2001 ANNUAL Communicable Disease REPORT

Washington State Department of Health

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2001 ANNUAL Communicable Disease REPORT

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This report is in the tradition of public health surveillance, which is the ongoing, systematic collection, analysis and interpretation of information regarding health. This is the seventeenth report from the Communicable Disease Epidemiology Section since 1982, having grown from about 50 pages of tabulations produced once every two years to an annual report of tables, graphs, maps, charts, and narrative summaries. The Department of Health staff who contributed to this report are listed on the previous page. We also recognize other individuals, primarily epidemiologists from the Centers for Disease Control and Prevention and the University of Washington, who have contributed to current and past reports. Finally, but not least, we would like to recognize the thousands of people in local health departments, clinics, and hospitals throughout Washington State whose disease reports are the basis for this document.

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Technical notes and comments for the Annual Report

Reporting of selected diseases and conditions in Washington is mandated by RCW 43.20.050, RCW 43.70.545, RCW 70-24.105, RCW 70.28.010, RCW 70.54.230, RCW 70.104.030 and WAC 246.101. Under WAC 246-101, which the State Board of Health revised in July 2000. Health care providers, hospitals and laboratories are responsible for reporting selected communicable diseases. Notifiable communicable diseases listed in WAC 246-101 are included at the beginning of this report and can be accessed at: http://www.doh.wa.gov/notify.

Incomplete reporting occurs with any surveillance system. The proportion of patients seeing a health care provider, diagnosed by clinical and laboratory methods, and reported to local health agencies varies according to the specific disease. Common and mild illnesses are typically underdiagnosed and underreported, while unusual or severe illnesses are typically more completely reported. This document presents reported cases.

Surveillance case definitions are usually more stringent than criteria for diagnosing and treating communicable diseases. The Centers for Disease Control and Prevention (CDC) case definitions used for communicable disease surveillance in Washington State are published by the CDC (MMWR 1997;46:RR-10) and available on-line at http://www.doh.wa.gov/notify.

Communicable disease cases are reported by the patient's state and county of residence. For some diseases, there is close correlation between residence and geographic location of exposure while for others exposure invariably occurs out of state, reflecting travel or immigration.

The 2001 population estimates used in rate calculations were provided by the Washington State Office of Financial Management. These are available on line at http://www.ofm.wa.gov/pop/index.htm.

Census-based race estimates were unavailable at the time of publication. Disease rates were calculated per 100,000 population and were not age-adjusted due to the small numbers of cases for most diseases. Where appropriate, rates were given based on age and gender or county of residence. Choice of age categories depended on the age groups at risk for acquiring a particular disease. Due to the limited number of cases, statistical procedures were not considered appropriate for comparing rates among strata.

Summary tables from Appendix I are available on-line at www.doh.wa.gov/notify.

Bi-monthly surveillance data for selected reportable diseases by county are published in the Department of Health *epiTRENDS* newsletter and are available on-line at http://www.doh.wa.gov/publicat/publications.htm

Comments about the bulletin or this report can be sent to:

Epidemiology
1610 NE 150th St
Shoreline, WA 98155

Notifiable Conditions & The Health Care Provider

The following diagnoses are notifiable to local health authorities in Washington in accordance with WAC 246-101. Timeframes for notification are indicated in footnotes. **Immediately notifiable conditions are indicated in bold** and should be reported when suspected or confirmed.

Acquired Immunodeficiency Syndrome (AIDS) [3] *(including AIDS in persons previously reported with HIV infection)*
Animal Bites [I]
Botulism [I] **(foodborne, wound, and infant)**
Brucellosis [I]
Campylobacteriosis [3]
Chancroid [3]
Chlamydia trachomatis [3]
Cholera [I]
Cryptosporidiosis [3]
Cyclosporiasis [3]
Diphtheria [I]
Disease of Suspected Bioterrorism Origin (including) [I]
Anthrax
Smallpox
Disease of Suspected Foodborne Origin [I] **(clusters only)**
Disease of Suspected Waterborne Origin [I] **(clusters only)**
Encephalitis, viral [3]

Enterohemorrhagic *E. coli* including *E.coli* 0157:H7 infection [I]
Giardiasis [3]
Gonorrhea [3]
Granuloma inguinale [3]
***Haemophilus influenzae* invasive disease** [I] (under age five, excluding otitis media)
Hantavirus Pulmonary Syndrome [3]
Hemolytic Uremic Syndrome [I]
Hepatitis A - acute [I]
Hepatitis B - acute [3]; chronic [M] (initial diagnosis only)
Hepatitis B - surface antigen + pregnant women [3]
Hepatitis C - acute and chronic [M] (initial diagnosis only)
Hepatitis, unspecified (infectious) [I]
Herpes simplex, genital and neonatal [3] (initial infection only)
HIV infection [3]
Immunization reactions, severe, adverse [3]

Legionellosis [3]
Leptospirosis [3]
Listeriosis [I]
Lyme disease [3]
Lymphogranuloma venereum [3]
Malaria [3]
Measles (rubeola) [I]
Meningococcal disease [I]
Mumps [3]
Paralytic shellfish poisoning [I]
Pertussis [I]
Plague [I]
Poliomyelitis [I]
Psittacosis [3]
Q fever [3]
Rabies [I]
Rabies post-exposure prophylaxis [3]
Relapsing fever (*borreliosis*) [I]
Rubella, including congenital [I]
Salmonellosis [I]
Shigellosis [I]
Streptococcus Group A, invasive disease [3]
Syphilis [3] *(including congenital)*
Tetanus [3]
Trichinosis [3]
Tuberculosis [I]
Tularemia [3]
Typhus [I]
Vibriosis [3]
Yellow Fever [I]
Yersiniosis [3]

Unexplained Critical Illness or Death [I]
Rare Diseases of Public Health Significance [I]

The following diagnoses are notifiable to the Washington State Department of Health in accordance with WAC 246-101. Timeframes for notification are indicated in footnotes. Immediately notifiable conditions are indicated in bold and should be reported when suspected or confirmed.

Asthma, occupational (suspected or confirmed) [M] *Call 1-888-66-SHARP*
Birth Defects – Autism [M] *Call (360) 236-3492*
Birth Defects – Cerebral Palsy [M] *Call (360) 236-3492*
Birth Defects – Fetal Alcohol Syndrome/Fetal Alcohol Effects [M] *Call (360) 236-3492*
Pesticide poisoning (hospitalized, fatal, or cluster) [I] *Call 1-888-586-9427; 1-800-222-1222 (after hours)*
Pesticide Poisoning (other) [3] *Call 1-888-586-9427; 1-800-222-1222 (after hours)*

Notification time frame: [I] **Immediately,** [3] Within 3 work days, [M] Within one month

If no one is available at the local health jurisdiction and a condition is Immediately Notifiable, please call (877) 539-4344

For more information please see WAC 246-101 or see www.doh.wa.gov/notify

Notifiable Conditions & Washington's Hospitals

The following diagnoses are notifiable to local health authorities in Washington in accordance with WAC 246-101. Timeframes for notification are indicated in footnotes. **Immediately notifiable conditions are indicated in bold** and should be reported when suspected or confirmed. These notifications are for conditions that occur or are treated in the hospital. Hospital laboratories should use the *Notifiable Conditions and Washington's Laboratories* Poster.

Acquired Immunodeficiency Syndrome (AIDS) [3] *(including AIDS in persons previously reported with HIV infection)*
Animal Bites [I]
Botulism [I] **(foodborne, wound, and infant)**
Brucellosis [I]
Campylobacteriosis [3]
Chancroid [3]
Chlamydia trachomatis [3]
Cholera [I]
Cryptosporidiosis [3]
Cyclosporiasis [3]
Diphtheria [I]
Disease of Suspected Bioterrorism Origin (including) [I]
Anthrax
Smallpox
Disease of Suspected Foodborne Origin [I] **(clusters only)**
Disease of Suspected Waterborne Origin [I] **(clusters only)**
Encephalitis, viral [3]

Enterohemorrhagic *E. coli* including *E.coli* 0157:H7 infection [I]
Giardiasis [3]
Gonorrhea [3]
Granuloma inguinale [3]
***Haemophilus influenzae* invasive disease** [I]
(under age five, excluding otitis media)
Hantavirus Pulmonary Syndrome [3]
Hemolytic Uremic Syndrome [I]
Hepatitis A - acute [I]
Hepatitis B - acute [3]; chronic [M] (initial diagnosis only)
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Hepatitis, unspecified (infectious) [I]
HIV infection [3]
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Legionellosis [3]
Leptospirosis [3]
Listeriosis [I]
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Lymphogranuloma venereum [3]
Malaria [3]
Measles (rubeola) [I]
Meningococcal disease [I]
Mumps [3]
Paralytic shellfish poisoning [I]
Pertussis [I]
Plague [I]
Poliomyelitis [I]
Psittacosis [3]
Q fever [3]
Rabies [I]
Rabies post-exposure prophylaxis [3]
Relapsing fever (*borreliosis*) [I]
Rubella, including congenital [I]
Salmonellosis [I]
Shigellosis [I]
Streptococcus Group A, invasive disease [3]
Syphilis [3] *(including congenital)*
Tetanus [3]
Trichinosis [3]
Tuberculosis [I]
Tularemia [3]
Typhus [I]
Vibriosis [3]
Yellow Fever [I]
Yersiniosis [3]

Outbreaks of disease that occur or are treated in the hospital (pertussis, influenza, nosocomial infections, viral meningitis, etc.)
Unexplained Critical Illness or Death [I]
Rare Diseases of Public Health Significance [I]

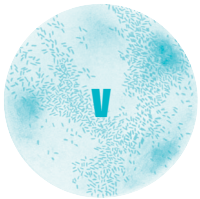
The following diagnoses are notifiable to the Washington State Department of Health in accordance with WAC 246-101. Timeframes for notification are indicated in footnotes. Immediately notifiable conditions are indicated in bold and should be reported when suspected or confirmed.

Asthma, occupational (suspected or confirmed) [M] *Call 1-888-66-SHARP*
Birth Defects –Abdominal Wall Defects, Autism, Cerebral Palsy, Down Syndrome, Hypospadias, Limb Reductions, Neural Tube Defects, Oral Clefts [M] *Call (360) 236-3591*
Gunshot Wounds [M] *Call (360) 236-3693*
Pesticide poisoning (hospitalized, fatal, or cluster) [I]
Call 1-888-586-9427; 1-800-222-1222 (after hours)

Notification time frame: [I] **Immediately,** [3] Within 3 work days, [M] Within one month

If no one is available at the local health jurisdiction and a condition is Immediately Notifiable, please call (877) 539-4344

For more information please see WAC 246-101 or see www.doh.wa.gov/notify



Notifiable Conditions & Washington's Laboratories

The following laboratory results (preliminary or confirmed) are notifiable to public health authorities in Washington in accordance with WAC 246-101. Information provided must include: Specimen Type; Name and Telephone Number of Laboratory; Date Specimen Collected; Date Specimen Received; Requesting Health Care Provider's Name & Telephone Number or Address; Test Result; Name of Patient (if available) or patient identifier; Sex & Date of Birth or Age of Patient (if available).

Blood Lead Level (Elevated) [2&i]
Blood Lead Level (Non-elevated) [M &i]
Bordetalla pertussis [2*]
Brucella [2*!]
CD4+ counts <200 or 14% [M &ii]
Chlamydia trachomatis [2*]
Clostridium botulinum [I*!]
Corynebacterium diphtheriae [2*!]
Cryptosporidium parvum [2*]
Cyclospora cayetanensis [2*!]
Diseases of Suspected
Bioterrorism Origin [I*!]
Anthrax *(Bacillus anthracis)*
Smallpox (Variola virus)
Escherichia coli (Shiga-like toxins only) [2*!]
Francisella tularenis [!]
Hepatitis A (*Hepatovirus*) [2*]
Human Immunodeficiency Virus [2 &ii]
(Western Blot, P-24 Antigen, or viral culture)
Human Immunodeficiency Virus [M &ii]
(RNA or DNA Nucleic Acid Tests)
Listeria [2*]
Mycobacterium tuberculosis [2 &iii!@]
Neisseria gonorrhoeae [2*]
Neisseria meningitidis [2*!]
Rabies [I*]
Rubeola [I*!]
Salmonella [2*!]
Shigella [2*!]
Treponema pallidum [!]
Unusual Diseases of Public Health Significance [I*]
Vibrio cholerae [I*!]
Yersinia pestis [I*!]

CODE LEGEND

- [I] Immediately Notifiable
- [2] Notifiable within 2 Work Days
- [M] Notifiable on a Monthly Basis
- [*] Notifiable to the local health department of the patient's residence
- [&i] Notifiable to DOH Lead Program (360-236-4252)
- [&ii] Notifiable to DOH – IDRH Assessment (360-236-3419)
- [&iii] Notifiable to DOH – TB Services (206-361-2838)
- [!] Specimen submission required
- [@] Antibiotic Sensitivity Testing (First isolates only)

To report a Notifiable Condition, contact the local health jurisdiction of the patient's residence, unless the condition is reportable directly to DOH. If the patient's local health jurisdiction is unknown, please notify the local health jurisdiction of the health care provider that ordered the diagnostic test.

If no one is available at the local health jurisdiction and a condition is Immediately Notifiable, please call **(877) 539-4344**

For more information please see WAC 246-101 or see www.doh.wa.gov/notify

COMMUNICABLE DISEASE SUMMARIES

Annual Communicable Disease Report

ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

Acquired Immunodeficiency Syndrome (AIDS) is caused by infection with human immunodeficiency virus (HIV), a retrovirus, which attacks the immune system and causes a gradual but progressive depletion of CD4+ T-lymphocytes, a type of white blood cell. The resulting immunodeficiency is manifested by the development of a variety of opportunistic infections and cancers, which become increasingly more severe over time and usually end in death. Recent developments in patient therapy, including combinations of antiretroviral drugs and protease inhibitors, have retarded the progress of disease in many patients and improved their clinical status, but the long-term effects of these interventions on the course of HIV infection and clinical disease are yet unknown.

The AIDS case definition, revised by the CDC most recently in 1993, consists of 26 indicator conditions (Table 1) or a low CD4+ T-lymphocyte count (< 200 cells/µl or <14% of total lymphocytes) in the absence of symptomatic illness. The CD4+ T-lymphocyte criteria were added in 1993 to allow for the reporting of AIDS cases earlier in the course of HIV infection, before the onset of any AIDS-indicator clinical condition. Since its introduction in 1996, antiretroviral treatment has made AIDS case reporting an unreliable indicator of underlying trends in HIV infection because successfully treated patients may fail to develop AIDS-defining immunodeficiency and/or clinical illness. As a result, the Board of Health changed the reporting rules in September 1999 to allow HIV infection to be a reportable condition. As of 12/31/01, 2,952 cases of HIV (not AIDS) were reported to the Department of Health. A preliminary description of these data will be presented; however, rates will be calculated based on AIDS cases alone.

Table 1. AIDS-indicator diseases included in the surveillance case definition

Candidiasis of bronchi, trachea, or lungs
Candidiasis, esophageal
Cervical cancer, invasive*
Coccidioidomycosis, disseminated or extrapulmonary
Cryptococcosis, extrapulmonary
Cryptosporidiosis, chronic intestinal (>1 months duration)
Cytomegalovirus disease (other than liver, spleen or lymph nodes)
Cytomegalovirus retinitis (with loss of vision)
Encephalopathy, HIV-related
Herpes simplex: chronic ulcer(s) (> 1 month duration; or bronchitis, pneumonitis, or esophagitis)
Histoplasmosis, disseminated or extrapulmonary
Isosporiasis, chronic intestinal (>1 month's duration)
Kaposi's sarcoma
Lymphoma, Burkitt's (or equivalent term)
Lymphoma, immunoblastic (or equivalent term)
Lymphoma, primary, of brain
Mycobacterium avium complex or *M. kansasii*, disseminated or extrapulmonary
Mycobacterium tuberculosis, any site (pulmonary* or extrapulmonary)
Mycobacterium, other species or unidentified species, disseminated or extrapulmonary
Pneumocystis carinii pneumonia
Pneumonia, recurrent*
Progressive multifocal leukoencephalopathy
Salmonella septicemia, recurrent
Toxoplasmosis of brain
Wasting syndrome due to HIV

*Added in the 1993 revision of the case definition

In 2001, 524 cases of AIDS were reported. This represents a 10% increase from cases reported in 2000. A number of factors may have contributed to this increase in cases. Enhanced lab-based

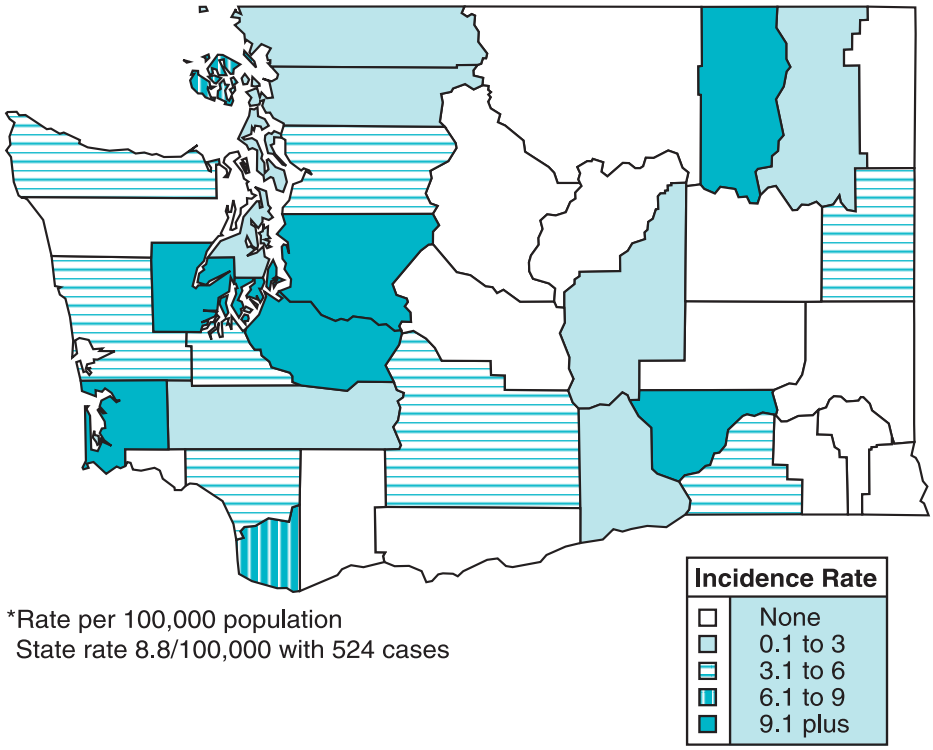
reporting was initiated when asymptomatic HIV infection became reportable which contributed to enhanced ability to recognize AIDS cases and an increase in reported AIDS cases. Additionally, surveillance of all HIV-related conditions received increased attention as a result of the new reporting requirement. Trends being seen in Washington State are being seen in other parts of the country, and have been attributed to a combination of factors, including failing therapies due to treatment-resistant viral strains; late HIV testing; inadequate access to and adherence to treatment in some populations; and recent increases in HIV incidence in some risk groups.

In addition to AIDS cases, 976 HIV cases were reported in 2001. These do not represent incident HIV cases; since reporting was initiated in late 1999, many of the cases reported in 2001 (47%) were prevalent cases diagnosed prior to 1999. Even individuals diagnosed with HIV in more recent years may not have acquired HIV recently. Those who are diagnosed with HIV infection in recent years may have contracted their infection anywhere from weeks to years in the past.

The 2001 state incidence rate of 8.8 per 100,000 population compares favorably to a national incidence rate of 14.0/100,000 (50 states and the District of Columbia). In 2001, AIDS cases were reported from 24 counties. For counties with at least 5 cases, the highest incidence rate was in King County (18.4/100,000), followed by Franklin County (11.9/100,000), Mason County (10.1/100,000), Pierce County (9.1/100,000) and Clark County (7.1/100,000).

2001 AIDS Cases*

County Specific Incidence Rates



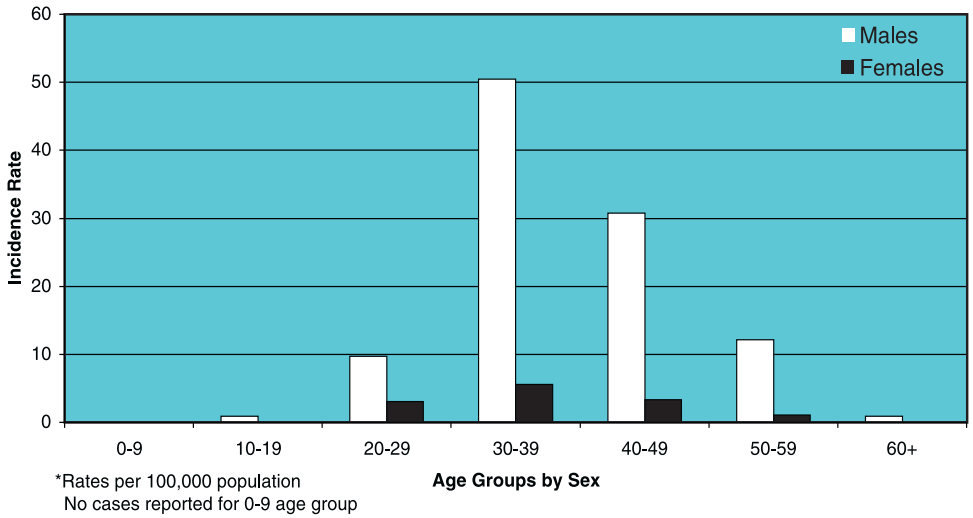
*Rate per 100,000 population
State rate 8.8/100,000 with 524 cases

Of the 524 AIDS cases reported, 467 (89%) were among males and 57 (11%) were among females. Male-to-male sexual contact continued to account for the majority (60%) of all AIDS cases reported in 2001. Among adult and adolescent men, 357 cases (77%) were attributable to male-to-male sexual contact, with or without concurrent injection drug use. Drug use alone accounted for 40 (9%) cases among men, and 41 cases (9%) were attributable to a combined risk of male-to-male sexual contact and injection drug use. Risk was unreported or unconfirmed in 41 cases (9%).

The proportion of AIDS cases among women has increased over time, from 2% in 1987 to 7% in 1994 to 11% in 2001. Among adult/adolescent cases reported in women in 2001, 28 women (49%) acquired HIV infection through heterosexual contact with a partner known to be HIV infected or at high risk for HIV infection. Cases among injection drug users represented 25% of female cases. Risk was unreported for 14 (25%) women. For both males and females, age-specific incidence rates were highest among persons 30-39 years of age (50.5/100,000 for men and 5.6/100,000 for women).

2001 AIDS Cases*

Age/Sex Specific Incidence Rates



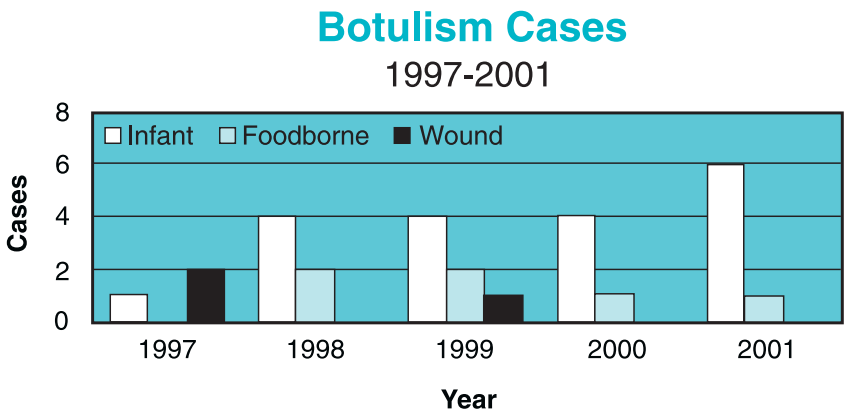
Of the 524 AIDS cases reported in 2001, 44 are known to have died as of March 1, 2001. Antiretroviral use has markedly increased the survival rate among AIDS patients diagnosed since 1995. In 2001, the numbers of persons living with AIDS in Washington rose to the highest number ever (4,395), an increase of 8% from the previous year.

As mentioned previously, HIV cases reported in 2001 reflect those diagnosed years ago as well as those diagnosed more recently. Of the 976 cases reported in 2001 from 24 Washington counties, 715 (73%) were reported from King County, followed by Pierce County with 73 cases (7%) and Snohomish County with 45 cases (5%).

The majority of cases (88%) were male, and were attributable to male-to-male sexual contact. For adult and adolescent men, the primary mode of exposure was male-to-male sexual contact (633 cases, 74%), followed by injection drug use (57 cases, 7%) and the two risks combined (63 cases, 7%). Sixty-nine cases (8%) had no identified risk. For adult and adolescent women, heterosexual sexual contact with a partner known to be HIV-infected or at high risk for HIV was the mode of exposure for 55 cases (45%); 26 cases (21%) were due to injection drug use and 36 cases (30%) were due to no identified risk.

BOTULISM

Spores from *Clostridium botulinum* are found worldwide in soil, agricultural products, and animal intestinal tracts. Neurotoxins produced by the bacterium cause three forms of botulism. Botulism could be an agent of bioterrorism.



Foodborne (classic) botulism results from eating food contaminated by toxin produced during bacterial growth. Symptoms include weakness of the arms and legs, blurred vision, difficulty speaking and swallowing, and constipation sometimes preceded by diarrhea. Severe cases have respiratory paralysis requiring mechanical ventilation. With supportive care mortality is 5-10%; recovery may take months. The last fatal case in Washington was in 1983.

Toxin can be detected in stool, serum, or food samples. For immediate testing of food or clinical samples, contact Communicable Disease Epidemiology's 24 hour number (206 361-2914 or 1-877-539-4344). Antitoxin treatment for food-associated botulism cases can also be arranged. Contaminated food should be tested to confirm the source and to prevent additional cases.

Proper canning with pressure-cooking will prevent botulism. Using water-bath canning methods (particularly for food not sufficiently acidic) or holding foods unrefrigerated under low oxygen conditions can result in formation of botulism toxin. The toxin can be destroyed by cooking food at a full boil for at least 3-5 minutes.

Recent botulism cases in Washington were associated with improperly home-canned asparagus, beets, corn, carrots, spinach, and salsa. There was one food-associated case in 2001.

Infant botulism occurs when the organism colonizes the intestine and produces toxin. As its name indicates, infant botulism occurs almost exclusively in children under a year of age. Raw honey consumption has been implicated in some but not all cases of infant botulism, and this product should not be fed to infants. Symptoms usually begin with constipation followed by lethargy, difficulty swallowing, and weakness. Toxin or the organism can be detected in the stool. Treatment is primarily supportive and may require intubation and ventilation. Equine antitoxin is generally not given but clinical use of human-derived botulism antitoxin is available at tertiary care pediatric hospitals. Six infant botulism cases were reported in 2001.

Wound botulism occurs when the toxin is produced by bacterial growth in body tissues, typically a contaminated wound. Treatment is wound debridement and antitoxin. In 2001 no cases of wound botulism in Washington were reported.

DISEASE OF SUSPECTED BIOTERRORISM ORIGIN

The Washington State Department of Health has never received a confirmed report of a disease of suspected bioterrorism origin, such as anthrax or smallpox.

In the U.S., during the fall of 2001, an anthrax outbreak involved exposure to mail that was deliberately contaminated with anthrax spores. Following this bioterrorism incident, state and local public health and law enforcement officials responded to hundreds of calls requesting testing of suspicious packages. In Washington, the Public Health Laboratories tested over 100 such specimens for bioterrorism agents.

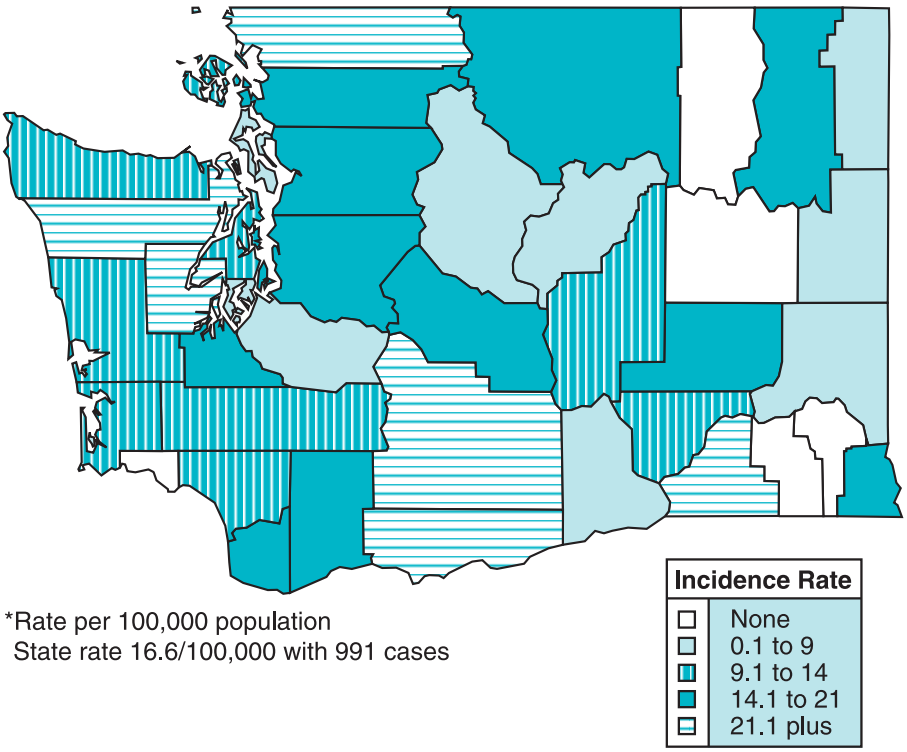
CAMPYLOBACTERIOSIS

Campylobacteriosis, an acute bacterial disease, normally lasts 2-5 days and rarely longer than 10 days. Symptoms are diarrhea, stomach cramps, fever, nausea, and vomiting. Several species cause disease in humans, the most prevalent *Campylobacter jejuni*. Transmission is through fecal contamination of food, person to person, and through direct contact with infected animals (calves, puppies and kittens). It is also spread by raw milk, poultry, meat or cross-contamination of other foods.

In 2001, 991 cases of campylobacteriosis were reported for a statewide incidence rate of 16.6 per 100,000 population. High incidence rates were found in Yakima (132 cases, 58.8/100,000) and Whatcom (59 cases, 34.6/100,000) counties. The rate in Klickitat County, although high, was based on small numbers.

2001 Campylobacteriosis Cases*

County Specific Incidence Rates



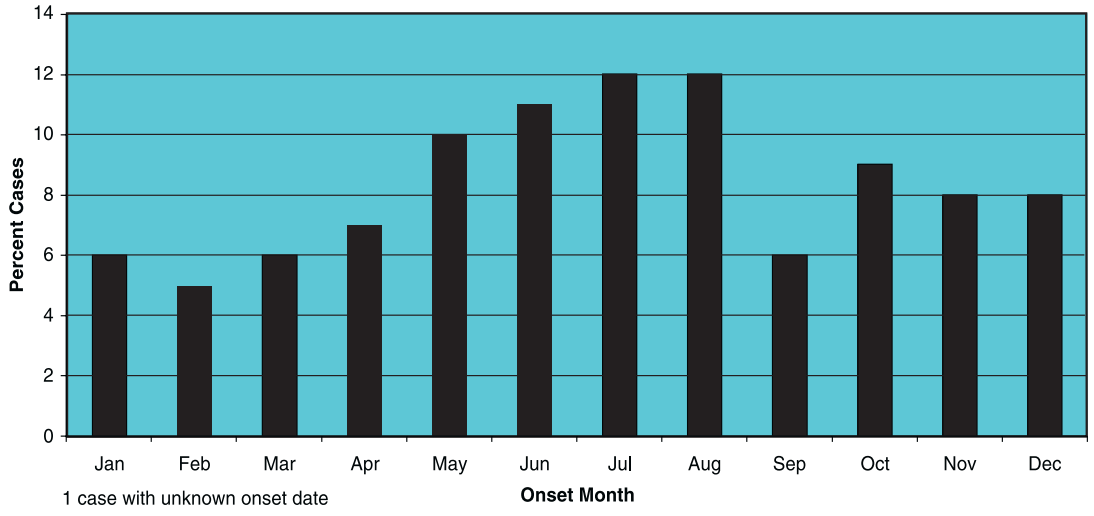
*Rate per 100,000 population
State rate 16.6/100,000 with 991 cases

C. jejuni accounted for 56% of the cases and 43% of the cases had unknown serotype; ten cases of *C. coli* and a single case of *C. lari* were reported.

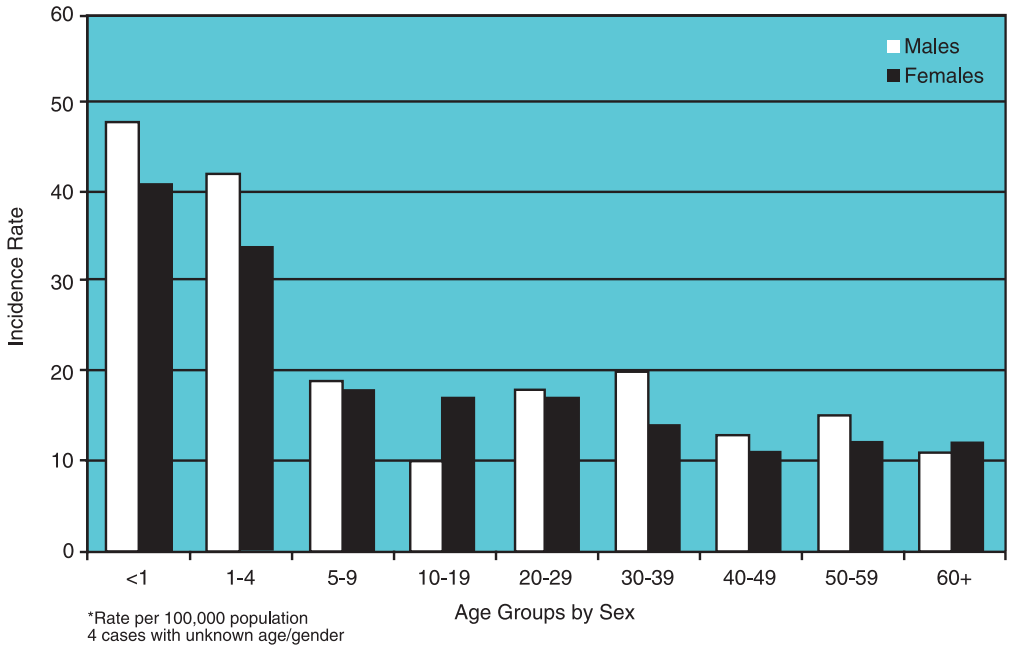
Cases were more common during summer months, typical of many enteric diseases.

