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Health Status Report: Introduction

The Whatcom County Health Status Report was produced by the Whatcom County Health & Human Services Department. It is part of the overall community health assessment process being conducted by the department. The health assessment process takes place over time and is one of establishing baseline information, monitoring changes and evaluating the effectiveness of health-related activities in the community. This Health Status Report helps establish some of the baseline information.

The main purpose of the report is to provide available local information to interested residents. The audience was assumed to be public officials, grant writers, students at all levels and individuals with an interest in specific health issues. The information is intended to answer some questions and raise many others.

The information also may be useful to policy makers as they plan funding and to community agencies as they plan programs. The report shows what is generally known about health in our community using public information. The report also can be used to show what is not known, for example, missing data, gaps in monitoring, lack of clarity about desired health outcomes, and how to motivate individuals to change their behaviors, to mention a few.

This report is a living document and will be updated on a regular basis. New sections will be added when new data from prior years becomes available. Reference copies will be maintained at all the library systems in the county. A web site also has been established and will have a full copy of the report with all the updates as they are added. The most current URL address is printed on the title page.

Readers should ask themselves the following questions as they review the data in this report.

- Where does this data come from?
- How accurate and complete is the data?
- What are the limitations of the data?
- What patterns can be seen?
- Are trends in one area also seen in a related area?
- Does the data make sense based on the reader's knowledge of the community?
- If the rate has changed, what are the actual number of events? (For example, an increase from two to four deaths will double the rate but may not be a great health concern.)

The majority of the figures in this report were generated using VISTA, an analytical software program developed by the Seattle-King County Department of Public Health. VISTA gives local health department staff easy access to a variety of data collected by state and federal

agencies:

- Washington State Department of Health-information from birth and death certificates, reportable communicable diseases and hospitalizations;
- Department of Social and Health Services - information about substance abuse;
- Washington State Office of Financial Management - state and county level population estimates; and
- United States Census Bureau - demographic information.
- Every effort was made to ensure the accuracy of the data, but errors may exist. In general, errors are due to under-reporting of events, misclassification of data, and processing problems. If there are questions or concerns about the information in this report, please contact the Assessment Coordinator at the Whatcom County Health & Human Services Department.

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Air Quality in Whatcom County**

Air pollution is the source of contamination impacting health over which community residents have the least control and need the most intervention from public health officials. Those most at risk when air pollution occurs are children, the elderly, pregnant women and people with asthma, emphysema, bronchitis and heart disease. Exposure to air pollutants also can make healthy individuals more susceptible to infectious respiratory diseases.

Outdoor air pollution

Each year about 2.5 million tons of harmful gases and particles are released into the air of Washington State. The four major sources of air pollution are:

- motor vehicles (55%)
- industrial emissions (21%)
- outdoor burning (12%)
- residential wood smoke (12%)

Local percentages differ depending on the number and kind of local sources of contaminants.

In the 1996 Behavioral Risk Factor Survey, county residents were asked what they thought were the contributors to poor air quality in Whatcom County. Transportation, industry and woodstoves were cited as major contributors. In addition, 15% of county residents had experienced discomfort due to outside air pollution.

Indoor air pollution

Many contaminants that are regulated in outdoor air also are found in high concentrations indoors. Americans spend greater than 90% of their time in indoor spaces, exposed to a variety of household and hygiene products. The more air-tight a building is, the greater the exposure to indoor contaminants.

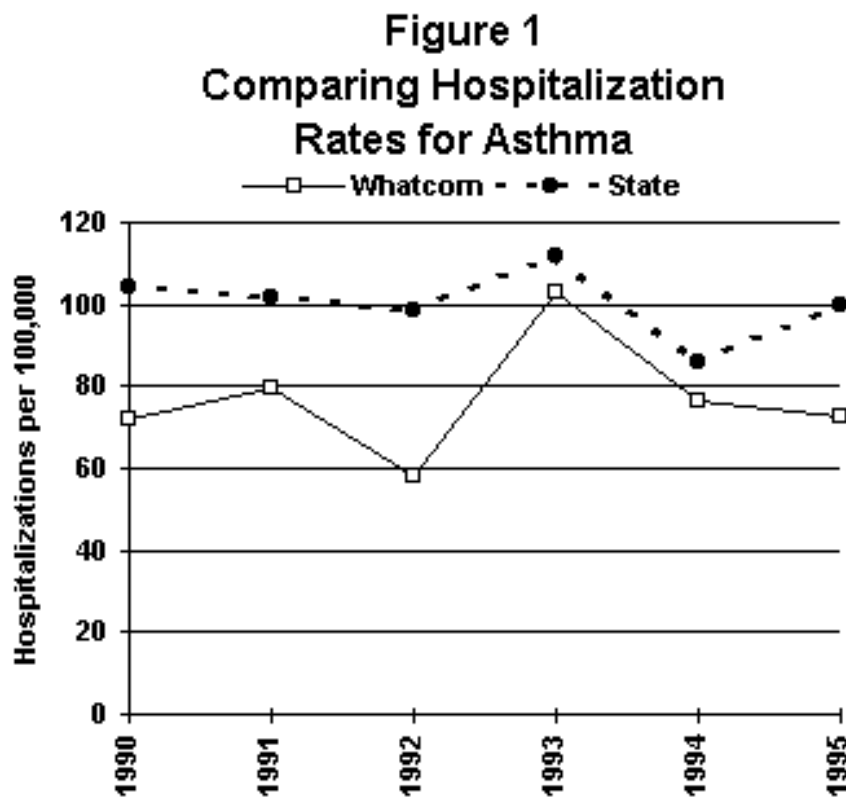
Both the levels and the length of exposure to harmful air pollutants mean that the health risks from such contaminants are greater indoors than out. Indoor air quality is especially related to the type of heating used in the home.

The 1996 Behavioral Risk Factor Survey results indicate the majority of county residents use natural gas as their primary source of heating. A significant percentage of residents use wood as their primary or secondary source. Proper venting is essential when natural gas or wood are used for heating because various respiratory illnesses can result from improper venting.

The Behavioral Risk Factor Survey also indicated that 13% of county residents experienced discomfort from indoor air.

Asthma

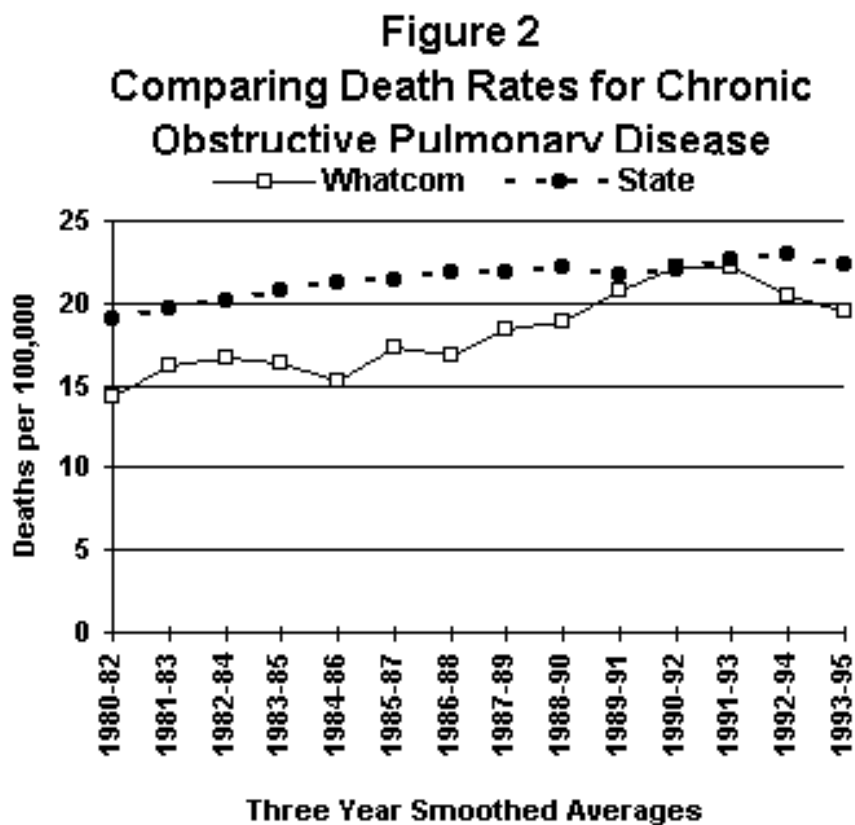
Asthma is one of the health indicators reflecting the quality of air. Asthma is a serious chronic respiratory condition that more frequently affects children than adults. Indoor and outdoor air pollutants such as formaldehyde, ozone and combustion by-products may contribute to asthma attacks. The rate of hospitalizations for asthma in Whatcom County has been slightly below or close to the Washington State rate (Figure 1). There was an increase in 1993 for both the county and state and then a return to the 1990 level two years later.



Chronic obstructive pulmonary disease

Chronic Obstructive Pulmonary Disease (COPD) is another indicator of air quality. Usually seen in older adults, COPD is made worse by pollutants in the air. Comparing the rates of deaths caused by COPD shows that the Whatcom County rate increased significantly between 1980 and 1995 (Figure 2).

The state rate has increased only slightly, and since 1989, the county rate has been essentially the same as the state.



(1997) Air Quality in Whatcom County

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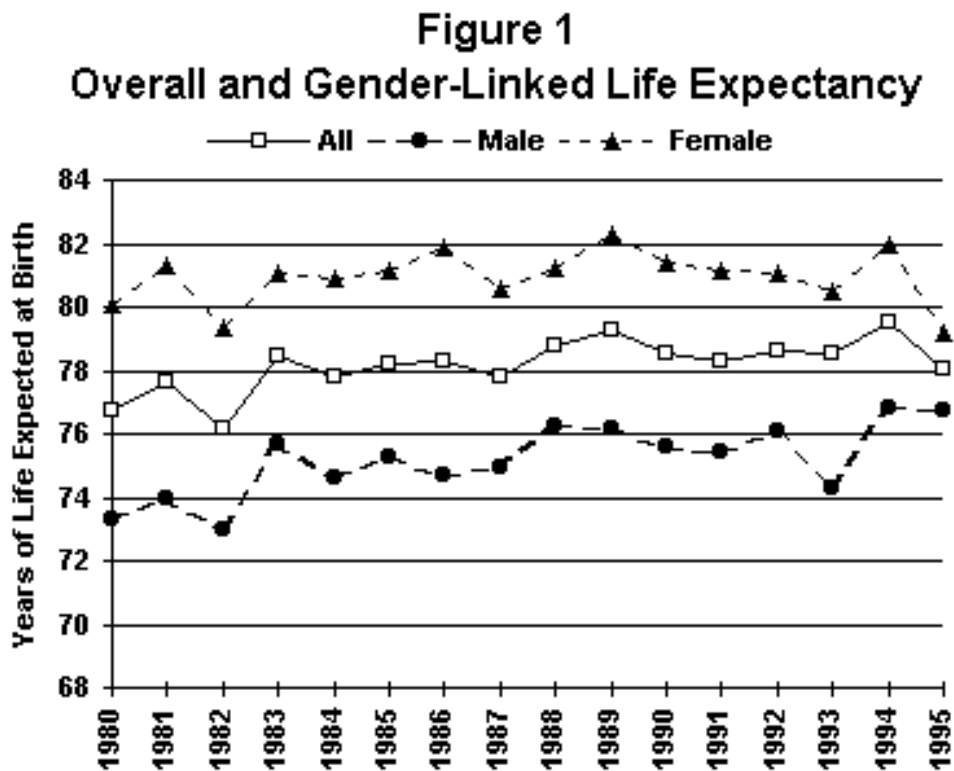
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**Health Status Report:
Causes of Death in Whatcom County**

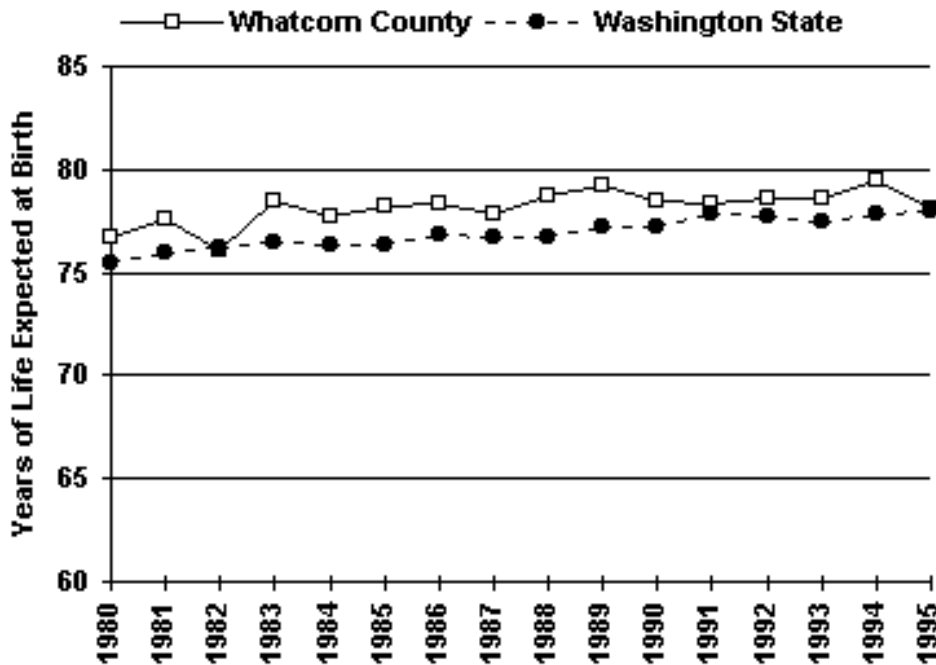
Life expectancy

One approach to deciding whether there are deaths in a community that could be prevented is to examine the life expectancy of a population, or the number of years a person born in a given year could expect to live. Life expectancy in Whatcom County improved somewhat between 1980 and 1995, however, there are significant differences in life expectancy between men and women (Figure 1).



Whatcom County residents consistently have had life expectancies somewhat higher than those for Washington State overall (Figure 2).

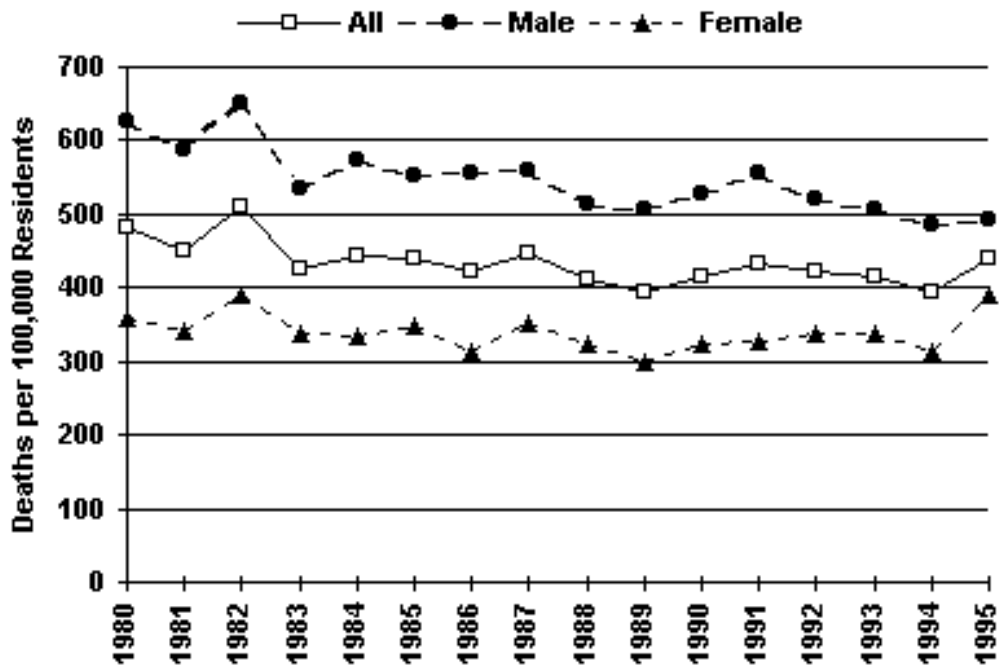
Figure 2
Comparing Life Expectancy for Residents



Age-adjusted death rates

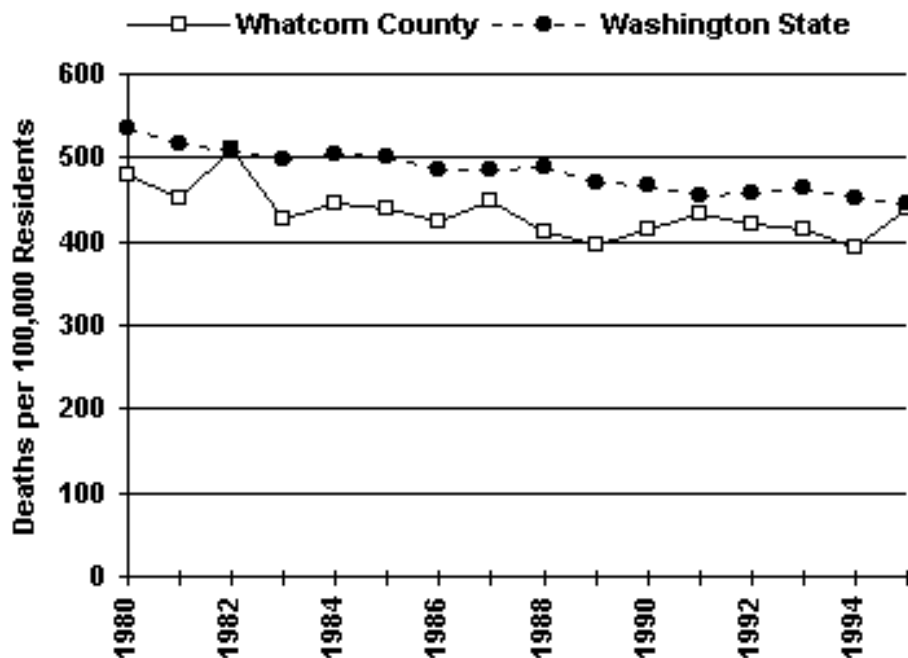
Populations with many young people typically have low death rates, while those with many older people have high death rates. To override this difference, an age-adjusted death rate is used. This measure has the effect of wiping out any difference in death rates due to the age structure in the population. Age-adjusted death rates in Whatcom County decreased between 1980 and 1995, but males continued to have higher age-adjusted death rates than women (Figure 3).

Figure 3
Comparing Age-Adjusted Death Rates
For All Causes



Both Whatcom County and Washington State death rates have decreased since 1980, but statewide rates generally were higher (Figure 4).

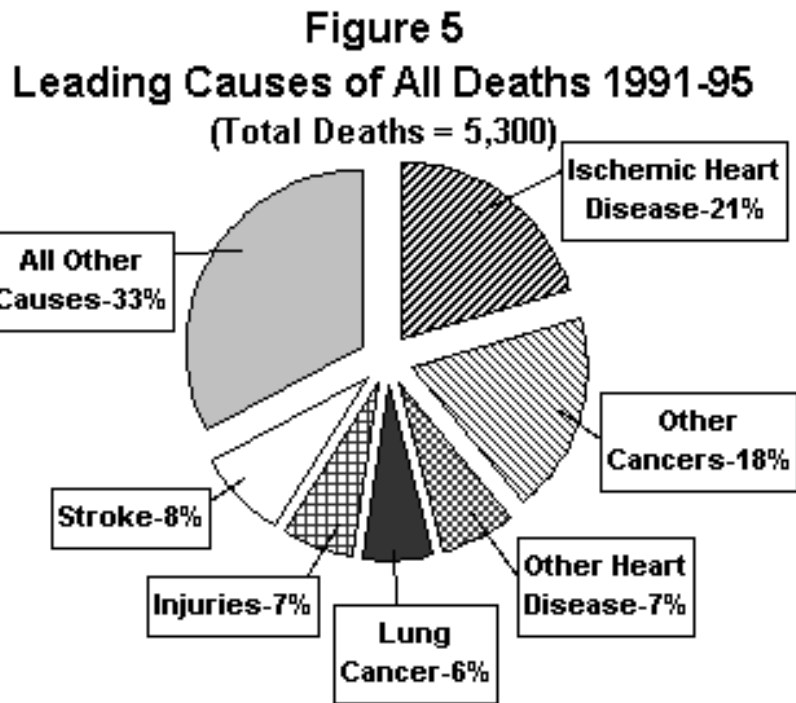
Figure 4
Comparing Death Rates for
All Causes in Residents



Leading causes of death

Between 1991 and 1995, 5,300 Whatcom County residents died, an average of 1,060 per year. The leading causes of death in that period were in order: ischemic heart disease, cancers other than lung, non-ischemic heart disease, injuries, stroke and lung cancer (Figure 5). Ischemic heart disease is caused by the build up of fat deposits in the body's major blood vessels and generally is considered to be preventable through a healthy diet, adequate exercise and no tobacco use.

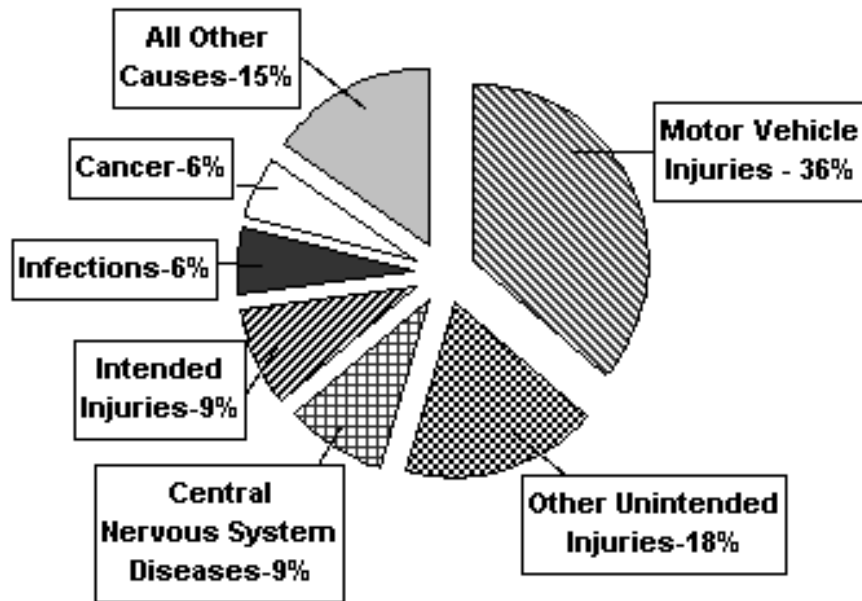
This listing of major causes of death is similar to those of Washington State and is dominated by chronic diseases because most deaths occur among people who are in their 60s or older.



Leading causes of death by age

Among children aged 1-14, death is a rare event. Between 1991 and 1995, there were 33 deaths in this age group, with more than half caused by injuries of various types (Figure 6).

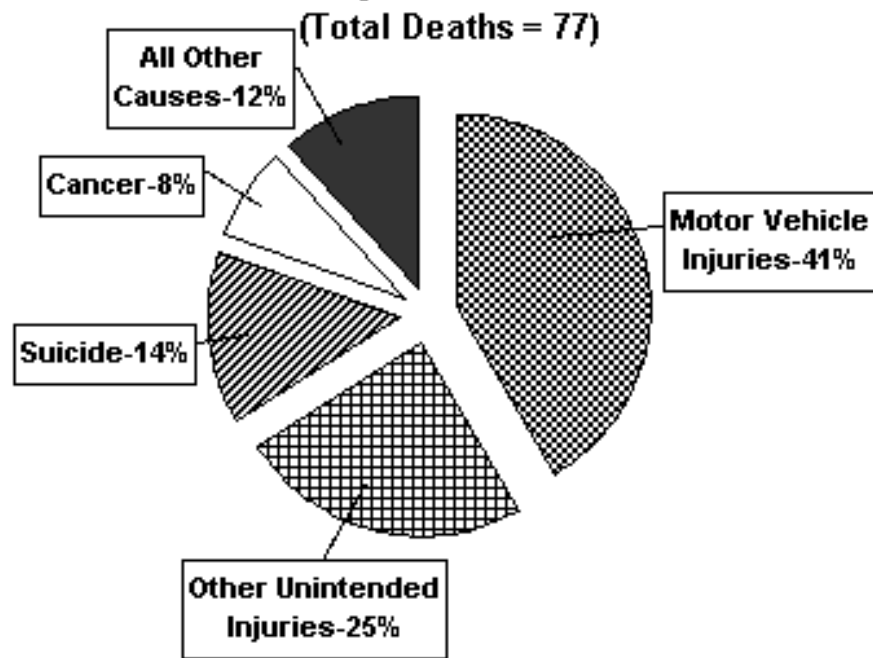
Figure 6
Leading Causes of Death
in 1-14 year olds 1991-95
(Total Deaths = 33)



In the age group 15-24, injuries were also the leading cause of death, with motor vehicle injuries causing most of those deaths (Figure 7).

Young men aged 15-24 were several times more likely to die of injuries than young women.

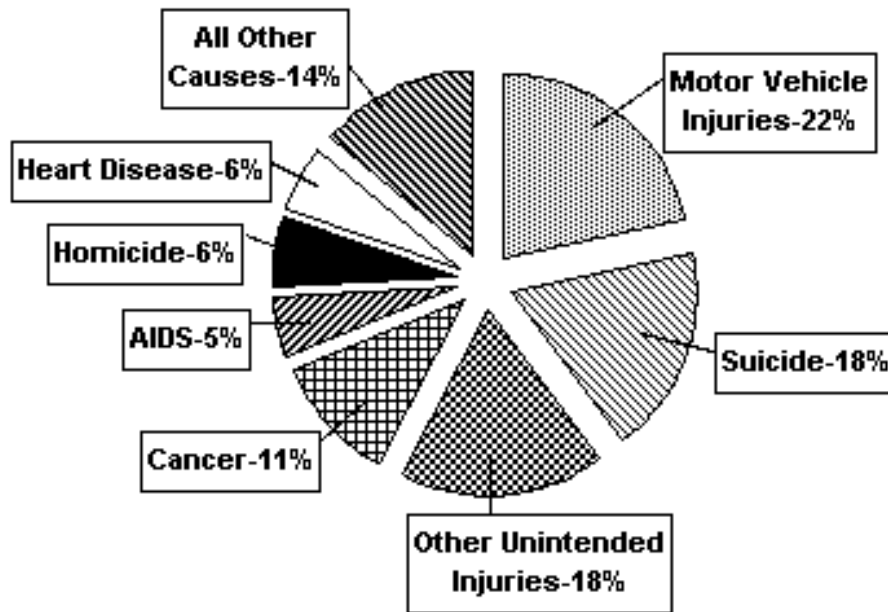
Figure 7
Leading Causes of Death
in 15-24 year olds 1991-95



By age 25-34, a subtle shift in the major causes of death can be detected. Injury deaths still account for about two-third of deaths in this age group (Figure 8).

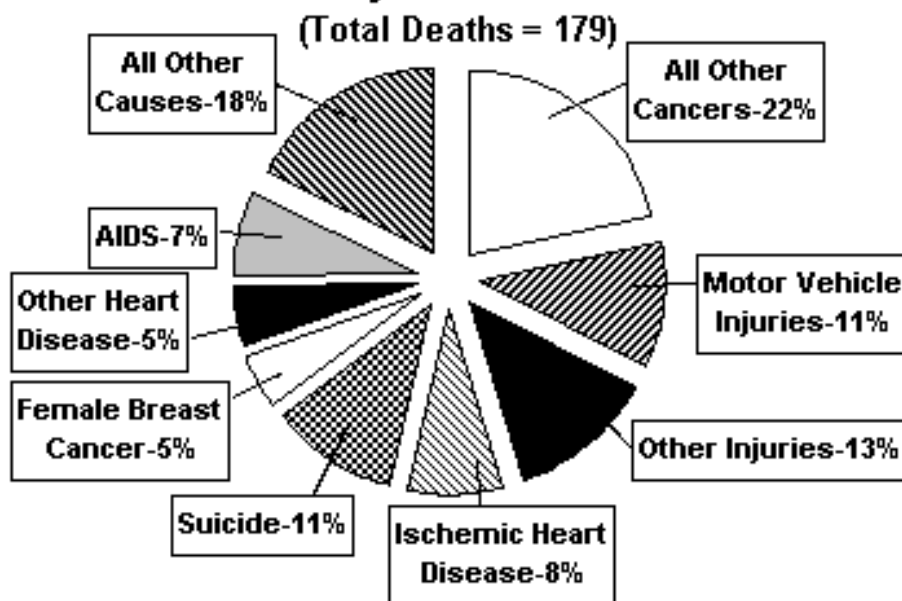
Again, men were more likely to die of injuries. However, chronic diseases such as cancer and AIDS begin to emerge as important causes of death.

Figure 8
Leading Causes of Death
in 25-34 year olds 1991-95
(Total Deaths = 116)



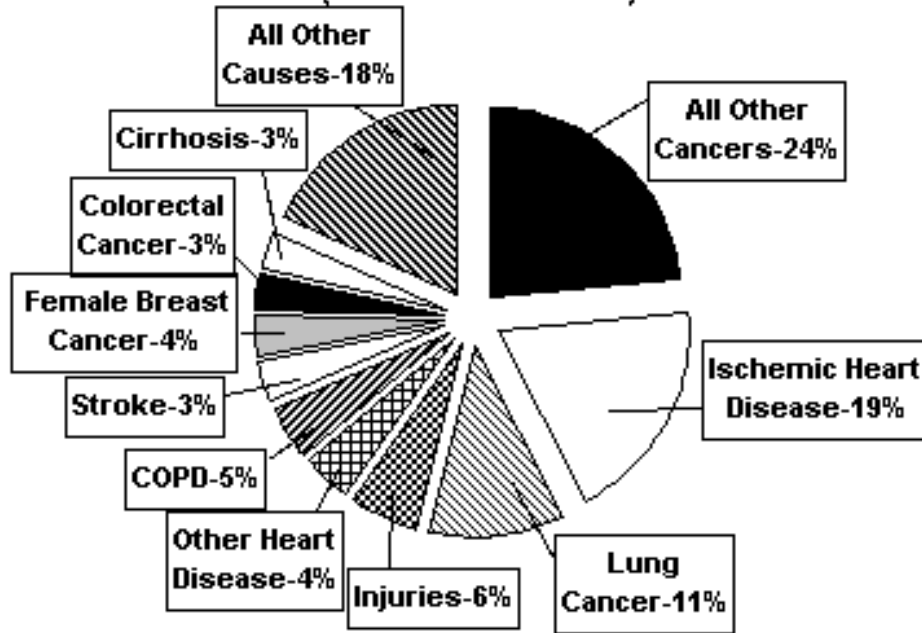
The shift toward more deaths from chronic disease is more obvious for Whatcom County residents aged 35-44, with cancers of all types becoming the leading cause of deaths (Figure 9).

Figure 9
Leading Causes of Death
in 35-44 year olds 1991-95



In the 45-64 year old age group, cancer was the leading cause of death, with lung cancer the single most frequent cause of cancer-related deaths. Heart disease was the second leading cause of death, with more than three-quarters of deaths in this age category from heart attacks (Figure 10).

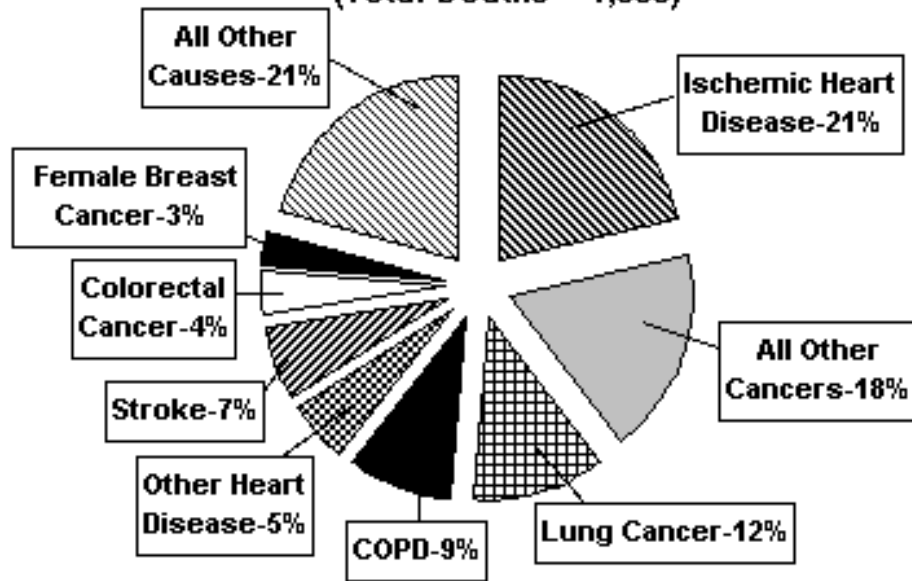
Figure 10
Leading Causes of Death
in 45-64 year olds 1991-95
 (Total Deaths = 697)



In the two oldest age groups, 65-74 and 75+, death rates rise because of the effects of aging. There are strong similarities in the leading causes of death in these two age groups. Among the younger group, three diseases caused about 70 percent of deaths: cancer, heart disease and chronic obstructive pulmonary disease (Figure 11).

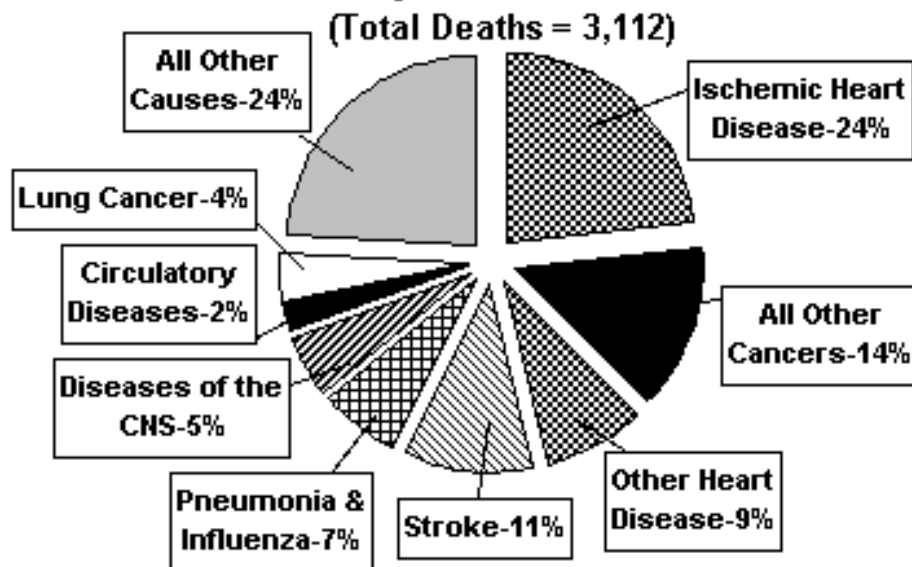
Figure 11
Leading Causes of Death
in 65-75 year olds 1991-95

(Total Deaths = 1,035)



At the oldest ages, 75 and older, these same diseases caused about half of all deaths. In addition, pneumonia and influenza were significant causes of deaths (Figure 12).

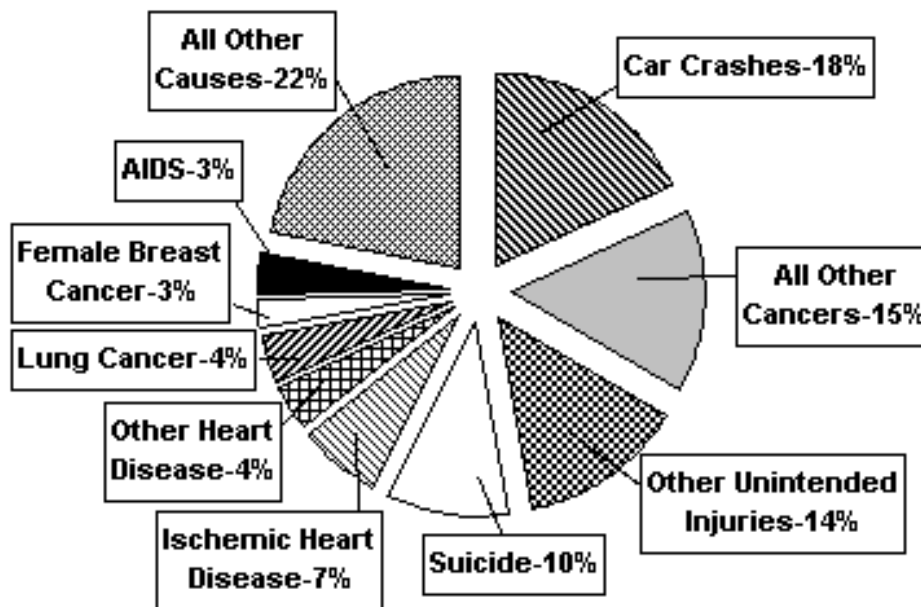
Figure 12
Leading Causes of Death
in 75+ year olds 1991-95



Years of potential life lost

Another way to look at causes of death is to calculate how many years of potential life each death "cost." The Centers for Disease Control and Prevention recommends that the count begin after the first birthday and assumes that everyone who died would have lived to be at least 65 years old. Age at death then is subtracted from 65. The result is called Years of Potential Life Lost and quantifies the effects of premature deaths. The results of this type of analysis differ markedly from the conventional way of looking at causes of death as shown in Figure 5 and point out the impact of car crashes and suicide on our community (Figure 13).

Figure 13
Causes of Potential Life Lost 1991-95
(To Age 65)



Behavioral causes of death

Many researchers have pointed out that the true causes of chronic diseases lie in behavioral choices made decades before death occurs. When people die and the quality of life they experience prior to death are largely determined by these lifestyle choices.

A 1993 article by J.M. McGinnis and W.H. Foege titled "Actual Causes of Death in the United States" published in the *Journal of The American Medical Association*, reported that the true behavioral causes of U.S. deaths in 1990 were:

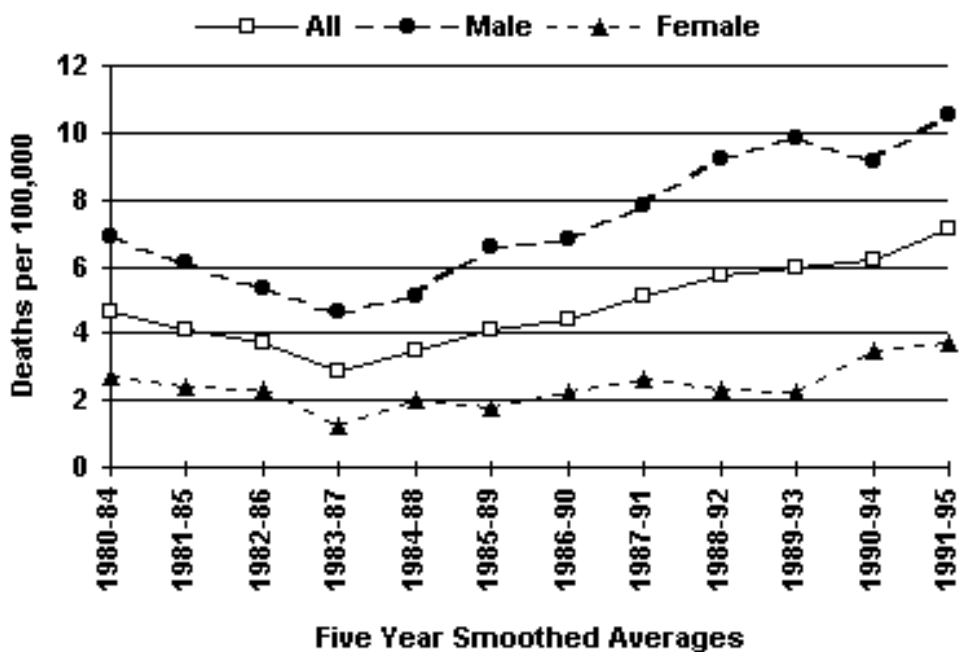
- tobacco use;
- diet and physical activity patterns;
- alcohol use;
- infectious agents;
- toxic agents;
- firearms;
- sexual behavior;
- motor vehicles; and
- illicit use of drugs.

To further understand what the consequences of these high risk behaviors are, the National Center for Health Statistics has developed formulas for computing age-adjusted death rates for alcohol-related, drug-related and firearms-related causes of death. (See definitions on page 3.5.)

Throughout the remainder of this report, age-adjusted death rates have been computed for five-year periods to increase the stability and reliability of the statistical estimate.

Alcohol-related death rates among Whatcom County residents increased significantly between 1980 and 1995 (Figure 14). Currently, the Whatcom County rate exceeds that for the United States.

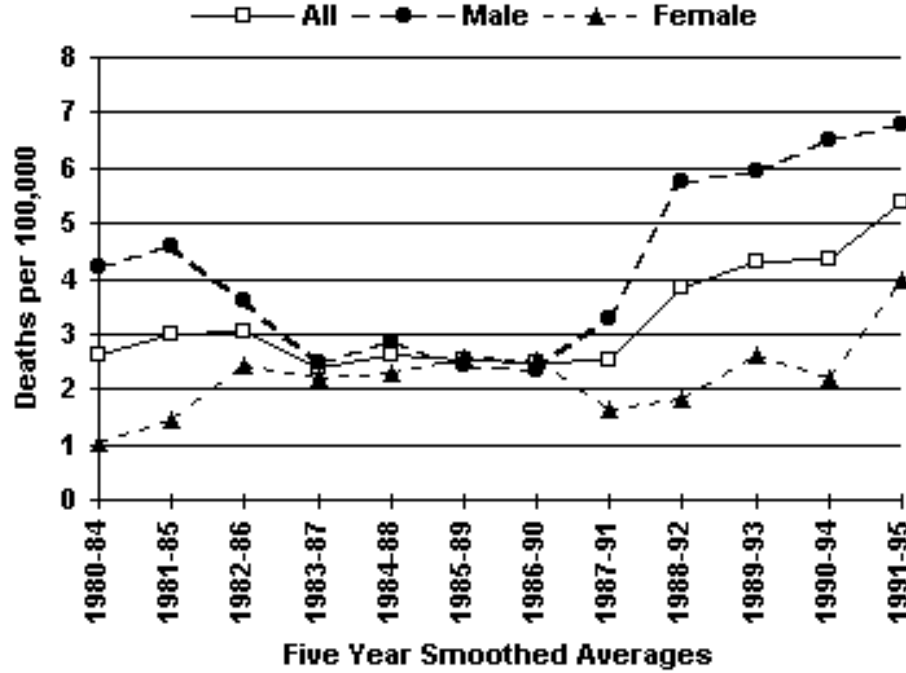
Figure 14
Age-Adjusted Death Rates
From Alcohol-Related Causes



A similar increase can be seen in the death rate from drug-related causes (Figure 15).

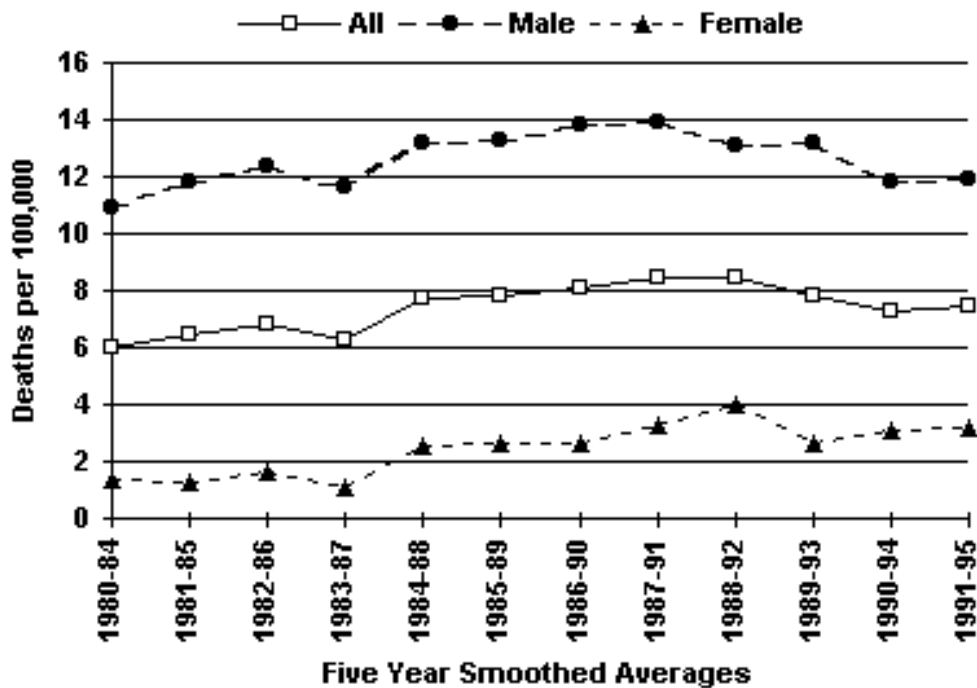
Rates in the county now are similar to those for the United States.

Figure 15
Age-Adjusted Death Rates
From Drug-Related Causes



In contrast, firearm-related causes of death have been relatively stable among Whatcom County residents (Figure 16).

Figure 16
Age-Adjusted Death Rates
From Firearm-Related Causes



Definitions

Alcohol-related deaths These include the following *International Classification of Diseases, 9th Edition* (ICD-9) codes:

- 291 (alcoholic psychoses);
- 303 (Alcohol Dependence Syndrome);
- 305.0 (alcohol abuse, non-dependent);
- 357.5 (alcohol polyneuropathy);
- 425.5 (alcoholic cardiomyopathy);
- 535.3 (alcoholic gastritis);
- 571.0-571.3 (alcoholic fatty liver, acute alcoholic hepatitis, alcoholic cirrhosis of liver, alcoholic liver damage, unspecified);
- 790.3 (excessive blood level of alcohol); and
- E860 (accidental poisoning by alcohol, not elsewhere classified).

Drug-related deaths

These include the following ICD-9 codes:

- 292 (drug psychoses);
- 304 (drug dependence);
- 305.2-305.9 (nondependent use of drugs not including alcohol and tobacco);
- 850-858 (accidental poisoning by drugs, medicaments and biologicals);

- 962.0 (assault from poisoning by drugs and medicaments);
- 980.0-980.5 (poisoning by drugs, medicaments and biologicals undetermined whether accidentally or purposely inflicted).
- Drug-related causes exclude accidents, homicides and other causes indirectly linked to drug use.

Firearms-related deaths These include the following ICD-9 categories:

- E-922 (accident caused by firearm missile);
- E955.4 (suicide and self-inflicted injury by handgun, shotgun, hunting rifle, military firearm or other and unspecified firearm);
- E965.0-E965.4 (assault by handgun, shotgun, hunting rifle, military firearm or other and unspecified firearm);
- E970 (injury due to legal intervention by firearms); and
- E985.0-985.4 (injury by handgun, shotgun, hunting rifle, military firearms or other and unspecified firearm, undetermined whether accidentally or purposely inflicted).

