

Washington State COMMUNICABLE DISEASE REPORT 2008



"The Department of Health works to protect and improve the health of people in Washington State."

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COMMUNICABLE DISEASE REPORT 2008

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This report represents Washington State communicable disease surveillance: the ongoing collection, analysis and dissemination of morbidity and mortality data to prevent and control communicable disease. This is the 24th report from the Communicable Disease Epidemiology Section since 1982. In addition to the contributors listed on the previous page, we would like to recognize the staff of the Washington State Public Health Laboratories, the staff of Washington's local health jurisdictions who contribute to surveillance, investigation, and prevention of communicable diseases in our state, and the thousands of people in clinics, hospitals and clinical laboratories throughout Washington whose disease reports constitute the basis for this document.

Revised September 2009

Table of Contents

Executive Summary – 2008	v
Technical Notes	v
Reporting a Notifiable Condition.....	v
Notifiable Conditions and the Health Care Provider	vi
Notifiable Conditions and Washington's Hospitals	vii
Notifiable Conditions and Washington's Laboratories	viii
Notifiable Conditions and the Veterinarian	ix
Arboviral Disease.....	3
West Nile Virus (WNV) Disease.....	3
Yellow Fever	3
Botulism.....	4
Brucellosis.....	4
Campylobacteriosis.....	5
Chlamydia Infection.....	5
Cholera.....	6
Cryptosporidiosis	6
Cyclosporiasis	7
Diphtheria	7
Enterohemorrhagic <i>Escherichia coli</i> (EHEC)	7
Foodborne Outbreaks.....	8
Giardiasis	12
Gonorrhea	12
<i>Haemophilus influenzae</i> (Invasive Disease, Under Age 5 Years)	12
Hantavirus Pulmonary Syndrome (HPS).....	13
Hemolytic Uremic Syndrome (HUS).....	13
Hepatitis A	14
Hepatitis B	14
Hepatitis C	15
Hepatitis, Unspecified (Infectious)	15
Herpes Simplex, Genital and Neonatal.....	16
HIV/AIDS	16
Legionellosis.....	16
Leptospirosis	17
Listeriosis.....	17
Lyme Disease.....	18
Malaria	18
Measles	19
Meningococcal Disease (Invasive)	19
Mumps	20
Paralytic Shellfish Poisoning (PSP).....	20
Pertussis	21
Plague.....	21
Polio	22
Psittacosis.....	22
Q Fever.....	22
Rabies Post-Exposure Prophylaxis	23
Rabies (Human)	23
Rare Diseases of Public Health Significance.....	27

African Tick Bite Fever	27
Babesiosis	27
Coccidioidomycosis (Valley Fever)	27
Creutzfeldt-Jakob Disease (CJD)	28
Cryptococcosis.....	28
Ehrlichiosis	28
Rocky Mountain Spotted Fever.....	29
Tick Paralysis	29
Rare Sexually Transmitted Diseases.....	29
Relapsing Fever	30
Rubella	30
Salmonellosis (Non-Typhoid).....	31
Shigellosis	31
Syphilis	33
Tetanus.....	33
Trichinosis (Trichinellosis).....	33
Tuberculosis.....	34
Tularemia	34
Typhoid Fever.....	35
Typhus.....	35
Vibriosis (Non-Cholera)	36
Waterborne Outbreaks	36
Yersiniosis.....	37
Appendix I. Disease incidence and mortality rates.....	39
Appendix II. Special topics.....	77
Appendix III. State demographics	87

Tables

Table 1. Foodborne Outbreaks, 1986-2008	9
Table 2. Foodborne Outbreaks Reported to Washington State Department of Health, 2008.....	10
Table 3. Rabid Non-Bat Animals and Rabies Strains, Washington, 1987–2008	24
Table 4. Washington State Bats Tested for Rabies, 2004-2008	25
Table 5. Washington State Animals Tested for Rabies, 1988-2008.....	26
Table 6. <i>Salmonella</i> Serotypes, 2008.....	32
Table 7. Waterborne Outbreaks, 1991-2008.....	37

Executive Summary – 2008

This report summarizes notifiable communicable diseases reported by local health jurisdictions to the Department of Health in 2008. The most common reports continue to be sexually transmitted conditions, infections caused by enteric pathogens, tuberculosis, and pertussis. Rare conditions of interest that were reported include three endemic West Nile virus infections, three cases of hepatitis D infection, and a measles outbreak with 19 cases.

Technical Notes

Washington Administrative Code (WAC) Chapters 246-100 and 246-101 outline disease surveillance requirements: healthcare providers and facilities, laboratories, veterinarians, food service establishments, childcare facilities and schools must report certain notifiable conditions including communicable diseases to the local health jurisdiction or Department of Health.

Depending on the condition, it is likely only a fraction of the actual number of cases will be reported because cases may not be aware of being infected, do not contact a health care provider, are not confirmed with appropriate tests, or are not reported after diagnosis.

Disease summary tables in Appendix I reflect historical years when data are reliable. Population estimates used in rate calculations come from the Washington State Office of Financial Management: <http://www.ofm.wa.gov/pop/coagemf/>. Rates are not provided for fewer than 5 cases and are not age-adjusted due to the small numbers of cases.

This report is available online at: <http://www.doh.wa.gov/notify/other/2008cdr/cdr2008.pdf>.

The online newsletter, *EpiTrends*, contains monthly disease tallies and is available at: <http://www.doh.wa.gov/EHSPHL/epitrends/default.htm>.

Additional information on communicable disease surveillance and case investigation is available at: <http://www.doh.wa.gov/notify/list.htm>.

For other information or to request the report in an alternate format, contact:
Washington State Department of Health, Communicable Disease Epidemiology Section
1610 NE 150th Street
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Reporting a Notifiable Condition

In accordance with Washington State rule (www.doh.wa.gov/notify/other/legal.htm), public health and health care professionals should report most notifiable conditions to the local health jurisdiction in the county of the patient's residence. Disease reporting telephone numbers for each local health jurisdiction are provided under "Report a Notifiable Condition" at <http://www.doh.wa.gov/notify>. If no one is available at the local health jurisdiction and a condition is immediately notifiable or is notifiable to the Department of Health, please call the appropriate number or the 24-hour reporting line: 1-877-539-4344. For a complete list of notifiable conditions for health care providers, hospitals, laboratories and veterinarians, please refer to the posters section at <http://www.doh.wa.gov/notify>.

Note that as of June 11, 2009, an emergency rule makes hospitalizations or deaths due to influenza reportable to the local health jurisdictions.

Notifiable Conditions and the Health Care Provider



The following conditions are notifiable to local public 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 bites¹**
- Arboviral disease³ (West Nile virus disease, dengue, Eastern & Western equine encephalitis, etc.)
- Botulism¹ (foodborne, wound and infant)**
- Brucellosis¹**
- Campylobacteriosis³
- Chancroid³
- Chlamydia trachomatis*³
- Cholera¹**
- Cryptosporidiosis³
- Cyclosporiasis³
- Diphtheria¹**
- Disease of suspected bioterrorism origin¹ (including Anthrax and Smallpox)**
- Disease of suspected foodborne origin¹ (clusters only)**
- Disease of suspected waterborne origin¹ (clusters only)**
- Enterohemorrhagic *E. coli*, including *E. coli* O157:H7 infection¹**
- Giardiasis³
- Gonorrhea³
- Granuloma inguinale³
- Haemophilus influenzae* invasive disease¹ (under age five years, excluding otitis media)**
- Hantavirus pulmonary syndrome³
- Hemolytic uremic syndrome (HUS)¹**
- Hepatitis A, acute¹**
- Hepatitis B, acute³; chronic^M (initial diagnosis only)
- Hepatitis B, surface antigen positive pregnant women³
- Hepatitis C, acute and chronic^M (initial diagnosis only)
- Hepatitis, unspecified (infectious)³
- Herpes simplex, genital (initial infection only) and neonatal³

- HIV infection³
- Immunization reactions³ (severe, adverse)
- Legionellosis³
- Leptospirosis³
- Listeriosis¹**
- Lyme disease³
- Lymphogranuloma venereum³
- Malaria³
- Measles (rubeola)¹**
- Meningococcal disease¹**
- Mumps³
- Paralytic shellfish poisoning¹**
- Pertussis¹**
- Plague¹**
- Poliomyelitis¹**
- Psittacosis³
- Q fever³
- Rabies¹**
- Rabies post-exposure prophylaxis³
- Relapsing fever (borreliosis)¹**
- Rubella¹ (including congenital)**
- Salmonellosis¹**
- Shigellosis¹**
- Syphilis³ (including congenital)
- Tetanus³
- Trichinosis³
- Tuberculosis¹**
- Tularemia³
- Typhus¹**
- Vibriosis³
- Yellow fever¹**
- Yersiniosis³
- Unexplained critical illness or death¹**
- Rare diseases of public health significance¹**

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.

Notification time frame: ¹ **Immediately**,
³ Within 3 work days, ^M Within one month

- Asthma, occupational (suspected or confirmed)^M **1-888-66-SHARP**
- Birth Defects^M: Autism spectrum disorders, Cerebral palsy, Alcohol related birth defects **360-236-3533**
- Pesticide Poisoning (hospitalized, fatal, or cluster)¹** **1-800-222-1222**
- Pesticide Poisoning (all other)³ **1-800-222-1222**

If no one is available at the local health jurisdiction and a condition is immediately notifiable, please call 1-877-539-4344

For more information, please see WAC 246-101 or <http://www.doh.wa.gov/notify>

Notifiable Conditions and Washington's Hospitals



The following conditions are notifiable to local public 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 & Washington's Laboratories* poster.

- Acquired immunodeficiency syndrome (AIDS)³ (including AIDS in persons previously reported with HIV infection)
- Animal bites**¹
- Arboviral disease³ (West Nile virus disease, dengue, Eastern & Western equine encephalitis, etc.)
- Botulism**¹ (foodborne, wound and infant)
- Brucellosis**¹
- Campylobacteriosis³
- Chancroid³
- Chlamydia trachomatis*³
- Cholera**¹
- Cryptosporidiosis³
- Cyclosporiasis³
- Diphtheria**¹
- Disease of suspected bioterrorism origin**¹ (including **Anthrax and Smallpox**)
- Disease of suspected foodborne origin**¹ (clusters only)
- Disease of suspected waterborne origin**¹ (clusters only)
- Enterohemorrhagic *E. coli*, including *E. coli* O157:H7 infection**¹
- Giardiasis³
- Gonorrhea³
- Granuloma inguinale³
- Haemophilus influenzae* invasive disease**¹ (under age five years, excluding otitis media)
- Hantavirus pulmonary syndrome³
- Hemolytic uremic syndrome (HUS)**¹
- Hepatitis A, acute**¹
- Hepatitis B, acute³; chronic^M (initial diagnosis only)
- Hepatitis B, surface antigen positive pregnant women³
- Hepatitis C, acute and chronic^M (initial diagnosis only)
- Hepatitis, unspecified (infectious)³
- HIV infection³
- Immunization reactions³ (severe, adverse)
- Legionellosis³

- Leptospirosis³
 - Listeriosis**¹
 - Lyme disease³
 - Lymphogranuloma venereum³
 - Malaria³
 - Measles (rubeola)**¹
 - Meningococcal disease**¹
 - Mumps³
 - Paralytic shellfish poisoning**¹
 - Pertussis**¹
 - Plague**¹
 - Poliomyelitis**¹
 - Psittacosis³
 - Q fever³
 - Rabies**¹
 - Rabies post-exposure prophylaxis³
 - Relapsing fever (borreliosis)**¹
 - Rubella**¹ (including congenital)
 - Salmonellosis**¹
 - Shigellosis**¹
 - Syphilis³ (including congenital)
 - Tetanus³
 - Trichinosis³
 - Tuberculosis**¹
 - Tularemia³
 - Typhus**¹
 - Vibriosis³
 - Yellow fever**¹
 - Yersiniosis³
- Outbreaks of disease that occur or are treated in the hospital (pertussis, influenza, nosocomial infections, viral meningitis, etc.)**¹
- Unexplained critical illness or death**¹
- Rare diseases of public health significance**¹

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.

Notification time frame: ¹ **Immediately**,
³ Within 3 work days, ^M Within one month

- Asthma, occupational (suspected or confirmed)^M **1-888-66-SHARP**
- Birth Defects^M: Abdominal wall defects, Autism spectrum disorders, Cerebral palsy, Down syndrome, Alcohol related birth defects, Hypospadias, Limb reductions, Neural tube defects, Oral clefts **360-236-3533**
- Gunshot Wounds^M **360-236-2867**
- Pesticide Poisoning (hospitalized, fatal, or cluster)**¹ **1-800-222-1222**
- Pesticide Poisoning (all other)³ **1-800-222-1222**

If no one is available at the local health jurisdiction and a condition is immediately notifiable, please call 1-877-539-4344

For more information, please see WAC 246-101 or <http://www.doh.wa.gov/notify>

Notifiable Conditions and Washington's Laboratories



The following laboratory results (preliminary or confirmed) are notifiable to local public health authorities in Washington in accordance with WAC 246-101. Timeframes for notification are indicated in footnotes. **Immediately notifiable results are indicated in bold.** Information provided must include: specimen type; name and telephone number of laboratory; date specimen collected; date specimen received; requesting healthcare provider's name and telephone number or address; test result; name of patient (if available) or patient identifier; sex and date of birth or age of patient (if available).

- | | |
|--|---|
| Arboviral disease (West Nile virus disease, dengue, Eastern & Western equine encephalitis, etc.) (detection of viral antigen, antibody, or nucleic acid) ^{2*} | Hepatitis B (detection of viral antigen, antibody, or nucleic acid) ^{M*} |
| Blood lead level (elevated) ^{2&i} | Hepatitis C (detection of antibody or nucleic acid) ^{M*} |
| Blood lead level (non-elevated) ^{M&i} | Human immunodeficiency virus (Western blot, P-24 antigen, or viral culture) ^{2&ii} |
| <i>Bordetella pertussis</i> ^{2*} | Human immunodeficiency virus ^{M&iig} (RNA or DNA nucleic acid tests) |
| <i>Brucella</i> ^{2*!} | <i>Listeria monocytogenes</i> ^{2*} |
| CD4+ counts ^{M&ii} | <i>Mycobacterium tuberculosis</i> ^{2&iii!@} |
| <i>Chlamydia trachomatis</i> ^{2*} | <i>Neisseria gonorrhoeae</i> ^{2*} |
| <i>Clostridium botulinum</i> ^{!*} | <i>Neisseria meningitidis</i> ^{2*!} |
| <i>Corynebacterium diphtheriae</i> ^{2*!} | Rabies ^{!*} |
| <i>Cryptosporidium parvum</i> ^{2*} | Rubeola ^{!*} |
| <i>Cyclospora cayetanensis</i> ^{2*!} | <i>Salmonella</i> species ^{2*!} |
| Disease of suspected bioterrorism origin ^{!*} | <i>Shigella</i> species ^{2*!} |
| Anthrax (<i>Bacillus anthracis</i>) ^{!*} | <i>Treponema pallidum</i> ^{2!} |
| Smallpox (<i>Variola virus</i>) ^{!*} | Rare diseases of public health significance [!] |
| <i>Escherichia coli</i> (Shiga-like toxin only) ^{2*!} | <i>Vibrio cholerae</i> ^{!*} |
| <i>Francisella tularensis</i> ^{2*!} | <i>Yersinia pestis</i> ^{!*} |
| Hepatitis A (IgM +) ^{2*} | |

CODE LEGEND

- !** Immediately notifiable
- ² Notifiable within 2 work days
- ^M Notifiable on a monthly basis
- * Notifiable to the local health jurisdiction of the patient's residence
- ^{&i} Notifiable to DOH Lead Program **360-236-3359**
- ^{&ii} Notifiable to DOH IDRH Assessment **360-236-3419**
- ^{&iii} Notifiable to DOH TB Reporting Line **360-236-3397**
or TB Reporting Fax Line **360-236-3405**
- ! 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 healthcare provider that ordered the diagnostic test.

If no one is available at the local health jurisdiction and a condition is immediately notifiable, please call 1-877-539-4344

Notifiable Conditions and the Veterinarian



Veterinarians, including those working in private practices, laboratories, academic settings, zoos, wildlife centers, animal shelters and government agencies, have an important public health role in the identification and control of zoonotic and vector-borne diseases. **The Washington State Administrative Code (WAC 246-101-405) outlines these responsibilities for veterinarians:**

1. Notify your local public health department* of any suspected or confirmed case or outbreak involving a disease of public health importance (see table below).
2. Cooperate with public health authorities in the investigation of suspected and confirmed cases or outbreaks of zoonotic disease.
3. Cooperate with public health authorities in the implementation of zoonotic disease infection control measures, including isolation and quarantine when necessary.

DISEASE OR CONDITION (report both suspected and confirmed cases or outbreaks)	Report immediately	Report within 7 work days
Animal bite to human	X	
Anthrax (<i>Bacillus anthracis</i>)	X	
Arthropod-borne viruses: West Nile virus; Eastern & Western equine encephalitis	X	
Bat bite or contact exposure to human or domestic animal	X	
Brucellosis (<i>Brucella abortus</i> , <i>B. melitensis</i> , <i>B. suis</i> , <i>B. canis</i> , <i>B. ovis</i>)	X	
Herpes B virus	X	
Leptospirosis	X	
Plague (<i>Yersinia pestis</i>)	X	
Psittacosis/Ornithosis (<i>Chlamydophila psittaci</i>)	X	
Q Fever (<i>Coxiella burnetii</i>)	X	
Rabies	X	
Tick-borne diseases: Babesiosis, Relapsing fever (<i>Borrelia hermsii</i>) Lyme (<i>B. burgdorferi</i>), Rocky Mt. spotted fever (<i>Rickettsia rickettsii</i>)		X
Trichinosis (<i>Trichinella spiralis</i>)		X
Tuberculosis (<i>Mycobacterium tuberculosis</i> , <i>M. bovis</i>)	X	
Tularemia (<i>Francisella tularensis</i>)	X	
Other vector-borne or zoonotic disease of public health significance (examples: spongiform encephalopathies, Baylisascaris infection in a non-raccoon animal, avian influenza, emerging zoonoses as requested by public health officials)	X	

IMPORTANT NOTE: Selected animal diseases, especially in livestock and poultry, must be reported to the Washington State Department of Agriculture, State Veterinarian’s Office. These include eradicated diseases (e.g., tuberculosis, brucellosis), suspected foreign animal diseases (e.g., foot and mouth disease, exotic Newcastle disease, hog cholera) and certain domestic diseases (e.g., anthrax, rabies).

For diseases reportable to both the Department of Agriculture and to Public Health, veterinarians can make just one report and the agencies will reciprocally share these reports.

*A list of local health departments can be found at <http://www.doh.wa.gov/LHJMap/LHJMap.htm>.

Communicable Disease Summary

Arboviral Disease

Cause: Various viruses transmitted by arthropods. Arthropod-borne viral (arboviral) diseases include West Nile virus disease and yellow fever (both discussed separately below), Colorado tick fever, dengue fever, eastern and western equine encephalitis, St. Louis encephalitis, Japanese encephalitis, and Chikungunya virus disease.

Illness and treatment: There are 4 main clinical forms: central nervous system (CNS) illnesses; fevers of short duration with or without rash; hemorrhagic fevers; and polyarthritis and rash with or without fevers. Treatment is supportive.

Sources: Transmission is most commonly by the bite of arthropods (e.g., mosquitoes, sandflies, ticks). Rare transmission occurs through blood transfusions.

Prevention: Avoid arthropod bites by wearing appropriate clothing and using insect repellents. If traveling to risk areas, consult with a travel clinic or the CDC Travelers' Health website regarding additional measures, including vaccination for Japanese encephalitis or yellow fever.

Recent Washington trends: Each year, 0 to 10 cases of travel-associated dengue fever are reported with rare reports of other travel-associated arboviral diseases including Chikungunya fever in 2006. Other than West Nile virus, the last reported human arboviral infection acquired in the state was western equine encephalitis in 1988. St. Louis encephalitis infections occurred in the past, primarily east of the Cascade Mountains.

2008: 14 cases of dengue fever were reported following travel to El Salvador, Guatemala, Honduras, India, Mexico, and the Philippines. Seven of these 14 were traveling in a group together. One case of Japanese encephalitis occurred in a patient after travel to Cambodia and Vietnam. In addition, one case of Colorado tick fever was reported after travel to Montana.

West Nile Virus (WNV) Disease

Cause: West Nile virus.

Illness and treatment: About 80% of those infected are asymptomatic, around 20% have WNV fever (fever, headache, rash), and less than 1% develop WNV neuroinvasive disease (meningitis or encephalitis, paralysis). Treatment is supportive.

Sources: Many bird species are reservoirs and mosquitoes are the vectors, transmitting the virus through bites to humans and other mammals such as horses.

Prevention: Avoid mosquito bites by wearing appropriate clothing and using insect repellents. Make sure windows and doors are "bug tight." Maintain window screens. Eliminate breeding sites by draining standing water such as in pots or tires.

Recent Washington trends: Infected birds and horses were first detected in 2002. The first locally acquired human infections were reported in 2006 from Pierce and Clark counties.

2008: Three cases of endemically acquired West Nile virus disease were reported. In addition, one presumptive viremic blood donor was identified.

Yellow Fever

Cause: Yellow fever virus.

Illness and treatment: Early symptoms include fever, headache, muscle aches, and vomiting. Later signs include jaundice, gum bleeding, and bloody vomit in addition to

liver and kidney failure. Twenty to 50% of jaundiced cases are fatal. Treatment is supportive.

Sources: Yellow fever occurs in tropical areas of Africa and South America. There are 2 transmission cycles, a jungle cycle involving non-human primates and an urban cycle involving humans. Transmission is by the bite of an infected mosquito.

Prevention: When in endemic countries, avoid mosquito bites by wearing appropriate clothing, using insect repellents, using bed nets, and making sure windows and doors are "bug tight." Consult with a travel clinic or the CDC Travelers' Health website for recommendations about vaccination.

Recent Washington trends: No cases, with the exception of a vaccine-associated infection in 2002, have been reported in over 50 years of surveillance.

2008: No cases were reported.

Botulism

Cause: Bacterial toxin from *Clostridium botulinum*, mainly Types A, B, and E.

Illness and treatment: Forms are foodborne botulism (ingested toxin), wound botulism (toxin production in an infected wound), infant botulism (toxin produced in the intestine of a child under a year of age), adult colonization botulism (toxin produced in the intestine of an adult), and inhalational botulism (inhaling toxin, which does not happen naturally). Paralysis starts with facial muscles and often progresses to involve the breathing muscles. Infants may have a weak cry, difficulty feeding leading to weight loss, and weakness. Treatment is supportive care plus either human-derived botulism hyper-immune globulin (BIG-IV) for infants or botulism antitoxin for older children and adults. Antibiotics are given for wound botulism.