Age-specific incidence rates were greatest for the one year old age group (48.3/100,000). Males had an incidence rate of 19.0/100,000 and females had a rate of 14.1/100,000.

Percent 2001 Campylobacteriosis Cases
by Onset Month



2001 Campylobacteriosis Cases*
Age/Sex Specific Incidence Rates



For cases with race/ethnicity information, Hispanics (43.0/100,000) had the highest incidence rate, followed by Native Americans (35.0/100,000).

CHLAMYDIA TRACHOMATIS

Chlamydia trachomatis is one of four species in its genus. The others are *C. pneumoniae*, a cause of respiratory infections, *C. psittaci*, a pathogen of birds and domestic animals which can cause psittacosis in humans, and *C. pecorum*, a pathogen of domestic animals.

C. trachomatis is the most commonly reported sexually transmitted disease (STD) in the United States and in Washington. Asymptomatic infection is common among both men and women. If symptoms occur, there may be abnormal discharge in the early stages, 7-21 days after exposure, or pain during urination. Women may also have abdominal pain. *Chlamydia* has been called "the silent STD" because symptoms are often very mild or absent. In women, untreated *Chlamydia* is a major cause of pelvic inflammatory disease (PID) that can lead to infertility (particularly with repeat infections) or ectopic pregnancies. Women infected with chlamydia are up to five times more likely to become infected with HIV, if exposed. An infant can be infected at birth, resulting in neonatal conjunctivitis or chlamydial pneumonia. Complications in untreated men include urethritis, epididymitis, and proctitis.

Diagnostic tests and treatment regimens exist for *Chlamydia*. Due to an increased prevalence of *Chlamydia* in patients with gonococcal infections (dual or coinfection), presumptive treatment for *Chlamydia* is recommended for patients with gonorrhea. In 2001, 628 dual infections were diagnosed.

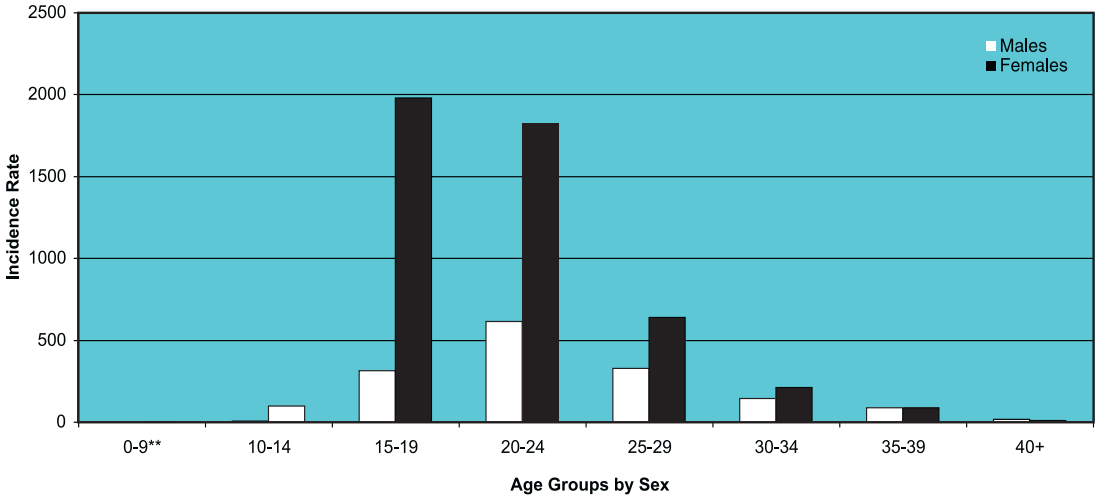
In 2001, 13,631 *Chlamydia* cases (10,159 female, including 302 cases of chlamydia PID, and 3,484 male) were reported for a rate of 228 per 100,000 population. This compares to 13,066 (224/100,000) in 2000. Screening efforts aimed at women (Region X Infertility Prevention Project [IPP]) account for the high female to male ratio (2.9:1). All women attending STD clinics and women seeking reproductive health services in other facilities, who meet selective screening criteria, are the population targeted for chlamydia screening through the IPP.

The increase in *Chlamydia* cases can be attributed to several factors including:

- More sensitive laboratory techniques
- Increase in routine screening and partner referral
- Improved surveillance and reporting, and
- Increase in risky sexual behaviors

2001 Chlamydia Cases*

Age/Sex Specific Incidence Rates



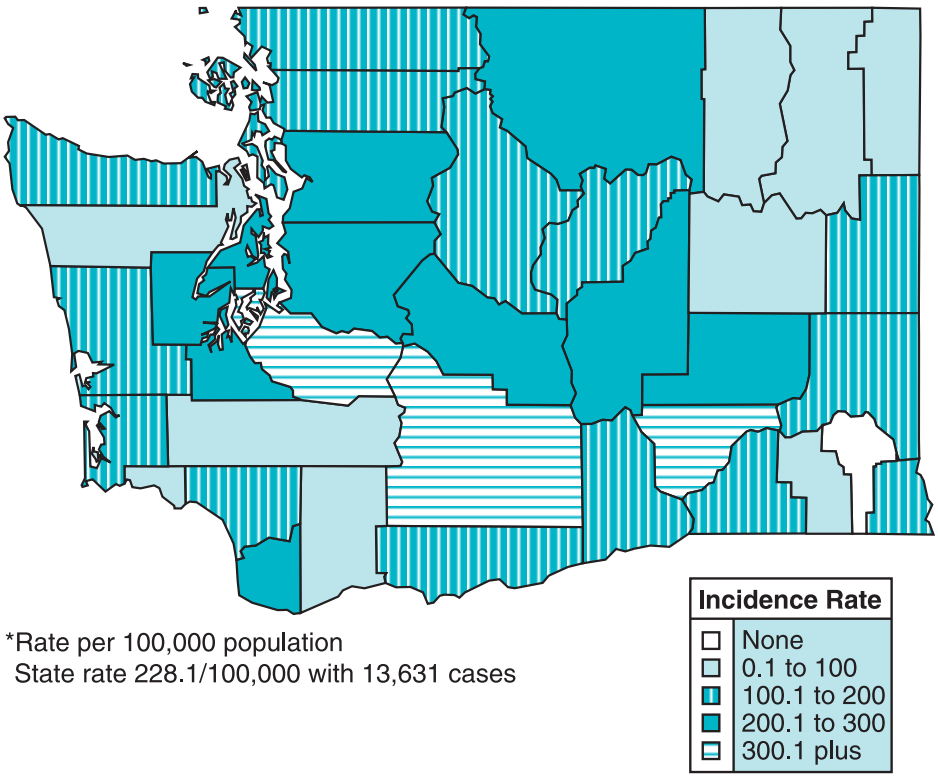
*Rate per 100,000
**In the 0-9 age group, 4 of 4 males and 7 of 8 females were <1 year of age.
Denominators: Washington State Adjusted Population Estimates, Office of Financial Management, Nov. 2001.

The **2002 STD Treatment Guidelines**, issued by the Centers for Disease Control and Prevention (CDC), recommends that all women with chlamydia be rescreened three to four months after treatment. This was advised because of the high prevalence of chlamydia found in women diagnosed with the disease in the preceding months, presumably as the result of reinfection.

Thirty-eight of 39 Washington counties reported cases of *Chlamydia*. Highest incidence rates were in Yakima (390/100,000) and Pierce (327/100,000) counties.

2001 Chlamydia Cases*

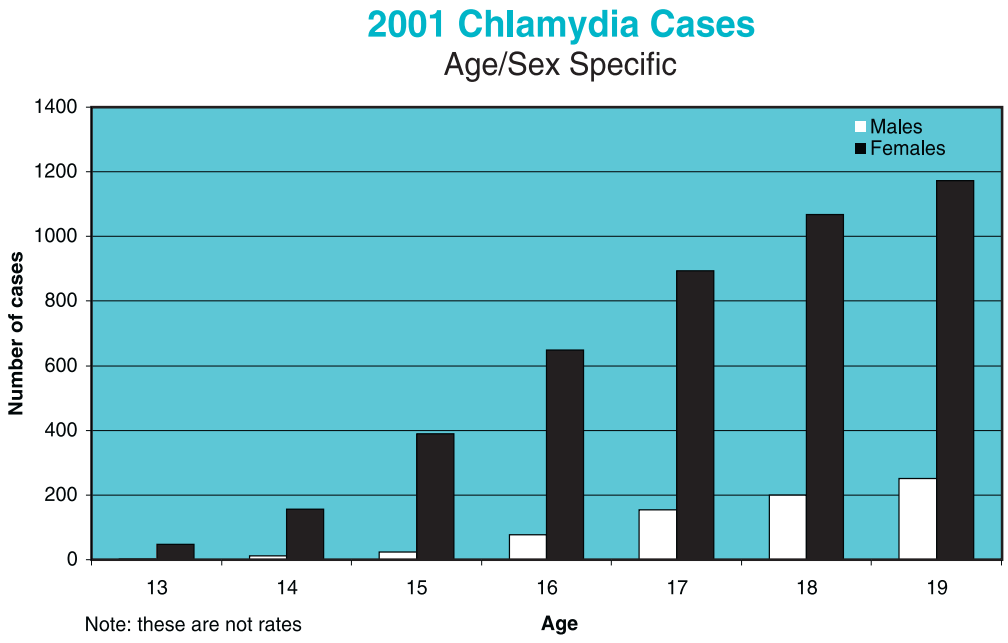
County Specific Incidence Rates



*Rate per 100,000 population
State rate 228.1/100,000 with 13,631 cases

Chlamydia can be a problem for sexually active adolescents (36% of reports, 4,734 cases), and is often concentrated among female adolescents, who are physiologically more susceptible to a chlamydial infection than older women. For 15-19 year olds the incidence rate was 1,980/100,000 for females and 315/100,000 for males. Among 20-24 year olds the rate was 1,824/100,000 for females and 614/100,000 for males. Screening more often than once a year should be considered for adolescents.

For cases with race/ethnicity reported, African-Americans had the highest incidence rate (1,085/100,000) followed by Native Hawaiian/Other Pacific Islanders (565/100,000), American Indians (553/100,000), Asians (166/100,000) and Caucasians (154/100,000). Hispanics, counted as a separate ethnicity, had an incidence rate of 501/100,000.



ENTEROHEMORRHAGIC E. COLI AND HEMOLYTIC UREMIC SYNDROME

Shiga-toxin producing enterohemorrhagic bacteria such as *E. coli* O157:H7 cause both epidemic and sporadic cases of diarrhea. Infections can be asymptomatic but usually involve abrupt diarrhea, often with severe cramping and little or no fever. There may be bloody diarrhea or rare but serious complications such as hemolytic-uremic syndrome (HUS) with hemolytic anemia and kidney failure. Management is supportive. Antibiotics shall not be given. Enterohemorrhagic (shiga-toxin positive) *E. coli* including O157:H7 and other shiga-toxin strains, and HUS are reportable in Washington.

The typical incubation period for *E. coli* O157:H7 is 3 to 5 days (range 1 to 7). Cattle are the primary reservoir with beef (especially ground beef) the major vehicle for transmission. Other potential exposure sources include unpasteurized milk, cross-contaminated foods, farm products, and contaminated water. Person-to-person transmission can occur in households, day care centers, or nursing homes.

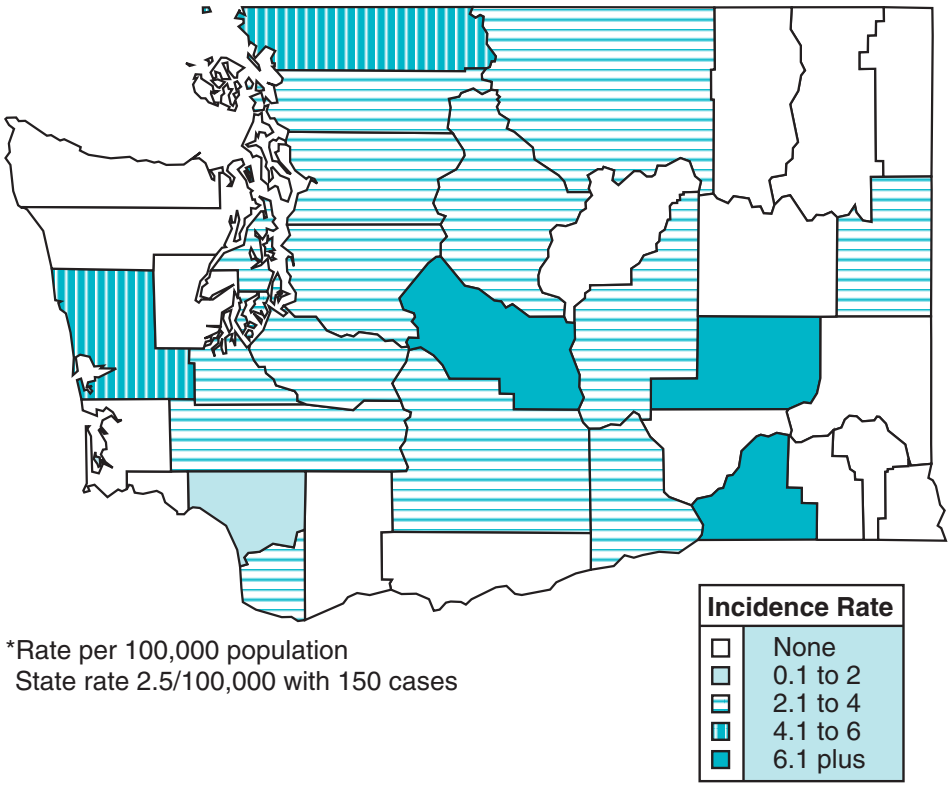
E. coli O157:H7 is non-invasive and fecal leukocytes are often absent, unlike other infectious causes of bloody diarrhea. Sorbitol-MacConkey agar is used to culture *E. coli* O157:H7. Rapid agglutination identifies antigens such as O157 and H7. Cultures may be negative late in the disease course when complications occur. A few cases continue to carry the organism in their intestines for weeks after symptoms end.

E. coli O157:H7 was first identified in Washington in 1986 during outbreaks in Seattle, Spokane, and Walla Walla. In 2001 there were 150 cases, for an incidence rate of 2.5/100,000 population, with one death. An outbreak in September associated with a food service resulted in six confirmed and eight clinical cases. In addition, three culture-negative cases of HUS were reported.

There was also one case each of other shiga-toxin producing strains: O26:H11, O111:H8, O28ac:H25, O111:NM, O118:H8, O118:H16, and O121:H19.

2001 E. coli O157:H7 Cases*

County Specific Incidence Rates

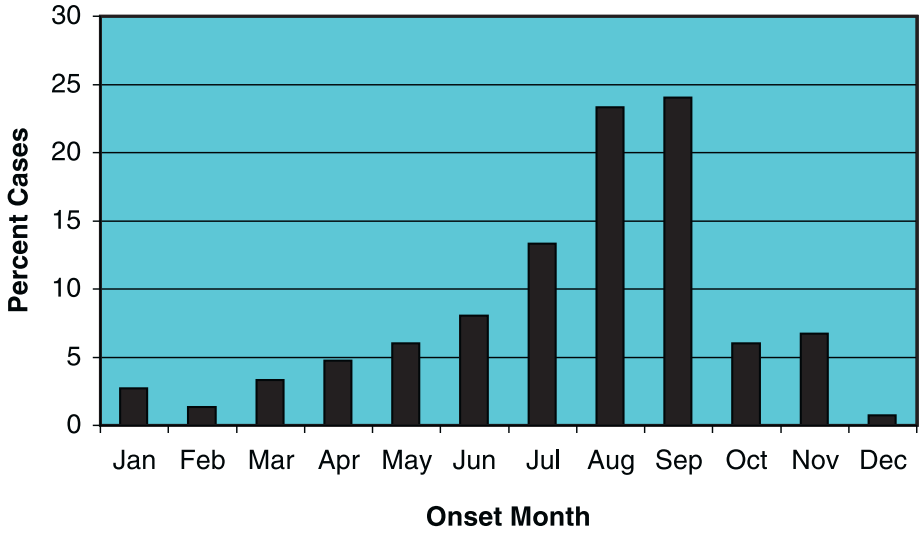


*Rate per 100,000 population
State rate 2.5/100,000 with 150 cases

In Washington, *E. coli* O157:H7 case counts usually increase in warmer months. A summer peak has been reported from other areas of the country. In 2001, cases were high from June through August.

Percent 2001 E. coli 0157:H7 Cases*

by Onset Month

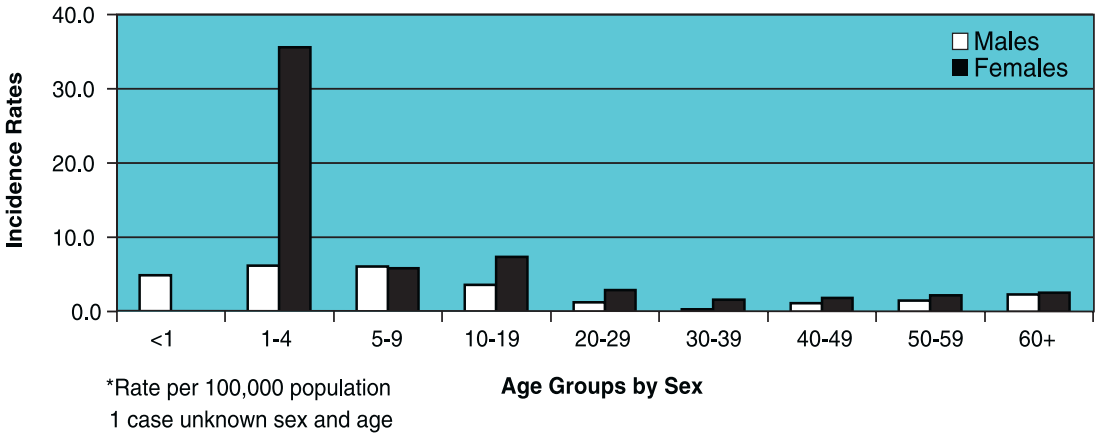


In 2001, children one to four years of age accounted for 16% of cases (incidence rate 7.6/100,000). Age-specific rates do not necessarily reflect disease frequency, since adults may have less severe illness and not seek medical care.

Although *E. coli* O157:H7 outbreaks have been associated with commercial products and restaurants, most cases appear to be related to home cooking. Safe food handling and attention to personal hygiene can reduce the risk of *E. coli* O157:H7 infections. Recommendations to reduce risk include: completely cook meat, particularly ground beef (until no pink color remains); thoroughly wash hands, utensils, and surfaces after handling raw meat or poultry; do not consume raw (unpasteurized) milk or raw milk products; and thoroughly wash hands after using the toilet or changing diapers. Those ill with diarrhea should not prepare food for others, attend school or day care, or swim in lakes or pools. Outbreaks in Washington have been associated with fast food hamburgers (501 cases in 1993) (JAMA 1994;272:1349-53), home cooked ground beef (11 cases in 1994), commercial dry-cured salami (20 cases in 1994) (MMWR 1995;44:157-60), commercial apple juice (28 cases in 1996) (MMWR 1996;45:975), and swimming in lake water (28 plus 8 secondary cases in 1999).

2001 E. coli 0157:H7 Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000 population
1 case unknown sex and age

DISEASE OF SUSPECTED FOODBORNE ORIGIN

Foodborne disease surveillance enhances early identification of contaminated foods and faulty food preparation practices. Prompt response by local health jurisdictions can reduce illness and secondary spread of infections. A complaint of two or more ill persons with epidemiologic and/or laboratory evidence implicating a common food as the source of the illness is defined as a foodborne outbreak.

Local health jurisdictions are required to submit a written report to the DOH for a cluster or outbreak of foodborne disease within seven days of completing the investigation, whether or not confirmatory laboratory tests have been done. Reporting forms are available electronically at http://www.doh.wa.gov/ehp/sf/foodpubs.htm or from the Communicable Disease Epidemiology section (206-361-2914, toll free 877-539-4344).

In 2001, 69 foodborne outbreaks with 574 ill persons were reported. Most reported outbreaks (64%) occurred in King County. The majority of reported outbreaks (80%) were associated with restaurant-prepared food. Fifty percent involved three or fewer ill persons.

Number and Percent of Outbreaks and Ill Persons by Place of Preparation

	Outbreaks		Ill Persons	
	#	%	#	%
Restaurant	55	80%	345	60%
Home	4	6%	36	6%
School	3	5%	94	16%
Caterer	1	1%	7	2%
Hospital	1	1%	15	3%
Grocery store deli	1	1%	6	1%
Other*	4	6%	71	12%
Totals:	69	100%	574	100%

*Includes assisted living facility, conference center, espresso stand and international exposure.

The etiologic agent was confirmed by laboratory testing in 13 (19%) outbreaks. The remaining outbreaks were classified as "probable." To be classified as a probable outbreak, at least two of the three following conditions have usually been met: 1) a high risk food or foods have been identified as a source of illness, 2) risk factors or errors have been identified in preparation of foods consumed by ill patrons, or 3) ill persons have a clinical syndrome which is compatible with defined etiologic agents associated with foodborne illness.

Number and Percent of Outbreaks and Ill Persons by Agent

	Outbreaks		Ill Persons	
Agent*	#	%	#	%
Bacterial				
Salmonella	4	6%	43	7%
Shigella sonnei	2	3%	13	2%
E. coli O157:H7	1	1%	14	2%
Campylobacter jejuni	1	1%	2	<1%
*Vibrio cholerae***	1	1%	2	<1%
Chemical				
Histamine	1	1%	6	1%
Other chemical	2	3%	4	1%
Viral				
Norwalk-like virus	16	23%	325	56%
Undetermined	41	59%	165	29%
Totals:	66	100%	574	100%

*Includes lab confirmed outbreaks and outbreaks with cases whose clinical symptoms match a given agent but lack laboratory confirmation.
**International exposure

A specific food item causing illness could not be identified in 12 (17%) of the outbreaks. Poultry was associated with 6 (9%) outbreaks, while green salads and sandwiches were linked to 3 (4%) outbreaks each. The most frequently noted contributing factors identified by environmental field investigators are listed in the following table.

Number and Percent of Outbreaks wiith Selected Contributing Factors

Factor*	Number	Percent of Total Outbreaks** (N=69)
Contamination factors		
Bare-hand contact	29	42%
Ill food handler	19	28%
Poor handwashing	9	13%
Cross contamination	9	9%
Contaminated raw product/ingredient	7	10%
Proliferation/Amplification factors		
Slow cooling	19	28%
Foods prepared > 1/2 day before serving	17	25%
Inadequate cold-holding temperatures	9	13%
Allowing foods to remain at room temp.	8	12%
Survival factors		
Inadequate time or temp. in reheating	12	17%
Inadequate time or temp. in cooking	6	9%

*An outbreak may have more than one contributing factor.

GIARDIASIS

Giardia lamblia, a flagellate protozoan, can infect the upper small intestine. Patients may be asymptomatic or have chronic diarrhea, cramps, bloating, steatorrhea, fatigue, and weight loss, lasting weeks to months; communicability is for the entire period of the illness. The incubation period is 5 to more than 25 days (median 7 to 10 days).

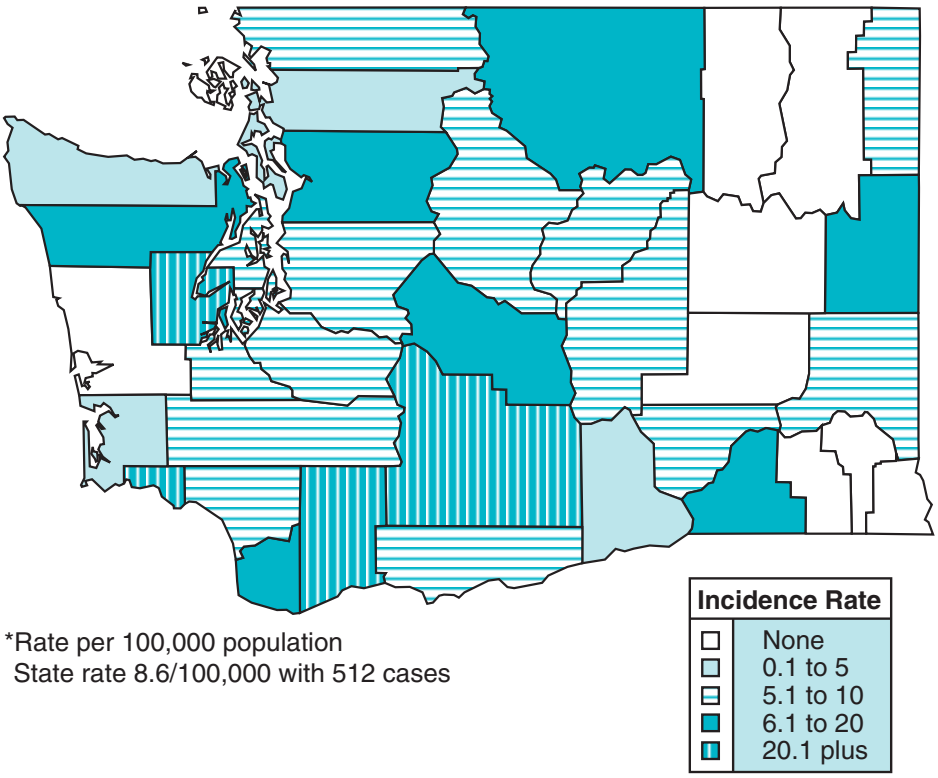
Humans and animals (beavers, puppies, and kittens) are reservoirs. Person-to-person transmission can occur in day care centers, by not washing hands thoroughly, or by oral-anal sexual contact. Fecally contaminated water or food may cause outbreaks. An increase in cases during warmer months is typical and may be due to drinking or swimming in untreated water infected by wild animals. Asymptomatic individuals unaware of their infection are probably more responsible for transmission than are individuals with diarrhea.

In 2001, 512 cases of giardiasis were reported (incidence 8.6/100,000) with one death. The highest incidence rates were in Mason County (22.2/100,000, 11 cases) and Yakima County (20.5/100,000, 46 cases). The high rates in Wahkiakum (26.3/100,000) and Skamania County (20.2/100,000) were based on a small number of cases.

Sex-specific incidence rates for males and females were similar. Age-specific incidence rates were highest in children under five years of age.

2001 Giardiasis Cases*

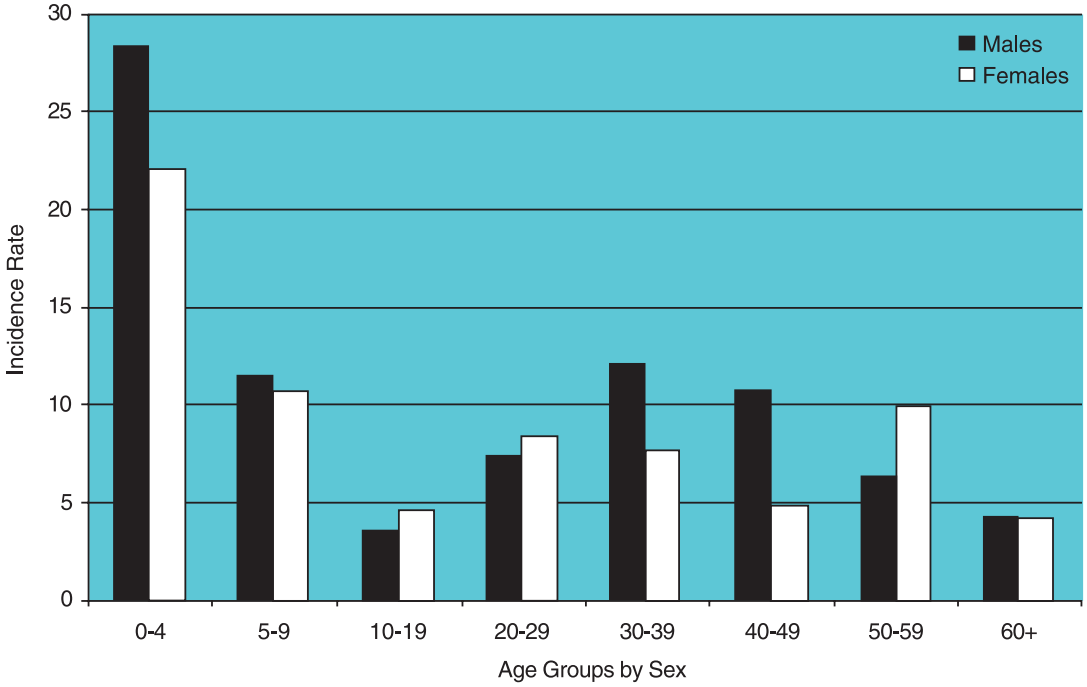
County Specific Incidence Rates



*Rate per 100,000 population
State rate 8.6/100,000 with 512 cases

2001 Giardiasis Cases*

Age/Sex Specific Incidence Rates



The highest incidence rate was in the Hispanic population (13.9/100,000).

In 2001, 7% of cases attended day care and 7% had a household contact attending or working in a day care facility. Careful hand washing is important after using the toilet or changing a diaper, to prevent transmission in these settings.

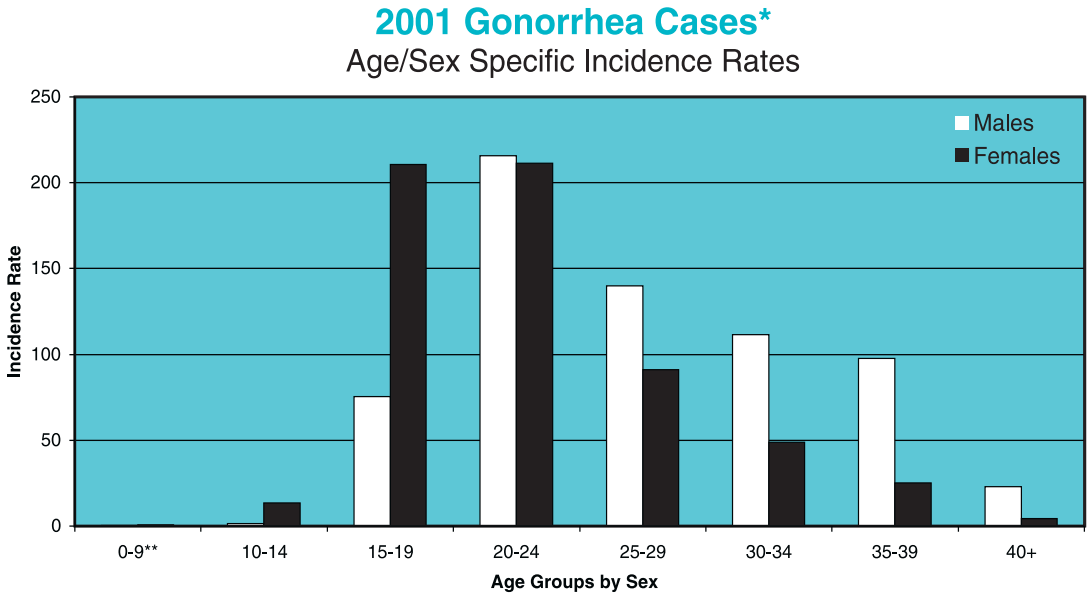
GONORRHEA

Gonorrhea is caused by *Neisseria gonorrhoeae*, a complex fragile bacterium that infects only humans. *N. gonorrhoeae* is transmitted through vaginal, oral, or anal sex with an infected partner. If symptoms develop, they usually appear within 2-10 days after exposure. Symptomatic women usually have abnormal vaginal discharge or painful urination; however, about half of women have no symptoms. Men usually have a penile discharge and a burning sensation during urination that may be severe.

Untreated gonorrhea can spread through the blood and infect the heart valves, joints, or brain. For females the most common consequence is pelvic inflammatory disease (PID) which can cause infertility, ectopic pregnancy, and chronic pelvic pain. In 2001, 119 cases of gonococcal PID were reported. For males complications include epididymitis with pain and swelling within the scrotum. Gonococcal eye infections may result from mother-to-infant transmission during birth, but these are rare in the United States where postpartum ocular prophylaxis is used (it is mandated by regulations in Washington State). Epidemiologic studies provide strong evidence that gonococcal infections may also facilitate HIV transmission.

Diagnostic tests and effective treatment are readily available. Selection of treatment requires consideration of the anatomic site of infection, resistance of *N. gonorrhoeae* strains to some antimicrobials, and the possibility of concurrent *Chlamydia* infections. In the 2002 STD Treatment Guidelines, the Centers for Disease Control and Infection (CDC) has alerted providers that ciprofloxacin-resistant strains have become so common on the west coast that the use of fluoroquinolone antibiotics to treat gonorrhea is inadvisable in California. Because coinfections are common, gonorrhea treatment should also be effective against *Chlamydia*. In 2001, 21% of gonorrhea cases (628) were diagnosed with coinfections.

In 2001, 2,991 cases of gonorrhea (1,690 males and 1,301 females) were reported for an incidence rate of 50/100,000.