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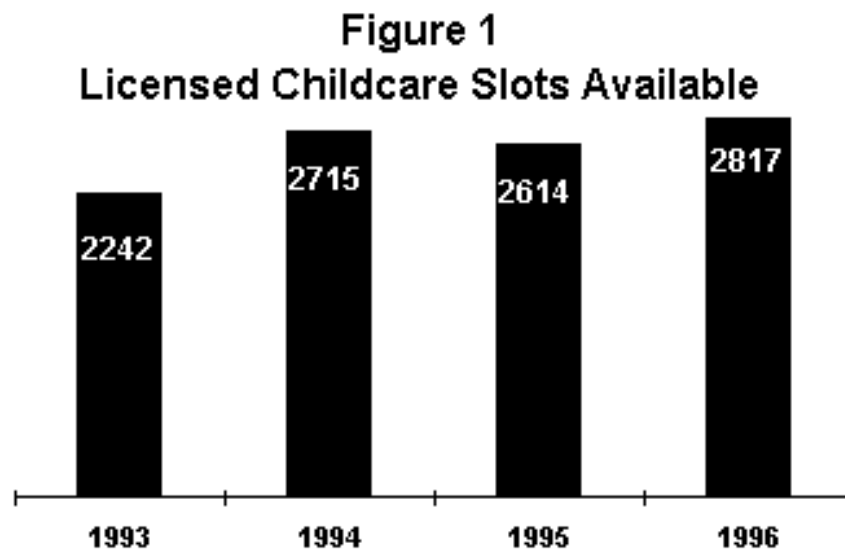
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Health Status Report: **Childcare in Whatcom County**

In 1997, there were an estimated 10,000 children under 4 years of age in Whatcom County. Many of these children need some type of childcare, meaning care provided by someone other than a parent. It is estimated that one-third of the children in care are with a family member other than a parent.

In 1997 there were 153 entities licensed by the Washington State Department of Social and Health Services (DSHS) to provide childcare in Whatcom County. There were 75-100 childcare providers who are not licensed.

The number of children cared for by each provider varies greatly, from one to more than 100. The number of licensed childcare slots available in the county increased only slightly between 1993 and 1996, yet it is predicted that over the next 10 years the demand for childcare services will increase dramatically (Figure 1). This is due mainly to the number of single parent families in the county and the changes in the welfare system that will increase the number of single parents working outside the home.



There have been major improvements in the availability and quality of childcare in the last 20 years and these efforts continue. In 1999, all center directors and home childcare providers will be required to complete 20 hours of training to obtain a license to operate and then complete 10 hours continuing education per year to maintain their license.

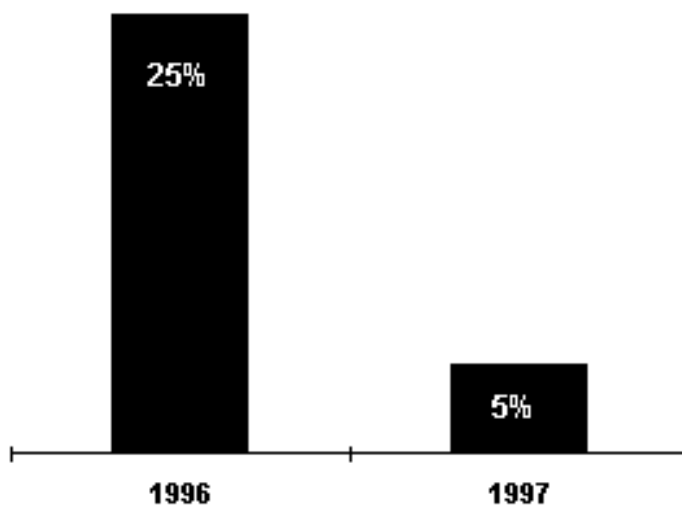
A local effort to improve quality called the Collaboration for Children began in 1992 and ran until June 1997. The Collaboration initially began as a pilot project financed with grant money. Gradually the local community and individual childcare providers assumed more of the cost of

the program.

It was designed with three areas of consultation available to childcare providers: an early childhood education specialist, a behavioral consultant and a public health nurse. Licensed providers were invited to participate, and each year approximately 20 childcare homes and centers were involved.

Data from the project indicated that the number of children who had completed their immunizations by age 2 increased in those licensed facilities that participated (Figure 2). The Opportunity Council is seeking funding to reestablish a similar program, which is anticipated to start in 1998.

Figure 2
Percent of Childcare Providers
with Children Not Immunized



Childcare in Whatcom County (1997)

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 **Health Status Report:
Chronic Disease Deaths in Whatcom County**

Improvements in overall living conditions in the United States during the first quarter of this century have led directly to fewer deaths from communicable infections thus the life expectancy of individuals has increased. As infections stopped causing deaths, chronic diseases such as cancer, strokes and heart disease have become more common.

Fortunately, medical advances in the last 25 years have made it possible to detect chronic diseases in their early stages. With early detection, it is possible to treat many chronic diseases, extend life expectancy and still maintain an acceptable quality of life.

In addition, specific lifestyle choices have been identified that decrease the risk of various chronic diseases, enabling people to make informed choices about behaviors such as not smoking, adequate exercise and appropriate diet.

Behavioral risk factors

Since it is now known that having a healthy lifestyle helps prevent chronic diseases and improves quality of life, it becomes important to find out whether community residents are making healthy choices. One way to do this is by conducting a telephone survey. Based on a Behavioral Risk Factor Survey done in 1996, 22% of adult county residents were estimated to be overweight. This is less than the 26% estimated for the state in the same year. Twenty-two percent of the respondents said a doctor, nurse or other health professional had given them advice to lose weight.

In addition, the following was found:

Differences by age

- 15% of the survey respondents younger than 40 were overweight
- 30% of those 40-64 were overweight
- 20% of 65+ were overweight

Differences by gender

- 27% of men were overweight
- 17% of women were overweight

The same Behavioral Risk Factor Survey indicated that 11% of adult county residents did not engage in any kind of exercise, and 22% only exercised irregularly. Walking was reported as the most popular form of exercise. In addition, the following was found:

Differences by income

- 18% of those with a household incomes less than \$20,000 per year were inactive
- 7% of those with incomes greater than \$20,000 per year were inactive

Differences by age

- 17% of those 50+ years were inactive
- 7% of those younger than 50 years were inactive

Finally, the Behavioral Risk Factor Survey indicated that 19% of county residents were current cigarette smokers. The Behavioral Risk Factor Survey questions did not address other tobacco use such as chew, cigars or pipes.

Twenty nine percent of residents indicated they were former smokers. Among current smokers, 79% said they had been advised by a health care professional to quit. In addition, the following was found:

Differences by income

- 30% of those with household incomes less than \$25,000 smoke
- 20% of those with incomes from \$25,000 to \$50,000 smoke
- 7% of those with incomes more than \$50,000 smoke

Differences by age

- 22% of those younger than 65 years smoke
- 5% of those 65+ smoke
-

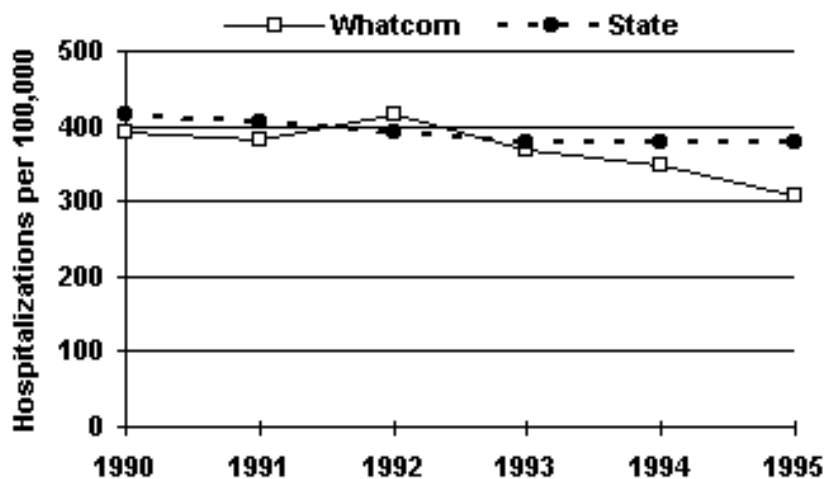
Heart disease

Heart disease is the leading cause of death in Whatcom County, as it is in Washington State. From 1991-95, 1,440 Whatcom County residents died from heart disease. Almost 75% of all heart disease deaths in this period were due to underlying ischemic heart disease.

Ischemic heart disease occurs when the arteries supplying the heart with blood are blocked. These blockages result mainly from lifestyle choices, including inappropriate food intake, lack of exercise and smoking, leading most physicians to consider ischemic heart disease to be preventable.

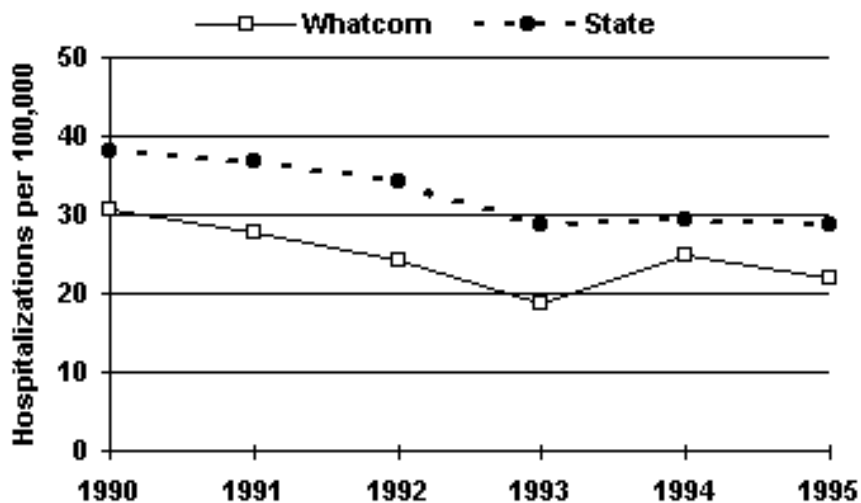
Ischemic heart disease deaths among Whatcom County residents have shown a downward trend in the last 15 years, with the male death rate dropping faster than the female rate (Figure 1).

Figure 1
Comparing Hospitalization Rates
for Ischemic Heart Disease



This downward trend also is seen in the Washington State rate, but the Whatcom County rate remains lower than the state rate (Figure 2).

Figure 2
Comparing Hospitalization Rates
for Lung Cancer



Cancer

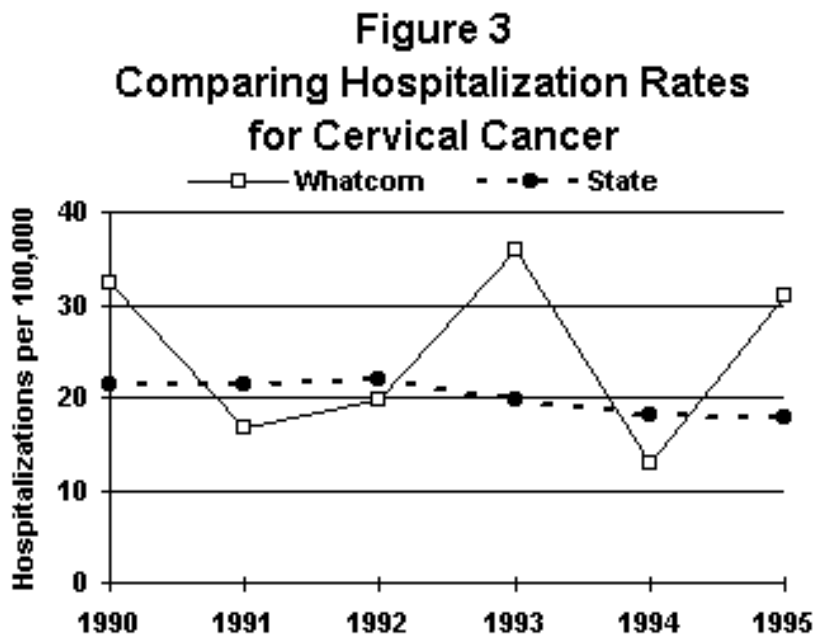
Cancer is a general term for diseases caused by uncontrolled and abnormal growth of cells in the body. All the various forms of cancer together were responsible for about 1,393 deaths of Whatcom County residents in the 1991-1995 period, or about 25% of all deaths. Cancer was the second leading cause of death after heart disease. Healthy lifestyle choices can decrease the risk of cancer as well as heart disease.

Lung Cancer has a profound impact on the mortality of Whatcom County residents. In the 1991-95 period, nearly 26% of all cancer deaths were caused by lung cancer. Lung cancer was

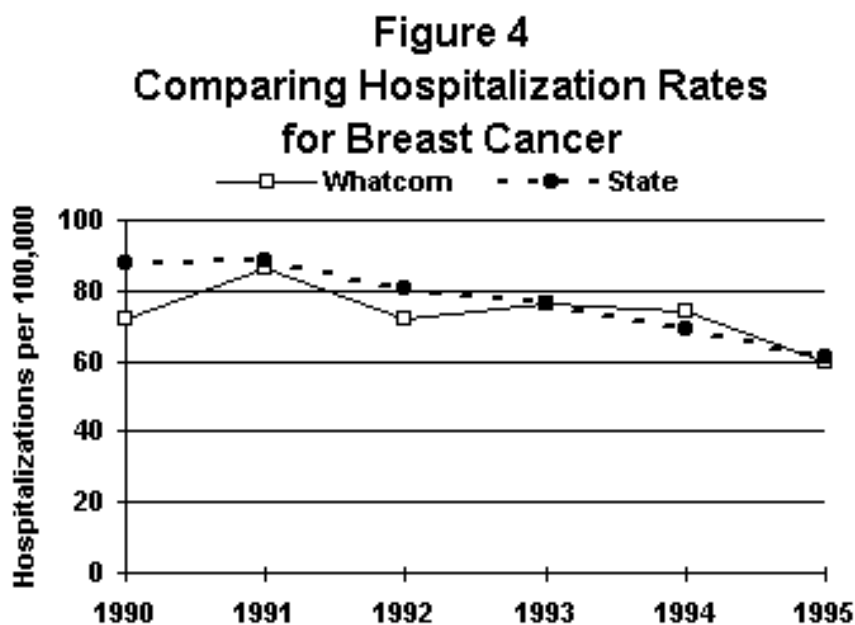
the fourth leading cause of all Whatcom County deaths in those years.

Smoking is the major cause of lung cancer, and the deaths that occur today reflect lifestyle choices made 25 to 30 years ago. For that reason, decreases in lung cancer death rates are not expected to be seen in the near future.

Age-adjusted death rates from lung cancer in Whatcom County have been stable over the last 14 years, with the male rate dropping slightly and the female rate rising slightly (Figure 3).

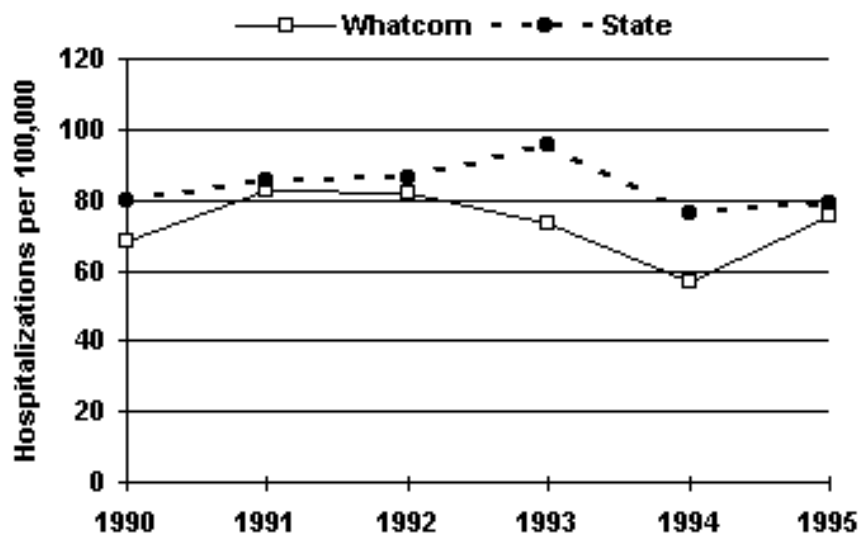


Lung cancer death rates among Whatcom County residents have been continuously below those of Washington State (Figure 4).



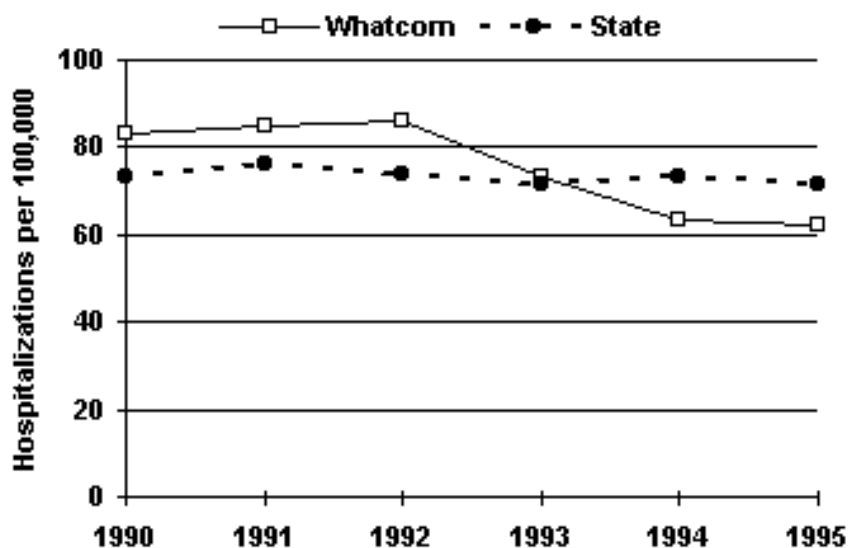
Colorectal Cancers caused more than 10% of cancer deaths in Whatcom County in the 1991-95 period. These cancers were the second leading cause of cancer deaths among Whatcom County men, and the third leading cause of cancer deaths among women (Figure 5).

Figure 5
Comparing Hospitalization Rates for COPD



Death rates from colorectal cancer appear to be dropping among Whatcom County residents and were generally about the same as those of Washington State rates (Figure 6).

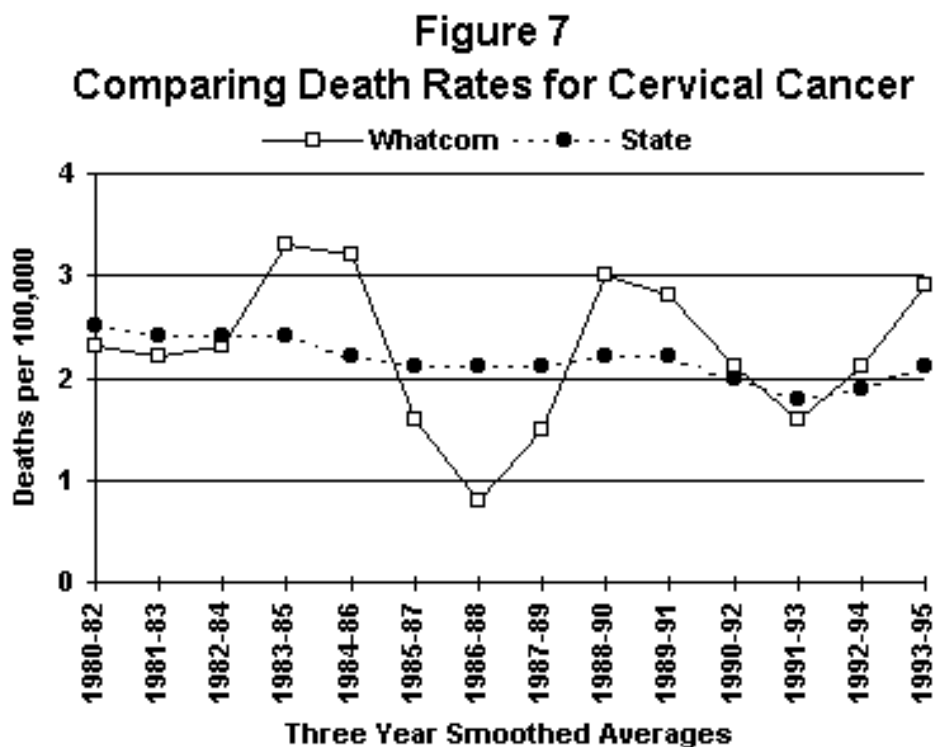
Figure 6
Comparing Hospitalizations for All Diabetes



Cervical Cancer

The pap smear is the screening tool used to find cervical cancer. It is recommended that women be screened every two years beginning at age 18 or with sexual activity. The 1996 Behavioral Risk Factor Survey indicated that 81% of adult women had had a pap smear in the past two years, 14% had had one three or more years ago, and 4% had never had a pap smear. This is about the same as adult women statewide.

Cervical cancer is a relatively rare cause of death among Whatcom County women. In the 1991-95 period, 12 women died; nine of those (75%) were 55 or older. The age-adjusted death rates from cervical cancer among county residents fluctuated widely because of such few numbers of deaths but are not significantly different from the Washington State rate (Figure 7).



Female Breast Cancer

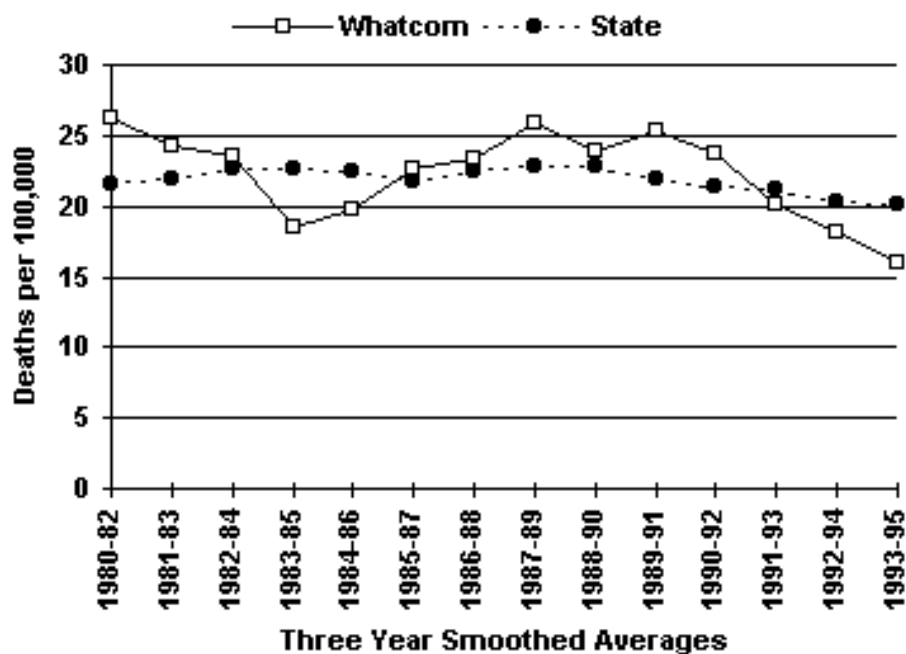
Screening for breast cancer includes clinical breast exams done by a health care professional and mammography. These screening activities are effective in finding breast cancer at early stages when it is most successfully treated.

The 1996 Behavioral Risk Factor Survey asked women about clinical breast exams and mammograms. Only 73% of Whatcom County women aged 50 years and older had had mammograms in the past two years. This is less than the statewide picture, where 78% of the same-aged women had had mammograms within the past two years. In addition, 15% of Whatcom County women aged 50 and older had never had a mammogram.

Slightly more - 82% - of this group of same-aged women had had a clinical breast exam in the past two years. However, 91% of women statewide had had a breast exam in the past two years.

Breast cancer caused 17% of all cancer deaths among Whatcom County women from 1991-95. It was the second leading cause of cancer deaths among women during this period. Age-adjusted death rates for female breast cancer fluctuated over the last 15 years but now appear to be decreasing. The Whatcom County rate is currently less than the Washington State rate (Figure 8).

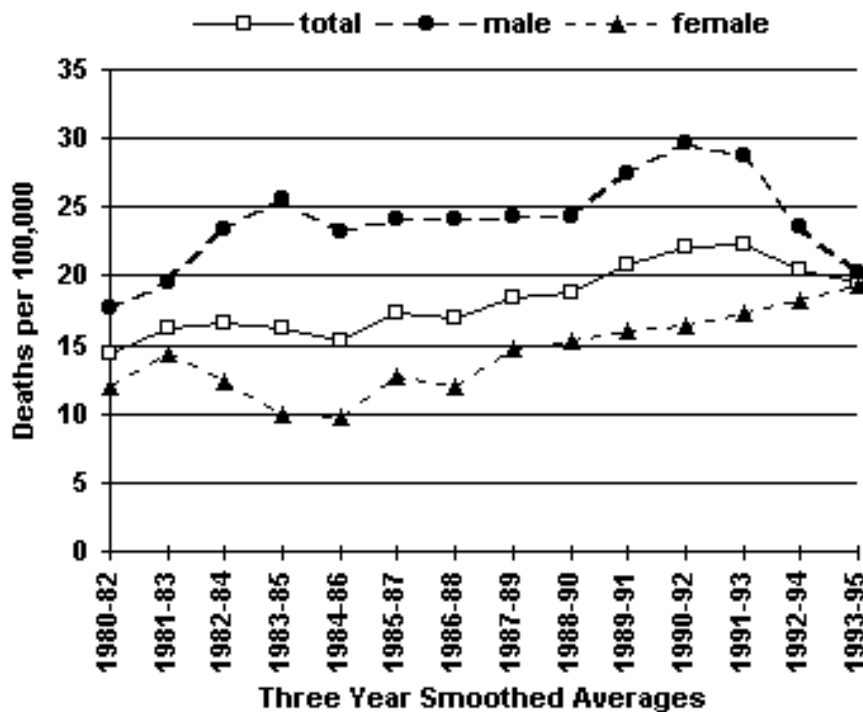
Figure 8
Comparing Death Rates
for Female Breast Cancer



Chronic obstructive pulmonary disease

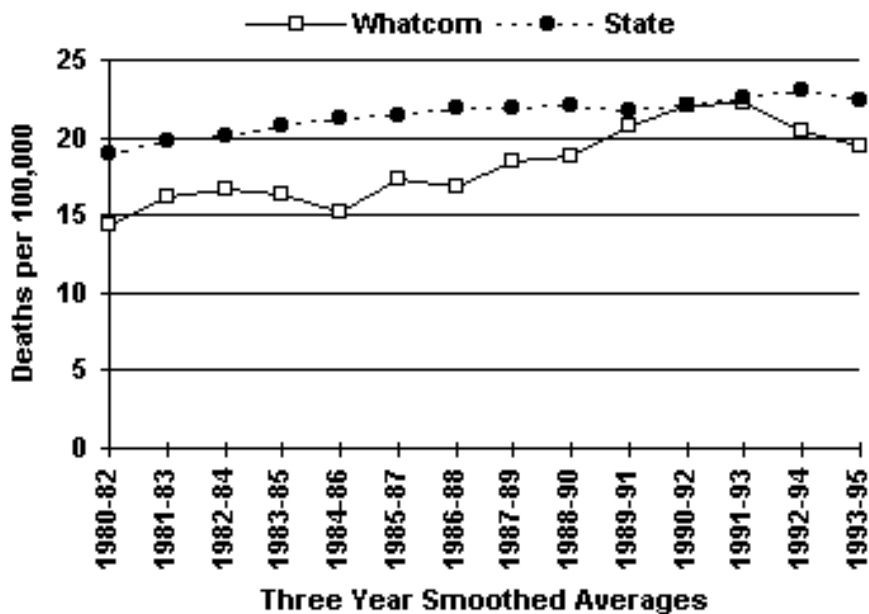
Smoking is a major cause for Chronic Obstructive Pulmonary Disease (COPD) as it is for lung cancer. In Whatcom County during the period from 1991-95, 292 people died from COPD. Age-adjusted death rates for COPD have been increasing, especially among women (Figure 9).

Figure 9
Age-Adjusted Death Rates
for Chronic Obstructive Pulmonary Disease



In the past, Whatcom County had lower death rates from COPD than did Washington State, but more recently the rates have been the same or only slightly less (Figure 10).

Figure 10
Comparing Death Rates
for Chronic Obstructive Pulmonary Disease

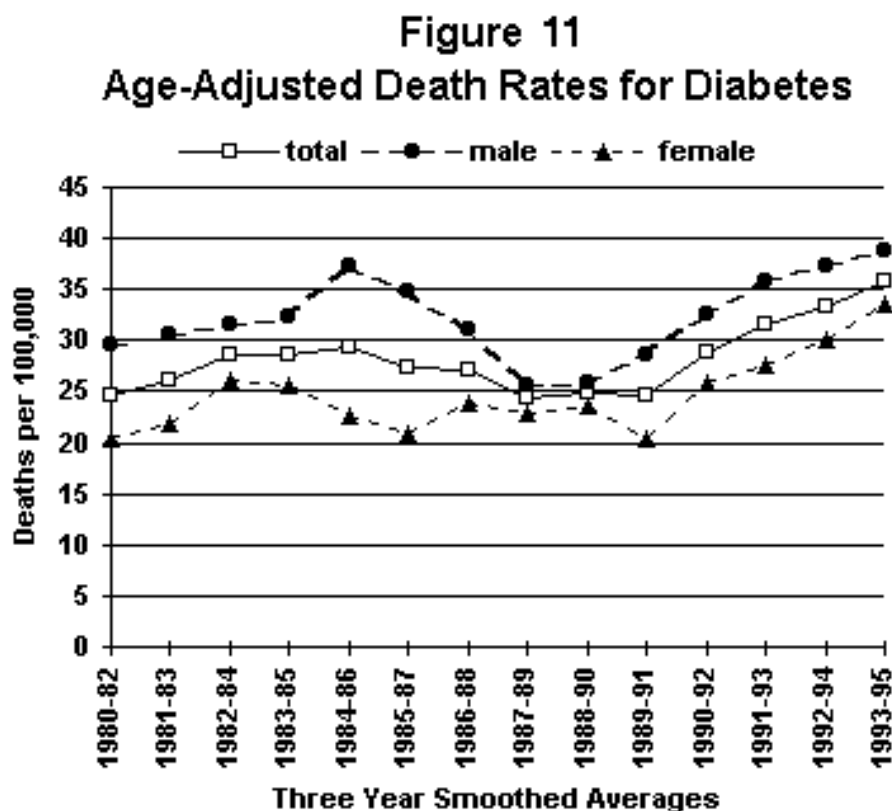


Diabetes

Diabetes is caused by the inability of the pancreas to function and regulate the necessary amounts of blood sugar. According to the 1996 Behavioral Risk Factor Survey, 3% of county adults said a doctor had told them that they had diabetes.

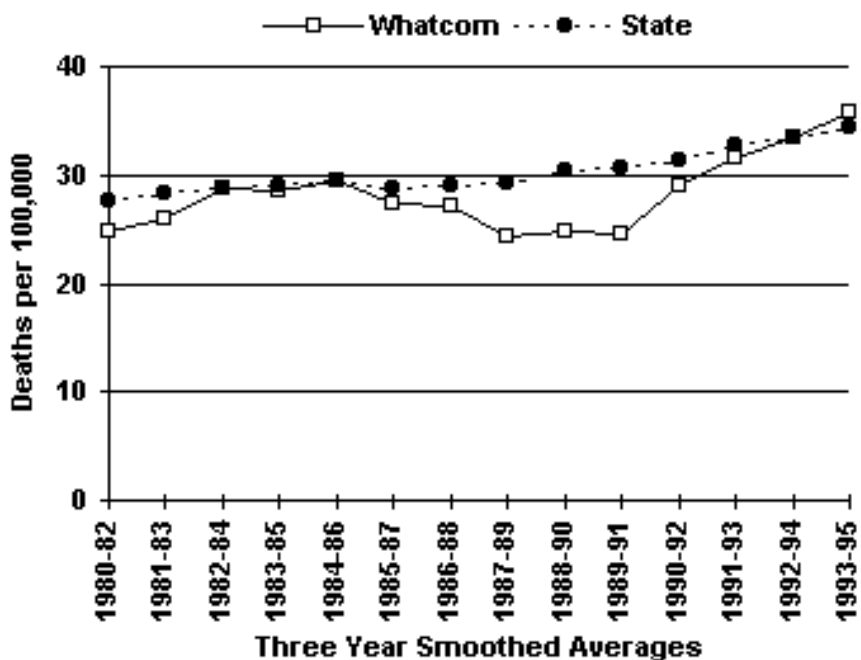
People with diabetes often end up with serious complications such as severe kidney disease and foot and leg amputations, which mean multiple hospitalizations and other costly treatments.

The age-adjusted death rates from diabetes have increased over the past 15 years for both men and women (Figure 11).



The county rate is very similar to the state rate and most recently surpassed it (Figure 12).

Figure 12 Comparing Death Rates for Diabetes



Chronic Disease Deaths in Whatcom County (1997)

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Health Status Report: Communicable Diseases in Whatcom County

Communicable diseases in humans occur by person-to-person contact, through contact with body fluids or contaminated food or water, by airborne droplets, and by vectors like insects or animals. Effective control of communicable diseases may include isolating infected individuals and providing early treatment, preventive treatment of contacts, eliminating breeding places for certain insects or animals, and immunizing an entire population or selected individuals who are at higher risk of disease.

The public health importance of any communicable disease is determined by several factors:

- its ability to cause illness;
- the number of people affected;
- the number of deaths caused;
- ease of transmission; and
- the vulnerability of the population it affects.

A rare disease in the United States such as polio, which can cause paralysis, may be given more attention than a salmonella infection, which can cause diarrhea. Likewise, an influenza epidemic in the elderly, who are more likely to die or need hospitalization, may be seen as a greater threat than an influenza epidemic in a group of healthy school children.

Measuring communicable disease

The information in this section comes from the cases of disease reported by health care providers in the community, including laboratories. The figures show the incidence rate, that is the number of new disease cases reported per 100,000 people in the county. Changes in the number of cases can be explained by a real increase or decrease in the amount of disease present but also by expanding the definition of the disease, improvements in laboratory tests, increased reporting by health care providers, and changes in reporting procedures.

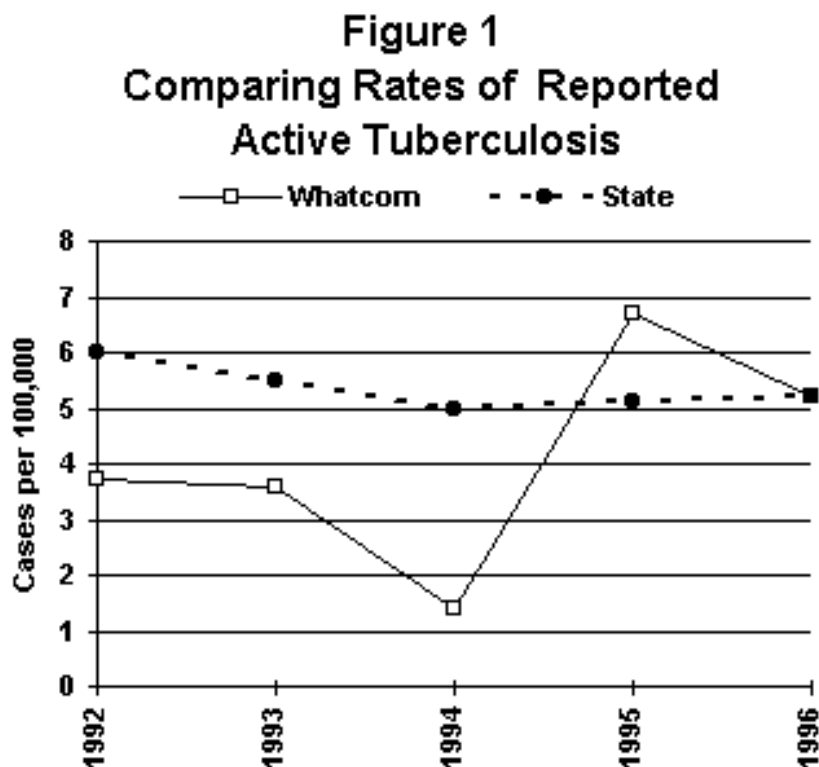
The incidence rate of the disease is commonly used for comparing the impact of a disease on people in different geographic areas, such as Whatcom County and Washington State, or in the same area across time. Incidence rates also are invaluable for tracking the history of a disease. For diseases that rarely occur or are not reported very often, the incidence rate can fluctuate dramatically from year to year, making it difficult to determine if any trend exists. Care should be taken when interpreting this type of information.

Tuberculosis

Tuberculosis (TB), caused by *Mycobacterium tuberculosis*, was one of the communicable diseases thought to be nearly eliminated because until the mid-1980s tuberculosis rates had been falling steadily. Effective anti-tuberculosis drugs had been developed that reduced the risk

that TB infection would progress to disease. However, beginning in 1986, tuberculosis disease rates began to increase, and tuberculosis strains emerged that were resistant to traditionally effective drugs.

In Whatcom County, people with active tuberculosis usually have been foreign born and infected with the bacteria before they arrived in the United States, older residents infected as children many years ago, or people with risk factors such as diabetes, alcoholism or a compromised immune system. Active tuberculosis rates in Whatcom County have been variable over the past five years with the most recent years slightly above or equal to the state rate (Figure 1).

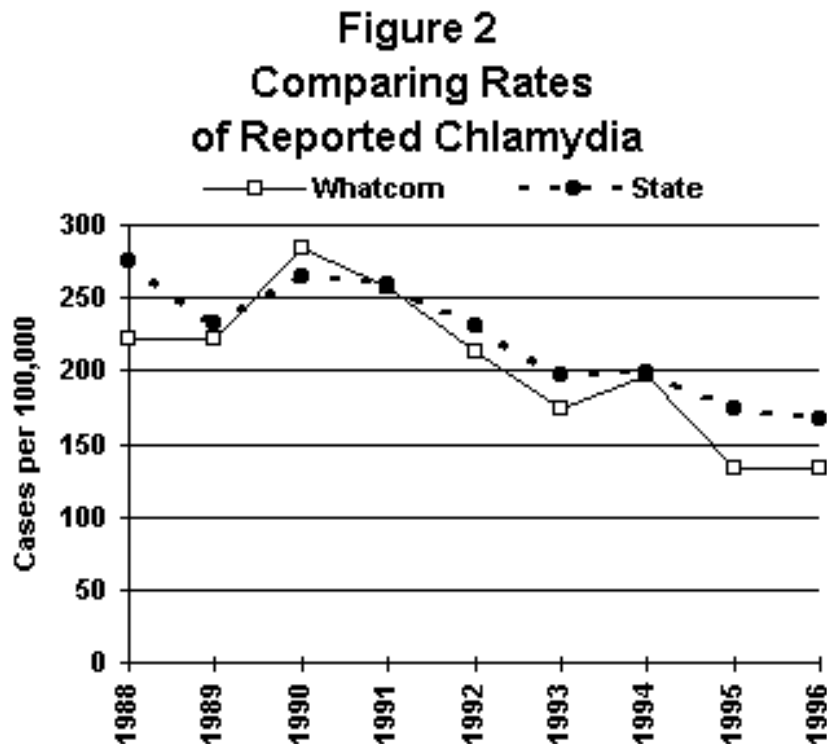


Sexually transmitted diseases

These diseases typically are transmitted by sexual contact although, as noted where appropriate, other means of transmission have been identified. Almost all sexually transmitted diseases increase the risk of acquiring HIV infection. A number of national studies have concluded that sexually transmitted diseases are under-reported, particularly among more affluent, middle-class groups who typically seek care from a health care provider in private practice.

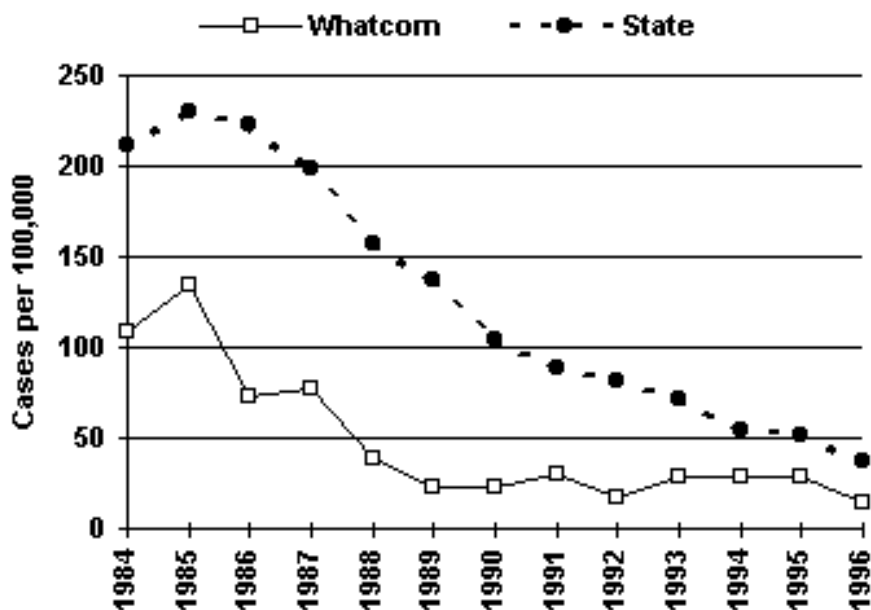
Chlamydia, caused by *Chlamydia trachomatis*, is most commonly transmitted through sexual intercourse. Chlamydia is linked to infertility in both men and women. In addition to genital infections, chlamydia can cause some eye and lung infections in infants born to infected mothers. Chlamydia infections often have no symptoms and can be detected only through screening.

Chlamydia became a reportable disease in 1987 and since then has been the most frequently reported sexually transmitted disease in Whatcom County. The incidence of chlamydia in Whatcom County generally has been the same or slightly less than that found in Washington State (Figure 2).



Gonorrhea, caused by *Neisseria gonorrhoeae*, is perhaps more widely known. It is transmitted only from one person to another when a mucous membrane, such as mucosa of the genitals or the conjunctiva of the eye, comes into contact with secretions from an infected site on another person. Gonorrhea rates in Whatcom County have fallen in the past 13 years and so has the state rate. The county rate has remained consistently below the state rate (Figure 3).

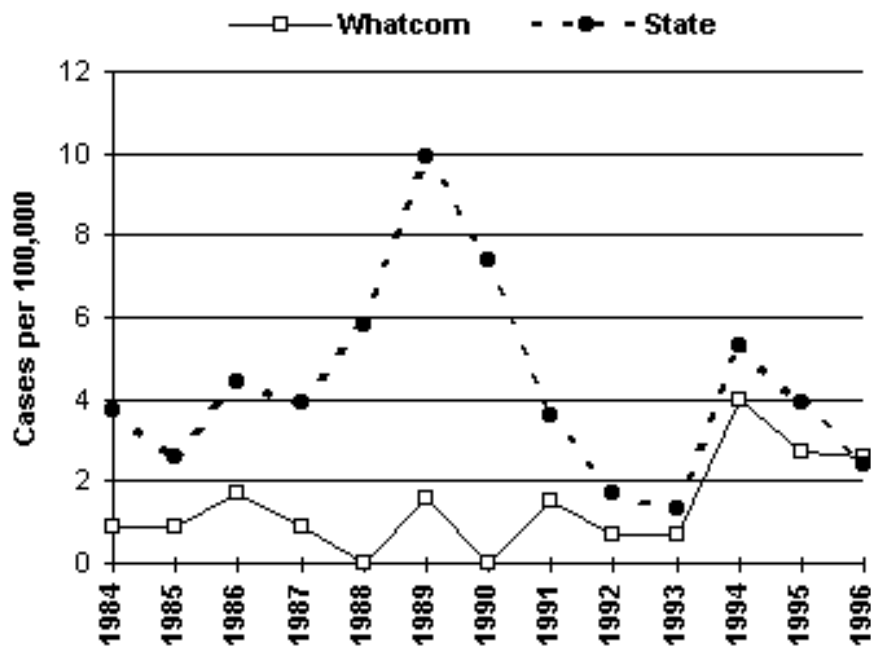
Figure 3
Comparing Rates of Reported Gonorrhea



Syphilis, caused by *Treponema pallidum*, is one of the diseases that has been controlled through a careful system of reporting cases, treating the infected individual with appropriate drugs, and tracking and treating the sexual partners. The bacteria can be carried by the bloodstream throughout the body.

The disease has three stages: primary, secondary and late. Syphilis can be fatal in its late stages, and in pregnant women, poses a serious threat to their unborn infants. In Whatcom County, the incidence of syphilis generally has been below the state rate (Figure 4).

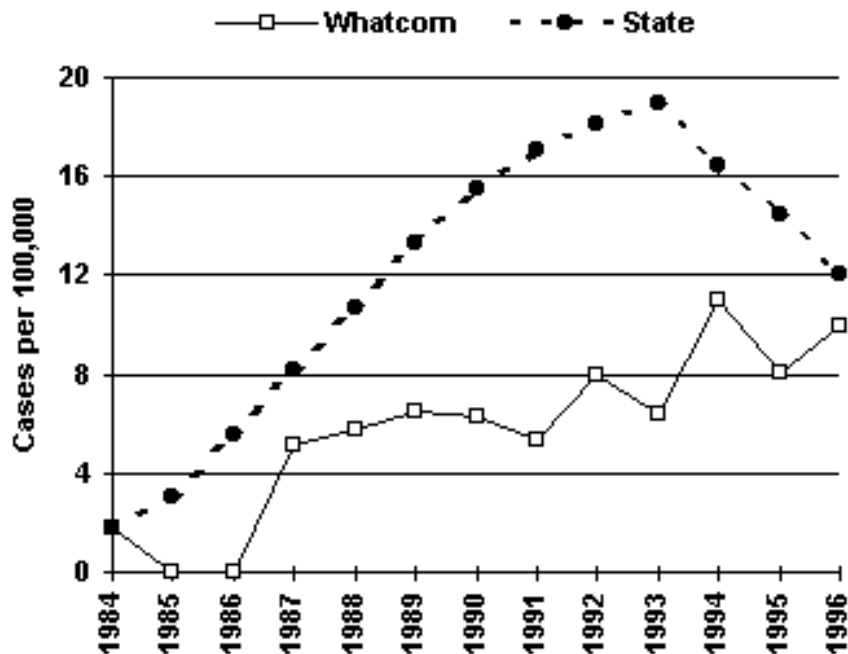
Figure 4
Comparing Rates of Reported Syphilis



AIDS, caused by Human Immunodeficiency Virus (HIV), is perhaps the best known of the sexually transmitted diseases. It is transmitted through the transfer of contaminated blood from one person to another.

There is considerable variability in the length of time from infection with HIV to development of AIDS. About 15%-20% of those infected with HIV develop AIDS within a year; another 50% develop the disease within seven to 10 years. The remainder may not develop symptoms of AIDS for more than 10 years after infection. While Whatcom County AIDS rates have always been lower than state rates, the state rate is now decreasing and the county rate is not (Figure 5).