Sources: *C. botulinum* spores are common in soil. No consistent exposure is known for infants. Inadequately processed home-canned foods are implicated in food botulism. Wound botulism is associated with subcutaneous black-tar heroin injection ("skin popping").

Additional risks: Infant botulism cases usually occur in babies under 3 months old (almost always under 6 months), both breast fed and formula fed.

Prevention: Follow safe home canning procedures. Boil risky home-canned foods (i.e., low acidic, non-pickled foods) before consumption.

Recent Washington trends: Each year there are 0 to 2 reports of foodborne botulism, 0 to 9 reports of infant botulism and 0 to 7 reports of wound botulism.

2008: One case of infant botulism and 2 cases of wound botulism were reported. No cases of foodborne botulism were reported. All were type A botulism.

Brucellosis

Cause: Bacteria in the genus *Brucella*.

Illness and treatment: Symptoms include fever, profuse sweating, fatigue, loss of appetite, chills, weight loss, headache, and joint pain. Treatment is with antibiotics.

Sources: Infection results from contact through breaks in the skin with animal tissues (particularly placentas or aborted fetuses) and animal fluids, or by consuming unpasteurized

dairy products from infected species (mainly cattle, goats, sheep and swine) in endemic countries. Airborne infection can occur in laboratories. Prior to 1996, strains of *Brucella* used in animal vaccine had a greater risk for causing disease in humans if unintentionally injected.

Prevention: Avoid unpasteurized dairy foods. Veterinarians, farmers and hunters should wear gloves when handling sick or dead animals or when assisting an animal giving birth. Laboratory workers should handle all specimens under appropriate biosafety conditions.

Recent Washington trends: Although brucellosis has been eradicated from cattle in the state since 1988, there are 0 to 3 reports of human brucellosis infections each year, primarily due to consumption of raw dairy products in foreign countries.

2008: One person was diagnosed with brucellosis after eating unpasteurized cheese in Mexico.

Campylobacteriosis

Cause: Bacteria in the genus *Campylobacter*, most commonly *C. jejuni*.

Illness and treatment: Symptoms include diarrhea, sometimes containing blood, abdominal pain, fatigue, fever, and vomiting. Most persons will recover without treatment; however serious complications can occur.

Sources: Animals such as cattle, puppies, kittens, swine, sheep, rodents and birds are the reservoir. Contamination of raw poultry meat is very common. Exposure may also be through direct animal contact.

Additional risks: Those with weakened immune systems are at increased risk for infection.

Prevention: Avoid eating undercooked poultry and unpasteurized dairy products. Thoroughly clean cutting boards and counters used for raw meat or poultry to prevent contamination of other foods. Wash hands after handling animals, bird feces, or raw meat, particularly poultry.

Recent Washington trends: Campylobacteriosis is the most commonly reported enteric illness in Washington with 900 to 1,100 reports each year. Outbreaks involving multiple persons and person-to-person spread are relatively uncommon. Infections are reported most commonly in children and during the summer months.

2008: 1,069 cases were reported (16.2 cases/100,000 population).

Chlamydia Infection

Cause: Bacterium *Chlamydia trachomatis*.

Illness and treatment: Asymptomatic infection is common. There may be pain during urination or abnormal genital discharge. Females can have abdominal pain due to pelvic inflammatory disease, which can cause infertility or ectopic pregnancy. The case and sexual partners should take appropriate antibiotics. Treated cases should be retested in 3 to 4 months.

Sources: Chlamydial infection is sexually transmitted or acquired at birth.

Additional risks: Disease rates are highest among sexually active adolescents and young adults. Female adolescents are physiologically more susceptible to infection than older women. Perinatal infection can result in neonatal conjunctivitis or pneumonia.

Prevention: Use safe sexual practices to reduce transmission. Screen sexually active women at risk to detect asymptomatic cases. If Chlamydia is found, also screen or treat for gonorrhea.

Recent Washington trends: Each year over 17,000 cases are reported.

2008: 21,327 cases were reported (323.7 cases/100,000 population).

Cholera

Cause: Bacterial toxin from *Vibrio cholerae* serogroup O1 or O139. Other *V. cholerae* do not produce toxin and cause milder illness notifiable as Vibriosis.

Illness and treatment: Illness ranges from mild symptoms to severe sudden profuse watery diarrhea leading to life-threatening dehydration. Treatment is fluid replacement and antibiotics.

Sources: The bacteria are carried in the human intestine and spread mainly through fecally contaminated food or water. The only environmental reservoir in the United States is the Gulf of Mexico where raw seafood may be contaminated.

Additional risks: Unsafe drinking water, poor hygiene, poor sanitation and crowded living conditions can cause epidemics, particularly in urban areas of developing countries and in refugee situations in Asia, Africa and Latin America with poor sanitation. Persons with reduced stomach acid are at increased risk.

Prevention: If traveling to risk areas, consult with a travel clinic or the CDC Travelers' Health website for recommendations about vaccination and other measures.

Recent Washington trends: A case was reported in 2002 following travel to the Philippines.

2008: No cases were reported.

Cryptosporidiosis

Cause: Various species of the protozoan *Cryptosporidium*, which form resistant oocysts.

Illness and treatment: Symptoms may be prolonged, and include watery diarrhea, abdominal pain, nausea, vomiting, weight loss and fever. An anti-protozoal drug is available to treat persistent symptoms.

Sources: Cryptosporidia are common in animals. In this country oocysts are found in most surface waters tested. Transmission is by ingesting fecally contaminated water, milk or food, or by direct contact with infected animals or humans. Those with asymptomatic infections may infect others. Outbreaks have occurred in water parks, swimming pools and child care facilities.

Additional risks: For persons with weakened immune systems, especially those with advanced HIV infection, the disease can be severe and persistent. Cryptosporidia resist standard chemical disinfectants and may occur in municipal water systems, home filtered water, or bottled water.

Prevention: Wash hands thoroughly after contact with animals, particularly calves or animals with diarrhea. Avoid swallowing water during water recreation. Do not drink untreated surface water. Boil untreated drinking water for one minute or use other appropriate water treatment.

Recent Washington trends: Each year, 60-140 cases are reported in Washington.

2008: 99 laboratory-confirmed cases were reported (1.5 cases/100,000 population).

Cyclosporiasis

Cause: Protozoan *Cyclospora cayetanensis*.

Illness and treatment: Symptoms include persistent watery diarrhea, nausea, loss of appetite, abdominal pain, fatigue and weight loss. Antibiotics are available to treat persistent symptoms.

Sources: Cyclospora are common in many developing countries. Transmission occurs through ingestion of contaminated food or water, often fresh fruit or vegetables. Outbreaks in the United States have been attributed to imported produce such as raspberries, basil and lettuce. Tests for cyclospora must be specifically requested.

Additional risks: Diarrhea may persist with immunosuppression.

Prevention: Wash produce thoroughly before it is eaten. If traveling to risk areas, consult with a travel clinic or the CDC Travelers' Health website.

Recent Washington trends: 0 to 11 cases are reported yearly, mainly after international travel.

2008: One case was reported as part of an outbreak that occurred in California.

Diphtheria

Cause: Toxigenic strains of the bacterium *Corynebacterium diphtheriae*.

Illness and treatment: Classic diphtheria is an upper-respiratory tract illness characterized by sore throat, low-grade fever, and an adherent membrane of the tonsil(s), pharynx, and/or nose, sometimes with neck swelling. Diphtheria can involve almost any mucous membrane and may also be cutaneous. Treatment is with antitoxin, antibiotics, and supportive care.

Sources: Humans carriers are the reservoir and are usually asymptomatic. Transmission is through respiratory droplets, but may occur from skin lesions or articles soiled with discharges.

Additional risks: Susceptible travelers to areas where routine immunization of adults is lacking are at higher risk for diphtheria infection, especially if an epidemic is in progress.

Prevention: Universal immunization including booster doses prevents infection. Respiratory and hand hygiene prevent transmission.

Recent Washington trends: The last recorded case was in 1981.

2008: No cases were reported.

Enterohemorrhagic *Escherichia coli* (EHEC) (includes *E. coli* O157:H7)

Cause: Shiga toxin-producing *E. coli* strains (STEC) including *E. coli* O157:H7.

Illness and treatment: Symptoms include abdominal cramping and severe or bloody diarrhea, usually without fever. Serious complications include hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP). Most persons will recover without treatment. Treating EHEC diarrhea with antibiotics may increase the risk of developing HUS.

Sources: Cattle are the most important source, although other animals including deer and horses may also carry EHEC. Other known sources are unpasteurized milk, undercooked ground beef

and more recently, contaminated raw produce. There can be person-to-person transmission, but most cases are due to ingesting contaminated food or water.

Additional risks: Children under 5 years of age are diagnosed most frequently and are at the greatest risk of developing HUS.

Prevention: Wash hands thoroughly after contact with farm animals, visiting farm environments, and handling raw meat. Thoroughly cook ground beef and venison and wash preparation areas to avoid contaminating other foods. Wash produce thoroughly before eating.

Recent Washington trends: For the past several years there have been about 130 - 190 reports each year. EHEC has a seasonal pattern. Most cases occur during summer and fall months.

2008: 189 cases were reported (2.9 cases/100,000 population) with one death. Cases were most frequently diagnosed in children ages 1 to 4 years of age. Hemolytic uremic syndrome as a complication of EHEC was reported in 12 cases. 21 (12.8%) of all confirmed and serotyped EHEC cases were non-O157:H7 (8 O26:H11; 7 O103:H2; 2 O121:H19; one each O26:NM, O103:H11, O111:NM, and O145:NM).

Foodborne Outbreaks

Cause: Many infectious agents including viruses, bacteria, and parasites. Common agents causing outbreaks are *E. coli* O157:H7, *Salmonella*, and viral agents.

Illness and treatment: Symptoms and treatment vary with the agent.

Sources: Sources vary with the agent. Foodborne outbreaks can occur from inherently toxic or contaminated ingredients, cross contamination between raw animal products and ready to eat foods, contamination by a food handler, temperature abuse after cooking resulting in microbial growth, and improper cooking.

Additional risks: Risks vary with the agent.

Prevention: Safe food handling from farm to table is essential to prevent foodborne illness: avoid contamination at the source, destroy pathogens by proper cooking, and prevent bacterial growth by temperature control methods. Provide education programs for food handlers on proper sanitation, cooking and handling practices. Prevent future cases with prompt investigation of foodborne illness complaints, with laboratory evaluation of illness agents and implicated foods. System wide improvements are needed to trace contaminated foods back to a source.

Recent Washington trends: Foodborne outbreaks may be difficult to detect unless a defined group or related persons are affected. There are typically 40 to 60 outbreaks reported annually, each with 2 to dozens or even hundreds of cases in each outbreak (Table 1).

2008: 46 foodborne outbreaks were reported, affecting a total of 564 cases (Table 2). A *Clostridium perfringens* outbreak at a catered event involved 24 cases. 43 cases of *E. coli* O157:H7 were associated with guacamole. A *Salmonella* Enteritidis outbreak associated with restaurant meals involved 82 cases. Viral agents accounted for 19 outbreaks (41% of total) and 272 cases (48% of total), including a restaurant outbreak with 69 cases. Washington had 10 *Salmonella* Litchfield (from canteloupe), 18 *Salmonella* Saintpaul (from produce) and 17 *Salmonella* Typhimurium (from alfalfa sprouts) cases related to national outbreaks.

**Table 1. Foodborne Outbreaks,
1986-2008**

Year	Cases	Outbreaks
1986	346	58
1987	311	51
1988	545	55
1989	531	51
1990	665	34
1991	1154	47
1992	740	53
1993	1301	130
1994	1462	151
1995	909	138
1996	695	124
1997	810	108
1998	706	60
1999	1164	93
2000	938	66
2001	574	69
2002	704	56
2003	620	55
2004	679	58
2005	390	42
2006	677	51
2007	722	43
2008	564	46

Table 2. Foodborne Outbreaks Reported to Washington State Department of Health, 2008

No.	Month	County	Illness Agent	Total # ill	# Ill lab confirmed	Food Source	Setting	Contributing factors
1	Jan	{ Multiple }	<i>Salmonella</i> Litchfield	10	10	Cantaloupe	Commercial product	Contaminated raw product/ingredient; ingestion of contaminated raw products
2	Jan	Thurston	Virus*	6	--	Restaurant meal	Restaurant	Insufficient handwashing
3	Feb	Clark	Virus*	6	--	Lettuce	Restaurant	Bare-handed contact; infected food handler
4	Feb	Grays Harbor	Norovirus	15	--	Restaurant meal	Restaurant	Bare-handed contact; infected food handler; inadequate equipment cleaning; insufficient handwashing
5	Feb	Skagit	Agent unknown	3	--	Restaurant meal	Restaurant	Prolonged exposure to warm outdoor/room temperature; insufficient hot-holding time/temperature
6	Feb	King	Agent unknown	2	--	Chicken Pad Thai	Restaurant	Glove-handed contact; insufficient handwashing; prolonged exposure to warm outdoor/room temperature; slow cooling; inadequate cold-holding temperature; preparation >1/2 day before serving
7	Feb	King	Virus*	3	--	Restaurant meal	Restaurant	Other source of contamination
8	March	King	Virus*	3	--	Restaurant meal	Restaurant	Bare-handed contact; insufficient handwashing
9	March	King	Norovirus	20	2	Salad	Restaurant	Infected food handler; bare-handed contact
10	March	King	<i>Salmonella</i> *	3	--	Restaurant meal	Restaurant	Cross-contamination from raw animal product; inadequate equipment cleaning; contaminated storage environment
11	March	Yakima	Virus*	69	--	Banquet meal	Restaurant	Unknown
12	April	Whatcom	Virus*	14	--	Restaurant meal	Restaurant	Infected food handler
13	May	King	Virus*	6	--	Restaurant meal	Restaurant	Bare-handed contact; infected food handler; other source of contamination
14	May	Jefferson	Bacterial toxin*	2	--	Restaurant meal	Restaurant	Inadequate cold-holding temperature
15	May	King	Virus*	5	--	Restaurant meal	Restaurant	Infected food handler; other source of contamination
16	May	King	Virus*	7	--	Restaurant meal	Restaurant	Infected food handler
17	May	{ Multiple }	<i>E. coli</i> O157:H7	10	9	Lettuce	Food service	Contaminated raw product/ingredient; ingestion of contaminated raw products
18	May	{ Multiple }	<i>Salmonella</i> Saintpaul	18	18	Produce	Commercial product	Contaminated raw product/ingredient; ingestion of contaminated raw products
19	May	King	Norovirus	12	1	Restaurant meal	Restaurant	Bare-handed contact; glove-handed contact; other source of contamination
20	June	King	<i>Salmonella</i> Enteritidis	2	2	Chicken	Restaurant	Cross-contamination from raw animal product; bare-handed contact; glove-handed contact; inadequate equipment cleaning; contaminated storage environment; prolonged exposure to warm outdoor/room temperature; slow cooling; preparation >1/2 day before serving
21	June	King	Virus*	12	--	Sandwiches	Deli	Bare-handed contact; inadequate equipment cleaning; glove-handed contact; other source of contamination
22	June	Cowlitz	Norovirus	50	2	Restaurant meal	Restaurant	Bare-handed contact; glove-handed contact; infected food handler
23	June	King	<i>E. coli</i> O157:H7	2	2	Restaurant meal	Restaurant	Cross-contamination from raw animal product; bare-handed contact
24	June	King	Bacterial toxin*	8	--	Beans and rice	Restaurant	Unknown
25	July	King	<i>Salmonella</i> Enteritidis	82	37	Restaurant meal	Restaurant	Cross-contamination from raw animal product; inadequate equipment cleaning; insufficient handwashing; prolonged exposure to warm outdoor/room temperature; slow cooling; inadequate cold-holding temperature; insufficient hot-holding time/temperature; insufficient initial cooking time/temperature

* Agent not lab confirmed

Table 2. Foodborne Outbreaks Reported to Washington State Department of Health, 2008 (continued)

No.	Month	County	Illness Agent	Total # ill	# Ill lab confirmed	Food Source	Setting	Contributing factors
26	July	King	Virus*	3	--	Restaurant meal	Restaurant	Bare-handed contact; infected food handler; inadequate equipment cleaning; other source of contamination
27	July	King	<i>Clostridium perfringens</i> *	6	--	Pork Carnitas	Restaurant	Slow cooling; preparation >1/2 day before serving; insufficient hot-holding time/temperature; insufficient reheating time/temperature
28	Aug	{ Multiple }	<i>Salmonella</i> Typhimurium	17	14	Alfalfa sprouts	Distributed product	Contaminated raw product/ingredient; ingestion of contaminated raw products
29	Aug	Clallam	Unknown	5	--	Restaurant meal	Restaurant	Unknown
30	Aug	King	<i>Clostridium perfringens</i>	24	3	Catered meal	Catered	Prolonged exposure to warm outdoor/room temperature; slow cooling; preparation >1/2 day before serving; insufficient hot-holding time/temperature; insufficient initial cooking time/temperature; insufficient reheating time/temperature
31	Aug	King	Virus*	12	--	Sushi	Restaurant	Bare-handed contact; glove-handed contact; infected food handler; inadequate equipment cleaning; contaminated storage environment; insufficient handwashing
32	Aug	King	Unknown	2	--	Restaurant meal	Restaurant	Cross-contamination from raw animal product; bare-handed contact; glove-handed contact; inadequate equipment cleaning; preparation >1/2 day before serving; insufficient hot-holding time/temperature; insufficient reheating time/temperature; other source of contamination
33	Aug	{ Multiple }	<i>E. coli</i> O157:H7	5	5	Spinach	Commercial product	Unknown
34	Aug	King	Bacterial toxin*	25	--	Baked beans	Catered	Slow cooling; Insufficient reheating time/temperature
35	Oct	Cowlitz	Bacterial toxin*	3	--	Rice	Restaurant	Preparation >1/2 day before serving; insufficient hot-holding time/temperature; insufficient reheating time/temperature
36	Oct	King	Norovirus	22	3	Restaurant meal	Restaurant	Unknown
37	Oct	Snohomish	<i>E. coli</i> O157:H7	43	19	Guacamole	Restaurant	Unknown
38	Oct	King	Bacterial toxin*	5	--	Pork Carnitas	Restaurant	Glove-handed contact; insufficient hot-holding time/temperature
39	Oct	King	Scombroid	2	--	Ahi tuna	Restaurant	Toxic substance part of tissue
40	Nov	King	Scombroid	2	--	Mahi Mahi fish	Restaurant	Toxic substance part of tissue; inadequate cold-holding temperature
41	Nov	Yakima	Unknown	2	0	Restaurant meal	Restaurant	Cross-contamination from raw animal product; contaminated storage environment; insufficient handwashing; prolonged exposure to warm outdoor/room temperature; slow cooling; inadequate cold-holding temperature; insufficient hot-holding time/temperature
42	Nov	Yakima	Unknown	2	0	Restaurant meal	Restaurant	Inadequate cold-holding temperature; insufficient hot-holding time/temperature
43	Nov	Skagit	<i>Campylobacter</i>	4	2	Turkey	Home	Cross-contamination from raw animal product
44	Nov	King	Bacterial toxin*	3	--	Restaurant meal	Restaurant	Slow cooling; inadequate cold-holding temperature; insufficient handwashing
45	Dec	King	Virus*	4	--	Restaurant meal	Restaurant	Bare-handed contact; insufficient handwashing
46	Dec	King	Virus*	3	--	Restaurant meal	Restaurant	Glove-handed contact; infected food handler; insufficient handwashing

* Agent not lab confirmed

Giardiasis

Cause: Protozoan *Giardia lamblia*, also known as *G. intestinalis* or *G. duodenalis*.

Illness and treatment: Infection may be asymptomatic or may cause diarrhea, abdominal pain, nausea, fatigue, and weight loss. Illness may be self-limited or be prolonged with persistent pale and greasy stools due to fat malabsorption. Anti-protozoal drugs are available.

Sources: Humans and both wild and domestic animals are reservoirs. Exposures include untreated surface water, shallow well water, recreational water, or less commonly food contaminated by feces. Person-to-person transmission occurs, such as in child care facilities, or through oral-anal sexual contact.

Additional risks: Children under 5 years of age are infected more frequently than adults. Concentrations of chlorine used in routine water treatment do not kill *Giardia* cysts, especially if the water is cold. Giardiasis is one of the most common waterborne diseases in the country.

Prevention: Wash hands thoroughly after contact with animals, particularly animals with diarrhea. Avoid swallowing water during water recreation. Do not drink untreated surface water. Boil untreated drinking water for one minute or use other appropriate water treatment.

Recent Washington trends: Reported cases have been declining somewhat over the past decade. Incidence is highest in the summer and fall months. Most frequently reported exposures include recreational water and international travel. Outbreaks are uncommon.

2008: 486 cases were reported (7.4 cases/100,000 population). The infection was diagnosed more than twice as commonly in children 1 to 4 years of age than people in any other age group.

Gonorrhea

Cause: Bacterium *Neisseria gonorrhoeae*.

Illness and treatment: About half of women and some men have no symptoms. When symptoms occur, urethral discharge and painful urination are typical of genital infections. Complications include pelvic inflammatory disease in women with a risk of infertility or epididymitis in men. There can be conjunctivitis, pharyngitis, proctitis, or, rarely, bloodstream infection. Treatment is with antibiotics.

Sources: Gonorrhea is sexually transmitted or acquired at birth.

Additional risks: Rates are highest among sexually active adolescents and young adults.

Prevention: Use safe sexual practices to reduce transmission. Screen sexually active women at risk to detect asymptomatic cases. If gonorrhea is found, also screen or treat for Chlamydia.

Recent Washington trends: Each year over 3,000 cases are reported.

2008: 3,116 cases were reported (47.3 cases/100,000 population).

Haemophilus influenzae (Invasive Disease, Under Age 5 Years)

Cause: Bacterium *Haemophilus influenzae*. Invasive disease due to any of the 6 capsular types, including type b (Hib) in a child under 5 years of age, is reportable.

Illness and treatment: Invasive syndromes can include meningitis, bacteremia, epiglottitis, pneumonia, or bone and joint infections. Symptoms of meningitis include fever, headache, stiff neck,

vomiting, light sensitivity and confusion. About 10% of cases surviving *H. influenzae* meningitis have permanent neurological damage. Treatment is with antibiotics.

Sources: Humans, including asymptomatic carriers, are the reservoir and transmit through respiratory droplets or direct contact.

Additional risks: Unimmunized or underimmunized infants and children are at risk, especially when they are taken into crowded settings.

Prevention: Immunization of all infants prevents *H. influenzae* type b infection. Respiratory and hand hygiene prevent transmission.

Recent Washington trends: 4 to 13 cases (due to all serotypes) are reported annually in children under 5 years of age.

2008: Two cases in children under 5 years were reported with no deaths. Both were untypable. Both of these cases were hospitalized, with one requiring admission to an intensive care unit.

Hantavirus Pulmonary Syndrome (HPS)

Cause: Sin Nombre virus in western United States, other viruses elsewhere.