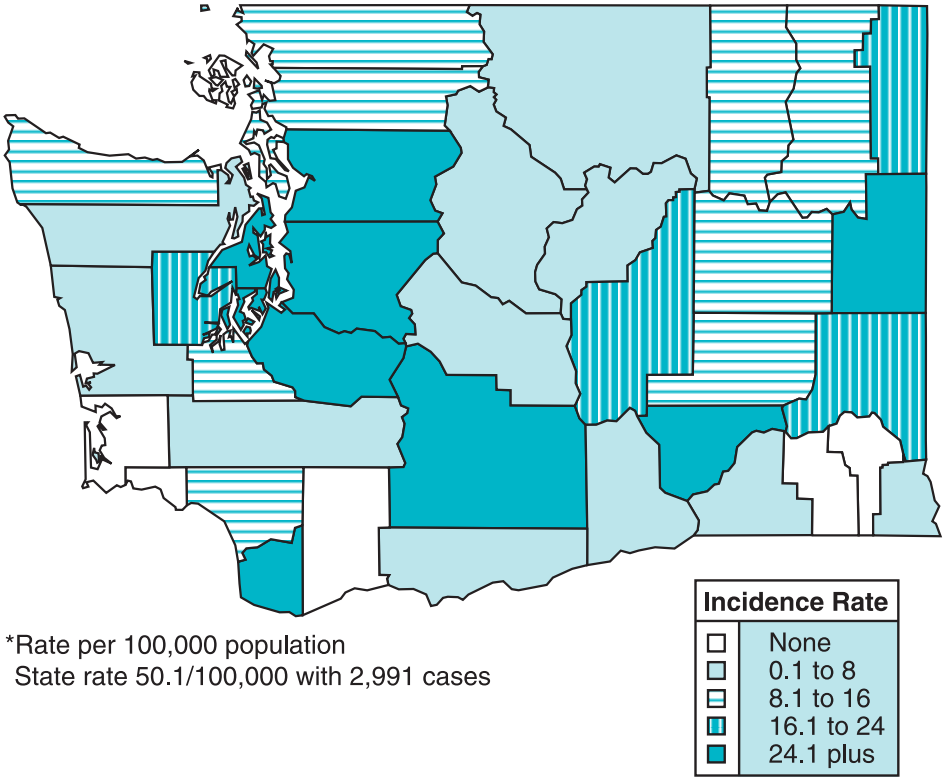


*Rates per 100,000
** In the 0-9 age group, 1 of 1 male and 1 of 3 females were < 1 year of age
17 males and 13 females were of unknown age
Denominators: Washington State Adjusted Population Estimates, Office of Financial Management, Nov. 2001.

There were six counties with no reported cases of gonorrhea while King and Pierce counties accounted for 74% of the State's morbidity. Pierce County had the highest incidence rate (93/100,000).

2001 Gonorrhea Cases*

County Specific Incidence Rates



*Rate per 100,000 population
State rate 50.1/100,000 with 2,991 cases

Gonorrhea is highest among sexually active adolescents and young adults. The highest incidence rate for males occur in the 20-24 (216/100,000) and 25-29 (140/100,000) age groups. The highest rates for females are in the 20-24 (211.4/100,000) and 15-19 (210.5100,000) age groups.

Of those cases reporting race/ethnicity, African-Americans had the highest incidence rate (524/100,000) followed by American Indians (82/100,000), Native Hawaiian/Other Pacific Islanders (42/100,000), Caucasians (25/100,000), and Asians (17/100,000). Hispanics are counted as a separate ethnicity; the Hispanic incidence rate was 58/100,000.

Of 216 gonococcal repeaters (more than one episode in a 12-month period), 21% (45) were teenagers. Six percent of females diagnosed with gonorrhea (75 of 1,301) were repeaters. Repeat infections are one of the risk factors associated with infertility.

HERPES SIMPLEX, GENITAL AND NEONATAL

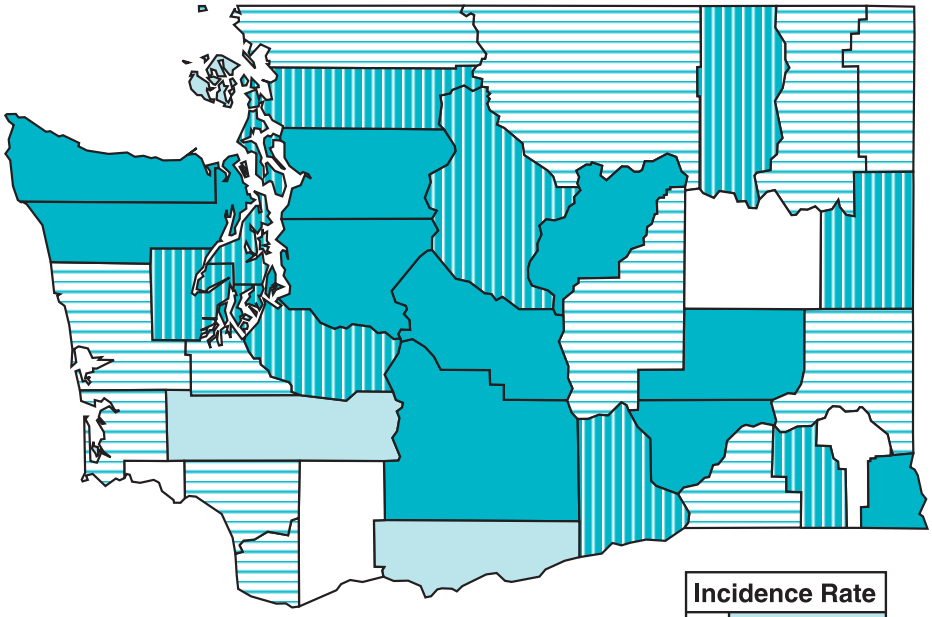
Within the human herpes virus family there are two serotypes of the herpes simplex virus (HSV), herpesvirus type 1 (HSV-1) and herpesvirus type 2 (HSV-2). HSV-1 is usually associated with oral herpes (cold sores or fever blisters) and HSV-2 with genital herpes. However, HSV-1 or HSV-2 can infect either site. The virus remains in the body for life causing periodic symptoms in some people.

Serologic surveys indicate that the prevalence of HSV-2 among adults approaches 25% in the United States. An estimated one million people are newly infected each year. Herpes can be transmitted by an infected person with no noticeable symptoms. People with oral herpes can transmit the infection to a partner's genital area during oral-genital sex.

Asymptomatic and subclinical infections are common and symptoms of genital herpes vary widely, in most studies only 10 – 25% of those with HSV-2 report symptoms. When symptoms of a first episode occur, they usually appear 2 to 21 days after contact with an infected partner. Small fluid-filled sores appear where the virus entered the body and may itch, burn, or be painful. These initial sores heal in 1 to 2 weeks and rarely leave scars. Symptoms can recur at the initial infection site. The cause of reactivation is not known. Later outbreaks usually have fewer sores, heal faster, and are less painful than the first infection. Genital herpes, like other genital ulcer diseases, increases the risk of acquiring HIV, the virus that causes AIDS. Persons with HIV can have severe herpes outbreaks.

2001 Genital Herpes Cases*

County Specific Incidence Rates



*Rate per 100,000 population
State rate 30.7/100,000 with 1,836 cases

Incidence Rate	
	None
	0.01 to 11
	11.1 to 22
	22.1 to 33
	33.1 plus

A pregnant woman can transmit herpes as a child passes through the birth canal, causing serious infection or death of the newborn. Risk is highest if the initial infection is during pregnancy or if the mother is shedding virus at the time of delivery. Pregnant women with herpes need careful prenatal screening and sometimes delivery by Caesarian section.

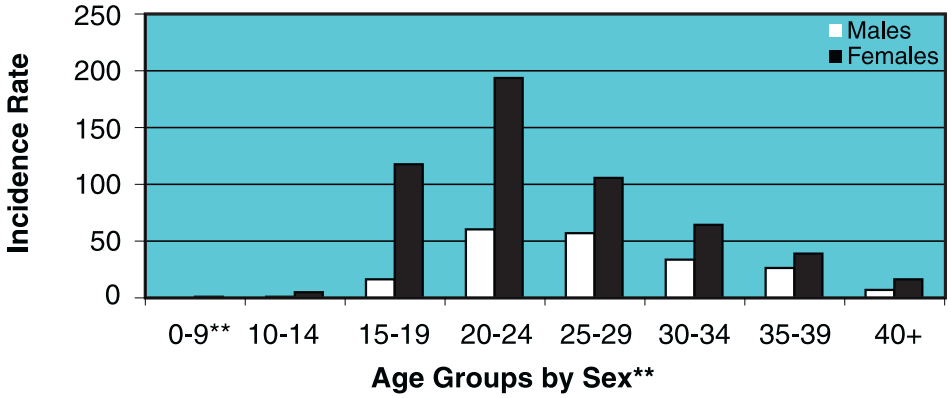
Diagnosis of herpes is made through clinical observations of typical lesions and/or by laboratory confirmation. Antiviral drugs partially control the frequency and severity of outbreaks, however, they are not a cure and do not rid the body of the virus.

To prevent duplicate morbidity only a patient's first disease episode is reportable in Washington State. In 2001, 1,833 cases of genital herpes (513 males and 1,323 females) were reported for an incidence rate of 35/100,000. Included in the total are three neonatal infection. This compares to 2,010 (35/100,000) cases (1 neonatal) in 2000.

Six counties (King, Pierce, Snohomish, Yakima, Kitsap, and Spokane) accounted for 70% of the State total.

2001 Genital Herpes Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000

**In the 0-9 age group, 1 of 1 male and 2 of 2 females were <1 year of age

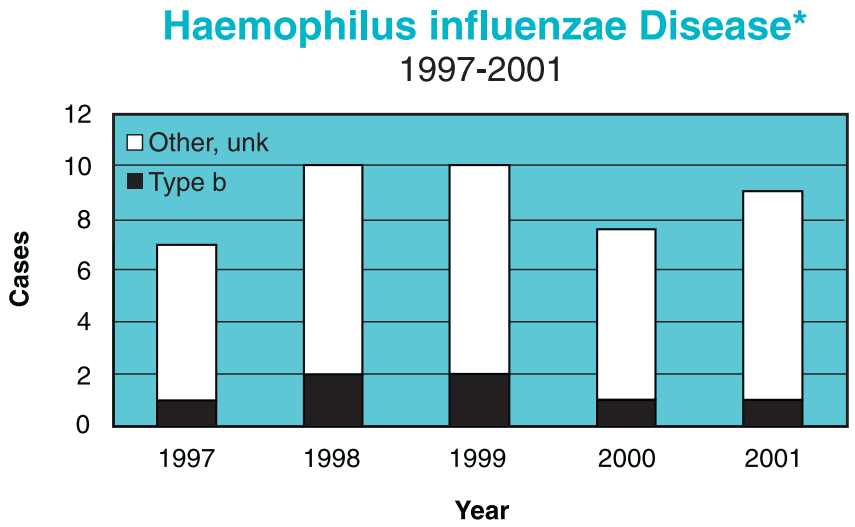
17 male cases and 40 female cases with unknown age

HAEMOPHILUS INFLUENZAE, INVASIVE DISEASE

Most *Haemophilus influenzae* infections are due to type b (Hib). Invasive Hib disease includes meningitis, bacteremia, epiglottitis, and pneumonia. Meningitis is the most common form, accounting for approximately 50%-65% of all cases.

Diagnosis of invasive Hib disease may be made by isolation of the organism from blood, cerebrospinal fluid (CSF), or any other normally sterile body site. Complications of Hib meningitis including hearing impairment and neurologic sequelae occur in 15-30% of Hib meningitis cases. Pediatric rates of Hib infection and associated complications have dropped dramatically throughout the country since introduction of Hib vaccine.

In 2001, nine cases of *H. influenzae* infection were reported with no deaths. Eight cases were among children less than 10 years of age: two type a, one type b, one type j, two untypeable, and two not tested.



*Peak 319 cases in 1986

HANTAVIRUS PULMONARY SYNDROME

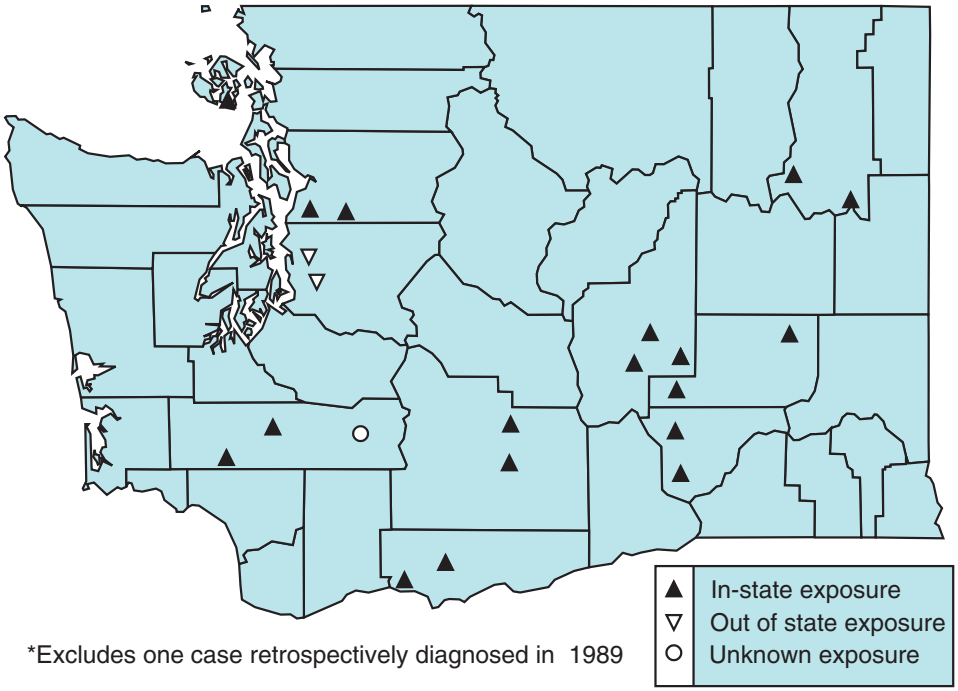
Hantaviruses with rodent reservoirs were identified in Asia as causes of hemorrhagic fevers. A new hantavirus was recognized in a 1993 outbreak of severe respiratory illnesses in southwestern United States. Deer mice, the reservoir, are found in primarily rural areas throughout western states. Limited trapping suggests low rates of hantavirus infection in Washington rodents.

Hantavirus pulmonary syndrome (HPS) begins as a nonspecific illness resembling influenza or gastroenteritis. The CBC typically is abnormal, with a left shift, presence of myelocytes or metamyelocytes, low platelets, and hemoconcentration. Patients develop severe respiratory symptoms or adult respiratory distress syndrome, often requiring intubation and mechanical ventilation. Mortality is about 40% even with intensive medical support.

One case of HPS was identified in the state in 2001, bringing the cumulative total to 23 for Washington with eight deaths. There were 279 HPS cases reported in the country through February 2001, including some before 1983 identified retrospectively.

Washington State Hantavirus Cases

Reported from 1994 through 2001*



*Excludes one case retrospectively diagnosed in 1989

To avoid hantavirus and other infections carried by wild rodents, minimize contacts by removing potential food, water and shelter.

1) Eliminate rodents in your home and workplace. Wear gloves and disinfect contaminated material (mix 1 cup bleach to 10 cups water OR use another viral disinfectant) before bagging and discarding material.

2) Prevent rodent access to homes and workplaces.

3) Remove food sources or nesting sites inside and outside. Properly store pet food, animal feed, or garbage. Remove long grass or trash near dwellings.

4) Clean up infested buildings, cabins, and tent-cabins by airing out and wet mopping with disinfectant.

5) Avoid recreational exposure by promptly disposing of garbage and by sleeping away from rodent burrows.

Physicians with suspected hantavirus cases can contact the Department of Health (206 361-2914:Toll free 877-539-4344) for assistance obtaining diagnostic tests. Information about hantavirus is available from the CDC at www.cdc.gov or 1-800-532-9929.

VIRAL HEPATITIS

Acute viral hepatitis is a systemic infection, primarily affecting the liver. Types of viral hepatitis include A, B, C, D, and E, with varying transmission and clinical syndromes. Chronic hepatitis B and C infections are now reportable.

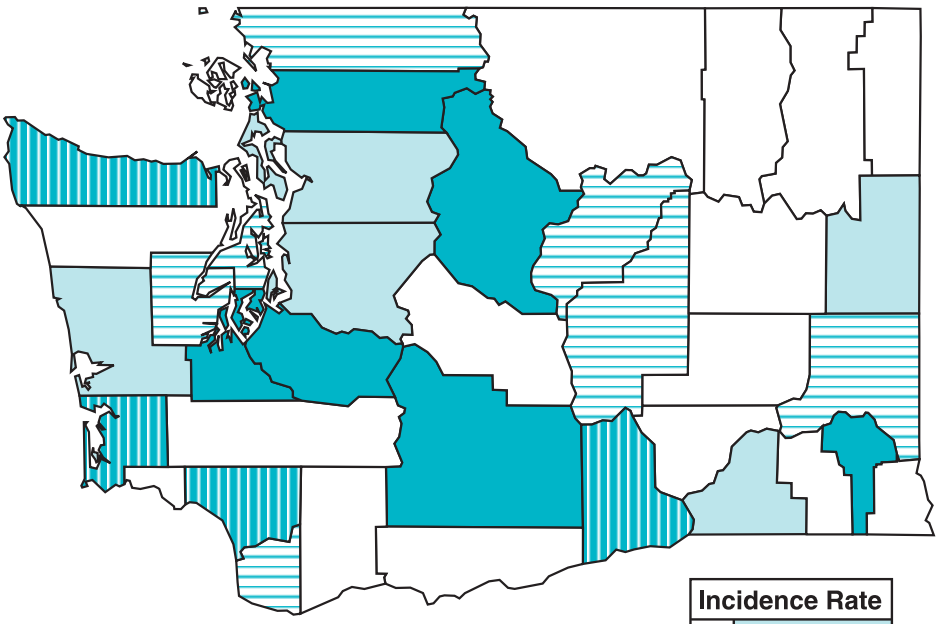
Hepatitis A

Hepatitis A virus (HAV) infection causes fever, anorexia, nausea, abdominal discomfort, and jaundice. Incubation is 2-7 weeks (average 28-30 days). Viral levels in the stool peak 1-2 weeks before symptoms and decline after jaundice occurs. Fecal-oral transmission is through direct contact (including oral-anal sex) or through fecally contaminated water, food, or raw or undercooked shellfish. The most common risk factors for infection are household or sexual contact with a person with hepatitis A, but infection is also associated with day care contact, injecting and noninjecting drug use, men who have sex with men (MSM), travel to endemic areas or residence in communities with high levels of hepatitis A. Hepatitis A vaccine prevents infection for those at risk; in addition, persons with severe chronic liver disease should consider vaccination.

In 2001, 184 cases of hepatitis A were reported for an incidence rate of 3.1 /100,000 population; there were no reported deaths. Rates exceeding 6/100,000 occurred in Chelan, Garfield, Pierce, Skagit, Thurston and Yakima counties. The high rate in Garfield County was based on a small number of cases.

2001 Hepatitis A Cases*

County Specific Incidence Rates



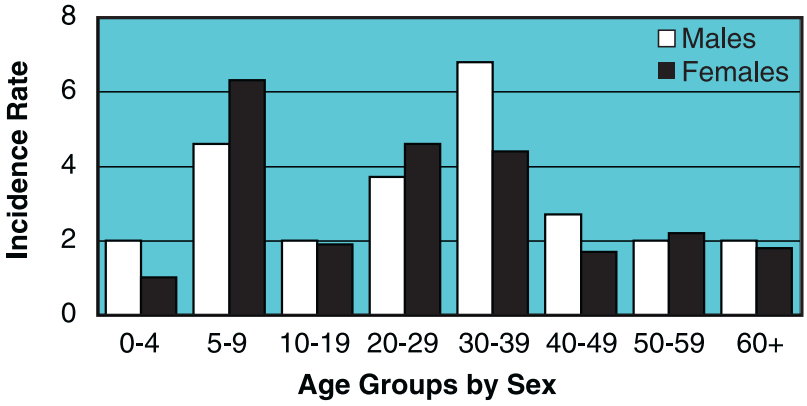
*Rate per 100,000 population
State rate 3.1/100,000 with 184 cases

Incidence Rate
None
0.1 to 2
2.1 to 4
4.1 to 6
6.1 plus

The sex-specific incidence rate for males was 3.3/100,000 and 2.9/100,000 for females. Age-specific incidence rate was highest among males 30-39 years of age (6.8/100,000) and females 5-9 years of age (6.3/100,000).

2001 Hepatitis A Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000 population

Historically, hepatitis A rates have been higher in western states, and in the United States, cyclic increases in incidence occur approximately every ten years. In Washington, rates peaked from1987 to 1989, and have declined steadily since that time, most likely as a result of improved vaccine coverage in populations at risk.

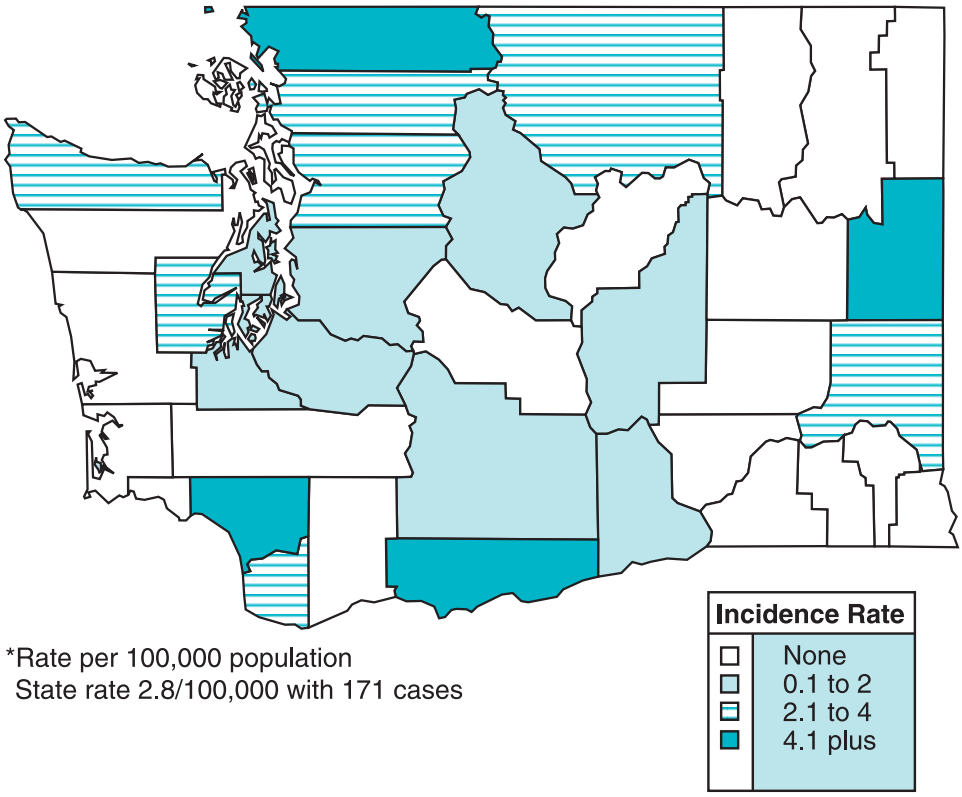
Hepatitis B

Hepatitis B virus (HBV) infection can be acute or chronic. Symptoms are usually mild, but may include fever, anorexia, nausea, abdominal discomfort, vomiting, rash, and jaundice. The fatality rate in hospitalized patients is 1%. Chronic infection occurs in 10% of those infected, and may eventually result in cirrhosis or liver cancer. HBV is transmitted through blood and body fluids, and by perinatal transmission. Routine childhood and adolescent vaccination is recommended, as is vaccination for groups at risk for infection, including health care workers, persons with multiple sexual partners, injection drug users, dialysis patients, and close contacts of chronic hepatitis B cases.

In 2001, there were 171 cases of acute hepatitis B reported for a statewide incidence rate of 2.8/ 100,000 population. There were five deaths. Rates well above the state average were seen in Whatcom and Cowlitz Counties; the high rate in Klickitat County was based on a small number of cases.

2001 Hepatitis B Cases*

County Specific Incidence Rates

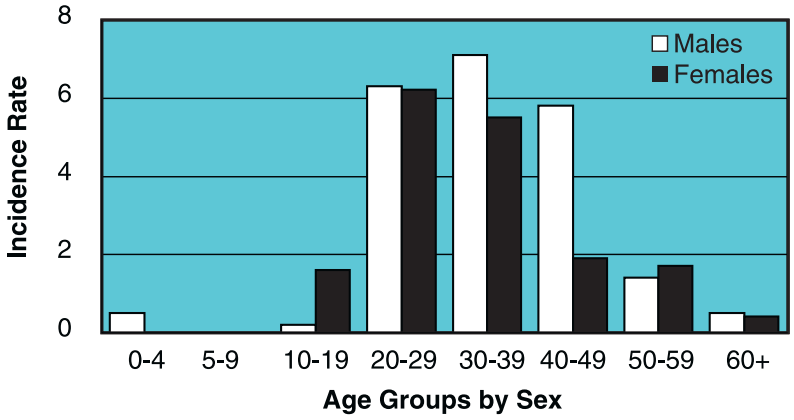


*Rate per 100,000 population
State rate 2.8/100,000 with 171 cases

The statewide sex-specific incidence rate for males was 3.2/100,000 and 2.4/100,000 for females. Age-specific incidence rates were highest among males 20-29 years of age (7.1/100,000) and 30-39 years of age (6.3/100,000).

2001 Hepatitis B Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000 population
1 male and 1 female with missing age

Potential exposure routes included injection drug use (66 cases), recent dental or surgical procedures (26 cases), sexual contact with an infected partner (15), needle sticks (5 cases), or acupuncture or tattooing (12 cases). Data for chronic HBV infections in Washington are not yet available.

Hepatitis B and Hepatitis D

Hepatitis D virus (delta hepatitis, HDV) occurs as a coinfection with acute or chronic hepatitis B infection. In acute coinfection mortality is 2-20%. Chronically coinfected persons also have increased complications and mortality compared to chronic hepatitis B alone.

Hepatitis D should be suspected in HBsAg-positive patients especially if the disease is severe and there were multiple blood exposures such as injection drug use.

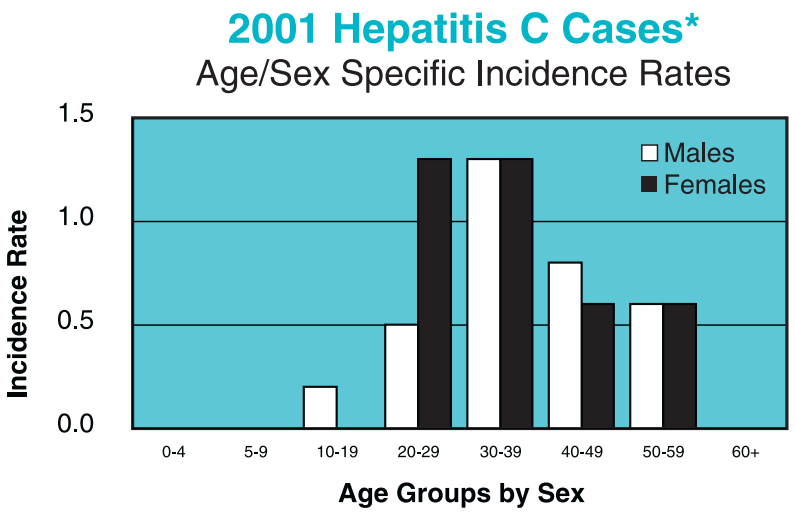
In 2000, there was a cluster of hepatitis D cases with 3 deaths in Pierce County associated with injection drug use (MMWR 2001;50:388-90). No HDV cases were reported in 2001.

Hepatitis C

Hepatitis C virus (HCV) usually causes mild or asymptomatic infection, making the diagnosis of an acute infection difficult. The incubation averages 50 days (range 15-150 days), and unlike hepatitis B virus, most people (≥85%) infected with HCV progress to chronic infection with complications (e.g., cirrhosis, cancer.) HCV is transmitted primarily through blood and less so through body fluid exposure. The major risk factors for HCV infection in the United States are injection drug use and receipt of blood products prior to 1992. Perinatal and sexual transmission of HCV occurs, but is less common than with HBV or HIV. Unlike hepatitis A and B, hepatitis C is not preventable by vaccine at present.

Formerly, hepatitis C was included in the hepatitis non A-non B category, but acute and chronic HCV infection were made notifiable in 2000. In 2001, 31 cases of acute HCV infection were reported, for a statewide incidence rate of 0.5/100,000 population. The rate was highest in Spokane (2.1/100,000 – 9 cases), and rates above the state average seen in Cowlitz, Lewis, and Skagit counties were based on a small number of cases.

The statewide sex-specific incidence rate for males and females was 0.5/100,000. Age-specific incidence rates were highest among males 30-39 years of age (1.3/100,000) and females 20-39 years of age (1.3/100,000).



*Rate per 100,000 population

Risk factors included injection drug use (17) and having an infected sexual partner (2); for the remainder (12), the risk for HCV infection was not identified. Data for chronic HCV infections in Washington are not yet available.

Hepatitis E

Hepatitis E is a self-limiting acute viral disease rare in the US. It may occur in a traveler returning from a country where hepatitis E occurs. Like hepatitis A, transmission is fecal-oral. Prolonged jaundice can occur, but there is no chronic disease. Higher mortality occurs in pregnant women, especially in the third trimester. No hepatitis E cases were reported in 2001.

INFLUENZA

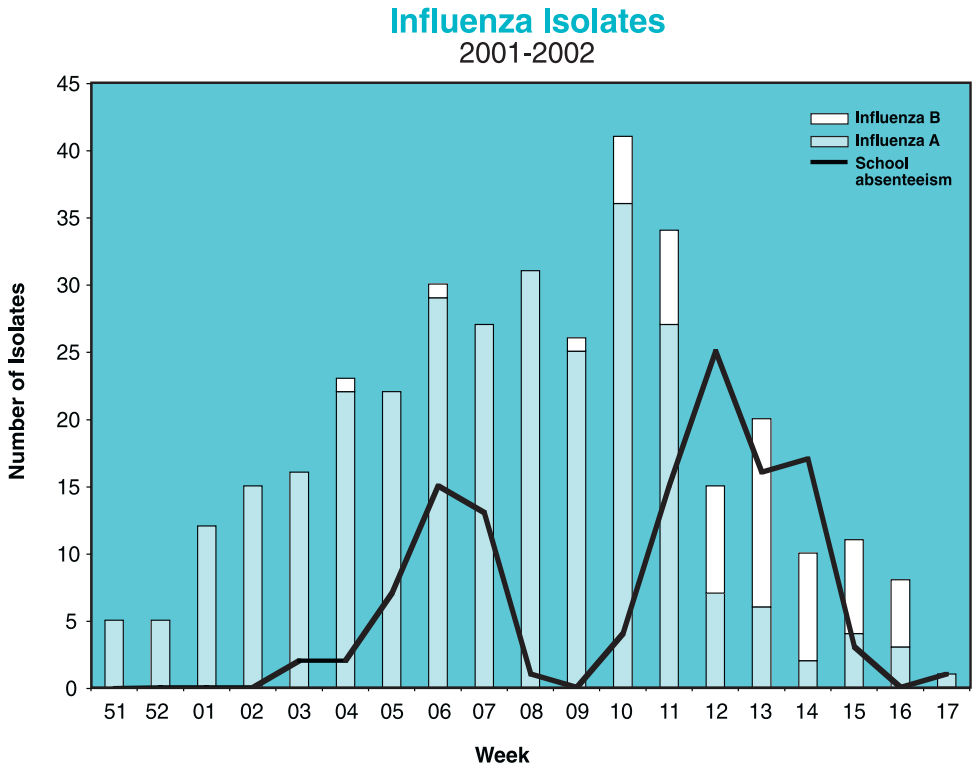
Influenza is a highly contagious viral disease characterized by fever, headache, sore throat, nasal congestion, cough, and myalgia. Gastrointestinal symptoms may occur in 20% of patients, usually small children. The illness lasts about 2-7 days without serious problems in healthy persons.

Influenza is divided into three types: A, associated with epidemics and pandemics; B, usually associated with regional epidemics; and C, appearing as sporadic cases and in minor localized outbreaks.

Statewide influenza surveillance, in conjunction with the Centers for Disease Control and Prevention, is conducted from October through May of the following year. Influenza activities were mild nationwide and in Washington for the 2001-2002 season. State activity peaked during the last two weeks of February and the first two weeks of March which is about 3 weeks later than normal.

Surveillance laboratories reported at least 1 positive influenza isolate in 24 counties with 54% of all isolates being from King County and 29% from Spokane County. This may be in part a reflection of greater sentinel laboratory reporting in these counties.

Surveillance laboratories statewide reported 357 positive influenza isolates with 83% being influenza A, and 17% influenza B. Of the 59 influenza A subtyped, one was A, (H1N1) and 58 were A,H3N2. The influenza A strains circulating in Washington State were the same as those contained in the 2001-2002 vaccine (A/New Caledonia/20/99-H1N1, A/ Moscow/10/99-H3N2. Most of the early



influenza B isolates were B/Sichuan/379/99 which was contained in the 2001-2002 vaccine. As the season progressed less influenza A and more influenza B was diagnosed with a majority of late season influenza B being B/Hong Kong /330/2001-like. Because of similar activity in the nation, B/Hong Kong/330/2001-like will be used as the B component of the 2002/2003 trivalent vaccine.

When analyzing the positive surveillance isolates 43% of the cases were age 4 years or under, 18% were age 5 thru 19 years, 23% were aged 20 thru 59 and 20% were 60 years or over.

Influenza Outbreaks

Thirty-four nursing homes were enrolled in our sentinel nursing home surveillance. Twenty-seven outbreaks were investigated in a variety of long term care facilities in 13 counties. Thirteen facilities had outbreaks that were confirmed as influenza A; one outbreak was confirmed as influenza B; eight outbreaks were either laboratory negative for influenza or specimens were not drawn for confirmation. An additional five facilities had single laboratory confirmed cases of influenza A with no additional cases reported.