Figure 5
Comparing Rates of
Reported AIDS Cases



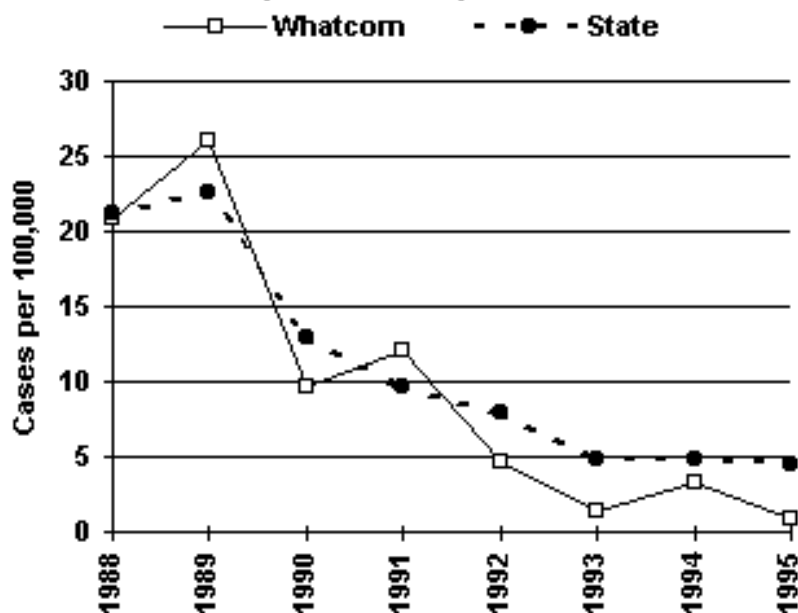
Acute Hepatitis B, caused by the hepatitis B virus, has the potential to become a chronic disease for a small percentage of those infected. Those few carriers remain infectious for the rest of their lives and are at high risk for liver cancer.

About 50% of the transmissions occur through sexual contact, and another 25% occur through contaminated blood exposure.

A highly effective vaccine against hepatitis B has been available since the early 1980s in the United States and is recommended for all infants. The potential now exists to eliminate this disease entirely.

The incidence of hepatitis B cases has decreased in Whatcom County in the last eight years, and rates here were similar to those in Washington State (Figure 6).

Figure 6
Comparing Rates of
Reported Hepatitis B



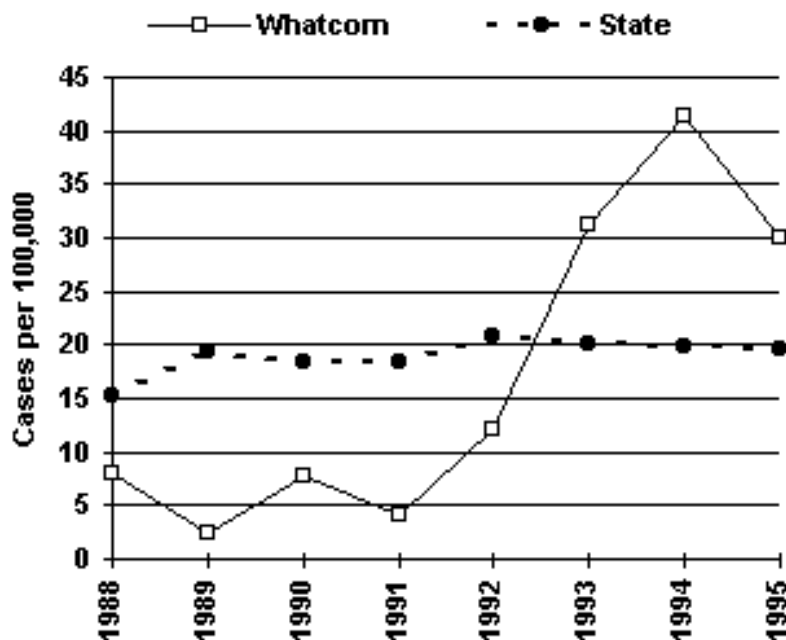
Enteric diseases

Enteric diseases affect the body's digestive system usually producing nausea, vomiting, diarrhea or all three symptoms. If some of these diseases progress sufficiently or occur in immune-compromised individuals, they can become life threatening.

Enteric diseases often are transmitted by contaminated food. Since 1990, eight foodborne illness outbreaks have occurred in Whatcom County.

Campylobacteriosis, caused by *Campylobacter jejuni*, is transmitted primarily by contaminated animal products such as poultry or unpasteurized milk. This is one of the enteric diseases that can be prevented through safe food handling practices. In Whatcom County, rates of campylobacteriosis were lower than the state rate until 1993 and are now above the state rate (Figure 7).

Figure 7
Comparing Rates of Reported
Campylobacteriosis

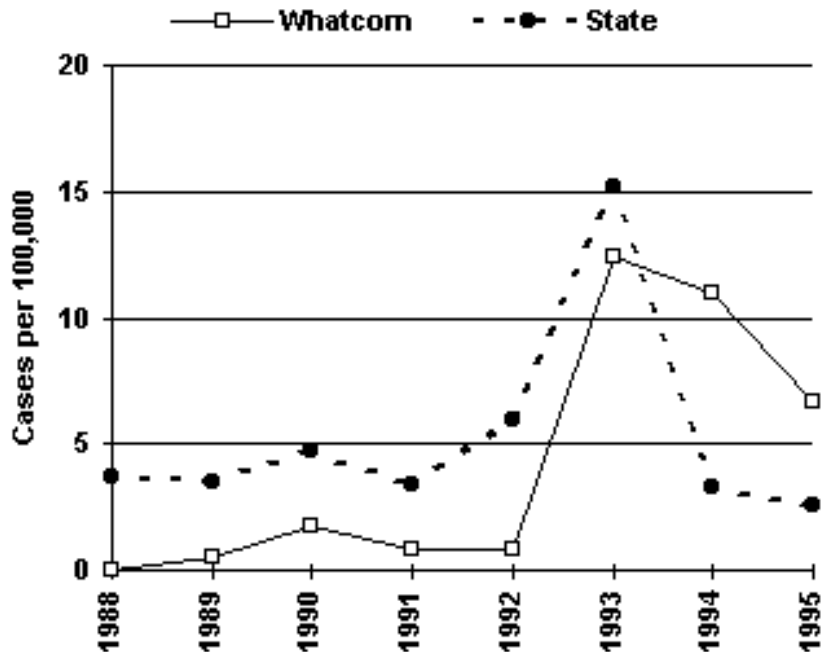


E. coli O157:H7, caused by a type of *Escherichia coli*, may be the enteric disease most familiar to Whatcom County residents because of the 1993 outbreak that focused mass media attention on this illness. In that outbreak, 80% of cases were traceable to consumption of inadequately cooked ground beef served as hamburgers at a major fast food chain.

Consumption of raw or undercooked animal products, particularly ground beef, continues to be one of the most common routes of transmission of this enteric disease.

Reporting infections from *E. coli* became mandatory in 1987, but in Whatcom County cases of *E. coli* were relatively rare until 1993. Since then, the county rate has remained above the state rate (Figure 8).

Figure 8
Comparing Rates of
Reported E.Coli O157:H7

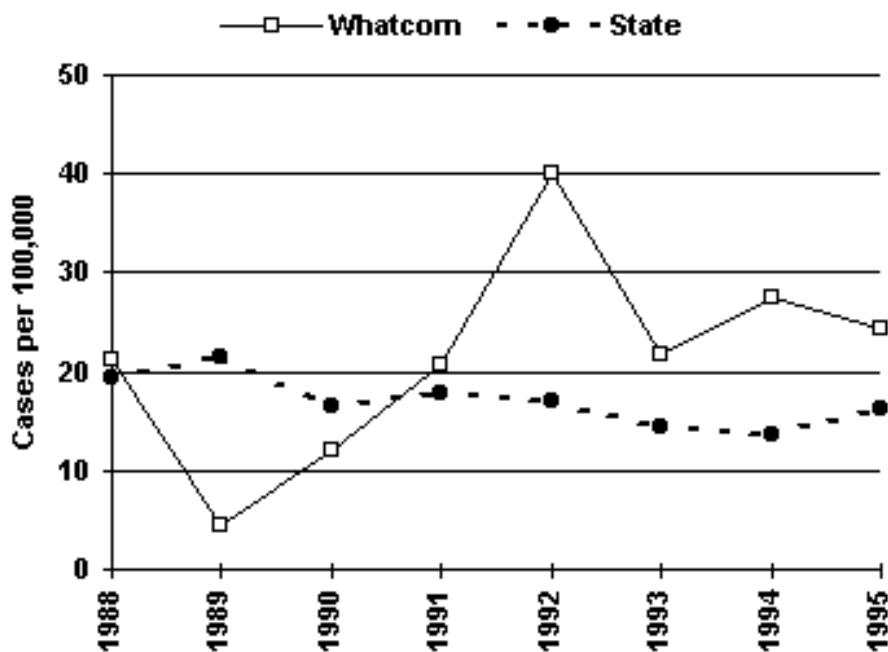


Giardiasis is caused by transmission of infectious cysts (eggs) of protozoan named *Giardia lamblia* usually through fecal-oral contact. This most often occurs when hands are not adequately washed after having a bowel movement or after changing stool-filled diapers.

This disease is common among infants and young children in child care settings where diapers are changed. Foreign travel or drinking water contaminated by feces (almost any mammal can be infected) also can cause illness.

Giardia rates in Whatcom County rose above the state rate beginning in 1992 and are still higher (Figure 9).

Figure 9
Comparing Rates of Reported Giardiasis

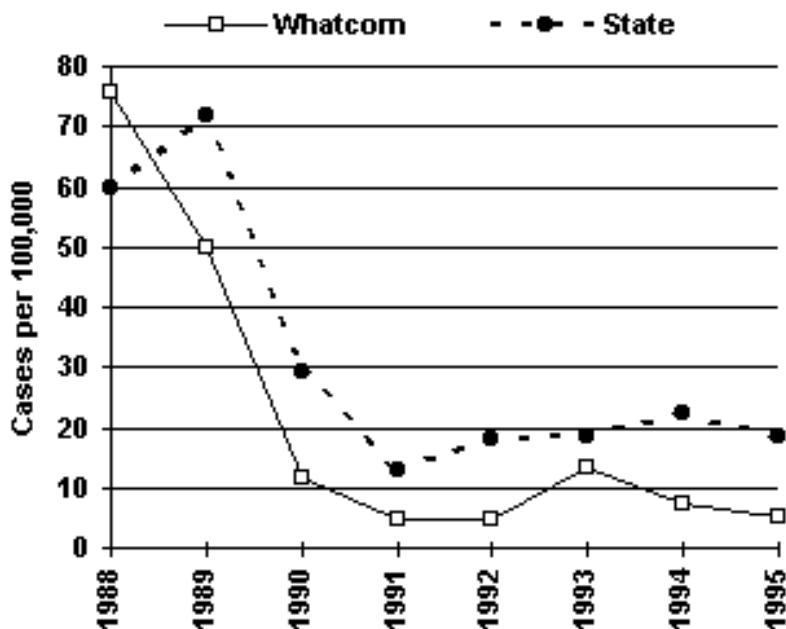


Hepatitis A is caused by a virus and is also transmitted because of poor hand washing. It is most readily recognized by yellow skin, which appears a few days after the initial symptoms of fever, weight loss and abdominal pain. The symptoms are more severe in adults and can incapacitate a person for a month or more.

Inadequate sanitation, poor personal hygiene and crowded living conditions all facilitate hepatitis A transmission. In developing nations, about 90% of adults have a mild case of the disease as children and become immune early in life, but only about 25%-50% of adults in urban areas of the United States are currently immune.

Historically in the United States, epidemics of hepatitis A occur about every seven to 10 years. There was a peak of cases in 1989. Rates for both the county and state then decreased, with county rates remaining slightly less than the state's rate (Figure 10). There is now an effective vaccine for hepatitis A, so the cyclic pattern of epidemics is expected to change in the future.

Figure 10
Comparing Rates of
Reported Hepatitis A

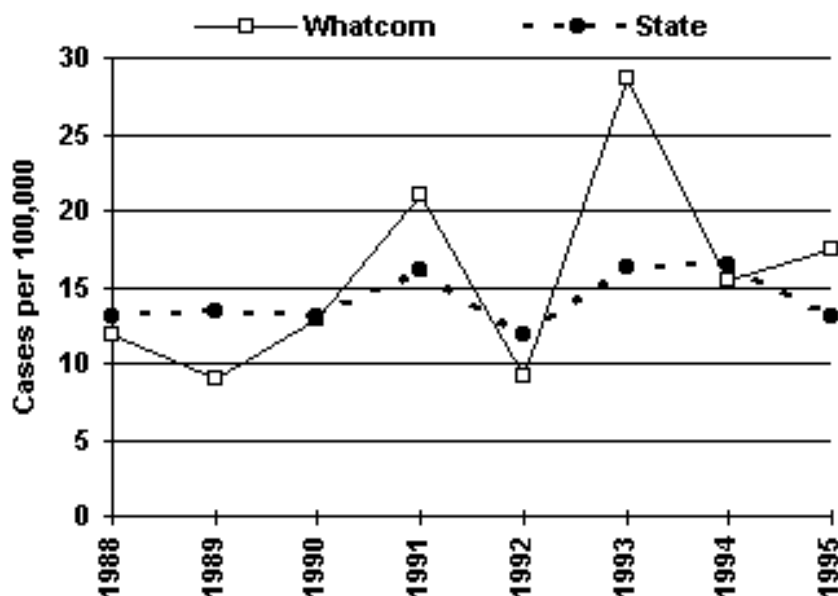


Salmonellosis, called by numerous types of *Salmonella*, can be transmitted when a person eats food products contaminated by feces that contains salmonella bacteria. Handling pets, especially reptiles, and other exposure to animals is a major source of this disease.

Salmonellosis can be effectively prevented by consistent hand washing after contact with animals and before food preparation, thorough cooking of all animal products, washing fruits and vegetables to remove unseen fecal material, and storing food products at temperatures either below 45 degrees or above 140 degrees.

One form of salmonellosis is associated with eating soft-boiled eggs or foods that contain raw or undercooked eggs such as Caesar salad dressing. Salmonellosis is one of the most commonly reported enteric diseases, both in Washington State and Whatcom County. County incidence rates have fluctuated over the past few years and are now slightly higher than the state rate (Figure 11).

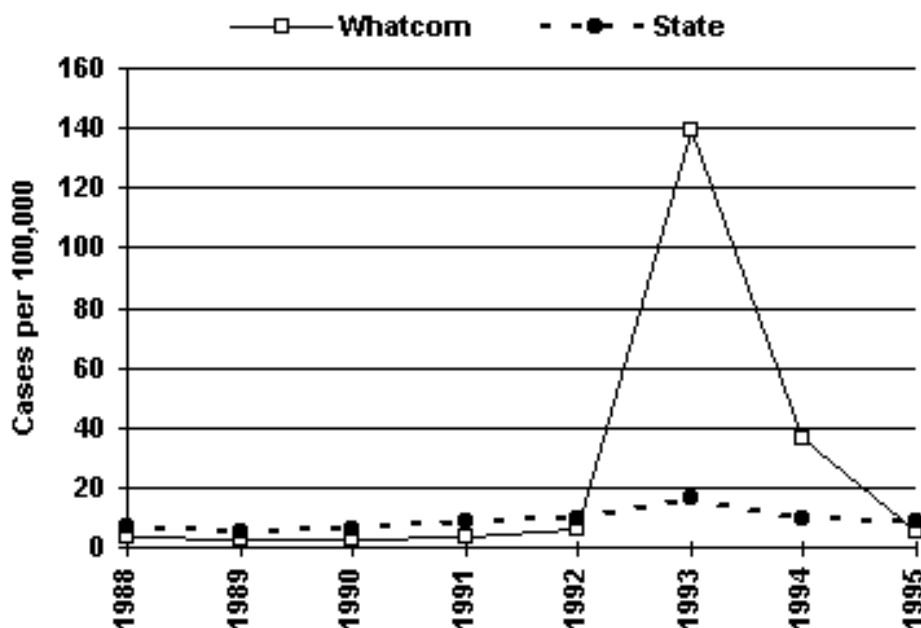
Figure 11
Comparing Rates of
Reported Salmonellosis



Shigellosis, caused by several types of *Shigella*, can be transmitted by a very small number of bacteria and causes diarrhea accompanied by fever, nausea and, occasionally, vomiting. Person-to-person transmission is more frequent for this disease than most of the other enteric diseases described in this section. This explains, at least in part, the higher rates of reported disease among young children, who are more likely to have poor hand washing practices.

Whatcom County typically has had lower rates of shigellosis than Washington State (Figure 12). However, an outbreak of shigellosis in 1993 (181 cases) associated with a large child care facility caused extremely high rates for that year and accounted for nearly one-fourth of all shigellosis cases in Washington State for that year. Currently, the rate has returned to the more usual pattern of about one-half of the state rate.

Figure 12
Comparing Rates of Reported Shigellosis



Vaccine-preventable diseases

In the past 50 years, safe, relatively inexpensive vaccines have become available to protect against the diseases that once crippled or killed thousands of people, especially children. Polio, once a common threat, has disappeared from North and South America because of polio vaccines (OPV and IPV). Today, physicians and public health officials have developed recommended schedules for immunizations for both children and adults. Hepatitis A and B mentioned in prior sections are both vaccine-preventable, and specific recommendations have been developed for those vaccines.

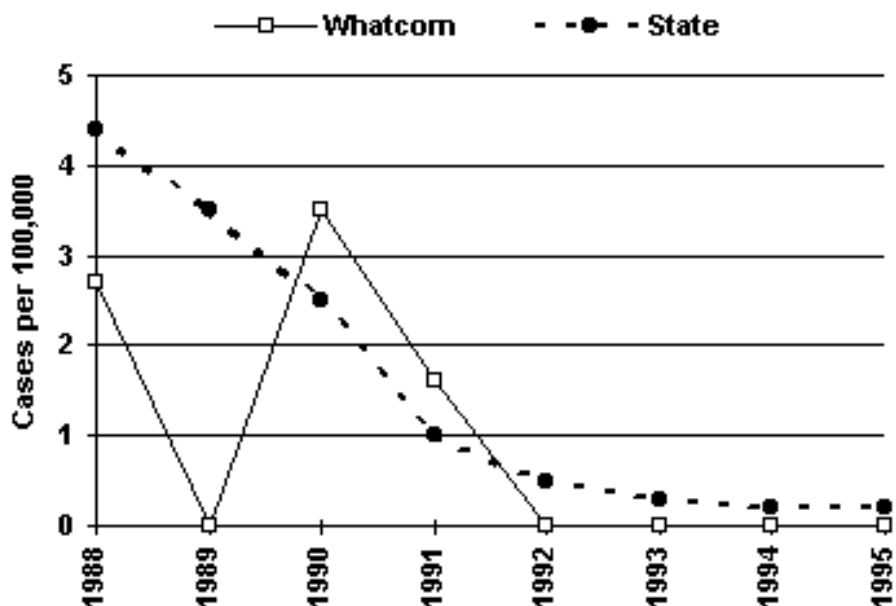
HIB Disease, caused by *Hemophilus influenzae type B*, is spread either through the air in droplets or through person-to-person contact with oral secretions. About two-thirds of cases occur among children younger than 18 months old, especially between the ages of 6 months and 11 months.

Before the introduction of effective vaccines, HIB caused 50%-65% of bacterial meningitis among children younger than five years old. Hearing impairments or neurological problems occurred in 15%-30% of the cases, with 2%-5% of HIB cases being fatal.

In 1987, a vaccine was developed, but it was of limited usefulness because it could not be given until children were 18 months old. Beginning in 1991, a newer, more effective vaccine has been available and is started when infants are only a few months old. This vaccine is now required for all children in childcare facilities.

Due to widespread use of the vaccine, no cases have been reported in Whatcom County since 1992 (Figure 13).

Figure 13
Comparing Rates of Reported HiB



Measles, caused by the measles virus, is one of the most highly communicable diseases and is transmitted by droplets or secretions from infected people. Measles disease can have lifelong consequences, including brain damage, hearing loss and vision impairment. Measles is much more serious in adults, with a fatality rate more than 1 in 250.

Cases of measles decreased dramatically after a single dose vaccine was introduced in the mid-1960s. However, a resurgence of this disease was seen between 1989 and 1991. Now two doses of this vaccine are recommended.

In Whatcom County, the number of cases has been so low and variable that the incidence rate cannot be determined. Significantly fewer measles cases have been noted in Whatcom County, except for an outbreak in 1995 at Western Washington University, in comparison with cases on the state level (Figure 14).

Figure 14

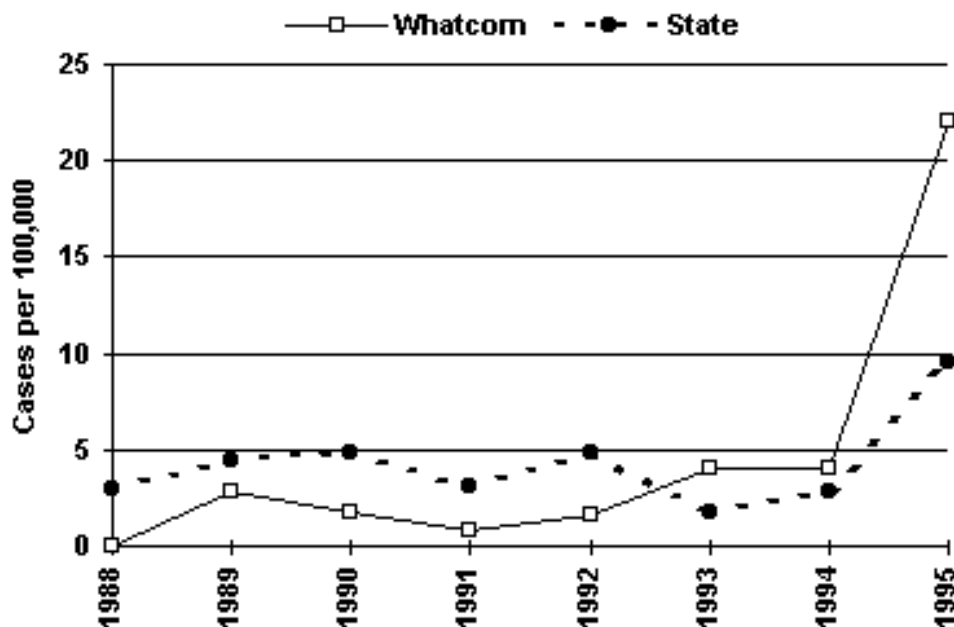
Comparing Measles Cases		
Year	County Cases	State Cases
1988	0	7
1989	1	56
1990	0	352
1991	0	67
1992	0	11
1993	0	0
1994	2	5
1995	9	17
1996	0	38

Pertussis, caused by *Bordetella pertussis*, is transmitted by airborne droplets produced by infected people who cough. Infection occurs in the respiratory tract, and pneumonia is the most common complication. Pertussis can be life threatening to infants 12 months and younger.

A new, improved version of this three-in-one shot that causes fewer side effects is now available. Pertussis vaccine is given as part of tetanus-diphtheria-pertussis vaccine beginning at 2 months of age.

Until 1993, pertussis incidence rates in Whatcom County were lower than in Washington State (Figure 15). Since then, the county rate has been above the state rate, which also has been increasing.

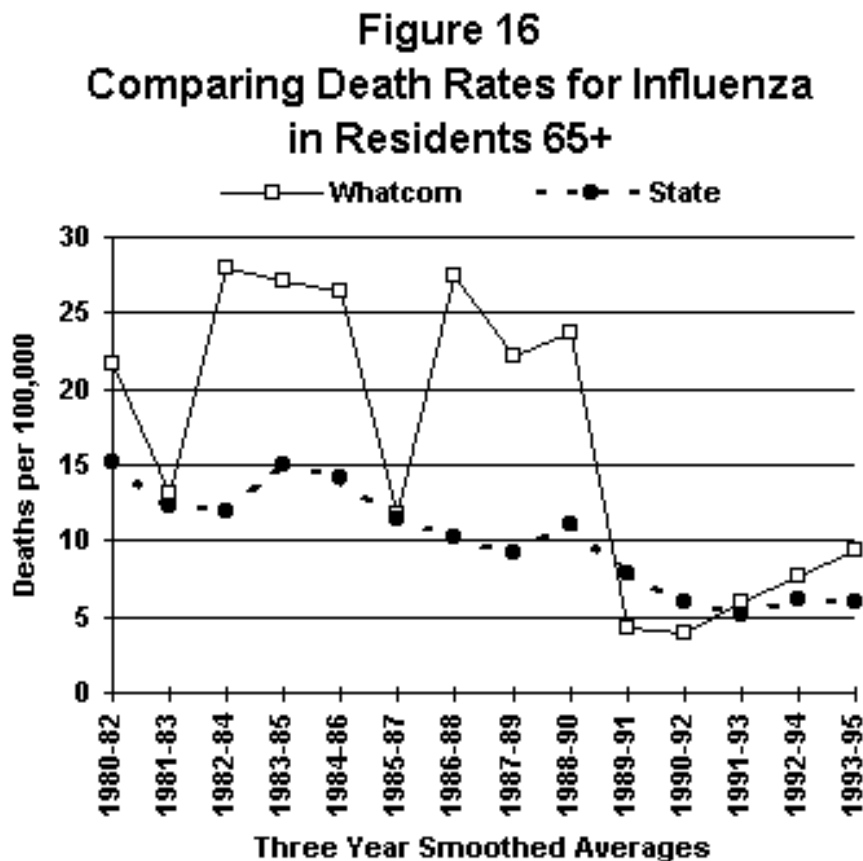
Figure 15
Comparing Rates of Reported Pertussis



Influenza, caused by three major types of influenza viruses, is a highly communicable respiratory disease spread from an infected person to the nose or throat of other people. Although most people are ill for only a short time, senior citizens, people with chronic conditions, and immune-compromised people are at much higher risk for severe disease, hospitalization and even death.

Annual vaccinations are necessary because the types of influenza viruses circulating in the population change frequently. Influenza vaccination campaigns can have a definite impact on the number of deaths in community residents.

Cases of influenza are not required to be reported, and therefore incidence rates are not available. However, since deaths from influenza are tracked, the age-adjusted death rates from this vaccine-preventable disease are available. Prior to 1989, the Whatcom County death rate for residents aged 65 and over was highly variable, but mainly above the state rate. Since that time, the county rate has been about the same as the state (Figure 16).



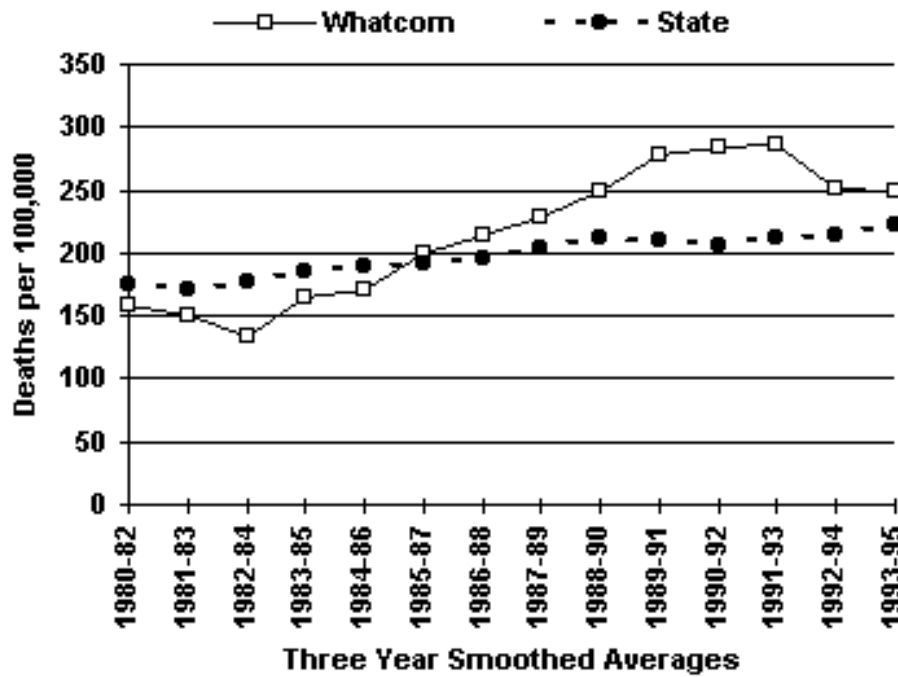
Pneumonia, an infection in the lungs, is caused by various types of bacteria that are spread from person to person by respiratory droplets. In older people and those who are immune compromised, one of the most common bacteria causing pneumonia is *Streptococcus pneumoniae*.

Approximately 20%-40% of hospitalized patients with this type of pneumonia die. An effective, usually single-dose vaccine against these bacteria was developed in 1983 and is recommended

for all high-risk people.

Like influenza, pneumonia is not on the list of diseases required to be reported, but deaths from pneumonia are tracked and age-adjusted death rates for residents 65 and over are available. In the early 1980s, the Whatcom County rates were lower than the state rate. Since 1985, the county rate has steadily increased and is now higher than the state rate (Figure 17). This trend would reverse if the pneumonia vaccine was used appropriately in high-risk populations.

Figure 17
Comparing Death Rates for Pneumonia
in Residents 65+



Communicable Diseases in Whatcom County (1997)

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Health Status Report: **The Demographics of Whatcom County**

One starting place for assessing the health of a community and its residents is to look at who lives there, how they live together, education levels attained, and incomes earned.

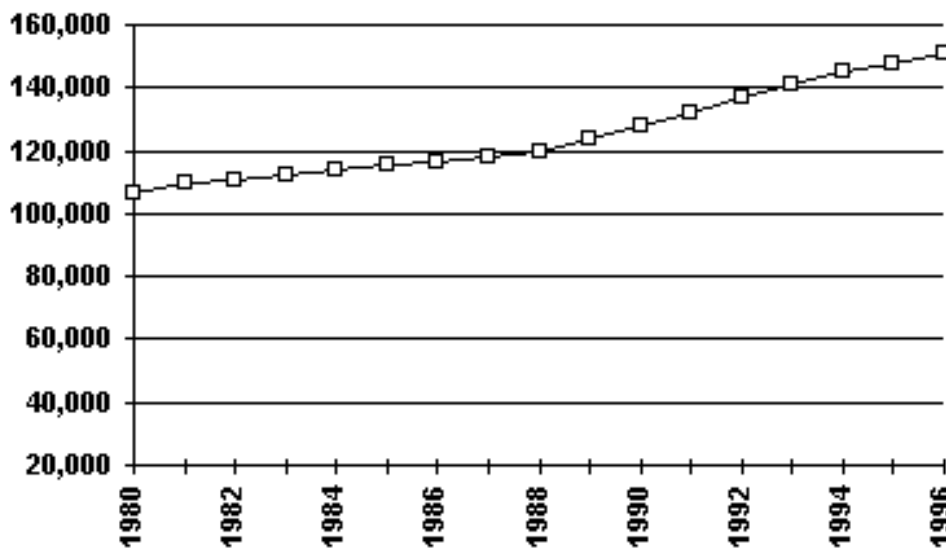
The population numbers in this section were obtained from the Washington State Office of Financial Management. The numbers are estimates of population based on the 1990 Census, statewide sampling done yearly, and statistical analyses of trends over time.

The other information in this section is based on the 1990 Census questions. This information may not reflect all the changes that have occurred in the community in the past few years. When the information gathered by the 2000 Census is available, any significant changes that impact Whatcom County will become apparent.

Population growth

Between 1980 and 1996, Whatcom County's population grew from 106,701 people to 151,147, an increase of 42% (Figure 1).

Figure 1
Population Growth of Whatcom County
1980-1996

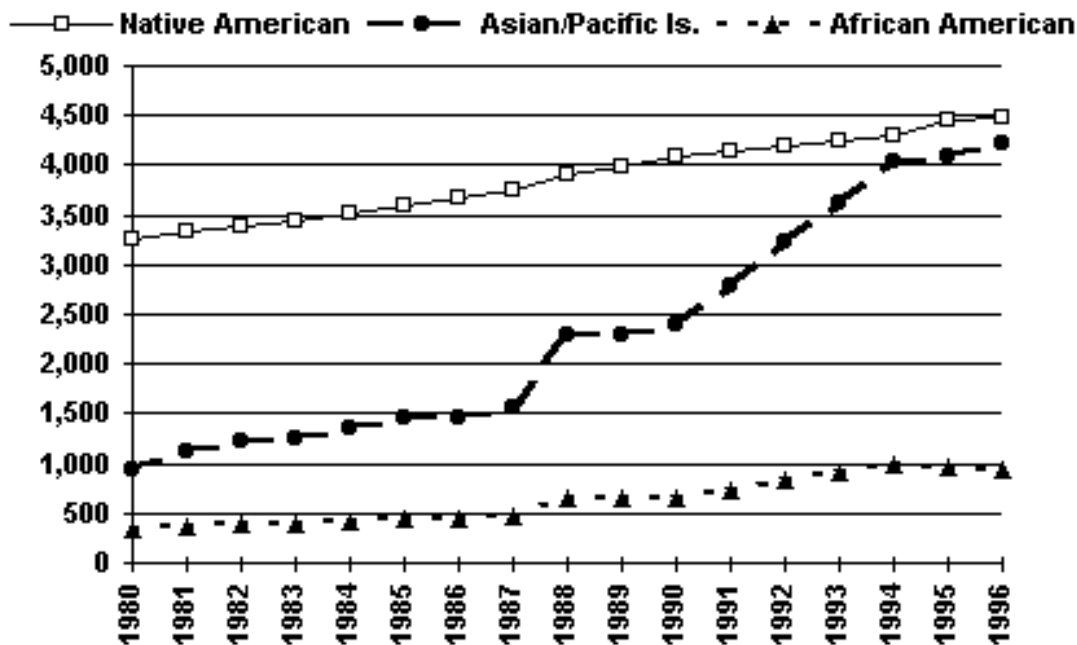


Annual growth rates have varied between 2% and 4% since 1989. This level of growth places great strain on the infrastructure of a community. The demand increases dramatically for police and fire protection, road improvement and maintenance, school capacity and public health services. However, the tax base for these services may not increase at the same rate.

There has been an increase in the racial and ethnic minority populations in the county between 1980 and 1996. The main racial categories as defined by the Census Bureau are Whites, Native Americans, Asian/Pacific Islanders and African Americans.

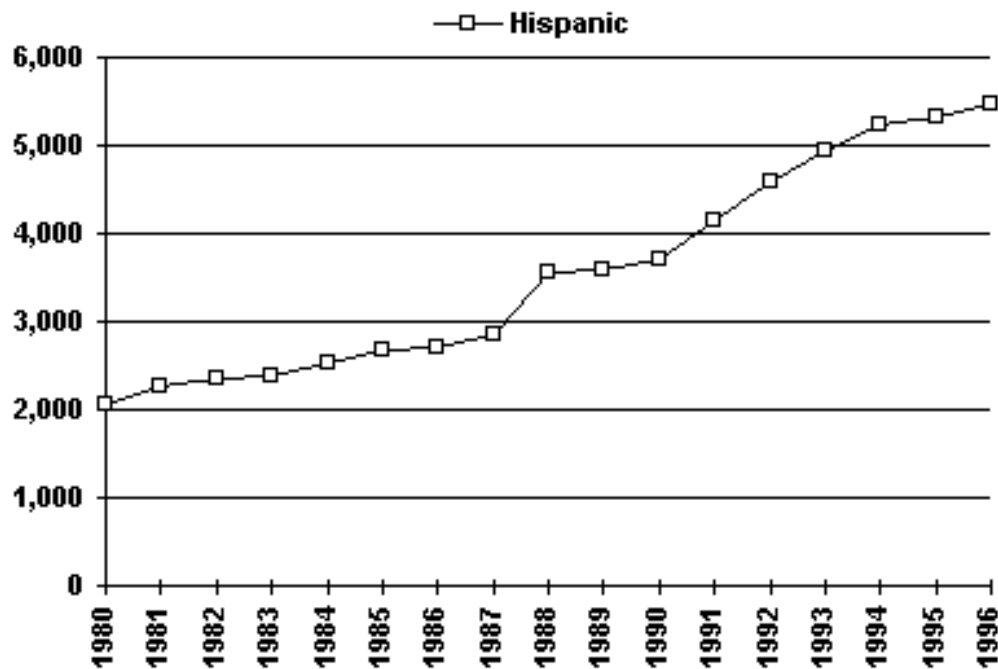
Native Americans have increased only 38% although they still represent the largest racial group in the county. Asian/Pacific Islanders were the most rapidly increasing group, growing by 350%, and African Americans have increased 185% (Figure 2).

Figure 2
Racial Minority Growth in Whatcom County
1980-1996



Ethnicity currently is defined as Hispanic or non-Hispanic and may include a person of any race. The Hispanic population increased 165% between 1980 and 1996 (Figure 3).

Figure 3
Ethnic Minority Growth
in Whatcom County 1980-1996



Despite these increases in minority populations, the county population in 1996 was almost all White and non-Hispanic (Figure 4).

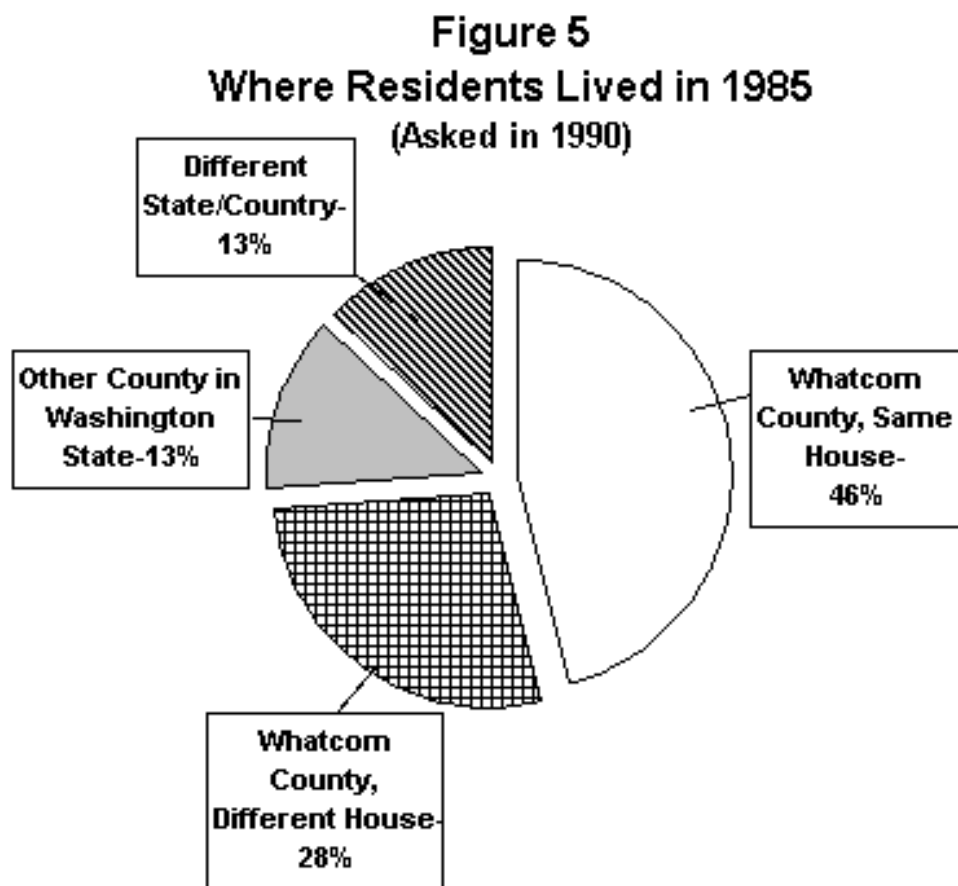
Figure 4

1996 Whatcom Population by Race		
White	141,511	94%
Native American	4,489	3%
Asian/Pacific Islander	4,211	3%
African American	936	1%
Total	151,147	
1996 Whatcom Population by Ethnicity		
Hispanic	5,471	4%
Non-Hispanic	145,676	96%
Total	151,147	

There are two components to population growth: natural increase (more births than deaths) and migration from outside the county. Since 1987, migration has accounted for about 75% of the population growth in Whatcom County.

In 1990, 26% of the population said they had moved from outside the county in the prior five years (Figure 5). Half of those came from another county within Washington State. The rest came from other states or other countries. The major population increases occurred in children younger than 15 and adults aged 25-44. It seems likely these are linked, meaning that

migration into Whatcom County was by families in that time period.



Other counties in the Puget Sound region have seen a comparable demographic shift, explained by those counties becoming suburbs of Seattle. This is not the situation in Whatcom County. Commuting patterns show that in 1990, few residents worked outside the county (Figure 6), and the average one-way travel time to work was 17 minutes (Figure 7).

Figure 6
Place of Work for Residents in 1990

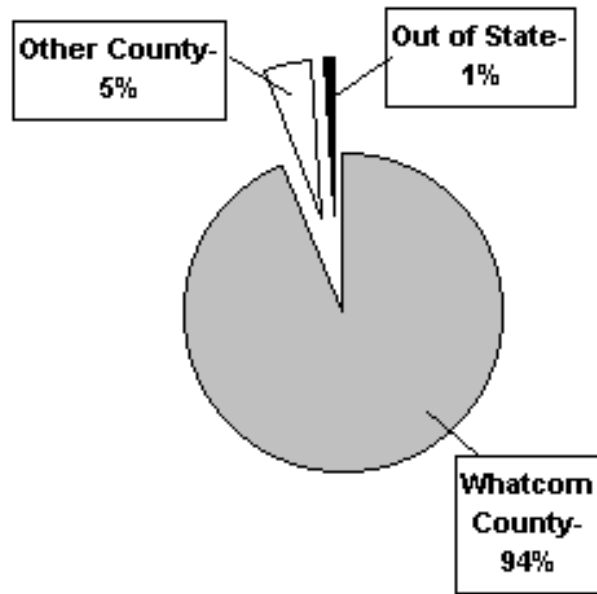
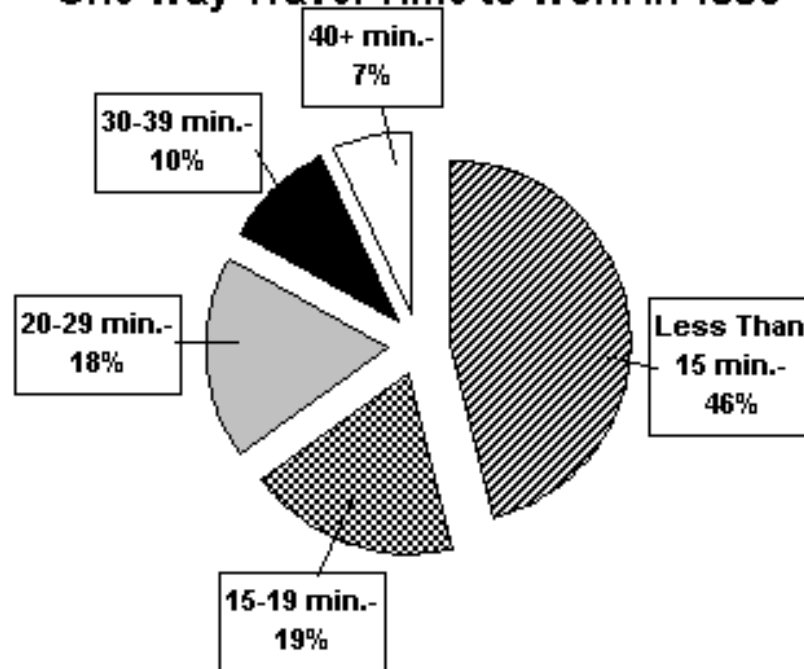


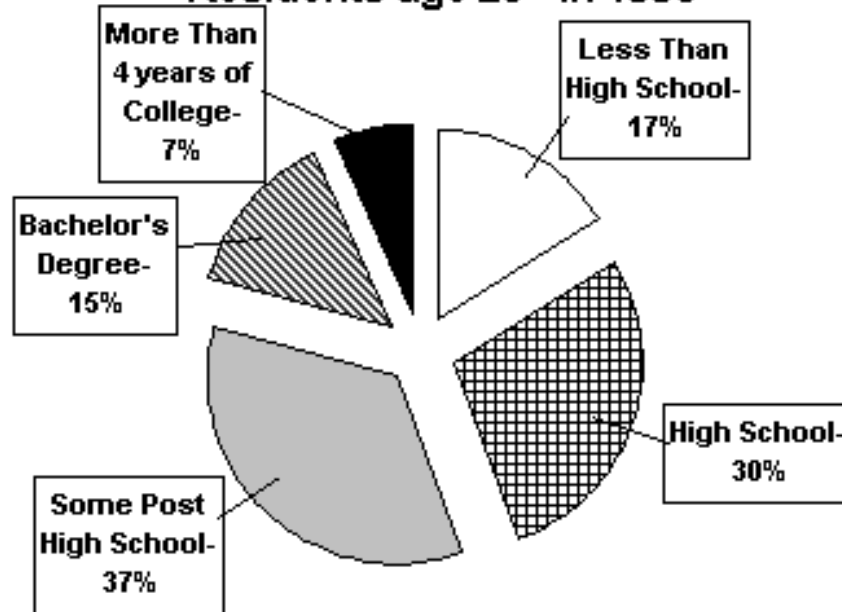
Figure 7
One Way Travel Time to Work in 1990



Education

Educational attainment in Whatcom County is about the same as that for Washington State. This question is asked by the Census of residents who are aged 25 years and older. The category "some post high school" includes community college degrees. A G.E.D. is considered equivalent to a high school diploma (Figure 8).

Figure 8
Highest Educational Attainment for
Residents age 25+ in 1990



Household composition

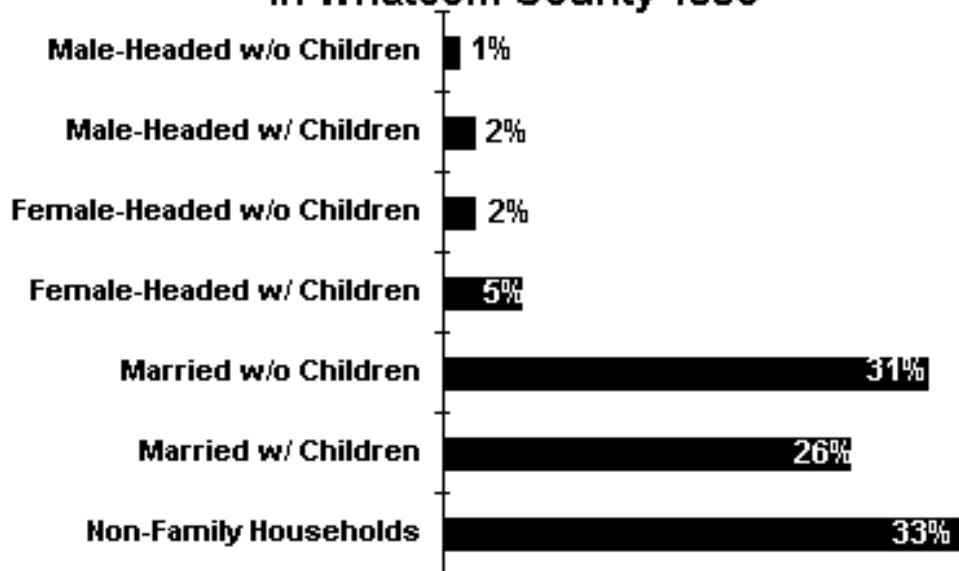
The Census Bureau defines households in the following manner:

- - 1) family households are individuals living together who are related by blood or marriage; and
 - 2) non-family households are either single people or unrelated people living together.