Illness and treatment: Fever and mild flu-like symptoms are followed by acute respiratory distress syndrome (ARDS) with respiratory failure and shock. Treatment is supportive.

Sources: The deer mouse (*Peromyscus maniculatus*) is the major reservoir for Sin Nombre virus. Exposure occurs by inhaling aerosolized virus excreted in mouse urine, feces or saliva, particularly during improper cleaning of deer mouse infested areas.

Prevention: Keep rodents out of the home and workplace. When cleaning rodent-infested areas, use appropriate safety precautions.

Recent Washington trends: Since its recognition in 1993 through 2008, 35 cases were reported with 11 (32%) associated deaths. Each year there are 1 to 5 reports, mainly from eastern counties.

2008: Two cases were reported; exposures were in northwestern and central Washington.

Hemolytic Uremic Syndrome (HUS)

Cause: Complication of infection with Shiga toxin-producing bacteria, most commonly *E. coli* O157:H7. HUS following a diarrheal illness is reported in Washington as suspect Enterohemorrhagic *E. coli*.

Illness and treatment: HUS includes hemolytic anemia (identified microscopically) and kidney damage. Most persons recover with supportive treatment, but some have permanent kidney damage or die from complications.

Sources: For enterohemorrhagic *E. coli* (EHEC) sources include cattle and other animals including deer and horses; known sources are unpasteurized milk, undercooked ground beef and contaminated raw produce. There can be person-to-person transmission of EHEC.

Additional risks: Children are at particular risk for developing HUS as a complication of diarrheal illness caused by a Shiga toxin-producing organism. Using antibiotics to treat EHEC diarrhea may increase the risk of developing HUS.

Prevention: Wash hands thoroughly after contact with farm animals, visiting farm environments, and handling raw meat. Thoroughly cook ground beef and venison and wash preparation areas to avoid contaminating other foods. Wash produce thoroughly before eating.

Recent Washington trends: Each year there are 1 to 6 reports.

2008: There were 2 cases of HUS that did not follow a diarrheal illness. 12 cases of HUS following a diarrheal illness are included as EHEC.

Hepatitis A

Cause: Hepatitis A virus.

Illness and treatment: Onset is usually abrupt with fever, nausea, and abdominal pain followed by jaundice. Cases may be asymptomatic, particularly in children. Almost all cases recover but rare infections are fatal or require liver transplantation. Treatment is supportive.

Sources: Acutely infected humans shed virus in the feces and transmit directly or through fecally contaminated food (produce, shellfish, uncooked items), water, and environment, often encountered during international travel. Recent outbreaks in this country have been associated with imported produce. Bloodborne transmission is very rare.

Additional risks: Infected young children may have no symptoms but can be communicable. Transmission can occur with groups having poor hygiene or fecal-oral sexual practices.

Prevention: To prevent infection, immunize all children and any adults with risks for exposure including travel to endemic areas.

Recent Washington trends: Since 1989 when there were 3,273 cases, hepatitis A incidence decreased to fewer than 100 cases a year with increased vaccination.

2008: 51 cases (0.8 cases/100,000 population) were reported. All 27 reports of out of state exposures were foreign travel, including 9 to India and 9 to Mexico.

Hepatitis B

Cause: Hepatitis B virus.

Illness and treatment: Acute infection may be asymptomatic or have abrupt onset with fever, abdominal pain, and jaundice. Chronic infection is typically asymptomatic until complications such as liver damage or cancer occur. Surface antigen positivity (contagious) during pregnancy from acute or more typically chronic infection gives a risk of transmitting the virus during delivery. Perinatal infection is typically asymptomatic but carries a risk for chronic infection.

Sources: Transmission is by contact with the blood, semen or vaginal secretions of an infected person, and can occur with minor exposures.

Additional risks: After acute infection, about 90% of infants and 30% of children under 5 years will become chronically infected compared to about 5% of adults.

Prevention: To prevent infection, immunize all children. Also immunize adults with risks for exposure. Screen during pregnancy to identify infected women. Use safe sexual practices, avoid sharing drug paraphernalia, and screen blood and tissue products to prevent transmission.

Recent Washington trends: Around 60 to 100 cases of acute hepatitis B and 1,100 to 1,200 cases of chronic hepatitis B are reported annually with about one death a year due to fulminant infection.

Current chronic hepatitis reports are posted at: <http://www.doh.wa.gov/cfh/IDRH-Assessment/HepC.htm>
Acute cases declined with increased vaccination. About 380 hepatitis B surface antigen positive pregnant women are reported each year with 2 to 6 cases of perinatal hepatitis B virus infections.
2008: 56 acute cases (0.9 cases/100,000 population), 360 infants born to surface antigen positive women and no perinatal infections were reported.

Hepatitis C

Cause: Hepatitis C virus, which has 6 genotypes.

Illness and treatment: Most acute infections are asymptomatic but about 20% of cases have abrupt onset with fever, abdominal pain, and jaundice. Chronic infection is typically asymptomatic until complications such as liver damage or cancer develop.

Sources: Transmission is usually by contact with blood, particularly while sharing drug paraphernalia, or less commonly semen or vaginal secretions of an infected person.

Additional risks: Chronic infection follows acute infection in 75-85% of cases and is more likely for males, those infected after 25 years of age, or the immunosuppressed including HIV co-infection.

Prevention: Use safe sexual practices, avoid sharing drug paraphernalia, and screen blood and tissue products to prevent transmission.

Recent Washington trends: Each year fewer than 30 acute cases and around 5,300 chronic cases are reported. Current chronic hepatitis reports are posted at: <http://www.doh.wa.gov/cfh/IDRH-Assessment/HepC.htm>

2008: 25 acute cases (0.4 cases/100,000 population) were reported.

Hepatitis, Unspecified (Infectious)

Cause: Hepatitis D virus and hepatitis E virus. Hepatitis D virus infection always occurs with hepatitis B infection, either with a chronic hepatitis B infection (superinfection) or as two simultaneous new infections (coinfection).

Illness and treatment: Hepatitis D and E typically have abrupt onset of fever, nausea, and abdominal pain followed by jaundice. Hepatitis D may progress to chronic hepatitis.

Sources: Humans are the reservoir for hepatitis D, which is usually transmitted by contact with blood or body fluids, particularly sharing drug paraphernalia. Humans and animals (swine) are the reservoir for hepatitis E which is transmitted most commonly through fecally contaminated food, water, and environment.

Additional risks: Pregnant women have higher risk for hepatitis E complications. Japan has reported more virulent hepatitis E strains.

Prevention: To avoid simultaneous hepatitis B infection, immunize all children and any adults with risks for exposure. Use safe sexual practices, avoid sharing drug paraphernalia, and screen blood and tissue products to prevent hepatitis D transmission. Use precautions while traveling to ensure safe food and water to avoid hepatitis E infection.

Recent Washington trends: Reports are rare. Cases of hepatitis D are typically associated with injection drug use. Cases of hepatitis E are typically travel associated.

2008: Three cases of hepatitis D were reported.

Herpes Simplex, Genital and Neonatal

Cause: Herpes simplex virus serotypes HSV-1 and HSV-2.

Illness and treatment: Genital infection is lifelong, ranging from no symptoms to recurring episodes of painful genital ulcers. Antiviral medications partially control the frequency and severity of the episodes but are not a cure. Neonatal infection may be severe, involving the liver or brain, or mild, involving the skin, eyes, and mouth.

Sources: Herpes infection is sexually transmitted or acquired at birth.

Additional risks: Oral herpes (cold sores) can transmit to the genital area.

Prevention: Use safe sexual practices to reduce transmission.

Recent Washington trends: Each year there are over 2,000 reports.

2008: 2,009 cases of initial genital HSV infection (30.5 cases/100,000 population) and 9 cases of neonatal infection were reported.

HIV/AIDS

Cause: Human immunodeficiency virus (HIV) causes acquired immunodeficiency syndrome (AIDS) due to depletion of CD4+ T-lymphocytes.

Illness and treatment: Susceptibility is increased for various opportunistic infections and malignancies. Antiretroviral treatment has considerably improved the prognosis for cases with HIV infection.

Sources and spread: HIV is usually transmitted by contact with the blood, semen or vaginal secretions of an infected person.

Additional risks: Groups at increased risk include injection drug users and persons with multiple sexual partners or with another sexually transmitted disease causing genital ulcers.

Prevention: Use safe sexual practices, avoid sharing drug paraphernalia, and screen blood and tissue products to prevent transmission.

Recent Washington trends: New HIV diagnoses have been stable, with 540 to 610 new cases diagnosed every year. Approximately 30% of cases are diagnosed late in the course of infection, developing AIDS within 12 months of their initial HIV diagnosis. Rates are higher among males and racial/ethnic minorities, reflecting risk factors.

2008: 541 cases were reported (8.2/100,000 population).

Legionellosis

Cause: Bacteria in the genus *Legionella*, commonly *L. pneumophila* serogroup 1 but also other serogroups or other species such as *L. micdadei*, *L. bozemanii*, *L. longbeachae* and *L. dumoffii*.

Illness and treatment: There are two clinically and epidemiologically distinct illnesses: Legionnaires' disease with fever, muscle aches, cough, pneumonia; and Pontiac fever, a milder illness without pneumonia. Treatment is with antibiotics.

Sources: The organism is ubiquitous. Hot water systems (showers), air conditioning cooling towers, evaporative condensers, humidifiers, whirlpool spas, respiratory therapy devices, decorative fountains, and potting soil have been implicated epidemiologically in outbreaks.

Additional risks: Illness is more common with age over 65 years, smoking, diabetes, chronic lung disease, or immunosuppression (particularly due to corticosteroids or organ transplant).

Prevention: Maintain cooling towers properly. Do not use tap water in respiratory therapy devices.

Recent Washington trends: Each year there are fewer than 30 reports, with one to 4 deaths.

2008: 19 cases (0.3 cases/100,000 population) were reported with one death. Ages ranged from 25 to 82 years (median 62 years). Of 18 patients with risk factor data, 14 (78%) reported as least one of the following risk factors: chronic liver disease, immunosuppressive therapy, chronic diabetes, chronic lung disease, or smoking.

Leptospirosis

Cause: Spiral shaped bacteria (spirochetes) in the genus *Leptospira*.

Illness and treatment: Symptoms include fever, headache, and severe muscle aches. Jaundice, kidney failure, or meningitis can develop. Treatment is with antibiotics.

Sources: The disease affects wild and domestic animals, including pets. Urine and tissues are infective. Transmission occurs by direct skin or mucous membrane contact with urine or tissues from infected animals, or exposure to contaminated water, food, or soil, or inhalation of aerosolized fluids during recreation or farm work.

Prevention: Avoid contact with urine from infected animals and with water or soil potentially contaminated with animal urine.

Recent Washington trends: Each year there are 0 to 5 reports. Most infections relate to recreational water exposure in Washington or during travel.

2008: One human case was reported with no deaths. The case was likely exposed in Washington while working with cattle.

Listeriosis

Cause: Bacterium *Listeria monocytogenes*.

Illness and treatment: Diarrhea occurs but is not detected with standard stool culture methods. Complications include septicemia or meningitis, which cause fever, headache, vomiting, delirium, or coma. Severe infections are treated with antibiotics.

Sources: *Listeria* occur in soil, water, and the intestines of animals and humans. Transmission is mainly through food, such as unpasteurized milk, cheese made from unpasteurized milk, processed meats, deli salads, fruits and vegetables. Food can be contaminated during or after processing.

Additional risks: Unlike most foodborne pathogens, *Listeria* can multiply in refrigerated foods. Illness may be severe for newborns, the elderly, and persons with weakened immune systems. Pregnant women with listeriosis may have few symptoms but have fetal loss or premature birth.

Prevention: If pregnant or immunocompromised, avoid soft cheeses made with unpasteurized milk, processed ready-to-eat foods, and smoked fish. Also thoroughly cook all foods from animal sources, wash raw produce thoroughly and heat leftovers, hot dogs and deli meats until steaming before eating.

Recent Washington trends: Each year there are 11 to 25 reports with 0 to 5 deaths.

2008: 29 cases were reported in 2008 (0.4 cases/100,000 population), including 13 in persons over the age of 50 (0.6/100,000) and 6 newborn infants. Three deaths were reported. Consumption of unpasteurized dairy products was reported by 25% of adult cases including mothers of infants infected prenatally.

Lyme Disease

Cause: Spiral shaped bacterium (spirochete) *Borrelia burgdorferi*.

Illness and treatment: There are skin and systemic “flu-like” symptoms, such as fatigue, headache, fever, and muscle and joint aches. The classic symptom is a target-shaped (bull’s-eye) rash. Joint, nervous system, or heart complications can occur.

Sources: Only certain hard tick species transmit Lyme disease from the rodent or deer reservoirs. In the Pacific coastal United States, the western blacklegged (or deer) tick (*Ixodes pacificus*) is the primary vector. These ticks live in heavily-forested or dense brushy areas, not open areas. It is likely these ticks must attach for at least 24 hours to transmit the disease.

Prevention: During outdoor activities in endemic areas avoid tick bites by wearing appropriate clothing and using repellents. Check the body for ticks. If bitten by a tick, be alert for "flu-like" symptoms or rash over the next month. If symptoms develop, contact a health care provider.

Recent Washington trends: Each year there are 7 to 18 reports. Most Washington cases are the result of a tick bite out of state. The few endemic cases have tick exposures predominantly on the west side of the Cascade Mountains, reflecting the distribution of the *Ixodes* ticks.

2008: 23 cases were reported, 2 with exposure in Chelan and Mason counties.

Malaria

Cause: *Plasmodium* species, commonly *P. vivax*, *P. falciparum*, *P. ovale*, and *P. malariae*.

Illness and treatment: Classic malaria involves recurrent bouts of fever, chills, sweats, and headache. Many other symptoms can occur, affecting the gastrointestinal, respiratory, muscular, and neurological systems. Treatment is with antimalarial drugs and supportive care.

Sources: Transmission occurs by the bite of infected anopheline mosquitoes.

Additional risks: Although rare in the United States, transmission can occur through blood contact (e.g., transfusions or needle-sharing).

Prevention: When traveling in risk areas avoid mosquito bites, take medication to avoid malaria, and receive proper treatment if infected.

Recent Washington trends: Each year there are 20 to 40 reports among tourists, military personnel, business travelers, mission workers, immigrants and refugees.

2008: 32 cases (0.5 cases/100,000 population) were reported: 12 *P. falciparum*, 4 *P. ovale*, 10 *P. vivax*, 1 *P. malariae*, 2 *P. ovale*, 1 suspect *P. ovale* and 6 undetermined. Cases were associated with travel to Africa, Asia, and South America.

Measles

Cause: Measles virus, a paramyxovirus, genus *Morbillivirus*.

Illness and treatment: Fever up to 105°F for 2-4 days is followed by cough, conjunctivitis, or runny nose, and a maculopapular rash moving from the hairline down to cover the entire body. The rash lasts 5-6 days or longer. Complications including diarrhea, ear infection, pneumonia, acute encephalitis, and death are more common among children under 5 and adults over 20 years of age. The case fatality rate in this country is 0.1-0.3%. Treatment is supportive.

Sources: Humans are the reservoir. Measles is highly contagious with transmission occurring primarily through respiratory droplets, though airborne transmission has been documented in closed areas for up to 2 hours after a person with measles was present.

Additional risks: Measles in the United States occurs mainly from international travel to endemic areas, or through contact with infected international travelers. Transmission within the United States can occur. Malnutrition increases the risk of severe complications and death.

Prevention: Universal immunization prevents infection. Aggressive follow-up with exposed persons, along with respiratory and hand hygiene, can prevent further transmission.

Recent Washington trends: Each year there are typically fewer than 10 cases reported.

2008: 19 cases were reported; all were exposed in Washington and were part of an outbreak associated with a large church event. Of the 18 cases for whom vaccine was indicated, only one adult had received any doses of MMR. No school-age cases had received any vaccine.

Meningococcal Disease (Invasive)

Cause: *Neisseria meningitidis*, mainly serogroups B, C, Y, and W135 in the United States, and additionally serogroup A, elsewhere. Invasive disease is reportable.

Illness and treatment: Invasive meningococcal disease is most commonly meningitis with symptoms of fever, headache, stiff neck, vomiting, light sensitivity and confusion. Bloodstream infection (meningococemia) causes fever and often shock, as well as a rash or bruise-like skin lesions. A case may have both syndromes. Pneumonia and joint infections can occur. Even with appropriate antibiotic treatment and supportive care, case fatality rate is 9-12%.

Sources: Humans, including asymptomatic carriers, are the reservoir. Transmission is through respiratory droplets or direct contact with respiratory secretions. Secondary cases are rarely documented, though outbreaks can occur.

Additional risks: Rates are highest for infants under 12 months. An increasing proportion of cases are in adolescents and young adults. Crowded living conditions, low socioeconomic status, and tobacco smoke exposure may increase risk, as do certain immune deficiencies including asplenia.

Prevention: Universal immunization of all adolescents aged 11–18 years and persons aged 2–55 years who are considered at increased risk is recommended. Good respiratory hygiene can reduce the likelihood of transmission. Exposed persons should take prophylactic antibiotics.

Recent Washington trends: Each year 30 to 60 cases are reported, including 1 to 8 deaths.

2008: 40 cases (0.6 cases/100,000 population) were reported with 4 deaths. 29 cases had known serogroup: 12 serogroup B, 9 serogroup Y, 5 serogroup C, 2 serogroup W135, and 1 serogroup Z. Serogroup B, which is not included in the vaccine, caused 2 deaths.

Mumps

Cause: Mumps virus, a paramyxovirus.

Illness and treatment: Mumps causes inflammation of glandular tissue, most commonly salivary glands (parotitis). Up to 20% of infections have no symptoms and up to half have mild or only respiratory symptoms. Complications include inflammation of testes (orchitis) or ovaries (oophoritis), aseptic meningitis (rarely causing deafness), pancreatitis, and myocarditis. The last death from mumps in the United States was in 2002. Treatment is supportive.

Sources: Humans, including persons with asymptomatic infection, are the reservoir. Transmission is mainly through direct contact with infected droplet nuclei or saliva.

Additional risks: The average age of reported mumps cases has increased, with 40% of cases age 15 years and older. During 2006, a large outbreak of mumps occurred in 9 Midwestern states with the majority of cases seen in college-aged persons and adults in their 20s.

Prevention: Universal immunization prevents infection. Two doses of mumps-containing vaccine are now recommended for school aged-children, college students, and health care workers born in or after 1957. Respiratory and hand hygiene can prevent transmission.

Recent Washington trends: Zero to 11 reports were received a year until the increased awareness of mumps subsequent to the 2006 outbreak. 42 and 53 cases were reported in 2006 and 2007, respectively. A change in the national reporting criteria was made after 2007.

2008: 14 cases were reported. The age range for reported cases was 15 months to 64 years, with a median of 31 years. Ten cases (71.4%) were reported as ever having received any mumps vaccine, and of these, 7 (70%) were reported as “up to date” for mumps vaccination.

Paralytic Shellfish Poisoning (PSP)

Cause: Ingestion of shellfish with a toxin from the phytoplankton *Alexandrium catenella*.

Illness and treatment: Symptoms begin minutes or hours after eating contaminated shellfish and may include numbness of the mouths and limbs. Severe poisoning progresses rapidly to paralysis and respiratory arrest. Mild symptoms resolve completely in hours to days. Supportive care, including mechanical ventilation, may be needed in severe cases. There is no anti-toxin.

Sources: Bivalve mollusks such as clams, oysters, mussels, and geoduck ingest the plankton and concentrate the toxin. There is no person-to-person spread.

Additional risks: PSP is only rarely associated with reddish discoloration of the water, although the term “red tide” is popularly used. PSP can be present in dangerous amounts even when the harvest site water looks clean. Cooking does not destroy the toxin.

Prevention: Before harvesting shellfish check the Marine Biotxin Hotline (1-800-562-5632) or website for updates on affected sites and site closures, which may not always have signs posted.

Recent Washington trends: Two clusters of PSP have been reported during the past 10 years (7 reports in 2000 and 5 in 1998). Both clusters were associated with mussels gathered recreationally from south Puget Sound waters.

2008: No cases were reported.

Pertussis

Cause: Bacterium *Bordetella pertussis*.

Illness and treatment: Classic pertussis symptoms include initial cold-like manifestations followed by an extended cough illness lasting for weeks with spasms of severe coughing (paroxysms) ending in a gasp, whoop, or vomiting. Infants may have feeding difficulties, and often become apneic. Treatment is with antibiotics and supportive care.

Sources: Humans, often older adolescents and adults with mild symptoms not recognized as pertussis, are the reservoir and transmit pertussis through respiratory droplets or direct contact.

Additional risks: Complications, which include pneumonia, seizures, encephalopathy, and rarely death, occur most often in very young infants.

Prevention: Universal immunization including booster doses can reduce the risk of infection and generally prevents severe illness. Respiratory and hand hygiene can prevent transmission.

Recent Washington trends: Numbers of cases reported vary considerably, ranging from 184 to 1026 cases a year. There is also variation among health jurisdictions reflecting local outbreaks.

2008: 460 cases (7.0 cases/100,000 population) were reported with one infant death. Rates were highest for children under a year (69.9/100,000) and 5 to 9 years (22.5/100,000). About a third of cases were reported as “up to date” for pertussis vaccine. Of the 118 cases (26%) associated with outbreaks, 80 (68%) were related to an outbreak in Island County (see special topics).

Plague

Cause: Bacterium *Yersinia pestis*

Illness and treatment: Plague causes three clinical syndromes: bubonic (fever, headache, nausea and unilateral lymph node swelling); septicemic (bacteremia and multi-organ system failure); and pneumonic (pneumonia). A patient may have several syndromes. About 14% of plague cases in the United States are fatal. Treatment is with antibiotics and supportive care.

Sources: Wild rodent populations are the natural reservoir where plague is maintained by fleas. Humans are infected through flea bites, handling tissues from infected animals, or respiratory droplet spread from animals or people with pneumonic plague.

Prevention: Avoid contact with sick or dead wild animals, rodent-proof houses, prevent pets from contracting fleas, and use repellents on skin and clothing when outdoors.

Recent Washington trends: Serologic sampling of 6,781 wild carnivores collected between 1975 and 2008 in Washington showed 3.3% seropositivity but human infections are rare: the last reported case was an animal trapper in Yakima exposed while skinning a bobcat in 1984.

2008: No human cases of plague were reported.

Polio

Cause: Poliovirus, a member of the enterovirus subgroup, family Picornaviridae. Three serotypes, P1, P2, and P3 (and the related live oral vaccine strains), can cause disease.

Illness and treatment: Over 90% of infections are asymptomatic and 4-8% are minor illnesses. Nonparalytic aseptic meningitis with full recovery occurs in 1-2% of infections. Fewer than 1% of infections result in flaccid paralysis. Treatment is supportive.

Sources: Humans are the reservoir. Transmission is mainly through the fecal-oral route. Virus may be present in the stool of an infected person for 3-6 weeks.