This year 50 long-term care facilities in 25 counties provided influenza vaccination levels in residents (84%) and staff* (53%).

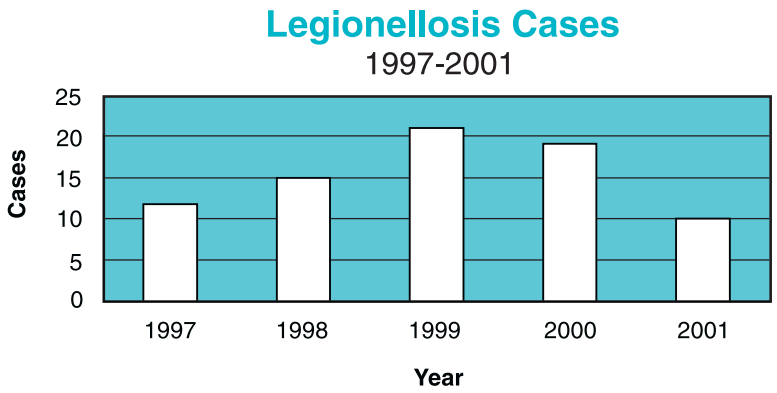
One influenza A and one influenza B outbreak were laboratory confirmed in schools.

*Staff vaccination levels may be under reported since many employees see private health care providers for vaccination which may not be reported to their employers.

LEGIONELLOSIS

Various species of *Legionella*, most commonly *L. pneumophila*, cause pneumonia and febrile illness. Other symptoms may be diarrhea, abdominal pain, headache, and neurologic changes. Tests include culture, urinary antigen detection, paired antibody tests, direct fluorescent antibody, fluorescence in situ hybridization (FISH) and polymerase chain reaction (PCR) assays of respiratory secretions and paired serum antibody assay. Species isolated in Washington include *L. pneumophila, L. micdadei, and L. longbeacheae.*

The risk of legionellosis increases with age, smoking, chronic diseases, malignancies, or immune suppression. The incubation period is two to ten days. *Legionella* occur in soil and natural bodies of water, water distribution systems, faucets, showers, and air conditioning cooling towers. In the United States, outbreaks of legionellosis have been associated with hospitals, long-term care facilities, construction sites, decorative fountains, hot tubs, and grocery vegetable display water sprays. There is no person-to-person transmission. In 2001, there were 10 cases of legionellosis with one death. Eight cases had identified risk factors for legionellosis (age ≥50 years, smoking, chronic disease or immunosuppression). An association between potting soil and *L. longbeachae* was investigated in King County (MMWR 2000;49:777-8).



LISTERIOSIS

Listeria monocytogenes infections are rare causes of meningoencephalitis and sepsis. Newborn infants, pregnant women, the elderly, and immunocompromised people including alcoholics are at highest risk. People with intact immune systems can have only a mild flu-like illness. The disease is particularly severe with high mortality rates in newborn infants, who account for at least a third of cases, and in those with altered immunity.

The bacteria are found in dust, water, animal feed, and feces of mammals and birds. The incubation period is variable, ranging from 3 to 70 days. Humans may carry the organism intestinally without symptoms. Listeriosis outbreaks have been associated with consumption of raw (unpasteurized) milk, cheese made from raw milk, and contaminated meat and produce. Delicatessen foods and uncooked hot dogs may contain *L. monocytogenes*. Persons with altered immune systems should avoid risk products. There were 14 cases and one death in 2001. Three cases involved pregnant women with one premature birth and one stillbirth, one case was a newborn, and six cases were age 60 or older.

LYME DISEASE

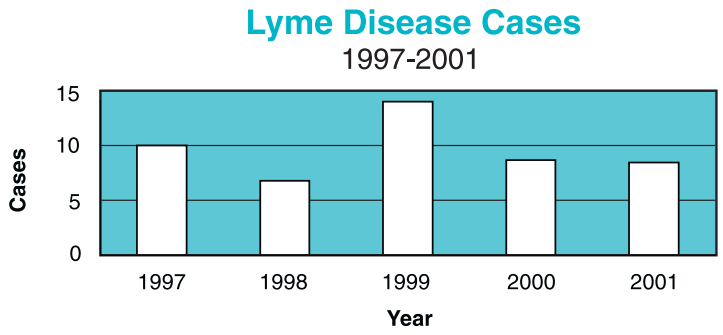
Lyme disease is a systemic infection caused by a spirochete, *Borrelia burgdorferi*, transmitted by *Ixodes* spp. ticks. The incubation period is 3 to 32 days. Infections can be asymptomatic. Classic symptoms are a specific expanding red rash (erythema migrans) which can be accompanied by fatigue, fever, headache, stiff neck, and joint pain. Prompt antibiotic treatment of the initial infection can prevent or reduce long-term complications including arthritis, neurologic changes, and cardiac abnormalities.

In diagnosing individual patients, health care providers should use clinical findings supported by two-stage serologic tests. The strict surveillance case definition may exclude atypical Lyme disease cases.

The high number of cases reported in the state in 1989 and 1990 reflects the less stringent case definition that was in effect at that time. Nine Washington cases were reported in 2001. There were five out of state exposures, two exposed in western Washington, one in central Washington, and one had unknown exposure.

In the United States, Lyme disease is most common along the Atlantic Coast and in the upper midwest. Along the Pacific Coast, cases are more common to the south. Almost all Washington cases are the result of outdoor exposure in counties west of the Cascade Mountains or in the Cascade foothills, reflecting the distribution of the *Ixodes* tick vector and the deer and rodent reservoirs. Cases tend to occur during warmer months when both ticks and outdoor activities are more common.

Those hiking or working in areas with ticks, such as heavy brush or grass, should take precautions to reduce the chances of being bitten by a tick: wear light colored clothing so ticks can be seen easily; tuck pant legs into socks or boots and the shirt into pants; if there is heavy tick infestation, adults can spray diethylmeta-toluamide (DEET) on the skin but this insect repellent should not be used on young children because of potential toxicity; and after hiking or working outdoors in tick-infested areas, inspect the body for ticks. Pets can develop Lyme disease and should also be checked for ticks after outdoor exposure in areas likely to be infested with ticks.

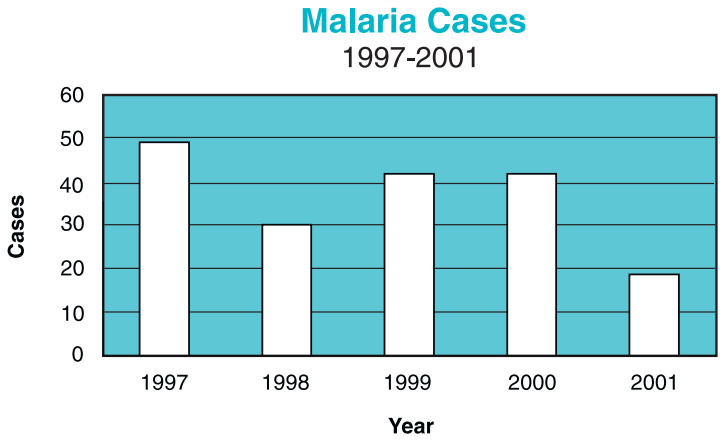


In 2001 exposures were reported in King, Pierce, and Yakima counties

MALARIA

The four species of malaria parasites that cause illness in humans are found in the tropics and subtropics where the *Anopheline* mosquito vector occurs. Cyclic fevers, sweats, chills, and headache are typical symptoms of malaria infections, with the incubation period varying by species. Some infections, particularly those caused by *Falciparum* malaria, have life-threatening complications and require prompt treatment. In the absence of the mosquito vector, there is no person-to-person transmission.

Washington has no endemic malaria. The 18 cases reported in 2001 occurred in immigrants and travelers arriving to the state from Africa and Asia. Central America, South America, and Mexico have also been sites of exposure. Prevention and treatment of malaria can be complicated due to increasing levels of resistance to anti-malarial drugs. Updated prophylaxis recommendations for travelers are available from the CDC hotline (404) 332-4555 or on its web page at www.cdc.gov under the Health Information category.

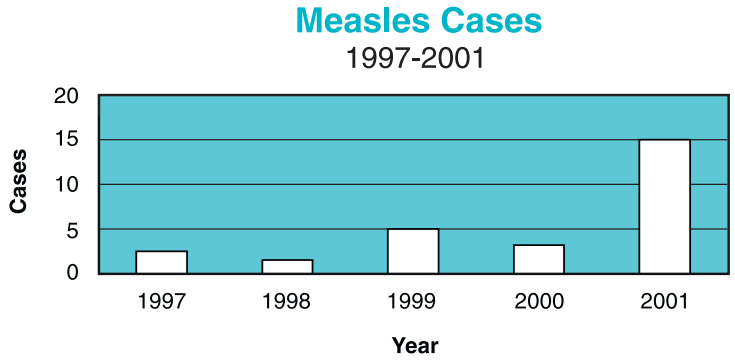


MEASLES

Measles is an acute viral disease starting with fever, coryza, conjunctivitis, cough, and oral Koplik spots. An erythematous maculopapular rash begins on the face and becomes generalized, lasting a total of 4 to 7 days. Complications of measles, including otitis media, pneumonia, diarrhea, croup and encephalitis, may occur in all age groups. However, measles is most severe in infants and adults.

Diagnosis is made by serologic testing, viral isolation from nasopharyngeal secretions, conjunctiva, blood or urine, or identification of viral antigen in blood or tissues.

In 2001, fifteen cases of measles were confirmed in Washington State, twelve of which were reported in King County. One cluster of cases in King County was associated with transmission from an imported case.



MENINGOCOCCAL DISEASE

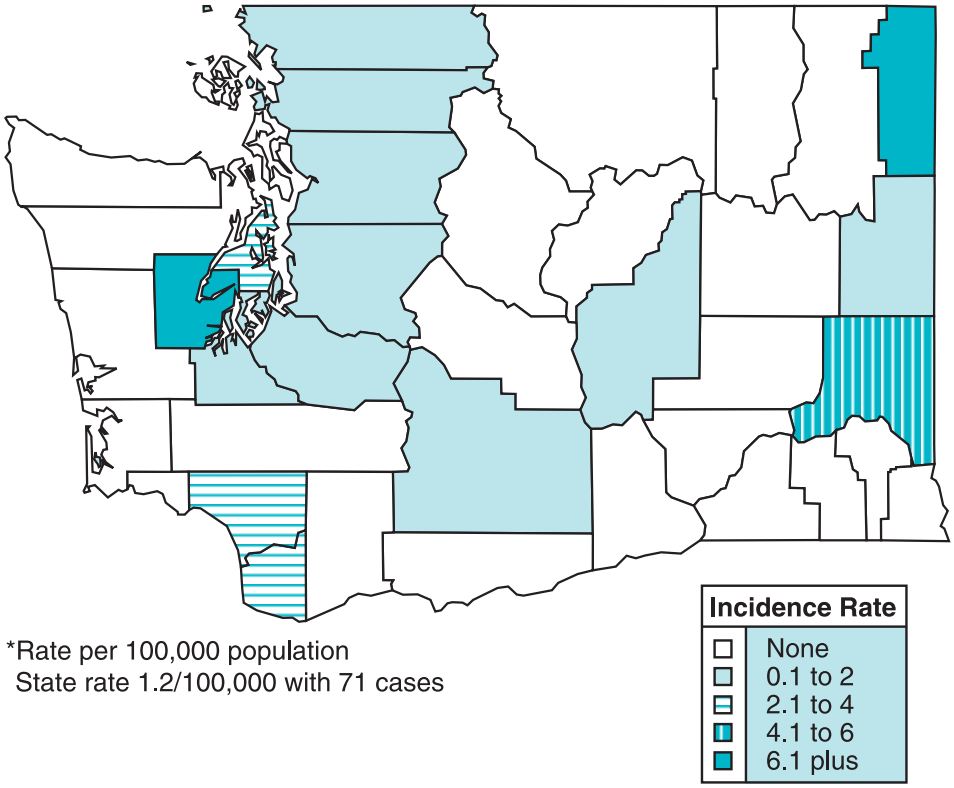
Invasive infections with *Neisseria meningitidis* may result in bacteremia (meningococcemia) and/or meningitis. Meningococcal disease usually causes a fever, intense headache, stiff neck. A petechial rash may be present. Complications including disseminated intravascular coagulation may progress to purpura fulminans and multiorgan system failure. About 10% of cases are fatal even if treated.

N. meningitidis is carried in respiratory secretions and is spread by prolonged close contact. Carriers may have no or mild respiratory symptoms. Close contacts of a confirmed case need antibiotic prophylaxis to prevent infection and to eliminate the carrier state. Risk factors for meningococcal disease include certain medical conditions, smoking, recent respiratory infection, residence in a congregate setting for college freshman, and use of corticosteroids.

In 2001, there were 71 cases of meningococcal disease for an incidence rate of 1.2 per 100,000 with six deaths. The high rates in Mason, Pend Oreille and Whitman counties were based on small numbers of cases. The serogroup B ET-5 clone, first recognized in Europe two decades ago is associated with hyperendemic meningococcal infection, more severe illness, and higher mortality. In 1993, ET-5 isolates were identified in cases in Oregon and Southwest Washington and may explain elevated disease rates in some southwestern Washington counties (JAMA 1999; 281:1493-1497).

2001 Meningococcal Disease Cases*

County Specific Incidence Rates

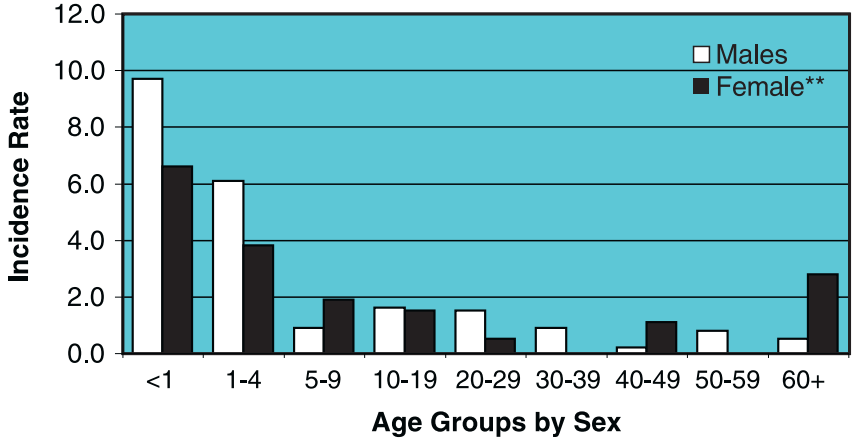


*Rate per 100,000 population
State rate 1.2/100,000 with 71 cases

Rates were slightly higher for males than for females (1.3/100,000 vs. 1.0/100,000). The highest rates were seen among children less than one year of age (7.4/100,000) and 1-4 years of age (5.0/100,000).

2001 Meningococcal Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000 population
**One female age unknown

N. meningitidis is classified into more than 13 serogroups by immunological reactivity of capsular polysaccharides. In the U.S., groups B, C and Y each account for about 30% of meningococcal disease. In 2001 in Washington, 41% of isolates were group B, 25% group Y, 17% group C, and the remainder were W135 or unknown. Yakima had a group C outbreak in 1989-1990.

Percent Meningococcal Isolates

	Serogroup				
Year	**B**	**C**	**Y**	**Oth**	**Unk**
1997	51	17	18	4	10
1998	56	18	16	1	9
1999	47	12	27	2	12
2000	42	3	27	4	14
2001	41	17	25	3	14

MUMPS

Mumps is an acute viral disease characterized by fever and swelling of the salivary (typically parotid) glands. Complications include orchitis in post-puberty males and oophoritis in post-puberty females. Other rare complications include sterility, arthritis, renal involvement, thyroiditis, and hearing impairment. Diagnosis is made by isolating the mumps virus in tissue culture inoculated with throat washings, urine, or spinal fluid, or by serologic testing.

In 2001, 2 cases of mumps were reported, both in persons over 40 years of age.

PARALYTIC SHELLFISH POISONING

Paralytic Shellfish Poisoning (PSP) is a syndrome of predominately neurologic symptoms caused by consuming molluscan shellfish contaminated with saxitoxins. Concentration of these toxins occurs in shellfish during massive algae blooms known as “red tides,” but can also occur in the absence of a recognizable algal bloom. Symptoms, which may begin within minutes of eating contaminated shellfish, include tingling, burning, numbness, drowsiness, incoherent speech, and respiratory paralysis. Gastrointestinal symptoms may occur. Symptoms usually resolve within a few days but in unusual cases death may occur from cardiovascular collapse despite respiratory support.

Diagnosis is based entirely on observed symptomatology and recent dietary history. Infection is confirmed by detection of toxin in epidemiologically implicated food.

There were no reported PSP cases in 2001.

PERTUSSIS

Pertussis (whooping cough) is an acute bacterial disease caused by *Bordetella pertussis.* Pertussis occurs in three stages: catarrhal, characterized by nonspecific upper respiratory symptoms; paroxysmal, with episodes of forceful, repetitive coughing followed by an inspiratory whoop and occasionally, vomiting; and a convalescent phase. Illness can last for 1-2 months. In infants, symptoms may be limited to lethargy and cough with episodes of apnea and cyanosis. Adolescents, adults and partially immunized children may have atypical or less severe symptoms. Unrecognized pertussis among adults results in transmission to susceptible children, and nosocomial outbreaks of pertussis are not uncommon.

Complications include pneumonia (causing most associated deaths), hypoxia, encephalopathy, seizures , dehydration, and otitis media. Infants, especially those under 6 months, are at greatest risk of complications.

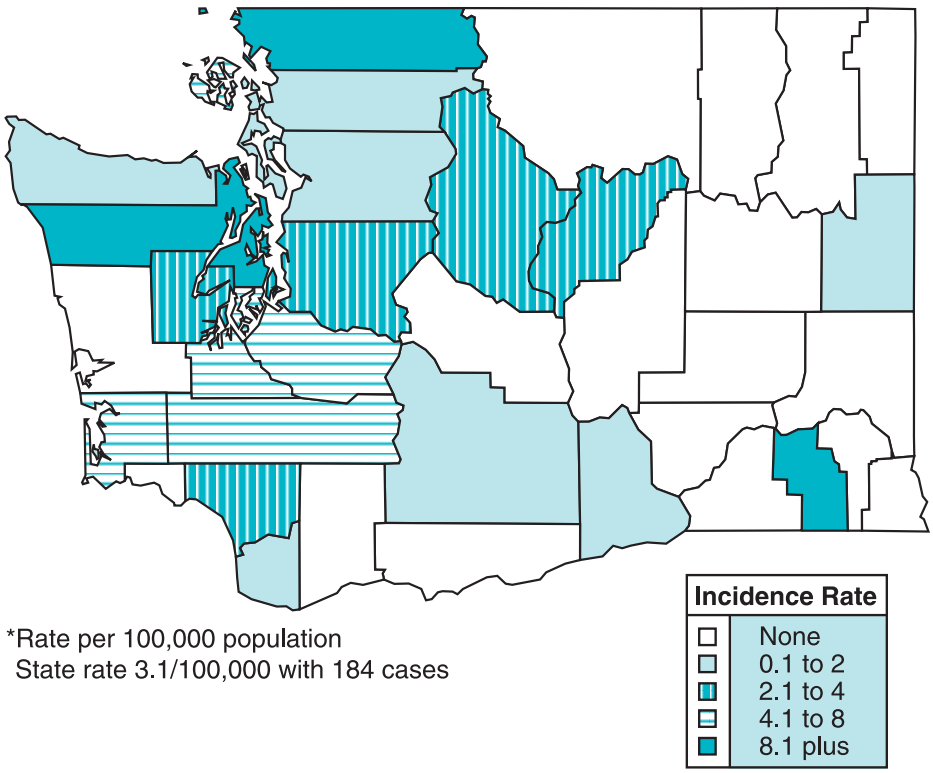
CDC surveillance case definition is based upon identification of *Bordetella pertussis* from nasopharyngeal swab specimens by culture or PCR along with a compatible clinical culture. Direct fluorescent antibody staining of nasopharyngeal swab specimens may be of use in clinical diagnosis, but does not confirm the diagnosis. Serologic tests have not been standardized and may be difficult to interpret outside of clinical studies.

In 2001, 184 pertussis cases were reported, for an incidence rate of 3.1/100,000 population. There were no deaths associated with pertussis in 2001, however in 2000, 1998 and 1996, an infant died each year from complications of pertussis

Jefferson County had the highest incidence rate of pertussis with 38.3/100,000 (10 cases) followed by Whatcom County (13.5/100,000 – 23 cases).

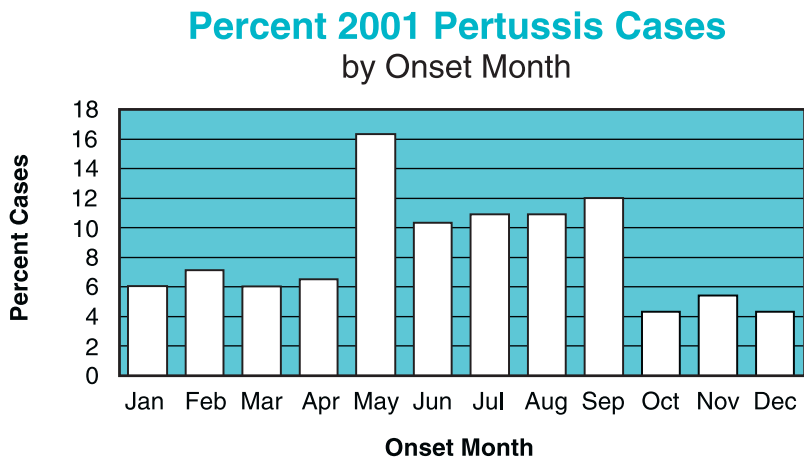
2001 Pertussis Cases*

County Specific Incidence Rates

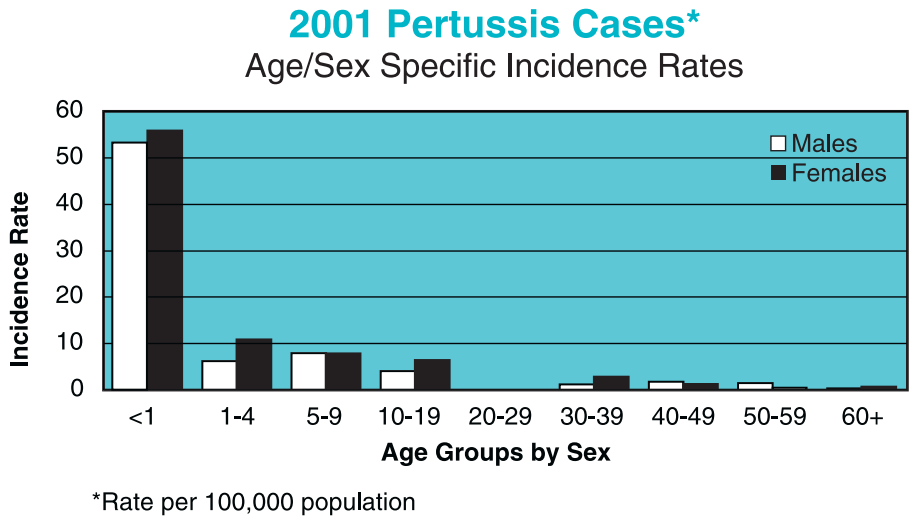


*Rate per 100,000 population
State rate 3.1/100,000 with 184 cases

In 2001, pertussis peaked in late spring and summer.



Incidence rate for females was 3.4/100,000 and for males 2.9/100,000. Age-specific incidence rates were highest in those less than one year old (55.4/100,000).



*Rate per 100,000 population

RABIES

Rabies is an invariably fatal viral disease of mammals which can be transmitted to humans. Rabies is rare in developed countries only because of animal vaccination, and to a lesser extent prophylaxis of exposed person. A rhabdovirus of the genus Lyssa causes rabies. Nucleocapsid and surface protein patterns differ according to the animal species and the geographic location of the animal involved.

Animal Rabies

From 1930-2001, Washington State had a total of 1,966 cases of animal rabies. From 1990-2001 there have been 212 cases of animal rabies, 210 in bats.

Reported Rabies Cases in Washington State 1930-2001

SPECIES	1930-1949	1950 1969	1970 1989	1990 1999	2000-2001-	TOTAL
BAT	0	76	171	165	45	480
CAT	19	2	1	0	0	02
CATTLE	37	0	0	0	0	37
COYOTE	1	0	0	0	0	1
DOG	1,415	24*	1	0	0	1,440
GOAT	2	0	0	0	0	2
HORSE	0	0	0	1	0	1
LLAMA	0	0	0	1	0	1
SHEEP	1	0	0	0	0	1
SKUNK	0	2#	2#	0	0	4
TOTAL	**1,475**	**104**	**175**	**167**	**23**	**1945**

*Dog from California
#Skunk imported or improperly vaccinated

Some animals are more likely to be infected with rabies virus than others, for example, skunks, foxes, raccoons, and bats. Other wild animals, such as bobcats, groundhogs, woodchucks, and coyotes, have been reported rabid in increasing numbers in south Texas and the northeastern United States due to rabies epidemics.

Human Rabies

Rabies can be transmitted to humans from virus-laden animal saliva by a bite, scratch, or rarely a fresh break in the skin (Appendix **3**). Transplanted corneas from patients with fatal undiagnosed central nervous system (CNS) disease have caused rabies in recipients. Rabies has been transmitted rarely by aerosol in bat-infested caves or in laboratories.

Human rabies is an acute encephalomyelitis almost always progressing to coma or death within 10 days of onset. Symptoms of headache, fever, malaise, and a sense of apprehension are followed by paralysis (respiratory failure), muscle spasms when attempting to swallow (which may lead to hydrophobia), delirium, and convulsions. Death is most often due to respiratory failure.

The incubation period is usually 2 to 8 weeks, but there have been documented cases of incubation of more than a year after exposure depending on the severity, site, and degree of contamination of the bite. It is thought the closer to nerve sites and the brain, the shorter the incubation period.

The most frequent method to detect rabies is direct fluorescent testing on a specimen of brain or of nerves in a nape of neck biopsy. Confirmatory isolation of virus should be done from saliva, cerebrospinal fluid (CSF), or CNS tissue. A rabies-neutralizing antibody titer > 1:5 in the serum or CSF of an unvaccinated person is indicative of rabies.

There have been two cases of human rabies in Washington State since 1939. In 1995, a death occurred in a child with no history of a bat bite; a bat found in her room tested positive (MMWR 1995;44:625-7). In 1997 a death occurred in an adult with onset of illness in December 1996. There was no history of a bat bite. Preliminary diagnoses included CJD. On death, brain tissue was examined and rabies diagnosed (MMWR 1997:46:771-2).

Historical Rabies (Washington)

Widespread rabies outbreaks occurred in dogs in King County during 1937 to 1940. In response, a major effort was made by public health and veterinary officials to eradicate rabies in domestic animals. By the 1950s, rabies was essentially non-existent in domestic animals.

Since 1970, 13, 750 Washington State animals have been tested for rabies with 387 (2.8%) of the animals being positive (Appendix **3**). Since the 1960s, the major concern in the Northwest has been rabies in bats. Of 5,435 bats examined from 1960 to 2001, 457 (8.4%) were rabid. Rabid bats have been found in almost every county in Washington State.

The last rabid cat was in 1976. In 1987 the last suspect rabid dog, an animal from Pierce County ill six months after exposure to a rabid bat, was positive at the DOH, but was not confirmed by CDC. In 1992, a horse from Benton County was positive for rabies. In 1994, a llama from King County was identified with a strain of bat rabies. Although common in some parts of the United States, raccoon rabies has never been found in Washington. Four skunks positive in the 1960s and 1970s were either imported or inappropriately given rabies vaccine. Rodents and lagomorphs, such as beaver, guinea pigs, gophers, rats, squirrels, rabbits, and hares, have never been positive in Washington. Rabies has not been found in other wild terrestrial animals in Washington for at least the past 60 years.

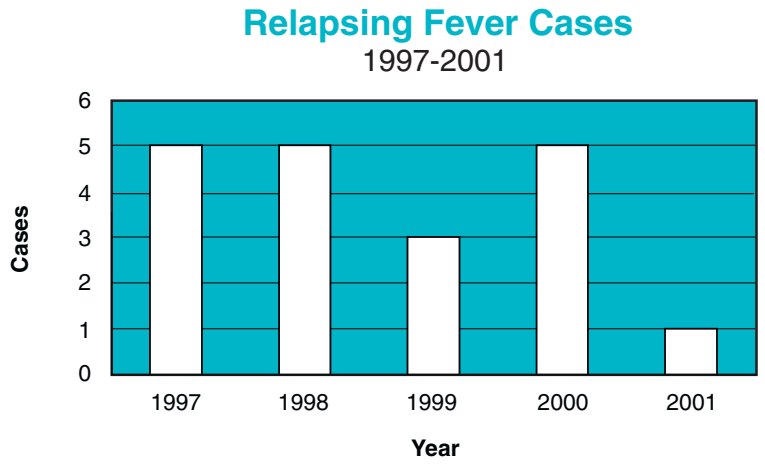
RARE DISEASES OF PUBLIC HEALTH SIGNIFICANCE

Relapsing Fever

Relapsing fever is a febrile illness caused by *Borrelia* species. In Washington these spirochetes are carried by soft ticks which become infected after biting infected rodents. The ticks feed at night and the bite may be painless. Soft ticks can survive years between blood meals and may be difficult to eradicate from older wooden buildings such as cabins.

After an incubation period of about seven days, the infected person develops febrile attacks with fevers as high as 105°F, chills, headache, body ache, cough, and sometimes a rash. Relapsing fever is treated with antibiotics and is not transmitted person-to-person but may be transmitted during pregnancy.

There was one case of relapsing fever in 2001. All exposures in the State have been in eastern counties. A minority of cases specifically recall a tick bite.



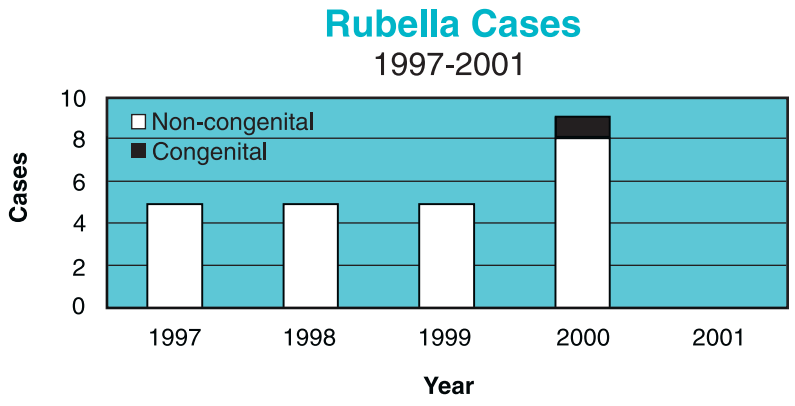
RUBELLA

Rubella (German Measles) is a viral disease of children in unvaccinated populations, and adolescents or young adults in vaccinated populations. Rubella is endemic except for remote areas. Epidemics have occurred in the United States, in 1935, 1943, and 1964.

Rubella causes a rash accompanied by slight fever and lymphadenopathy. Children can have minimal symptoms. Adults may have extended illness, but other than chronic arthritis few complications are reported. Congenital rubella syndrome due to first trimester exposure causes abnormalities of the brain, eye, ear, and internal organs.

Diagnostic tests for rubella include antibody titers, virus isolation, or identification of viral antigen in blood or tissues. Congenital infection is confirmed by antibody titers.

In 2001, no cases of rubella were confirmed in Washington State.



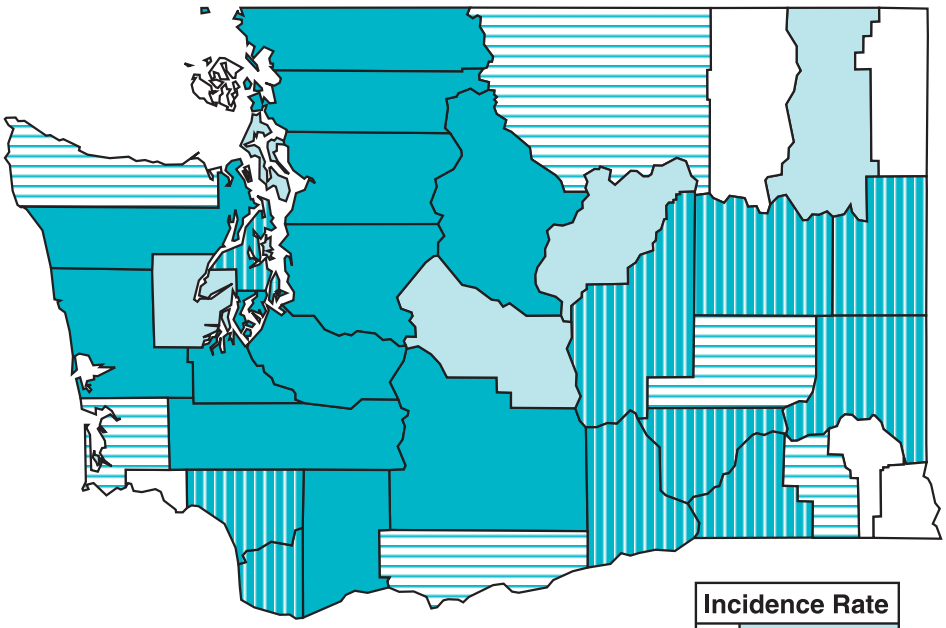
SALMONELLOSIS

Salmonella are bacteria which may cause illness in humans and animals. The disease in humans is characterized by sudden onset of headache, fever, diarrhea, nausea, abdominal pain, and sometimes vomiting, with illness lasting several days. Dehydration can be severe, particularly in children. The incubation period is 6-72 hours, generally 12-36 hours. Communicability lasts several days to weeks. Animals (especially reptiles, chickens, cattle, dogs, and cats) can carry *Salmonella* chronically and be a source of human infection.