The Census Bureau further divides family households into those with children under 18 and those without any children.

In the 1990 Census, 48,645 households were counted in Whatcom County. Of these, about one-third were non-family households, which includes unrelated college students living together outside dormitories. There were approximately the same number of family households with children as without (Figure 9).

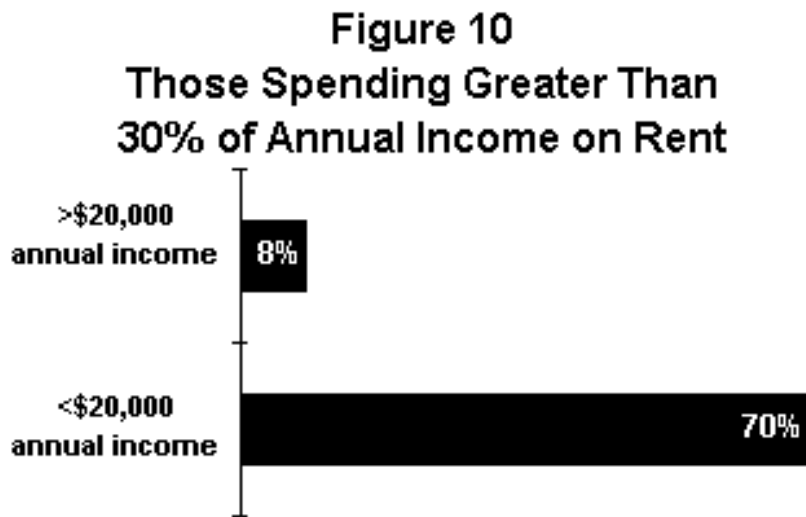
Figure 9
Household Composition
in Whatcom County 1990



Housing

The 1990 Census found that about 64% of Whatcom County's households were owner-occupied. Among those households who were renting, there was a pronounced disparity between the percentages of income spent on rent.

Thirty percent is the recommended fraction of income to be spent on rent so a family will have enough funds for food, savings, clothing and childrens' education. Those who have a lower annual income pay a much greater percentage of their income on rent (Figure 10).



A more recent indicator of the county housing situation is from the 1996 Behavioral Risk Factor Survey. This was a telephone survey of 400 county residents that asked a number of questions about health issues.

The results indicated that 15% of county residents felt there was not enough safe and affordable housing in their area, and 9% said they themselves had been unable to get safe and affordable housing. Twenty one percent of residents said they knew of someone unable to find safe and affordable housing in the area.

Younger people and those with lower incomes were more likely to feel there was a shortage or had experienced the shortage themselves. In contrast, people between the ages of 30 and 49 were the most likely to say they knew of someone who was unable to find housing.

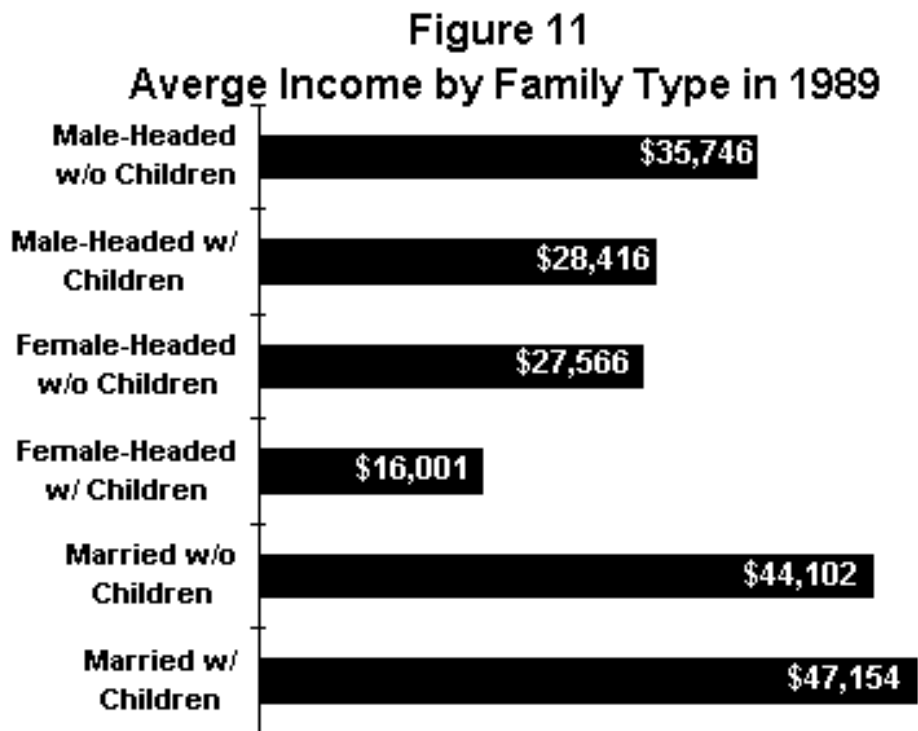
Income

In many places worldwide, economic well being directly predicts health status.

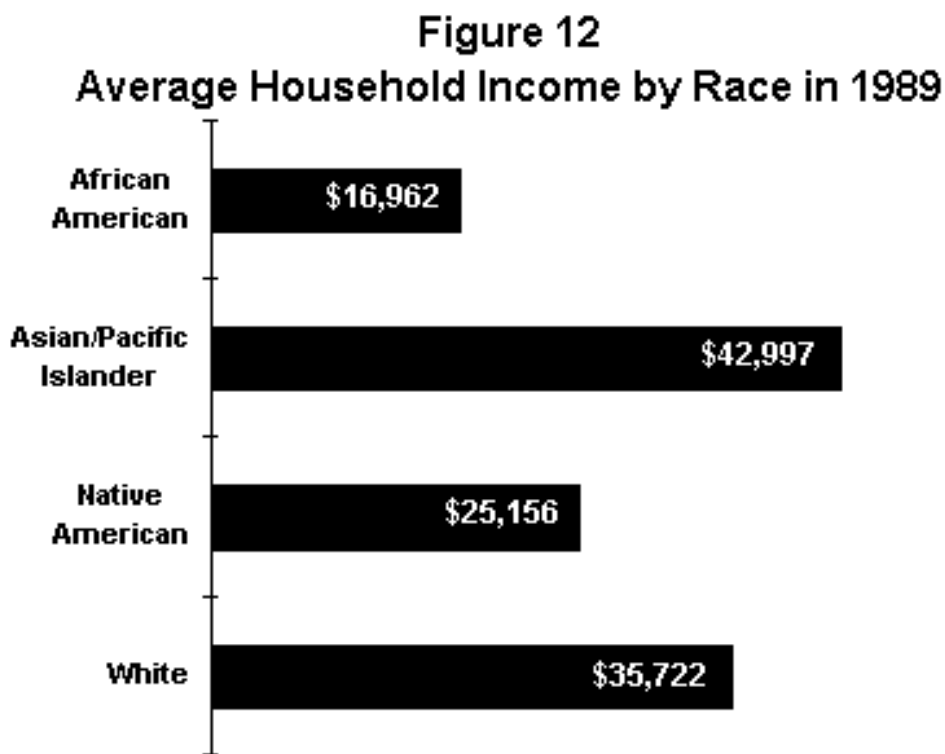
In the United States, poor people face another threat to their health: insurance or government assistance are virtually the only paths to health care. Health insurance usually is part of an employee compensation package, not purchased individually. The "working poor" are at the greatest risk of not having adequate health insurance since they often make too much money to qualify for assistance and seldom work for an employer who provides health insurance.

Among all families in Whatcom County in 1989, the average income was \$42,040, about the same as the Washington State average family income. However, family income in the county varied by family type.

Married couples with children had slightly higher average incomes than married couples without children. However, single-headed families with children had lower incomes than those without children, and female-headed families with children had the lowest average income of all (Figure 11).



Household incomes varied widely by race as well. In 1989, Asian/Pacific Islander households had the highest incomes in the county, and African-American households had the lowest (Figure 12).



Hunger

Among the health questions asked by the 1996 Behavioral Risk Factor Survey, were several about hunger. The responses indicated that 5% of county residents had been concerned in the past month about having enough food for themselves and their family. In fact, 4% had skipped meals because of a lack of food or money, and 1% had skipped eating for an entire day. Households with less income and 10% of households with children had these concerns and experiences more often than higher income households and those without children.

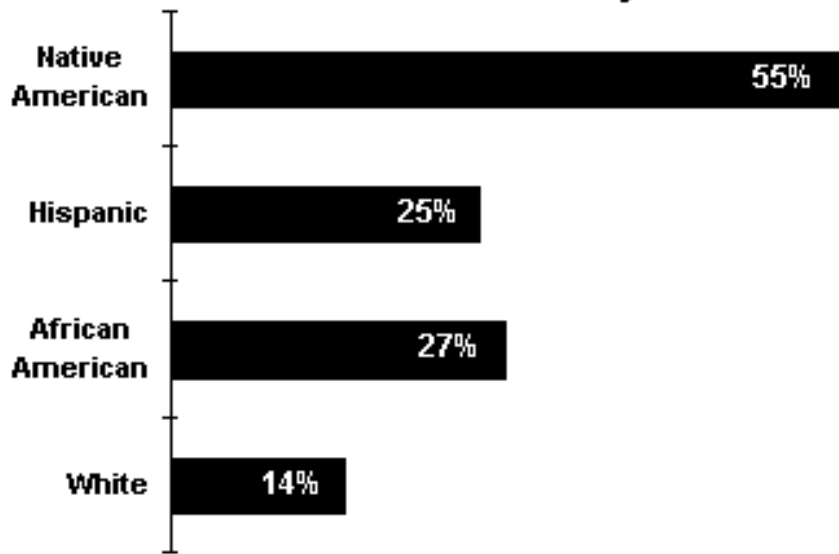
Poverty

In each Census, the proportion of people living below the federally defined poverty level is calculated based on income from the calendar year before the Census, so that in 1990 the poverty determination was made based on 1989 income. According to the 1990 Census, 9% of the Whatcom County population lived below the poverty level .

Of all children aged 5 and under in the county, 16% lived in households with income below the federally determined poverty level. Among all children younger than 18, 13% lived in poor households. These figures are considerably better than those for the United States as a whole, where 25% of children live in a poor household.

In Whatcom County, extremely high percentages of minority children lived in poverty, according to the 1990 Census. More than twice as many Native American children lived in poverty as any other racial or ethnic minority. (Figure 13)

Figure 13
Percent of Whatcom County Children
Who Lived in Poverty 1990



The Demographics of Whatcom County (1997)

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 **Health Status Report:
Hazardous Substances in Whatcom County**

The most difficult challenges for environmental health today come from what is not known about the toxic effects of the use of fossil fuels and synthetic chemicals in modern society. Population growth, urbanization, advanced technology, industrialization and modern agricultural methods have enabled great progress. At the same time, they have created hazards to human health that are very different from those of the past. The potential risks from many of these agents initially were either unrecognized, underestimated, or accepted as inevitable and minor in comparison to the benefits of modernization and economic growth. However, public awareness and perceptions are changing.

Extensive research programs are under way to determine the potential harmful effects of chemical agents on health. The full range of health effects resulting from toxic exposure is only beginning to be understood. Only a small percentage of thousands of commonly used chemicals has been adequately tested for the ability to cause cancer. Even fewer have been evaluated for their effects on the brain and nervous system, the immune system and the reproductive system. Little is known about chemical mixtures, which is how most chemicals are used. Rarely is a clear cause and effect relationship seen between chemical exposure and health problems. Most often, health effects show up many years after exposure or after repeated exposures over many years.

Prevention activities are currently based on reducing the amounts of toxic agents used and released into the environment each year. Other efforts are aimed toward preventing human exposure to the toxic agents already released. However, continuing research is needed to improve the monitoring of toxic contamination and human exposure.

The following are the available health-related indicators that have been used to monitor human exposure to hazardous substances in Whatcom County:

- 1) In 1996, the Department of Emergency Management reported 81 hazardous material events.
- 2) As of December 1997, there were nine hazardous waste sites waiting for or undergoing active cleanup.
- 3) In 1994, there were seven reported pesticide poisonings.
- 4) In 1993, there were 97 leaking underground storage tanks reported.

(1997) Hazardous Substances in Whatcom County

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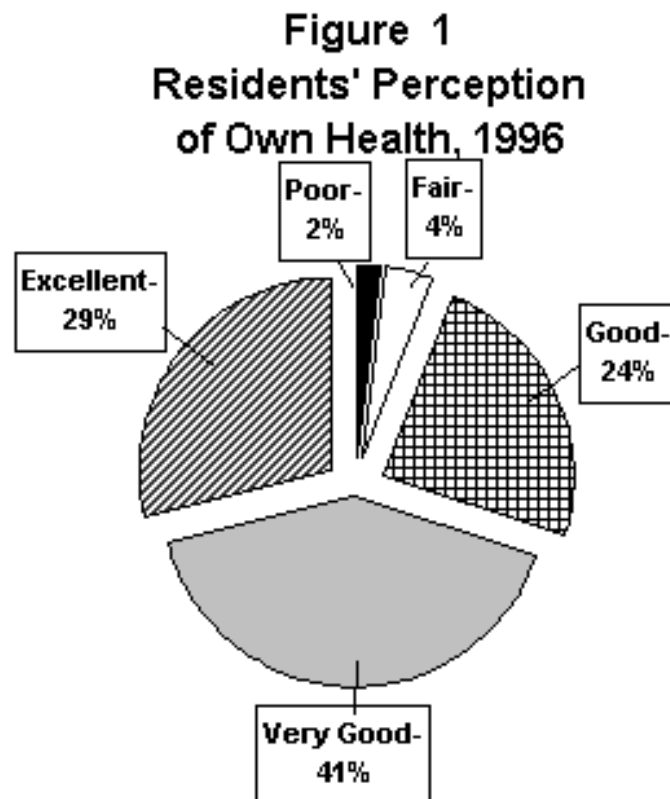
[Back](#) **Health Status Report:** **Health Status in Whatcom County**

In July and August of 1996, the Whatcom County Health Department conducted a telephone survey of 400 county residents aged 18 years and over, asking questions about health issues, risk behaviors and health services. The results of this Behavioral Risk Factor Survey can be generalized to almost the entire county population and can be compared to the same questions asked of Washington State residents in the same year. The limitations of the data are that non-English speaking people and people without phones are not included and that all the information is self-reported therefore subject to personal bias and mistakes in remembering. This section presents the data related to self-reported health status and use of health care services.

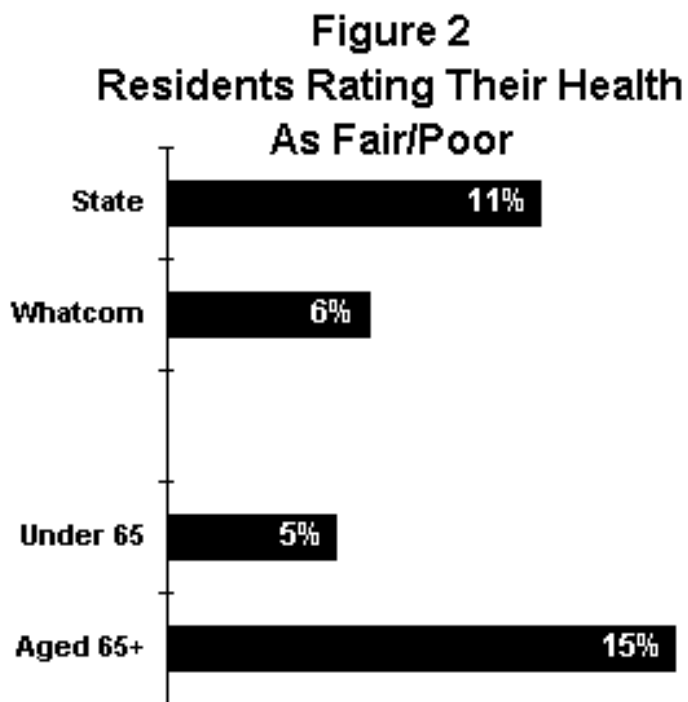
Perception of own health

Residents were asked, "Would you say that in general your health is excellent, very good, good, fair or poor?"

About 94% of Whatcom County residents rated their health as good or better and 6% as fair or poor (Figure 1).



In contrast, 11% of Washington State residents rated their health as fair or poor (Figure 2). In the county, three times as many seniors said they were in fair/poor health as those under 65.



Days of poor health

Residents were asked, "For how many days during the past 30 was your physical health not good; for how many days was your mental health not good? How many days did poor physical or mental health keep you from your usual activities?"

Mental health was cited as the cause of poor health more often than physical health, and more than 1 in 10 residents were kept from their normal activities even though the survey was done during the summer months (Figure 3).

Figure 3

At Least One Day of Poor Health in Past Month

Due to Physical Problems	28%
Due to Mental Problems	36%
Kept from Normal Activities	13%

Missed At Least One Day of Normal Activity

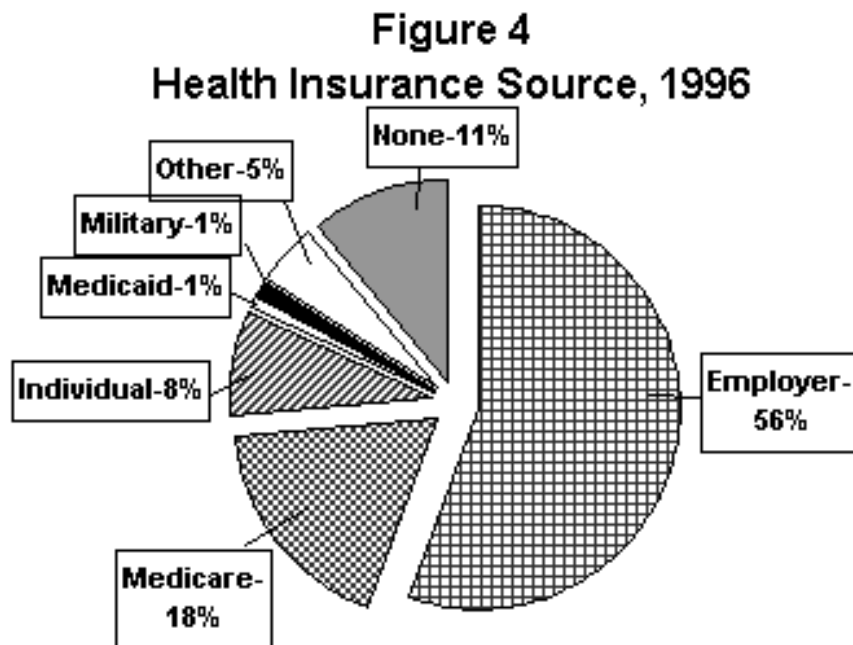
Household Income <\$20,000	26%
Household Income >\$20,000	10%

Residents with lower incomes were much more likely to have missed at least one day of normal activity than those with higher incomes.

Health insurance coverage

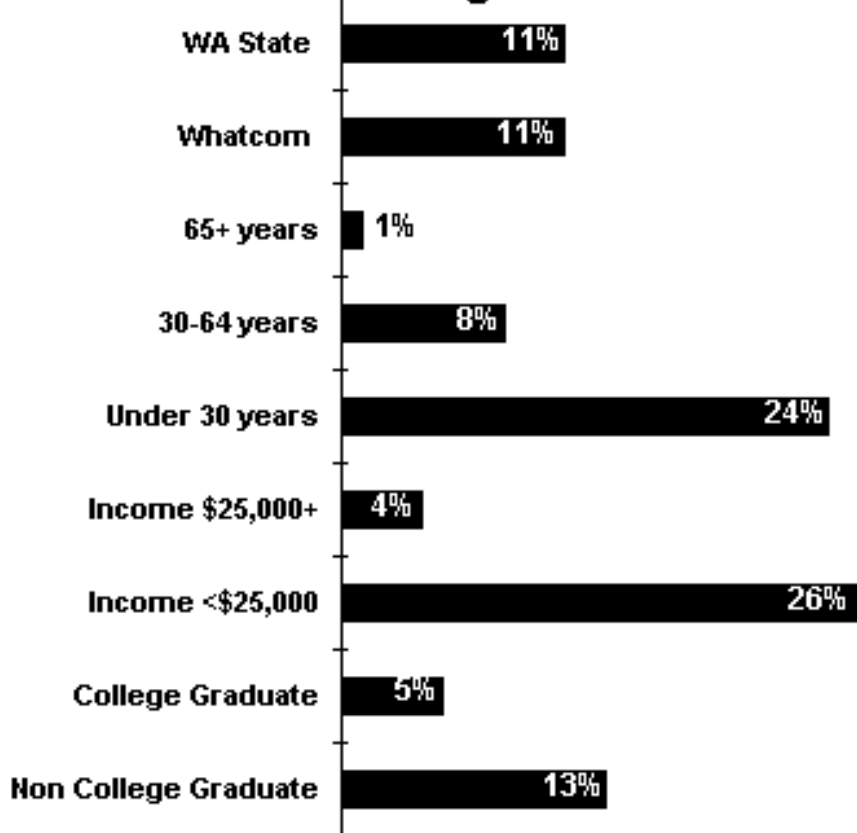
Residents were asked, "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?"

More than half of Whatcom County residents had insurance through their employer or someone else's employer. Medicare, individually purchased insurance, Medicaid, military and other sources provided coverage to about one third of residents (Figure 4). This means that approximately 1,670 adult residents lacked any kind of health insurance in 1996. None of this data shows the actual amount or type of insurance coverage available, just the source.



The percent of residents in Washington State who lack insurance is the same as the county (Figure 5). Among the sub-groups in the county, younger, poorer and less educated residents were more likely to lack insurance of any kind.

**Figure 5
Residents Lacking Health Insurance**



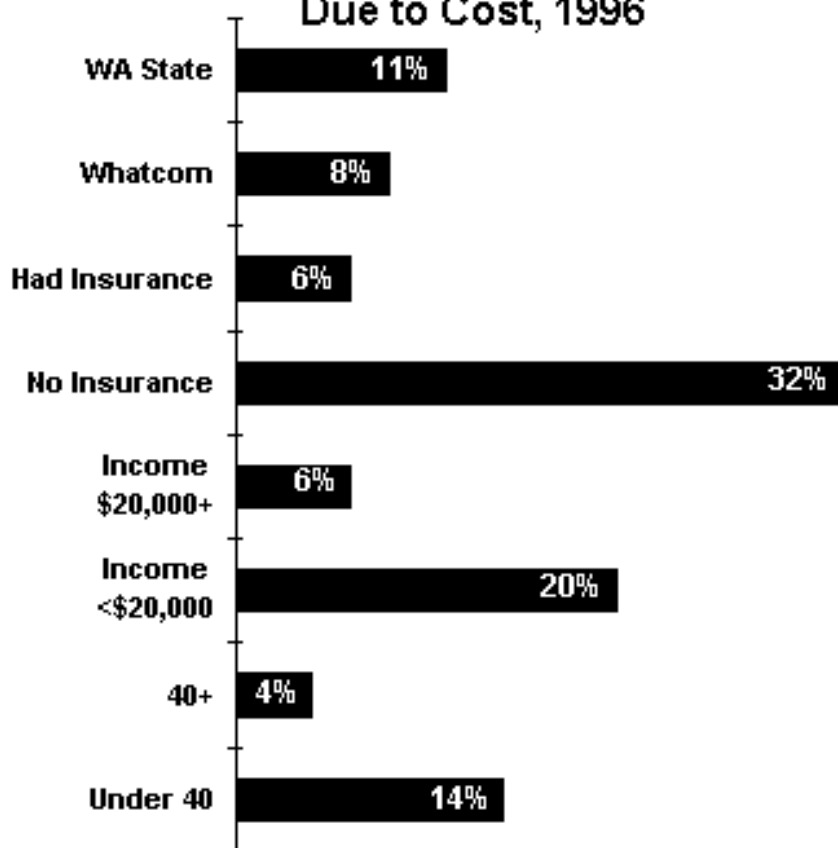
Cost barriers

Residents were asked, "Was there a time during the last 12 months when you needed to see a doctor but could not because of cost?"

Overall, fewer county residents experienced this cost barrier than state residents (Figure 6).

Among county sub-groups, younger, poorer and those lacking insurance were more likely to experience this barrier. Even among those with insurance, 6% did not see a doctor because of cost.

Figure 6
Percent Who Could Not See Doctor
Due to Cost, 1996

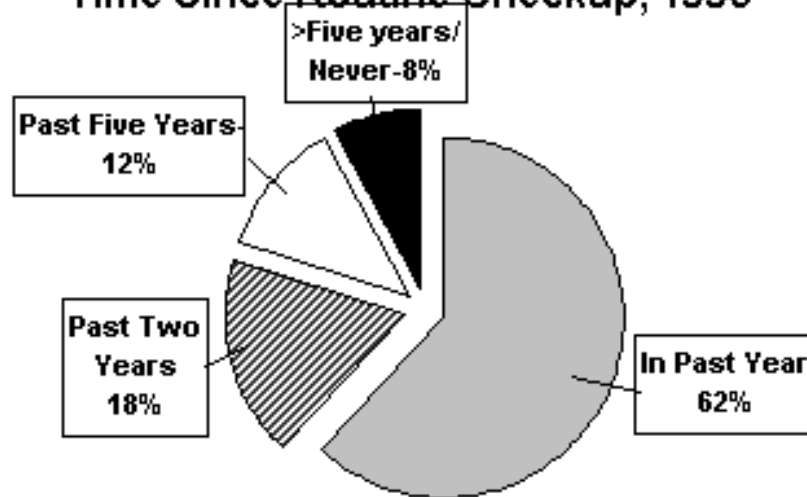


Routine checkups

Residents were asked "About how long has it been since you last visited a doctor for a routine checkup?"

Adults are recommended to have checkups every few years because if certain chronic conditions are found early, treatment is more effective and less expensive. As a person ages, these preventive care visits become even more important. Most Whatcom County adults had a routine checkup in the past two years, but 8% had never had one or it had been more than five years ago (Figure 7). Younger residents and men in general were more likely to not have had a recent checkup.

Figure 7
Time Since Routine Checkup, 1996

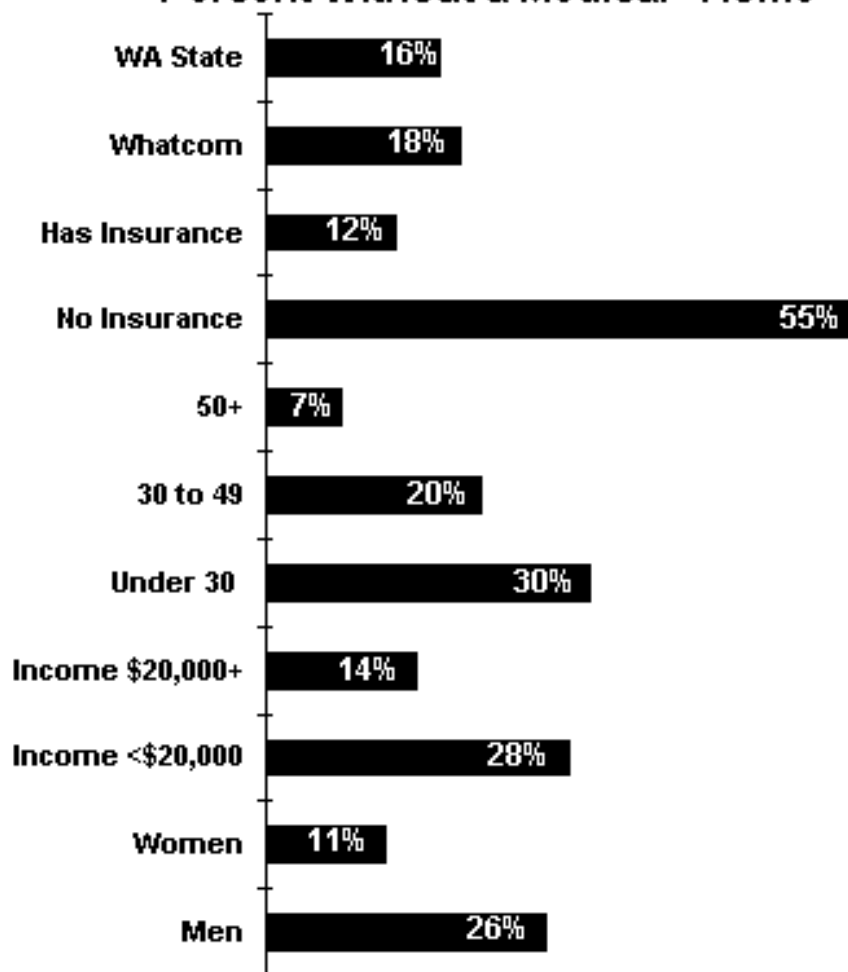


Medical "home"

Residents were asked "Is there one particular clinic, health center, doctor's office or other place that you usually go to if you are sick or need advice about your health?"

A greater percentage of county residents did not identify a usual source of care or medical "home" than state residents (Figure 8).

Figure 8
Percent Without a Medical "Home"



As with the prior questions, younger, poorer, uninsured residents are more likely to lack a "home." Men are more than twice as likely not to identify a usual source of care. Even 12% of those with insurance did not have a medical "home." The most likely explanation for this is that those residents have not yet needed to use medical care in this community.

Summary

Although almost all Whatcom County residents rated their health as good or better, there are still a significant number who do not have insurance and/or perceive a cost barrier to health care. In addition, universal access to health care is not yet a reality in our community.

(1997) Health Status in Whatcom County

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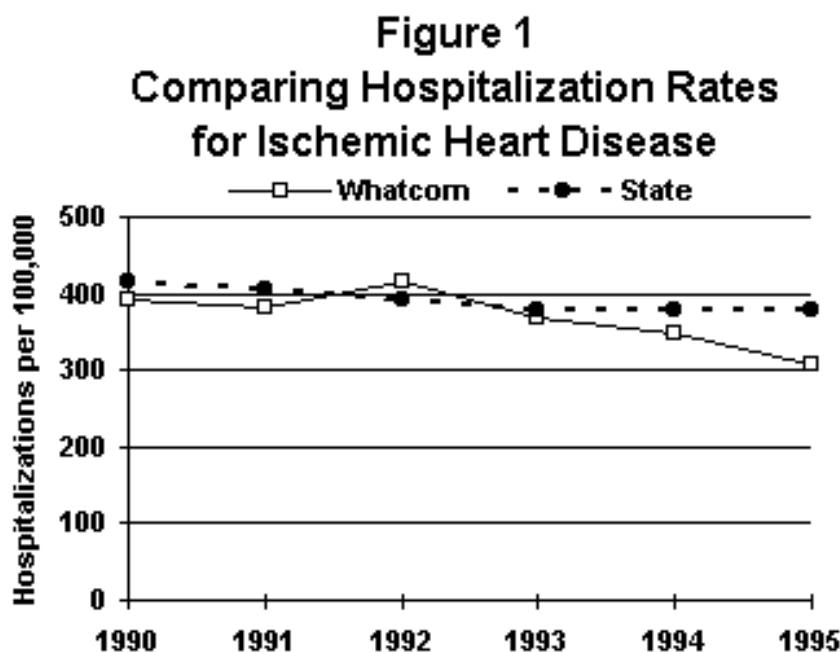
Hospitalizations for Chronic Disease in Whatcom County

This information comes from the Comprehensive Hospital Abstract Reporting System (CHARS), which is maintained by the Washington State Department of Health (DOH). Almost all hospitals in the state participate by sending patient information to DOH. However, emergency room visits are **not** included in this database, only information about patients who are admitted to the hospital. Also, the information is sorted by zip code of a patient's residence, so Whatcom residents who are admitted to hospitals in other counties are included in our county's tally.

Ischemic heart disease

This type of heart disease usually is considered preventable because the major causes are based on lifestyle choices such as smoking, lack of exercise and inappropriate food intake.

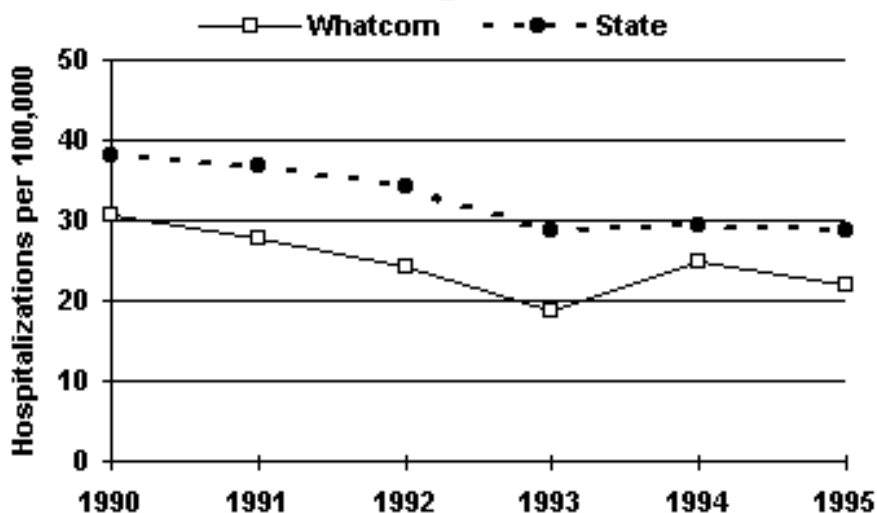
Between 1990 and 1995, the Whatcom County rate of hospitalization was essentially the same as Washington State, except for 1995 when the rate was lower (Figure 1).



Lung cancer

Hospitalizations for lung cancer in Whatcom County have been below the state rate, with both rates slowly declining between 1990 and 1995 (Figure 2). Smoking remains the main cause of this disease.

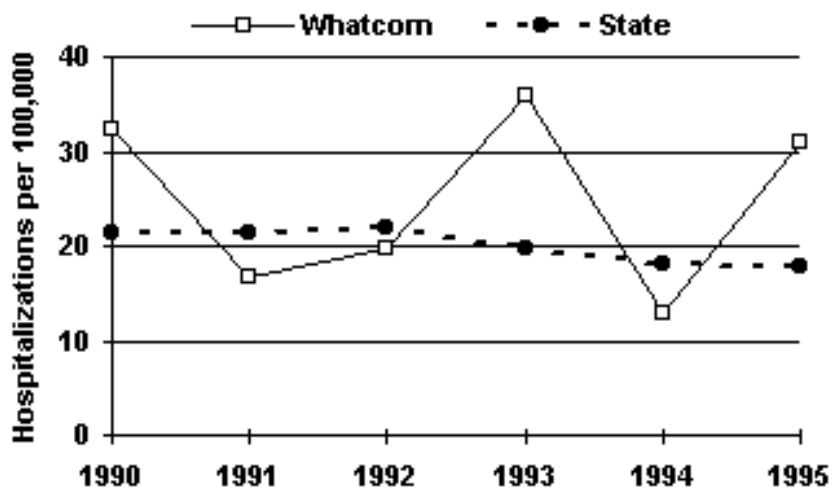
Figure 2
Comparing Hospitalization Rates
for Lung Cancer



Cervical cancer

The hospitalization rate varies more for cervical cancer because there are fewer admissions every year than in some of the other categories. The county rate is sometimes above and sometimes below the state rate, and the number of admissions is between 13 and 36 per year (Figure 3).

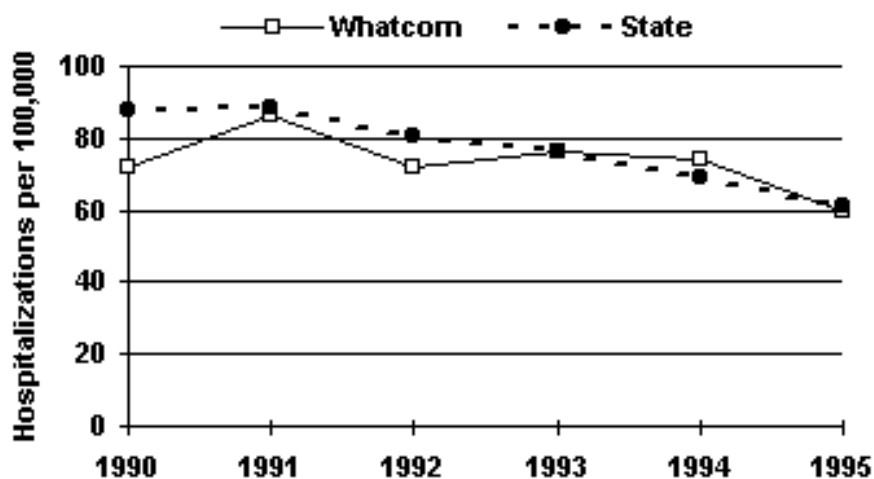
Figure 3
Comparing Hospitalization Rates
for Cervical Cancer



Breast cancer

The hospitalization rate for Whatcom County was essentially the same as the state rate between 1990 and 1995 (Figure 4).

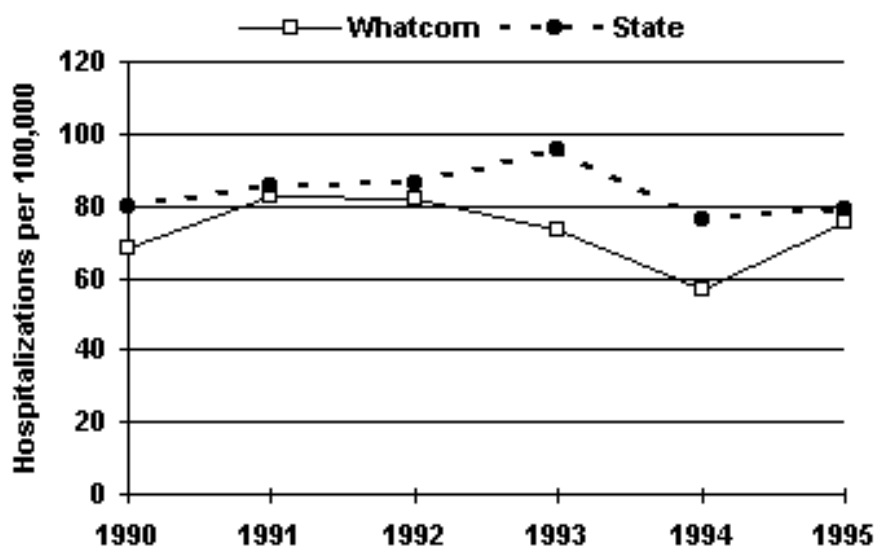
Figure 4
Comparing Hospitalization Rates
for Breast Cancer



Chronic obstructive pulmonary disease

Smoking is also the main cause of Chronic Obstructive Pulmonary Disease (COPD). The Whatcom County rate was lower than the state rate in 1993 and 1994, a decrease from the prior three years, but increased to essentially the same as the state rate in 1995 (Figure 5).

Figure 5
Comparing Hospitalization Rates for COPD



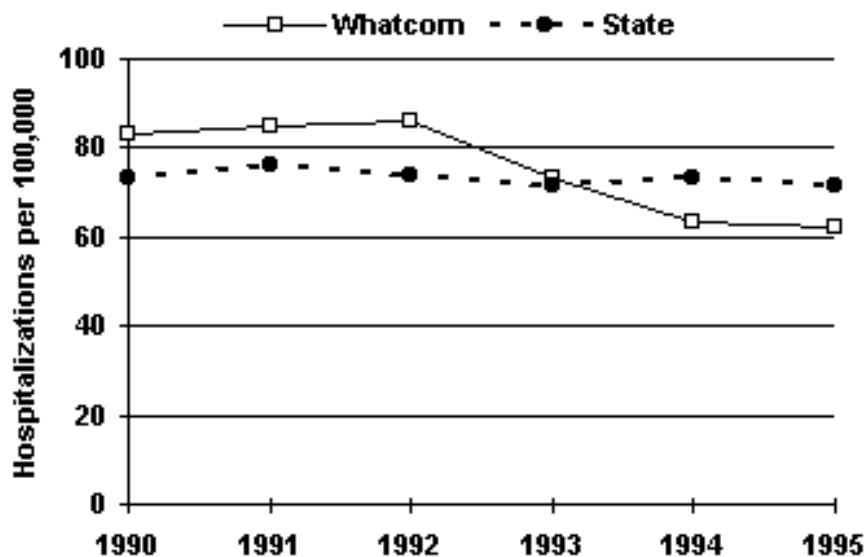
Diabetes

Diabetes is a disease that can produce many different complications in the human body, so there are several different reasons for a person to be hospitalized. This particular data includes all diabetes-related admissions, regardless of the more specific admission reason

such as amputation.

The county rate was slightly above the state rate from 1990-92 and dropped to slightly below the state rate in 1994 and 1995 (Figure 6).

Figure 6
Comparing Hospitalizations for All Diabetes



Hospitalizations for Chronic Disease in Whatcom County (1997)

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Health Status Report: Injury Hospitalizations in Whatcom County

This information comes from the Comprehensive Hospital Abstract Reporting System (CHARS), which is maintained by the Washington Department of Health (DOH). Almost all hospitals in the state participate by sending patient information to DOH.

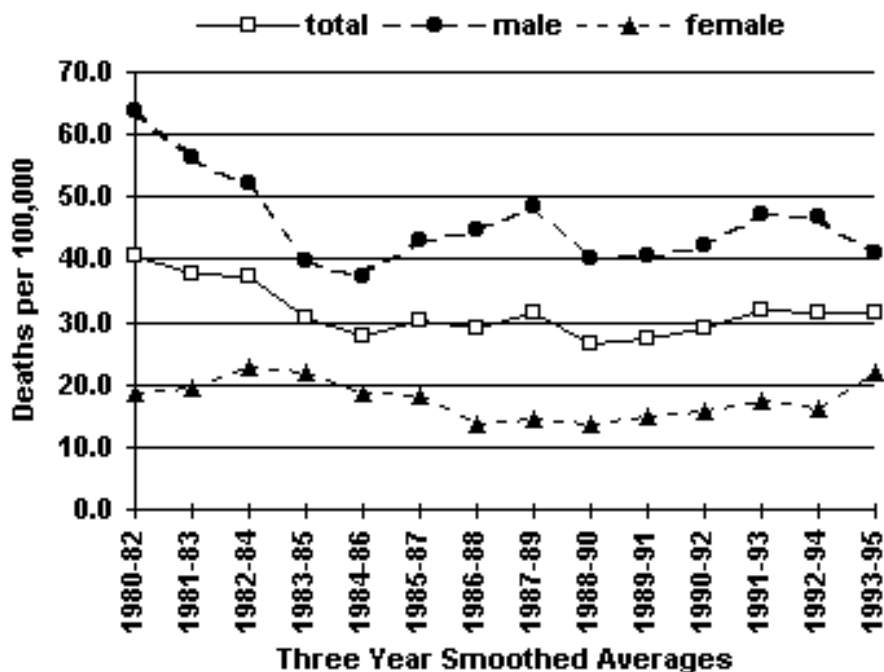
Emergency room visits are **not** included in this database, only information about patients who are admitted to the hospital. Many injuries, especially minor ones are treated in the emergency room and patients are sent home with instructions to see a specialist or their primary physician the next day. Only injuries that are more severe and/or need surgery are admitted to the hospital and will be counted in this data. Therefore the rates shown here under count how many injuries are occurring in the community.

The data also is based on the number of hospitalizations, not the number of unduplicated patients. Someone could be seen several times in a year for the same type of injury, and every admission is counted. Also, the data is sorted by zip code of a patient's residence, so Whatcom County residents who are admitted to hospitals in other counties are still included in Whatcom County's rate.

Falls

Falls can happen to anyone, but older people are hospitalized more often than any other age group, often because a fracture occurs that needs surgery. Falls are the leading cause of injury hospitalizations but cause very few deaths. The county and state rates have been essentially the same between 1990 and 1995 with an overall decreasing trend (Figure 1).

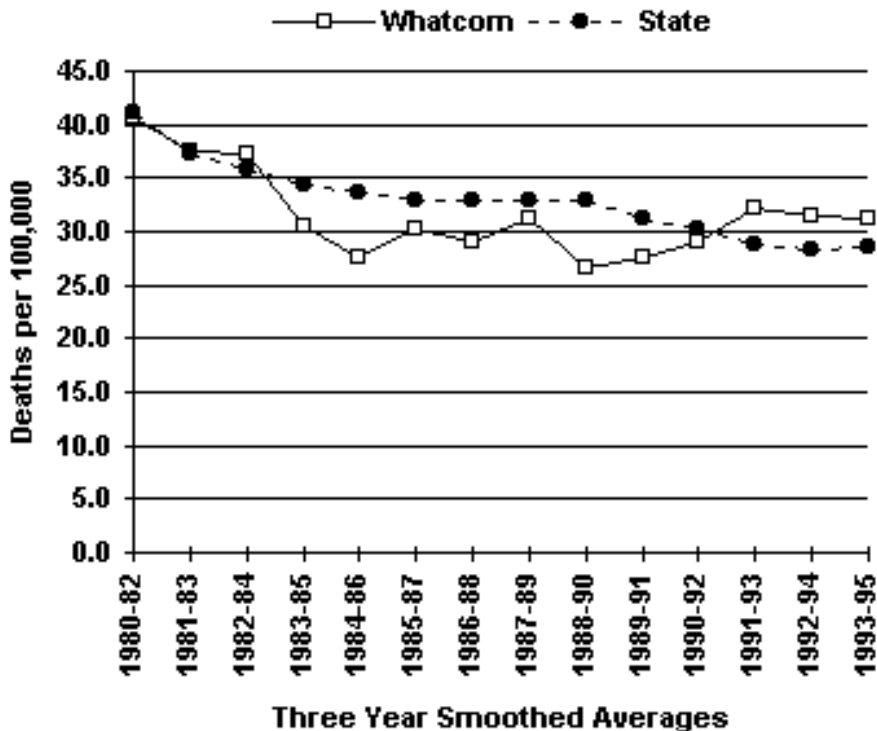
Figure 1
Age-Adjusted Death Rates
for Unintended Injuries



Motor vehicle crashes

Motor vehicle crashes are the second leading cause of injury hospitalizations but are the leading cause of injury deaths. Between 1990 and 1995, the rates for the state and the county decreased, with the county rate either the same as the state's or slightly below (Figure 2).

