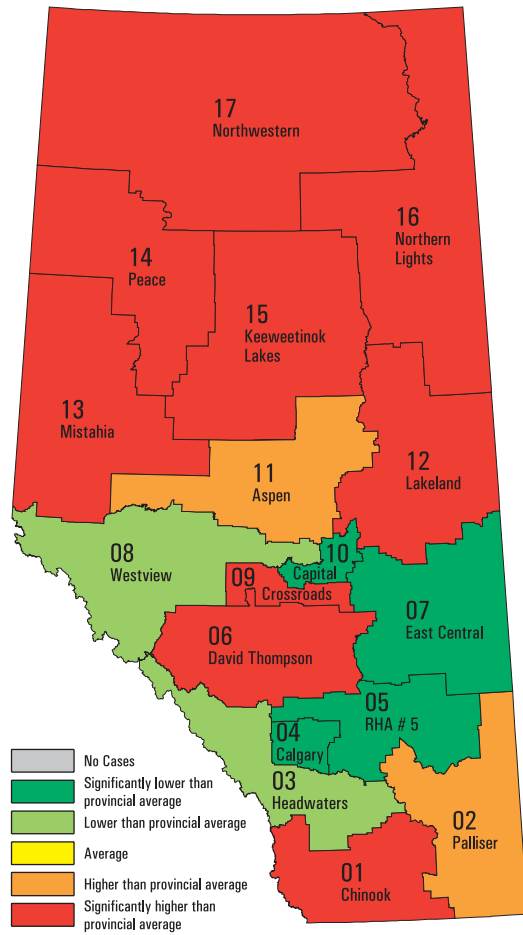
Figure B.4.2
Trends in Teenage Fertility in Alberta, 1986 - 1998



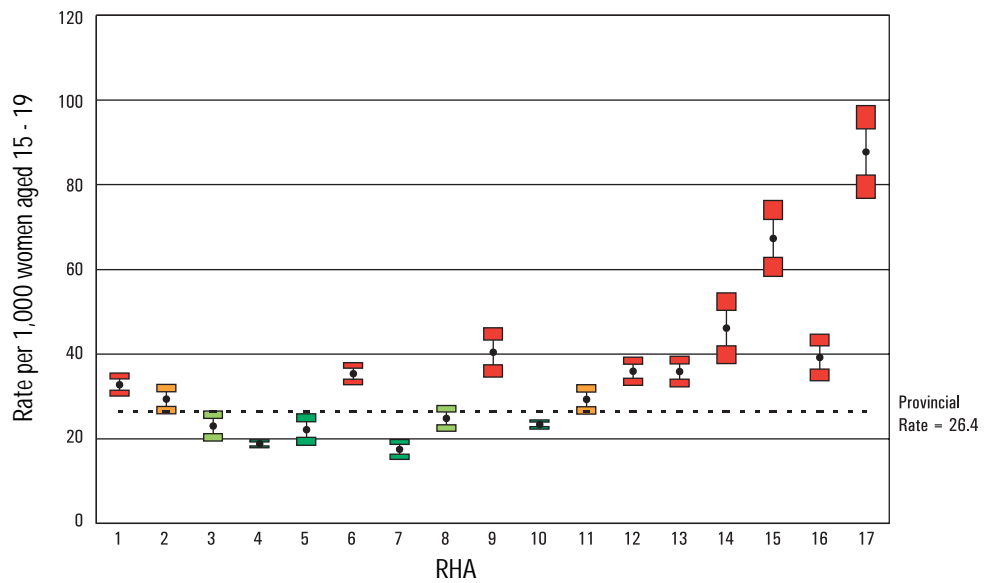
Source: Vital Statistics, Birth File, July 1999 release

Primary prevention of adolescent pregnancy should focus on the development of responsible sexual behaviours. Family communication and peer advocacy programs aim to change attitudes toward reproductive health and childbearing, foster assertiveness, and support decision-making skills. Tertiary prevention focuses on the prevention of morbidity in young mothers and babies through appropriate prenatal care and follow-up.

Figure B.4.3
Regional Differences in Teenage Fertility in Alberta, 1996 - 1998 combined



RHA Population Cartogram



Source: Vital Statistics, Birth File, July 1998 release