In 2001, there were 681 salmonellosis cases reported in Washington for an incidence rate of 11.3 per 100,000 population. High rates reported in Adams, Columbia, Okanogan, and Clallam counties are based on small numbers.

2001 Salmonellosis Cases*

County Specific Incidence Rates



*Rate per 100,000 population
State rate 11.4/100,000 with 681 cases

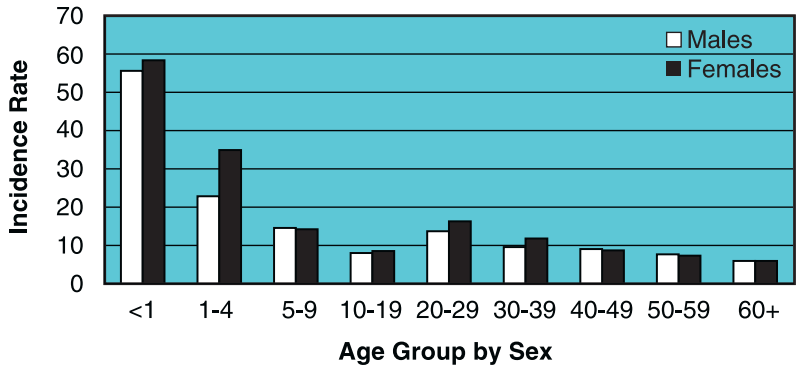
All *Salmonella* isolates are required to be sent to the DOH for serotyping. This aids in identifying outbreaks and sources of infection. *S. Typhimurium* and *S. Enteritidis* remain the most common serotypes found. Thirty-one serotypes had one case each.

Salmonella infections occur year round but usually peak during the summer and early fall.

Rates were highest among those less than one year old and 1-4 years of age.

2001 Salmonellosis Cases*

Age/Sex Specific Incidence Rates



*Rate per 100,000 population
1 unknown age/sex, 4 males unknown age, 1 female unknown age

2001 Salmonellosis Cases by Serotype

Serotype	Number	Percent of Total
Typhimurium	158	23
Enteriditis	108	16
Heidelberg	57	8
Saintpaul	48	8
Newport	48	7
Paratyphi B	23	3
Thompson	20	3
Unknown	20	3
Montevideo	19	3
Oranienburg	16	2
Poona	14	2
Infantis	11	1
Muenchen	10	1
B:I:-	9	1
Anatum	8	1
Stanley	7	1

Four cases each:	Agona	Braenderup	Dublin	Give
	Hadar	Javiana	Virchow	Weltevreden
Two cases each:	Apapa	Bredeney	Daytona	Flint
	Hartford	Hvittingfoss	Indiana	Itami
	Panama	Paratyphi A	Pomona	Untypeable
	Westhampton			
One case each:	Adelaide	Albany	Bovismorbificans	Cerro
	Coeln	Cubana	E.EH:—	Havana
	Houten	Java	Kentucky	Kingabwa
	Kottbus	Livingstone	Lomita	Marina
	Matadi	Mbandaka	Monschaui	Nottingham
	OS-:S,G,S	Oslo	Reading	Sandiego
	Saphra	Senegal	Senftenberg	Schwarzengrun
	Tennessee	Wandsbek	Wein	Worthington
	43:Z29	47:Z4,Z23:	48:I:Z	57:C:E,N,X,Z15

Common food exposures with salmonellosis are eggs, raw milk, poultry, meat, and some produce, including cantaloupe (MMWR 2002; 51:1044-7). Reported cases in 2001 included 19 foodhandlers. Infected foodhandlers must not work if ill with diarrhea; two stool cultures negative for *Salmonella* are needed before resuming work. Reptiles (MMWR 1999; 48:1009-13), African pygmy hedgehogs (MMWR 1995;44:462-3), and other exotic animals may carry *Salmonella*. After handling such animals always wash hands thoroughly and don't expose infants to the animals or their droppings.

SHIGELLOSIS

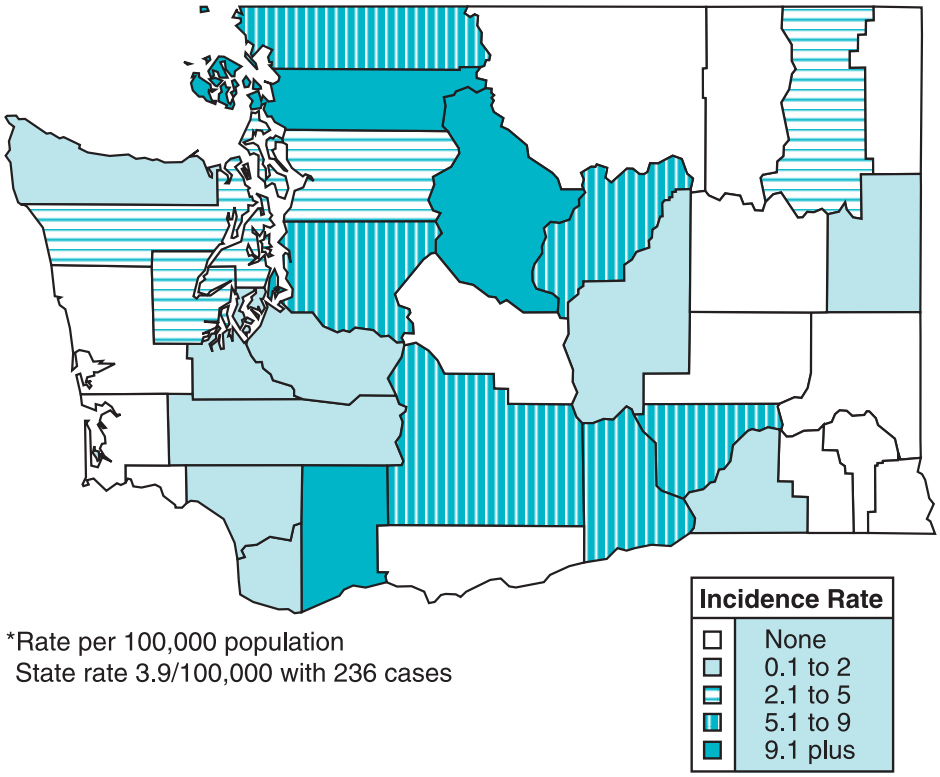
Shigellosis is an acute bacterial disease of the colon and distal small intestine. *Shigella* has four species or sub-genera: Group A, *S. dysenteriae*; Group B, *S. flexneri*; Group C, *S. boydii*; and Group D, *S. sonnei*. Groups A, B, and C are further subdivided into about 40 serotypes, designated by Arabic numerals.

The typical illness due to invasive infection illness is characterized by dysentery - frequent small bowel movements accompanied by blood, mucus, and pus - with high fever and malaise, headache, and abdominal pain. Enterotoxin may cause watery diarrhea with vomiting. Illness may last several days to weeks, averaging 4-7 days. Young children may have serious complications. Bacteremia or disseminated infection are rare. Mild or asymptomatic infections occur but carrier states are uncommon. Humans are the major reservoir of *Shigella*. Fecal - oral transmission may be person-to-person, or involve contaminated food and beverages.

In 2001, 236 cases of shigellosis were reported for a statewide incidence rate of 3.9 cases per 100,000 population. Chelan County had the highest county-specific incidence rate of shigellosis with 14.9/100,000 (10 cases).

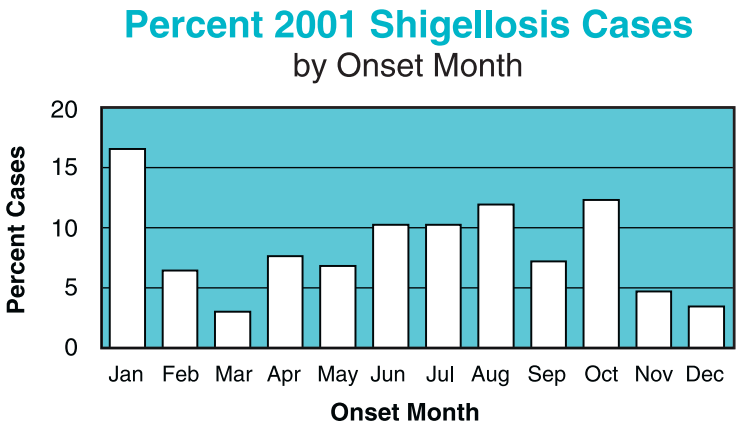
2001 Shigellosis Cases*

County Specific Incidence Rates

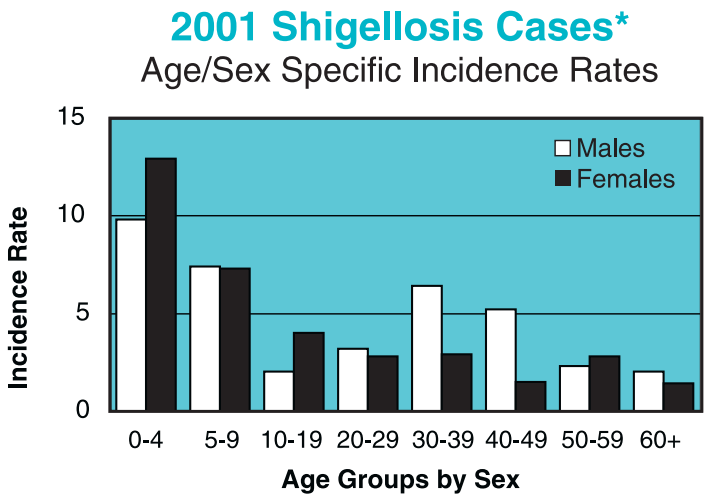


*Rate per 100,000 population
State rate 3.9/100,000 with 236 cases

Three percent of the cases were reported as attending a day care, and 1% had household day care contact. Shigellosis was found in seven food handlers. The January peak is due in part to a foodborne outbreak that occurred in Skagit County involving eight cases.



Age-specific rates of shigellosis were greatest for children 0 through 4 years (11.3/100,000) and the 5 - 9 age group (7.4/100,000).



*Rate per 100,000 population
1 case missing age/sex; 1 male case missing age

Shigella sonnei (145, 61%) was the most common serotype identified, followed by *S. flexneri* (1-6, and variant) 34% (80 cases), and *S. boydii* (2,4) (3 cases). There was one *S. dysenteriae,* 1 provisional serotype, and 6 isolates with unknown serotype.

SYPHILIS

Syphilis is caused by a corkscrew-shaped bacterium called *Treponema pallidum*, one of a small group of treponemes in the order Spirochaetales, which are virulent for humans.

Infection is acquired by direct contact with the sores of active syphilis. The disease course is divided into four stages - primary, secondary, early latent, and late/late latent. Untreated syphilis is infectious during the first three stages. In its noncontagious late stage, possibly occurring 2-25 years after the primary stage, untreated syphilis may cause complications such as central nervous system impairment and damage to the heart or other organs. Syphilis is strongly associated with human immunodeficiency virus (HIV) infection. Syphilis increases the risk for acquiring HIV and facilitates its transmission.

Syphilis has been called the "great imitator" because many of its signs and symptoms are indistinguishable from other diseases. Signs and symptoms differ for each stage. During the primary stage the most common sign is a painless ulcer, or chancre, appearing after about 3 weeks at the site of infection (mouth, genitals, anus). Treated or not, a chancre heals within a few weeks. Secondary syphilis, occurring 3-6 weeks after the chancre first appears, may involve a fever, rash on the palms or soles, aching muscles, headache, hair loss, and fatigue. Both stages resolve spontaneously. Each observable stage is followed by a period of latency without signs or symptoms. Fetal death occurs in approximately 40% of cases of untreated syphilis during pregnancy. Surviving infants may be born with congenital syphilis and suffer blindness, brain damage, and serious bone deformities.

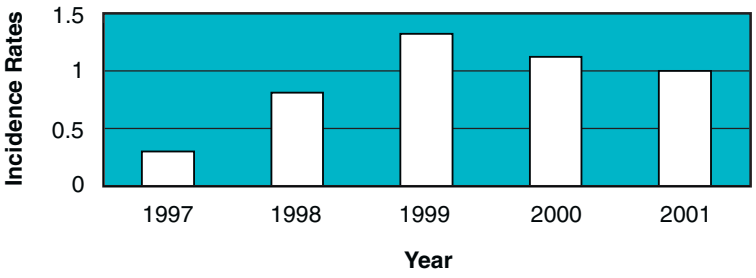
Blood tests can diagnose syphilis. In the early stage, *T. pallidum* can be isolated from the chancre. Syphilis is usually treated with injectable penicillin. In all stages, proper treatment will cure the disease, but damage done to body organs in late syphilis cannot be reversed.

The last major syphilis outbreak in Washington State occurred in 1989 and 1990. In 2001, there were 57 primary and secondary (P&S) infections (incidence rate 1.0/100,000)*, 19 early latent cases (0.3/100,000), 98 late/late latent cases, and no congenital syphilis cases. Rates for county, age, and race are not good barometers of syphilis due to small numbers.

*King County cases represented 72% of the 57 primary and secondary stage syphilis reported in 2001. Many of the other cases in the state spread from this outbreak which is almost exclusively among men having sex with men. Two-thirds of the male cases were HIV infected and most were in care for HIV at the time of their syphilis infection. Because of this, routine STD screening in primary care settings is recommended.

Primary and Secondary Syphilis Cases*

Incidence Rates by Year 1997-2001



*Rate per 100,000 population

TUBERCULOSIS

Tuberculosis (TB) is a mycobacterial disease usually involving the lungs (in about 80% of cases). The genus *Mycobacterium* contains several species; however the vast majority of tuberculosis in the United States is caused by *M. tuberculosis.*

The mode of transmission is exposure to airborne droplet nuclei from sputum of persons with infectious TB. Close contacts are at the highest risk of being infected. The incubation period is highly variable from individual to individual. Persons with TB infection but no overt symptoms are not infectious. Typical symptoms of pulmonary TB include coughing, chest pain when breathing or coughing, and coughing up blood. General symptoms of pulmonary and extrapulmonary TB include weight loss, fatigue, malaise, fever, and night sweats. Symptoms of extrapulmonary TB disease depend on the affected area. TB infection is detectable by use of the tuberculin skin test; diagnosis of pulmonary disease is by X-ray and by microscopic examination and culturing of sputum samples.

After a decades-long decrease in the number of TB cases reported annually in Washington and in the United States, TB has reemerged as a serious communicable disease. From 1984 through 1991, TB cases increased in Washington by nearly 50% - from 207 to 309. Factors contributing to an increase in TB in the United States include immigration from countries where TB is common, the association of TB with the HIV epidemic, and transmission of TB in congregate settings (correctional facilities, health care facilities, homeless shelters). From 1991 to 1995, TB cases decreased by 10% to 278 cases. There was then another increase in both 1996 and 1997. Since 1997, TB has decreased or remained static.

In 2001, 261 cases of tuberculosis were reported, for a statewide incidence rate of 4.36 cases per 100,000 population, the lowest TB incidence on record.

Cases were reported from 20 counties. Grant and King counties had the highest incidence rates of tuberculosis with 9.9 and 7.9/100,000, respectively.

No temporal or seasonal trends in TB case reporting have been noted.

Age specific rates of tuberculosis were highest in the 65+ age group with 6.7/100,000. For the youngest ages (0-4 years) the incidence rate rose from 1.0 per 100,000 in 2000 to 2.8 per 100,000 in 2001.

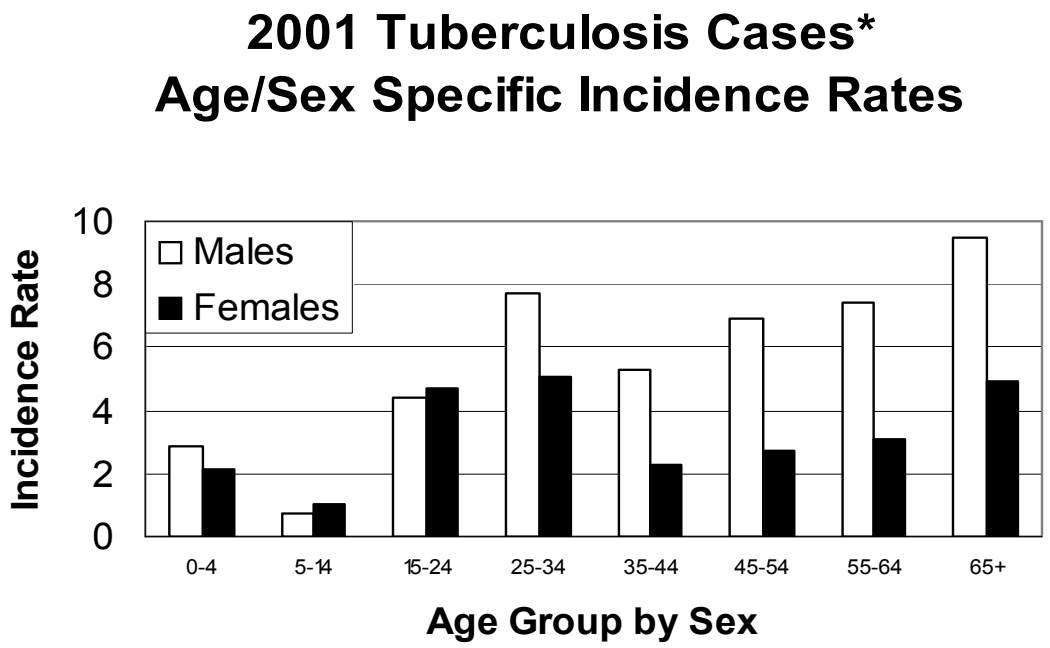
2001 Tuberculosis Cases* Age/Sex Specific Incidence Rates

Age	Sex	Rate	# of Cases	% of Cases
0-4	Male	3.0	6	2
	Female	-	4*	2
5-14	Male	-	3*	1
	Female	-	4*	2
15-24	Male	4.4	19	7
	Female	4.7	19	7
25-34	Male	7.7	33	13
	Female	5.1	21	8
35-44	Male	5.3	26	10
	Female	2.3	11	4
45-54	Male	6.9	30	12
	Female	2.7	12	5
55-64	Male	7.4	19	7
	Female	3.1	8	3
65+	Male	9.5	27	10
	Female	4.9	19	7
TOTAL			261	100

*case rates not calculated for cell sizes < 5
Population data based on updated Census 2000 data

For the 261 cases reported in 2001, Asians had the highest incidence rate (29.8/100,000), followed by Blacks (24.2/100,000), American Indians (12.5/100,000), Hispanics (7.4/100,000), and Caucasians at 1.3/100,000.

Foreign-born cases accounted for 187 (72%) of total cases.



*Rate per 100,000 population

Race/Ethnicity and Origin of TB Cases

Race/Ethnicity	U.S. Born		Foreign Born	
	Number	Percent	Number	Percent
White, Non Hispanic	49	73	17	27
Black, Non Hispanic	10	22	36	78
Hispanic	2	6	31	94
Am. Indian/Alaska Native	9	75	3	25
Asian/Pacific Islander	5	5	100	95
Unknown			2	100
Total	72	28	187	72

Dually diagnosed cases of TB/AIDS increased from 9 (4.0%) in 2000 to 10 (6.0%) in 2001. Three of these dual TB/AIDS cases were born in the United States.

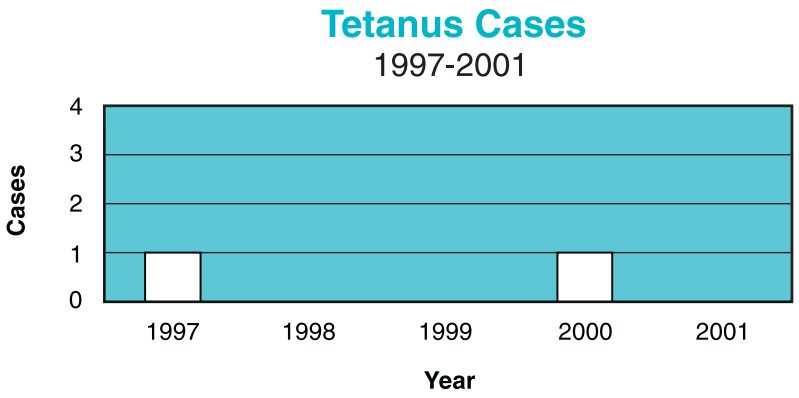
Resistance to at least one anti-TB drug was found in 44 of 227 culture-positive cases (18%) tested for drug susceptibility. Of the 44, 9 (20%) were from the United States and 35 (80%) were foreign-born cases. There were 5 multiple-drug resistant cases (defined as resistance to at least INH and rifampin) in 2001.

TETANUS

Tetanus, results from a neurotoxin produced by *Clostridium tetani*. Bacteria can be introduced into the body when a wound is contaminated with dirt or feces, such as when gardening or working on a farm. Injection drug users are also at risk.

The toxin causes painful contractions of head and neck muscles, and may cause respiratory failure. Mortality from tetanus is high even with supportive care. Tetanus is entirely preventable with immunization. After an initial childhood tetanus series, adults should receive a tetanus booster every ten years, and may need an additional dose after a dirty or penetrating wound.

About half of the cases in developing countries are neonatal tetanus. In this country tetanus typically occurs in adults over 60 years of age, reflecting absent or incomplete immunization. No tetanus cases were reported in 2001.



TRAVEL ASSOCIATED INFECTIONS

Travel outside of Washington may result in exposures to infectious diseases not usually found in this state. Although not notifiable, infections unlikely to be contracted in Washington, such as coccidioidomycosis, Colorado tick fever, histoplasmosis, and leishmaniasis have been reported.

International travelers may be exposed to a number of unusual infectious diseases Particularly common are travel associated gastrointestinal infections. Arthropods such as mosquitoes and ticks can transmit a number of infectious diseases. Sexually transmitted diseases may also be acquired during travel.

Several reportable communicable diseases are frequently or entirely due to exposures occurring outside the United States. These include brucellosis, cholera, dengue fever, hepatitis E, malaria, typhoid, and typhus. Those diseases not discussed elsewhere in this report are summarized below. Other infectious diseases, such as salmonellosis, shigellosis, hepatitis A, and other intestinal infections, may result from travel or from local exposures. If proper control measures are taken, imported infectious diseases do not present a public health risk to Washington residents.

People planning to travel outside of the United States, Canada, and western Europe should obtain current information about infectious disease risks from a physician or clinic. Immunizations may require weeks or months to complete, so such consultations should be planned well in advance of traveling. Travel information is also available from CDC (www.cdc.gov).

Unusual travel-associated infections

Cyclosporiasis

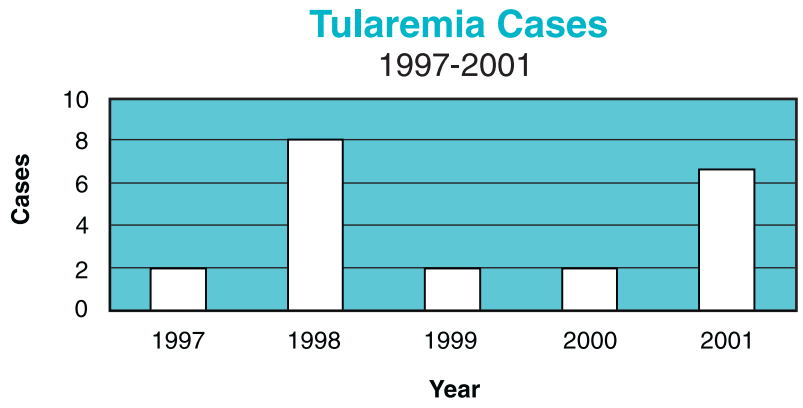
Cyclospora causes persistent watery diarrhea with nausea, fatigue and weight loss. Infection can be foodborne (raspberries, basil). Cyclosporiasis is now reportable in Washington. Of nine cases in 2001, eight followed out of country travel (Asia, Middle East, Central America).

Dengue fever

Several mosquito-borne viruses cause dengue fever, a febrile illness with headache, joint pains, gastrointestinal symptoms, and rash. A rare severe hemorrhagic fever occurs with repeated infections. Imported cases of dengue fever were reported in Washington in 1999 (six cases), 1992 (4 cases), and one each in 1995, 1994, and 1991. One Washington case of dengue associated with travel to Tahiti was reported in 2001.

TULAREMIA

Tularemia, also known as rabbit fever or deerfly fever, is a bacterial infection with a variety of clinical forms. Depending on the route of entry and the particular tularemia strain, the disease can cause skin ulcers, swelling of the lymph nodes, sore throat, abdominal pain with diarrhea and vomiting, conjunctivitis, pneumonia, or a systemic infection with fever, chills, headache, and watery diarrhea. Although most tularemia infections are not serious, pneumonia and systemic illness can be fatal in the absence of antibiotic treatment. In 2001, there were five tularemia cases in Washington. Exposures in Washington have included farming and rabbit skinning.

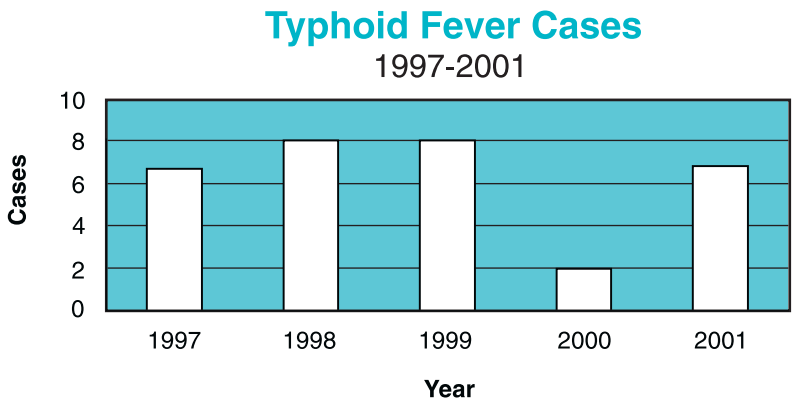


Many wild animals including rabbits, hares, voles, beavers, and muskrats can be infected with the organism *Francisella tularensis*. Transmission occurs with exposure to infected animal material (skins, blood, meat) or with the bite of an infected tick or insect. Contaminated meat, water, soil, or pelts can transmit the infection. Tularemia could be used as an agent of bioterrorism.

TYPHOID FEVER

Typhoid fever, caused by *Salmonella typhi*, is a systemic infection with fever, headache, rash, constipation or diarrhea, and swelling of the lymph nodes. Blood, urine, or stool may contain bacteria. The disease is spread fecally by person-to-person transmission or through contaminated food, water, and milk. The incubation period is one to three weeks. Mortality may be 10% without antibiotic treatment. Because there can be a prolonged intestinal carrier state, sometimes due to gallbladder infection, patients should be re-cultured after antibiotic treatment to confirm resolution of the infection.

Typhoid is no longer considered endemic in Washington, with cases generally reported among immigrants and travelers. People traveling to areas where there is a recognized risk of exposure to *S. typhi* should receive immunization. A 1990 foodborne outbreak of typhoid fever was the only Washington typhoid outbreak in the past 15 years. In 2001, there were seven typhoid cases due to exposures in Asia and Mexico; one of the cases was a family contact of a traveler.



Unexplained Critical Illness or Death

New requirements for the reporting of unexplained critical illness or death were instituted in December of 2000. In the first year of reporting, DOH received 5 reports. Based on data collected by other states that have been participating in the CDC active surveillance project for unexplained critical illness or deaths, Washington could expect approximately 120 cases per year.

It is important that clinicians report unusual disease occurrences or deaths to their local health departments even before they have completed a laboratory investigation or establishing a diagnosis.

The following criteria must be met to be considered a case:

- Critical illness (an illness resulting in admission to the intensive care unit) or death in a person aged 1 to 49,
- Previously healthy with no preexisting known chronic medical condition (including malignancy; HIV infection; chronic cardiac; pulmonary, renal, hepatic or rheumatologic disease; or diabetes mellitus. The case should not have immunosuppressive therapy or disease, trauma thought to be related to illness, evidence of toxic ingestion or exposure, or nosocomial infection) prior to the onset of illness,

- Hallmarks of infectious disease (including at least one of the following: fever or history of fever, leukocytosis (total WBC count above the range for normal), histopathologic evidence of an acute infectious process, or a physician-diagnosed syndrome consistent with an infectious disease including: encephalitis/meningitis, fulminant hepatitis/hepatic failure, myocarditis, or ARDS/respiratory failure.
- Preliminary testing has not revealed a cause for illness or death.

VECTORBORNE AND ZOONOTIC INFECTIONS

Arthropod-Borne Encephalitis

Western equine encephalitis (WEE), St. Louis encephalitis (SLE), and West Nile virus (WNV) are viral illnesses transmitted by *Culex* mosquitoes from wild birds and small mammals. There is no direct person-to-person transmission, but WNV can be transmitted by transfusion or in breast milk. Cases can be asymptomatic. Mild cases are characterized by headache and stiff neck. More severe infections have acute onset of stupor, disorientation, coma, tremors, convulsions (especially in infants), spastic paralysis, and death. No cases of WEE have been reported in Washington since 1982. No cases of SLE have been reported in Washington since 1972. West Nile virus was not reported in Washington in 2001, but surveillance is being conducted for illness in birds, horses, and humans.

Babesiosis

Protozoal *Babesia* species are transmitted by ticks. Infection is characterized by fever, hemolytic anemia and kidney failure. The first locally acquired case was reported in 1991 and was caused by a unique *Babesia* strain designated WA-1. In 1994, transfusion-associated babesiosis was documented in a blood recipient in Washington, and the asymptomatic donor tested positive. Babesiois is notifiable to DOH as a rare disease of public health significance.

Brucellosis

Brucella species causing brucellosis are carried by cattle, swine, goats, sheep, and dogs. Symptoms are generalized and include fever, chills, headache, and joint pains. Severe involvement of organs, bones, joints, or the genitourinary system can occur. Exposure occurs through contact with animal tissues and body fluids, particularly afterbirth, or by ingesting raw milk or raw milk products. Washington was declared free of bovine brucellosis in 1988. Brucellosis in Washington residents usually results from exposures outside the country. Three travel-associated cases were reported in 1998. Brucellosis could be an agent of bioterrorism.

Cryptosporidiosis

Cryptosporidia are protozoans causing fever, nausea, vomiting, cramps, bloating, and watery diarrhea usually lasting 1 to 14 days, but causing more severe illness in persons with AIDS. Exposure is from untreated surface water, livestock, wild animals, pets, and person-to-person such as in day care facilities. Boiling water at least a minute kills the parasite but chemicals (e.g. chlorination) may not. Washington outbreaks have been associated with small commercial water systems and wells (JID 1996;174:1372-6). A 1997 food-associated outbreak occurred in Spokane (MMWR 1998;47:565). Cryptosporidiosis is now reportable in Washington. Of 73 cases from 2001, 15 followed travel and eight were exposed to farm animals.

Ehrlichiosis

Ehrlichiosis, a rickettsial infection caused by various *Ehrlichia* species, takes several forms. Symptoms, including fever, headache, body aches, and nausea, range from mild to severe. Ticks are the presumed vector. Ehrlichiosis has been reported from northeast, southern and midwestern United States and in Washington. Ehrlichiosis is notifiable to DOH as a rare disease of public health significance.

Leptospirosis
Various leptospires cause acute fever, chills, headache, eye symptoms, and muscle aches collectively called leptospirosis. Hepatorenal failure, fatal hemorrhage, adult respiratory distress syndrome, or cardiac arrhythmia may occur. Reservoirs include rats, cattle, pigs, dogs, and raccoons. Transmission is through contact with urine or urine-contaminated waste or vegetation. Four cases were reported in 2001, one exposed out of country.

Plague
The only Washington case of human plague since 1907 was a Yakima trapper in 1984. Due to infected rodents, sporadic cases occur in the west. Of coyotes tested in Washington, about 1-2% are positive for plague exposure. Plague could be used as an agent of bioterrorism.

Psittacosis
Psittacosis (parrot fever, chlamydiosis, or ornithosis,) is due to *Chlamydia psittaci*. Psittacine birds (parrots, parakeets, cockatiels) are the most common reservoir, but infection may occur in other wild, domestic, and pet birds. Birds may be symptomatic, particularly if stressed, but healthy birds also carry the organism. Feces or nasal secretions may remain infective for months.

Incubation is one to four weeks. Symptoms are variable, commonly including fever, rash, aches, chills, and respiratory disease. When pneumonia occurs, chest X-ray findings may be major but symptoms minor. Rare complications of thrombophlebitis, myocarditis, and encephalitis may be fatal. Untreated disease can be severe in the elderly. Diagnosis is by paired sera several weeks apart. The organism can also be identified in sick birds. Antibiotic treatment is available for humans and birds. (Compendium of Psittacosis (Chlamydiosis) Control, 1997. MMWR July 18, 1997; Vol 46, No. RR-13.) In 2001, 0 cases were reported in Washington.

Q Fever
Infection with the rickettsia *Coxiella burnetii* results in fever, chills, headache, weakness, and sweats. The liver or heart may be affected. Sheep, cattle, goats, cats, birds, and ticks carry the infection. In the United States, exposure is generally occupational. No cases were reported in Washington in 2001.

Trichinosis
Although not strictly a zoonotic disease, infection with *Trichinella spiralis* can result from eating undercooked game. Encysted larvae survive some preparation methods for wild meat jerkies. Wild game should be cooked thoroughly before eating. Some *Trichinella* resist freezing. Recent exposures for cases in Washington State include bear meat and courgar jerky. In 2001, 0 cases were identified in Washington State.