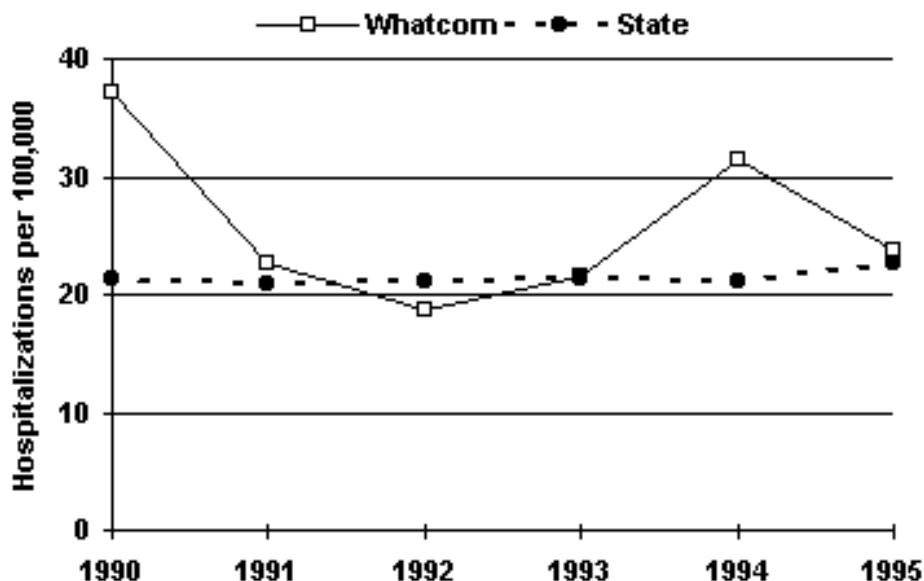
Figure 2
Comparing Age-Adjusted Death Rates
for Unintended Injuries



Poisonings

Poisonings can occur in any age group and include medicines, plants and other substances. In comparing the county and state rates, the county is either the same as or higher than the state (Figure 3).

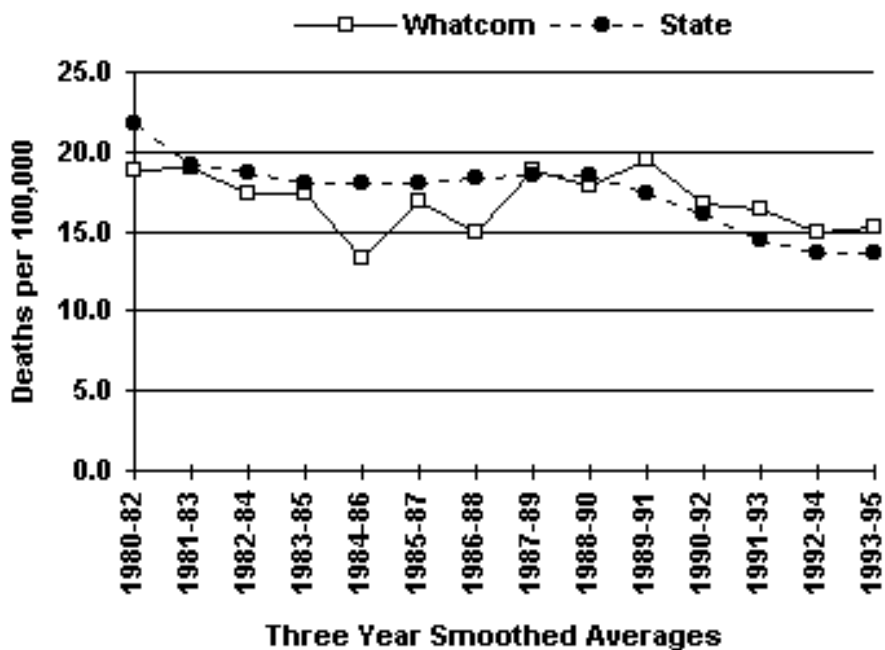
Figure 3
Comparing Hospitalization Rates
for Poisonings



Fire / burns

This data includes any fire-related injury, although burns are the most common. Deaths from fires have decreased in the last few years and so have hospitalizations. The county rate has decreased even more than the state rate (Figure 4).

Figure 4
Comparing Age-Adjusted Death Rates
for Motor Vehicle Injuries

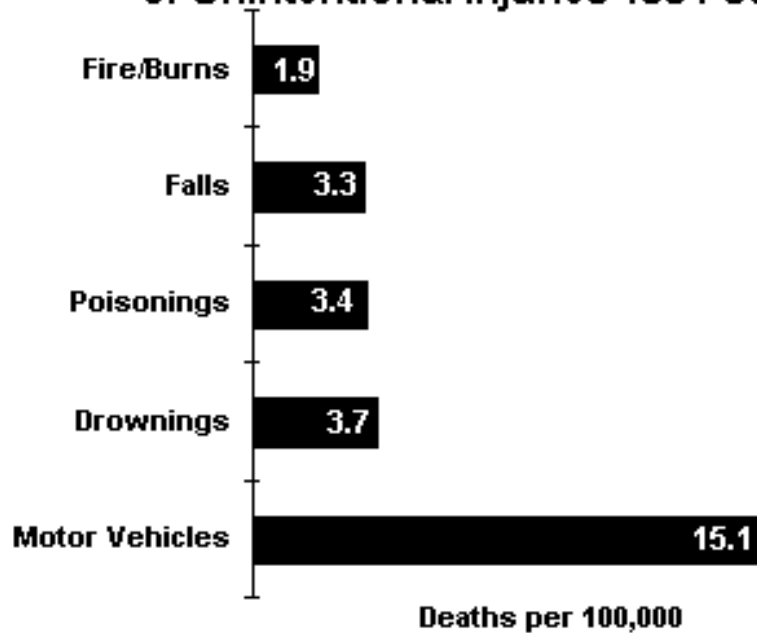


Suicide attempts

It is not known exactly how many suicide attempts are made because not everyone is hospitalized after an attempt. Using the available data for 1990-1995, about five times as many hospitalized suicide attempts (463) occurred as completed suicides (96).

The hospitalization rates for the county and state have been about the same, with a slight decrease for the county in 1994 and 1995 (Figure 5).

Figure 5
Comparing Death Rates of Top Five Types
of Unintentional Injuries 1991-95

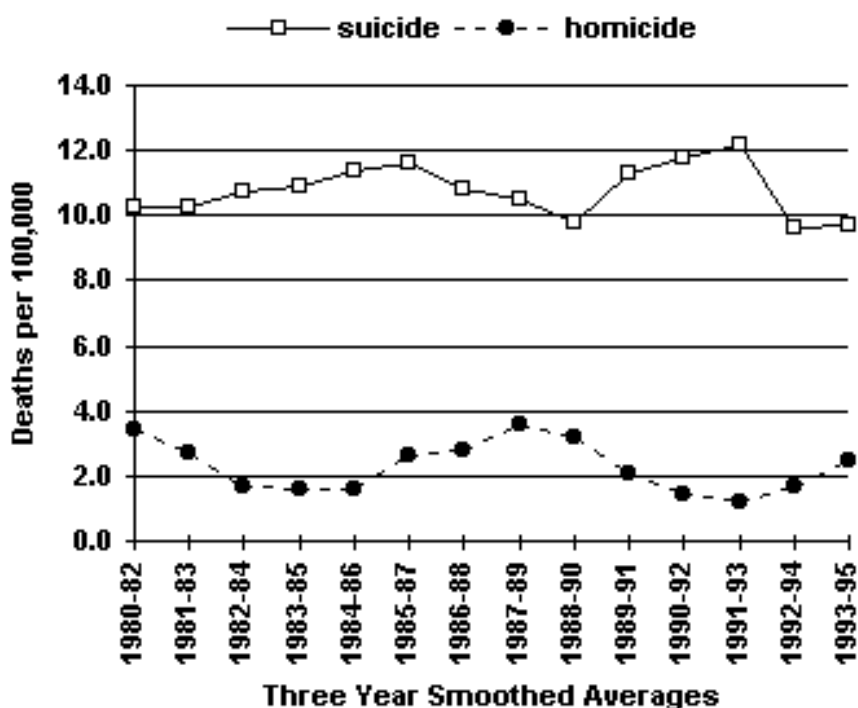


Assaults

Many assaults are seen in the emergency room, with only patients having more severe injuries being admitted, so the hospitalization rate is an undercount of this category of injuries.

Whatcom County has far fewer deaths from assault and a much lower hospitalization rate in comparison to Washington State. The rates for both the county and state decreased between 1990 and 1995 (Figure 6).

Figure 6
Comparing Suicide and Homicide
Death Rates



Firearm availability

Firearms are used in suicides, suicide attempts, assaults and homicides, and cause other injuries and unintended deaths. The 1996 Behavioral Risk Factor Survey done in Whatcom County asked adult residents about the firearms kept in or around their homes. The following are results of this telephone survey of 400 residents:

- 36% of survey participants said they own guns (long guns and/or handguns);
- 10% of gun owners had a loaded, unlocked firearm in or around their home;
- 67% of gun owners kept firearms for hunting or sport.

Income differences

- 43% of households with incomes of \$20,000 or more had firearms;
- 19% of households with incomes below \$20,000 had firearms.

Education differences

- 21% of firearm owners were college graduates;
- 43% of firearm owners had less than a college degree.

Injury Hospitalizations in Whatcom County (1997)

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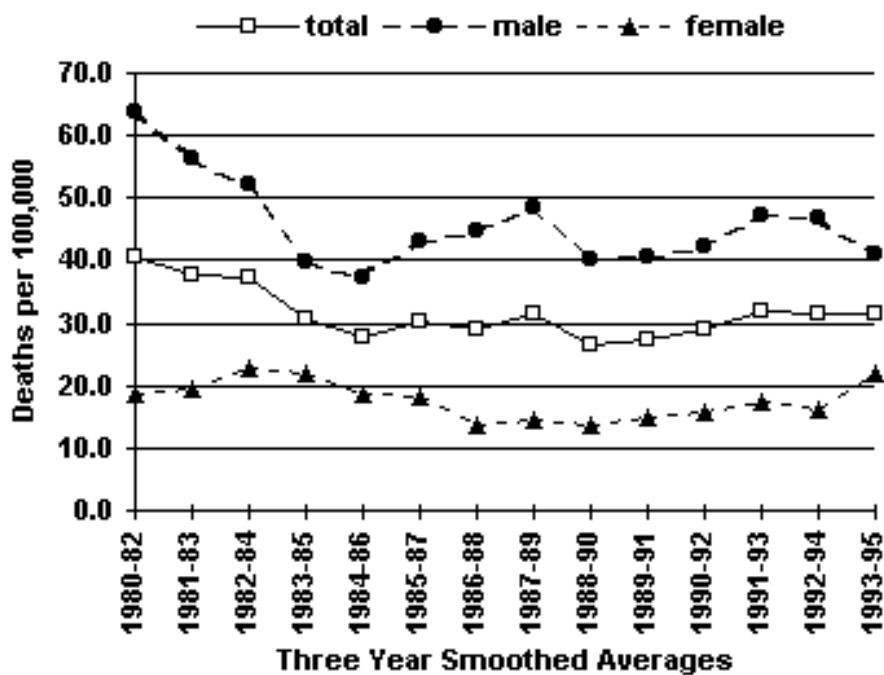
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Health Status Report:
Back **Injury Deaths in Whatcom County Unintended injury deaths**

Between 1991 and 1995, nearly 75 percent of the injury-related deaths of Whatcom County residents occurred as a result of unintended injuries. These are the deaths that are often called "accidental" as opposed to homicide and suicide, which are planned or intended.

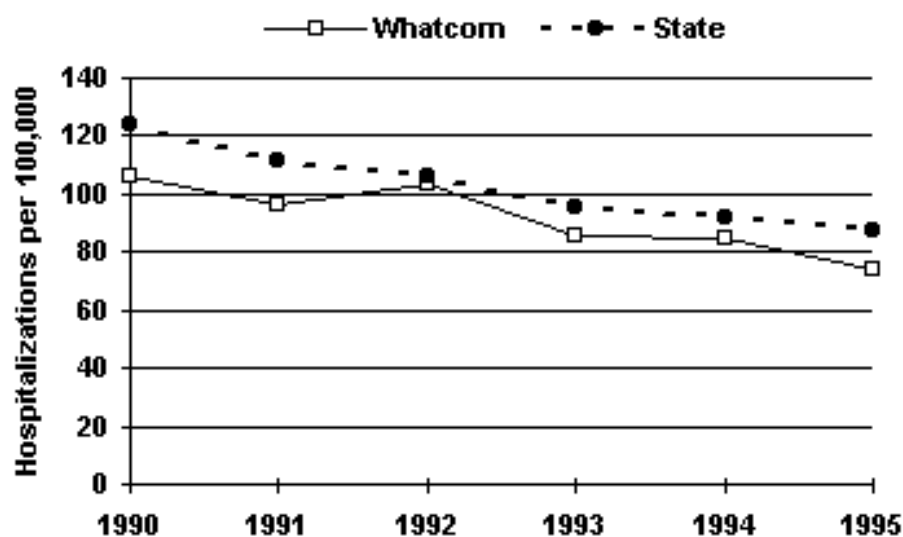
Overall, unintended injury death rates for Whatcom County residents decreased between 1980 and 1995. In general, male injury-related death rates are two to three times those of females, but female rates have remained about the same (Figure 1).

Figure 1
Age-Adjusted Death Rates
for Unintended Injuries



Generally, the downward county trend has paralleled that of Washington State (Figure 2).

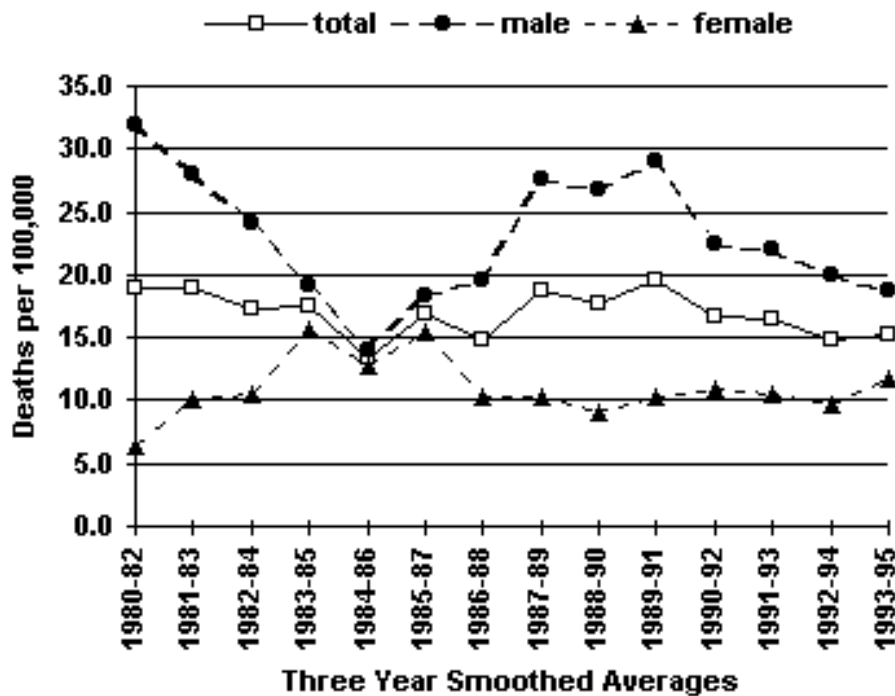
Figure 2
Comparing Hospitalizations for
Motor Vehicle Crashes



Motor vehicle deaths

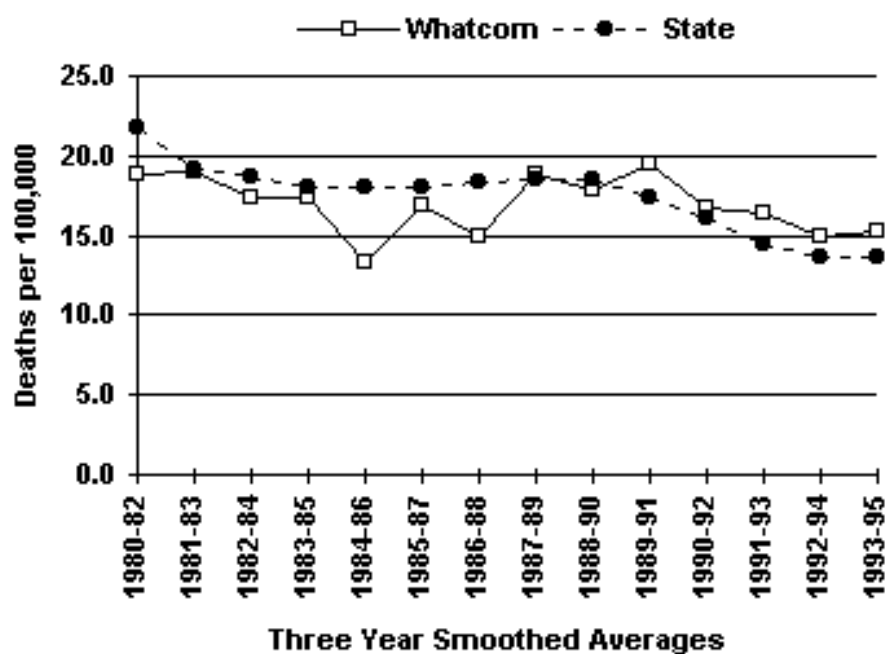
Overall motor vehicle injury death rates in Whatcom County decreased somewhat between 1980 and 1995, however, the rate was higher among males than females (Figure 3). In most years, there were at least two male deaths for every one female death.

Figure 3
Age-Adjusted Death Rates
for Motor Vehicle Injuries



The downward trend in the county has been surpassed by the downward trend for the state so that the Whatcom County death rate is now slightly higher than the Washington State rate (Figure 4).

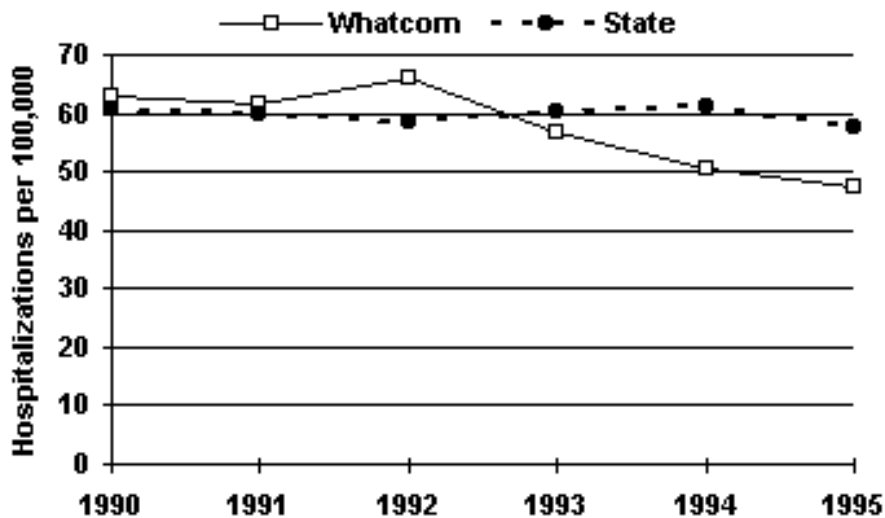
Figure 4
Comparing Age-Adjusted Death Rates
for Motor Vehicle Injuries



Other unintended injury deaths

When examining unintended injury deaths by category in 1991-95, the motor vehicle death rate is at least three times higher than the other types in the top five causes (Figure 5). Other preventable deaths include drownings, poisonings, falls and fire/burns. Each of these causes relatively few deaths individually; but when the deaths are added together, they have a significant impact on the community.

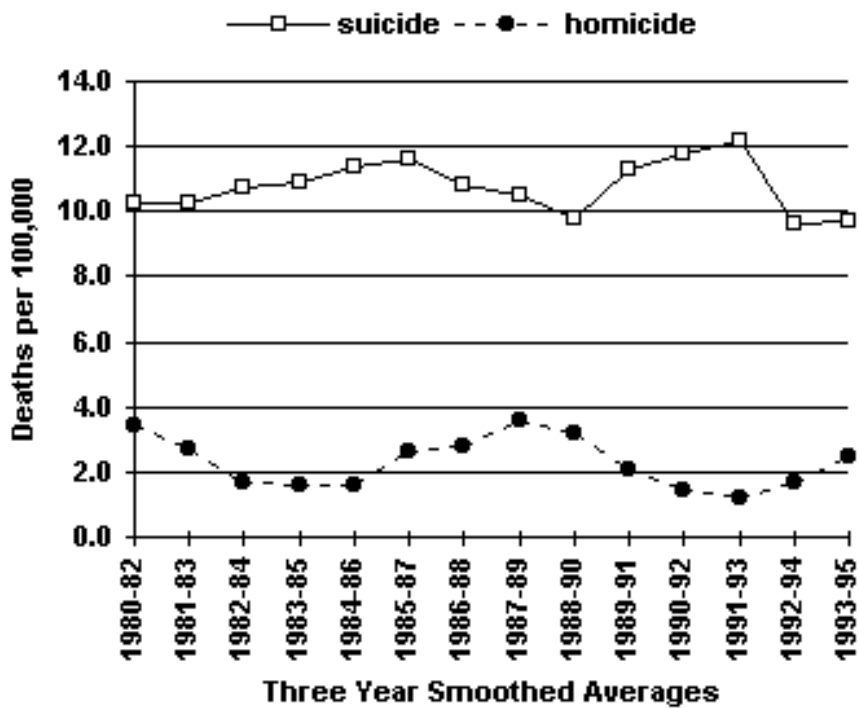
Figure 5
Comparing Hospitalization Rates
for Suicide Attempts



Homicide

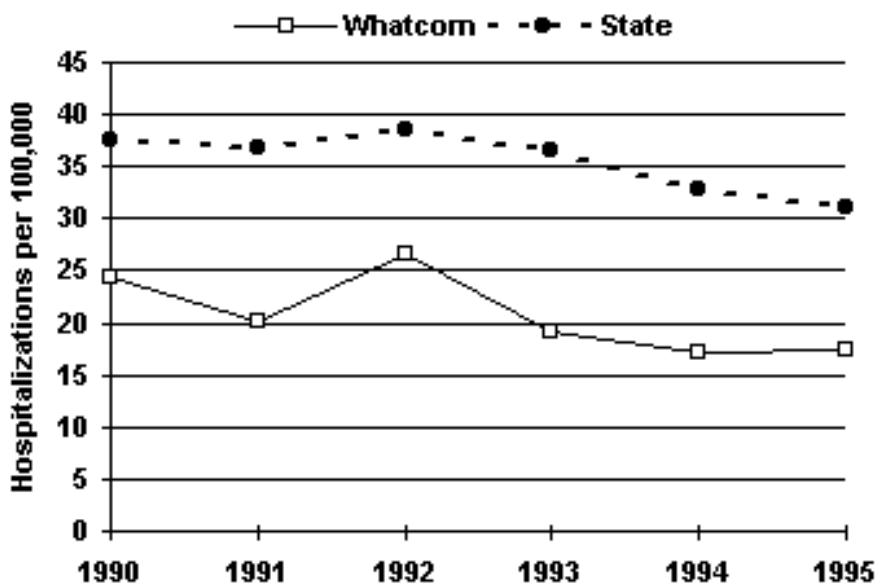
Homicide is the fatal, violent act most people fear and which often receives the most coverage by the media, but in Whatcom County suicide rates are far greater than homicide rates (Figure 6).

Figure 6
Comparing Suicide and Homicide
Death Rates



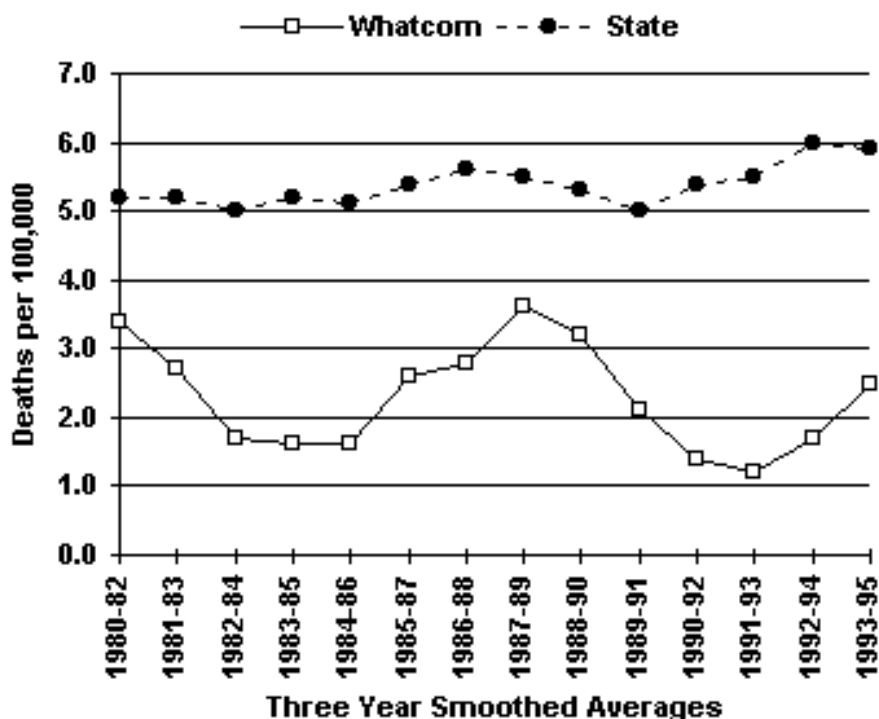
Because homicide is so rarely a cause of death among Whatcom County residents, even three year smoothed rates are highly variable (Figure 7).

Figure 6
Comparing Hospitalization Rates for Assault



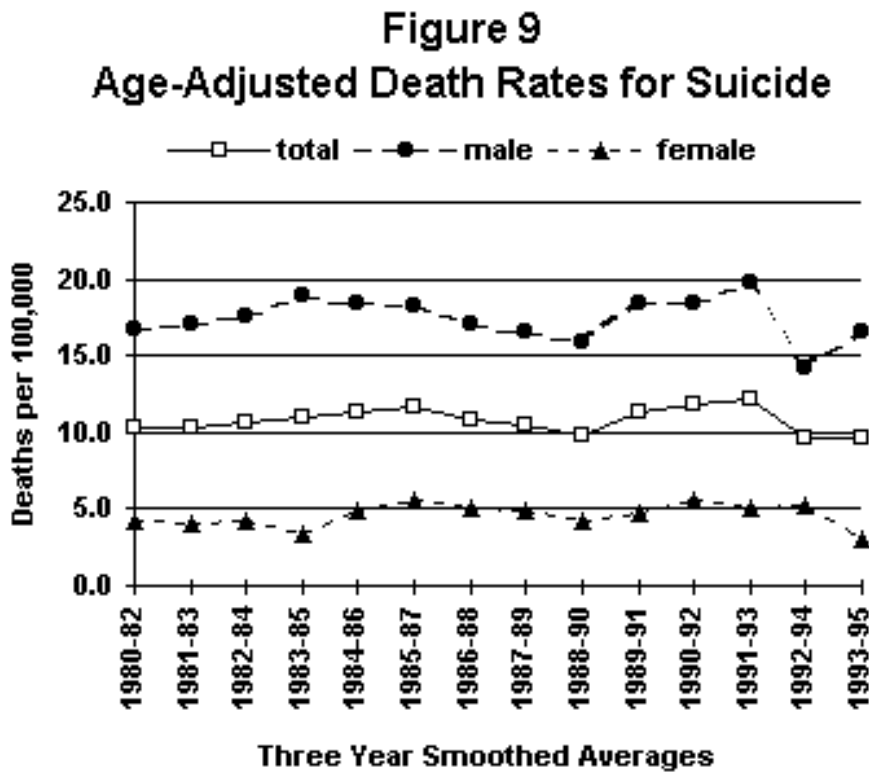
Fortunately, the homicide rate in Whatcom County always has been considerably lower than the Washington State rate (Figure 8).

Figure 8
Comparing Age-Adjusted Death Rates for Homicide



Suicide

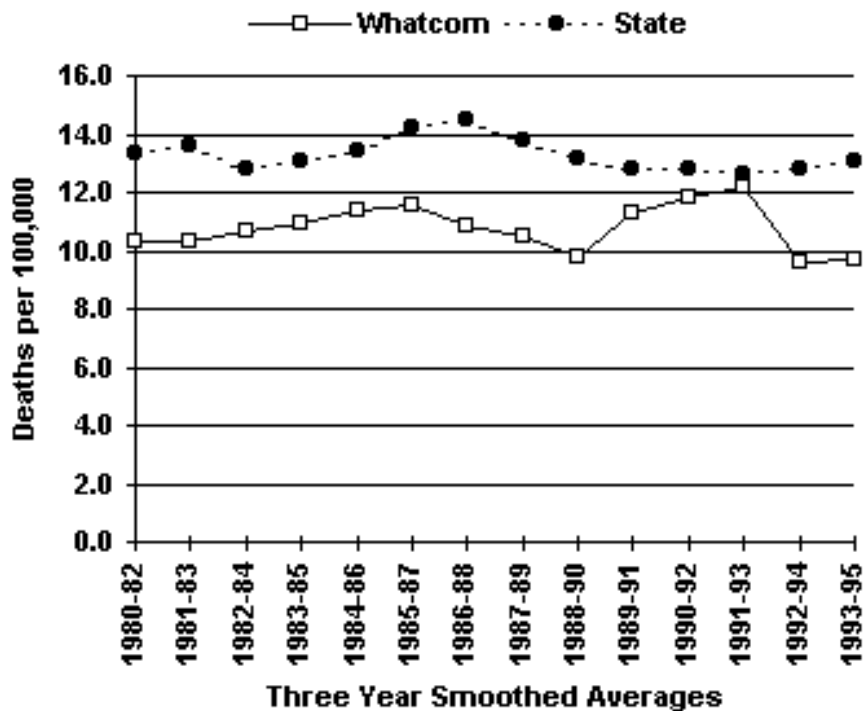
Suicide rates have been relatively stable among Whatcom County residents in the last 15 years, however age-adjusted rates for males are four times higher than females (Figure 9).



The largest percentage of suicide deaths were among men aged 25 - 54.

In contrast to the homicide rate, the Whatcom County suicide rate has been only slightly lower than the Washington State rate (Figure 10).

Figure 10 Comparing Age-Adjusted Death Rates for Suicide



Injury Deaths in Whatcom County (1997)

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Mental Health in Whatcom County**

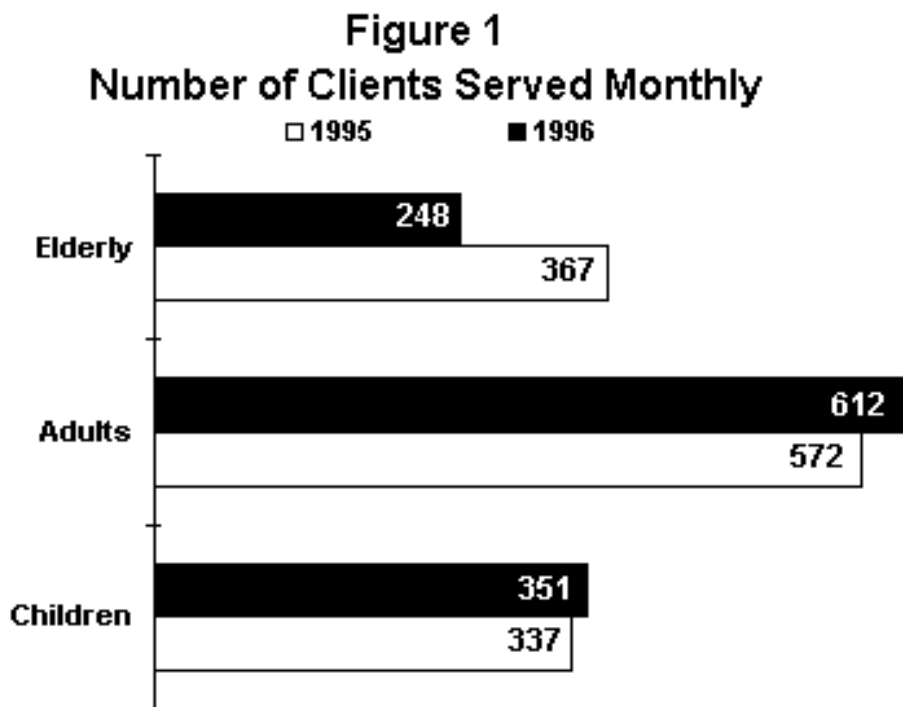
Mental health disorders can seriously interfere with the ability of a person to function successfully in our culture, but many people diagnosed with a mental disorder lead satisfying and fulfilling lives. The spectrum of disorders includes schizophrenia, depression, anxiety, phobias and panic attacks. Unfortunately, a large number of people with mental disorders, especially those with depression, do not seek or receive appropriate treatment and many are prevented from leading productive lives because of the stigma attached to the label of "mental illness"

In Whatcom County, as is true throughout Washington State, mental health services are available from a wide range of public and private providers. Currently there is no single system for tracking the data about all the services provided and all the clients served. The one available source of information comes through the North Sound Regional Support Network (NSRSN).

The NSRSN is a publicly funded consortium of five counties—Whatcom, Snohomish, Skagit, San Juan and Island—responsible for ensuring that appropriate and quality mental health care is available for all people in need. There is no single source of information about services provided through private insurance plans or through self-pay.

The array of publicly funded mental health services currently available in Whatcom County through the NSRSN includes assessment, crisis services, interventions, community support, hospital diversion services and residential services. These services are provided by a variety of local agencies, funded by county taxes, plus state and federal dollars that are administered through the NSRSN.

In 1995 and 1996, more than 1,200 individuals per month received publicly funded services within our community. The number of elderly served decreased in 1996, and the number of adults increased (Figure 1).



Hospitalization for mental illness may occur when individuals no longer can function in society and are a danger to themselves or others. In 1995, 323 people were hospitalized, either involuntarily or voluntarily, for mental illness. In 1996, 293 people were hospitalized. Prevention efforts through earlier assessment and available interventions have the potential to decrease hospitalizations and their associated costs to the families involved and the community as a whole.

When a more comprehensive client and services information system is developed, a clearer picture of the mental health needs of county residents will be available. This is a goal of the NSRSN with planning occurring now and implementation to begin in 1998.

(1997) Mental Health in Whatcom County

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The Health of Native Americans in Whatcom County****Demographics****Population**

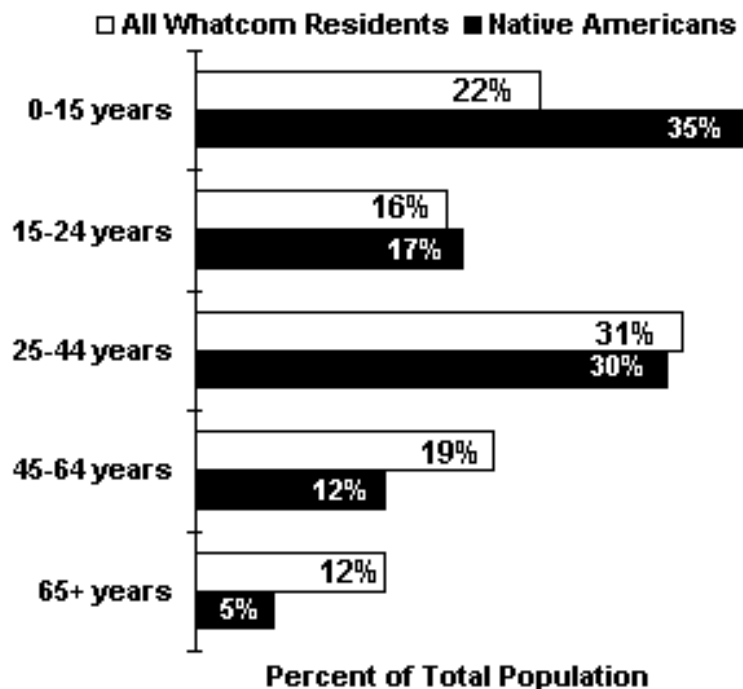
The Washington State Office of Financial Management, which prepares the official population estimates for the state, calculated that there were 4,297 Native American people living in Whatcom County as of midyear 1994, the most recent date for which race-specific information is available.

Age composition

The Native American population in Whatcom County was considerably different in its age composition than the rest of the county (Figure 1).

Basically, more than half of the county's Native American residents were younger than 25. This age composition implies strong need for preventive health services as well as for education and job opportunities to facilitate the transition to adulthood.

Figure 1
1994 Age Group Comparison

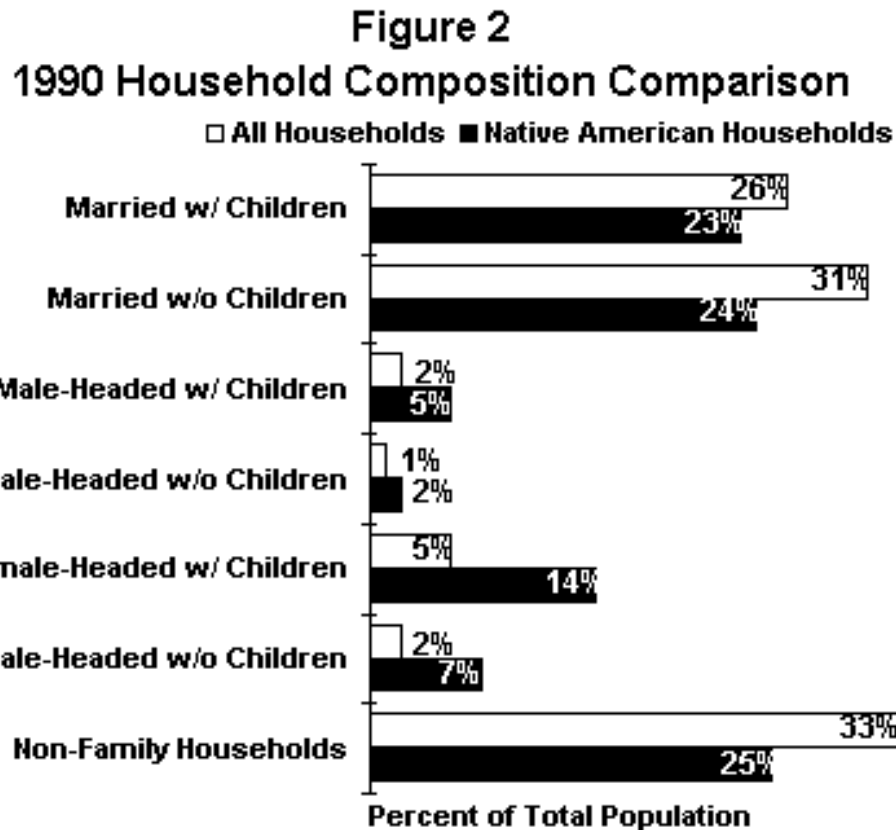


Household composition

One factor in people's lives is the type of household in which they live. The U.S. Bureau of the Census defines the following types of households:

- 1) Non-Family Households a single individual or unrelated people living together.
- 2) Family Households
 - a) married couple households with or without children;
 - b) male-headed households with or without children (the man is not married or spouse is not living in the household); and
 - c) female-headed households with or without children (woman is unmarried or spouse is not living in the household).

In 1990, the household composition of Native Americans differed significantly from other Whatcom County residents (Figure 2). A larger proportion of Native Americans lived in non-family households and in households headed by a single adult than the total county population.

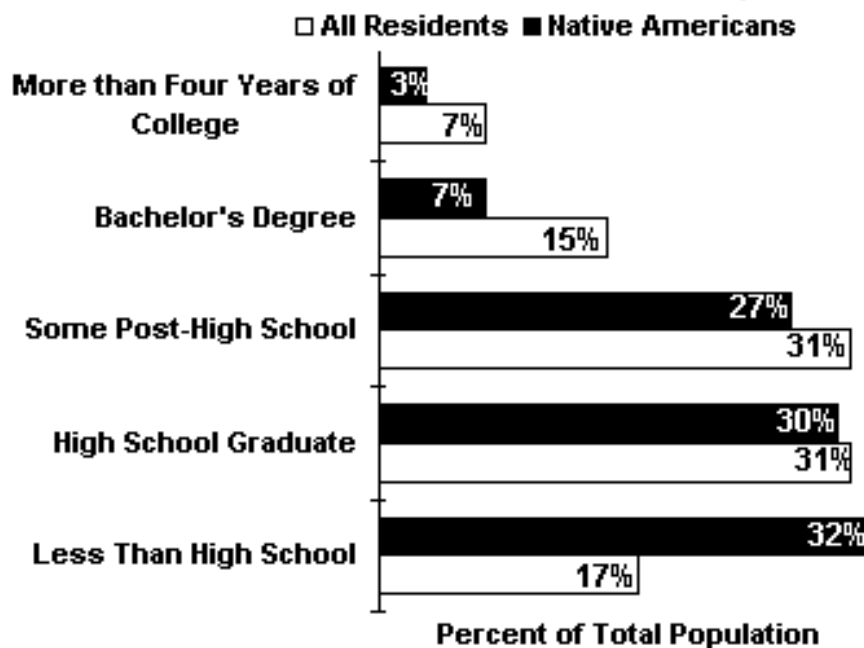


Education

In 1990, there were marked differences between educational attainment (computed for people 25 years old and older) of all Whatcom County residents and that of Native American residents (Figure 3).

Almost twice as many Native Americans failed to complete high school or the equivalent, and about half as many Native Americans complete four years of college or graduate education as Whatcom County residents.

Figure 3
1990 Education Attainment Comparison

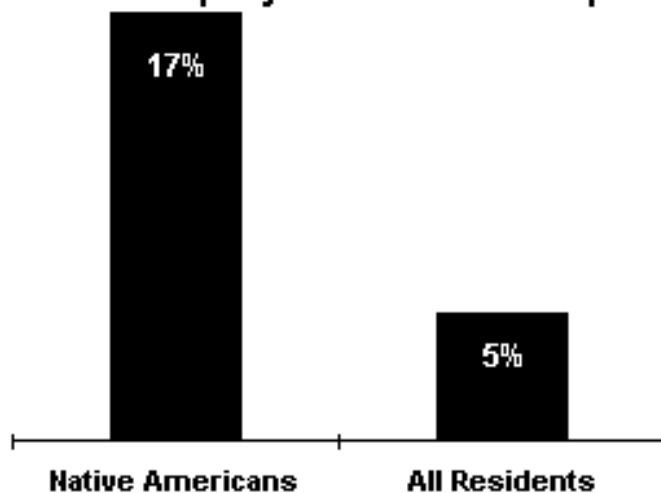


Economic conditions

At the time of the 1990 Census, Native American residents had an unemployment rate 3.5 times that of all county residents (Figure 4).

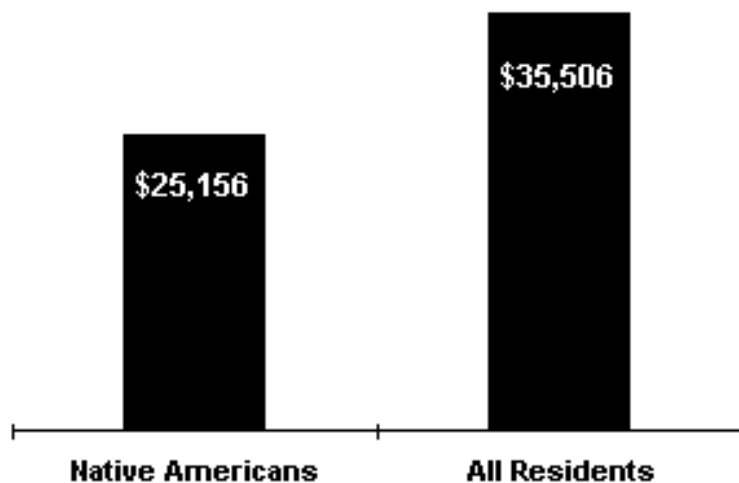
More recently, routinely collected unemployment information at the county level is not available by race or ethnicity, but there is little reason to suspect that this difference has diminished in the years since the 1990 Census.

Figure 4
1990 Unemployment Rate Comparison



Median income shows the effect of the differences in education and employment (Figure 5). Native American household median income was only about 70% of the county total.

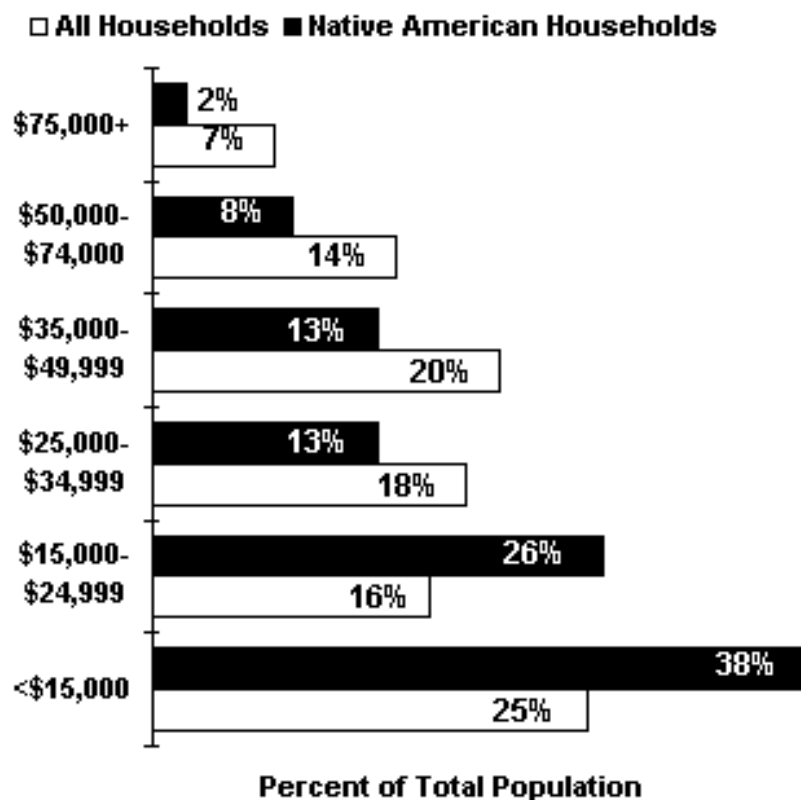
Figure 5
1990 Median Household Income Comparison



The distribution of household income is also very different in the two groups

(Figure 6).