Additional risks: Travel by susceptible persons to the few countries where polio is still endemic or to countries still routinely using oral polio vaccine can increase the risk of becoming infected.

Prevention: Universal immunization prevents infection. Only inactivated polio vaccine – which can prevent paralysis, but does not provide intestinal immunity – is now used in this country.

Recent Washington trends: The last naturally acquired infection with wild-type polio virus was in 1977. In 1993, a case of vaccine-associated paralytic polio occurred in a state resident after a family member received live oral polio vaccine, which is no longer used in this country.

2008: No cases were reported.

Psittacosis

Cause: Bacterium *Chlamydophila* (previously *Chlamydia*) *psittaci*.

Illness and treatment: Abrupt onset of fever, chills, headache, and nonproductive cough which may progress to shortness of breath and pneumonia. Treatment is with antibiotics.

Sources: Birds in the parrot family are common sources, with poultry, pigeons, canaries, and sea birds being less common sources. Infection usually occurs when a person inhales organisms excreted in aerosolized dried feces or respiratory tract secretions of infected birds.

Prevention: Avoid purchasing or selling birds that appear ill; practice preventive husbandry; and wear protective clothing when cleaning cages or handling infected birds. If respiratory or influenza-like symptoms occur after bird caretaking, seek medical attention and report bird contact.

Recent Washington trends: Each year there are 0 to 4 reports, commonly associated with indoor exposure to pet birds and less commonly farm or wild birds.

2008: No cases were reported.

Q Fever

Cause: Bacterium *Coxiella burnetii*.

Illness and treatment: Acute Q fever symptoms are fevers, chills, retrobulbar headache, malaise, weakness, and severe sweats. Chronic Q fever manifests primarily as endocarditis. Treatment is with antibiotics.

Sources: The most common reservoirs are sheep, cattle, and goats. Infected animals are usually asymptomatic, but shed the organism in birth products as well as urine, feces, and milk. A common

exposure mechanism is inhalation of dust from premises contaminated by placental tissues, birth fluids, or excreta of infected animals.

Prevention: Consume only pasteurized milk and dairy products. Appropriately dispose of animal birth products. Restrict access to barns and facilities housing potentially infected animals.

Recent Washington trends: Each year there are 0 to 2 reports.

2008: No cases were reported.

Rabies Post-Exposure Prophylaxis

Information about post-exposure prophylaxis (PEP) is available from the Advisory Committee on Immunization Practices available on the CDC website at <http://www.cdc.gov/rabies/>. A reduction to four instead of five vaccine doses for PEP in immunocompetent persons is expected to become official in Fall 2009. Also see Rabies (Human).

Recent Washington trends: Of bats tested in Washington 5 to 10% are identified as rabid. Since 1987, 4 rabid domestic animals were identified, 2 with bat variant virus (Table 3).

2008: There were 291 reports of PEP. The most common exposures were bats (62%), raccoons (16%), dogs (12%), and cats (3%). For 25 cases, PEP followed exposure to an animal testing positive for rabies (24 from bats, one from a skunk in Rhode Island); 24 persons receiving PEP had exposures out of state and 30 had exposures outside of the country. 17 of 337 (5 %) bats tested were rabid (Table 4). No other animals tested in Washington were rabid (Tables 5).

Rabies (Human)

Cause: Rabies virus.

Illness and treatment: Initial neurologic symptoms include abnormal skin sensation or pain, often affecting the site of the bite, and subtle personality changes. Later neurologic symptoms include seizures, excess salivation, fear of water, delirium, agitation, and paralysis. Symptomatic illness is considered fatal; experimental treatment saved one Wisconsin case.

Sources: In Washington, bats are the primary reservoir. Skunks, raccoons and foxes are additional reservoirs in this country. In some countries, dogs and other carnivores are the main reservoirs. Rabies is transmitted when saliva or brain tissue contaminates the skin or mucosa. Person to person transmission is documented only by tissue/organ transplantation.

Prevention: Obtain post-exposure prophylaxis for exposure to a rabid or potentially rabid animal. Certain high risk groups should have pre-exposure vaccination. Keep vaccinations up-to-date for all dogs, cats and ferrets, avoid contact with unfamiliar animals, and keep bats out of the home.

Recent Washington trends: Two human cases due to infection with the bat rabies variant of rabies virus were reported in the past 50 years, one in 1995 and one in 1997.

2008: No human rabies cases were reported.

Table 3. Rabid Non-Bat Animals and Rabies Strains, Washington, 1987–2008

Year	Animal type (County)	Rabies strain
2002	Cat (Walla Walla)	Bat-variant
1994	Llama (King)	Bat-variant
1992	Horse (Franklin)	Unknown
1987	Dog (Pierce)*	Unknown, but history of bat exposure

* Infection was not confirmed at CDC

Table 4. Washington State Bats Tested for Rabies, 2004-2008

	2004**		2005**		2006**		2007**		2008		County Total	
Counties	Positive	Total	Positive	Tested								
Adams	0	1	0	1	0	0	0	0	0	0	0	2
Asotin	0	1	0	0	0	4	1	1	0	1	1	6
Benton	0	6	0	2	0	1	0	4	0	33	0	13
Chelan	0	5	0	8	1	8	0	1	1	7	1	22
Clallam	0	3	0	4	0	7	1	2	1	4	1	16
Clark	0	10	1	6	0	8	1	15	2	14	2	39
Columbia	0	1	0	0	0	0	0	1	0	0	0	2
Cowlitz	1	9	0	10	1	8	1	9	0	5	3	36
Douglas	0	1	0	0	0	1	0	0	0	1	0	2
Ferry	0	0	0	1	0	1	1	1	0	0	1	3
Franklin	0	1	0	2	0	0	0	0	0	1	0	3
Garfield	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	1	0	1	0	2	0	0	0	0	0	4
Grays Harbor	1	8	1	6	0	2	1	3	0	4	3	19
Island	0	4	1	12	1	15	0	8	1	15	2	39
Jefferson	0	0	0	0	0	2	0	1	0	1	0	3
King	5	69	1	50	3	58	4	98	1	83	13	275
Kitsap	2	26	1	15	1	13	3	20	0	17	7	74
Kittitas	0	2	0	1	0	1	0	0	0	1	0	4
Klickitat	0	0	0	2	0	0	0	2	0	1	0	4
Lewis	0	12	0	12	0	13	0	15	0	17	0	52
Lincoln	0	1	1	2	0	0	0	1	0	0	1	4
Mason	0	12	0	5	0	3	1	8	0	4	1	28
Okanogan	0	3	0	1	0	2	1	2	0	0	1	8
Pacific	1	9	0	7	0	0	0	1	2	8	1	17
Pend Oreille	0	0	0	1	1	2	0	0	0	0	1	3
Pierce	1	28	2	15	1	20	2	29	1	31	6	92
San Juan	0	1	0	0	0	1	0	3	0	0	0	5
Skagit	0	7	0	3	0	6	1	4	1	7	1	20
Skamania	0	1	0	0	1	1	0	2	0	1	1	4
Snohomish	3	24	0	19	3	25	0	24	2	20	6	92
Spokane	3	12	2	21	0	18	3	18	0	12	8	69
Stevens	1	4	0	3	0	8	0	3	0	4	1	18
Thurston	1	28	1	9	1	19	0	24	1	22	3	80
Wahkiakum	0	1	0	4	0	1	0	1	2	7	0	7
Walla Walla	0	4	2	3	0	1	0	3	0	0	2	11
Whatcom	1	14	2	17	1	20	1	7	1	8	5	58
Whitman	0	2	0	0	0	0	0	1	1	6	0	3
Yakima	0	0	0	2	0	2	0	3	0	2	0	7
Total	20	311	15	245	15	273	22	315	17	337	72	1144

** Numbers reported through 2007 were inclusive of positive and negative test results; beginning in 2008 all specimens submitted (including unsatisfactory results) were included in counts.

Table 5. Washington State Animals Tested for Rabies, 1988-2008
(Rabid animals in parentheses)

Year	Bat	Cat	Dog	Ferret	Raccoon	Skunk	Rodents	Lago- morphs	Other Wild	Other Domestic	Total
1988	69 (4)	165	110	15	16	3	12	2	5	3	400
1989	102 (9)	124	91	20	9	4	8	1	9	4	372
1990	63 (4)	104	82	5	7	5	5	1	14	4	290
1991	90 (9)	105	96	13	8	3	13	0	19	2	349
1992	73 (6)	132	90	16	14	2	12	0	14	6 (1)*	359
1993	68 (1)	122	95	8	4	8	16	2	10	13	346
1994	58 (14)	105	90	7	4	3	15	0	16	14 (1)^	312
1995	263 (15)	140	114	12	8	1	23	3	15	18	597
1996	257 (13)	104	101	8	9	2	14	3	20	12	530
1997	780 (51)	155	118	7	17	4	15	2	18	11	1127
1998	447 (27)	126	109	8	11	1	6	0	19	16	743
1999	334 (25)	103	71	3	11	3	8	1	14	13	561
2000	330 (23)	105	60	1	2	4	6	1	9	4	522
2001	263 (22)	111	93	2	3	1	8	0	4	5	490
2002	186 (12)	99 (1)	53	7	2	2	9	1	8	9	376
2003	229 (23)	137	72	0	11	1	4	1	9	10	474
2004	311 (20)	141	70	3	13	6	11	0	6	10	571
2005	245 (15)	132	66	3	12	2	5	1	10	4	480
2006	273 (15)	105	70	4	13	1	2	1	8	5	482
2007	315 (22)	132	97	1	16	3	5	0	9	3	581
2008	337 (17)	143	76	1	10	2	5	1	9	11	595
Total 1988-2008	5093 (347)	2590 (1)	1824	144	200	61	202	21	245	177 (2)	10557 (350)

* Horse

^ Llama

Rodents include: beaver, chinchilla, chipmunk, degu, gerbil, gopher, hamster, marmot, mouse, muskrat, nutria, porcupine, prairie dog, rat, squirrel, vole, woodchuck

Lagomorphs include: rabbit and pika

Other domestic include: alpaca, burro, cattle, goat, horse, llama, mule, pig, sheep

Other wild include: badger, bear, bison, bobcat, cougar, coyote, deer, fox, kinkajou, lynx, marten, mink, mole, monkey/non-human primates, ocelot, opossum, otter, seal, shrew, weasel, wolf, wolf hybrid, zorilla

Rare Diseases of Public Health Significance

Rare diseases of public health significance are defined as diseases or conditions of general public health concern, which are not commonly diagnosed in Washington residents.

African Tick Bite Fever

Cause: *Rickettsia africae*.

Illness and treatment: Symptoms include fever, skin ulcers and swollen lymph nodes. Treatment is with antibiotics.

Sources: Certain hard tick species transmit the disease from various mammals in sub-Saharan Africa.

Prevention: During outdoor activities in endemic areas, wear appropriate clothing, use repellents and check the body for ticks.

Recent Washington trends: Two state residents were infected in South Africa in 2005.

2008: One case was reported in a state resident after travel to South Africa.

Babesiosis

Cause: Parasites in the genus *Babesia*; at least two types occur in Washington.

Illness and treatment: Symptoms include fever, chills, muscle aches, fatigue, jaundice, and hemolytic anemia. Treatment is with both antibiotics and antiparasitic medications.

Sources: The deer tick, *Ixodes scapularis*, transmits the disease from rodents. *Ixodes* ticks occur in wooded, brushy, or grassy areas worldwide. Transmission from infected blood donors and from mother to infant has been described but cases are extremely rare.

Prevention: During outdoor activities in endemic areas, wear appropriate clothing, use repellents and check the body for ticks.

Recent Washington trends: Very few cases have been reported in Washington, though occasionally up to 2 cases are reported annually. Most are acquired during out of state travel.

2008: One case was reported in a state resident after travel to Massachusetts.

Coccidioidomycosis (Valley Fever)

Cause: The soil fungus *Coccidioides immitis*.

Illness and treatment: Symptoms include fever, cough, headache, rash, and muscle aches. Treatment is with antifungal drugs.

Sources: Exposure to airborne fungal spores with disruption of contaminated soil in semiarid areas such as southwestern United States, parts of Mexico and South America.

Prevention: Avoid exposure to dusty environments in endemic regions.

Recent Washington trends: Since 2006, Washington has had up to two cases each year.

2008: One case was reported in a state resident after travel to Arizona.

Creutzfeldt-Jakob Disease (CJD)

Cause: Prions, or “proteinaceous infectious particles” in which normal cellular prion proteins in the brain fold into abnormal, pathologic forms.

Illness and treatment: CJD is a rare, fatal neurodegenerative disease. About 85% of CJD cases are sporadic (sCJD) while 15% are inherited. Sporadic CJD is characterized by rapidly progressing dementia, poor balance, visual changes and/or muscle jerks. Treatment is supportive.

Sources: The cause of sporadic CJD is not known. In 1996, a new variant of CJD (vCJD) recognized in the United Kingdom was associated with cattle infected with a related infection (“mad cow disease”). To date, no cases of vCJD have been acquired in the United States.

Prevention: There are no specific precautions.

Recent Washington trends: During 2000 to 2007, 4 to 10 cases were reported each year.

2008: 17 cases were reported, but death certificates had not been finalized for 2008 as of publication of this report. The median age of these patients was 68 years old (range 49–82 years). All cases were clinically compatible with sporadic CJD with 12 laboratory confirmed to be sporadic CJD.

Cryptococcosis

Cause: Fungus *Cryptococcus*. Notifiable condition surveillance is only for *C. gattii*.

Illness and treatment: Symptoms include severe cough with shortness of breath, chills, night sweats, and loss of appetite. Typical presentations are meningitis and pneumonia. Infection of the kidneys, prostate, and bone may also occur. Treatment is with antifungals.

Sources: *C. gattii* is an environmental fungus that has been isolated from native trees, soil, air, and water in the Pacific Northwest. Exposure is through inhalation of the organism.

Prevention: There are no specific precautions. Consult a health care provider for any severe or persistent respiratory symptoms.

Recent Washington trends: In 2005, 3 cats living near the Canadian border were diagnosed with *C. gattii*. In 2006, *C. gattii* was found in soil from Whatcom County. Also that year, 2 state residents with cryptococcal disease were identified who may have been locally exposed.

2008: One human case was reported from Whatcom County. The case had traveled to Vancouver, BC during the exposure period.

Ehrlichiosis

Cause: Bacteria in the genus *Ehrlichia*.

Illness and treatment: Usual symptoms are fever, headache and muscle aches. There may be vomiting, diarrhea, cough, joint pains, confusion, and rash. Treatment is with antibiotics.

Sources: Certain hard ticks, mainly the Lone Star tick, transmit from animal reservoirs such as deer, dogs, and rodents. Most cases in the United States are in the southern, eastern, and south-central states.

Prevention: During outdoor activities in endemic areas, wear appropriate clothing, use repellents and check the body for ticks.

Recent Washington trends: Rare cases of travel-associated ehrlichiosis are reported.

2008: No cases were reported.

Rocky Mountain Spotted Fever

Cause: *Rickettsia rickettsii*.

Illness and treatment: Symptoms include fever, rash, diarrhea, vomiting, muscle and joint pain, abdominal pain, lack of appetite, and severe headache. Treatment is with antibiotics.

Sources: Certain hard tick species (American dog tick and Rocky Mountain wood tick) found in the United States including in Washington transmit the disease to vertebrates. These ticks live in woodlands, grasslands, and shrubs between wetlands and woods.

Prevention: During outdoor activities in endemic areas wear appropriate clothing, use repellents and check the body for ticks.

Recent Washington trends: Annually, 0 to 3 cases are reported.

2008: 3 cases were reported with potential exposures were in Idaho, Canada, and eastern Washington or Yellowstone, Montana.

Tick Paralysis

Cause: A tick-produced neurotoxin affecting the nervous system.

Illness and treatment: Cases have acute, ascending, flaccid paralysis. If unrecognized, tick paralysis can progress to respiratory failure. About 10% of cases are fatal. Treatment requires removing the tick; complete recovery usually follows.

Sources: Neurotoxin produced by certain hard ticks is usually released only after a tick has attached to a person for several days. The Rocky Mountain wood tick and the American dog tick are two species found in Washington that are associated with tick paralysis.

Prevention: During outdoor activities in endemic areas wear appropriate clothing, use repellents, and check the body for ticks, especially on the head or neck.

Recent Washington trends: Occasional cases are reported from eastern Washington, most often in young girls whose long hair conceals attached ticks.

2008: One case was reported in an adolescent boy who acquired a tick in Kittitas County.

Rare Sexually Transmitted Diseases

Cause: Bacterium *Haemophilus ducreyi* causes chancroid. Bacterium *Calymmatobacterium granulomatis* causes granuloma inguinale. L1, L2 and L3 serovars of bacterium *Chlamydia trachomatis* cause lymphogranuloma venereum.

Illness and treatment: These are three rare genital ulcer diseases. Treatment recommendations are available from CDC.

Sources: The infections are sexually transmitted.

Additional risks: These diseases occur in some tropical and subtropical regions.

Prevention: Use safe sexual practices to reduce transmission.

Recent Washington trends: In the past decade there were 4 chancroid cases, no granuloma inguinale cases, and 5 lymphogranuloma venereum cases.

2008: 4 lymphogranuloma venereum case, one chancroid cases, and no granuloma inguinale cases were reported.

Relapsing Fever

Cause: Spiral-shaped bacteria (spirochetes). *Borrelia hermsii* for tick-borne relapsing fever and *B. recurrentis* for louse-borne relapsing fever.

Illness and treatment: Symptoms include a fever lasting 2 to 7 days cycling with afebrile periods of 4 to 14 days, with 1 to 10 cycles if untreated. Along with fever there may be shaking chills, sweats, headache, muscle or joint pain, or sometimes a rash. Treatment is with antibiotics.

Sources: The most common reservoirs in Washington for tick-borne relapsing fever appear to be wild rodents and *Ornithodoros hermsii*, a soft tick typically found in eastern parts of the state at higher altitudes (1500 – 8000 feet). The ticks live in rodent nests and inflict painless bites at night that are often unnoticed. Louse-borne disease is not endemic to the United States but may occur in travelers if an infective body louse contaminates a wound or mucous membranes.

Prevention: Avoid sleeping in rodent infested buildings in regions with endemic tick-borne disease. Rodent-proof structures to prevent future colonization by rodents and their soft ticks.

Recent Washington trends: Each year there are 1 to 12 reports. Almost all tick-borne cases are associated with overnight stays in rural cabins. Louse-borne disease is rare even in travelers.

2008: Four tick-borne cases were reported, including 2 with exposures in central or eastern Washington counties, one with exposure in Idaho, and one with exposure in Belize.

Rubella

Cause: Rubella virus, a togavirus, genus *Rubivirus*.

Illness and treatment: Acquired rubella is usually mild with fever and a maculopapular rash moving down from the face to include the entire body. Up to 50% of infections are inapparent. Older children and adults may have malaise, lymph node swelling, and upper respiratory symptoms before the rash. Arthritis and arthralgia are frequent in adults. Complications including encephalitis (1 in 6000 cases) are uncommon and occur more often in adults.

Congenital rubella syndrome (CRS) can result if a woman acquires rubella during pregnancy, especially in the first trimester. The virus may cause a variety of congenital malformations, most commonly deafness. Fetal death, spontaneous abortion, or premature delivery may occur.

Sources: Humans are the reservoir. Infants with CRS can shed virus for an extended period, but a true carrier state does not occur. Transmission is through airborne or droplet spread of the respiratory secretions of infected persons, including asymptomatic and subclinical infections.

Additional risks: Since 2004, rubella is no longer endemic in the United States. Most reported rubella cases in the country are now among Hispanic adults born in areas where rubella vaccine is not routinely used or infants of Hispanic women who were themselves born outside the United States. Adults are more likely than children to have encephalitis or develop arthritis.

Prevention: Universal childhood immunization prevents infection. Respiratory and hand hygiene can prevent transmission.

Recent Washington trends: Between 0 and 8 cases of acquired rubella are reported annually. In 2000, an infant with CRS was born in Washington to a Hispanic mother born outside the United States. This was the only CRS case reported in the state in the past 20 years.

2008: No cases were reported.

Salmonellosis (Non-Typhoid)

Cause: Myriad serotypes in the bacterial genus *Salmonella*, excluding *S. Typhi* (typhoid).

Illness and treatment: Typical symptoms are fever, headache, diarrhea, nausea and abdominal pain, with or without vomiting. Most persons recover without treatment. Occasionally bacteria enter the bloodstream and infect internal organs. Treatment for severe cases is with antibiotics.

Sources: Healthy animals, especially reptiles, chickens, cattle, dogs and cats, can carry *Salmonella* chronically and be a direct source for human infection. Most human cases result from contaminated food. Common exposures include contaminated eggs, unpasteurized milk, poultry and produce. Person-to-person transmission can occur.

Additional risks: Illness including serious dehydration may be severe in the very young, the elderly, or those with chronic diseases. Incidence is highest in infants and young children.

Prevention: Use good food handling and personal hygiene practices, including thorough handwashing after contact with animals. Prevent contact between young children or persons with weakened immune systems and reptiles, farm animals, or birds.

Recent Washington trends: Salmonellosis is the second most common notifiable enteric infection with around 600 to 850 cases reported per year. Infections occur all year with some increase during the spring and summer months. Many serotypes are reported (Table 6).

2008: 846 cases were reported (12.8 cases/100,000 population) with three deaths. The infection was diagnosed most frequently in infants under one year and children 1 to 4 years of age.

Shigellosis

Cause: Bacteria in the genus *Shigella*, typically *S. sonnei*. Other species including *S. flexneri*, *S. boydii*, or *S. dysenteriae* are more common in developing countries.

Illness and treatment: Symptoms include fever, watery or bloody diarrhea, abdominal pain, fatigue and headache. Most persons will recover without treatment. Antibiotics may be used to shorten the duration of intestinal excretion of the organism.

Sources: Humans are the only reservoir, transmitting through feces-contaminated food or water or through person-to-person transmission, including oral-anal sex. Outbreaks are occasionally associated with child care or food service facilities.

Additional risks: Ingesting very few organisms can cause infection. Outbreaks occur under conditions of crowding and poor hygiene, putting institutions for children, mental hospitals, prisons, and refugee facilities at additional risk.

Prevention: Wash hands carefully including cleaning under the nails with soap and water after defecation or changing diapers and before food handling.

Recent Washington trends: Each year there are 116 to 501 reports.

2008: 116 cases were reported (1.8 cases/100,000 population). Shigellosis was diagnosed most frequently in the age groups 1 to 4 years and 5 to 9 years. 42% of cases were associated with travel outside of the United States. The most frequently reported travel destinations were Mexico and India.