Selected Vectorborne/Zoonotic Infections*

Case Reports

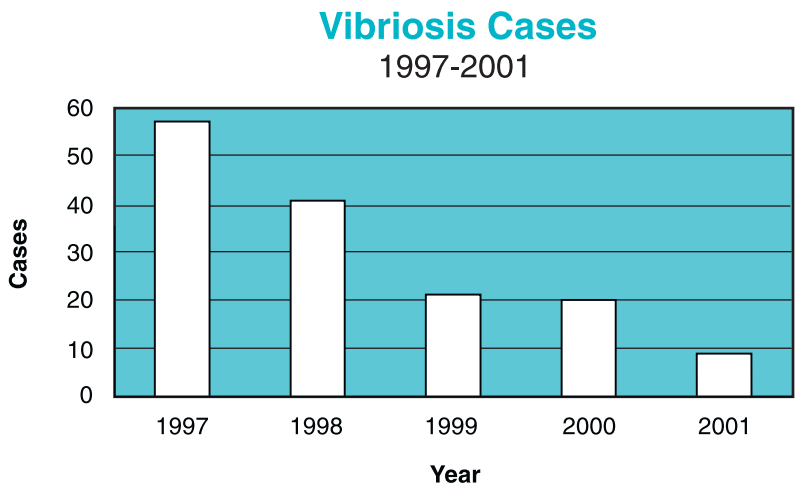
	97	98	99	00	01
Brucellosis	3	3	0	0	0
Leptospirosis	2	0	0	0	4
Q Fever	0	0	1	0	0
Trichinellosis	0	0	0	1	0

* data for other infections presented in Appendices

VIBRIOSIS

Intestinal illness can occur due to infections with *Vibrio* species, which occur naturally in marine waters. Eating seafood, in particular raw shellfish, is a risk. Cooked food can be contaminated if rinsed with seawater. Failure to keep shellfish cold after harvesting can contribute to bacterial growth. *V. parahaemolyticus* is the most commonly occurring species in Washington. Infections result in cramps and severe watery diarrhea, accompanied by vomiting, headache, and fever.

In 2001, 9 cases of vibriosis were reported in Washington residents. Four cases were species *V. parahaemolyticus*, two were *V. alginolyticus*, and three were *V. cholera* non-01, non-0139.



V. vulnificus, a species that occurs in Gulf states, is associated with eating raw or undercooked shellfish. Severe disease with sepsis and shock can occur in persons with immunosuppression, cancer, chronic liver disease including chronic alcoholism, chronic kidney disease, or chronic intestinal illnesses. Even with treatment mortality is high. Persons with these risk factors should be warned not to consume potentially contaminated foods.

DISEASE OF SUSPECTED WATERBORNE ORIGIN

Waterborne disease surveillance includes recreational and drinking water exposure. Surveillance enhances early identification of contaminated water to reduce new cases or secondary spread of infections. An outbreak is defined as two or more ill persons with epidemiologic and/or laboratory evidence implicating a common water exposure. Suspected outbreaks should be reported promptly even without confirmatory laboratory tests. In 2001, no waterborne outbreaks were reported.

A wide range of agents may be waterborne: viruses (hepatitis A, Norwalk-like agents), bacteria (*E. coli* O157:H7, *Shigella, Campylobacter, Pseudomonas*) and parasites (*Cryptosporidia and Giardia*.)

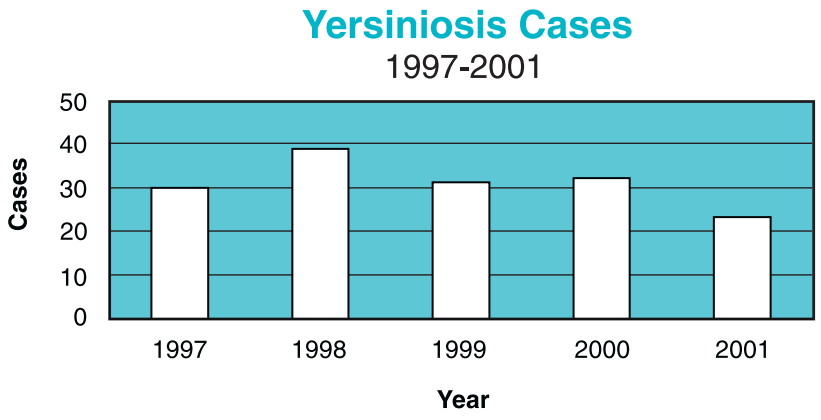
Waterborne Outbreaks, 1997-2001

Year	Agent	Ill	Circumstances
1997	*E. coli* O157:H7	2	home well
1998	viral	248	swimming lake
	viral	58	swimming lake
1999	viral	46	creek water
	viral	68	well
	E. coli O157:H7	36	swimming lake
2000	none reported		
2001	none reported		

YERSINIOSIS

Yersinia enterocolitica and less commonly *Y. pseudotuberculosis* can cause acute bacterial infections with watery diarrhea, abdominal pain that may mimic appendicitis, fever, headache, sore throat, vomiting, and skin lesions. Complications include arthritis, skin ulcers, bone infections, liver or spleen abscesses, and sepsis.

Wild and domestic animals are reservoirs for *Yersinia*. Raw pork, pork chitterlings, cross-contaminated food (reported to have occurred with tofu and chocolate milk), and animal contact may be risk factors for infection. *Yersinia* can multiply in food under refrigeration. The incubation period is three to seven days. Fecal shedding can persist for months.



There were 24 cases in 2001. Three cases occurred in children less than a year of age and an additional three children were one to two years of age.

A

APPENDICES

ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	1	6.7	0	0	0	0
Asotin	5	25.4	0	0	1	4.9	0	0	0	0
Benton	13	9.7	4	2.9	2	1.4	5	3.6	4	2.8
Chelan	4	6.4	0	0	1	1.6	1	1.6	0	0
Clallam	4	6	3	4.5	2	3	6	8.9	2	3.1
Clark	31	9.8	19	5.8	14	4.2	17	5	25	7.1
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	7	7.6	5	5.4	0	0	6	6.3	4	4.3
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	1	13.7	0	0	0	0	1	13.7
Franklin	2	4.6	5	11.3	3	6.7	4	8.8	6	11.9
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	1	1.4	0	0	1	1.3
Grays Harbor	2	2.9	1	1.5	2	3	4	6	4	5.8
Island	4	5.6	2	2.8	2	2.7	1	1.3	2	2.8
Jefferson	0	0	2	7.5	1	3.8	2	7.6	0	0
King	320	19.4	242	14.5	233	13.7	234	13.7	323	18.4
Kitsap	15	6.5	6	2.6	6	2.6	14	6	6	2.6
Kittitas	2	6.3	2	6.4	0	0	0	0	0	0
Klickitat	0	0	1	5.2	0	0	0	0	0	0
Lewis	1	1.5	0	0	1	1.5	3	4.4	1	1.4
Lincoln	0	0	0	0	0	0	1	10.4	0	0
Mason	9	18.8	2	4.1	2	4.2	6	12.4	5	10.1
Okanogan	3	7.8	2	5.2	1	2.7	2	5.3	0	0
Pacific	0	0	0	0	0	0	1	4.7	2	9.5
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	67	9.9	53	7.7	49	7	63	8.9	65	9.1
San Juan	0	0	1	7.9	0	0	2	15.7	1	6.9
Skagit	2	2.1	0	0	2	2	1	1	3	2.9
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	45	8.2	24	4.2	23	4	29	4.9	20	3.2
Spokane	30	7.3	15	3.7	13	3.1	37	8.9	20	4.7
Stevens	3	8	1	2.7	0	0	3	7.9	1	2.5
Thurston	13	6.6	6	3	3	1.5	11	5.4	11	5.2
Wahkiakum	0	0	1	25.6	0	0	1	25.9	0	0
Walla Walla	5	9.3	3	5.5	1	1.8	5	9.1	3	5.4
Whatcom	18	11.5	10	6.3	9	5.7	4	2.5	5	2.9
Whitman	0	0	0	0	1	2.5	3	7.1	0	0
Yakima	13	6.2	13	6.2	3	1.4	12	5.6	9	4
STATEWIDE TOTAL										
CASES	**618**	**11**	**424**	**7.5**	**377**	**6.5**	**478**	**8.2**	**524**	**8.8**
DEATHS	**215**	**3.8**	**147**	**2.6**	**93**	**1.6**	**73**	**1.3**	**44***	**0.7**

*As of March 1, 2001

BOTULISM

Case, Death Rate/100,000 Population

Year	Food	Infant	Wound	Rate	Deaths	Rate
1980	2	0	1	0.1	0	0
1981	0	1	0	0.0	0	0
1982	4	6	0	0.2	0	0
1983	2	7	0	0.2	1	0
1984	3	4	0	0.2	0	0
1985	5	4	0	0.2	0	0
1986	2	1	0	0.1	0	0
1987	1	1	1	0.1	0	0
1988	3	4	0	0.2	0	0
1989	10	0	0	0.2	0	0
1990	1	0	0	0.1	0	0
1991	0	3	0	0.1	0	0
1992	0	2	0	0.0	0	0
1993	4	5	0	0.2	0	0
1994	3	2	0	0.1	0	0
1995	4	2	0	0.1	0	0
1996	2	0	2	0.1	0	0
1997	0	1	2	0.1	0	0
1998	2	4	0	0.1	0	0
1999	2	4	1	0.1	0	0
2000	1	4	0	0.1	0	0
2001	1	6	0	0.1	0	0

BRUCELLOSIS

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1986	0	0	0	0
1987	1	0	0	0
1988	1	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	3	.1	0	0
1992	1	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	2	0	0	0
1997	3	.1	0	0
1998	3	.1	0	0
1999	0	0	0	0
2000	**0**	**0**	**0**	**0**
2001	**0**	**0**	**0**	**0**

CAMPYLOBACTERIOSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	1	6.3	0	0	1	6.1	3	18.1
Asotin	4	20.3	2	10.0	0	0	0	0	3	14.5
Benton	19	14.2	9	6.5	13	9.4	19	13.3	11	7.6
Chelan	4	6.4	8	12.8	6	9.5	11	16.5	6	8.9
Clallam	4	6.0	7	10.5	11	16.4	3	4.6	7	10.8
Clark	55	17.4	52	15.9	50	14.8	50	14.5	57	16.2
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	18	19.6	16	17.2	15	15.9	12	12.9	13	13.8
Douglas	3	9.7	1	3.2	1	3.2	5	15.3	1	3.0
Ferry	0	0	1	13.7	1	13.7	2	27.5	0	0
Franklin	4	9.1	7	15.8	1	2.2	4	8.1	6	11.9
Garfield	1	41.7	0	0	0	0	0	0	0	0
Grant	9	13.2	5	7.2	12	17.0	11	14.7	9	11.9
Grays Harbor	10	14.6	22	32.4	14	20.7	11	16.4	9	13.1
Island	5	7.0	6	8.3	8	10.9	1	1.4	2	2.8
Jefferson	4	15.2	6	22.6	3	11.3	1	3.9	7	26.8
King	316	19.2	219	13.1	281	16.8	331	19.1	320	18.2
Kitsap	44	19.2	34	14.8	24	10.4	18	7.8	26	11.1
Kittitas	2	6.3	5	15.9	0	0	4	12.0	7	20.6
Klickitat	2	10.5	0	0	0	0	2	10.4	8	41.5
Lewis	15	22.0	17	24.8	14	20.3	12	17.5	8	11.5
Lincoln	0	0	1	10.0	1	10.0	2	19.6	0	0
Mason	10	20.9	6	12.4	3	6.2	7	14.2	12	24.2
Okanogan	7	18.2	10	26.0	2	5.2	5	12.6	7	17.6
Pacific	8	37.6	0	0	1	4.7	2	9.5	2	9.5
Pend Oreille	3	26.8	2	17.9	4	36.0	1	8.5	1	8.5
Pierce	79	11.7	58	8.4	47	6.7	60	8.6	53	7.4
San Juan	3	24.0	1	7.9	0	0	3	21.3	2	13.9
Skagit	20	20.6	5	5.1	11	10.9	25	24.3	19	18.3
Skamania	0	0	1	10.1	2	20.2	0	0	2	20.2
Snohomish	113	20.5	108	19.0	105	18.0	107	17.7	108	17.5
Spokane	80	19.5	57	13.9	49	11.8	79	18.9	38	9.0
Stevens	0	0.0	1	2.7	1	2.6	0.0	0.0	8	19.9
Thurston	43	21.8	35	17.5	30	14.8	40	19.3	31	14.7
Wahkiakum	0	0	2	51.3	2	51.3	0	0	0	0
Walla Walla	10	18.5	6	11.0	4	7.3	5	9.1	12	21.7
Whatcom	66	42.3	58	36.8	62	38.4	51	30.6	59	34.6
Whitman	9	21.8	2	4.8	2	4.8	6	14.7	2	5.0
Yakima	180	86.2	130	61.8	170	80.1	115	51.7	132	58.8
STATEWIDE TOTAL										
CASES	**1,150**	**20.5**	**901**	**15.8**	**950**	**16.5**	**1,006**	**17.1**	**991**	**16.6**
DEATHS	**0**	**0**	**1**	**0**	**2**	**0**	**2**	**0**	**0**	**0**

CHLAMYDIA TRACHOMATIS
(Case, Death Rate/100,000 Population)

	1997			1998			1999			2000			2001		
Counties	**Cases**	**:**	**Rate**	**Cases**	**:**	**Rate**	**Cases**	**:**	**Rate**	**Cases**	**:**	**Rate**	**Cases**	**:**	**Rate**
Adams	22	:	139.2	27	:	169.8	26	:	173.2	29	:	183.9	37	:	222.9
Asotin	39	:	198	40	:	200	26	:	128.5	20	:	98.5	24	:	115.9
Benton	189	:	140.9	246	:	178.9	283	:	201.2	306	:	218	274	:	189.2
Chelan	90	:	144.7	99	:	158.1	117	:	185.4	118	:	186.2	117	:	174.4
Clallam	54	:	81.3	75	:	112.4	85	:	127.4	79	:	116.9	92	:	142.0
Clark	473	:	149.3	612	:	186.6	523	:	158.4	646	:	188.6	714	:	202.5
Columbia	4	:	95.2	1	:	23.8	2	:	50.3	4	:	96.9	1	:	24.4
Cowlitz	90	:	97.8	107	:	114.9	95	:	101.1	122	:	128	182	:	193.8
Douglas	36	:	116.9	46	:	146.5	49	:	155.9	52	:	162.8	53	:	161.6
Ferry	10	:	137.1	6	:	82.2	9	:	129.3	9	:	122.9	5	:	68.5
Franklin	116	:	264.2	135	:	304.1	176	:	390.9	189	:	416.3	162	:	321.4
Garfield	2	:	83.4	9	:	375	0.0	:	0.0	1	:	42.7	0	:	0
Grant	177	:	259.2	140	:	201.7	158	:	228.3	143	:	202.3	158	:	208.2
Grays Harbor	109	:	159.6	144	:	212.1	116	:	173.2	111	:	165.9	87	:	127.0
Island	63	:	88	117	:	161.4	100	:	135.6	116	:	156.3	107	:	147.8
Jefferson	16	:	60.8	15	:	56.6	35	:	133.4	32	:	121.1	23	:	88.1
King	3,174	:	192.8	3,486	:	209.3	3,949	:	232.6	4,495	:	263.8	4,295	:	244.3
Kitsap	454	:	197.9	514	:	224.5	479	:	203.7	536	:	230.5	483	:	206.9
Kittitas	28	:	88.9	46	:	146.5	35	:	113.7	60	:	186	76	:	223.5
Klickitat	21	:	110.5	33	:	172.8	23	:	126.3	21	:	109.5	30	:	155.4
Lewis	67	:	98.1	89	:	129.7	75	:	111.5	64	:	92.9	65	:	93.5
Lincoln	2	:	20.4	3	:	30	4	:	46.5	2	:	20.7	7	:	68.6
Mason	65	:	135.7	74	:	153.2	83	:	172.6	109	:	224.6	107	:	215.7
Okanogan	52	:	135.4	67	:	174.5	78	:	214.1	78	:	205.4	85	:	214.1
Pacific	21	:	98.6	10	:	46.5	13	:	63.8	13	:	60.8	29	:	138.1
Pend Oreille	3	:	26.8	5	:	44.6	10	:	91.4	6	:	55	4	:	33.9
Pierce	1,462	:	216.8	1,769	:	257.6	2,074	:	294.8	2,073	:	292.2	2,336	:	327.4
San Juan	11	:	87.9	10	:	79.4	14	:	110	14	:	109.8	15	:	104.2
Skagit	123	:	126.9	151	:	153	206	:	207.5	180	:	178.2	201	:	193.1
Skamania	14	:	141.4	5	:	50.5	9	:	94	5	:	50.4	6	:	60.6
Snohomish	726	:	131.7	888	:	156.3	991	:	171.2	1,115	:	188.3	1349	:	218.1
Spokane	586	:	143	622	:	151.4	660	:	158.8	688	:	165.7	736	:	174.2
Stevens	41	:	109.6	29	:	77.1	27	:	74.6	31	:	81.9	40	:	99.3
Thurston	262	:	132.6	322	:	161.2	316	:	154.1	401	:	195.4	430	:	204.6
Wahkiakum	1	:	25.7	3	:	76.9	4	:	109.2	4	:	103.5	2	:	52.6
Walla Walla	103	:	190.7	137	:	250.9	109	:	200.3	84	:	153.1	96	:	173.9
Whatcom	237	:	151.7	259	:	164.4	282	:	177.1	238	:	146.5	254	:	148.9
Whitman	53	:	128.6	54	:	130.4	55	:	137	64	:	152.3	74	:	183.6
Yakima	527	:	252.5	603	:	286.5	668	:	315.1	808	:	377.5	875	:	389.8

STATEWIDE TOTAL

CASES	**9,523**	**:**	**169.8**	**10,998**	**:**	**193.4**	**11,964**	**:**	**207.7**	**13,066**	**:**	**224.5**	**13,631**	**:**	**228.1**
DEATHS	**0**	**:**	**0**	**0**	**:**	**0**	**0**	**:**	**0**	**0**	**:**	**0**	**0**	**:**	**0**

DIPHTHERIA

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	1	0	0	0
1986	0	0	0	0
1987	0	0	0	0
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0

E.COLI O157:H7
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	1	6.3	1	6.3	0	0	1	6.0
Asotin	0	0	0	0	1	5.0	0	0	0	0
Benton	3	2.2	20	14.5	3	2.2	5	3.5	4	2.8
Chelan	2	3.2	2	3.2	0	0	3	4.5	2	3.0
Clallam	1	1.5	1	1.5	0	0	2	3.1	0	0
Clark	12	3.8	7	2.1	50	14.8	20	5.8	8	2.3
Columbia	0	0	0	0	0	0	1	24.6	0	0
Cowlitz	0	0	0	0	0	0	1	1.1	1	1.1
Douglas	1	3.2	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	1	2.2	1	2.0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	3	4.4	2	2.9	0	0	2	2.7	2	2.6
Grays Harbor	0	0	0	0	0	0	3	4.5	3	4.4
Island	0	0	0	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0	0	0	0
King	51	3.1	36	2.2	47	2.8	67	3.9	36	2.0
Kitsap	6	2.6	4	1.7	2	0.9	7	3.0	6	2.6
Kittitas	0	0	1	3.2	0	0	1	3.0	5	14.7
Klickitat	1	5.3	1	5.2	0	0	0	0	0	0
Lewis	2	2.9	4	5.8	1	1.4	0	0	2	2.9
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	1	2.1	0	0	0	0	3	6.1	0	0
Okanogan	2	5.2	0	0	1	2.6	2	5.1	1	2.5
Pacific	1	4.7	0	0	0	0	1	4.8	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	11	1.6	13	1.9	16	2.3	21	3.0	15	2.1
San Juan	0	0	1	7.9	0	0	0	0	0	0
Skagit	1	1.0	3	3.0	5	5.0	4	3.9	3	2.9
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	14	2.5	10	1.8	11	1.9	29	4.8	20	3.2
Spokane	10	2.4	13	3.2	16	3.9	22	5.3	11	2.6
Stevens	0	0	1	2.7	1	2.6	0	0	0	0
Thurston	5	2.5	6	3.0	2	1.0	14	6.8	7	3.3
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	1	1.9	0	0	2	3.7	3	5.4	7	12.7
Whatcom	9	5.8	12	7.6	20	12.4	19	11.4	9	5.3
Whitman	3	7.3	0	0	2	4.8	0	0	0	0
Yakima	9	4.3	6	2.9	4	1.9	6	2.7	7	3.1
STATEWIDE TOTAL										
CASES	**149**	**2.7**	**144**	**2.5**	**186**	**3.2**	**237**	**4.0**	**150**	**2.5**
DEATHS	**0 : 0**		**0 : 0**		**0 : 0**		**1 : 0**		**0 : 0**	

ENCEPHALITIS, ARTHROPODBORNE

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	0	0.0	0	0.0
1986	0	0.0	0	0.0
1987	0	0.0	0	0.0
1988	1	0.0	0	0.0
1989	0	0.0	0	0.0
1990	0	0.0	0	0.0
1991	0	0.0	0	0.0
1992	0	0.0	0	0.0
1993	0	0.0	0	0.0
1994	0	0.0	0	0.0
1995	0	0.0	0	0.0
1996	0	0.0	0	0.0
1997	0	0.0	0	0.0
1998	0	0.0	0	0.0
1999	3	0.1	0	0.0
2000	0	0.0	0	0.0
2001	0	0.0	0	0.0

DISEASE OF SUSPECTED FOODBORNE ORIGIN

Case Rate per 100,000 Population

Year	Cases	Rate	Outbreaks	Rate
1985	309	7.1	62	1.4
1986	346	7.8	58	1.3
1987	281	6.3	45	1.0
1988	545	11.9	55	1.2
1989	373	8.0	31	0.7
1990	665	13.7	34	0.7
1991	1,143	22.9	49	1.0
1992	740	14.5	53	1.0
1993	1,301	24.8	130	2.5
1994	1,462	27.4	151	2.8
1995	909	16.7	138	2.5
1996	695	12.6	154	2.8
1997	810	14.4	108	1.9
1998	698	12.3	59	1.0
1999	1,164	20.2	93	1.6
2000	938	15.9	66	1.1
2001	574	9.6	69	1.1

GIARDIASIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	3	18.9	0	0	0	0	0	0
Asotin	4	20.3	3	15.0	5	25.0	0	0	0	0
Benton	7	5.2	10	7.3	13	9.4	10	7.0	6	4.1
Chelan	1	1.6	10	16.0	5	7.9	4	6.0	6	8.9
Clallam	9	13.6	5	7.5	2	3.0	5	7.7	3	4.6
Clark	76	24.0	58	17.7	54	16.0	45	13.0	37	10.5
Columbia	0	0	0	0	0	0	1	24.6	0	0
Cowlitz	20	21.7	10	10.7	14	14.9	11	11.8	8	8.5
Douglas	0	0	2	6.4	1	3.2	0	0	2	6.1
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	4	9.1	3	6.8	3	6.7	2	4.1	4	7.9
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	1	1.5	6	8.6	8	11.3	6	8.0	4	5.3
Grays Harbor	7	10.2	1	1.5	3	4.4	1	1.5	0	0
Island	5	7.0	1	1.4	1	1.4	7	9.8	1	1.4
Jefferson	3	11.4	4	15.1	7	26.3	9	34.7	5	19.2
King	243	14.8	240	14.4	175	10.4	222	12.8	140	8.0
Kitsap	37	16.1	24	10.5	24	10.4	15	6.5	16	6.9
Kittitas	1	3.2	11	35.0	8	24.7	1	3.0	5	14.7
Klickitat	4	21.1	2	10.5	3	15.5	2	10.4	1	5.2
Lewis	2	2.9	6	8.7	5	7.2	8	11.7	5	7.2
Lincoln	0	0	1	10.0	0	0	1	9.8	0	0
Mason	7	14.6	3	6.2	5	10.3	3	6.1	11	22.2
Okanogan	9	23.4	3	7.8	0	0	0	0	4	10.1
Pacific	6	28.2	1	4.7	2	9.3	0	0	1	4.8
Pend Oreille	2	17.9	0	0	0	0	0	0	1	8.5
Pierce	58	8.6	68	9.9	37	5.3	45	6.4	40	5.6
San Juan	0	0	1	7.9	0	0	2	14.2	0	0
Skagit	3	3.1	15	15.2	7	7.0	4	3.9	5	4.8
Skamania	0	0	1	10.1	2	20.2	1	10.1	2	20.2
Snohomish	81	14.7	78	13.7	49	8.4	79	13.0	63	10.2
Spokane	21	5.1	35	8.5	24	5.8	42	10.0	49	11.6
Stevens	1	2.7	0	0	0	0	2	5.0	0	0
Thurston	15	7.6	12	6.0	14	6.9	15	7.2	19	9.0
Wahkiakum	1	25.6	1	25.6	0	0	0	0	1	26.3
Walla Walla	4	7.4	7	12.8	7	12.8	4	7.2	7	12.7
Whatcom	25	16.0	38	24.1	31	19.2	19	11.4	16	9.4
Whitman	5	12.1	6	14.5	3	7.2	2	4.9	4	9.9
Yakima	76	36.4	71	33.7	48	22.6	54	24.3	46	20.5
STATEWIDE TOTAL										
CASES	**738**	**13.2**	**740**	**13.0**	**560**	**9.7**	**622**	**10.6**	**512**	**8.6**
DEATHS	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**

GONORRHEA
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	2	12.7	1	6.3	1	6.7	2	12.7	2	12.0
Asotin	1	5.1	0	0	0	0	0	0	1	4.8
Benton	9	6.7	6	4.4	13	9.2	6	4.3	11	7.6
Chelan	2	3.2	8	12.8	4	6.3	6	9.5	4	2.8
Clallam	8	12.0	3	4.5	3	4.5	7	10.4	6	9.3
Clark	45	14.2	71	21.6	87	26.3	86	25.1	100	28.4
Columbia	0	0	1	23.8	0	0	0	0	0	0
Cowlitz	2	2.2	2	2.1	12	12.8	9	9.4	10	10.6
Douglas	1	3.2	0	0	2	6.4	4	12.5	1	3.0
Ferry	0	0	0	0	0	0	2	27.3	1	13.7
Franklin	12	27.3	6	13.5	6	13.3	1	2.2	14	27.8
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	12	17.6	3	4.3	9	13.0	7	9.9	15	19.8
Grays Harbor	12	17.6	3	4.4	3	4.5	2	3.0	5	7.3
Island	3	4.2	21	29.0	8	10.8	11	14.8	10	13.8
Jefferson	2	7.6	2	7.5	1	3.8	0	0	1	3.8
King	918	55.8	975	58.5	922	54.3	1222	71.7	1555	88.4
Kitsap	70	30.5	72	31.4	72	30.6	133	57.2	127	54.4
Kittitas	1	3.2	0	0	2	6.5	2	6.2	1	2.9
Klickitat	0	0	0	0	1	5.5	0	0	1	5.2
Lewis	8	11.7	9	13.1	6	8.9	6	8.7	4	5.8
Lincoln	0	0	0	0	0	0	1	10.4	1	9.8
Mason	4	8.4	5	10.4	11	22.9	8	16.5	10	20.2
Okanogan	5	13.0	10	26.0	5	13.7	2	5.3	1	2.5
Pacific	5	23.5	3	14.0	0	0	0	0	0	0
Pend Oreille	0	0	2	17.9	0	0	0	0	2	16.9
Pierce	480	71.2	404	58.8	628	89.3	536	75.6	660	92.5
San Juan	0	0	1	7.9	0	0	0	0	0	0
Skagit	9	9.3	20	20.3	12	12.1	6	5.9	13	12.5
Skamania	0	0	0	0	0	0	1	10.1	0	0
Snohomish	117	21.2	150	26.4	91	15.7	108	18.2	189	30.6
Spokane	145	35.4	89	21.7	114	27.4	108	26.0	102	24.1
Stevens	7	18.7	0	0	4	11.0	1	2.6	4	9.9
Thurston	24	12.1	28	14.0	37	18.0	33	16.1	33	15.7
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	7	13.0	5	9.2	0	0	1	1.8	3	5.4
Whatcom	12	7.7	12	7.6	20	12.6	12	7.4	23	13.5
Whitman	4	9.7	6	14.5	3	7.5	4	9.5	7	17.4
Yakima	28	13.4	30	14.3	55	25.9	92	43.0	74	33.0
STATEWIDE TOTAL										
CASES	**1,955**	**34.9**	**1,948**	**34.3**	**2,132**	**37.0**	**2,419**	**41.6**	**2,991**	**50.1**
DEATHS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

ACUTE HEPATITIS A
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	3	19	2	12.6	1	6.3	0	0	0	0
Asotin	0	0	2	10	0	0	1	4.9	0	0
Benton	7	5.2	10	7.3	2	1.4	3	2.1	6	4.1
Chelan	7	11.3	2	3.2	3	4.8	8	12	5	7.5
Clallam	3	4.5	2	3	1	1.5	0	0	3	4.6
Clark	19	6	66	20.1	59	17.5	26	7.5	10	2.8
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	6	6.5	27	29	19	20.2	8	8.6	4	4.3
Douglas	11	35.7	1	3.2	1	3.2	4	12.3	1	3.0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	3	6.8	2	4.5	0	0	5	10.1	0	0
Garfield	0	0	0	0	0	0	0	0	1	41.7
Grant	16	23.4	8	11.5	8	11.3	15	20.1	2	2.6
Grays Harbor	2	2.9	5	7.4	1	1.5	2	3	1	1.5
Island	2	2.8	3	4.1	2	2.7	1	1.4	1	1.4
Jefferson	2	7.6	4	15.1	0	0	5	19.3	0	0
King	435	26.4	377	22.6	222	13.2	98	5.6	31	1.8
Kitsap	38	16.6	10	4.4	7	3	4	1.7	7	3.0
Kittitas	4	12.7	4	12.7	0	0	0	0	0	0
Klickitat	2	10.5	0	0	1	5.2	1	5.2	0	0
Lewis	1	1.5	0	0	2	2.9	1	1.5	0	0
Lincoln	1	10.2	2	20	0	0	0	0	0	0
Mason	5	10.4	1	2.1	1	2.1	2	4	1	2.0
Okanogan	2	5.2	3	7.8	0	0	5	12.6	0	0
Pacific	2	9.4	4	18.6	1	4.7	0	0	1	4.8
Pend Oreille	0	0	1	8.9	0	0	0	0	0	0
Pierce	54	8	42	6.1	21	3	10	1.4	55	7.7
San Juan	2	16	2	15.9	0	0	7	49.7	0	0
Skagit	24	24.8	13	13.2	2	2	10	9.7	8	7.7
Skamania	0	0	1	10.1	3	30.3	0	0	0	0
Snohomish	35	6.3	39	6.9	95	16.3	23	3.8	8	1.3
Spokane	195	47.6	347	84.4	18	4.3	11	2.6	3	0.7
Stevens	2	5.3	5	13.3	3	7.9	0	0	0	0
Thurston	30	15.2	21	10.5	10	4.9	14	6.8	13	6.2
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	9	16.7	2	3.7	0	0	9	16.3	1	1.8
Whatcom	31	19.8	9	5.7	13	8.1	3	1.8	4	2.3
Whitman	10	24.3	9	21.7	1	2.4	2	4.9	1	2.5
Yakima	56	26.8	11	5.2	8	3.8	20	9	17	7.6
STATEWIDE TOTAL										
CASES	**1,019**	**18.2**	**1,037**	**18.2**	**505**	**8.8**	**298**	**5.1**	**184**	**3.1**
DEATHS	**1 :**	**0**	**2 :**	**0**	**1 :**	**0**	**1 :**	**0**	**0 :**	**0**

ACUTE HEPATITIS B
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	1	6.3	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	5	3.7	5	3.6	6	4.3	0	0	1	0.7
Chelan	0	0	0	0	0	0	0	0	1	1.5
Clallam	2	3	1	1.5	0	0	0	0	2	3.1
Clark	11	3.5	18	5.5	10	3	4	1.2	9	2.6
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	5	5.4	4	4.3	4	4.3	5	5.4	22	23.4
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	1	2.3	2	4.5	2	4.4	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	1	1.4	2	2.7	1	1.3
Grays Harbor	4	5.9	2	2.9	0	0	1	1.5	0	0
Island	0	0	1	1.4	0	0	1	1.4	0	0
Jefferson	0	0	0	0	0	0	0	0	0	0
King	35	2.1	48	2.9	46	2.7	44	2.5	35	2.0
Kitsap	3	1.3	3	1.3	4	1.7	0	0	4	1.7
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	1	5.2	0	0	0	0	2	10.4
Lewis	1	1.5	2	2.9	1	1.4	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	5	10.4	2	4.1	1	2.1	2	4	1	2.0
Okanogan	2	5.2	0	0	1	2.6	0	0	1	2.5
Pacific	1	4.7	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	15	2.2	11	1.6	7	1	26	3.7	7	1.0
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	5	5.2	2	2	2	2	1	1	4	3.8
Skamania	0	0	0	0	0	0	1	10.1	0	0
Snohomish	7	1.3	15	2.6	8	1.4	6	1	13	2.1
Spokane	2	0.5	7	1.7	5	1.2	22	5.3	33	7.8
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	1	0.5	0	0	2	1	6	2.9	2	1.0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	3	5.5	0	0	0	0	0	0
Whatcom	3	1.9	0	0	4	2.5	5	3	30	17.6
Whitman	0	0	0	0	0	0	1	2.5	1	2.5
Yakima	6	2.9	9	4.3	6	2.8	5	2.2	2	0.9
STATEWIDE TOTAL										
CASES	**114**	**2**	**136**	**2.4**	**111**	**1.9**	**132**	**2.2**	**171**	**2.9**
DEATHS	**2 :**	**0**	**0 :**	**0**	**1 :**	**0**	**5 :**	**0**	**0 :**	**0**