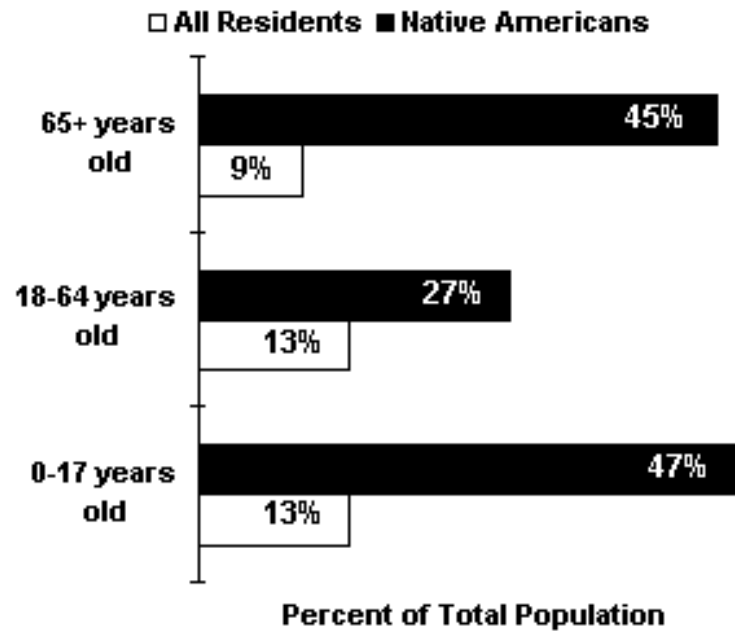
Figure 6
1990 Income Distribution Comparison



About a quarter of all county residents had incomes below \$15,000. This data includes all Western Washington University students, who usually have very low incomes. The remainder of the curve follows a bell shape typical of places with largely middle-class populations. Income distribution is far more skewed among Native American households. Because so many households have such low incomes, there is almost no middle class.

Given Native American residents' education, unemployment and income, it is not surprising that one-third of them lived below 100% of poverty in 1990. Poverty rates in every age group are far higher among Native American residents than among the county's population as a whole (Figure 7).

Figure 7
1990 Poverty by Age Comparison



Almost half of Whatcom County's Native American children younger than 18 lived below the poverty level compared with other children. The disparity in poverty is most marked among the oldest people; five times as many Native American elders lived in poverty compared with other county seniors.

Summary

As this analysis shows, the living circumstances of Whatcom County's Native American population are different from those of the county's total population. Native American residents are more likely to live in single adult-headed families, be less educated, more likely to be unemployed and, consequently, more likely to be poor. These social and economic disadvantages experienced by Native Americans plus the population's much younger age composition have a large impact on health indicators addressed in following sections.

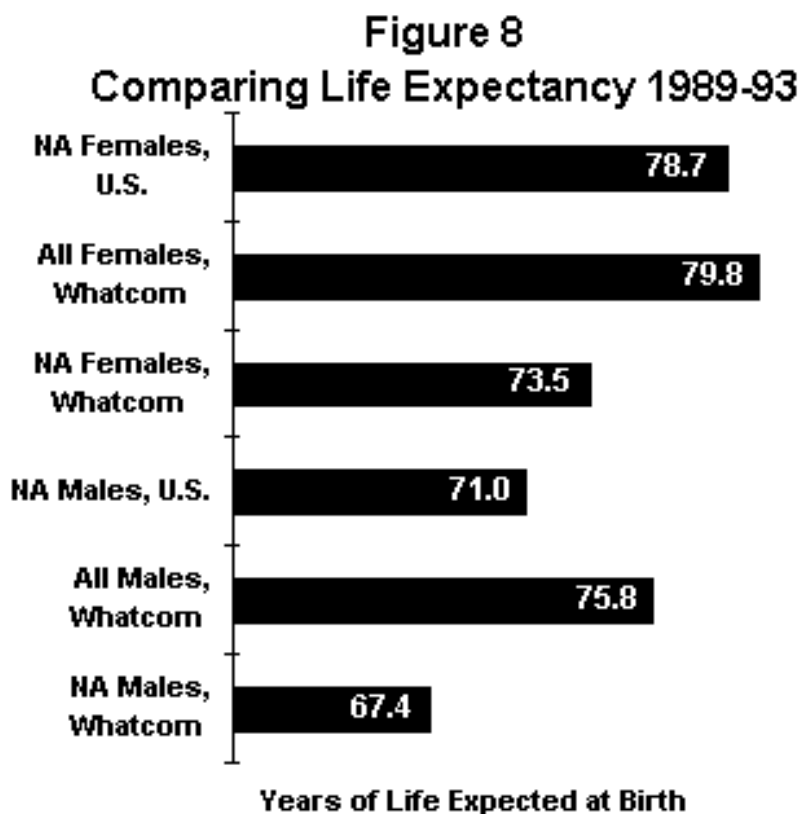
Causes of death

Public health professionals use information from death certificates to identify potentially preventable deaths. If these deaths are prevented, both life expectancy and quality of life can usually be improved. This section explores death among Whatcom County's Native American residents from several perspectives: life expectancy, leading causes of death, years of potential life lost and age-adjusted death rates.

On the average each year, 20-25 Native American residents of Whatcom County die. This is a tiny fraction of the more than 1,000 deaths occurring each year among county residents. When

so few events occur in a given year, statistical analysis is usually done for several years at once. That was done here by reviewing all deaths that occurred from 1989 through 1993.

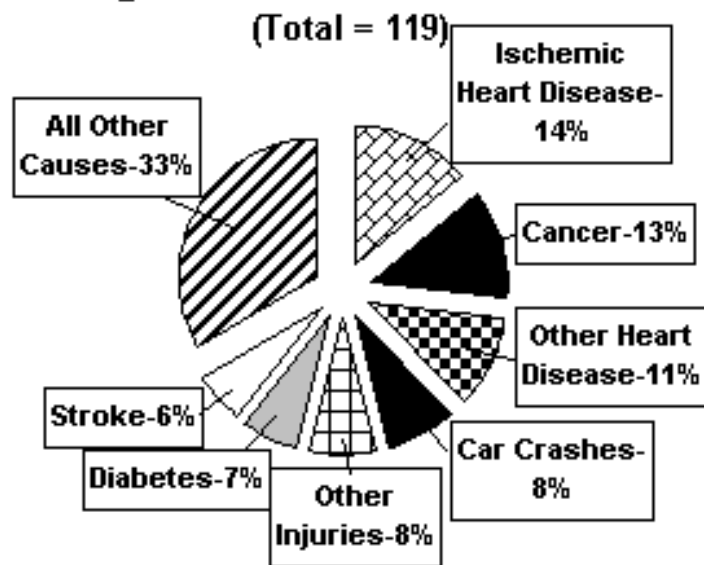
Life expectancy refers to the number of years a person can expect to live and usually is measured from birth. Native American residents of Whatcom County have far lower life expectancies than either all county residents or the Native American population of the United States as a whole (Figure 8).



Leading causes of death

In 1989-93, the leading cause of Native American deaths among Whatcom County residents was heart disease, which most research says is due to lifestyle choices around eating, alcohol consumption and exercise (Figure 9). Cancer was the second-leading cause with lung cancer causing 40 percent of all cancer deaths. Fatal car crashes were the third-leading cause of death.

Figure 9
Leading Causes of All Deaths 1989-93



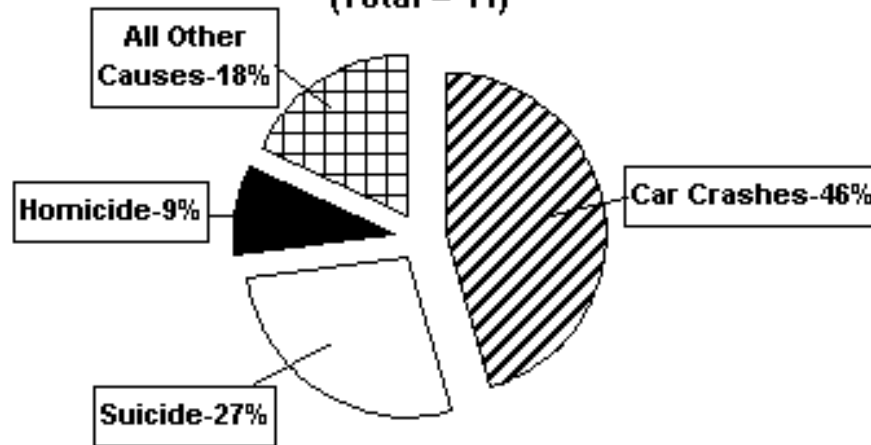
Causes of death among children and young adults

There were only two deaths of Native American children between the ages of 1 and 14 from 1989-93 in Whatcom County, too few for analysis. There were 11 deaths among Native American young people aged 15-24, with car crashes as the leading cause (Figure 10).

Considerable research has shown that injuries such as car crashes, suicides and homicides can be prevented. From this perspective, at least nine of these 11 deaths among Native American young people were preventable.

Figure 10
Leading Causes of Death
For Ages 15-24, 1989-93

(Total = 11)

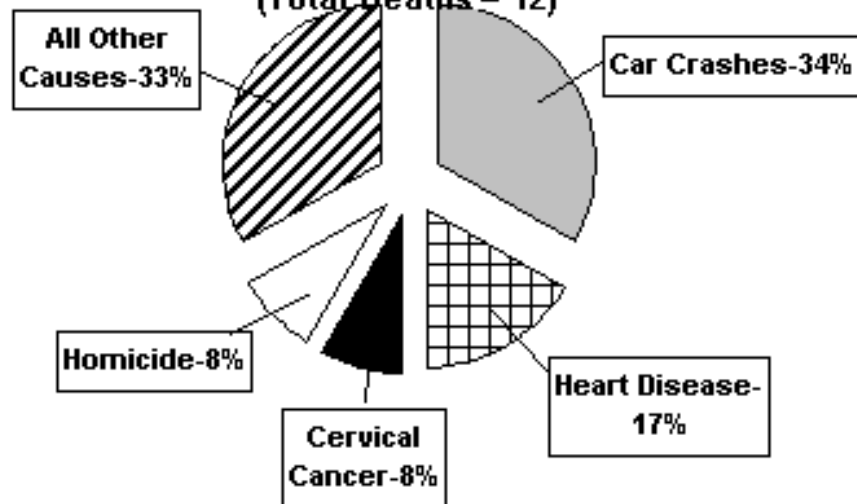


Causes of adult deaths

Injuries also were leading causes of death among Native American residents aged 25-44 (Figure 11).

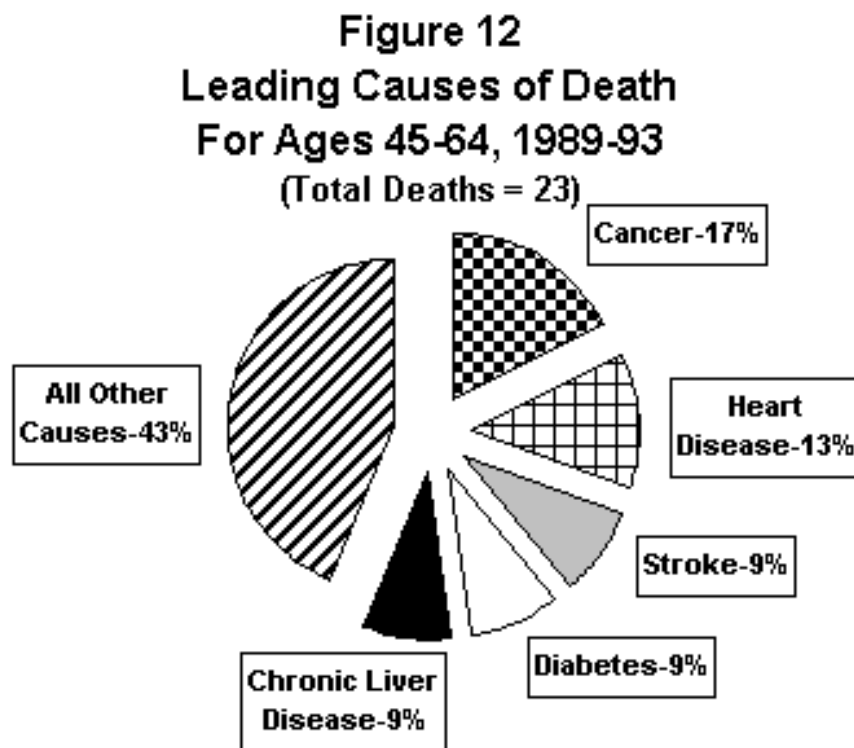
Figure 11
Leading Causes of Death
For Ages 25-44, 1989-93

(Total Deaths = 12)



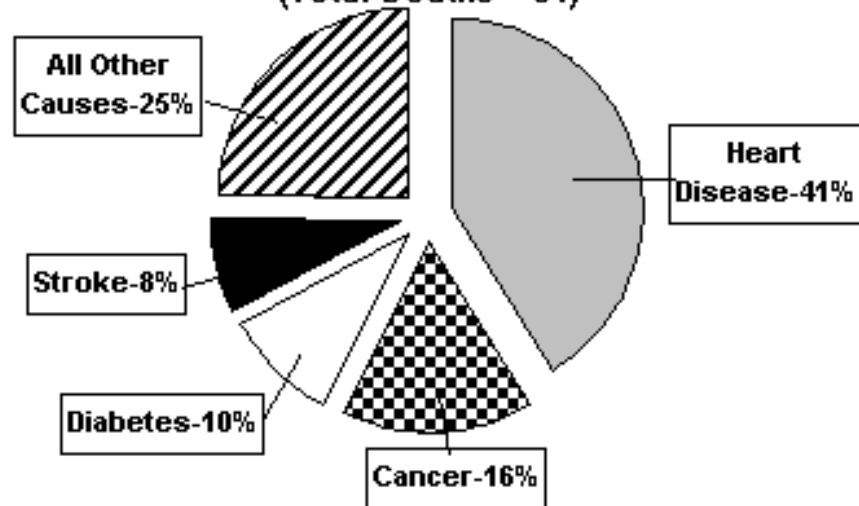
In general, one does not expect people in this age group to die of heart disease, although they may become ill from it, and cervical cancer is curable, so eight of these deaths were preventable.

In the older age groups, chronic diseases become the leading causes of death. Twenty-three Native Americans aged 45-64 died in the 1989-93 time period. Cancer and heart disease were the leading causes of death (Figure 12).



Heart disease was by far the leading cause of death among the oldest Native American residents (Figure 13).

Figure 13
Leading Causes of Death
For Ages 65+, 1989-93
 (Total Deaths = 61)



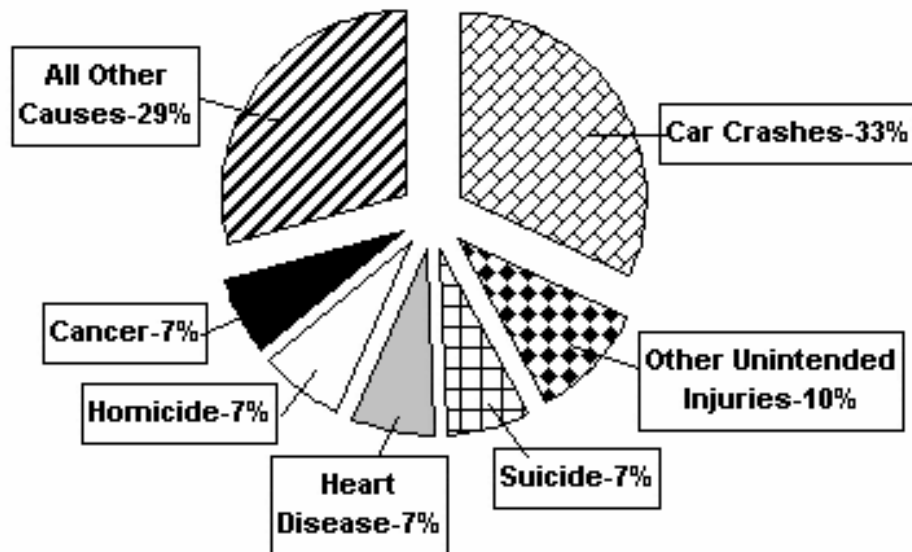
Years of potential life lost

When reporting causes of adult deaths, each death was treated equal to all other deaths regardless of how old the person was when he or she died. This means chronic diseases appear to be more important causes of death because so many deaths occur after age 65 when chronic illnesses emerge as a natural consequence of aging.

Another approach to ranking causes of death is one that calculates how many years each person who died would have lived. The result of this calculation is called Years of Potential Life Lost (YPLL). In this calculation, deaths before the first birthday are excluded, and it is assumed that everyone will live to be at least 65 years old.

When the YPLL calculation is applied to Native American deaths among Whatcom County residents from 1989-93, the impact of injuries is highlighted (Figure 14). Car crashes are the leading cause of death; in addition, suicide, homicide and unintended injuries become more important. Heart disease and cancer are dwarfed by the impact of injuries.

Figure 14
Causes of Potential Life Lost, 1989-93



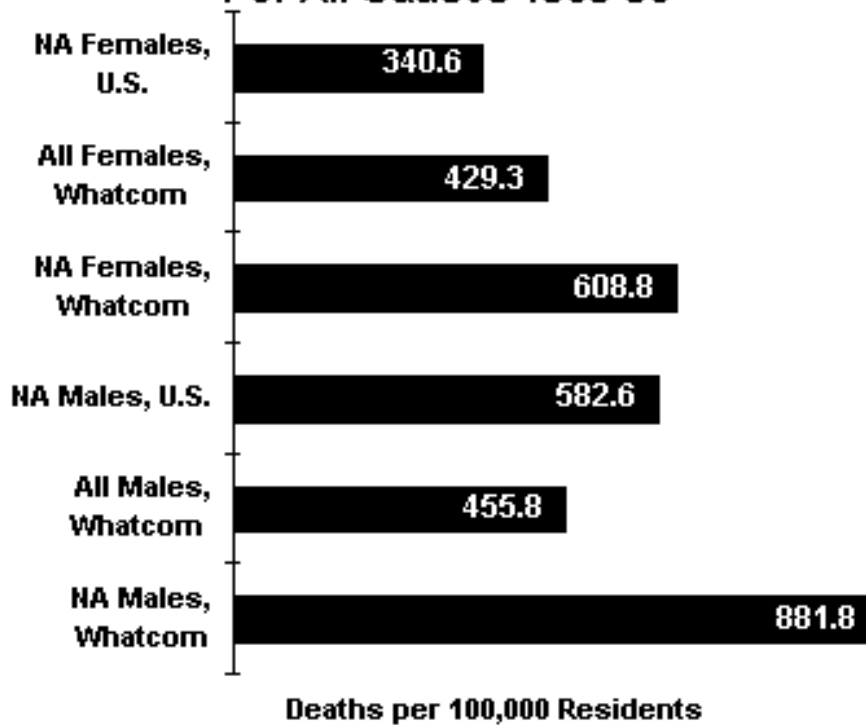
Age-adjusted death rates

To confirm whether Native American deaths are as different as prior charts indicate, another analysis called age-adjusted death rates was computed for all causes of death and some selected causes. In general, the younger the population, the lower the death rates, therefore by using age-adjusted death rates, the differences in age composition are equalized.

Deaths from all causes

Age-adjusted death rates from 1989-93 for all causes were higher among Whatcom County's Native Americans than they were among either all county residents or U.S. Native Americans (Figure 15).

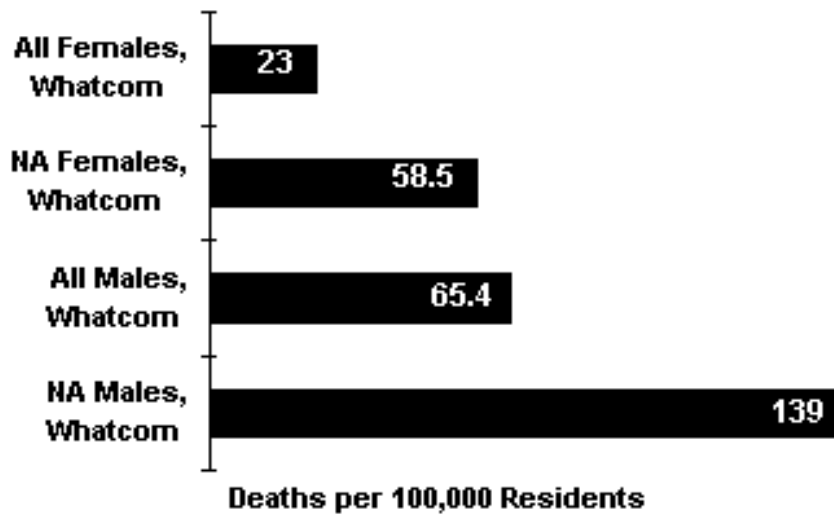
Figure 15
Comparing Age-Adjusted Death Rates
For All Causes 1989-93



Injury-related deaths

Injuries account for many of the preventable deaths among Whatcom County Native American residents. Both Native American males and females have age-adjusted death rates more than twice those of all county residents (Figure 16).

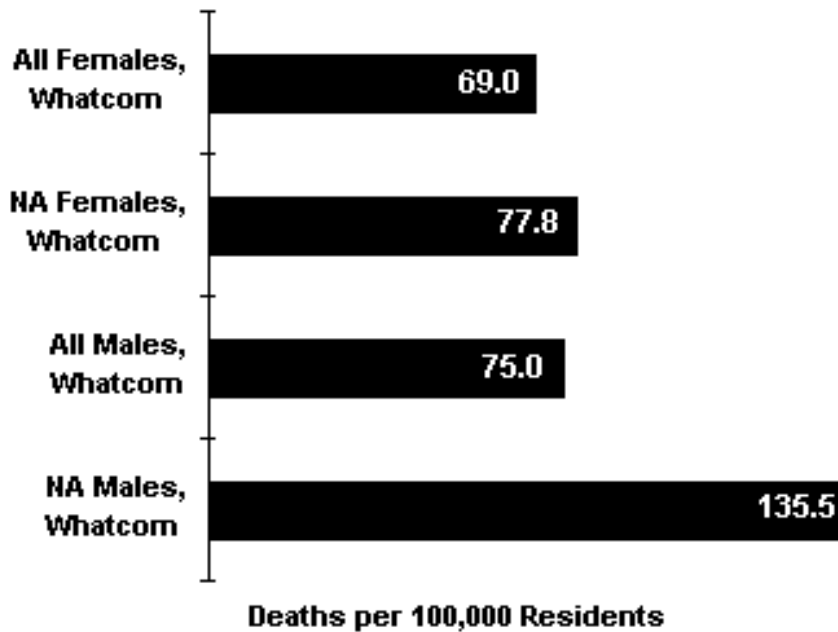
Figure 16
Comparing Age-Adjusted Death
Rates For Injuries 1989-93



Chronic disease deaths

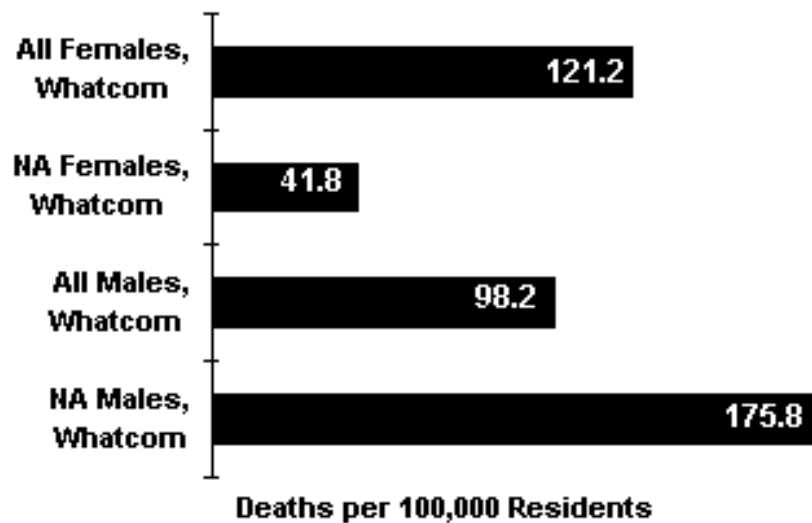
Disparities also exist between Native American residents of Whatcom County and all residents in terms of deaths caused by chronic diseases. Death rates from heart disease are higher in Native American males (Figure 17).

Figure 17
Comparing Age-Adjusted Death Rates
For Heart Disease 1989-93



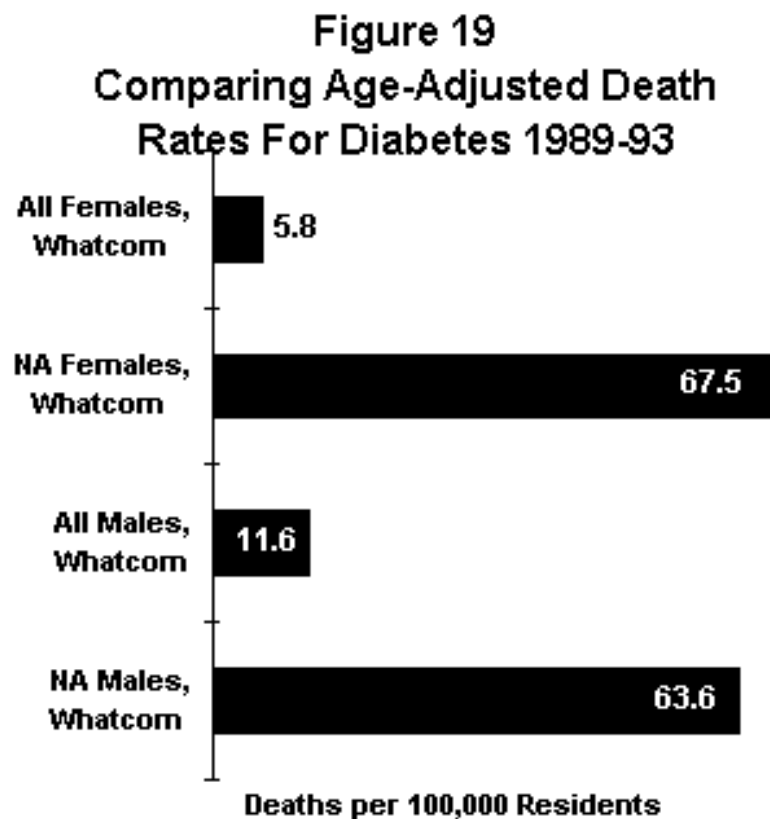
The cancer death rate also is higher among Native American males in comparison to all Whatcom County residents (Figure 18).

Figure 18
Comparing Age-Adjusted Death
Rates For Cancer 1989-93



Diabetes

was the third leading cause of chronic disease-related deaths among Whatcom County's Native American residents from 1989-93. Death rates from diabetes were several times higher among the county's Native Americans than among all residents (Figure 19).



Summary

Relative to either all U.S. Native Americans or all Whatcom County residents, Native American residents in Whatcom County have lower life expectancies and higher age-adjusted death rates, especially from injuries and diabetes. Native American women do not have higher death rates from ischemic heart disease and cancer, but Native American men do. Injuries are leading causes of death among Native American youth and young adults in Whatcom County.

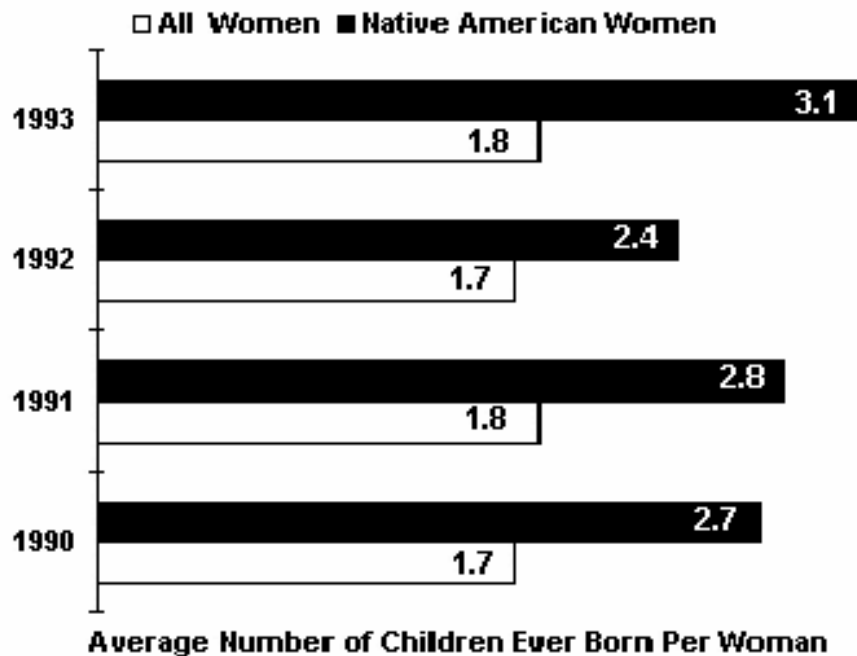
Pregnancy

Many health indicators focus on pregnancy because the things that happen to pregnant women and their babies reflect the overall health status of communities.

On average in each year between 1980 and 1993 about 100 Native American women who live in Whatcom County gave birth.

Birth rates tell only a part of the picture about childbearing in a population. The preferred measure is the total fertility rate, which is an estimate of the number of children the average woman will have during her childbearing years (considered ages 15-44). Native American women have higher total fertility rates than Whatcom County women as a whole (Figure 20). There is some indication the Native American total fertility rate may be rising.

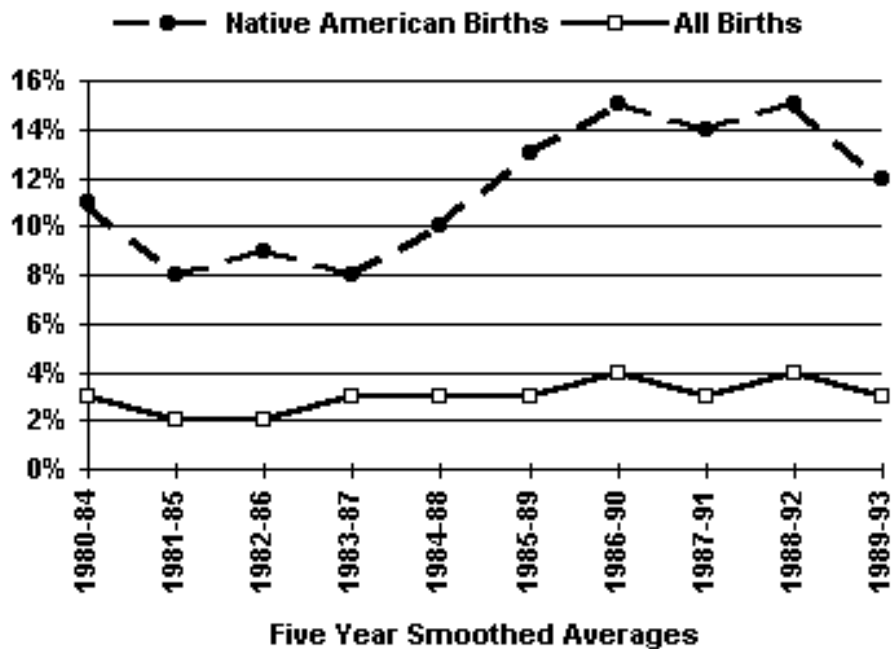
Figure 20
Comparing Total Fertility Rate 1990-93



Maternal age

The proportion of Native American mothers in Whatcom County who are younger than 18 years old has risen. This is different from the trend seen among all county mothers, which has remained about the same (Figure 21). In each time period, the proportion of Native American mothers who were younger than 18 was at least three times the proportion of all mothers in the county.

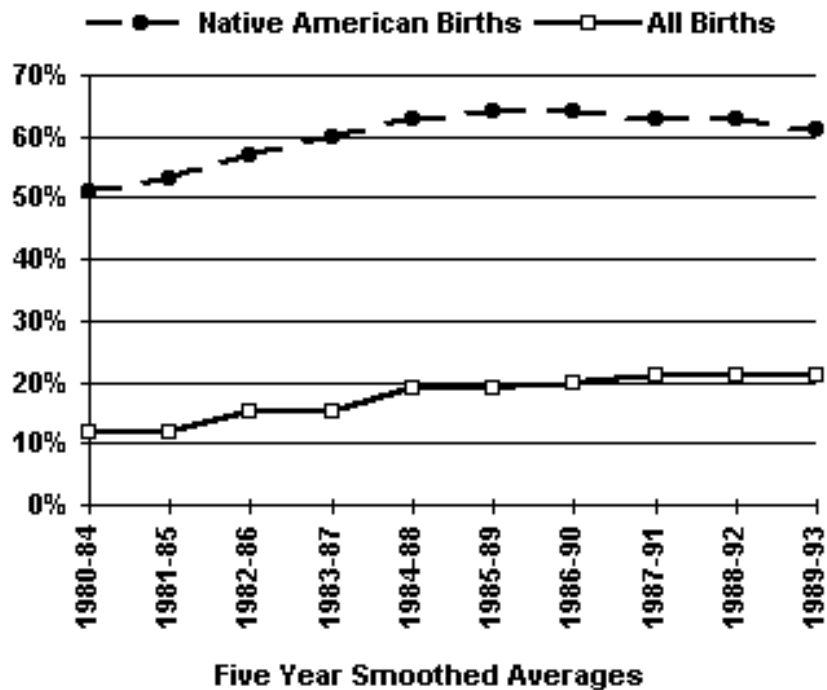
Figure 21
Comparing Births to Mothers <18, 1980-93



Maternal marital status

At least half of all Native American mothers were single at the time they gave birth, and the trend is continuing upward. In this report, the term single includes never married, widowed, divorced and separated. There were always about three times as many single mothers among Native Americans as there were among all county mothers (Figure 22).

Figure 22
Comparing Single Mothers 1980-93

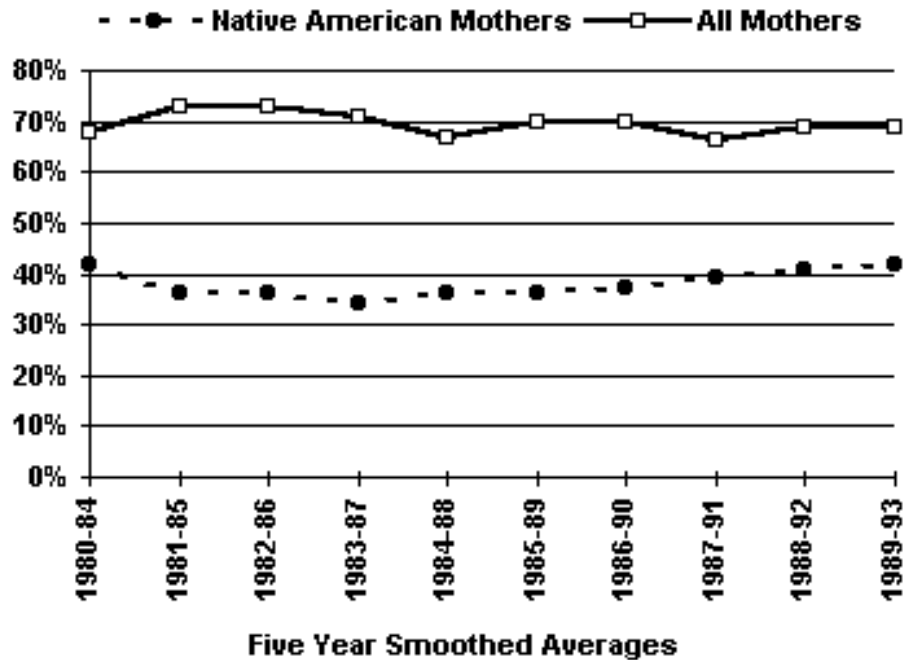


First trimester prenatal care

Prenatal care begun early in pregnancy and performed on a regular schedule is associated with low levels of complications and with healthy babies.

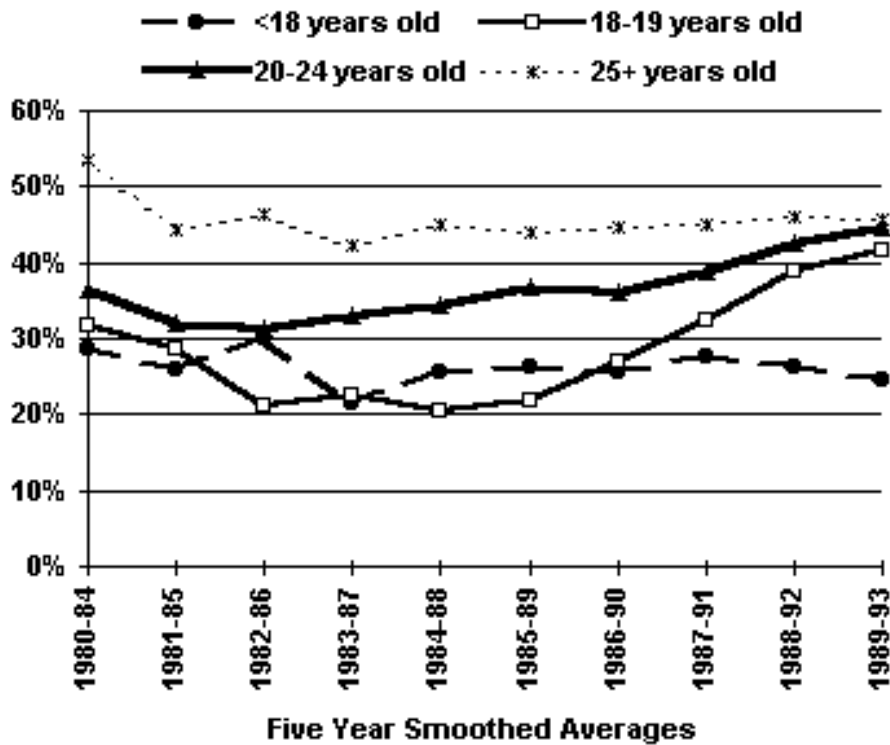
Between 1980 and 1993, the proportion of Native American mothers who began prenatal care in the first trimester was much smaller than that for all county mothers (Figure 23).

Figure 23
Comparing First Trimester
Prenatal Care 1980-93



Between 1980 and 1993, the youngest Native American mothers in Whatcom County were the least likely to get early prenatal care (Figure 24). Among the next two age groups, Native American mothers aged 18-19 and 20-24, the proportion receiving early prenatal care rose. However, among Native American mothers aged 25 and older, the proportion receiving early prenatal care fell.

Figure 24
Comparing First Trimester Prenatal Care
By Age 1980-93



Trends in early prenatal care differed between married and single Native American mothers. The proportions of single mothers receiving early care has remained about the same, but there has been an increase among married women (Figure 25).

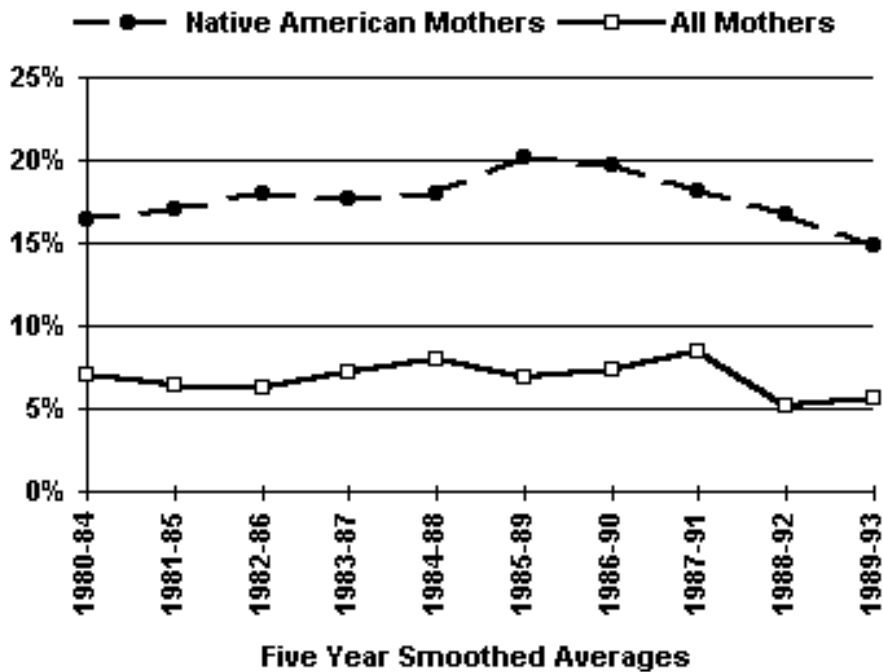
Figure 25
Comparing First Trimester Prenatal Care
By Marital Status 1980-93



Late or no prenatal care

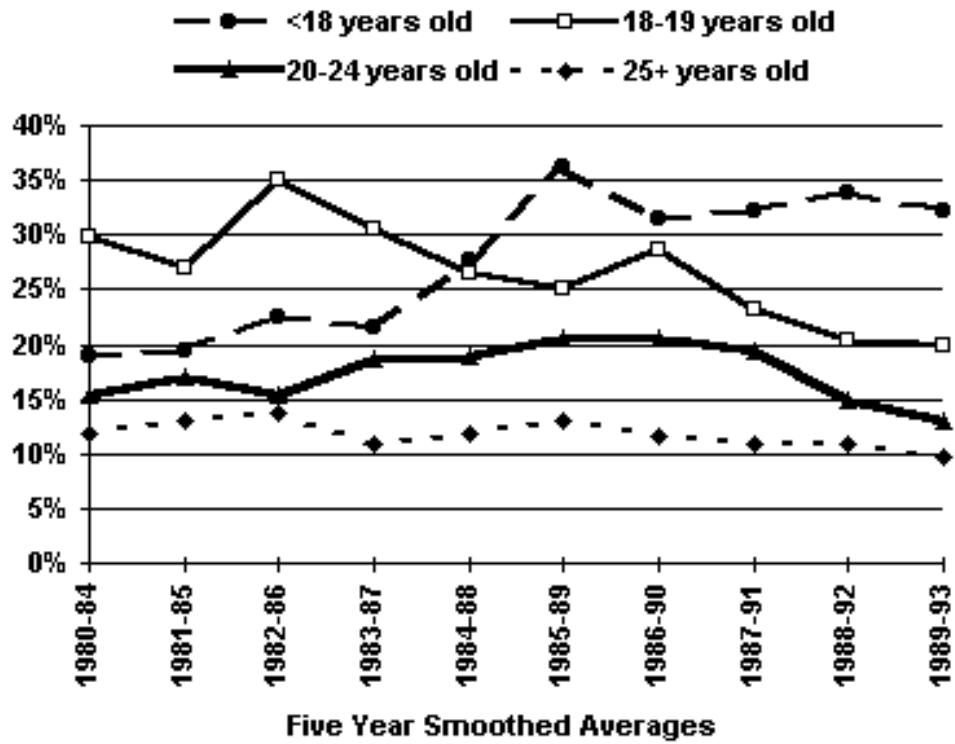
Pregnant women who get late prenatal care (care that begins after the sixth month of pregnancy) or no care at all are more generally more likely to deliver unhealthy babies. Native American mothers in Whatcom County are at least twice as likely as all county mothers to have late or no prenatal care (Figure 26).

Figure 26
Comparing Late or No Prenatal Care 1980-93



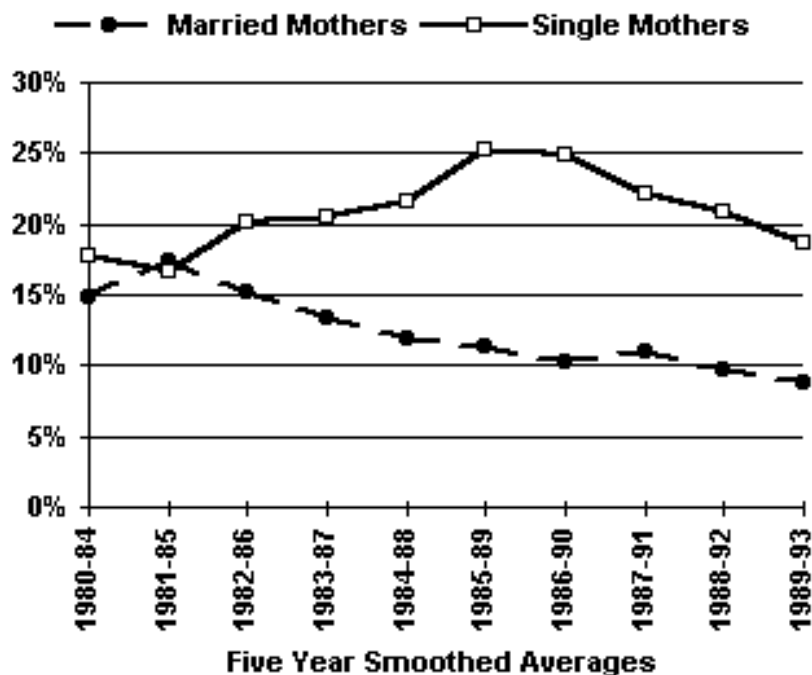
The younger the Native American mother, the greater the proportion getting late or no prenatal care (Figure 27). In 1989-93, almost one-third of Native American mothers younger than 18 received late or no prenatal care.

Figure 27
Comparing Late or No Prenatal Care
By Age 1980-93



Among married Native American mothers, the proportion getting late or no prenatal care has decreased over time (Figure 28). The opposite trend is seen among single Native American mothers.

Figure 28
Comparing Late or No Prenatal Care
By Marital Status 1980-93

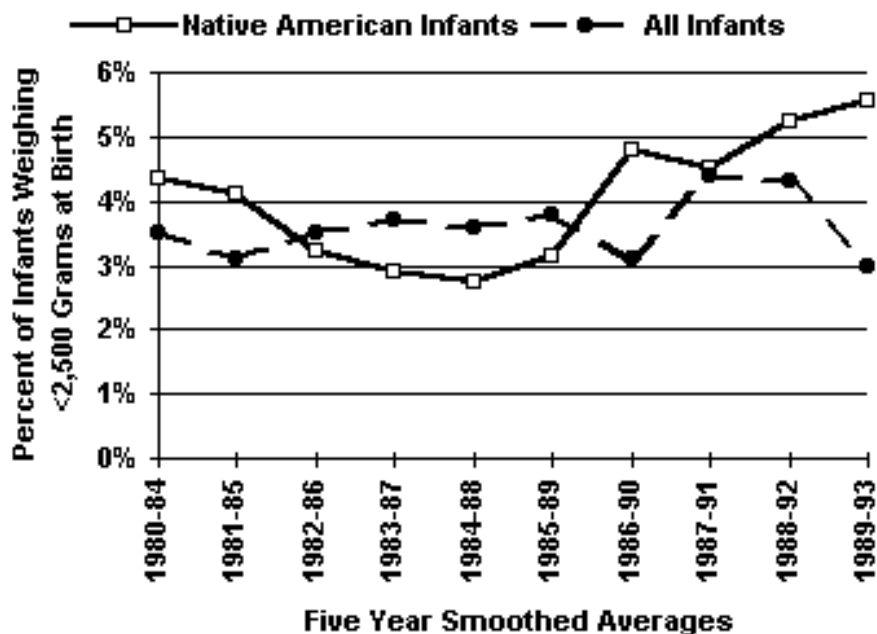


Low birth weight

Infants who weigh less than 2,500 grams or about 5.5 pounds are considered to have low birth weight. In general, these babies are too small and too sick to survive easily and often require intensive medical intervention to help them. Even if they do survive, they often have handicapping conditions that impact the quality of their lives.

Rates of low birth weight among babies born to Native American mothers in Whatcom County are similar to those of all county residents but are beginning to climb (Figure 29).