Table 6. *Salmonella* Serotypes, 2008

Serotype	No.	%
Enteritidis	199	23.5
Typhimurium	133	15.7
Newport	39	4.6
Montevideo	34	4.0
Heidelberg	31	3.7
Saintpaul	27	3.2
Agona	25	3.0
Senftenberg	20	2.4
Paratyphi B Tar + Java	19	2.2
Poona	19	2.2
Litchfield	16	1.9
4,5,12:I:--	15	1.8
Braenderup	14	1.7
Infantis	11	1.3
Javiana	10	1.2
Oranienburg	10	1.2
Anatum	9	1.1
Hadar	9	1.1
Stanley	9	1.1
Thompson	9	1.1
4,12:I:--	6	0.7
Mbandaka	6	0.7
Muenchen	6	0.7
Weltevreden	6	0.7
Unknown	73	8.6

2-5 Cases Each: Urbana; Virchow; Bareilly; Chester; Derby; Kentucky; Oslo; Panama; Reading; Sandiego; 1,4,5,12:I:--; 4,12:H:-; Blockley; Bovismorbificans; Dublin; Dusseldorf; Give; Partyphi A; Tennessee

One Case Each: 1,4,12:I:--; 1,6:--; 44:Z4,Z23:-; 45:G;Z51:-; 61:C:Z35; Adelaide; Amager; Brandenburg; Bredeney; Clackamas; Corvallis; Daytona; Ealing; Eastbourne; Flint; Group E1:r:-; Hartford; Havana; Houten; Hvittingfoss; IV Marina; Manchester; Miami; Minnesota; Mississippi; Monshau; Muenster; Norwich; Group. D, 1, 5:- resembles *S. javiana* by PFGE; Paratyphi B; Potsdam; *Salmonella* III arizonae, Group 61, NOS; Schwarzengrund; Subgenus I; Subgenus I, group 19; Uganda; Wandsworth

Syphilis

Cause: Spirochete *Treponema pallidum*.

Illness and treatment: The disease has four stages. Primary syphilis involves a painless ulcer at the site of infection. Secondary syphilis involves fever, diffuse rash, headache, hair loss, and muscle aches. Early latent and late/late latent syphilis, which are infections acquired in the past, can result in damage to the brain, heart, or other organs. Congenital syphilis may result in organ damage and bone deformities. Antibiotics treat the infection but organ damage is permanent.

Sources: Syphilis is sexually transmitted or acquired before birth.

Additional risks: Risk for syphilis is higher among men who have sex with men.

Prevention: Use safe sexual practices to reduce transmission.

Recent Washington trends: Rates have increased since 1996, when 9 cases were reported. Recently over 150 primary and secondary cases have been reported annually. Rates are higher among males.

2008: 181 cases of primary and secondary syphilis were reported (2.7 cases/100,000 population).

Tetanus

Cause: Toxin produced by the bacterium *Clostridium tetani*.

Illness and treatment: Most cases are generalized tetanus, with descending rigidity and painful spasms of skeletal muscles starting with the jaw and neck (referred to as “lockjaw”). Treatment is with human tetanus immune globulin (TIG), wound care, antibiotics, and supportive care. Active immunization should begin or continue as soon as the person is stable.

Sources: Spores are widely distributed in soil and in the intestinal tracts (and feces) of animals and humans. The spores can also be found on skin as well as in contaminated heroin. *C. tetani* usually enters the body through a wound (apparent or inapparent) and grows in damaged tissue.

Additional risks: Almost all reported cases of tetanus are persons with no vaccination or without a booster in the preceding decade. During 1980 – 2000, most cases were persons 40 years and older. Cases under 40 years are now increasing, in part due to injection-drug use.

Prevention: Universal childhood immunization with regular booster doses for adolescents and adults prevents toxin production in contaminated wounds.

Recent Washington trends: There was one case reported in 2000 and one in 2005.

2008: No cases were reported.

Trichinosis (Trichinellosis)

Cause: Intestinal roundworm *Trichinella spiralis*.

Illness and treatment: Ingested larvae migrate and become encapsulated in muscle. Infection ranges from asymptomatic to severe, depending on the dose. Diarrhea may occur first. There is usually sudden onset of muscle pain, swelling of the upper eyelids, and recurring fever. Death can result from damage to heart muscle. Treatment depends on the stage of illness at diagnosis.

Sources: The infection is caused by ingesting raw or insufficiently cooked meat from infected animals. Historically, undercooked pork was a risk. Wild game is now the most likely exposure in North America. There is no person-to-person spread.

Additional risks: Freezing meat will not necessarily inactivate larvae of arctic strains.

Prevention: Cook or irradiate all wild game to reliably kill larvae. Regulations to prevent trichinosis require the cooking of garbage and offal fed to swine.

Recent Washington trends: In the past decade only 2 cases have been reported. Recent exposures have included bear and cougar meat eaten raw or undercooked.

2008: No cases were reported.

Tuberculosis

Cause: Bacterium *Mycobacterium tuberculosis*.

Illness and treatment: Infection may be latent, and not communicable, or active. Typical symptoms are fever, weight loss, night sweats, cough, bloody sputum, and chest pain. Most tuberculosis (TB) is found in the lungs, but TB can occur anywhere in the body.

Sources and spread: Humans transmit through tiny airborne particles (droplets) coughed by a person who has infectious TB.

Additional risks: Disease rate is higher in persons 65 years of age and older. About three-quarters of cases in Washington are among foreign-born persons from countries with high rates of tuberculosis. Risk of infection is 100 times higher for persons with HIV infection or AIDS.

Prevention: Persons at risk can be screened for tuberculosis. Completing treatment for latent TB infection and infectious TB prevents the spread of tuberculosis and the development of resistant strains.

Washington trends: Each year there are around 250 reports with 2 to 18 deaths.

2008: There were 228 reported cases (3.5/100,000 population), an all-time low for Washington. Of those initiated on therapy, 10.3% of cases were fatal.

Tularemia

Cause: Bacterium *Francisella tularensis*.

Illness and treatment: Symptoms reflect the route of transmission and can include fever, malaise, swollen lymph nodes, skin ulcers, eye infection, sore throat, abdominal pain, diarrhea and pneumonia; any infection can cause sepsis. Treatment is with antibiotics.

Sources: The reservoir is wild mammals (especially rabbits, hares, voles, squirrels, muskrats, beavers). Infection can occur through direct contact with an infected animal, an arthropod (e.g., tick, deerfly) bite, ingestion of contaminated raw meat or water, or inhalation, including during outdoor work or with improper handling of cultures in laboratories.

Prevention: Wear gloves if skinning wild game and keep hands or gloves away from the eyes. Drink only treated water when in wilderness areas. In endemic areas avoid tick and insect bites.

Recent Washington trends: Each year there are one to 10 reports. Exposures include insect and animal bites, contaminated water, and inhalation while farming or landscaping with power tools.

In 2004-2005 a statewide serosurvey of over 360 outdoor pet cats and dogs found 0.6% exposed to tularemia overall but 4.5% exposed in southwest Washington.

2008: 4 cases were reported in state residents. Most had exposure to wild rabbits or rodents.

Typhoid Fever

Cause: Bacterium *Salmonella* Typhi.

Illness and treatment: Symptoms include fever, headache, rash, constipation or diarrhea, and lymph node swelling. Severity ranges from mild febrile illness to severe disease with multiple complications. Treatment is with antibiotics.

Sources: Humans are the reservoir and transmit through fecal contamination of food, water or milk, or directly person-to-person.

Additional risks: There can be a prolonged intestinal carrier state, sometimes due to gallbladder infection; re-culture patients after antibiotic treatment to confirm clearance of the infection.

Prevention: If traveling to risk areas, consult with a travel clinic or the CDC Travelers' Health website for recommendations about vaccination and other measures.

Recent Washington trends: Cases occur mainly after international travel, most commonly to Asia. Each year there are approximately 5 to 15 reports.

2008: 15 cases were reported; 11 reported international travel, 3 reported exposure in western Washington, and one case had unknown exposure. Exposures in Washington may have been related to transmission from an undetected carrier.

Typhus

Cause: *Rickettsia typhi* or *R. felis* for fleaborne (endemic or murine) typhus and *R. prowazekii* for louseborne (epidemic) typhus.

Illness and treatment: Louseborne typhus is characterized by fevers, chills, headache, muscle aches, and rash. Fleaborne or murine typhus resembles louseborne typhus, but symptoms are milder. Treatment is with antibiotics.

Sources: Apparently healthy rats are the reservoir and fleas the vector for fleaborne typhus. Humans are the reservoir and the body louse is the vector for louse-borne typhus. Both forms of typhus are acquired by rubbing flea or louse feces into a bite or other fresh skin wound.

Additional risks: Endemic typhus is rarely reported in the United States. Most cases occur in southern California, southern Texas, the southeastern Gulf Coast, and Hawaii.

Prevention: Keep rodents, especially rats, away from human habitations.

Recent Washington trends: The last reported case was in 1994 after travel to Asia.

2008: No cases were reported.

Vibriosis (Non-Cholera)

Cause: Bacteria in the genus *Vibrio*, including *V. parahaemolyticus*, *V. vulnificus*, non-toxin-producing *V. cholerae* and other less common species. Infections caused by toxin-producing *V. cholerae* are notifiable as Cholera.

Illness and treatment: Symptoms include abdominal pain, watery diarrhea, vomiting, headache and fever. Skin infections can occur. *V. vulnificus*, a species occurring mainly in the Gulf of Mexico, can cause life-threatening septicemia in persons with weakened immune systems. Most persons recover without treatment but antibiotics may be needed for severe cases.

Sources: *V. parahaemolyticus* occur naturally in Pacific coastal waters, especially during warmer months. Transmission of vibriosis usually occurs through ingesting contaminated raw or undercooked shellfish or through skin injuries exposed to seawater.

Additional risks: Persons with liver disease, alcoholics, and others with weakened immune systems should be warned not to eat raw or undercooked seafood.

Prevention: Keep shellfish cold throughout the transport from harvest to preparation. To lessen risk of illness, consume raw or undercooked shellfish from only approved harvest areas and only during cooler months of the year.

Recent Washington trends: Two large outbreaks occurred in years when environmental conditions favored growth of *Vibrio* (1997 and 2006). During normal years 20 to 30 cases are reported, with a mixture of locally acquired and travel associated exposures.

2008: 29 cases were reported (0.4 cases/100,000 population) with 26 reporting shellfish ingestion. The age group most affected was persons 60 to 64 years.

Waterborne Outbreaks

Cause: Many infectious agents including viruses, bacteria, and parasites. Common agents are norovirus, *Giardia*, and *Cryptosporidium*. Bacterial agents are less commonly implicated.

Illness and treatment: Symptoms and treatment vary with the agent.

Sources: Sources vary with the agent. Waterborne outbreaks can occur from ingestion of natural or recreational water, including pools and interactive fountains.

Additional risks: Risks vary with the agent.

Prevention: Test private wells at least every 3 years and after potential contamination such as after floods. If ill with diarrhea do not enter recreational water, pools, or interactive fountains.

Recent Washington trends: Waterborne outbreaks are often difficult to detect. There are 0 to 3 outbreaks reported each year, each with 2 to dozens or even hundreds of cases (Table 7).

2008: No waterborne outbreaks were reported.

**Table 7. Waterborne Outbreaks,
1991-2008**

Year	Cases	Outbreaks
1991	8	2
1992	10	1
1993	617	3
1994	8	2
1995	0	0
1996	18	1
1997	2	1
1998	306	2
1999	150	3
2000	0	0
2001	0	0
2002	0	0
2003	12	1
2004	0	0
2005	0	0
2006	0	0
2007	58	3
2008	0	0

Yersiniosis

Cause: Bacteria in the genus *Yersinia*, usually *Y. enterocolitica*.

Illness and treatment: Symptoms are acute fever, diarrhea and abdominal pain that may mimic appendicitis. Complications are uncommon. Antibiotics may be used for severe cases.

Sources: Wild and domestic animals, particularly pigs, are reservoirs. Transmission occurs by ingesting contaminated food or water, or by direct contact with animals. Raw or undercooked pork and pork products, such as chitterlings, have been particularly associated with the illness. Person-to-person transmission appears to be rare.

Additional risks: Illness is more severe in children. *Yersinia* can multiply under refrigeration.

Prevention: Do not eat undercooked or raw pork or unpasteurized milk. Wash hands thoroughly after touching animals or raw pork and before eating. Dispose of animal feces in a sanitary way.

Recent Washington trends: Rates have been stable with about 20 to 30 reports each year.

2008: 19 cases were reported in 2008 (0.3 cases/100,000 population) with one death. Yersiniosis was most frequently diagnosed in infants less than one year of age.

APPENDIX I

Disease Incidence and Mortality Rates

ARBOVIRAL DISEASE TYPES

Year	Total Cases	Yellow Fever	West Nile Virus	Japanese Encephalitis	Dengue	Chikungunya	Unknown flavivirus	Colorado Tick Fever
2002	1	1 ^V	0	0	0	0	0	0
2003	8	0	8 ^T	0	0	0	0	0
2004	3	0	1 ^T	1 ^T	1 ^T	0	0	0
2005	6	0	3 ^T	0	3 ^T	0	0	0
2006	13	0	8 (5 ^T , 3 ^E)	0	4 ^T	1 ^T	0	0
2007	16	0	5 ^T	0	10 ^T	0	1 ^T	0
2008	20	0	4 ^E (3 ^C , 1 ^P)	1 ^T	14 ^T	0	0	1 ^T

^V Vaccine-associated

^T Travel-associated

^E Endemically acquired

^C Confirmed case

^P Presumptive Viremic Blood Donor

BOTULISM

Year	Food	Infant	Wound	Combined Rate‡	Deaths
1985	5	4	0	0.2	0
1986	2	4	0	0.1	0
1987	1	1	1	0.1	0
1988	3	4	0	0.2	0
1989	10	0	0	0.2	0
1990	1	0	0	0.1	0
1991	0	3	0	0.1	0
1992	0	2	0	0.0	0
1993	4	5	0	0.2	0
1994	3	2	0	0.1	0
1995	4	2	0	0.1	0
1996	2	0	2	0.1	0
1997	0	1	2	0.1	0
1998	2	4	0	0.1	0
1999	2	4	1	0.1	0
2000	1	4	0	0.1	0
2001	1	6	0	0.1	0
2002	1	1	4	0.1	0
2003	1	3	7	0.2	0
2004	1	3	5	0.1	0
2005	0	2	4	0.1	0
2006	0	9	1	0.2	0
2007	1	1	2	0.1	1
2008	0	1	2	0.0	0

‡ All rates are cases per 100,000 population

BRUCELLOSIS

Year	Cases	Rate‡	Deaths
1986	1	0.0	0
1987	1	0.0	0
1988	1	0.0	0
1989	1	0.0	0
1990	0	0.0	0
1991	3	0.1	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	0.1	0
1998	3	0.1	0
1999	0	0.0	0
2000	0	0.0	0
2001	0	0.0	0
2002	2	0.0	0
2003	1	0.0	0
2004	2	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	1	0.0	0
2008	1	0.0	0

‡ All rates are cases per 100,000 population

CAMPYLOBACTERIOSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	3	*	4	*	2	*	1	*	1	*
Asotin	1	*	0	0.0	0	0.0	0	0.0	1	*
Benton	20	12.9	26	16.4	23	14.3	24	14.7	22	13.3
Chelan	7	10.2	9	13.0	11	15.7	4	*	9	12.5
Clallam	2	*	7	10.5	6	8.8	6	8.8	12	17.3
Clark	74	19.3	57	14.6	57	14.1	70	16.9	54	12.7
Columbia	2	*	0	0.0	0	0.0	1	*	0	0.0
Cowlitz	11	11.5	16	16.7	12	12.4	14	14.3	14	14.1
Douglas	5	14.6	0	0.0	1	*	2	*	0	0.0
Ferry	0	0.0	2	*	0	0.0	0	0.0	1	*
Franklin	5	8.8	6	9.9	11	17.1	14	20.8	14	19.9
Garfield	1	*	1	*	0	0.0	0	0.0	0	0.0
Grant	18	23.0	19	24.0	11	13.6	12	14.5	15	17.7
Grays Harbor	19	27.5	10	14.3	11	15.6	12	16.9	14	19.7
Island	5	6.7	10	13.2	7	9.1	6	7.7	11	13.9
Jefferson	2	*	8	29.0	1	*	3	*	1	*
King	266	14.9	337	18.6	258	14.1	263	14.1	294	15.6
Kitsap	24	10.0	28	11.6	24	9.9	16	6.5	25	10.1
Kittitas	2	*	6	16.4	3	*	1	*	3	*
Klickitat	2	*	4	*	3	*	3	*	1	*
Lewis	0	0.0	16	22.3	6	8.2	15	20.2	13	17.4
Lincoln	0	0.0	1	*	1	*	0	0.0	1	*
Mason	2	*	5	9.6	7	13.2	10	18.3	9	16.0
Okanogan	8	20.2	0	0.0	2	*	6	15.1	6	15.0
Pacific	3	*	3	*	3	*	1	*	6	27.5
Pend Oreille	2	*	0	0.0	0	0.0	2	*	1	*
Pierce	33	4.4	48	6.4	50	6.5	69	8.7	75	9.3
San Juan	5	33.1	2	*	4	*	3	*	4	*
Skagit	23	21.1	22	19.8	24	21.2	29	25.2	31	26.4
Skamania	0	0.0	2	*	0	0.0	0	0.0	0	0.0
Snohomish	88	13.6	110	16.8	94	14.0	117	17.0	123	17.7
Spokane	49	11.3	74	17.0	67	15.1	73	16.2	79	17.2
Stevens	2	*	2	*	1	*	1	*	4	*
Thurston	28	12.8	26	11.6	30	13.0	50	21.0	57	23.2
Wahkiakum	1	*	0	0.0	2	*	1	*	1	*
Walla Walla	6	10.6	2	*	3	*	3	*	3	*
Whatcom	48	27.1	66	36.5	56	30.4	64	34.0	45	23.6
Whitman	6	14.4	0	0.0	0	0.0	1	*	2	*
Yakima	88	38.7	116	50.6	202	87.1	123	52.5	117	49.6

STATEWIDE TOTAL

CASES	861	14.0	1,045	16.7	993	15.6	1020	15.7	1069	16.2
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

CAMPYLOBACTERIOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	8	0.2	0
1981	106	2.5	0
1982	299	7.0	0
1983	149	3.5	0
1984	146	3.4	1
1985	250	5.7	0
1986	347	7.9	0
1987	420	9.4	1
1988	709	15.5	1
1989	899	19.3	0
1990	899	18.5	0
1991	930	18.6	4
1992	1,060	20.7	1
1993	1,051	20.1	0
1994	1,050	19.7	0
1995	1,050	19.3	4
1996	1,139	20.6	1
1997	1,150	20.5	0
1998	901	15.8	1
1999	950	16.5	2
2000	1,006	17.1	2
2001	991	16.6	0
2002	1,032	17.1	1
2003	943	15.5	0
2004	861	14.0	0
2005	1,045	16.7	0
2006	993	15.6	0
2007	1020	15.7	0
2008	1069	16.2	0

‡ All rates are cases per 100,000 population

CHLAMYDIA TRACHOMATIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	24	143.7	32	188.2	70	404.6	39	221.6	57	320.2
Asotin	41	198.1	37	177.0	40	189.6	29	136.2	53	247.7
Benton	406	261.8	406	256.8	375	233.5	506	310.6	555	335.3
Chelan	169	247.1	174	251.4	165	235.4	139	195.2	210	291.3
Clallam	151	229.1	145	217.1	142	209.4	135	197.1	161	232.7
Clark	891	232.5	916	234.0	818	202.7	899	216.6	1096	258.4
Columbia	9	219.5	4	*	3	*	2	*	3	*
Cowlitz	235	246.6	322	335.8	369	381.2	324	331.3	289	291.9
Douglas	85	248.5	72	207.5	78	218.5	64	176.3	76	205.4
Ferry	14	191.8	16	216.2	26	346.7	18	238.4	26	337.7
Franklin	192	366.8	221	365.3	284	442.4	252	373.9	282	401.7
Garfield	0	0.0	1	*	0	0.0	3	*	1	*
Grant	234	298.9	188	237.7	195	241.9	209	253.3	251	296.7
Grays Harbor	189	273.1	164	235.0	155	220.2	140	197.7	175	246.8
Island	177	236.6	183	240.8	171	221.5	205	261.5	222	279.9
Jefferson	37	137.0	57	206.5	30	106.4	36	125.9	48	166.7
King	5,336	298.4	5,604	309.9	5,244	285.7	6015	323.2	5957	316.2
Kitsap	672	280.6	660	274.5	683	280.6	688	281.0	780	316.0
Kittitas	94	262.6	155	423.5	102	272.7	85	221.9	122	309.6
Klickitat	41	212.4	26	133.3	17	85.9	16	80.4	16	79.6
Lewis	196	277.2	162	226.3	150	205.8	143	193.0	191	255.7
Lincoln	8	78.4	5	49.5	5	49.0	9	87.4	5	48.1
Mason	119	234.3	162	312.1	110	207.2	126	230.8	105	186.5
Okanogan	133	335.9	124	313.1	123	309.0	92	231.2	113	281.8
Pacific	33	157.1	33	154.9	19	88.4	19	88.0	29	133.0
Pend Oreille	14	117.7	10	82.0	9	73.2	18	142.9	17	132.8
Pierce	2,687	361.2	3,428	453.5	3,031	391.9	3357	424.7	3807	472.7
San Juan	21	139.1	10	64.5	12	76.4	12	75.5	14	87.0
Skagit	327	330.6	294	265.1	283	250.2	303	262.8	351	298.7
Skamania	19	188.1	9	87.4	8	75.5	10	93.5	18	168.2
Snohomish	1,632	253.1	1,556	237.3	1,503	223.7	1416	206.3	1719	246.8
Spokane	1,101	254.9	1,071	245.5	1,121	252.6	1259	279.0	1719	374.5
Stevens	44	108.1	72	174.8	46	109.3	47	109.3	87	199.1
Thurston	552	252.6	528	235.6	576	249.2	602	252.9	771	314.3
Wahkiakum	3	*	5	128.2	7	179.5	4	*	5	122.0
Walla Walla	138	243.4	160	278.3	93	160.6	144	247.0	201	343.0
Whatcom	462	260.6	480	265.5	519	281.6	450	239.0	467	244.5
Whitman	147	352.5	152	358.5	117	273.4	126	295.1	140	325.6
Yakima	1,002	440.4	973	424.3	1,120	483.2	1182	504.7	1188	503.6

CHLAMYDIA TRACHOMATIS STATEWIDE BY YEAR

Year	Cases	Rate‡	Deaths
1987**	5,071	113.2	0
1988	12,534	274.6	0
1989	10,865	233.1	0
1990	12,709	261.1	0
1991	12,917	258.3	0
1992	11,762	229.9	0
1993	10,331	197.1	0
1994	10,575	198.2	0
1995	9,463	174.3	0
1996	9,237	167.4	0
1997	9,523	169.8	0
1998	10,998	193.4	0
1999	11,964	207.7	0
2000	13,066	224.5	0
2001	13,631	228.1	0
2002	14,936	247.2	0
2003	16,796	275.4	0
2004	17,635	285.9	0
2005	18,617	297.6	0
2006	17,819	279.5	0
2007	19,123	294.7	0
2008	21,327	323.7	0

‡ All rates are cases per 100,000 population

**First year reported, July - December

STATEWIDE TOTAL

CASES	17,635	285.9	18,617	297.6	17,819	279.5	19,123	294.7	21,327	323.7
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

CHOLERA

Year	Cases	Rate‡	Deaths
1985	0	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	2	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
2002	1	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

CRYPTOSPORIDIOSIS⁺

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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	2	*	0	0.0
Benton	3	*	4	*	3	*	0	0.0	1	*
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Clark	6	1.6	7	1.8	5	1.2	9	2.2	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	3	*	3	*	1	*	7	7.2	4	*
Douglas	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
Franklin	1	*	0	0.0	1	*	0	0.0	0	0.0
Garfield	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	0	0.0
Grays Harbor	0	0.0	0	0.0	1	*	1	*	0	0.0
Island	0	0.0	1	*	1	*	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	2	*	5	17.4
King	31	1.7	55	3.0	46	2.5	43	2.3	34	1.8
Kitsap	2	*	2	*	1	*	5	2.0	8	3.2
Kittitas	0	0.0	2	*	1	*	2	*	13	33.0
Klickitat	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Lewis	0	0.0	1	*	0	0.0	2	*	2	*
Lincoln	0	0.0	2	*	0	0.0	0	0.0	0	0.0
Mason	0	0.0	1	*	1	*	1	*	2	*
Okanogan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Pacific	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
Pierce	8	1.1	4	*	7	0.9	21	2.7	13	1.6
San Juan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Skagit	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	6	0.9	2	*	9	1.3	14	2.0	5	0.7
Spokane	0	0.0	0	0.0	4	*	6	1.3	2	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	1	*	3	*	4	*	0	0.0
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	1	*	0	0.0	0	0.0	1	*
Whatcom	0	0.0	1	*	3	*	3	*	0	0.0
Whitman	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	2	*	7	3.1	6	2.6	15	6.4	7	3.0

CRYPTOSPORIDIOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
2001	73	1.2	0
2002	62	1	0
2003	65	1.1	0
2004	63	1.0	0
2005	94	1.5	0
2006	95	1.5	0
2007	139	2.1	0
2008	99	1.5	0

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	63	1.0	94	1.5	95	1.5	139	2.1	99	1.5
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+ Cryptosporidiosis first became a notifiable condition in Washington in 12/2000.

‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

CYCLOSPORIASIS*

Year	Cases	Rate‡	Deaths
2002	5	0.1	0
2003	0	0.0	0
2004	11	0.2	0
2005	5	0.1	0
2006	1	0.0	0
2007	1	0.0	0
2008	1	0.0	0

* Cyclosporiasis first became a notifiable condition in Washington in 12/2000.

‡ All rates are cases per 100,000 population

DIPHTHERIA

Year	Cases	Rate‡	Deaths
1985	0	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
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

ENTEROHEMORRHAGIC *E. COLI*

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Asotin	0	0.0	1	*	1	*	1	*	2	*
Benton	9	5.8	3	*	3	*	2	*	1	*
Chelan	0	0.0	1	*	5	7.1	0	0.0	0	0.0
Clallam	0	0.0	1	*	0	0.0	1	*	0	0.0
Clark	21	5.5	30	7.7	14	3.5	9	2.2	7	1.7
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	7	7.3	2	*	3	*	1	*
Douglas	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
Franklin	2	*	2	*	1	*	1	*	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	0	0.0	0	0.0	5	6.2	0	0.0	2	*
Grays Harbor	2	*	2	*	0	0.0	0	0.0	1	*
Island	0	0.0	2	*	1	*	1	*	2	*
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	3	*
King	43	2.4	43	2.4	45	2.5	44	2.4	48	2.5
Kitsap	4	*	9	3.7	7	2.9	6	2.5	2	*
Kittitas	0	0.0	1	*	0	0.0	0	0.0	3	*
Klickitat	0	0.0	1	*	0	0.0	3	*	0	0.0
Lewis	0	0.0	1	*	4	*	0	0.0	4	*
Lincoln	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Mason	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Pacific	2	*	0	0.0	0	0.0	0	0.0	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	28	3.8	6	0.8	22	2.8	14	1.8	15	1.9
San Juan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Skagit	1	*	2	*	1	*	5	4.3	10	8.5
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	20	3.1	17	2.6	17	2.5	19	2.8	53	7.6
Spokane	2	*	3	*	9	2.0	3	*	6	1.3
Stevens	0	0.0	0	0.0	0	0.0	1	*	2	*
Thurston	6	2.7	4	*	6	2.6	8	3.4	5	2.0
Wahkiakum	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	1	*	1	*
Whatcom	5	2.8	9	5.0	10	5.4	11	5.8	8	4.2
Whitman	5	12.0	0	0.0	2	*	0	0.0	0	0.0
Yakima	3	*	3	*	5	2.2	5	2.1	12	5.1

STATEWIDE TOTAL

CASES	153	2.5	149	2.4	162	2.5	141	2.2	189	2.9
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ENTEROHEMORRHAGIC *E. COLI* STATEWIDE BY YEAR

Year	Cases	Rate‡	Deaths
1988	167	3.7	0
1989	157	3.4	1
1990	220	4.5	0
1991	164	3.3	0
1992	300	5.9	2
1993	741	14.1	3
1994	174	3.3	2
1995	140	2.6	1
1996	187	3.4	1
1997	149	2.7	0
1998	144	2.5	0
1999	186	3.2	0
2000	237	4.0	0
2001	150	2.5	0
2002	166	2.7	0
2003	128	2.1	0
2004	153	2.5	3
2005	149	2.4	0
2006	162	2.5	0
2007	141	2.2	0
2008	189	2.9	1

‡ All rates are cases per 100,000 population

‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

GIARDIASIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	1	*	3	*	0	0.0
Benton	4	*	7	4.4	22	13.7	4	*	15	9.1
Chelan	2	*	2	*	2	*	1	*	2	*
Clallam	8	12.1	5	7.5	5	7.4	8	11.7	4	*
Clark	40	10.4	31	7.9	26	6.4	33	8.0	35	8.3
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	4	*	1	*	2	*	6	6.1	4	*
Douglas	1	*	2	*	0	0.0	0	0.0	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Franklin	2	*	1	*	4	*	5	7.4	3	*
Garfield	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Grant	2	*	6	7.6	3	*	2	*	3	*
Grays Harbor	7	10.1	3	*	4	*	8	11.3	6	8.5
Island	4	*	3	*	2	*	13	16.6	12	15.1
Jefferson	2	*	7	25.4	6	21.3	4	*	9	31.2
King	119	6.7	140	7.7	125	6.8	143	7.7	109	5.8
Kitsap	11	4.6	10	4.2	12	4.9	16	6.5	9	3.6
Kittitas	0	0.0	1	*	2	*	0	0.0	4	*
Klickitat	2	*	6	30.8	1	*	3	*	6	29.9
Lewis	0	0.0	1	*	5	6.9	6	8.1	6	8.0
Lincoln	0	0.0	4	*	0	0.0	2	*	0	0.0
Mason	5	9.8	6	11.6	4	*	5	9.2	8	14.2
Okanogan	0	0.0	1	*	4	*	3	*	5	12.5
Pacific	0	0.0	4	*	0	0.0	1	*	0	0.0
Pend Oreille	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	26	3.5	21	2.8	17	2.2	53	6.7	25	3.1
San Juan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Skagit	7	6.4	2	*	5	4.4	5	4.3	9	7.7
Skamania	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Snohomish	63	9.8	54	8.2	62	9.2	73	10.6	80	11.5
Spokane	44	10.2	54	12.4	56	12.6	57	12.6	47	10.2
Stevens	6	14.7	0	0.0	0	0.0	1	*	1	*
Thurston	33	15.1	17	7.6	21	9.1	48	20.2	21	8.6
Wahkiakum	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Walla Walla	2	*	3	*	0	0.0	0	0.0	4	*
Whatcom	18	10.2	16	8.8	27	14.7	37	19.6	34	17.8
Whitman	1	*	0	0.0	0	0.0	2	*	2	*
Yakima	29	12.7	28	12.2	31	13.4	47	20.1	22	9.3

STATEWIDE TOTAL

CASES	444	7.2	437	7.0	451	7.1	590	9.1	486	7.4
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

GIARDIASIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	840	20.3	0
1981	547	12.9	0
1982	956	22.4	0
1983	706	16.5	0
1984	710	16.4	0
1985	779	17.8	0
1986	811	18.4	0
1987	827	18.5	0
1988	851	18.6	0
1989	980	21.0	0
1990	792	16.3	0
1991	876	17.5	1
1992	860	16.8	1
1993	747	14.3	0
1994	722	13.5	0
1995	855	15.7	0
1996	668	12.1	0
1997	738	13.2	0
1998	740	13.0	1
1999	560	9.7	1
2000	622	10.6	1
2001	512	8.6	0
2002	510	8.4	0
2003	435	7.1	0
2004	444	7.2	0
2005	437	7.0	0
2006	451	7.1	0
2007	590	9.1	0
2008	486	7.4	0

‡ All rates are cases per 100,000 population

GONORRHEA

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	3	*	5	29.4	3	*	1	*	2	*
Asotin	2	*	1	*	1	*	2	*	4	*
Benton	19	12.3	21	13.3	43	26.8	30	18.4	32	19.3
Chelan	2	*	6	8.7	2	*	6	8.4	7	9.7
Clallam	8	12.1	21	31.4	17	25.1	13	19.0	16	23.1
Clark	191	49.8	206	52.6	129	32	160	38.6	170	40.1
Columbia	0	0.0	2	*	0	0.0	0	0.0	1	*
Cowlitz	51	53.5	104	108.4	223	230.4	128	130.9	39	39.4
Douglas	2	*	2	*	0	0.0	2	*	2	*
Ferry	0	0.0	0	0.0	0	0.0	1	*	1	*
Franklin	7	12.3	17	28.1	18	28	15	22.3	21	29.9
Garfield	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Grant	15	19.2	13	16.4	11	13.6	10	12.1	14	16.5
Grays Harbor	4	*	5	7.2	30	42.6	15	21.2	20	28.2
Island	14	18.7	31	40.8	24	31.1	27	34.4	16	20.2
Jefferson	3	*	2	*	6	21.3	4	*	2	*
King	1,265	70.7	1,785	98.7	1,937	105.5	1492	80.2	1290	68.5
Kitsap	70	29.2	76	31.6	72	29.6	98	40.0	62	25.1
Kittitas	3	*	8	21.9	4	*	5	13.1	11	27.9
Klickitat	8	41.5	5	25.6	3	*	0	0.0	3	*
Lewis	13	18.4	12	16.8	44	60.4	28	37.8	21	28.1
Lincoln	1	*	0	0.0	1	*	2	*	1	*
Mason	5	9.8	14	27.0	9	16.9	15	27.5	13	23.1
Okanogan	6	15.2	1	*	4	*	9	22.6	9	22.4
Pacific	1	*	3	*	8	37.2	4	*	2	*
Pend Oreille	1	*	2	*	1	*	1	*	1	*
Pierce	452	60.8	675	89.3	825	106.7	830	105.0	676	83.9
San Juan	0	0.0	0	0.0	1	*	0	0.0	6	37.3
Skagit	20	18.4	32	28.9	37	32.7	17	14.7	9	7.7
Skamania	2	*	3	*	0	0.0	0	0.0	2	*
Snohomish	166	25.7	244	37.2	317	47.2	296	43.1	207	29.7
Spokane	152	35.2	121	27.7	120	27	207	45.9	272	59.3
Stevens	2	*	5	12.1	3	*	2	*	1	*
Thurston	43	19.7	56	25.0	58	25.1	47	19.7	43	17.5
Wahkiakum	1	*	0	0.0	3	*	0	0.0	2	*
Walla Walla	8	14.1	1	*	3	*	3	*	7	11.9
Whatcom	65	36.7	117	64.7	103	55.9	52	27.6	28	14.7
Whitman	7	16.8	2	*	5	11.7	11	25.8	17	39.5
Yakima	198	87.0	139	60.6	166	71.6	113	48.2	86	36.5

GONORRHEA STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	14,215	344.2	0
1981	13,204	310.7	0
1982	11,381	266.9	0
1983	9,895	230.9	0
1984	9,158	211.6	0
1985	10,073	229.8	0
1986	9,848	222.8	0
1987	8,909	198.8	0
1988	7,154	156.7	0
1989	6,369	136.7	0
1990	5,009	105.7	0
1991	4,441	88.8	0
1992	4,169	81.5	0
1993	3,740	71.4	0
1994	2,893	54.2	0
1995	2,765	50.9	0
1996	2,020	36.6	0
1997	1,955	34.9	0
1998	1,948	34.3	0
1999	2,132	37.0	0
2000	2,419	41.6	0
2001	2,991	50.1	0
2002	2,925	48.4	0
2003	2,754	45.2	0
2004	2,810	45.6	0
2005	3,738	59.7	0
2006	4,231	66.4	0
2007	3,646	56.2	0
2008	3,116	47.3	0

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	2,810	45.6	3,738	59.7	4,231	66.4	3,646	56.2	3,116	47.3
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‡ All rates are new diagnoses per 100,000 population

* Incidence rates not calculated for < 5 cases.

***HAEMOPHILUS INFLUENZAE* INVASIVE DISEASE**

Year	Cases	Rate‡	Deaths
1980	126	3.0	0
1981	156	3.7	0
1982	149	3.5	6
1983	123	2.8	5
1984	110	2.5	5
1985	153	3.5	6
1986	319	7.1	11
1987	271	5.9	6
1988	200	4.3	0
1989	163	3.3	2
1990	123	2.5	6
1991	51	1.0	0
1992	22	0.4	1
1993	17	0.3	0
1994	10	0.2	0
1995	11	0.2	3
1996	10	0.2	0
1997	6	0.1	0
1998	11	0.2	1
1999	5	0.1	1
2000	8	0.1	0
2001*	7	1.8	0
2002*	5	1.3	0
2003*	13	3.3	1
2004*	4	1.0	0
2005*	5	1.2	0
2006*	5	1.2	0
2007*	6	1.4	0
2008*	2	0.0	0

‡ All rates are cases per 100,000 population

*Rates for 2001-2008 are for 0-4 age populations.

**HANTAVIRUS PULMONARY
SYNDROME***

Year	Cases	Rate‡	Deaths
1994	2	0.0	1
1995	4	0.1	2
1996	4	0.1	2
1997	3	0.0	1
1998	2	0.0	0
1999	5	0.1	1
2000	1	0.0	0
2001	1	0.0	0
2002	1	0.0	0
2003	2	0.0	1
2004	2	0.0	0
2005	1	0.0	0
2006	3	0.0	2
2007	2	0.0	0
2008	2	0.0	1

* Hantavirus Pulmonary Syndrome first became a notifiable condition in Washington in 12/2000.

‡ All rates are cases per 100,000 population

Note: One retrospective case from 1985 was reported, for a total of 36 cases reported in Washington.

**HEMOLYTIC UREMIC
SYNDROME***

Year	Cases	Rate‡	Deaths
2001	3	0.1	0
2002	1	0.0	0
2003	1	0.0	0
2004	6	0.1	0
2005	4	0.1	0
2006	1	0.0	0
2007	2	0.0	0
2008	2	0.0	0

* Hemolytic uremic syndrome first became a notifiable condition in Washington in 12/2000.

‡ All rates are cases per 100,000 population

HEPATITIS A, ACUTE

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	2	*	1	*	0	0.0	0	0.0	0	0.0
Chelan	2	*	1	*	0	0.0	1	*	0	0.0
Clallam	0	0.0	3	*	0	0.0	1	*	0	0.0
Clark	10	2.6	7	1.8	1	*	3	*	6	1.4
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	2	*	2	*	0	0.0	1	*	2	*
Douglas	2	*	0	0.0	0	0.0	0	0.0	1	*
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	5	6.3	1	*	1	*	0	0.0
Grays Harbor	1	*	0	0.0	1	*	1	*	0	0.0
Island	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	2	*	1	*
King	17	1.0	16	0.9	16	0.9	18	1.0	16	0.8
Kitsap	3	*	1	*	0	0.0	2	*	1	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	2	*	0	0.0	0	0.0	1	*	0	0.0
Lewis	1	*	0	0.0	1	*	0	0.0	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Okanogan	1	*	0	0.0	6	15.1	0	0.0	0	0.0
Pacific	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pend Oreille	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	2	*	5	0.7	3	*	5	0.6	3	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Skagit	1	*	1	*	1	*	2	*	1	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	5	0.8	11	1.7	8	1.2	9	1.3	10	1.4
Spokane	2	*	1	*	5	1.1	3	*	2	*
Stevens	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Thurston	3	*	3	*	1	*	1	*	1	*
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	2	*	0	0.0	1	*	0	0.0	1	*
Whatcom	5	2.8	2	*	6	3.3	6	3.2	1	*
Whitman	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Yakima	2	*	3	*	1	*	0	0.0	2	*

HEPATITIS A STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	554	13.4	2
1981	791	18.6	0
1982	494	11.6	1
1983	268	6.3	1
1984	373	8.6	0
1985	702	16.0	2
1986	1,385	31.3	1
1987	2,589	57.8	1
1988	2,669	58.5	7
1989	3,273	70.2	5
1990	1,380	28.4	1
1991	608	12.2	3
1992	865	16.9	1
1993	926	17.7	1
1994	1,119	21.0	2
1995	937	17.3	9
1996	1,001	18.1	3
1997	1,019	18.2	1
1998	1,037	18.2	2
1999	505	8.8	1
2000	298	5.1	1
2001	184	3.1	0
2002	162	2.7	0
2003	50	0.8	0
2004	69	1.1	0
2005	63	1.0	1
2006	52	0.8	2
2007	60	0.9	0
2008	51	0.8	0

‡ All rates are cases per 100,000 population

STATEWIDE

TOTAL

CASES	69	1.1	63	1.0	52	0.8	60	0.9	51	0.8
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

HEPATITIS B, ACUTE

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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
Benton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Clallam	1	*	0	0.0	0	0.0	1	*	0	0.0
Clark	6	1.6	13	3.3	6	1.5	1	*	3	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	3	*	5	5.2	3	*	3	*	2	*
Douglas	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
Franklin	0	0.0	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
Grant	1	*	1	*	0	0.0	0	0.0	1	*
Grays Harbor	0	0.0	1	*	4	*	1	*	2	*
Island	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	22	1.2	23	1.3	21	1.1	20	1.1	29	1.5
Kitsap	0	0.0	6	2.5	6	2.5	2	*	0	0.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	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
Lincoln	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Mason	1	*	0	0.0	1	*	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Pacific	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	4	*	5	0.7	5	0.6	11	1.4	6	0.7
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	0	0.0	0	0.0	1	*	2	*	1	*
Skamania	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	11	1.7	6	0.9	6	0.9	3	*	1	*
Spokane	9	2.1	14	3.2	19	4.3	21	4.7	8	1.7
Stevens	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Thurston	0	0.0	1	*	2	*	0	0.0	1	*
Wahkiakum	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
Whatcom	1	*	4	*	0	0.0	0	0.0	0	0.0
Whitman	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Yakima	4	*	1	*	5	2.2	1	*	2	*

HEPATITIS B STATEWIDE BY YEAR

Year	Cases	Rate‡	Deaths
1980	257	6.2	6
1981	345	8.1	11
1982	358	8.4	2
1983	307	7.2	3
1984	317	7.3	2
1985	484	11.0	6
1986	989	22.4	8
1987	1,126	25.1	4
1988	979	21.4	6
1989	1,055	22.6	9
1990	616	12.7	7
1991	470	9.4	5
1992	399	7.8	1
1993	247	4.7	0
1994	255	4.8	2
1995	226	4.2	2
1996	158	2.9	1
1997	114	2.0	2
1998	136	2.4	0
1999	111	1.9	1
2000	132	2.2	5
2001	171	2.9	0
2002	83	1.4	0
2003	90	1.5	1
2004	64	1.0	1
2005	80	1.3	0
2006	80	1.3	2
2007	71	1.1	1
2008	56	0.9	0

‡ All rates are cases per 100,000 population

STATEWIDE

TOTAL

CASES	64	1.0	80	1.3	80	1.3	71	1.1	56	0.9
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

HEPATITIS C, ACUTE

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	0	0.0	0	0.0	1	*	1	*	1	*
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clark	0	0.0	0	0.0	1	*	0	0.0	1	*
Columbia	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
Douglas	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
Franklin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Grant	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grays Harbor	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Island	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	8	0.4	9	0.5	8	0.4	7	0.4	11	0.6
Kitsap	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	1	*	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
Mason	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	3	*	5	0.7	3	*	3	*	1	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	3	*	2	*	2	*	1	*	1	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	0	0.0	1	*	0	0.0	0	0.0	1	*
Spokane	6	1.4	2	*	5	1.1	2	*	5	1.1
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Wahkiakum	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
Whatcom	0	0.0	0	0.0	1	*	0	0.0	3	*
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	1	*	2	*	1	*	1	*	0	0.0

STATEWIDE TOTAL

CASES	23	0.4	21	0.3	23	0.4	18	0.3	25	0.4
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HEPATITIS C STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1981	54	1.3	8
1982	94	2.2	0
1983	151	3.5	1
1984	131	3.0	2
1985	145	3.3	1
1986	167	3.8	7
1987	207	4.6	1
1988	232	5.1	2
1989	208	4.5	4
1990	141	2.9	6
1991	164	3.3	4
1992	186	3.6	1
1993	219	4.2	1
1994	294	5.5	0
1995	234	4.3	1
1996	66	1.2	1
1997	42	0.7	0
1998	29	0.5	0
1999	24	0.4	0
2000	44	0.7	0
2001	31	0.5	0
2002	27	0.4	0
2003	21	0.3	0
2004	23	0.4	1
2005	21	0.3	0
2006	23	0.4	0
2007	18	0.3	0
2008	25	0.4	0

‡ All rates are cases per 100,000 population

‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

HERPES SIMPLEX

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	3	*	2	*	2	*	3	*	2	*
Asotin	9	43.5	18	86.1	18	85.3	4	*	4	*
Benton	40	25.8	38	24.0	38	23.7	55	33.8	42	25.4
Chelan	27	39.5	23	33.2	23	32.8	27	37.9	37	51.3
Clallam	24	36.4	29	43.4	25	36.9	24	35.0	26	37.6
Clark	42	11.0	72	18.4	37	9.2	44	10.6	81	19.1
Columbia	0	0.0	2	*	1	*	0	0.0	0	0.0
Cowlitz	18	18.9	30	31.3	55	56.8	42	42.9	42	42.4
Douglas	8	23.4	15	43.2	11	30.8	11	30.3	11	29.7
Ferry	3	*	0	0.0	0	0.0	0	0.0	2	*
Franklin	11	19.3	15	24.8	22	34.3	16	23.7	18	25.6
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	30	38.3	22	27.8	11	13.6	12	14.5	11	13.0
Grays Harbor	10	14.5	11	15.8	17	24.1	25	35.3	14	19.7
Island	35	46.8	34	44.7	47	60.9	63	80.4	42	53.0
Jefferson	11	40.7	14	50.7	9	31.9	12	42.0	6	20.8
King	700	39.1	798	44.1	769	41.9	618	33.2	516	27.4
Kitsap	54	22.5	67	27.9	68	27.9	75	30.6	64	25.9
Kittitas	8	22.3	18	49.2	29	77.5	10	26.1	14	35.5
Klickitat	3	*	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	19	26.9	25	34.9	23	31.6	22	29.7	6	8.0
Lincoln	1	*	2	*	0	0.0	1	*	0	0.0
Mason	14	27.6	20	38.5	21	39.5	13	23.8	11	19.5
Okanogan	12	30.3	13	32.8	11	27.6	4	*	8	20.0
Pacific	3	*	2	*	5	23.3	2	*	4	*
Pend Oreille	4	*	4	*	3	*	4	*	4	*
Pierce	194	26.1	231	30.6	307	39.7	184	23.3	246	30.5
San Juan	5	33.1	2	*	1	*	2	*	7	43.5
Skagit	84	77.2	65	58.6	62	54.8	52	45.1	37	31.5
Skamania	3	*	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	286	44.4	305	46.5	395	58.8	270	39.3	328	47.1
Spokane	172	39.8	155	35.5	148	33.3	132	29.3	187	40.7
Stevens	6	14.7	5	12.1	5	11.9	8	18.6	11	25.2
Thurston	70	32.0	82	36.6	121	52.4	91	38.2	85	34.7
Wahkiakum	1	*	0	0.0	1	*	0	0.0	2	*
Walla Walla	23	40.6	22	38.3	12	20.7	20	34.3	23	39.2
Whatcom	87	49.1	77	42.6	67	36.4	53	28.1	39	20.4
Whitman	8	19.2	14	33.0	12	28.0	3	*	10	23.3
Yakima	125	54.9	99	43.2	70	30.2	50	21.3	69	29.2

STATEWIDE TOTAL

CASES	2,153	34.9	2,331	37.3	2,446	38.4	1,952	30.1	2,009	30.5
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‡ All rates are new diagnoses per 100,000 population

* Incidence rates not calculated for < 5 cases.