ACUTE HEPATITIS C
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	0	0	0	0	0	0	0	0	1	0.7
Chelan	1	1.6	2	3.2	0	0	0	0	0	0
Clallam	1	1.5	0	0	1	1.5	0	0	0	0
Clark	8	2.5	6	1.8	2	0.6	6	1.7	1	0.3
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	2	2.2	2	2.1	4	4.3	4	4.3	2	2.1
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0	0	0
Island	0	0	0	0	0	0	0	0	0	0
Jefferson	1	3.8	0	0	0	0	0	0	0	0
King	8	0.5	7	0.4	7	0.4	12	0.7	10	0.6
Kitsap	0	0	0	0	0	0	0	0	0	0
Kittitas	2	6.3	0	0	0	0	0	0	0	0
Klickitat	0	0	1	5.2	0	0	0	0	0	0
Lewis	0	0	1	1.5	2	2.9	1	1.5	1	1.4
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	1	2.1	0	0	0	0	2	4	0	0
Okanogan	1	2.6	0	0	1	2.6	0	0	0	0
Pacific	1	4.7	1	4.7	0	0	0	0	0	0
Pend Oreille	0	0	1	8.9	0	0	0	0	0	0
Pierce	4	0.6	1	0.1	0	0	5	0.7	2	0.3
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	1	1	0	0	0	0	0	0	1	1.0
Skamania	0	0	1	10.1	0	0	0	0	0	0
Snohomish	9	1.6	4	0.7	2	0.3	1	0.2	2	0.3
Spokane	0	0	0	0	0	0	5	1.2	9	2.1
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	1	0.5	0	0	2	1	2	1	0	0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	1	1.8	0	0	0	0
Whatcom	1	0.6	0	0	1	0.6	1	0.6	0	0
Whitman	0	0	0	0	0	0	0	0	0	0
Yakima	0	0	2	1	1	0.5	5	2.2	2	0.9
STATEWIDE TOTAL										
CASES	**42**	**0.7**	**29**	**0.5**	**24**	**0.4**	**44**	**0.7**	**31**	**0.5**
DEATHS	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**

HERPES SIMPLEX, GENITAL
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	3	19	10	62.9	3	20	2	12.7	11	66.3
Asotin	20	101.5	16	80	18	89	6	29.5	11	53.1
Benton	39	29.1	32	23.3	50	35.5	42	29.9	41	28.3
Chelan	19	30.5	15	24	23	36.4	13	20.5	22	32.8
Clallam	25	37.7	27	40.5	28	42	35	51.8	27	41.7
Clark	57	18	42	12.8	64	19.4	68	19.8	51	14.5
Columbia	0	0	1	23.8	0	0	0	0	1	24.4
Cowlitz	5	5.4	7	7.5	8	8.5	16	16.8	16	17
Douglas	8	26	8	25.5	6	19.1	13	40.7	14	42.7
Ferry	1	13.7	0	0	0	0	2	27.3	2	27.4
Franklin	13	29.6	9	20.3	10	22.2	18	39.6	17	33.7
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	11	16.1	11	15.9	10	14.4	12	17	15	19.8
Grays Harbor	21	30.7	23	33.9	17	25.4	14	20.9	8	11.7
Island	14	19.6	29	40	24	32.5	19	25.6	16	22.1
Jefferson	6	22.8	8	30.2	3	11.4	0	0	9	34.5
King	692	42	651	39.1	664	39.1	745	43.7	672	38.2
Kitsap	80	34.9	63	27.5	89	37.8	83	35.7	59	25.3
Kittitas	11	34.9	12	38.2	14	45.5	9	27.9	12	35.3
Klickitat	0	0	4	20.9	0	0	2	10.4	1	5.2
Lewis	10	14.6	18	26.2	16	23.8	7	10.2	7	10.1
Lincoln	1	10.2	0	0	1	11.6	3	31.1	0	0
Mason	16	33.4	13	26.9	13	27	17	35	11	22.2
Okanogan	6	15.6	13	33.9	7	19.2	8	21.1	8	20.2
Pacific	1	4.7	0	0	7	34.3	0	0	3	14.3
Pend Oreille	4	35.7	1	8.9	3	27.4	1	9.2	2	16.9
Pierce	218	32.3	207	30.1	268	38.1	240	33.8	186	26.1
San Juan	3	24	2	15.9	4	31.4	5	39.2	1	6.9
Skagit	24	24.8	26	26.3	28	28.2	21	20.8	27	25.9
Skamania	0	0	1	10.1	1	10.4	2	20.1	0	0
Snohomish	303	55	245	43.1	256	44.2	246	41.5	244	39.4
Spokane	80	19.5	68	16.5	90	21.6	94	22.6	123	29.1
Stevens	9	24.1	8	21.3	4	11	3	7.9	6	14.9
Thurston	65	32.9	55	27.5	51	24.9	61	29.7	38	18.1
Wahkiakum	0	0	1	25.6	0	0	0	0	0	0
Walla Walla	13	24.1	22	40.3	15	27.6	23	41.9	12	21.7
Whatcom	67	42.9	72	45.7	63	39.6	59	36.3	37	21.7
Whitman	5	12.1	10	24.2	5	12.5	8	19	5	12.4
Yakima	87	41.7	81	38.5	89	42	113	52.8	121	53.9
STATEWIDE TOTAL										
CASES	**1,937**	**34.5**	**1,811**	**31.9**	**1,952**	**33.9**	**2,010**	**34.5**	**1,836**	**30.7**
DEATHS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

HAEMOPHILUS INFLUENZAE, INVASIVE DISEASE
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	1	6.1	0	0
Asotin	0	0	1	5	0	0	0	0.0	0	0
Benton	0	0	0	0	0	0	2	1.4	0	0
Chelan	0	0	0	0	0	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0	0	0
Clark	0	0	1	0.3	0	0	0	0	2	0.6
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	1	1.1	1	1.1	0	0	1	1.1	0	0
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	1	2.3	0	0	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0	0	0
Island	0	0	0	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0	0	0	0
King	0	0	3	0.2	2	0.1	1	0.1	0	0
Kitsap	0	0	1	0.4	1	0.4	0	0	1	0.4
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	1	5.2	0	0
Lewis	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	1	2.1	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0	0	0
Pacific	0	0	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	1	0.1	0	0	2	0.3	2	0.3	0	0
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	0	0	1	1	0	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	0	0	0	0	1	0.2	0	0	0	0
Spokane	1	0.2	0	0	0	0	1	0.2	0	0
Stevens	0	0	0	0	1	2.6	0	0	0	0
Thurston	0	0	0	0	0	0	0	0	1	0.5
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	0	0	0	0	0	0
Whatcom	0	0	3	1.9	0	0	0	0	0	0
Whitman	0	0	0	0	0	0	0	0	0	0
Yakima	2	1	0	0	1	0.5	0	0	5	2.2
STATEWIDE TOTAL										
CASES	**6**	**0.1**	**11**	**0.2**	**9**	**0.2**	**9**	**0.2**	**9**	**0.2**
DEATHS	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

LEGIONELLOSIS

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	7	0.2	2	0.1
1986	15	0.3	8	0.2
1987	23	0.5	3	0.1
1988	29	0.6	4	0.1
1989	30	0.6	5	0.1
1990	18	0.4	4	0.1
1991	15	0.3	5	0.1
1992	15	0.3	5	0.1
1993	12	0.2	2	0
1994	13	0.2	2	0
1995	22	0.4	6	0.1
1996	8	0.1	2	0
1997	12	0.2	0	0
1998	15	0.3	2	0
1999	21	0.4	4	0.1
2000	19	0.3	1	0
2001	10	0.2	1	0

LISTERIOSIS

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	20	0.5	1	0.0
1986	37	0.8	5	0.1
1987	37	0.8	6	0.1
1988	39	0.8	4	0.1
1989	21	0.5	2	0.0
1990	22	0.5	3	0.1
1991	12	0.2	6	0.1
1992	13	0.2	0.0	0.0
1993	21	0.4	2	0.0
1994	13	0.2	3	0.1
1995	22	0.4	1	0.0
1996	11	0.2	3	0.1
1997	17	0.3	1	0.0
1998	12	0.2	3	0.1
1999	19	0.3	5	0.1
2000	12	0.2	2	0.0
2001	14	0.2	1	0.0

LYME DISEASE

Case, Death Rate/100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	0	0.0	0	0.0
1986	1	0.0	0	0.0
1987	10	0.2	0	0.0
1988	12	0.3	0	0.0
1989	37	0.8	0	0.0
1990	31	0.6	0	0.0
1991	7	0.1	0	0.0
1992	14	0.3	0	0.0
1993	9	0.2	0	0.0
1994	4	0.1	0	0.0
1995	10	0.2	0	0.0
1996	18	0.3	0	0.0
1997	10	0.2	0	0.0
1998	7	0.1	0	0.0
1999	14	0.2	0	0.0
2000	9	0.1	0	0.0
2001	9	0.2	0	0.0

MALARIA
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	1	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asotin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Benton	0.0	0.0	0.0	0.0	1	0.7	0.0	0.0	0.0	0.0
Chelan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	1.5
Clallam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	1.5
Clark	0.0	0.0	0.0	0.0	1	0.3	0.0	0.0	0.0	0.0
Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cowlitz	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Douglas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ferry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Franklin	0.0	0.0	2	4.5	0.0	0.0	0.0	0.0	0.0	0.0
Garfield	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grant	0.0	0.0	0.0	0.0	0.0	0.0	1	1.3	0.0	0.0
Grays Harbor	1	1.5	0.0	0.0	0.0	0.0	1	1.5	0.0	0.0
Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jefferson	1	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
King	31	1.9	16	1.0	21	1.3	17	1.0	10	0.6
Kitsap	0.0	0.0	0.0	0.0	0.0	0.0	2	0.9	0.0	0.0
Kittitas	0.0	0.0	0.0	0.0	1	3.1	0.0	0.0	0.0	0.0
Klickitat	2	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lewis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lincoln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mason	0.0	0.0	1	2.1	0.0	0.0	1	2.0	0.0	0.0
Okanogan	0.0	0.0	0.0	0.0	0.0	0.0	1	2.5	0.0	0.0
Pacific	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pend Oreille	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pierce	6	0.9	5	0.7	11	1.6	12	1.7	1	0.1
San Juan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	6.9
Skagit	0.0	0.0	1	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Skamania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Snohomish	2	0.4	1	0.2	3	0.5	2	0.3	1	0.2
Spokane	1	0.2	1	0.2	2	0.5	3	0.7	3	0.7
Stevens	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thurston	3	1.5	0.0	0.0	1	0.5	1	0.5	0.0	0.0
Wahkiakum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walla Walla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Whatcom	0.0	0.0	2	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Whitman	0.0	0.0	1	2.4	1	2.4	1	2.5	0.0	0.0
Yakima	1	0.5	0.0	0.0	1	0.5	1	0.4	1	0.4
STATEWIDE TOTAL										
CASES	**49**	**0.9**	**30**	**0.5**	**43**	**0.7**	**43**	**0.7**	**19**	**0.3**
DEATHS	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**

MEASLES
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	0	0	0	0	0	0	0	0	0	0
Chelan	0	0	0	0	0	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0	0	0
Clark	0	0	1	0.3	0	0	0	0	1	0.3
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	0	0	0	0	0	0	0	0	0	0
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0	0	0
Island	0	0	0	0	0	0	0	0	2	2.8
Jefferson	0	0	0	0	0	0	0	0	0	0
King	1	1	0	0	1	0.1	2	0.1	12	0.7
Kitsap	0	0	0	0	2	0.9	0	0	0	0
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0
Lewis	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0	0	0
Pacific	0	0	0	0	2	9.3	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	1	1	0	0	0	0	1	0.1	0	0
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	0	0	0	0	0	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	0	0	0	0	0	0	0	0	0	0
Spokane	0	0	0	0	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	0	0	0	0	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	0	0	0	0	0	0
Whatcom	0	0	0	0	0	0	0	0	0	0
Whitman	0	0	0	0	0	0	0	0	0	0
Yakima	0	0	0	0	0	0	0	0	0	0
STATEWIDE TOTAL										
CASES	**2**	**0.0**	**1**	**0**	**5**	**0.1**	**3**	**0.1**	**15**	**0.3**
DEATHS	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**	**0 :**	**0**

MENINGOCOCCAL DISEASE
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	0	0	0	0
Asotin	2	10.2	0	0	1	5.1	1	4.9	0	0
Benton	1	0.7	0	0	1	0.7	0	0	0	0
Chelan	1	1.6	0	0	0	0	0	0	0	0.0
Clallam	1	1.5	0	0	0	0	0	0	0	0
Clark	17	5.4	15	4.6	11	3.5	8	2.3	12	3.4
Columbia	0	0	0	0	0	0	1	24.6	0	0
Cowlitz	2	2.2	1	1.1	3	3.3	2	2.2	3	3.2
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	1	13.7	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0	0
Garfield	0	0	1	41.7	0	0	0	0	0	0
Grant	1	1.5	1	1.4	0	0	2	2.7	1	1.3
Grays Harbor	1	1.5	2	2.9	2	2.9	2	3.0	0	0
Island	3	4.2	4	5.5	2	2.7	0	0	0	0
Jefferson	1	3.8	0	0	2	7.6	0	0	0	0
King	24	1.5	15	0.9	25	1.5	18	1.0	14	0.8
Kitsap	4	1.7	2	0.9	2	0.9	4	1.7	5	2.1
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	1	5.2	0	0	0	0	0	0
Lewis	2	2.9	1	1.5	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	2	4.2	1	2.1	0	0	2	4.0	3	6.0
Okanogan	0	0	0	0	0	0	1	2.5	0	0
Pacific	2	9.4	2	9.3	0	0	0	0	0	0
Pend Oreille	0	0.0	1	8.9	0	0	0	0	1	8.5
Pierce	11	1.6	4	0.6	12	1.7	7	1.0	9	1.3
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	2	2.1	2	2.0	8	8.0	4	3.9	1	1.0
Skamania	1	10.1	0	0	1	10.1	1	10.1	0	0
Snohomish	7	1.3	6	1.1	3	0.5	2	0.3	5	0.8
Spokane	6	1.5	3	0.7	3	0.7	1	0.2	8	1.9
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	3	1.5	2	1.0	3	1.5	1	0.5	2	1.0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	1	1.9	0	0	0	0	0	0	0	0
Whatcom	2	1.3	3	1.9	5	3.1	5	3.0	3	1.8
Whitman	0	0	1	2.4	2	4.9	0	0	2	5.0
Yakima	17	8.1	9	4.3	7	3.3	9	4.0	2	0.9
STATEWIDE TOTAL										
CASES	**115**	**2.1**	**77**	**1.4**	**93**	**1.6**	**71**	**1.2**	**71**	**1.2**
DEATHS	**11 :**	**0**	**7 :**	**0**	**4 :**	**0**	**6 :**	**0**	**6 :**	**0**

MUMPS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	1	6.3	0	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	1	0.7	0	0	0	0	0	0	0	0
Chelan	2	3.2	0	0	0	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0	0	0
Clark	0	0	0	0	0	0	0	0	0	0
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	0	0	0	0	1	1.1	0	0	0	0
Douglas	1	3.2	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	2	2.9	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0	0	0
Island	0	0	0	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0	0	0	0
King	5	0.3	2	0.1	1	0.1	8	0.5	1	0.1
Kitsap	1	0.4	0	0	0	0	1	0.4	0	0
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0
Lewis	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0	0
Okanogan	0	0	1	2.6	0	0	0	0	0	0
Pacific	0	0	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	1	0.1	3	0.4	0	0	0	0	1	0.1
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	1	1.0	1	1.0	0	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	0	0	2	0.4	0	0	1	0.2	0	0
Spokane	0	0	0	0	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	0	0	0	0	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	0	0	0	0	0	0
Whatcom	1	0.6	1	0.6	0	0	0	0	0	0
Whitman	0	0	0	0	0	0	0	0	0	0
Yakima	6	2.9	0	0	0	0	0	0	0	0
STATEWIDE TOTAL										
CASES	**21**	**0.4**	**11**	**0.2**	**2**	**0**	**10**	**0.2**	**2**	**0**
DEATHS	**11 :**	**0**	**7 :**	**0**	**4 :**	**0**	**6 :**	**0**	**6 :**	**0**

PERTUSSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	1	6.3	0	0	0	0	0	0
Asotin	0	0	2	10.0	0	0	0	0	0	0
Benton	5	3.7	0	0	0	0	4	2.8	2	1.4
Chelan	6	9.6	5	8.0	6	9.5	2	3.0	2	3.0
Clallam	2	3.0	2	3.0	6	9.0	1	1.5	1	1.5
Clark	20	6.3	6	1.8	15	4.5	12	3.5	3	0.9
Columbia	0	0	0	0	0	0	0	0	1	24.4
Cowlitz	2	2.2	5	5.4	0	0	1	1.1	3	3.2
Douglas	2	6.5	0	0	1	3.2	0	0	1	3.0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	4	5.9	2	2.9	1	1.4	1	1.3	0.0	0.0
Grays Harbor	20	29.3	3	4.4	1	1.5	0.0	0.0	0.0	0.0
Island	5	7.0	9	12.4	34	46.4	10	14.0	1	1.4
Jefferson	0	0	0	0	0	0	0	0	10	38.3
King	195	11.8	159	9.5	480	28.6	192	11.1	40	2.3
Kitsap	6	2.6	9	3.9	21	9.1	8	3.4	28	12.0
Kittitas	8	25.4	1	3.2	4	12.3	6	18.0	0	0
Klickitat	2	10.5	0	0	0	0	0	0	0	0
Lewis	0	0	2	2.9	2	2.9	1	1.5	3	4.3
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	5	10.4	6	12.4	2	4.1	3	6.1	1	2.0
Okanogan	1	2.6	1	2.6	5	13.0	12	30.3	0.0	0.0
Pacific	1	4.7	0	0	0	0	0	0	1	4.8
Pend Oreille	4	35.7	0	0	0	0	0	0	0	0
Pierce	51	7.6	67	9.8	48	6.9	79	11.3	39	5.5
San Juan	1	8.0	0	0	0	0	19	135.0	1	6.9
Skagit	6	6.2	3	3.0	4	4.0	9	8.7	1	1.0
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	34	6.2	49	8.6	53	9.1	43	7.1	7	1.1
Spokane	14	3.4	0.0	0.0	6	1.4	7	1.7	2	0.5
Stevens	0	0	1	2.7	0	0	0	0	0	0
Thurston	23	11.6	14	7.0	8	3.9	9	4.3	11	5.2
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	5	9.2	1	1.8	0	0
Whatcom	28	17.9	10	6.3	8	5.0	11	6.6	23	13.5
Whitman	2	4.9	0	0	0	0	0	0	0	0
Yakima	34	16.3	49	23.3	29	13.7	27	12.1	3	1.3
STATEWIDE TOTAL										
CASES	**481**	**8.6**	**406**	**7.1**	**739**	**12.8**	**458**	**7.8**	**184**	**3.1**
DEATHS	**0 :**	**0**	**1 :**	**0**	**0 :**	**0**	**1 :**	**0**	**0 :**	**0**

PARALYTIC SHELLFISH POISONING (PSP)

Case, Death Rate/ 100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	3	0.1	0	0
1986	0	0	0	0
1987	0	0	0	0
1988	7	0.1	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	5	0.1	0	0
1999	0	0	0	0
2000	7	0.1	0	0
2001	0	0	0	0

POLIOMYELITIS*

Case, Death Rate/ 100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	0	0	0	0
1986	0	0	0	0
1987	1	0	0	0
1988	1	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	1	0	0	0
1992	1	0	0	0
1993	1	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	0	0	0	0
2000	0	0	0	0
2001	0	0	0	0

*Vaccine associated cases

PSITTACOSIS

Case, Death Rate/ 100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	3	0.1	1	0
1986	7	0.2	0	0
1987	12	0.3	0	0
1988	7	0.1	0	0
1989	4	0.1	1	0
1990	5	0.1	0	0
1991	6	0.1	0	0
1992	12	0.2	0	0
1993	4	0.1	0	0
1994	4	0.1	0	0
1995	7	0.1	0	0
1996	4	0.1	0	0
1997	1	0	0	0
1998	3	0.1	0	0
1999	0	0	0	0
2000	1	0	0	0
2001	0	0	0	0

RUBELLA

Case, Death Rate/ 100,000 Population

Year	Cases	Rate	Deaths	Rate
1985	16	0.4	0	0
1986	15	0.3	0	0
1987	2	0	0	0
1988	0	0	0	0
1989	2	0	0	0
1990	6	0.1	0	0
1991	8	0.2	0	0
1992	8	0.2	0	0
1993	3	0.1	0	0
1994	0	0	0	0
1995	2	0.0	0	0
1997	5	0.1	0	0
1998	5	0.1	0	0
1999	5	0.1	0	0
2000	8	0.1	0	0
2001	0	0	0	0

SALMONELLOSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	1	6.3	1	6.3	2	12.6	0	0	4	24.1
Asotin	0	0	2	10.0	1	5.0	1	4.9	0	0
Benton	13	9.7	17	12.4	15	10.8	17	11.9	14	9.7
Chelan	8	12.9	6	9.6	16	25.4	6	9.0	7	10.4
Clallam	4	6.0	6	9.0	6	9.0	1	1.5	14	21.6
Clark	24	7.6	33	10.1	53	15.7	33	9.6	25	7.1
Columbia	1	23.8	0	0	0	0	0	0	1	24.4
Cowlitz	7	7.6	5	5.4	5	5.3	12	12.9	9	9.6
Douglas	2	6.5	4	12.7	3	9.5	1	3.1	1	3.0
Ferry	2	27.4	0	0	0	0	0	0	0	0
Franklin	9	20.5	4	9.0	4	8.9	1	2.0	5	9.9
Garfield	0	0	1	41.7	0	0	0	0	0	0
Grant	6	8.8	3	4.3	3	4.2	6	8.0	6	7.9
Grays Harbor	9	13.2	65	95.7	6	8.9	2	3.0	8	11.7
Island	4	5.6	2	2.8	5	6.8	15	21.0	3	4.1
Jefferson	1	3.8	1	3.8	3	11.3	5	19.3	3	11.5
King	221	13.4	217	13.0	264	15.7	200	11.5	261	14.8
Kitsap	18	7.8	19	8.3	32	13.9	24	10.3	15	6.4
Kittitas	1	3.2	2	6.4	3	9.3	6	18.0	1	2.9
Klickitat	0	0	1	5.2	6	31.1	3	15.7	3	15.5
Lewis	3	4.4	2	2.9	10	14.5	6	8.7	9	12.9
Lincoln	0	0	1	10.0	1	10.0	0	0	1	9.8
Mason	3	6.3	7	14.5	7	14.4	2	4.0	2	4.0
Okanogan	0	0	6	15.6	2	5.2	2	5.1	8	20.2
Pacific	2	9.4	1	4.7	1	4.7	0	0	4	19.0
Pend Oreille	1	8.9	0	0	0	0	2	17.0	0	0
Pierce	65	9.6	67	9.8	61	8.7	62	8.8	76	10.7
San Juan	2	16.0	1	7.9	1	7.9	0	0	0	0
Skagit	11	11.4	13	13.2	8	8.0	15	14.6	11	10.6
Skamania	1	10.1	3	30.3	0	0	0	0	1	10.1
Snohomish	71	12.9	63	11.1	78	13.4	71	11.7	65	10.5
Spokane	31	7.6	54	13.1	30	7.2	34	8.1	42	9.9
Stevens	3	8.0	1	2.7	6	15.8	1	2.5	2	5.0
Thurston	17	8.6	29	14.5	34	16.8	22	10.6	22	10.5
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	6	11.1	8	14.7	9	16.5	10	18.1	4	7.2
Whatcom	9	5.8	23	14.6	37	22.9	29	17.4	20	11.7
Whitman	6	14.6	3	7.2	15	35.8	9	22.1	3	7.4
Yakima	113	54.1	32	15.2	65	30.6	61	27.4	31	13.8
STATEWIDE TOTAL										
CASES	**675**	**12.0**	**703**	**12.4**	**792**	**13.8**	**659**	**11.2**	**681**	**11.4**
DEATHS	**0 :**	**0**	**2 :**	**0**	**2 :**	**0**	**1 :**	**0**	**2 :**	**0**

SHIGELLOSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	1	6.3	2	12.6	0	0	0	0
Asotin	0	0	0	0	2	10.0	2	9.7	0	0
Benton	2	1.5	6	4.4	4	2.9	3	2.1	8	5.5
Chelan	3	4.8	4	6.4	3	4.8	3	4.5	10	14.9
Clallam	0	0	0	0	1	1.5	1	1.5	1	1.5
Clark	9	2.8	13	4.0	3	0.9	9	2.6	5	1.4
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	0	0	1	1.1	1	1.1	3	3.2	1	1.1
Douglas	1	3.2	1	3.2	2	6.3	1	3.1	2	6.1
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	3	6.8	3	6.8	1	2.2	1	2.0	3	6.0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	2	2.9	5	7.2	2	2.8	3	4.0	1	1.3
Grays Harbor	1	1.5	2	2.9	1	1.5	1	1.5	0	0
Island	0	0	2	2.8	0	0	13	18.2	2	2.8
Jefferson	0	0	0	0	0	0	4	15.4	1	3.8
King	104	6.3	85	5.1	63	3.8	155	8.9	110	6.3
Kitsap	5	2.2	6	2.6	3	1.3	15	6.5	5	2.1
Kittitas	1	3.2	2	6.4	0	0	1	3.0	0	0
Klickitat	1	5.3	0	0	0	0	0	0	0	0
Lewis	1	1.5	2	2.9	2	2.9	7	10.2	1	1.4
Lincoln	0	0	0	0	0	0	1	9.8	0	0
Mason	1	2.1	0	0	1	2.1	5	10.1	1	2.0
Okanogan	8	20.8	0	0	0	0	4	10.1	0	0
Pacific	1	4.7	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	1	9.0	0	0	0	0
Pierce	14	2.1	16	2.3	12	1.7	40	5.7	12	1.7
San Juan	1	8.0	1	7.9	0	0	0	0	2	13.9
Skagit	2	2.1	4	4.1	4	4.0	8	7.8	10	9.6
Skamania	0	0	0	0	0	0	0	0	1	10.1
Snohomish	9	1.6	22	3.9	7	1.2	30	5.0	19	3.1
Spokane	9	2.2	3	0.7	4	1.0	15	3.6	6	1.4
Stevens	2	5.3	0	0	0	0	0	0	1	2.5
Thurston	5	2.5	4	2.0	4	2.0	11	5.3	4	1.9
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	3	5.6	2	3.7	4	7.3	1	1.8	1	1.8
Whatcom	10	6.4	14	8.9	2	1.2	6	3.6	9	5.3
Whitman	1	2.4	0	0	0	0	1	2.5	0	0
Yakima	119	57.0	78	37.1	43	20.3	157	70.5	20	8.9
STATEWIDE TOTAL										
CASES	**318**	**5.7**	**277**	**4.9**	**172**	**3.0**	**501**	**8.5**	**236**	**3.9**
DEATHS	**0**	**: 0**	**0**	**: 0**	**0**	**: 0**	**0**	**: 0**	**0**	**: 0**

PRIMARY AND SECONDARY SYPHILIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	0	0	0	0	0	0	0	0	0	0
Chelan	0	0	0	0	0	0	1	1.6	0	0
Clallam	0	0	0	0	0	0	0	0	0	0
Clark	0	0	2	0.6	3	0.9	1	0.3	0	0
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	0	0	0	0	0	0	1	1.1	0	0
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	0	0	0	0	0	0	1	2.0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0	0	0
Island	0	0	2	2.8	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	1	3.8	0	0
King	11	7	33	2.0	65	3.9	50	2.9	41	2.3
Kitsap	0	0	1	0.4	0	0	2	0.9	0	0
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0
Lewis	0	0	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0	1	2.5
Pacific	0	0	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	0	0	2	0.3	3	0.4	5	0.7	5	0.7
San Juan	0	0	0	0	0	0	0	0	0	0
Skagit	0	0	0	0	0	0	0	0	2	1.9
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	3	0.6	1	0.2	5	0.9	1	0.2	2	0.3
Spokane	0	0	1	0.2	0	0	0	0	0	0
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	0	0	0	0	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	0	0	0	0	0	0
Whatcom	1	0.7	0	0	0	0	1	0.6	1	0.6
Whitman	0	0	2	4.9	0	0	0	0	0	0
Yakima	2	1.0	0	0	1	0.5	3	1.4	4	1.8
STATEWIDE TOTAL										
CASES	**17**	**0.3**	**44**	**0.8**	**77**	**1.4**	**66**	**1.1**	**57**	**1.0**
DEATHS	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TETANUS

Case, death rate per 100,000 population

Year	Cases	Rate	Deaths	Rate
1985	0	0.0	0	0.0
1986	0	0.0	0	0.0
1987	1	0.0	0	0.0
1988	1	0.0	0	0.0
1989	1	0.0	0	0.0
1990	1	0.0	0	0.0
1991	1	0.0	0	0.0
1992	3	0.1	0	0.0
1993	1	0.0	0	0.0
1994	1	0.0	0	0.0
1995	0	0.0	0	0.0
1996	2	0.0	1	0.0
1997	1	0.0	1	0.0
1998	0	0.0	0	0.0
1999	0	0.0	0	0.0
2000	1	0.0	0	0.0
2001	0	0.0	0	0.0

TUBERCULOSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	2	13.4	1	6.3	1	6.3	1	6.3	0	0
Asotin	0	0	0	0	1	5.0	0	0	0	0
Benton	8	5.8	3	2.2	5	3.6	3	2.1	1	0.7
Chelan	2	3.2	5	8.0	4	6.3	0	6.4	1	1.5
Clallam	0	0	2	3.0	2	3.0	2	3.0	0	0
Clark	12	3.9	9	2.7	11	3.3	6	1.8	8	2.3
Columbia	0	0	0	0	1	23.8	0	0	0	0
Cowlitz	3	3.3	6	6.4	2	2.1	6	6.3	2	2.1
Douglas	3	9.8	1	3.2	1	3.2	1	3.1	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	6	13.2	4	9.0	2	4.4	6	13.2	2	4.0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	4	5.9	2	2.9	1	1.4	3	4.2	7	9.2
Grays Harbor	2	2.9	5	7.4	3	4.4	1	1.5	3	4.4
Island	1	1.4	0	0	0	0	0	0	1	1.4
Jefferson	1	3.8	0	0	2	7.5	1	3.8	0	0
King	113	6.8	116	7.0	104	6.2	127	7.5	138	7.8
Kitsap	6	2.6	3	1.3	7	3.0	7	3.0	5	2.1
Kittitas	0	0	0	0	0	0	0	0	1	2.9
Klickitat	0	0	0	0	0	0	1	5.2	0	0
Lewis	3	4.5	1	1.5	3	4.3	2	2.9	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	1	2.1	5	10.4	2	4.1	1	2.1	4	8.1
Okanogan	5	13.6	0	0	3	7.8	2	5.3	0	0
Pacific	1	4.9	0	0	1	4.7	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	43	6.3	36	5.2	43	6.1	34	4.8	22	3.1
San Juan	0	0	0	0	0	0	1	7.8	0	0
Skagit	4	4.1	3	3.0	3	3.0	0	0	1	1.0
Skamania	0	0	0	0	2	20.2	0	0	0	0
Snohomish	29	5.3	20	3.5	23	3.9	21	3.5	28	4.5
Spokane	20	4.9	22	5.4	13	3.1	14	3.4	10	2.4
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	7	3.5	2	1.0	6	3.0	2	1.0	5	2.4
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	2	3.7	2	3.7	1	1.8	2	3.6	1	1.8
Whatcom	4	2.6	5	3.2	1	0.6	3	1.8	6	3.5
Whitman	0	0	1	2.4	1	2.4	1	2.4	0	0
Yakima	23	11.0	11	5.2	9	4.2	10	4.7	15	6.7
STATEWIDE TOTAL										
CASES	**305**	**5.4**	**265**	**4.7**	**258**	**4.5**	**258**	**4.4**	**261**	**4.4**
DEATHS	**6 :**	**0**	**5 :**	**0**	**5 :**	**0**	**2 :**	**0**	**1 :**	**0**

TULAREMIA

Case, death rate per 100,000 population

Year	Cases	Rate	Deaths	Rate
1985	0	0.0	0.0	0.0
1986	1	0.0	0.0	0.0
1987	4	0.1	0.0	0.0
1988	1	0.0	0.0	0.0
1989	2	0.0	0.0	0.0
1990	4	0.1	0.0	0.0
1991	2	0.0	0.0	0.0
1992	2	0.0	0.0	0.0
1993	2	0.0	0.0	0.0
1994	1	0.0	0.0	0.0
1995	4	0.1	0.0	0.0
1996	2	0.0	0.0	0.0
1997	2	0.0	0.0	0.0
1998	8	0.1	0.0	0.0
1999	2	0.0	0.0	0.0
2000	2	0.0	0.0	0.0
2001	5	0.1	0.0	0.0

TYPHOID FEVER

Case, death rate per 100,000 population

Year	Cases	Rate	Deaths	Rate
1985	3	0.1	0.0	0.0
1986	3	0.1	0.0	0.0
1987	9	0.2	0.0	0.0
1988	13	0.3	0.0	0.0
1989	11	0.2	0.0	0.0
1990	22	0.5	0.0	0.0
1991	10	0.2	0.0	0.0
1992	11	0.2	0.0	0.0
1993	8	0.1	0.0	0.0
1994	12	0.2	0.0	0.0
1995	4	0.1	0.0	0.0
1996	4	0.1	0.0	0.0
1997	7	0.1	0.0	0.0
1998	8	0.1	0.0	0.0
1999	8	0.1	0.0	0.0
2000	6	0.1	0.0	0.0
2001	7	0.1	0.0	0.0

VIBRIOSIS

Case, death rate per 100,000 population

Year	Cases	Rate	Deaths	Rate
1985	NA			
1986	6	0.1	0.0	0.0
1987	16	0.4	0.0	0.0
1988	9	0.2	0.0	0.0
1989	5	0.1	0.0	0.0
1990	30	0.6	0.0	0.0
1991	2	0.0	0.0	0.0
1992	6	0.1	0.0	0.0
1993	32	0.6	0.0	0.0
1994	8	0.1	0.0	0.0
1995	6	0.1	0.0	0.0
1996	3	0.1	0.0	0.0
1997	57	1.0	0.0	0.0
1998	41	0.7	0.0	0.0
1999	21	0.4	0.0	0.0
2000	20	0.3	0.0	0.0
2001	9	0.2	0.0	0.0