Figure 29
Comparing Low Birthweight 1980-93

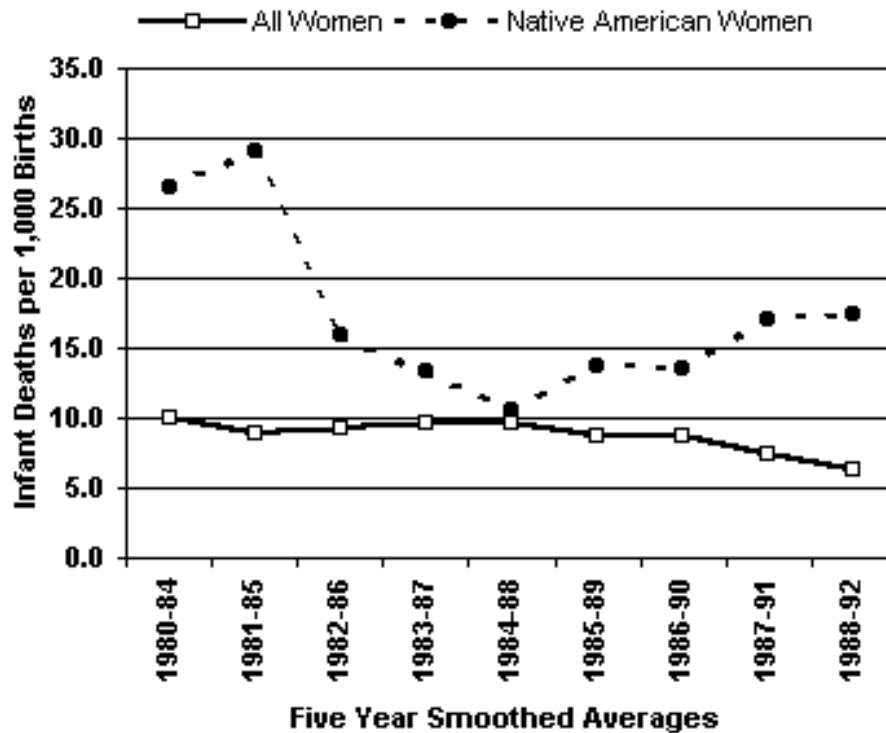


Infant death rate

the number of babies who die before their first birthday for every 1,000 babies born is widely considered to be the best indicator of both healthy pregnancies and healthy communities.

Whatcom County's Native American infant death rate exceeded that of all babies for every period between 1980 and 1992 (Figure 30). (The mother's race was used as the indicator of the baby's race on death certificates.) However, these rates are based on very small numbers of deaths and need further statistical analysis. This analysis shows that the difference between Native American infant death rates and those for the entire county was significant only in 1980-84, 1981-85, 1987-91 and 1988-92.

Figure 30
Comparing Infant Death Rates 1980-92



Summary

Relative to all mothers in Whatcom County between 1980 and 1993, Native American mothers were younger and more often single. They were several times more likely not to get early prenatal care and to get late or no care. Their babies were no more often low birth weight than all babies in the county but, in most periods, their infant mortality rate was higher.

The data in the previous section indicate that Whatcom County's Native American population generally lives in extreme social and economic disadvantage. Data in this section indicate that rates of pregnancy-related health indicators are worsening among Native American women but not for all county mothers. Steps should be taken to determine the causes of these changes and, in particular, to identify links between the decline and the living conditions of the Native American community.

The Health of Native Americans in Whatcom County (1997)

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Health Status Report: Oral Health in Whatcom County

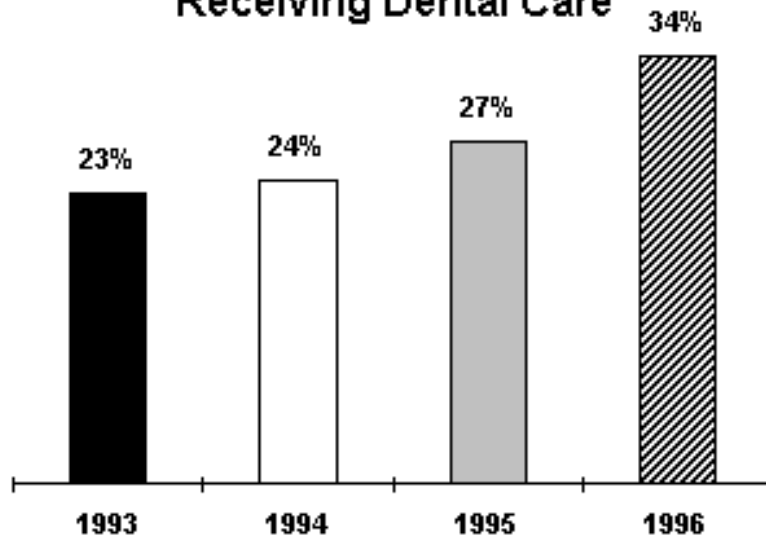
There have been many advances in dental care over the past 10 to 15 years, for example, implant and sealant technology and understanding that cavities are caused by communicable bacteria. But oral diseases are still among the most prevalent chronic human conditions in the world today. They can begin in childhood and often increase in severity as a person ages. In the United States, 95% of all people are afflicted by tooth decay, gum disease and other oral conditions; yet these conditions are all preventable.

Prevention of oral diseases is currently based on receiving regular dental services, which are funded by insurance or self-pay by the individual or family. It is estimated that about 60% of Americans lack dental insurance, so lower income families are less likely to have the dollars available to pay for preventive services. Poverty is the greatest barrier to prevention of oral diseases.

Medicaid-eligible children

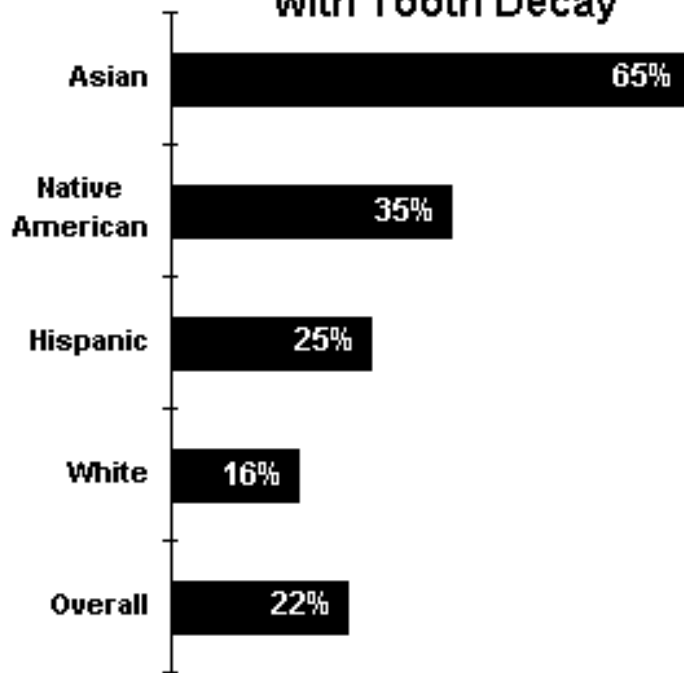
There is no single source of data about oral diseases currently available. However, the Washington State Department of Social and Health Services keeps data about low income children who are eligible for Medicaid. In Whatcom County, between 1993 and 1996, the percent of Medicaid-eligible children who received dental care increased, but still two-thirds of the children did not receive dental care (Figure 1).

Figure 1
Percent of Medicaid-Eligible Children
Receiving Dental Care



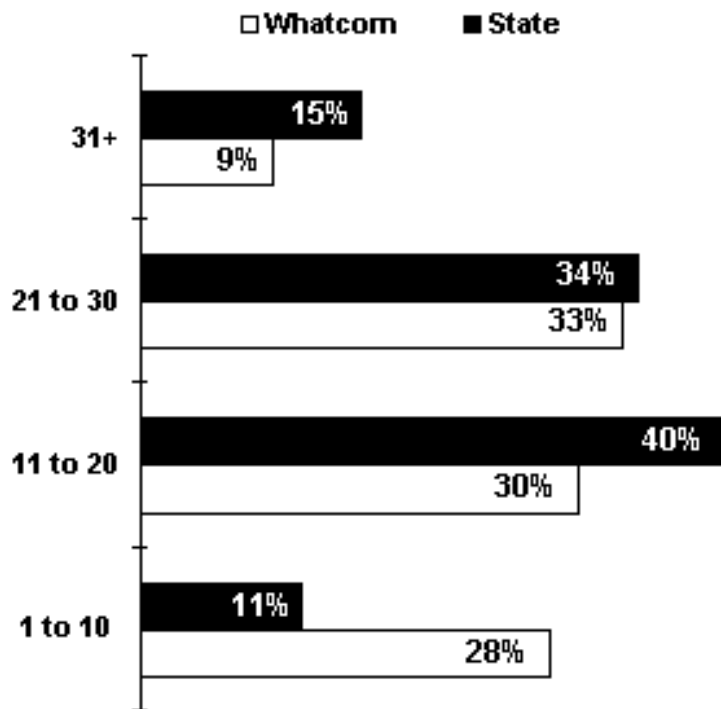
Other data that is applicable locally is from the Washington State Smile Survey done in school year 1993-94 (Whatcom County was a sample site in that survey). It showed that nearly 75% of childhood tooth decay is concentrated in just 25% of school-age children. Further, children in racial/ethnic minorities who are more likely to lack dental insurance, had more decay present than white children (Figure 2).

Figure 2
1994 Head Start Children
with Tooth Decay



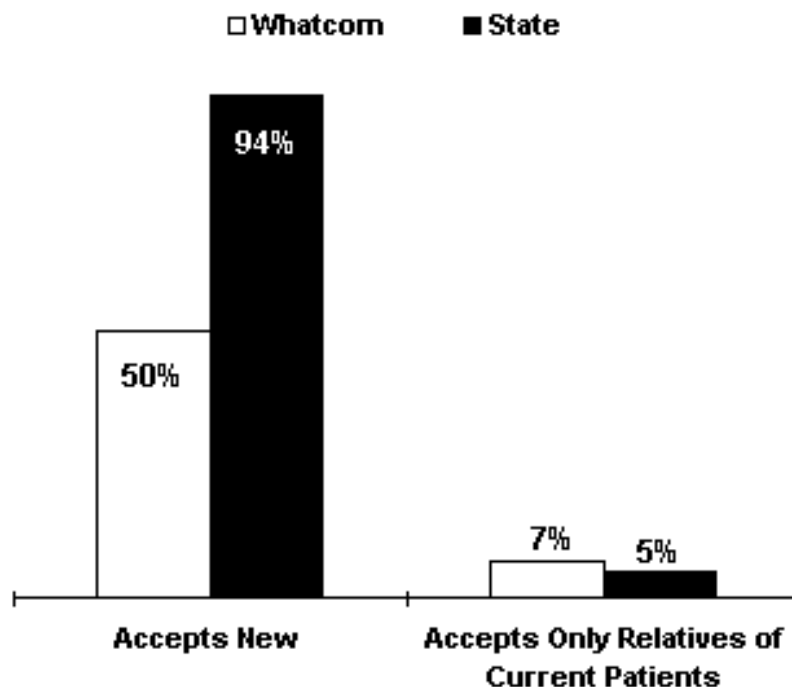
In Whatcom County, there are approximately 80 dentists in private practice and dental clinics at Bellingham Technical College, Interfaith Family Health Clinic, SeaMar Community Health Center and Lummi Indian Health Center available to provide services. Compared to the rest of Washington State, twice as many of the dentists are newer to the field of dentistry and have been in practice less than 11 years (Figure 3).

Figure 3
Comparing Years in Dental Practice



Only half of county dentists accept new patients compared to almost all the dentists in the rest of the state (Figure 4). During 1996, there were 54 local dentists enrolled to accept Medicaid patients. Of those 54, eight dentists saw more than 100 Medicaid-eligible children each, which was in addition to children seen at the Bellingham Technical College and Interfaith clinics.

Figure 4
Comparing Acceptance of New Patients



Fluoridating public water supplies

Community water fluoridation is the most effective and least expensive way to prevent tooth decay and reduce the need for and cost of dental treatment. Children who grow up in communities with appropriate concentrations of fluoride in their drinking water (about one part per million) have 30%-60% less tooth decay and adults have 17%-35% less decay.

The Centers for Disease Control and Prevention (CDC) reports that 62% of the U.S. population using public water supplies receives fluoridated water. In Washington State, 42% of people are served by fluoridated public water systems. In Whatcom County, only 9% of the population (those living in Lynden) receive fluoridated water.

Because 91% of Whatcom County residents are not receiving optimally fluoridated water, the use of self-administered fluoride is indicated, either as pills or as a gel. Root and smooth surface tooth decay can be reduced 20%-40% by regular self-application of fluoride or when topical fluoride is periodically applied by a professional.

Oral health in seniors

There is no local data currently available about the oral health status of Whatcom County seniors, but it is known that more and more older Americans are retaining their natural teeth. In 1957, 68% of those age 65 and older had no remaining natural teeth, but in 1987, only 36% had lost all their natural teeth. Those individuals with some teeth left often have one or more removable dentures or partial dentures. Food debris easily sticks beneath dentures, which can cause soft tissue infections leading to tooth decay and loss of the remaining teeth. Older

adults also often take medications that cause mouth dryness. This dryness makes the tissues more susceptible to oral diseases. These risk factors mean that preventive dental services are important throughout a person's life.

Oral cancer

In the five years between 1989 and 1993, six Whatcom County residents died of oral cancer. All were white; three each were men and women. Five of the six had smoked within the previous 15 years, a significantly greater proportion of smokers than found among people dying from other causes. Smoking contributes to oral disease as well as to lung cancer, heart disease and other chronic illnesses.

Oral Health in Whatcom County (1997)

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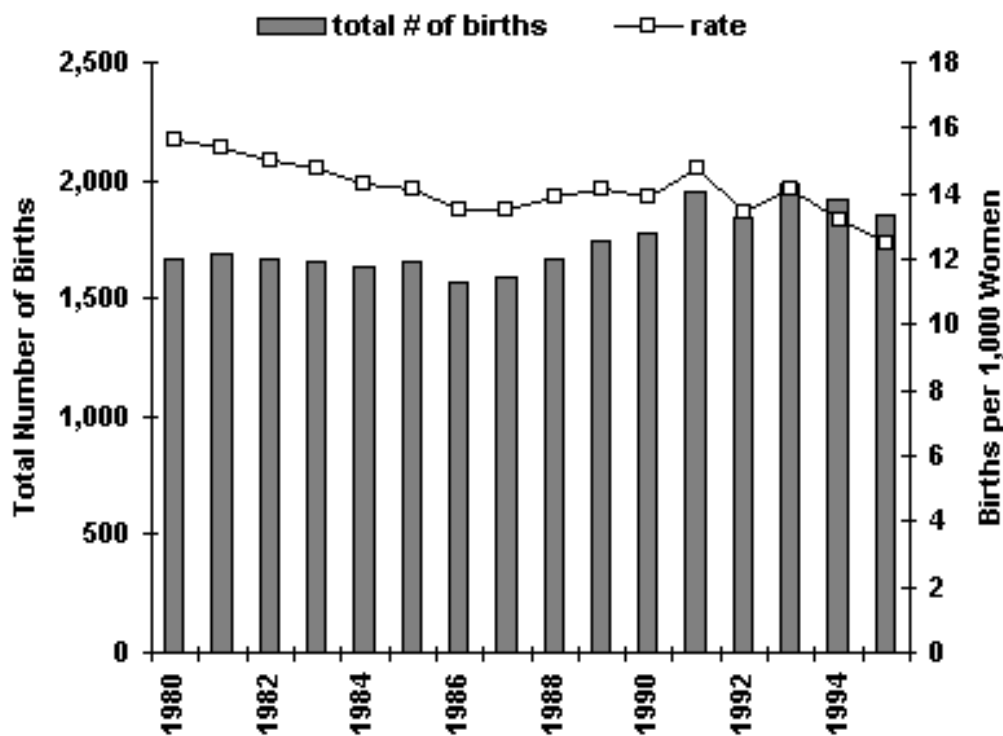
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Health Status Report:
Pregnancy in Whatcom County

Births to county residents

Between 1980 and 1995, the number of births per year to Whatcom County residents increased from 1,669 to 1,850, or approximately 11%. However, in the same period, the total population of the county increased 42%. Therefore, although the number of births increased, the birth rate actually decreased, from 15.6 to 12.5 births per 100,000 (Figure 1).

Figure 1
Number and Rate of Births
to Whatcom County Residents

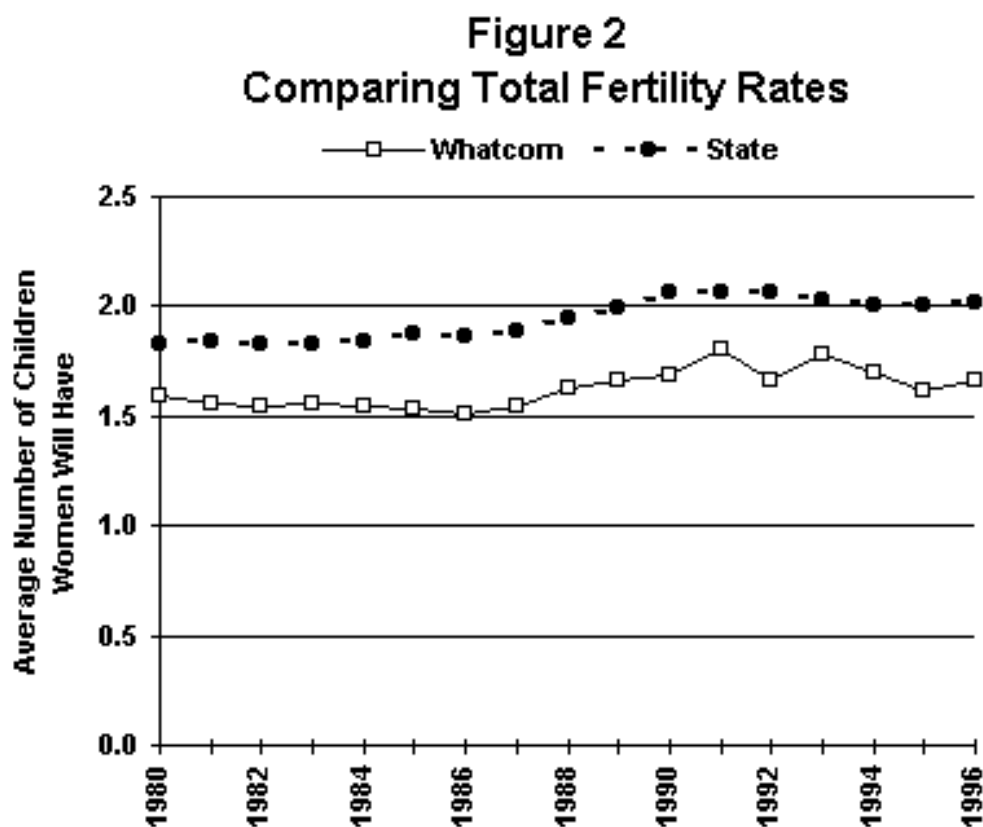


So how much of the increase in births occurred because there were simply more women of childbearing years living here? This question can be answered by calculating a measure called the total fertility rate. This is a hypothetical measure that estimates how many children a woman might have if the age-specific birth rates at a certain point in time continued throughout

her childbearing years (considered as between the ages of 15 and 44).

A total fertility rate of 2.1 is necessary for a couple in one generation to be replaced in the next generation and so is called "replacement fertility." Fertility rates higher than that indicate population growth, while lower rates indicate population decline.

In the past decade, fertility rates in the United States and Washington State have fluctuated between replacement and slightly below replacement. Fertility rates in Whatcom County have consistently been 10%-20% lower than those in Washington State (Figure 2).



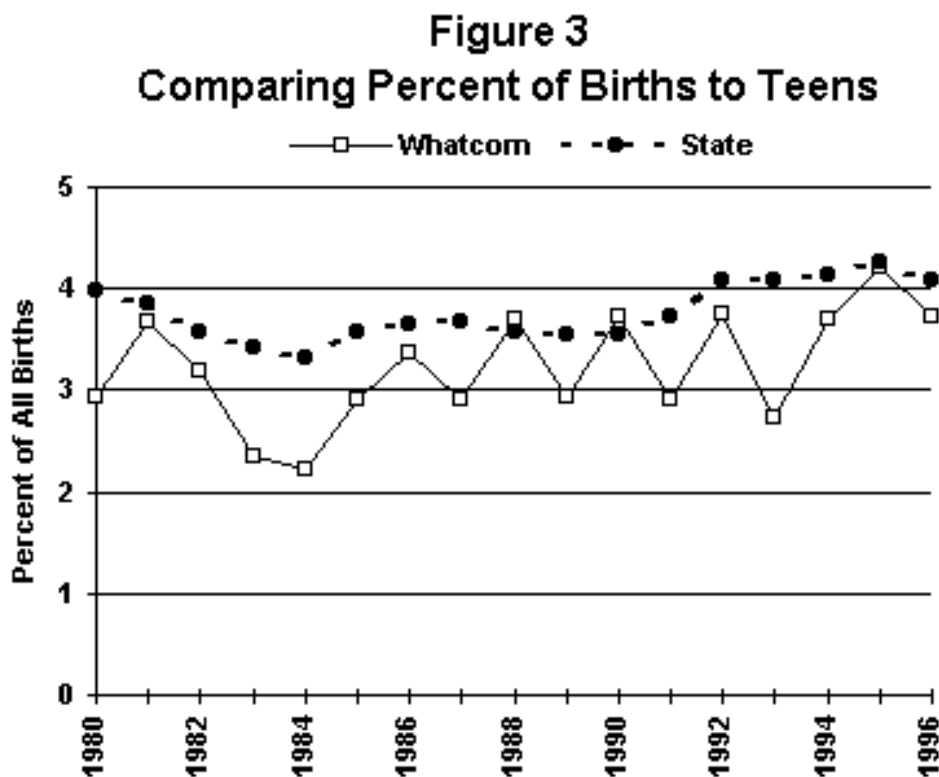
One reason for the overall lower fertility levels in Whatcom County may be the large number of students who attend college here. Most female students, although technically in their childbearing years, are not seeking to become pregnant. Since these young women are included in the Census and the fertility calculation, the total fertility rate is lower than what normally would be expected.

Teen mothers

Since the late 1960s, there has been evidence that teen mothers, meaning those who probably have not yet completed high school, often suffer negative economic consequences. (The exception is teens who allow their infants to be adopted, which occurs less than 5% of the time.) These consequences occur in part because their education is interrupted; and in a competitive labor market, those with low educational levels often are stuck in the lowest-paying positions.

Between 1980 and 1995 in Whatcom County, the percent of births to teen mothers fluctuated

between a high of 4.2% and a low of 2.2%, which was the same as or slightly below Washington State (Figure 3). This means that annually approximately 50 girls younger than 18 had a baby in Whatcom County. This number has not changed greatly in 10 years.

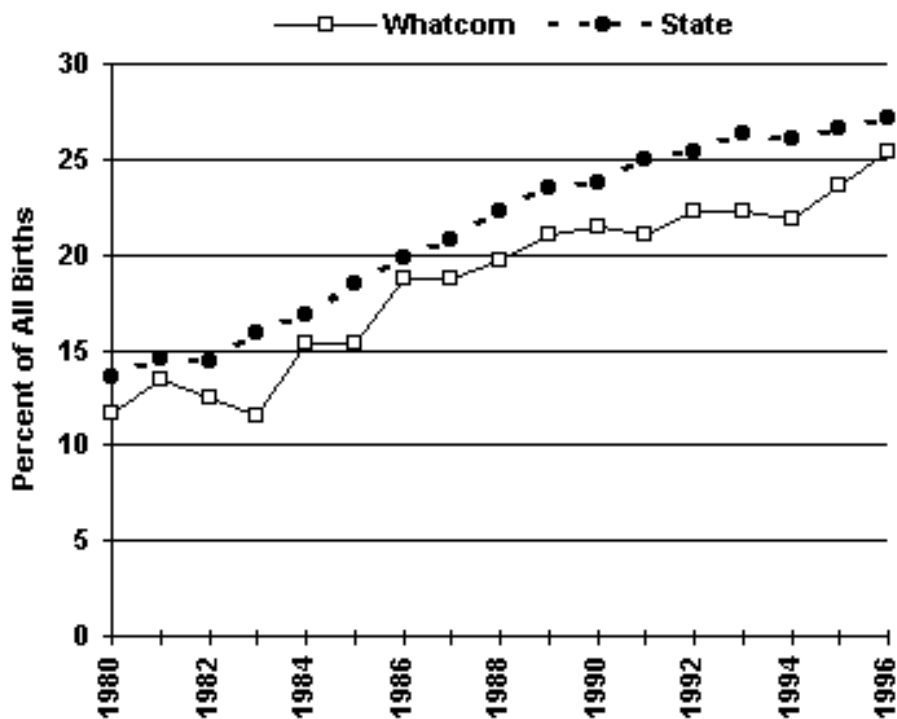


Single mothers

One of the major changes during the past 16 years has been the rise in childbearing among single women, defined as females who were unmarried when they gave birth. Most research indicates that children born to single mothers are more likely to live in poverty at least for part of their childhood. This in turn has a great impact on their health status and access to services.

In both Whatcom County and Washington State, the percent of births to single women has more than doubled between 1980 and 1995 (Figure 4). This means that of the babies born in 1980 for which there is information about marital status, 195 were born to single mothers. By 1995, the number was 468 babies.

Figure 4
Comparing Percent of Births to Single Mothers

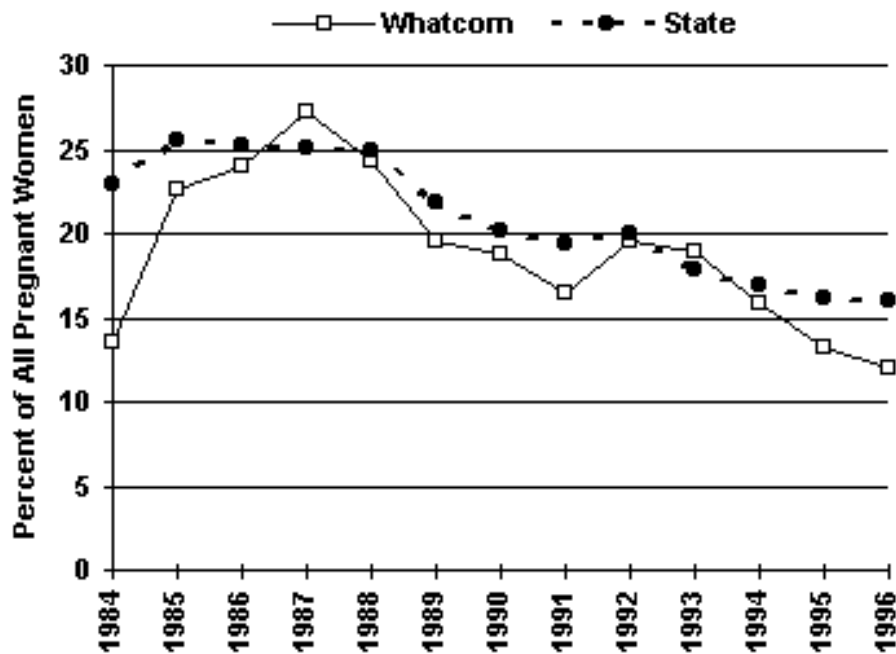


Smoking during pregnancy

Smoking during pregnancy is associated with an increased risk of fetal and infant death. Some of this increased risk can be explained by the link between smoking and higher rates of low birthweight, which itself is a risk factor for infant death. Smoking in pregnancy also is associated with premature births, spontaneous abortions, stillbirths, and after the infant is born, with Sudden Infant Death Syndrome (SIDS).

The number of women who smoke during pregnancy is taken from data collected on the birth certificate. The percent of women who smoke while pregnant has been very similar in both Whatcom County and Washington State, although the county percentage was lower in the early 1980s (Figure 5). There was a decrease in both the county and state percentages between 1987 and 1996.

Figure 5
Comparing Percent of Pregnant Women Smoking

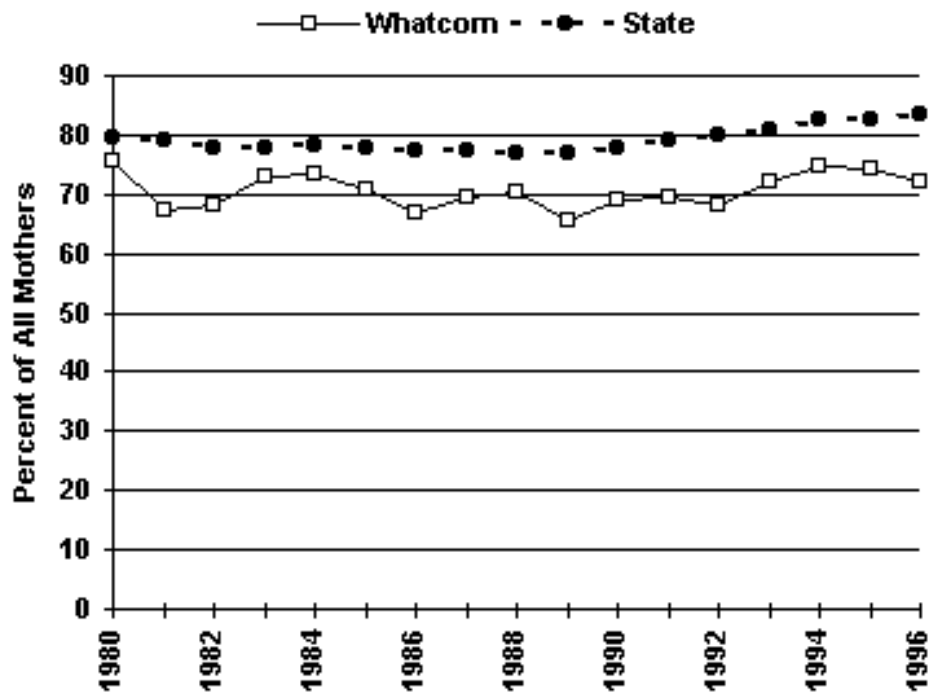


Timing of prenatal care

Early prenatal care is defined as care that begins in the first three months or first trimester of pregnancy and is important in ensuring healthy pregnancies and healthy babies. Pregnant women who start care in the first trimester tend to have less complicated pregnancies because problems can be identified and treated early. Women who do not initiate care early are typically younger, unmarried and poorer than other mothers. These social and economic disadvantages often create underlying health problems for the woman that, in turn, can affect her pregnancy.

The percent of all mothers in Whatcom County who began prenatal care in the first trimester remained around the 70% level between 1980 and 1996 (Figure 6). This is slightly below the percentage for Washington State, which showed a slight but steady increase from 79% to 83%.

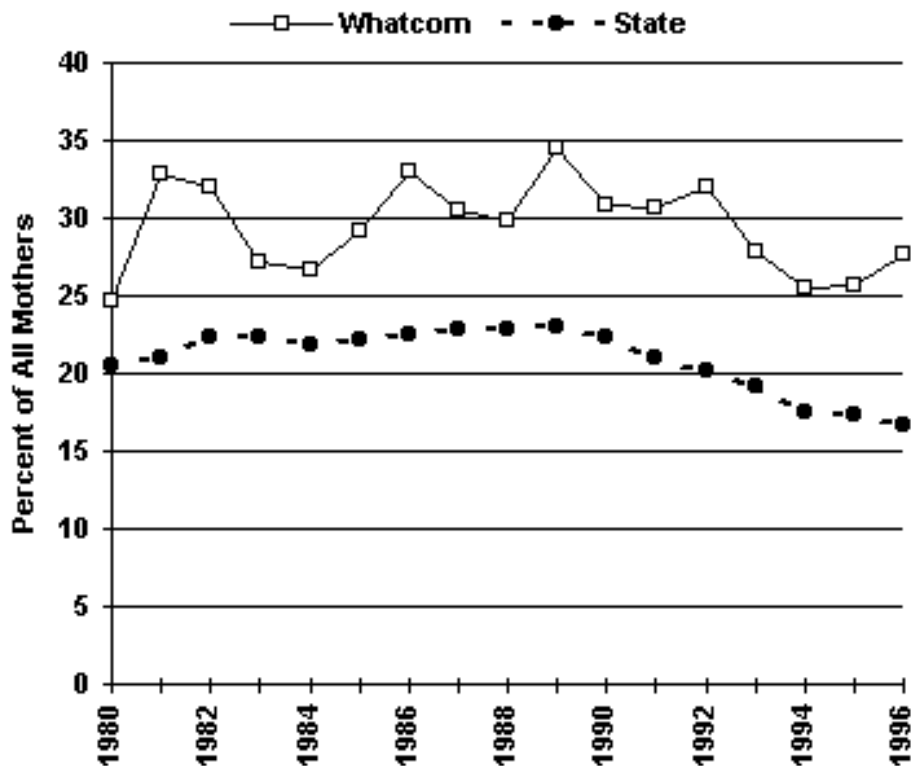
Figure 6
Comparing Percent of Women Receiving
1st Trimester Prenatal Care



Another method of measuring the adequacy of prenatal care is to look at how many women began prenatal care after the sixth month, which is considered late in a pregnancy, or received no care at all.

The state percentage decreased from 21% to 17% between 1980 and 1996; however, the county percent, which has fluctuated more, was 25% in 1980 and never again dropped below that (Figure 7).

Figure 7
Comparing Percent of Women Receiving
Late/No Prenatal Care



These differences in prenatal care utilization may need further analysis and qualitative approaches, such as focus groups, to plan appropriate interventions. At this point, it appears that a significant number of pregnant women in Whatcom County do not start their prenatal care at the recommended time.

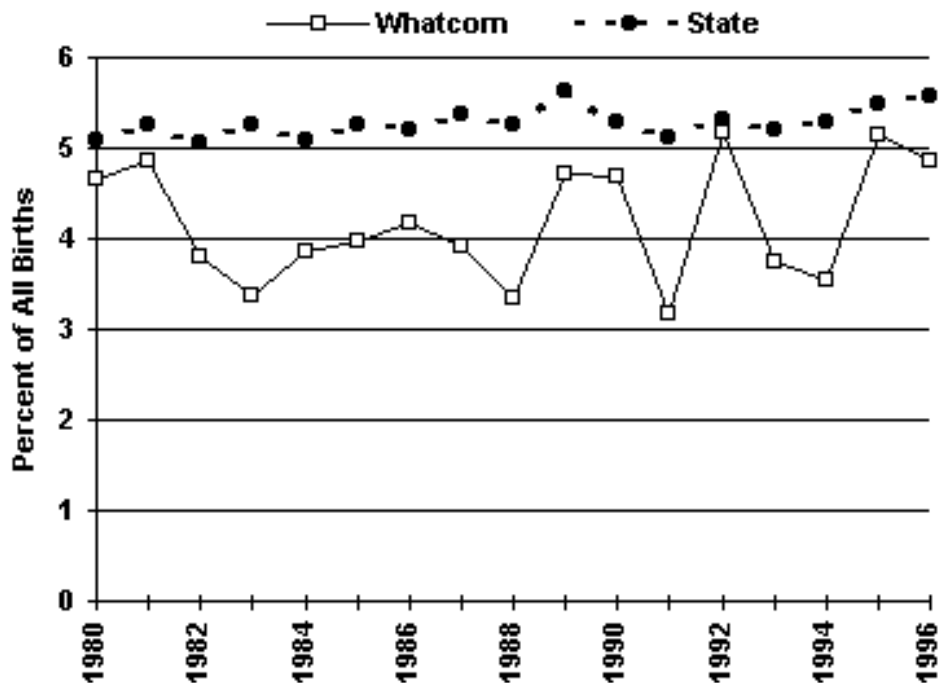
Infant birthweight

Low birthweight babies are born weighing less than 2,500 grams (about 5.5 pounds). Low birthweight babies face greater risk of dying as infants or, if they survive, of having handicapping physical and/or mental conditions.

The risk factors for low birthweight babies include poor maternal nutritional status, poor maternal weight gain, short intervals between pregnancies, smoking, and alcohol or drug use. Again, poverty and access to care play significant roles.

The percent of low birthweight babies born to Whatcom County residents has varied between 3.2% and 5.2%, which is slightly lower than the state percent. These percentages did not change significantly between 1980 and 1996 (Figure 8).

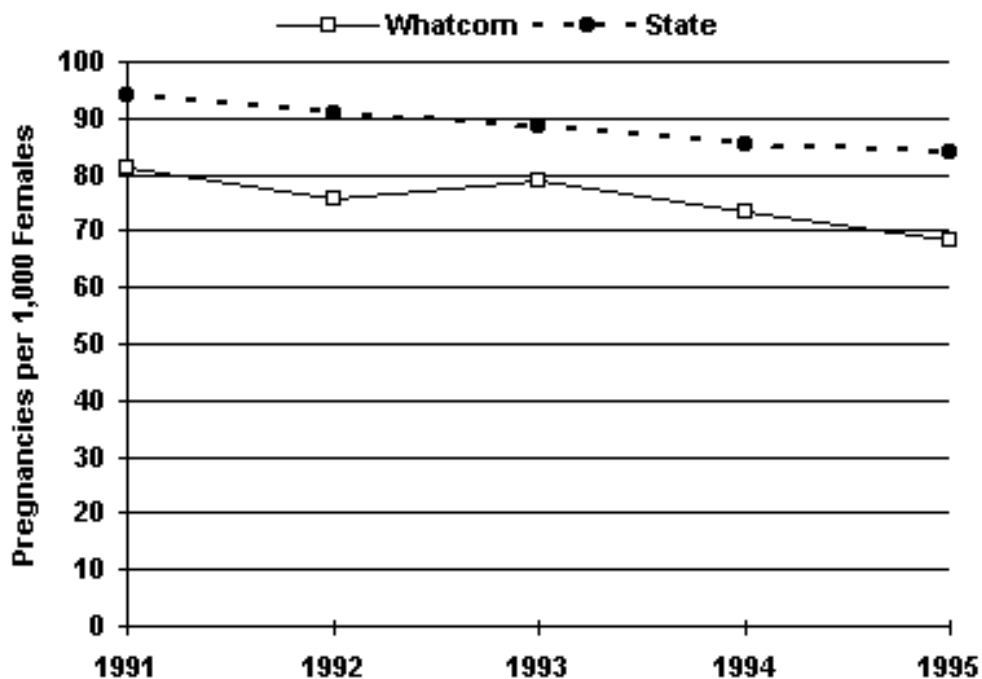
Figure 8
Comparing Percent of Low Birthweight Babies (<2,500 grams)



Pregnancy rates

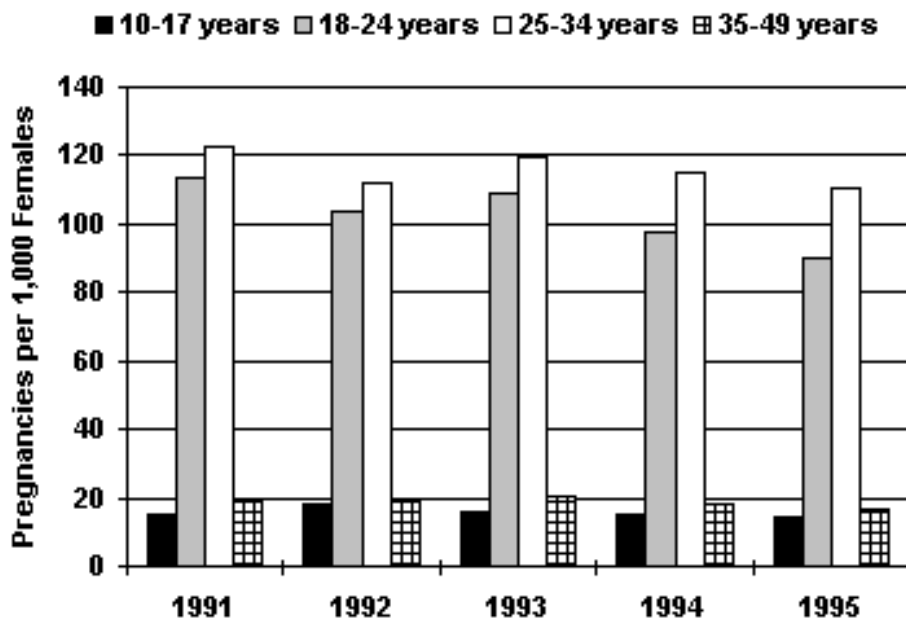
Pregnancy rates are calculated by adding the number of births and abortions in a given year and expressing that number in terms of 1,000 women. Pregnancy rates among Whatcom County women decreased between 1980 and 1995, which mirrors the state trend for the same time period (Figure 9). This data, plus the data on number of births, indicates that the total number of abortions has decreased in the past 15 years.

Figure 9 Comparing Pregnancy Rates



It is useful to compare the pregnancy rates (births + abortions) for different age groups in Whatcom County (Figure 10). The very youngest (10-17 years) and very oldest (35-49) age groups have the lowest pregnancy rates, which are almost the same, and have not changed significantly over time.

Figure 10 Whatcom County Pregnancy Rates by Age

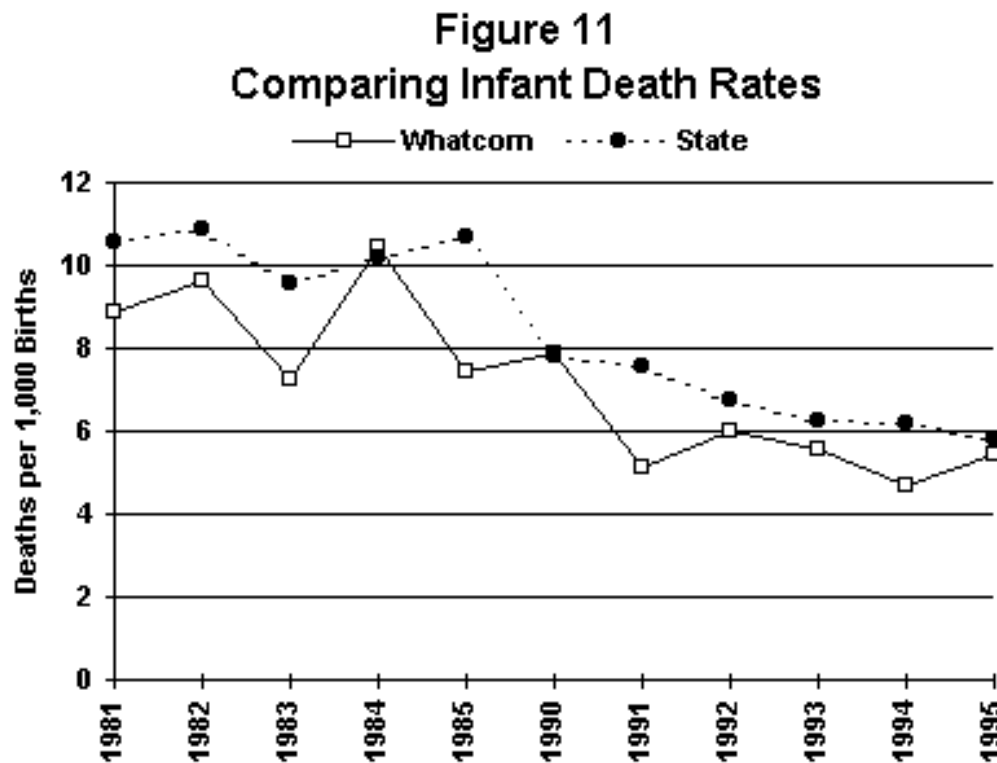


The two middle groups, 18-24 and 25-34 years, have the highest rates, and those ages are the most optimum time physically for childbearing. Between 1991 and 1995, the rates for these two groups have decreased, with the 18-25 year old rate showing the greatest decrease. This decrease may be due to the significant number of college students in the county. These young women, although technically in their childbearing years, are not seeking to become pregnant, therefore the rate is lower due to their presence in the county population. In addition, the number of college students in the county has gone up in the past few years, thus increasing their impact on overall rates.

Infant deaths

The infant death rate (often called the infant mortality rate) is the number of babies who die expressed in terms of every 1,000 babies born. This rate long has been considered the best single indicator of overall community health. It reflects the health of pregnant women and infants, which in turn are highly sensitive to changes in the social and physical environments and in the delivery of health services.

In Whatcom County, infant death rates decreased between 1981 and 1995, remaining the same as or slightly below the Washington State rate (Figure 11).



Neonatal and postneonatal deaths

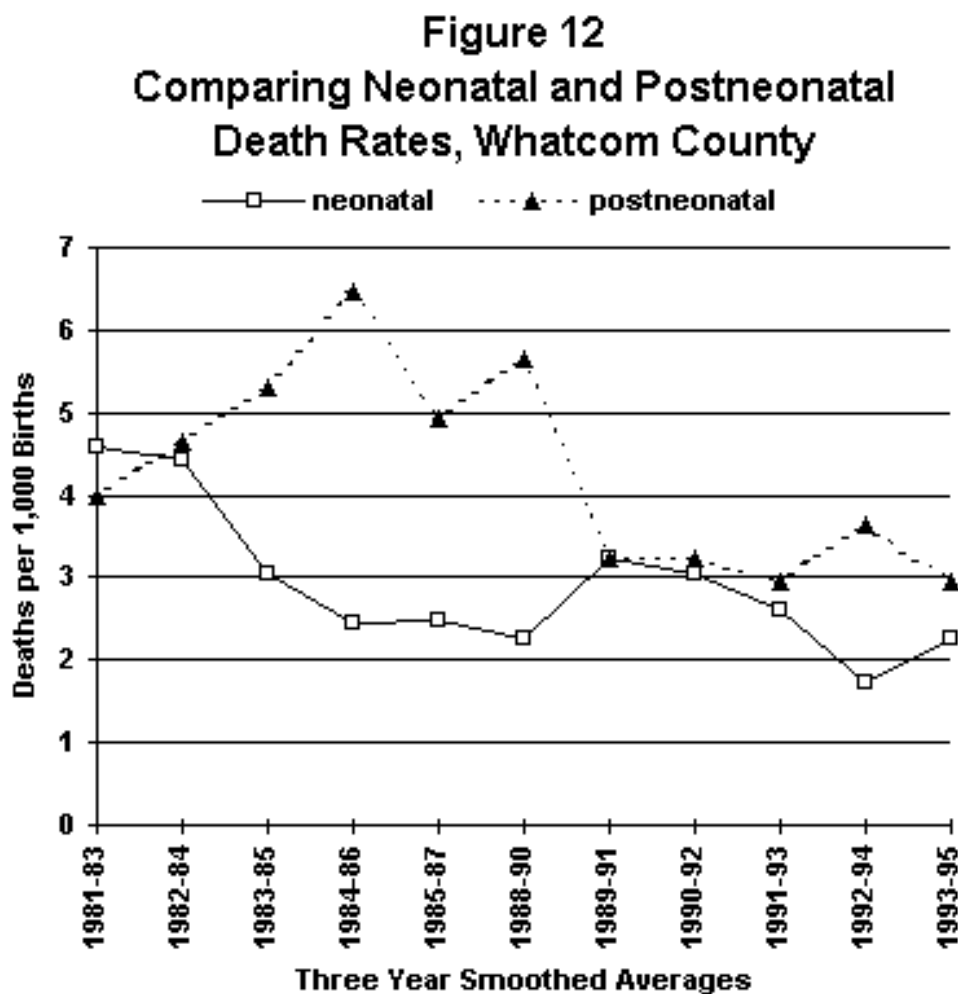
Infant deaths often are analyzed by the age when they occur. Because so few infant deaths occur annually, it is necessary to combine several years of data to conduct an analysis. With this data, three year smoothed averages were used.

Deaths occurring in the first 27 days of life are called neonatal deaths and usually happen because of problems related to the pregnancy.

The leading causes of neonatal deaths are birth defects, respiratory distress syndrome and other disorders relating to prematurity, and effects of maternal complications. Survival during the neonatal period is dependent on an infant's birthweight, gestational maturity, and improvements in the technology of newborn intensive care units. In Whatcom County, neonatal death rates dropped between 1981 and 1995 (Figure 12).

Infant deaths occurring in the remainder of the first year of life are called postneonatal deaths. Unlike neonatal deaths, postneonatal deaths are caused by sudden infant death syndrome (SIDS), injuries and infections. Social and economic factors underlie most of these causes of death.

The postneonatal death rate in Whatcom County rose during the late 1980s but then decreased until it was only slightly higher than the Washington State neonatal death rate in the 1993-95 time period (Figure 12).

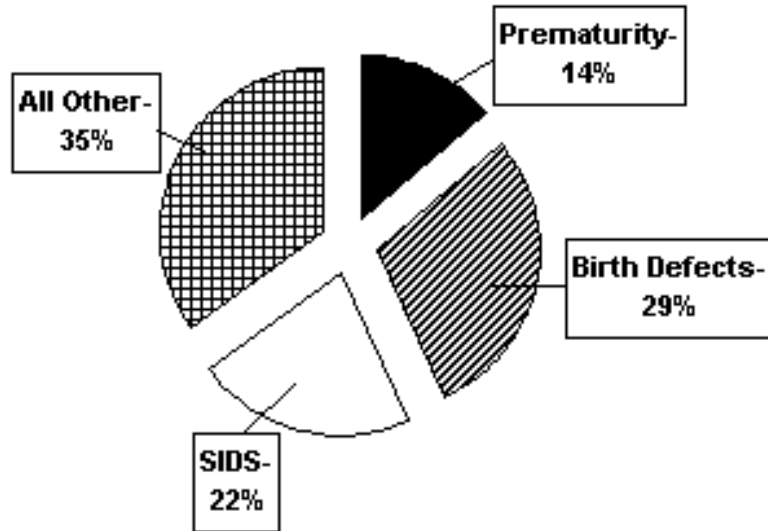


Causes of infant deaths

An understanding of the specific causes of infant deaths is essential for designing preventive interventions. By combining all infant deaths in Whatcom County occurring during the five year period from 1991-95, there were sufficient deaths for each major cause to permit analysis

(Figure 13).

Figure 13
Causes of Infant Deaths
1991-95, Whatcom County
(total deaths = 51)



Using an approach designed by the Centers for Disease Control for the National Infant Mortality Surveillance project described in the March 1988 *Public Health Reports*, the major causes of infant death were grouped and then classified as preventable (injuries, perinatal infections, other infections), not preventable (SIDS, birth defects, prematurity), or unknown preventability (birth trauma).

In Whatcom County, SIDS, prematurity and birth defects accounted for 65% of all infant deaths and are considered not preventable at this point. Injuries and infections caused 10% of the deaths and are considered preventable. The remaining 25% of deaths are from causes of unknown preventability. The relatively few deaths from preventable causes is an expected pattern when infant death rates are as low as they are in Whatcom County.

Pregnancy in Whatcom County (1997)

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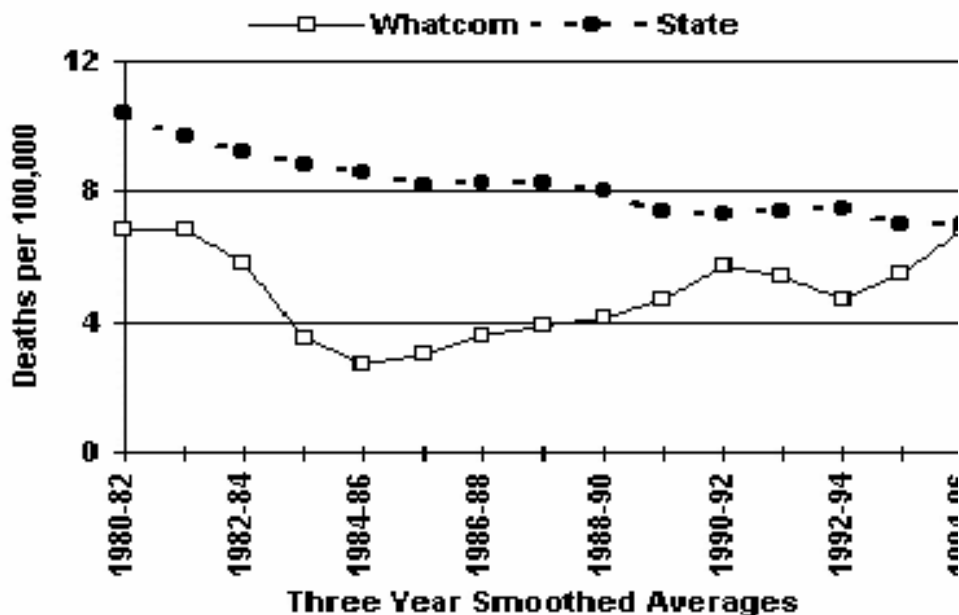
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Health Status Report: Substance Abuse in Whatcom County

The abuse of alcohol and other drugs has significant public health consequences for Whatcom County residents as well as throughout the country. If untreated, the abuse of these substances can cause family dysfunction, job loss and arrests leading to jail time. Substance abuse contributes significantly to criminal justice and health care costs. A study conducted by Harborview Hospital in 1993 showed that alcohol and other drug abuse accounted for 47% of all hospital emergency room visits annually.

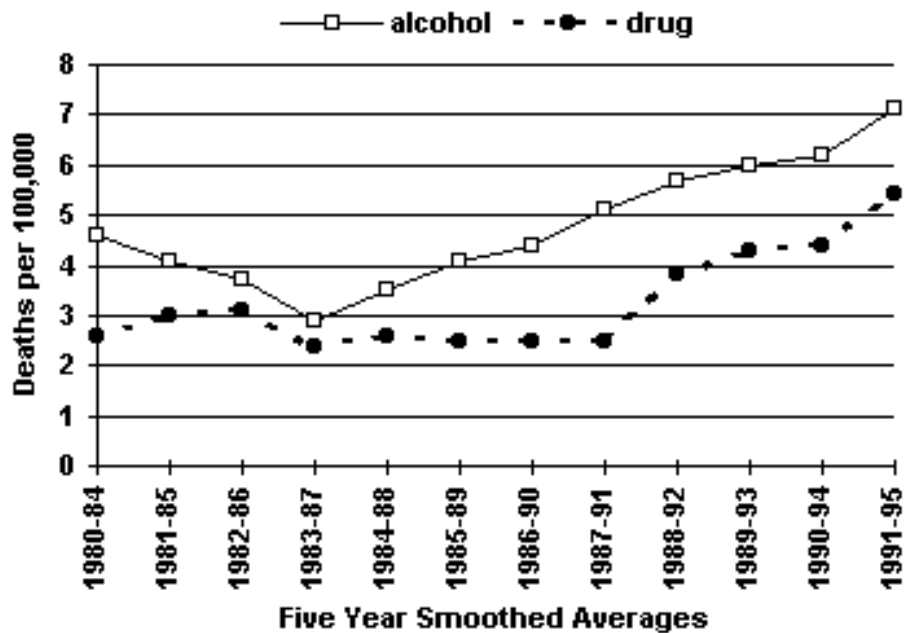
Chronic alcohol abuse can cause liver damage and is associated with heart diseases, neurologic disorders, gastrointestinal diseases and certain cancers. In Whatcom County, the death rate from cirrhosis (caused primarily by alcoholism) has increased steadily since 1984 (Figure 1). In contrast, the state rate has steadily decreased.

**Figure 1
Comparing Age-Adjusted Death
Rates From Cirrhosis**



The county death rate from all alcohol-related causes also has increased since 1985 (Figure 2). The death rate from other drug causes also has significantly increased, but that increase began later in time, around 1990.

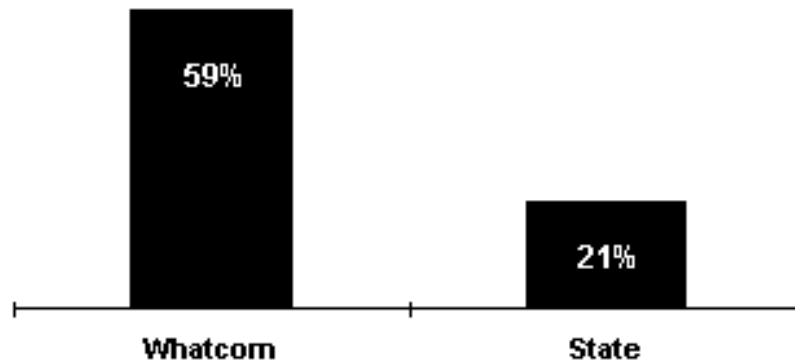
Figure 2
Comparing Age-Adjusted Death Rates by Cause



The Whatcom County Health and Human Services Department is responsible for providing a comprehensive program of alcohol and other drug prevention, treatment and crisis services. This is accomplished through contracts with treatment providers in the county and prevention activities conducted by county staff. The goal is to reduce the likelihood of people becoming chemically dependent and to provide a continuum of care for alcoholics and other drug addicts in recovery.

In 1996, a study conducted by the Washington State Division of Alcohol and Substance Abuse (DASA) showed that in Whatcom County, the estimated number of low income adults in need of substance abuse treatment was 2,602. Using this estimate, treatment providers met the majority of the county's substance abuse treatment needs for that population. This is about three times higher than Washington State overall (Figure 3).

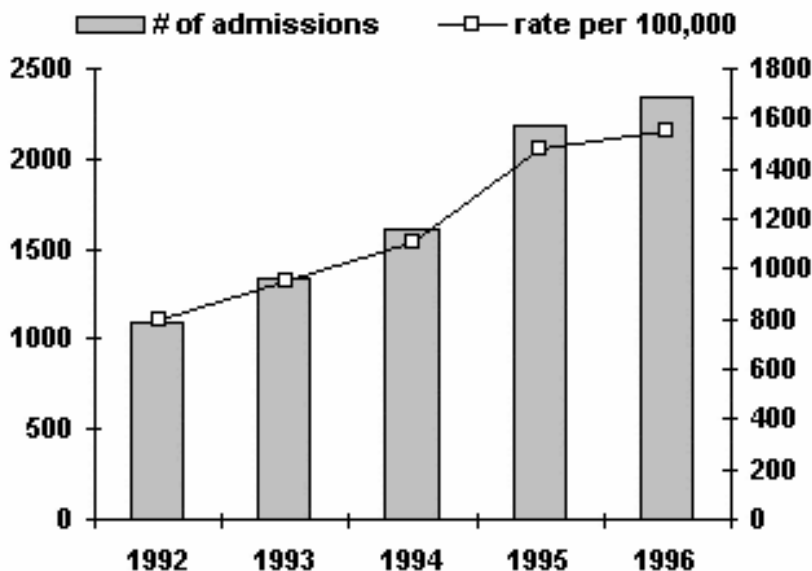
Figure 3
Comparing Percent of
Low-Income Treatment Provided



There is no single source of data for all substance abuse-related services provided to county residents. Evaluation and treatment that is paid for by insurance or by individuals is not tracked, except by each service provider. Only data related to publicly funded programs is currently available. This is through the Treatment and Assessment Report Generation Tool (TARGET) database, which is supported by DASA. The following is information from that source about services provided to residents who qualified for services.

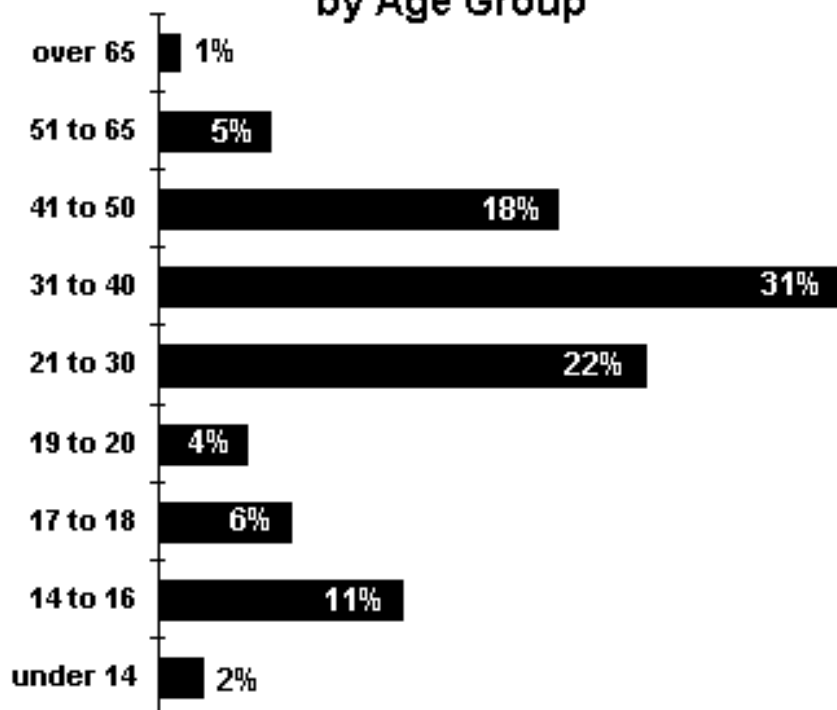
The demand for chemical dependency treatment has increased in the county. Treatment admissions funded by county dollars have increased an average of 21% annually. As the population grows, it is expected that demand for services also will grow, but the rate of admissions per 100,000 population also has increased, which means the increase is not simply due to more people living in the county (Figure 4).

Figure 4
Public Treatment Admissions

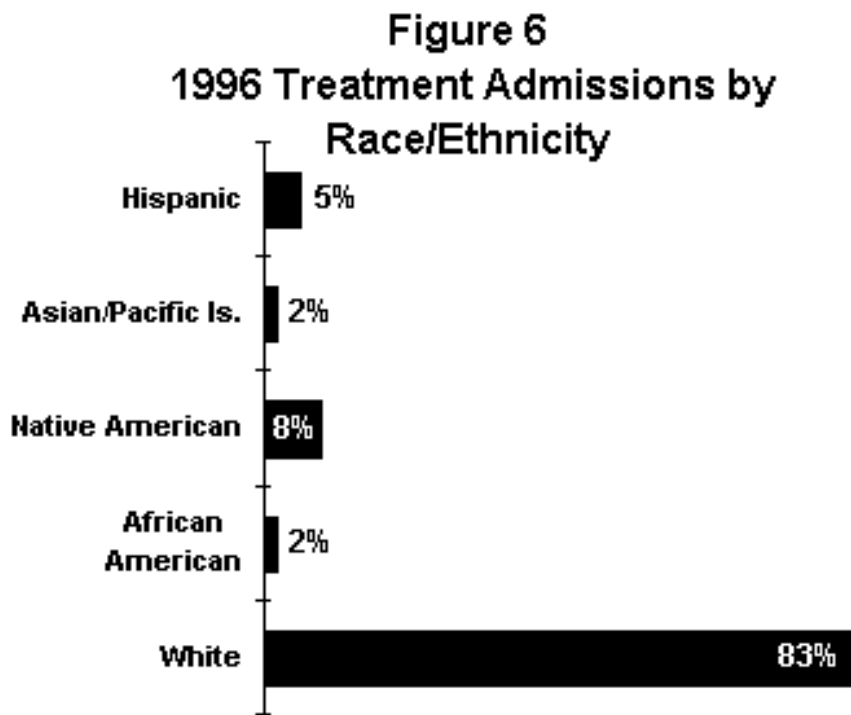


In 1996, the TARGET database showed that the largest number of patients admitted to publicly funded substance abuse treatment facilities in Whatcom County were between the ages of 31 and 40 (Figure 5). In addition, youth admissions have increased 10% since 1993.

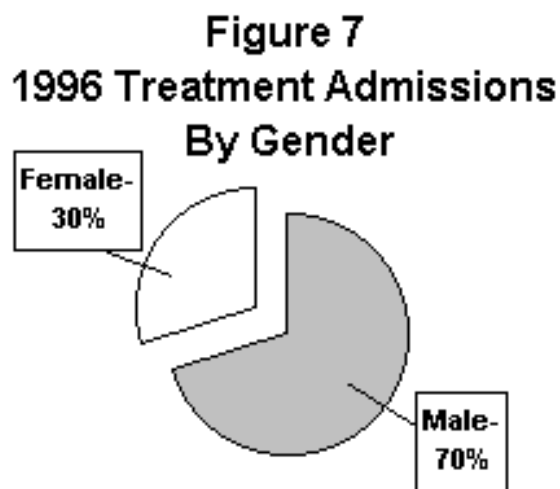
Figure 5
1996 Treatment Admissions
by Age Group



Minorities made up 17% of the treatment population even though minorities were only 6% of the total county population (Figure 6).

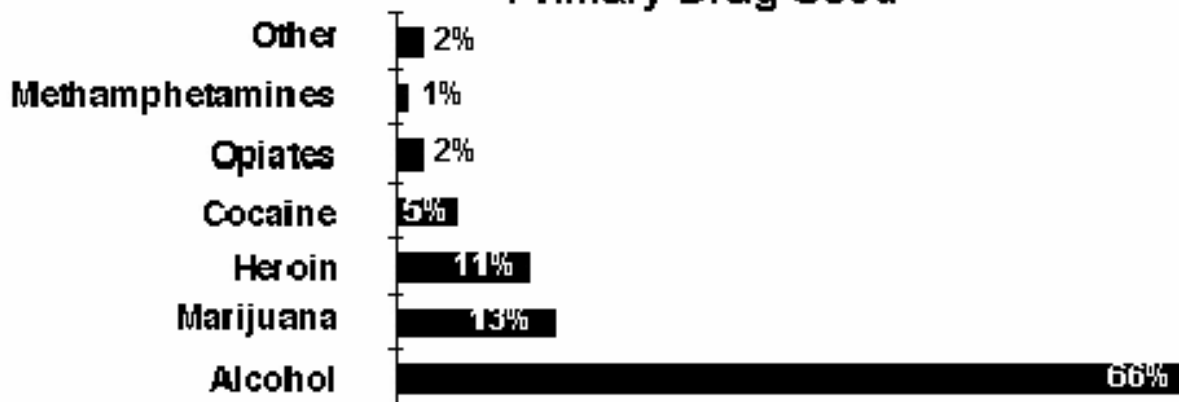


More than twice as many men as women are admitted, even though men were only 49% of the 1996 county population (Figure 7).



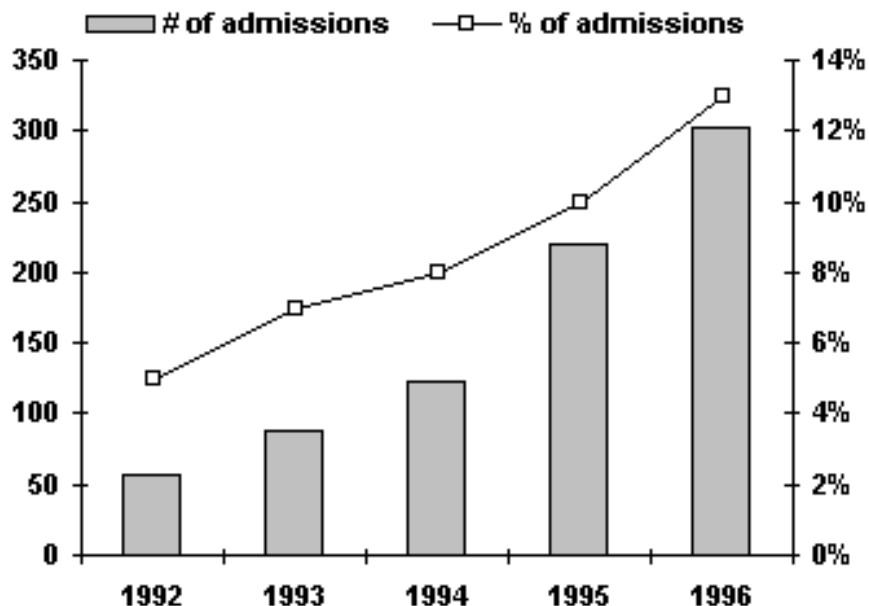
Patients admitted with alcohol being their primary drug made up the majority of adult admissions (Figure 8). Changes in drug use patterns are occurring as evidenced by a 9% increase in heroin treatment admissions between 1992 and 1996.

Figure 8
1996 Treatment Admissions by
Primary Drug Used



Between 1992 and 1996 there also has been a significant increase in injection drug use (Figure 9). In the Detox facility, as many as 20% of the admissions are injection drug users.

Figure 9
Treatment Admissions for
Injection Drug Use



On the positive side, there is a growing body of evidence that publicly funded substance abuse treatment programs are having a significant impact. The Division of Alcohol and Substance Abuse stated in its 1997 annual report the following statistics:

- 1) A five year follow-up study of indigent chemically dependent people in Washington

State revealed that Medicaid costs were \$4,500 less for those who participated in chemical dependency treatment compared to those in an untreated comparison group.

2) Substance abusing pregnant women who received chemical dependency treatment had fewer low birth weight babies and fewer fetal deaths compared to similar women who did not receive treatment.

3) Adolescents who participated in inpatient chemical dependency treatment had lower arrests rates and better school performance one year after treatment.

Substance Abuse in Whatcom County (1997)

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The Health of People of Hispanic Origin in Whatcom County****Demographics**

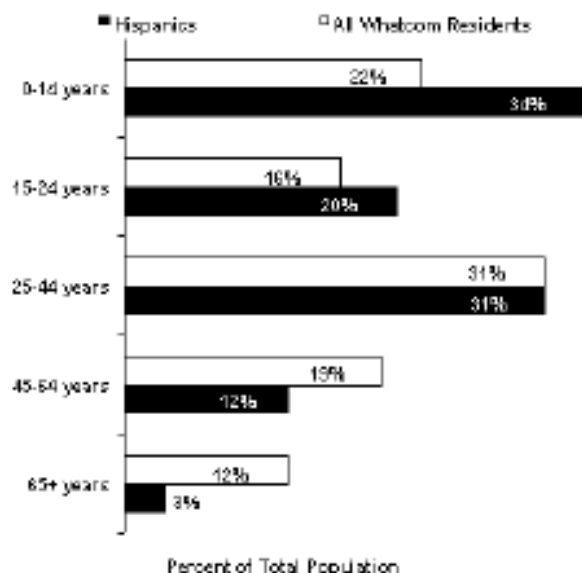
Population — The Washington State Office of Financial Management, which prepares the official population estimates for the state, calculated that there were 5,252 people of Hispanic origin living in Whatcom County as of mid-year 1994, the most recent date for which race-specific information is available. This means that people of Hispanic origin are now the largest minority group in Whatcom County.

In addition, people of Hispanic origin also may be of any race, since race and ethnicity are counted separately in the Census. In Whatcom County at the time of the 1990 census, 57% of those who claimed Hispanic origin also indicated their race was White, 40% indicated their race was Other, 3% said they were Native American, and 0.3% said they were Asian/Pacific Islander.

The Census information describing Hispanic residents should be viewed with caution because not everyone was counted in the 1990 Census. People without a permanent mailing address, people sharing a residence and those who did not want to be counted because they lacked legal permission to be in the U.S. were missed.

Age composition — The Hispanic population is considerably different in its age composition than the rest of the county (Figure 1). Basically, more than half of the county's Hispanic residents were younger than 25. This age composition implies strong need for preventive health services as well as for education and job opportunities to facilitate the transition to adulthood.

Figure 1
1994 Age Group Comparison

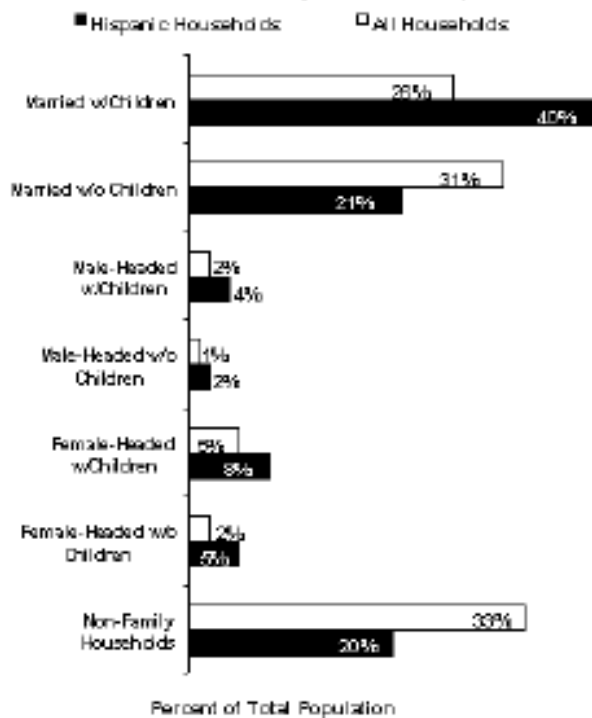


Household composition — One factor in people's lives is the type of household they live in. The U.S. Bureau of the Census defines the following types of households:

- 1) Non-family households—a single individual or unrelated people living together,
- 2) Family households—a) married couple households with or without children, b) male-headed households with or without children (the man is not married or his spouse is not living in the household), c) female-headed households with or without children (the woman is unmarried or her spouse is not living in the household).

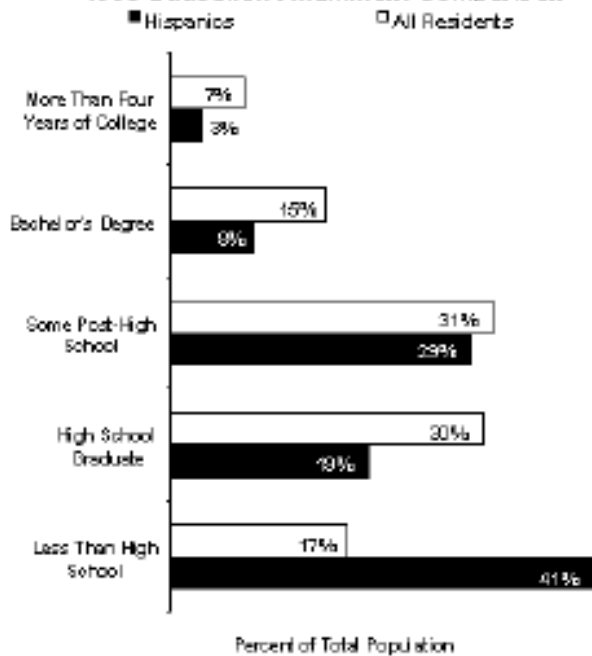
In 1990, the household composition of Hispanics differed significantly from other Whatcom County residents (Figure 2). More Hispanic households consisted of married couples with children younger than 18. Fewer Hispanic households consisted of married couples without children younger than 18. In addition more Hispanic households with children were headed by single adults than the rest of the county.

Figure 2
1990 Household Composition Comparison



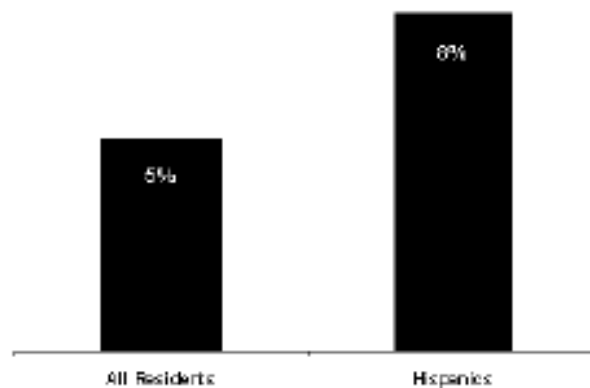
Education — In 1990, there were marked differences between educational attainment (computed for people age 25 and older) of all Whatcom County residents and that of Hispanic residents (Figure 3). More than twice as many Hispanic residents had failed to complete high school, or the equivalent, compared to Whatcom County residents as a whole. In addition, less than half as many Hispanics had completed four or more years of college.

Figure 3
1990 Education Attainment Comparison



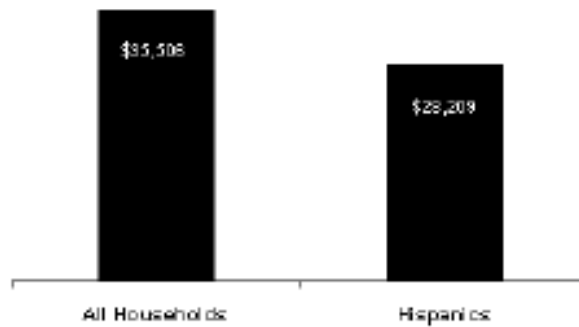
Economic conditions — At the time of the 1990 census, Hispanic residents of Whatcom County had an unemployment rate not quite twice that of all county residents (Figure 4). More recent, routinely collected unemployment information at the county level is not available by race or ethnicity, but there is little reason to suspect that this difference has diminished in the years since the census.

Figure 4
1990 Unemployment Rate Comparison



Median income shows the effect of the differences in education and unemployment (Figure 5). Hispanic household income was only about 80% of the county total.

Figure 5
1990 Median Household Income Comparison



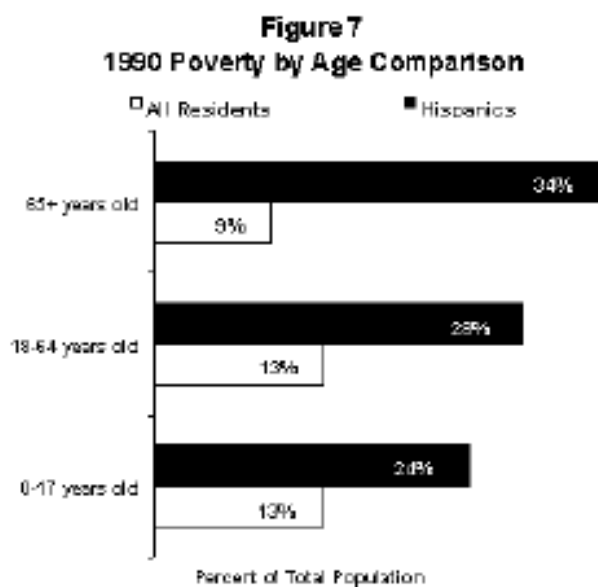
The distribution of household income is very different in the two groups (Figure 6). About a quarter of all county residents had incomes below \$15,000. This data includes all Western Washington University students, who usually have very low incomes. The remainder of the curve for all county households follows a bell shape typical of places with largely middle-class populations. However, the curve of income distribution in Hispanic households has a different, peaked shape with more than half of the Hispanic households earning less than \$25,000.

Figure 6
1990 Income Distribution Comparison



Given Hispanic residents' education, unemployment and income, it is not surprising that so many of them lived below 100% of poverty in 1990. Poverty rates in every age group are far higher

among Hispanic residents than among county residents (Figure 7). Almost a quarter of Whatcom County's Hispanic children, younger than 18, lived below the poverty level in 1990 compared with other children. The disparity in poverty is most marked among the oldest people; almost three times as many Hispanic seniors lived in poverty compared with other county seniors.



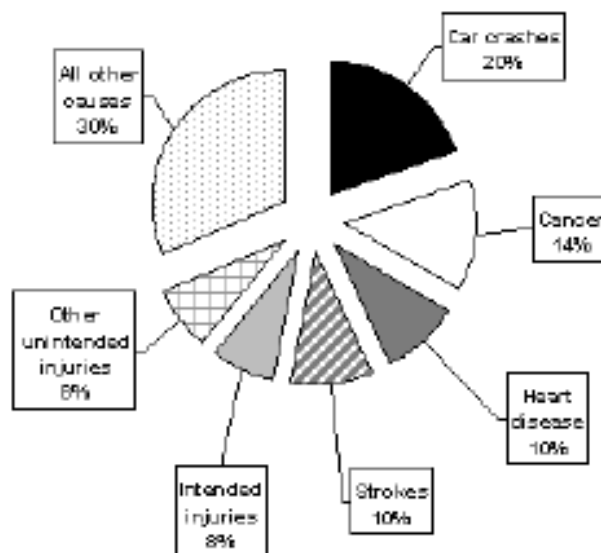
Summary — As this analysis shows, the living circumstances of Whatcom County's Hispanic residents are different from those of the county's total population. Hispanic residents are more likely to live in married family households, are less well educated, more likely to be unemployed and, consequently, more likely to be poor. These social and economic disadvantages experienced by Hispanics, plus the population's much younger age composition, have a large impact on health indicators addressed in the following sections.

Causes of Death

Public health professionals use information from death certificates to identify potentially preventable deaths. If these deaths are prevented, both life expectancy and quality of life usually can be improved. There were only 52 deaths among Whatcom County's Hispanic residents between 1989 and 1993. This number of deaths is too small for life expectancy statistics and age-adjusted death rates to be calculated. So the analyses presented here are limited to summaries of leading causes of death.

Leading causes of death — Car crashes caused 20% of all Hispanic deaths between 1989 and 1993 (Figure 8). Cancer, heart disease and strokes together were responsible for about one-third of deaths. Intended injuries (suicide and homicide) and unintended injuries other than car crashes caused 16% of deaths.

Figure 8
Leading Causes of All Deaths 1989-93
 (Total = 51)

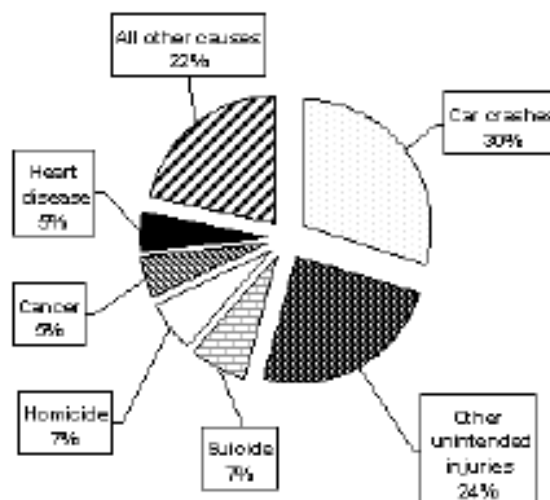


In Figure 8 each death was treated equal to all other deaths regardless of how old the person was when he or she died. This means chronic diseases appear to be more important causes of death because so many deaths occur after age 65 when chronic illnesses emerge as a natural consequence of aging.

Causes of potential life lost — Another approach to ranking causes of death is one that calculates how many years each person who died would have lived. The result of this calculation is called years of potential life lost (YPLL). In this calculation, deaths before the first birthday are excluded, and it is assumed that everyone will live to be at least 65 years old.

When the YPLL calculation is applied to Hispanic deaths among Whatcom County's residents from 1989-93, the impact of injuries is highlighted (Figure 9). Car crashes are still the leading cause of death but increase by 10%. In addition, other unintended injuries, suicide and homicide become more important. Heart disease and cancer are dwarfed by the impact of potentially preventable injuries.

Figure 9
Causes of Potential Life Lost 1989-93
(to Age 65)



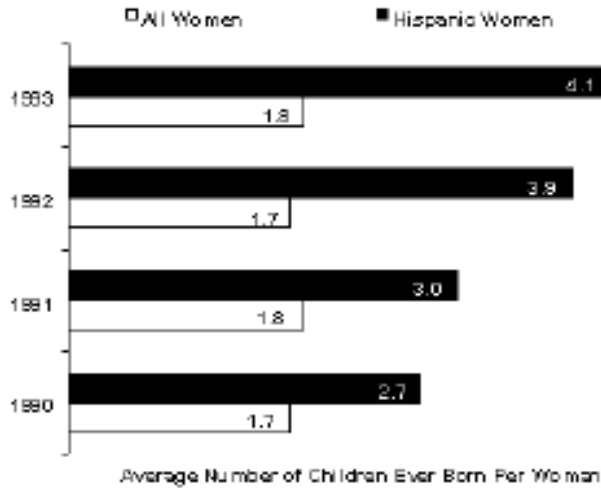
Pregnancy

Many health indicators focus on pregnancy because the things that happen to pregnant women and their babies reflect the overall health status of communities.

Data are presented for five-year periods because in any one year the number of births to Hispanic mothers is too small to yield valid and reliable information.

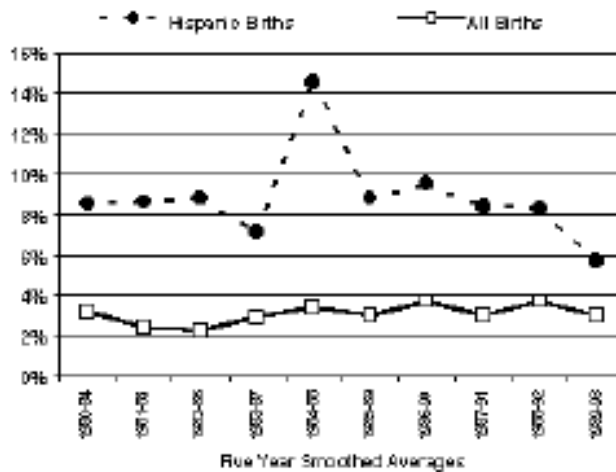
In 1993, the most recent year for which detailed information about births currently is available, Hispanic women in Whatcom County accounted for 7% of all births. However, birth rates tell only part of the picture about childbearing in a population. The preferred measure is the total fertility rate, which is an estimate of the number of children the average woman will have during her childbearing years (considered ages 15-44). Hispanic women have far higher total fertility rates than Whatcom County women as a whole (Figure 10). These fertility rates are twice the overall county rate and appear to be increasing.

Figure 10
Comparing Total Fertility Rate 1990-93



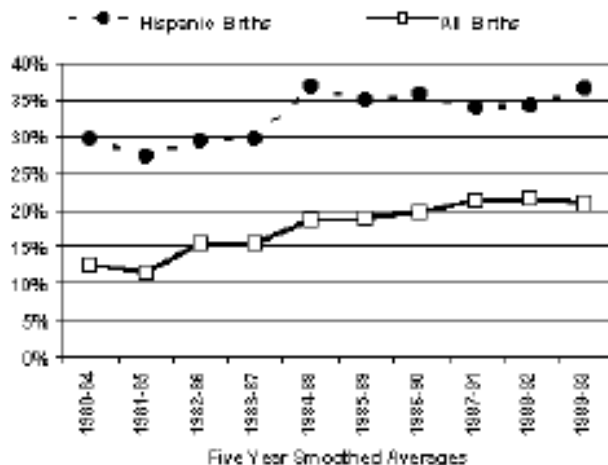
Maternal age — The proportion of Hispanic mothers in Whatcom County who are younger than 18 has been relatively stable since 1981-84 (Figure 11). This trend is essentially the same as all Whatcom County mothers, but the proportion of Hispanics mothers who were younger than 18 was 2 to 3 times the proportion of all mothers in the county.

Figure 11
Comparing Births to Mothers <18, 1980-93



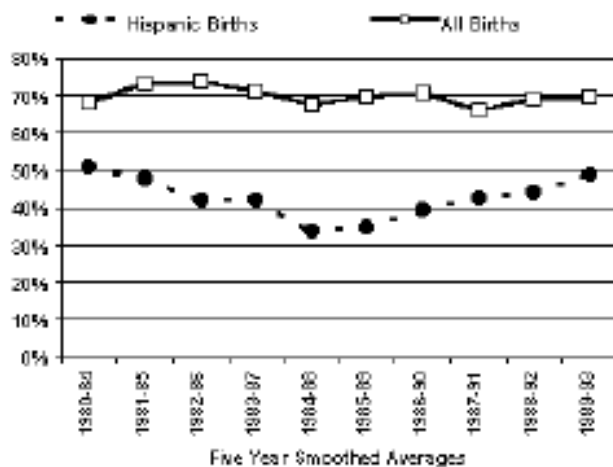
Maternal marital status — About a third of all Hispanic mothers were single at the time they gave birth, and the trend may be continuing upward (Figure 12). In this report, the term single includes never married, widowed, divorced and separated. There were always about twice as many single mothers among Hispanics as there were among all county mothers

Figure 12
Comparing Single Mothers 1980-93



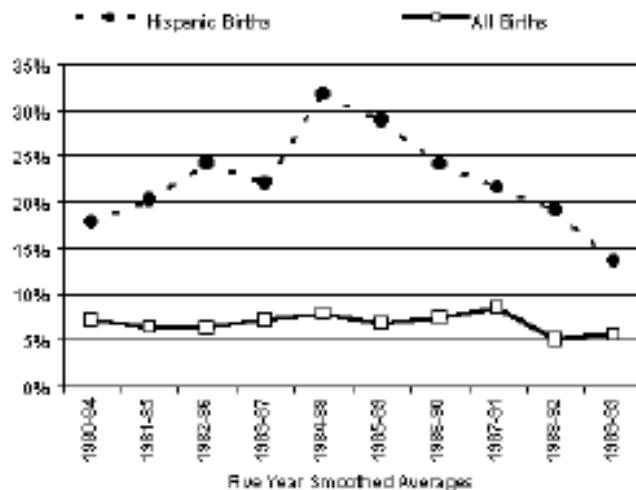
First trimester prenatal care — Prenatal care begun early in pregnancy and performed on a regular schedule is associated with low levels of complications and with healthy babies. Between 1980 and 1993, only one-third to one-half of Hispanic mothers received first-trimester prenatal care (Figure 13).

Figure 13
Comparing First Trimester Prenatal Care 1980-93



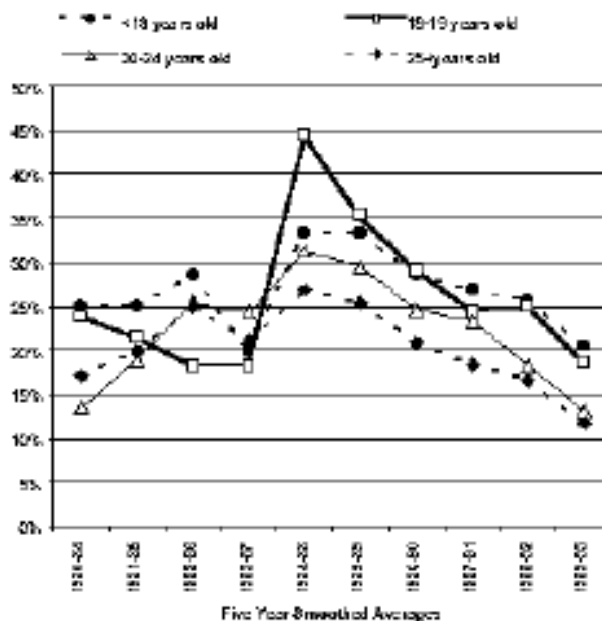
Late or no prenatal care — Pregnant women who get late prenatal care (care that begins after the 6th month of pregnancy) or no care at all are generally more likely to deliver unhealthy babies. Hispanic mothers in Whatcom County are at least twice as likely as all county mothers to have late or no prenatal care (Figure 14).

Figure 14
Comparing Late or No Prenatal Care 1980-93



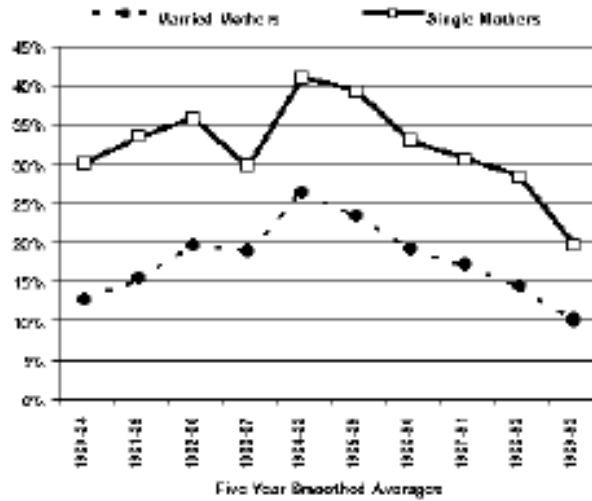
The younger the Hispanic mother, the more likely it was that she received late or no prenatal care (Figure 15). In 1989-93, this was true for about one in five Hispanic mothers younger than 20 years.

Figure 15
Comparing Late or No Prenatal Care by Age 1980-93



Among both married and single Hispanic mothers, the proportion getting late or no prenatal care appears to be decreasing (Figure 16). However, single Hispanic mothers were twice as likely to receive late or no prenatal care as married Hispanic mothers.

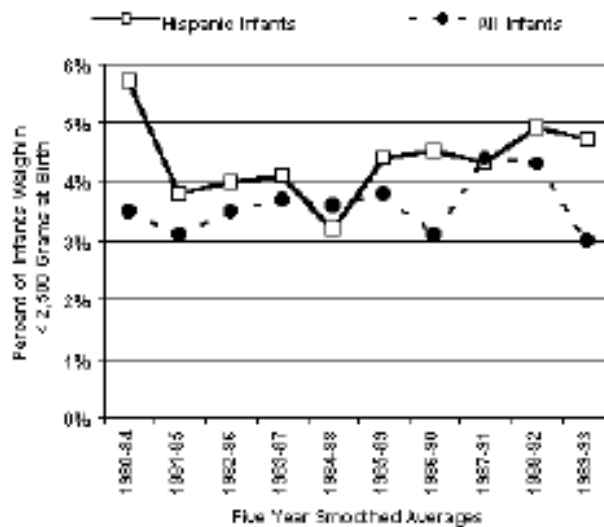
Figure 16
Comparing Late or No Prenatal Care
by Marital Status 1980-93



Low birth weight — Infants who weigh less than 2,500 grams or about 5.5 pounds are considered to be low birth weight. In general, these babies are too small and too sick to survive easily and often require intensive medical intervention to help them. Even if they do survive, they often have handicapping conditions that can impact the quality of their lives.

Rates of low birth weight among babies born to Hispanic mothers in Whatcom County are slightly greater than among all county mothers (Figure 17).

Figure 17
Comparing Low Birthweight 1980-93



Summary — Relative to all mothers in Whatcom County between 1980 and 1993, Hispanic

mothers were younger and more often single. They were more likely to not get early prenatal care and to get late or no prenatal care. There has been a trend toward higher rates of low birth weight among Hispanic babies since 1985-89.

The data in the previous section indicate that Whatcom County's Hispanic population generally lives in social and economic disadvantage compared to the total county population. Data in this section indicate that rates of pregnancy-related health indicators are worse among Hispanic mothers. Steps should be taken to determine how to make improvements in social, economic and health indicators for the largest ethnic minority in Whatcom County.

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