YERSINIOSIS
(Case, Death Rate/100,000 Population)

	1997		1998		1999		2000		2001	
Counties	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Adams	0	0	0	0	0	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0	0	0
Benton	0	0	0	0	2	1.4	0	0	0	0
Chelan	0	0	1	1.6	0	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0	0	0
Clark	0	0	1	0.3	0	0	0	0	1	0.3
Columbia	0	0	0	0	0	0	0	0	0	0
Cowlitz	0	0	0	0	1	1.1	0	0	0	0
Douglas	0	0	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0	0	0
Franklin	0	0	1	2.3	0	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	0	2	2.7	0	0
Grays Harbor	0	0	1	1.5	0	0	0	0	0	0
Island	0	0	0	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0	0	0	0
King	19	1.2	17	1.0	15	0.9	22	1.3	16	0.9
Kitsap	0	0	0	0	1	0.4	1	0.4	0	0
Kittitas	0	0	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0	0	0
Lewis	1	1.5	0	0	0	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0	0	0
Mason	0	0	0	0	1	2.1	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0	2	5.0
Pacific	0	0	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0	0	0
Pierce	2	0.3	2	0.3	4	0.6	1	0.1	0	0
San Juan	0	0	0	0	1	7.9	0	0	0	0
Skagit	0	0	0	0	0	0	0	0	1	1.0
Skamania	0	0	0	0	0	0	0	0	0	0
Snohomish	4	0.7	10	1.9	4	0.7	4	0.7	2	0.3
Spokane	2	0.5	0	0	1	0.2	2	0.5	0	0
Stevens	0	0	0	0	0	0	0	0	0	0
Thurston	1	5	1	0.5	2	1.0	1	0.5	1	0.5
Wahkiakum	0	0	0	0	0	0	0	0	0	0
Walla Walla	0	0	0	0	0	0	0	0	0	0
Whatcom	0	0	3	2.0	0	0	0	0	1	6
Whitman	0	0	0	0	0	0	0	0	0	0
Yakima	1	0.5	2	1.0	0	0	0	0	0	0
STATEWIDE TOTAL										
CASES	**30**	**0.5**	**39**	**0.7**	**32**	**0.6**	**33**	**0.6**	**24**	**0.4**
DEATHS	**0** :	**0**	**0** :	**0**	**0** :	**0**	**0** :	**0**	**0** :	**0**

MONTH	COUNTY	# ILL	AGENT*	STATUS**	IMPLICATED FOODS	ERRORS	PLACE PREPARED
Jan	King	3	Unknown	Probable	Fried Chicken	Unknown	Restaurant
Jan	Clallam	4	Calicivirus, Norwalk-like viruses	Probable	Unknown	Bare-hand contact, ill food handler, handwashing	Restaurant
Jan	King	3	Calicivirus, Norwalk-like viruses	Confirmed	Raw Oysters	Contaminated raw product	Restaurant
Jan	Skagit	11	Shigella sonnei	Confirmed	Green Salad	Bare-hand contact, ill food handler	Restaurant
Jan	King	2	Unknown	Probable	Refried Beans	Slow cooling, inadequate reheating	Restaurant
Jan	Kitsap	10	Calicivirus, Norwalk-like viruses	Probable	Cupcakes	Bare-hand contact, ill food handler	Private home
Feb	King	15	Salmonella Saintpaul	Confirmed	Infant formula	Room temperature storage, prior preparation	Hospital
Feb	Snohomish	2	Unknown	Probable	Unknown	Unknown	Restaurant
Feb	King	2	Unknown	Probable	Chicken Burrito	Slow cooling	Restaurant
Feb	King	2	Vibrio cholerae	Confirmed	Shrimp, Crab, Lobster	Contaminated raw product	Restaurant (Mexico)
Feb	King	3	Unknown	Probable	Multiple Foods	Room temperature storage, slow cooling, inadequate reheating	Restaurant
Feb	King	5	Calicivirus, Norwalk-like viruses	Probable	Unknown	Bare-hand contact, ill food handler	Restaurant
Mar	King	2	Campylobacter jejuni	Confirmed	Quail	Inadequate cooking	Restaurant
Mar	Snohomish	6	Salmonella	Probable	Chicken	Inadequate hot holding, cooking, reheating	Grocery
Mar	Thurston	5	Unknown	Probable	Teriyaki Chicken, Rice	Sanitation; room temperature storage, slow cooling, inadeuate hot holding, cooking, reheating	Restaurant
Mar	Clark	2	Unknown	Probable	Chow Mein	Unknown	Restaurant
Mar	Pierce	17	Calicivirus, Norwalk-like viruses	Confirmed	Lettuce-based salad, bread	Bare-hand contact, ill food handler	Private home
Mar	King	2	Chemical	Probable	Liquour	Poisonous substance accidentally added	Restaurant
Mar	King	2	Unknown	Probable	Phad thai	Slow cooling, prior preparation, inadequate reheating	Restaurant
Mar	Pierce	16	Calicivirus, Norwalk-like viruses	Confirmed	Turkey, Ham	Ill food handler	Restaurant
Mar	King	2	Unknown	Probable	Chow Mein	Cross contamination, bare-hand contact, room temperature storage, slow cooling, inadequate reheating	Restaurant
Mar	King	21	Calicivirus, Norwalk-like viruses	Probable	Cake	Bare-hand contact, ill food handler	Restaurant
Mar	King	3	Unknown	Probable	Unknown	Product consumed raw, ill food handler	Restaurant
Apr	Thurston	5	Calicivirus, Norwalk-like viruses	Probable	Lettuce-based salad	Bare-hand contact, ill food handler	Private home

*Agent identified by laboratory testing of human/food specimens or by assessment of clinical/epidemiology data.
**A confirmed outbreak means that specimens were laboratory confirmed; a probable outbreak lacks laboratory confirmation but there is compelling epidemiologic/environmental data to suggest a foodborne outbreak.

MONTH	COUNTY	# ILL	AGENT*	STATUS**	IMPLICATED FOODS	ERRORS	PLACE PREPARED
Apr	King	3	Unknown	Probable	Unknown	Bare-hand contact, handwashing, slow cooling, prior preparation	Restaurant
Apr	King	4	Unknown	Probable	Egg Rolls, BBQ Pork	Cross contamination, bare-hand contact, slow cooling prior preparation, inadequate reheating, ill food handler	Restaurant
Apr	King	2	Unknown	Probable	Phad thai	Room temperature storage, slow cooling, inadequate cold holding, prior preparation, inadequate reheating	Restaurant
Apr	King	13	Unknown	Probable	Unknown	Unknown	Restaurant
Apr	King	2	Unknown	Probable	Sandwich	Unknown	Restaurant
Apr	King	2	Unknown	Probable	Unknown	Unknown	Restaurant
May	Thurston	9	Unknown	Probable	Lettuce-based salad	Bare-hand contact, ill food handler, handwashing	Restaurant
May	King	6	Unknown	Probable	Fried Chicken	Inadequate cold holding, hot holding, cooking	Restaurant
May	Snohomish	2	Unknown	Probable	Refried Beans	Slow cooling, inadequate reheating, hot holding	Restaurant
May	Clark	2	Unknown	Probable	Potato Salad	Room temperature storage, slow cooling, inadequate cold holing, prior preparation	Restaurant
May	King	2	Unknown	Probable	Chicken Teriyaki	Inadequate cooking, hot holding	Restaurant
Jun	King	2	Shigella sonnei	Confirmed	Unknown	Bare-hand contact, ill food handler	Restaurant
Jun	King	3	Unknown	Probable	Unknown	Cross contamination, bare-hand contact, inadequate cold holding	Restaurant
Jun	King	4	Unknown	Probable	Cantaloupe, Pineapple	Unknown	Restaurant
Jun	King	4	Unknown	Probable	Turkey Sandwich	Bare-hand contact, handwashing	Restaurant
Jun	Whatcom	37	Calicivirus, Norwalk-like viruses	Probable	Lettuce-based salad	Ill food handler	College
Jun	Clark	37	Calicivirus, Norwalk-like viruses	Confirmed	Unknown	Bare-hand contact, ill food handler	Asst. Living Facility
Jul	King	6	Histamine	Probable	Escolar	Toxic substance part of tissue, prior preparation	Restaurant
Jul	King	2	Unknown	Probable	Ceasar salad	Inadequate cold holding, prior preparation	Restaurant
Jul	King	20	Salmonella Newport	Confirmed	Multiple Foods	Bare-hand contact, Ill food handler, room temperature storage, slow cooling	Restaurant
Jul	Kitsap	4	Unknown	Probable	Ground Beef	Slow cooling, inadequate hot holding	Restaurant
Aug	King	6	Unknown	Probable	Multiple Foods	Cross contamination, bare-hand contact, sanitation, handwashing, slow cooling, inadequate cold holding, prior preparation	Restaurant

*Agent identified by laboratory testing of human/food specimens or by assessment of clinical/epidemiology data.
**A confirmed outbreak means that specimens were laboratory confirmed; a probable outbreak lacks laboratory confirmation but there is compelling epidemiologic/environmental data to suggest a foodborne outbreak.

MONTH	COUNTY	# ILL	AGENT*	STATUS**	IMPLICATED FOODS	ERRORS	PLACE PREPARED
Aug	King	30	Unknown	Probable	Unknown	Unknown	Conference Center
Sep	Pierce	43	Calicivirus, Norwalk-like viruses	Probable	Lettuce-based salad	Bare-hand contact, ill food handler	College
Sep	Walla Walla	14	E. coli O157:H7	Confirmed	Pears	Bare-hand contact, ill food handler	College
Sep	King	2	Unknown	Probable	Beef gravy	Slow cooling, prior preparation	Restaurant
Oct	Clark	56	Calicivirus, Norwalk-like viruses	Probable	Lettuce-based salad	Bare-hand contact, ill food handler, sanitation	Restaurant
Oct	King	2	Salmonella Heidelberg	Confirmed	Chicken sandwich	Cross contamination, bare-hand contact, handwashing	Restaurant
Oct	King	3	Unknown	Probable	Green Pea Salad	Prior preparation	Restaurant
Oct	Thurston	4	Unknown	Probable	Crab	Cross contamination, inadequate storage, cold holding, prior preparation	Private home
Oct	Thurston	2	Other chemical	Probable	Coffee specialty drink	Poisonous substance accidentally added	Espresso stand
Oct	King	3	Unknown	Probable	Meat pizza	Bare-hand contact, inadequate cold holding	Restaurant
Nov	King	3	Unknown	Probable	Chicken Teriyaki	Slow cooling, prior preparation, inadequate reheating	Restaurant
Nov	King	5	Calicivirus, Norwalk-like viruses	Confirmed	Raw Oysters	Contaminated raw product	Restaurant
Nov	Kitsap	2	Unknown	Probable	Lettuce, Bread	Cross contamination, bare-hand contact	Restaurant
Nov	King	2	Unknown	Probable	Salsa, Chips	Bare-hand contact, ill food handler, handwashing, prior preparation	Restaurant
Nov	King	7	Unknown	Probable	Roast Turkey	Cross contamination, room temperature storage, slow cooling, inadequate cold holding, reheating, thawing, cooking, prior preparation	Caterer
Nov	Jefferson	2	Unknown	Probable	Bun	Bare-hand contact	Restaurant
Nov	King	21	Calicivirus, Norwalk-like viruses	Probable	Multiple Foods	Ill food handler	Restaurant
Nov	King	2	Unknown	Probable	Beef gravy	Slow cooling, prior preparation	Restaurant
Dec	King	3	Unknown	Probable	Soup	Slow cooling, inadequate reheating	Restaurant
Dec	Pierce	39	Calicivirus, Norwalk-like viruses	Probable	Multiple Foods	Contaminated raw product, bare-handcontact, ill food handler	Restaurant
Dec	King	2	Unknown	Probable	Sushi	Product consumed raw, bare-hand contact, hand-washing, prior preparation, inadequate hot holding	Restaurant
Dec	Whatcom	6	Calicivirus, Norwalk-like viruses	Probable	Multiple Foods	Bare-hand contact, ill food handler	Restaurant
Dec	King	4	Unknown	Probable	Unknown	Bare-hand contact, handwashing	Restaurant

*Agent identified by laboratory testing of human/food specimens or by assessment of clinical/epidemiology data.
**A confirmed outbreak means that specimens were laboratory confirmed; a probable outbreak lacks laboratory confirmation but there is compelling epidemiologic/environmental data to suggest a foodborne outbreak.

Table 1

Washington State Animals Tested for Rabies 1970-2001

Counties	CAT POS	CAT TTL	CATTLE TOTAL	DOG POS	DOG TTL	OTRDOM* POS	OTRDOM* TTL	BAT POS	BAT TTL	COYOTE TOTAL	FOX TTL	RACCOON TOTAL	SKUNK POS**	SKUNK TOTAL	OTR ROD/LAG*** TOTAL	OTR WILD TOTAL	COUNTY TOTAL POS	COUNTY TOTAL TESTED
Adams	0	11	1	0	23	0	1	0	7	1	0	0.0	0	1	4	2	0	51
Asotin	0	26	0	0	21	0	3	3	34	1	0	2	0	1	9	5	3	102
Benton	0	184	1	0	138	0	4	17	142	8	0	6	0	19	50	23	17	575
Chelan	0	75	0	0	60	0	0	18	126	6	0	4	0	4	21	1	18	297
Clallam	0	33	0	0	38	0	0	1	89	1	0	3	0	5	20	5	1	194
Clark	0	277	2	0	211	0	7	17	274	12	1	25	1	19	93	33	18	954
Columbia	0	5	0	0	7	0	0	2	10	0.0	0	1	0	0.0	4	0.0	2	27
Cowlitz	0	63	3	0	57	0	2	24	249	5	1	16	0	2	41	16	24	455
Douglas	0	12	0	0	21	0	0	3	23	1	0	0.0	0	0.0	1	3	3	61
Ferry	0	7	1	0	8	0	0	1	10	0.0	0	0.0	0	0.0	5	1	1	32
Franklin	0	49	2	0	41	1	2	1	13	3	0	0.0	0	2	1	3	2	116
Garfield	0	5	0	0	3	0	0	0	1	0.0	0	0.0	0	1	5	0.0	0	15
Grant	0	45	4	0	69	0	1	5	57	6	0	0.0	0	2	23	11	5	218
Grays Harbor	0	51	1	0	49	0	1	8	143	5	0	7	0	3	32	20	8	312
Island	0	53	2	0	26	0	2	2	63	0.0	1	7	0	2	18	7	2	181
Jefferson	0	14	0	0	15	0	0	2	31	1	2	9	0	1	9	3	2	85
King	0	299	3	0	181	1	18	47	711	6	1	19	1	5	45	24	49	1,312
Kitsap	0	171	1	0	134	0	7	20	223	1	1	19	0	3	48	22	20	630
Kittitas	0	43	1	0	27	0	0	3	21	5	0	1	0	6	11	5	3	120
Klickitat	0	12	2	0	15	0	1	4	18	3	0	1	0	2	10	3	4	67
Lewis	0	106	6	0	98	0	4	15	370	3	0	10	0	4	36	21	15	658
Lincoln	0	10	0	0	11	0	0	0	21	1	0	3	0	1	2	2	0	51
Mason	0	39	1	1	34	0	4	7	96	1	1	0.0	0	0.0	8	8	8	192
Okanogan	0	32	1	0	64	0	0	6	50	7	0	2	0	2	23	9	6	190

*Other domestic animal
**Imported or inappropriately vaccinated
***Other rodent or lagomorphs

Table 1

Washington State Animals Tested for Rabies 1970-2001

(continued)

Counties	CAT POS : TTL	CATTLE TOTAL	DOG POS : TTL	OTRDOM* POS : TTL	BAT POS : TTL	COYOTE TOTAL	FOX TTL	RACCOON TOTAL	SKUNK POS** : TOTAL	OTR ROD/LAG*** TOTAL	OTR WILD TOTAL	COUNTY TOTAL POS : TESTED
Pacific	0 : 8	0	0 : 10	0 : 1	3 : 48	0.0	0	5	0 : 0.0	4	4	3 : 80
Pend Oreille	0 : 18	0	0 : 10	0 : 2	0 : 13	0.0	0	0.0	0 : 1	2	3	0 : 49
Pierce	0 : 403	1	0 : 341	0 : 8	21 : 275	9	0	37	0 : 28	88	89	21 : 1,279
San Juan	0 : 19	0	0 : 5	0 : 0	1 : 19	0.0	0	4	0 : 0.0	3	4	1 : 54
Skagit	0 : 56	3	0 : 51	0 : 1	13 : 107	5	0	6	0 : 8	21	8	13 : 266
Skamania	0 : 3	0	0 : 6	0 : 0	0 : 3	0.0	0	0.0	0 : 0.0	6	1	0 : 19
Snohomish	0 : 172	5	0 : 113	0 : 18	25 : 232	12	7	25	0 : 10	26	37	25 : 657
Spokane	0 : 357	1	0 : 347	0 : 13	27 : 250	11	2	26	0 : 22	137	56	27 : 1,222
Stevens	0 : 38	2	0 : 68	0 : 2	8 : 59	4	0	1	0 : 3	19	13	8 : 209
Thurston	1 : 258	6	0 : 177	0 : 13	28 : 460	11	4	29	0 : 9	83	33	29 : 1,084
Wahkiakum	0 : 6	0	0 : 5	0 : 0	3 : 39	0.0	0	0.0	0 : 0.0	1	1	3 : 52
Walla Walla	0 : 73	1	0 : 51	0 : 2	10 : 105	6	0	8	0 : 3	33	6	10 : 288
Whatcom	0 : 130	7	0 : 83	0 : 3	18 : 224	1	1	12	0 : 8	48	17	18 : 534
Whitman	0 : 81	10	0 : 81	0 : 17	3 : 76	7	0	9	0 : 12	33	12	3 : 338
Yakima	0 : 200	3	0 : 266	0 : 10	15 : 125	18	0	4	0 : 10	66	23	15 : 725
TOTAL	**1 : 3,444**	**71**	**1 : 2,965**	**2 : 147**	**381 : 4,817**	**161**	**22**	**301**	**2 : 199**	**1,089**	**534**	**387 : 13,750**
Percent Total	**<1 : 25**	**<1**	**<1 22**	**<1 : 1**	**3 : 35**	**1**	**<1**	**2**	**<1 : 1**	**8**	**4**	**3 : 100%**

*Other domestic animal
**Imported or inappropriately vaccinated
***Other rodent or lagomorphs

Table 2

Bats Tested for Rabies, 1992-2001

	1992		1993		1994		1995		1996		1997		1998		1999		2000		2001		1992-2001	
Counties	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests
Adams	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0	4
Asotin	1	3	0	3	0	2	0	3	0	1	0	2	0	0	0	4	0	2	0	1	1	21
Benton	0	2	0	0	0	1	0	1	0	0	0	1	1	8	0	2	0	2	1	4	2	21
Chelan	0	1	0	1	0	1	0	5	0	1	6	23	0	16	1	8	1	10	1	7	9	73
Clallam	0	0	0	0	0	0	0	1	0	1	0	4	0	3	0	1	0	1	0	0	0	11
Clark	0	1	0	2	1	3	0	3	0	6	2	36	0	12	2	16	2	12	2	14	9	105
Columbia	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	0	0	0	1	4
Cowlitz	0	0	0	0	0	1	1	18	1	28	7	64	2	26	2	23	2	13	0	11	15	184
Douglas	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	5
Ferry	0	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	1	0	0	0	6
Franklin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Garfield	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	1	0	0	0	0	0	2	0	1	0	11	0	5	0	3	0	0	1	1	1	24
Grays Harbor	0	1	0	3	0	0	0	9	0	4	3	25	0	8	0	8	0	3	0	5	3	66
Island	0	1	0	2	0	1	0	2	0	2	1	22	0	7	0	3	0	7	0	3	1	50
Jefferson	0	0	0	2	0	0	0	2	0	1	0	4	0	5	0	3	0	7	0	1	0	25
King	1	21	0	9	2	13	3	48	3	52	3	104	6	88	2	60	3	67	4	41	27	503
Kitsap	0	3	0	1	1	3	0	11	0	11	0	41	3	27	4	30	3	24	1	14	12	165
Kittitas	0	1	0	0	0	0	0	0	0	0	0	2	0	3	0	1	0	0	0	0	0	7
Klickitat	0	2	0	0	0	1	0	1	0	1	0	2	0	0	0	1	0	3	0	1	0	12
Lewis	0	0	0	1	0	0	1	31	1	32	2	94	2	65	3	44	0	28	0	22	9	317
Lincoln	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	2	0	9
Mason	0	0	0	2	1	2	0	2	0	3	4	28	1	14	0	8	1	6	0	11	7	76
Okanogan	0	1	0	0	0	1	0	1	0	3	1	4	0	1	0	1	0	1	1	3	2	16
Pacific	0	0	0	0	0	1	0	7	0	1	1	9	0	9	0	4	0	3	0	1	1	35

Table 2

Bats Tested for Rabies, 1992-2001

(continued)

Counties	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests
Pend Oreille	0	0	0	1	0	1	0	1	0	0	0	3	0	0	0	0	0	2	0	2	0	10
Pierce	0	6	0	4	0	2	2	15	1	18	4	34	2	18	0	9	1	30	1	20	11	156
San Juan	1	1	0	0	0	0	0	1	0	0	0	4	0	2	0	1	0	0	0	2	1	11
Skagit	0	1	0	1	0	0	0	6	0	3	3	17	0	4	2	17	2	9	2	7	9	65
Skamania	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Snohomish	1	2	1	6	1	4	3	23	1	12	2	48	2	22	2	17	3	25	1	13	17	172
Spokane	0	5	0	5	3	5	1	7	1	18	3	38	1	21	1	13	2	19	4	12	16	143
Stevens	0	0	0	1	2	4	0	1	1	3	0	12	0	9	1	4	1	1	0	3	5	38
Thurston	0	5	0	3	0	1	2	34	1	27	5	84	5	41	2	21	2	33	1	32	18	281
Wahkiakum	0	0	0	0	0	0	0	6	0	10	1	7	0	2	0	2	0	3	1	7	2	37
Walla Walla	0	5	0	2	1	2	0	0	1	2	0	1	1	2	0	0	0	0	0	0	3	14
Whatcom	2	7	0	13	2	9	1	18	0	10	3	37	1	21	2	20	0	14	1	16	12	165
Whitman	0	0	0	0	0	0	0	2	2	5	0	6	0	1	0	5	0	2	0	1	2	22
Yakima	0	1	0	5	0	0	1	1	0	1	0	2	0	1	0	2	0	1	0	3	1	17
Total	**6**	**73**	**1**	**68**	**14**	**58**	**15**	**263**	**13**	**257**	**51**	**781**	**27**	**445**	**25**	**334**	**23**	**330**	**22**	**263**	**197**	**2872**

Table 2

Bats Tested for Rabies, 1992-2001

	1982		1983		1984		1985		1986		1987		1988		1989		1990		1991		1982-1991	
Counties	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests
Adams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Asotin	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	4	1	8
Benton	0	5	0	0	0	1	1	3	0	0	1	2	0	1	1	2	0	1	0	2	3	17
Chelan	1	9	1	5	0	1	0	3	0	0	1	1	0	2	0	1	0	2	1	2	4	26
Clallam	0	0	0	0	0	0	0	1	0	3	0	1	0	0	0	0	0	0	0	1	0	6
Clark	0	10	0	5	0	7	0	8	0	2	0	2	1	7	0	5	0	2	0	4	1	52
Columbia	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Cowlitz	0	4	0	3	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	10
Douglas	0	0	0	2	0	0	0	0	0	1	0	0	0	2	1	3	0	1	1	2	2	11
Ferry	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	1	4
Franklin	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
Garfield	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grant	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
Grays Harbor	0	2	0	4	0	2	0	2	0	1	0	1	0	1	0	3	0	0	0	0	0	16
Island	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1	5	0	1	0	0	1	9
Jefferson	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
King	1	6	1	1	0	4	1	22	0	18	4	32	1	16	5	51	2	17	0	20	15	187
Kitsap	0	4	1	5	0	0	0	1	1	7	1	2	0	0	0	3	0	1	2	7	5	30
Kittitas	0	0	0	1	0	1	0	0	0	0	1	2	0	1	0	0	0	0	0	0	1	5
Klickitat	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2	3
Lewis	0	2	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	0	0	8
Lincoln	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	3
Mason	0	1	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	3	0	10
Okanogan	0	1	0	1	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	6

Table 2

Bats Tested for Rabies, 1992-2001

(continued)

Counties	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests	Pos	# of tests
Pacific	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	4
Pend Oreille	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pierce	1	10	2	9	1	3	0	2	2	5	0	4	1	5	1	5	0	0	0	4	8	47
San Juan	0	0.0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	5
Skagit	0	6	0	5	0	0	0	0	1	4	0	0	0	1	0	0	0	0	0	0	1	16
Skamania	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Snohomish	1	2	1	3	0	4	0	3	0	2	0	0	0	10	0	2	0	5	0	1	2	32
Spokane	0	7	0	3	0	1	0	0	0	0	0	2	0	6	0	2	0	1	1	5	1	27
Stevens	0	2	1	1	0	1	0	1	0	0	0	2	0	1	0	0	0	0	0	1	1	9
Thurston	1	11	0	3	0	4	2	12	2	7	1	18	1	6	0	7	0	8	0	10	7	86
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walla Walla	1	4	0	5	0	7	1	15	0	3	1	10	0	3	0	0	0	1	0	2	3	50
Whatcom	1	6	0	1	0	1	0	0	0	0	0	1	0	0	0	3	2	12	2	15	5	39
Whitman	0	4	0	0	0	0	0	1	1	5	0	2	0	3	0	2	0	2	0	2	1	21
Yakima	1	8	0	2	1	4	0	2	1	1	0	1	0	0	0	2	0	1	0	1	3	22
Total	**8**	**110**	**9**	**72**	**3**	**47**	**5**	**79**	**8**	**63**	**10**	**91**	**4**	**69**	**9**	**102**	**4**	**63**	**9**	**90**	**69**	**786**

Washington Rabies Prophylaxis Decision-Making

Although human rabies is rare in the United States (2 to 6 cases per year), animal bites are extremely common and thousands of persons receive rabies prophylaxis each year. Rabies remains almost 100% fatal while post-exposure rabies prophylaxis using both human diploid cell rabies vaccine and rabies immune globulin is safe and effective prevention. However, the treatment is expensive (over $1000 to treat an adult) and adverse reactions can occur. Therefore, the need for rabies prophylaxis should be carefully evaluated.

Guidelines for rabies prophylaxis published by the Public Health Service[1,2] are applicable in Washington and copies are available from the Communicable Disease Epidemiology Section (206 361-2914 or 877 539-4344). Decisions regarding prophylaxis following an animal bite vary by species and by region of the country. A suggested algorithm for exposure in Washington is reviewed below.

1. Was the person exposed to a bat, or bitten or licked on an open wound or mucous membrane by another possibly rabid animal?

COMMENTS: Determine whether the bite was provoked or unprovoked. Bites inflicted while attempting to feed or handle an apparently healthy animal should be generally regarded as provoked. If a bite was provoked, it is less likely to have been caused by a rabid animal.

Humans have been infected with bat rabies after minimal or no documented contact with bats[4,5]. Rabies exposure should be considered to have occurred if a bat is present and the individual cannot exclude a possible bite, for example if a bat is found in a room where people were sleeping. However, casual contact with other animals (such as petting) does not constitute an exposure and is not an indication for prophylaxis even if the animals are rabid. If only casual contact occurred with an animal other than a bat, we generally do not recommend rabies testing.

2. Have first aid and wound care been performed?

COMMENTS: Immediate and thorough washing of wounds and scratches is perhaps the most effective measure to prevent rabies. Tetanus prophylaxis and measures to control bacterial infection should be given as indicated.

3. Is rabies known or suspected to be present in the species and area?

COMMENTS: The information presented elsewhere in this report does not unequivocally rule out rabies in a given animal, since all mammals are potentially susceptible to rabies, but is useful in assessing the risks and benefits of treatment, particularly if an animal is not available for testing or observation. Each year the State Public Health Laboratories and Seattle-King County Laboratory test hundred of animals. Of 5,175 bats examined from 1960-2000, 433 or 8.4% were rabid. Rabid bats have been found in almost every Washington County. Control of rabies in dogs has essentially eliminated terrestrial rabies in mammals. Although common in some parts of the U.S., raccoon rabies has never been found in Washington (through 2000). Rodents and lagomorphs, such as beaver, guinea pigs, gopher, rats, squirrels, rabbits, and hares, have never been positive for rabies in Washington and are rarely positive anywhere in the country.

4. Was the animal captured?

COMMENTS: If bat exposure occurred but the bat escaped, we recommend treatment. For other animals not available for testing, an individual decision must be made, considering the risk of disease and the risks from treatment.

5. Was the captured animal a normally behaving dog, cat or ferret?

COMMENTS: Quarantine and observation for 10 days can be used to rule out rabies **only** in normally behaving dogs, cats and ferrets. Other animals must be tested to rule out rabies definitively. This includes dog-wolf and cat-bobcat hybrids, and other wild or exotic animals.

6. Does the dog, cat or ferret become ill under observation during the next 10 days?

COMMENTS: A dog, cat or ferret remaining well was not infectious for rabies at the time of the bite. Ill animals should be humanely killed without injuring the brain and tested for rabies. Call the Communicable Disease Epidemiology Section at 206 361-2914 or 877 539-4344 (24 hour number) before shipping specimens. In Seattle/King County, call 206 296-4632 (after hours 206 296-4774).

7. Does laboratory examination confirm rabies?

COMMENTS: The fluorescent antibody and mouse inoculation tests for rabies are extremely reliable in diagnosing or ruling out rabies when performed properly in a qualified laboratory. Testing following human exposure is available without charge at the Public Health Laboratories after consultation.

8. Treat with serum and vaccine.

COMMENTS: See treatment regimens (below) with human diploid cell rabies vaccine (HDCV) and human rabies immune globulin (RIG). HDCV and RIG are available in a limited number of facilities in Washington (see annual Emergency Biologics Listing from DOH) or contact pharmaceutical companies directly.

References:

1. Rabies Prevention, United State, 2000. Immunization Practices Advisory Committee (ACIP). MMWR 49:RR3(4/14/00).
2. Compendium of Animal Rabies Control, 1999. MMWR 48:RR3(4/2/99).
3. Fishbein, D. "Rabies Virus." in Mandell G.L. ed. Principles and Practice of Infectious Disease. 1995 Churchill Livingstone, Inc.
4. Human Rabies - Alabama, Tennessee and Texas, 1994. MMWR 44:269-272, (4/14/95).
5. Human Rabies - Washington, 1995. MMWR 44:625-627, (9/1/95).
6. Human Rabies - Montana and Washington 1996. MMWR 46:770-774, (8/22/97).

Figure 1. Rabies Prophylaxis Regimens

1. **Pre-Exposure Prophylaxis** (immunization prior to a bite).

Pre-exposure prophylaxis may be considered for certain high risk groups. This includes veterinarians, animal handlers, persons - especially children - living in or visiting countries where rabies is a constant threat, and persons whose vocational or avocational pursuit brings them into contact with potentially rabid animals. The state Communicable Disease Epidemiology Section does not provide vaccine for pre-exposure immunization.

Medication	Dosage	Administration	Vaccination Schedule
Human Diploid Cell Rabies Vaccine (HDCV)	3-1 ml 3-0.1 ml	Intramuscular	One dose, then one dose 7, and 21 or 28 days after the first dose.[2,3]

2. **Post-Exposure Prophylaxis** (immunization after a bite, not previously vaccinated)[4]

See text and Figure 2 for indications for post-exposure prophylaxis.

Medication	Dosage	Administration	Vaccination Schedule
Human Diploid Cell Rabies Vaccine (HDCV)	5-1 ml	Intramuscular (deltoid)	One dose, then one dose 3, 7, 14, and 28 days after the first dose.[3]
Rabies Immune Globulin (RIG) body wt.	0.06 ml per lb.	Intramuscular[5]	One dose only when treatment is begun.

[1] If the patient is receiving chloroquine prophylaxis for malaria, only intramuscular prophylaxis should be administered.

[2] For Washington, booster doses are not recommended per MMWR 48:RR1(1/8/99).

[3] Routine serologic testing for rabies antibody after vaccination is no longer recommended. In a study in the U.S. of >1,000 persons who received HDCV according to this regimen, all subjects had serum antibody.

[4] If previously immunized, give HDCV 1.0ml, IM in the deltoid area on days 0 and 3.

[5] If anatomically feasible, the full dose of RIG should be thoroughly infiltrated around the wound(s). Any remainder should be administered intramuscularly in the gluteal area. RIG should not be administered in the same syringe or in the same anatomical site as the vaccine.

Table 3

Population Estimates by Age and Sex

April 2001
State of Washington

AGE	Total	Male	Female
<1	80,818	41,353	39,465
1-4	317,773	162,805	154,968
5-9	420,957	215,975	204,982
10-19	874,981	449,767	425,214
20-29	798,216	409,502	388,714
30-39	919,059	467,211	451,848
40-49	961,861	480,404	481,457
50-59	712,086	354,067	358,019
60+	889,149	394,028	495,121
Total	**5,974,900**	**2,975,112**	**2,999,788**

Source: Office of Financial Management Forecast of the State Population by Age and Sex, April 2001 Forecast.

Table 4

Washington State Population 1985-2001

YEAR	POPULATION
1985	4,384,100
1986	4,419,700
1987	4,481,100
1988	4,565,000
1989	4,660,700
1990	4,866,692
1991	5,000,400
1992	5,116,700
1993	5,240,900
1994	5,334,400
1995	5,429,900
1996	5,516,800
1997	5,606,800
1998	5,685,300
1999	5,757,400
2000	5,894,121
2001	5,974,900

Washington State
County Map