HUMAN IMMUNODEFICIENCY VIRUS (HIV)[§]

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	2	*	1	*	1	*	0	0.0	1	*
Benton	0	0.0	2	*	8	5.0	5	3.1	2	*
Chelan	3	*	5	7.2	4	*	3	*	1	*
Clallam	2	*	4	*	1	*	1	*	2	*
Clark	25	6.5	28	7.2	20	5.0	43	10.7	17	4.0
Columbia	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Cowlitz	2	*	4	*	6	6.2	5	5.2	5	5.1
Douglas	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Franklin	5	8.8	6	9.9	2	*	3	*	5	7.1
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	4	*	1	*	3	*	3	*	3	*
Grays Harbor	4	*	6	8.6	2	*	2	*	6	8.5
Island	2	*	0	0.0	2	*	2	*	3	*
Jefferson	1	*	0	0.0	3	*	1	*	0	0.0
King	343	19.2	327	18.1	327	17.8	325	17.7	314	16.7
Kitsap	10	4.2	9	3.7	14	5.8	9	3.7	6	2.4
Kittitas	1	*	3	*	3	*	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	2	*	1	*	0	0.0
Lewis	1	*	0	0.0	4	*	1	*	2	*
Lincoln	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Mason	2	*	4	*	1	*	7	13.2	8	14.2
Okanogan	5	12.6	0	0.0	0	0.0	1	*	3	*
Pacific	0	0.0	3	*	3	*	2	*	1	*
Pend Oreille	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Pierce	40	5.4	62	8.2	61	7.9	66	8.5	64	7.9
San Juan	1	*	0	0.0	1	*	1	*	0	0.0
Skagit	7	6.4	6	5.4	5	4.4	3	*	5	4.3
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	38	5.9	53	8.1	43	6.4	47	7.0	34	4.9
Spokane	27	6.3	23	5.3	25	5.6	36	8.1	25	5.4
Stevens	1	*	1	*	1	*	0	0.0	1	*
Thurston	16	7.3	10	4.5	9	3.9	15	6.5	9	3.7
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	1	*	1	*	0	0.0	2	*
Whatcom	7	3.9	8	4.4	8	4.3	10	5.4	10	5.2
Whitman	0	0.0	2	*	1	*	0	0.0	2	*
Yakima	9	4.0	10	4.4	8	3.5	13	5.6	10	4.2

DEATHS ATTRIBUTED TO HIV DISEASE*			
Year	Cases	Rate‡	Deaths
1990	1081	22.2	351
1991	1015	20.2	429
1992	985	19.2	368
1993	930	17.7	573
1994	804	15.0	598
1995	696	12.7	570
1996	685	12.3	399
1997	608	10.7	180
1998	530	9.2	119
1999	587	10.1	98
2000	697	11.8	117
2001	568	9.5	109
2002	571	9.5	104
2003	565	9.3	140
2004	559	9.1	118
2005	579	9.2	114
2006	570	8.9	80
2007	610	9.4	83
2008	541	8.2	73

*Includes only deaths attributed to HIV/AIDS
‡ All rates are new diagnoses per 100,000 population

STATEWIDE TOTAL

CASES	559	9.1	579	9.2	570	8.9	610	9.4	541	8.2
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§ Cases are presented by year of initial HIV diagnosis, regardless of diagnostic status (HIV or AIDS), and by county of residence at time of diagnosis. This presentation is different from previous editions of this report, which displayed separate columns for HIV and AIDS, and cannot be compared. Data reflect cases reported through 5/31/09

‡ All rates are new diagnoses per 100,000 population

*Incidence rates not calculated for < 5 cases.

LEGIONELLOSIS

Year	Cases	Rate‡	Deaths
1985	7	0.2	2
1986	15	0.3	8
1987	24	0.5	3
1988	29	0.6	4
1989	30	0.6	5
1990	18	0.4	4
1991	15	0.3	5
1992	15	0.3	5
1993	12	0.2	2
1994	13	0.2	2
1995	22	0.4	6
1996	7	0.1	2
1997	11	0.2	0
1998	15	0.3	2
1999	21	0.4	4
2000	19	0.3	1
2001	10	0.2	1
2002	8	0.1	3
2003	14	0.2	1
2004	15	0.2	4
2005	18	0.3	1
2006	20	0.3	1
2007	24	0.4	2
2008	19	0.3	1

‡ All rates are cases per 100,000 population

LEPTOSPIROSIS

Year	Cases	Rate‡	Deaths
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	2	0.0	0
1997	2	0.0	0
1998	0	0.0	0
1999	0	0.0	0
2000	0	0.0	0
2001	4	0.1	0
2002	0	0.0	0
2003	1	0.0	0
2004	0	0.0	0
2005	4	0.1	0
2006	1	0.0	0
2007	5	0.1	0
2008	1	0.0	0

‡ All rates are cases per 100,000 population

LISTERIOSIS

Year	Cases	Rate‡	Deaths
1985	21	0.5	1
1986	37	0.8	5
1987	36	0.8	6
1988	38	0.8	4
1989	21	0.5	2
1990	22	0.5	3
1991	18	0.4	6
1992	13	0.3	0
1993	21	0.4	2
1994	13	0.2	3
1995	24	0.4	1
1996	11	0.2	3
1997	17	0.3	1
1998	12	0.2	3
1999	19	0.3	5
2000	12	0.2	2
2001	15	0.3	1
2002	11	0.2	0
2003	13	0.2	3
2004	13	0.2	3
2005	14	0.2	3
2006	18	0.2	3
2007	25	0.4	2
2008	29	0.4	3

‡ All rates are cases per 100,000 population

LYME DISEASE

Year	Cases	Rate‡	Deaths
1986	1	0.0	0
1987	10	0.2	0
1988	12	0.3	0
1989	37	0.8	0
1990	33	0.7	0
1991	7	0.1	0
1992	14	0.3	0
1993	9	0.2	0
1994	4	0.1	0
1995	10	0.2	0
1996	18	0.3	0
1997	10	0.2	0
1998	7	0.1	0
1999	14	0.2	0
2000	9	0.2	0
2001	9	0.2	0
2002	12	0.2	0
2003	7	0.1	0
2004	14	0.2	0
2005	13	0.2	0
2006	8	0.1	0
2007	12	0.2	0
2008	23	0.3	0

‡ All rates are cases per 100,000 population

MALARIA

Year	Cases	Rate‡	Deaths
1981	30	0.7	0
1982	24	0.6	0
1983	15	0.3	0
1984	20	0.5	0
1985	34	0.8	0
1986	35	0.8	0
1987	28	0.6	0
1988	24	0.5	0
1989	44	0.9	0
1990	33	0.7	0
1991	29	0.6	0
1992	21	0.4	0
1993	41	0.8	0
1994	45	0.8	0
1995	23	0.4	0
1996	41	0.7	0
1997	49	0.9	0
1998	30	0.5	0
1999	43	0.7	0
2000	43	0.7	0
2001	19	0.3	0
2002	26	0.4	0
2003	34	0.6	0
2004	24	0.4	0
2005	24	0.4	0
2006	43	0.7	1
2007	30	0.5	0
2008	32	0.5	0

‡ All rates are cases per 100,000 population

MEASLES

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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
Benton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clark	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Columbia	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
Douglas	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
Franklin	0	0.0	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
Grant	0	0.0	0	0.0	0	0.0	0	0.0	19	22.5
Grays Harbor	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Island	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	6	0.3	1	*	0	0.0	1	*	0	0.0
Kitsap	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	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
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	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
Pierce	0	0.0	0	0.0	1	*	0	0.0	0	0.0
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	0	0.0	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
Snohomish	1	*	0	0.0	0	0.0	1	*	0	0.0
Spokane	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Wahkiakum	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
Whatcom	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

STATEWIDE TOTAL

CASES	7	0.1	1	0.0	1	0.0	3	0.0	19	0.3
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MEASLES STATEWIDE BY YEAR				
Year	Cases	Rate‡	Deaths	Rate
1980	178	4.2	0	0.0
1981	3	0.1	0	0.0
1982	42	1.0	0	0.0
1983	43	1.0	0	0.0
1984	178	4.1	0	0.0
1985	178	4.0	0	0.0
1986	176	3.9	0	0.0
1987	47	1.0	0	0.0
1988	7	0.2	0	0.0
1989	56	1.2	0	0.0
1990	357	7.1	2	0.0
1991	67	1.3	0	0.0
1992	11	0.2	0	0.0
1993	0	0.0	0	0.0
1994	5	0.1	0	0.0
1995	17	0.3	0	0.0
1996	38	0.7	0	0.0
1997	2	0.0	0	0.0
1998	1	0.0	0	0.0
1999	5	0.1	0	0.0
2000	3	0.1	0	0.0
2001	15	0.3	0	0.0
2002	1	0.0	0	0.0
2003	0	0.0	0	0.0
2004	7	0.1	0	0.0
2005	1	0.0	0	0.0
2006	1	0.0	0	0.0
2007	3	0.0	0	0.0
2008	19	0.3	0	0.0

‡ All rates are cases per 100,000 population

‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

MENINGOCOCCAL DISEASE

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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
Benton	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Clark	3	*	6	1.5	6	1.5	5	1.2	4	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	3	*	1	*	1	*	0	0.0
Douglas	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Garfield	1	*	1	*	0	0.0	0	0.0	0	0.0
Grant	1	*	1	*	0	0.0	1	*	2	*
Grays Harbor	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Island	1	*	0	0.0	1	*	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	17	1.0	14	0.8	12	0.7	5	0.3	6	0.3
Kitsap	2	*	1	*	1	*	0	0.0	3	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Klickitat	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Lewis	0	0.0	2	*	1	*	0	0.0	0	0.0
Lincoln	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Mason	1	*	0	0.0	1	*	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	1	*	1	*	1	*	1	*	0	0.0
Pend Oreille	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	4	*	7	0.9	4	*	0	0.0	3	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	0	0.0	0	0.0	3	*	1	*	1	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	3	*	4	*	5	0.7	4	*	5	0.7
Spokane	3	*	5	1.1	3	*	3	*	8	1.7
Stevens	0	0.0	0	0.0	2	*	1	*	0	0.0
Thurston	1	*	0	0.0	1	*	2	*	2	*
Wahkiakum	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Walla Walla	0	0.0	0	0.0	0	0.0	0	0.0	2	*
Whatcom	0	0.0	3	*	1	*	2	*	0	0.0
Whitman	1	*	0	0.0	1	*	0	0.0	0	0.0
Yakima	2	*	2	*	1	*	2	*	1	*

MENINGOCOCCAL DISEASE			
STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	67	1.6	2
1981	78	1.8	3
1982	56	1.3	2
1983	48	1.1	3
1984	56	1.3	3
1985	67	1.5	6
1986	62	1.4	5
1987	87	1.9	4
1988	76	1.7	3
1989	96	2.1	12
1990	80	1.6	5
1991	73	1.5	8
1992	92	1.8	5
1993	97	1.9	6
1994	111	2.1	7
1995	126	2.3	7
1996	116	2.1	10
1997	115	2.1	11
1998	77	1.4	7
1999	93	1.6	4
2000	71	1.2	6
2001	71	1.2	6
2002	76	1.3	8
2003	61	1.0	7
2004	42	0.7	4
2005	53	0.8	4
2006	45	0.7	1
2007	32	0.5	8
2008	40	0.6	4

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	42	0.7	53	0.8	45	0.7	32	0.5	40	0.6
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

MUMPS

Year	Cases	Rate‡	Deaths
1980	166	4.0	0
1981	165	3.9	0
1982	102	2.4	0
1983	55	1.3	0
1984	56	1.3	0
1985	42	1.0	0
1986	30	0.7	0
1987	70	1.6	0
1988	44	1.0	0
1989	59	1.3	0
1990	66	1.4	0
1991	178	3.6	0
1992	18	0.4	0
1993	14	0.3	0
1994	23	0.4	0
1995	16	0.3	0
1996	26	0.5	0
1997	21	0.4	0
1998	11	0.2	0
1999	2	0.0	0
2000	10	0.2	0
2001	2	0.0	0
2002	0	0.0	0
2003	11	0.2	0
2004	2	0.0	0
2005	3	0.0	0
2006	42	0.7	0
2007	53	0.8	0
2008	14	0.2	0

‡ All rates are cases per 100,000 population

PARALYTIC SHELLFISH POISONING

Year	Cases	Rate‡	Deaths
1985	3	0.1	0
1986	0	0.0	0
1987	0	0.0	0
1988	7	0.2	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
1999	0	0.0	0
2000	7	0.1	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	1	0.0	0
2006	1	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

PERTUSSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	1	*	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
Benton	0	0.0	7	4.4	5	3.1	3	*	4	*
Chelan	2	*	1	*	1	*	5	7.0	3	*
Clallam	2	*	5	7.5	1	*	0	0.0	3	*
Clark	21	5.5	61	15.6	22	5.5	26	6.3	29	6.8
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	10	10.5	4	*	13	13.4	2	*	2	*
Douglas	0	0.0	0	0.0	0	0.0	1	*	1	*
Ferry	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Franklin	1	*	2	*	3	*	5	7.4	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	0	0.0	4	*	1	*	4	*	4	*
Grays Harbor	2	*	2	*	1	*	4	*	4	*
Island	6	8.0	5	6.6	2	*	0	0.0	86	108.4
Jefferson	19	70.4	8	29.0	0	0.0	0	0.0	0	0.0
King	190	10.6	316	17.5	94	5.1	130	7.0	85	*
Kitsap	8	3.3	60	25.0	18	7.4	24	9.8	13	5.3
Kittitas	0	0.0	5	13.7	2	*	3	*	2	*
Klickitat	6	31.1	0	0.0	1	*	0	0.0	0	0.0
Lewis	0	0.0	14	19.6	5	6.9	2	*	10	13.4
Lincoln	1	*	1	*	0	0.0	0	0.0	0	0.0
Mason	3	*	5	9.6	1	*	2	*	3	*
Okanogan	2	*	0	0.0	0	0.0	8	20.1	2	*
Pacific	0	0.0	0	0.0	0	0.0	0	0.0	3	*
Pend Oreille	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	68	9.1	70	9.3	36	4.7	23	2.9	33	4.1
San Juan	1	*	12	77.4	3	*	44	276.7	18	111.8
Skagit	8	7.4	40	36.1	15	13.3	3	*	14	11.9
Skamania	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	40	6.2	55	8.4	21	3.1	46	6.7	46	6.6
Spokane	43	10.0	19	4.4	39	8.8	34	7.5	6	1.3
Stevens	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	13	5.9	14	6.2	11	4.8	6	2.5	4	*
Wahkiakum	0	0.0	0	0.0	2	*	0	0.0	0	0.0
Walla Walla	0	0.0	4	*	0	0.0	0	0.0	1	*
Whatcom	303	170.9	120	66.4	58	31.5	66	35.1	55	28.8
Whitman	23	55.2	3	*	1	*	3	*	0	0.0
Yakima	66	29.0	189	82.4	21	9.1	37	15.8	29	12.3

STATEWIDE TOTAL

CASES	842	13.7	1,026	16.4	377	5.9	482	7.4	460	7.0
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

PERTUSSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	77	1.9	0
1981	58	1.4	1
1982	36	0.8	1
1983	20	0.5	0
1984	326	7.5	1
1985	92	2.1	0
1986	163	3.7	2
1987	110	2.5	0
1988	130	2.8	1
1989	201	4.3	0
1990	227	4.7	0
1991	149	3.0	0
1992	241	4.7	0
1993	96	1.8	0
1994	140	2.6	0
1995	491	9.0	0
1996	830	15.0	1
1997	481	8.6	0
1998	406	7.1	1
1999	739	12.8	0
2000	458	7.8	1
2001	184	3.1	0
2002	575	9.5	0
2003	844	13.8	0
2004	842	13.7	0
2005	1,026	16.4	0
2006	377	5.9	1
2007	482	7.4	0
2008	460	7.0	1

‡ All rates are cases per 100,000 population

PLAGUE

Year	Cases	Rate‡	Deaths
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
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

POLIOMYELITIS

Year	Cases	Rate‡	Deaths
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
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

* Vaccine-associated cases

PSITTACOSIS

Year	Cases	Rate‡	Deaths
1985	3	0.1	1
1986	7	0.2	0
1987	12	0.3	0
1988	8	0.2	0
1989	4	0.1	1
1990	5	0.1	0
1991	6	0.1	0
1992	13	0.3	0
1993	4	0.1	0
1994	4	0.1	0
1995	7	0.1	0
1996	4	0.1	0
1997	0	0.0	0
1998	3	0.1	0
1999	0	0.0	0
2000	1	0.0	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	1	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

Q FEVER

Year	Cases	Rate‡	Deaths
1986	2	0.0	0
1987	1	0.0	1
1988	1	0.0	0
1989	0	0.0	0
1990	2	0.0	0
1991	0	0.0	0
1992	1	0.0	0
1993	0	0.0	0
1994	0	0.0	0
1995	1	0.0	0
1996	0	0.0	0
1997	0	0.0	0
1998	0	0.0	0
1999	1	0.0	0
2000	0	0.0	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	2	0.0	0
2006	0	0.0	0
2007	1	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

RABIES

Year	Cases	Rate‡	Deaths
1985	0	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	1	0.0	1
1996	0	0.0	0
1997	1	0.0	1
1998	0	0.0	0
1999	0	0.0	0
2000	0	0.0	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

RARE SEXUALLY TRANSMITTED DISEASES

Statewide Total Cases				
Year	Total	Chancroid	Granuloma inguinale	Lymphogranuloma venereum
1986	1	1	0	0
1987	7	1	1	5
1988	1	0	0	1
1989	13	6	0	7
1990	3	1	1	1
1991	7	3	2	2
1992	4	2	0	2
1993	4	0	0	4
1994	4	1	0	3
1995	6	5	0	1
1996	2	1	0	1
1997	2	2	0	0
1998	1	1	0	0
1999	0	0	0	0
2000	1	0	0	1
2001	0	0	0	0
2002	1	1	0	0
2003	1	0	0	1
2004	0	0	0	0
2005	3	0	0	3
2006	0	0	0	0
2007	1	0	0	1
2008	5	1	0	4

RELAPSING FEVER

Year	Cases	Rate‡	Deaths
1986	2	0.0	0
1987	7	0.1	1
1988	5	0.1	0
1989	5	0.0	0
1990	4	0.1	0
1991	6	0.1	0
1992	6	0.1	0
1993	2	0.0	0
1994	9	0.2	0
1995	12	0.2	0
1996	8	0.2	0
1997	4	0.1	0
1998	5	0.1	0
1999	3	0.1	0
2000	5	0.1	1
2001	1	0.1	0
2002	7	0.1	0
2003	6	0.1	0
2004	6	0.1	0
2005	6	0.1	0
2006	2	0.0	0
2007	9	0.1	0
2008	4	0.1	0

‡ All rates are cases per 100,000 population

RUBELLA

Year	Cases	Rate‡	Deaths
1981	108	2.5	0
1982	58	1.4	0
1983	10	0.2	0
1984	2	0.1	0
1985	16	0.4	0
1986	15	0.3	0
1987	2	0.0	0
1988	0	0.0	0
1989	2	0.0	0
1990	6	0.1	0
1991	8	0.2	0
1992	8	0.2	0
1993	3	0.1	0
1994	0	0.0	0
1995	2	0.0	0
1996	15	0.3	0
1997	5	0.1	0
1998	5	0.1	0
1999	5	0.1	0
2000	8	0.1	0
2001	0	0.0	0
2002	2	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	1	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

SALMONELLOSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	1	*	4	*	2	*	2	*	1	*
Asotin	5	24.2	2	*	0	0.0	2	*	2	*
Benton	21	13.5	19	12.0	18	11.2	25	15.3	18	10.9
Chelan	2	*	8	11.6	15	21.4	7	9.8	10	13.9
Clallam	5	7.6	4	*	3	*	11	16.1	15	21.7
Clark	36	9.4	40	10.2	53	13.1	43	10.4	45	10.6
Columbia	1	*	0	0.0	0	0.0	2	*	0	0.0
Cowlitz	18	18.9	4	*	1	*	8	8.2	7	7.1
Douglas	0	0.0	0	0.0	0	0.0	3	*	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	6	79.5	0	0.0
Franklin	13	22.8	7	11.6	11	17.1	0	0.0	10	14.2
Garfield	1	*	1	*	0	0.0	0	0.0	0	0.0
Grant	5	6.4	5	6.3	10	12.4	24	29.1	14	16.5
Grays Harbor	12	17.3	3	*	7	9.9	6	8.5	6	8.5
Island	1	*	10	13.2	5	6.5	7	8.9	11	13.9
Jefferson	2	*	2	*	3	*	2	*	4	*
King	236	13.2	214	11.8	203	11.1	247	13.3	304	16.1
Kitsap	14	5.8	19	7.9	16	6.6	13	5.3	21	8.5
Kittitas	2	*	4	*	3	*	2	*	10	25.4
Klickitat	6	31.1	2	*	3	*	4	*	1	*
Lewis	1	*	2	*	11	15.1	10	13.5	11	14.7
Lincoln	0	0.0	0	0.0	1	*	0	0.0	3	*
Mason	2	*	4	*	2	*	3	*	4	*
Okanogan	2	*	2	*	1	*	8	20.1	7	17.5
Pacific	1	*	2	*	2	*	2	*	2	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	2	*
Pierce	69	9.3	52	6.9	71	9.2	85	10.8	78	9.7
San Juan	3	*	1	*	1	*	1	*	2	*
Skagit	11	10.1	13	11.7	11	9.7	8	6.9	13	11.1
Skamania	0	0.0	0	0.0	1	*	1	*	0	0.0
Snohomish	67	10.4	69	10.5	65	9.7	73	10.6	87	12.5
Spokane	31	7.2	40	9.2	30	6.5	37	8.2	39	8.5
Stevens	1	*	1	*	0	0.0	1	*	1	*
Thurston	24	11.0	23	10.3	15	6.5	36	15.1	29	11.8
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	3	5.3	1	*	2	*	16	27.4	7	11.9
Whatcom	19	10.7	16	8.8	22	11.9	23	12.2	30	15.7
Whitman	10	24.0	0	0.0	5	11.7	6	14.1	3	*
Yakima	35	15.4	52	22.7	34	14.7	34	14.5	49	20.8

STATEWIDE TOTAL

CASES	660	10.7	626	10.0	627	9.8	758	11.7	846	12.8
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SALMONELLOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	462	11.2	0
1981	574	13.5	5
1982	749	17.6	0
1983	739	17.2	0
1984	515	11.9	0
1985	565	12.9	0
1986	783	17.7	2
1987	660	14.7	1
1988	612	13.4	0
1989	630	13.5	2
1990	634	13.4	6
1991	791	15.8	1
1992	609	11.9	1
1993	830	15.8	0
1994	863	16.2	0
1995	691	12.7	0
1996	734	13.3	0
1997	675	12.0	0
1998	703	12.4	2
1999	792	13.8	2
2000	659	11.2	1
2001	681	11.4	2
2002	655	10.8	0
2003	699	11.5	1
2004	660	10.7	2
2005	626	10.0	0
2006	627	9.8	3
2007	758	11.7	2
2008	846	12.8	3

‡ All rates are cases per 100,000 population

‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

SHIGELLOSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	1	*	2	*
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	3	*	5	3.2	7	4.4	4	*	5	3.0
Chelan	0	0.0	4	*	3	*	2	*	3	*
Clallam	0	0.0	0	0.0	1	*	1	*	1	*
Clark	10	2.6	10	2.6	6	1.5	8	1.9	4	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	15	15.7	2	*	1	*	0	0.0	0	0.0
Douglas	0	0.0	1	*	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
Franklin	0	0.0	0	0.0	7	10.9	3	*	3	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	3	*	2	*	3	*	5	5.9
Grays Harbor	0	0.0	0	0.0	2	*	0	0.0	0	0.0
Island	0	0.0	1	*	1	*	1	*	0	0.0
Jefferson	0	0.0	1	*	0	0.0	1	*	0	0.0
King	56	3.1	72	4.0	52	2.8	52	2.8	41	2.2
Kitsap	4	*	1	*	2	*	3	*	2	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	1	*	1	*	0	0.0	0	0.0	2	*
Lewis	0	0.0	2	*	0	0.0	0	0.0	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	1	*	0	0.0	1	*
Okanogan	4	*	1	*	0	0.0	0	0.0	0	0.0
Pacific	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
Pierce	12	1.6	12	1.6	6	0.8	14	1.8	5	0.6
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	5	4.6	10	9.0	5	4.4	2	*	2	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	10	1.6	16	2.4	11	1.6	30	4.4	11	1.6
Spokane	1	*	6	1.4	3	*	2	*	4	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	1	*	3	*	1	*	1	*	4	*
Wahkiakum	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	3	*
Whatcom	3	*	5	2.8	26	14.1	5	2.7	9	4.7
Whitman	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Yakima	7	3.1	29	12.6	32	13.8	26	11.1	8	3.4

SHIGELLOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	287	6.9	0
1981	426	10.0	1
1982	284	6.7	0
1983	370	8.6	0
1984	224	5.2	0
1985	144	3.3	0
1986	321	7.3	0
1987	318	7.1	0
1988	306	6.7	0
1989	232	5.0	0
1990	278	5.7	0
1991	405	8.1	0
1992	439	8.6	0
1993	797	15.2	0
1994	478	9.0	0
1995	426	7.8	0
1996	333	6.0	1
1997	318	5.7	0
1998	277	4.9	0
1999	172	3.0	0
2000	501	8.5	0
2001	236	3.9	0
2002	230	3.8	0
2003	188	3.1	0
2004	133	2.2	0
2005	185	3.0	0
2006	170	2.7	0
2007	159	2.5	0
2008	116	1.8	0

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	133	2.2	185	3.0	170	2.7	159	2.5	116	1.8
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

SYPHILIS (PRIMARY AND SECONDARY)

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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	1	*
Benton	0	0.0	1	*	1	*	1	*	3	*
Chelan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Clallam	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Clark	2	*	5	1.3	2	*	1	*	2	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	1	*	1	*	1	*	1	*
Douglas	0	0.0	1	*	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
Franklin	0	0.0	1	*	0	0.0	0	0.0	1	*
Garfield	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	0	0.0
Grays Harbor	0	0.0	0	0.0	0	0.0	1	*	1	*
Island	1	*	4	*	1	*	0	0.0	0	0.0
Jefferson	0	0.0	1	*	0	0.0	0	0.0	0	0.0
King	123	6.9	119	6.6	147	8.0	120	6.4	127	6.7
Kitsap	4	*	4	*	4	*	3	*	9	3.6
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	0	0.0	1	*	1	*	0	0.0	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	7	0.9	3	*	7	0.9	19	2.4	19	2.4
San Juan	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Skagit	1	*	1	*	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
Snohomish	8	1.2	3	*	6	0.9	9	1.3	7	1.0
Spokane	0	0.0	0	0.0	2	*	6	1.3	5	1.1
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	2	*	2	*	4	*	5	2.1	2	*
Wahkiakum	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
Whatcom	0	0.0	1	*	3	*	0	0.0	0	0.0
Whitman	0	0.0	1	*	0	0.0	1	*	0	0.0
Yakima	0	0.0	2	*	3	*	0	0.0	1	*

STATEWIDE TOTAL

CASES	150	2.4	152	2.4	182	2.9	168	2.6	181	2.7
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‡ All rates are cases per 100,000 population
 * Incidence rates not calculated for < 5 cases.

SYPHILIS PRIMARY AND SECONDARY STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	262	6.3	8
1981	167	3.9	2
1982	172	4.0	0
1983	196	4.6	0
1984	158	3.7	2
1985	115	2.6	2
1986	194	4.4	0
1987	176	3.9	0
1988	265	5.8	0
1989	461	9.9	0
1990	354	7.5	0
1991	178	3.6	0
1992	85	1.7	0
1993	67	1.3	0
1994	36	0.7	0
1995	17	0.3	0
1996	9	0.2	0
1997	17	0.3	0
1998	44	0.8	0
1999	77	1.3	0
2000	66	1.1	0
2001	57	1.0	0
2002	70	1.2	0
2003	82	1.3	0
2004	150	2.4	0
2005	152	2.4	0
2006	182	2.9	0
2007	168	2.6	0
2008	181	2.7	0

‡ All rates are cases per 100,000 population

TETANUS

Year	Cases	Rate‡	Deaths
1985	0	0.0	0
1986	0	0.0	0
1987	1	0.0	0
1988	1	0.0	0
1989	1	0.0	0
1990	1	0.0	0
1991	1	0.0	0
1992	3	0.1	0
1993	1	0.0	0
1994	1	0.0	0
1995	0	0.0	0
1996	1	0.0	0
1997	1	0.0	0
1998	0	0.0	0
1999	0	0.0	0
2000	1	0.0	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	1	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

TRICHINOSIS

Year	Cases	Rate‡	Deaths
1986	0	0.0	0
1987	0	0.0	0
1988	0	0.0	0
1989	2	0.0	0
1990	1	0.0	0
1991	0	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	1	0.0	0
2001	0	0.0	0
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	1	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

TUBERCULOSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Benton	4	*	0	0.0	6	3.7	4	*	1	*
Chelan	0	0.0	1	*	3	*	2	*	1	*
Clallam	0	0.0	0	0.0	1	*	4	*	0	0.0
Clark	8	2.0	9	2.1	8	1.9	7	1.7	7	1.7
Columbia	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	1	*	2	*	1	*	1	*
Douglas	0	0.0	1	*	0	0.0	0	0.0	1	*
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	3	*	2	*	0	0.0	4	*	4	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	0	0.0	3	*	1	*	1	*	1	*
Grays Harbor	1	*	3	*	2	*	4	*	0	0.0
Island	5	6.6	1	*	0	0.0	6	7.7	2	*
Jefferson	0	0.0	1	*	0	0.0	1	*	0	0.0
King	133	7.4	125	7.0	145	7.9	161	8.6	121	6.4
Kitsap	2	*	6	2.4	6	2.4	10	4.1	5	2.0
Kittitas	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	1	*	0	0.0	1	*	0	0.0	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	1	*	0	0.0	2	*	2	*	2	*
Okanogan	0	0.0	0	0.0	0	0.0	1	*	2	*
Pacific	0	0.0	0	0.0	0	0.0	3	*	1	*
Pend-Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	34	4.5	27	3.5	21	2.7	24	3.0	18	2.2
San Juan	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	2	*	6	5.4	2	*	0	0.0	2	*
Skamania	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Snohomish	15	2.3	24	3.6	26	3.8	24	3.5	25	3.6
Spokane	7	1.6	13	2.9	10	2.2	5	1.1	8	1.7
Stevens	0	0.0	1	*	0	0.0	1	*	1	*
Thurston	7	3.2	6	2.6	5	2.1	6	2.5	5	2.0
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	1	*	2	*	2	*	0	0.0	3	*
Whatcom	6	3.3	5	2.7	4	*	7	3.7	5	2.6
Whitman	0	0.0	1	*	0	0.0	1	*	0	0.0
Yakima	12	5.2	14	5.6	14	6.0	12	5.1	11	4.7

TUBERCULOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1980	424	10.3	13
1981	401	9.4	15
1982	301	7.1	6
1983	239	5.6	10
1984	207	4.8	6
1985	220	5.0	5
1986	218	4.9	3
1987	255	5.7	10
1988	236	5.2	9
1989	248	5.3	4
1990	284	5.8	12
1991	309	6.2	7
1992	306	6.0	7
1993	286	5.5	7
1994	264	4.9	6
1995	278	5.1	2
1996	285	5.2	3
1997	305	5.4	6
1998	265	4.7	5
1999	258	4.5	5
2000	258	4.4	2
2001	261	4.4	6
2002	252	4.2	4
2003	250	4.1	11
2004	244	3.9	9
2005	254	4.0	14
2006	262	4.1	18
2007	291	4.5	12
2008	228	3.5	2

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	244	3.9	254	4.0	262	4.1	291	4.5	228	3.5
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‡ All rates are cases per 100,000 population
*Incidence rates not calculated for < 5 cases.

TULAREMIA

Year	Cases	Rate‡	Deaths
1986	1	0.0	0
1987	4	0.1	0
1988	1	0.0	0
1989	2	0.0	0
1990	4	0.1	0
1991	2	0.0	0
1992	2	0.0	0
1993	2	0.0	0
1994	1	0.0	0
1995	4	0.1	0
1996	2	0.0	0
1997	2	0.0	0
1998	8	0.1	0
1999	2	0.0	0
2000	2	0.0	0
2001	5	0.1	0
2002	3	0.1	0
2003	2	0.0	0
2004	4	0.1	0
2005	10	0.2	0
2006	1	0.0	0
2007	1	0.0	0
2008	4	0.1	0

‡ All rates are cases per 100,000 population

TYPHOID FEVER

Year	Cases	Rate‡	Deaths
1985	3	0.1	0
1986	3	0.1	0
1987	9	0.2	0
1988	13	0.3	0
1989	11	0.2	0
1990	22	0.5	0
1991	10	0.2	0
1992	11	0.2	0
1993	8	0.1	0
1994	12	0.2	0
1995	4	0.1	0
1996	4	0.1	0
1997	7	0.1	0
1998	8	0.1	0
1999	8	0.1	0
2000	6	0.1	0
2001	7	0.1	0
2002	7	0.1	0
2003	4	0.1	0
2004	6	0.1	0
2005	11	0.2	0
2006	7	0.1	0
2007	7	0.1	0
2008	15	0.2	0

‡ All rates are cases per 100,000 population

TYPHUS

Year	Cases	Rate‡	Deaths
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	1	0.0	0
1992	0	0.0	0
1993	0	0.0	0
1994	1	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
2002	0	0.0	0
2003	0	0.0	0
2004	0	0.0	0
2005	0	0.0	0
2006	0	0.0	0
2007	0	0.0	0
2008	0	0.0	0

‡ All rates are cases per 100,000 population

VIBRIOSIS

Year	Cases	Rate‡	Deaths
1985	4	0.1	0
1986	7	0.1	0
1987	18	0.4	0
1988	11	0.2	0
1989	4	0.1	0
1990	30	0.6	0
1991	4	0.1	0
1992	7	0.1	0
1993	33	0.6	0
1994	9	0.2	0
1995	6	0.1	0
1996	3	0.1	0
1997	58	1.0	0
1998	41	0.7	0
1999	21	0.4	0
2000	20	0.3	0
2001	9	0.2	0
2002	25	0.4	0
2003	18	0.3	0
2004	28	0.5	0
2005	20	0.3	0
2006	80	1.3	0
2007	25	0.4	0
2008	29	0.4	0

‡ All rates are cases per 100,000 population

YERSINIOSIS

Counties	2004		2005		2006		2007		2008	
	Cases	Rate‡	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	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
Benton	0	0.0	1	*	1	*	2	*	1	*
Chelan	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	1	*	0	0.0	0	0.0	2	*
Clark	1	*	0	0.0	2	*	2	*	2	*
Columbia	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	1	*	0	0.0
Douglas	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
Franklin	0	0.0	1	*	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
Grant	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grays Harbor	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Island	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	1	*	2	*	2	*	0	0.0
King	14	0.8	10	0.6	9	0.5	6	0.3	6	0.3
Kitsap	0	0.0	0	0.0	0	0.0	1	*	1	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	2	*	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	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	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
Pierce	3	*	0	0.0	2	*	2	*	2	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Skagit	1	*	0	0.0	0	0.0	1	*	0	0.0
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	6	0.9	1	*	3	*	5	0.7	1	*
Spokane	1	*	0	0.0	3	*	0	0.0	0	0.0
Stevens	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	1	*	0	0.0	0	0.0	1	*
Wahkiakum	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
Whatcom	1	*	2	*	0	0.0	0	0.0	0	0.0
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	1	*	1	*	0	0.0	6	2.6	1	*

YERSINIOSIS STATEWIDE BY YEAR			
Year	Cases	Rate‡	Deaths
1988	15	0.3	0
1989	40	0.9	0
1990	37	0.8	0
1991	28	0.6	0
1992	34	0.7	0
1993	50	1.0	0
1994	40	0.7	0
1995	50	0.9	0
1996	37	0.7	0
1997	30	0.5	0
1998	39	0.7	0
1999	32	0.6	0
2000	33	0.6	0
2001	23	0.4	0
2002	26	0.4	0
2003	28	0.5	0
2004	34	0.6	0
2005	19	0.3	0
2006	22	0.3	0
2007	28	0.4	0
2008	19	0.3	1

‡ All rates are cases per 100,000 population

STATEWIDE TOTAL

CASES	34	0.6	19	0.3	22	0.3	28	0.4	19	0.3
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‡ All rates are cases per 100,000 population

* Incidence rates not calculated for < 5 cases.

APPENDIX II

Special Topics

Local Health Jurisdiction Contributors are acknowledged for special topics.

Monkey Business

D. MacEachern

In February 2008, animal control contacted the Spokane Regional Health District about a biting spider monkey loose on the South Hill of Spokane. Three people were identified as having been bitten, an adult female, a female foreign exchange high school student and a young child, all living in the same neighborhood. The owner of the monkey stated that she had just moved to town, the monkey had not been loose before (although it knew how to open the door!), and the monkey was under the care of a veterinarian. Based on this information, disease risk was initially thought to be minimal. Further investigation revealed that the monkey was a macaque, which frequently carry herpes B, a virus that can be lethal to humans. The owner had submitted papers which documented rabies vaccination of the monkey (although there is no approved rabies vaccine for primates). Conferring with CDC on the situation led to two different recommendations – one to euthanize and test the animal for rabies, and the other to keep it alive for long term herpes B testing. In light of the uncertain history and the greater risk of rabies to the victims, the decision was made to euthanize the monkey. The owner was informed of the decision. Animal rights activists organized a protest at the Public Health building as well as at the office of the contracted veterinarian-shipper. From the beginning, this situation received a great deal of media attention, was time consuming and stressful, and staff throughout the agency received calls and emails from all over the country pleading to spare the monkey's life. Primates should not be kept as pets.

The monkey tested negative for rabies and herpes B virus.

***Baylisascaris* and *Leptospiriosis* in a “pet” raccoon, Kittitas County**

L. Navarre, M. Larson, C. Bambrick, J. Dawson

In November 2008, 2 patients were hospitalized with fever, chills, malaise, elevated liver enzymes (ALT/AST), and increased sedimentation rates with unknown etiology. The first case-patient had a history of tick bite and exposure to a raccoon adopted by the second case patient. The raccoon often spent the night in one of the beds of the 5 children in this household. Under Health Officer order, the raccoon was collected and necropsied by the Department of Fish and Wildlife. The raccoon was found to be infected with *Baylisascaris*.

Baylisascaris is a widely distributed parasite in raccoons. People become infected when they accidentally ingest eggs in soil, water, or on objects that have been contaminated with raccoon feces. Once inside the body, eggs hatch into larvae and cause disease when they travel through the liver, eye, brain, spinal cord, or other organs. Symptoms include nausea, malaise, liver enlargement, loss of coordination, lack of attention to people and surroundings, loss of muscle control, coma and blindness. Severe disease may be rapidly fatal. Treatment has been largely ineffective. The raccoon necropsied by the Department of Fish and Wildlife Services, was shedding >500 *Baylisascaris* eggs per gram of feces. This high egg level increases the risk of infection, particularly in children, who often put unwashed hands or objects in their mouths.

In addition, using tissue and sera sent in for testing at Washington State University, the raccoon was found to be chronically infected with *Leptospira*. Symptoms include high fever, severe

headaches, chills, muscle aches, vomiting, diarrhea, and occasionally jaundice or a rash. Humans become infected through contact with water, food, or soil containing urine from infected animals. Without treatment, recovery may take several months.

Although the cause of the illnesses remained unknown, the investigation did reveal a potential source of pathogens. Raccoons may be the source of many other infectious diseases including tularemia, relapsing fever, anaplasmosis, ehrlichiosis, cytomegalovirus, and most significantly rabies. Case patients were seronegative for these agents. Because of the risk of infection, in Washington State it is illegal to harbor a raccoon (WAC [248-100-450](#)).

Measles Outbreak, Grant County

P. Grigg, A. Brzezny, C. Schimke, J. Dawson

Between April and May 2008, 19 cases of measles were diagnosed in Grant County. The index case-patient, two siblings, and one additional case-patient attended a religious conference in King County from March 25-29, 2008. The conference was attended by approximately 3000 people from 12 states, Japan, Canada and Mexico. A total of 1075 contacts were exposed during the following: school activities (325), religious activities (74), retail shopping (303) or healthcare visits (216). 255 individuals were monitored for rash and other measles symptoms. 26 rash illnesses were investigated and ruled out.

None of the first 18 cases (age range 9 months-18 years) had received even a single dose of MMR vaccine. The 19th case was an adult who had previously received two doses of MMR vaccine, but had a potentially immunocompromising medical condition. During the course of the outbreak, a documentation of full immunity among contacts increased by 17.3%. This was accomplished by acquiring 1) documentation of previous disease 2) documentation of previous vaccination prior to exposure or 3) documentation of vaccine after exposure. Identified costs, through the community as well as local and state public health, were estimated at \$213,858. An outbreak summary has been published at

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5733a1.htm>

Pertussis Outbreak, Island County

K. Hicks, C. Jones

In May 2008, three cases of pertussis in adolescents were reported to Island County Public Health (ICPH). Between mid-June and early July, 15 additional cases were reported to ICPH. In-depth case investigations and community alerts through media outlets immediately began and revealed that low immunization rates throughout the county, particularly in the southern region of Whidbey Island, combined with summertime activities such as swim schools, camps and overnight stays were the cause of the alarming spread of the disease.

By August 1st Island County had 77 reports of pertussis and 96 total cases were reported by the end of the outbreak in late October. Of the 96 cases, 35 cases were 10-13 year olds, 27 were 5-9 year olds and only 17 were individuals over 18 years old. Approximately 50% of the cases were up-to-date on their vaccinations. All cases were located on Whidbey Island with the majority of the cases (48) occurring in the southern region. Thirty cases occurred in the central region of Whidbey Island while only 18 cases occurred in the northern region of Whidbey Island.

Since the outbreak, ICPH has worked closely with local schools and pediatricians to reduce school immunization exemption rates and educate parents about the importance of keeping immunizations up-to-date.

Japanese Encephalitis (JE) in a Traveler to Asia, King County

S. McKeirnan

In March 2008, Public Health – Seattle & King County received a report of Japanese encephalitis (JE) in a 9 year old King County resident. The child was initially diagnosed in Thailand where he was hospitalized with encephalitis, and the diagnosis was subsequently confirmed at the Centers for Disease Control and Prevention (CDC) on serum collected in the United States 5 weeks after illness onset.

The child and his family had traveled to Phnom Penh, Cambodia, Ho Chi Minh City, Vietnam and spent three weeks in rural southern Vietnam with family. The family noted abundant mosquito activity while in southern Vietnam, and all family members had evidence of mosquito bites. None of the other family members had an illness consistent with JE. One other family member developed a febrile illness but recovered fully.

In February while in Ho Chi Minh City, the 9 year old child initially developed fever, headache, weakness, anorexia, and vomiting, followed by decreased mental status, seizures, and progressive weakness. The child received care at a medical facility in Phnom Penh and was then transferred to a hospital in Bangkok, where he remained for nearly one month. During hospitalization in Thailand, the child was seriously ill, requiring mechanical ventilation, and treatment with anticonvulsants, diuretics, corticosteroids, and antibiotics. The child suffered severe neurological impairment requiring ongoing therapy, but his condition has improved dramatically.

Three weeks prior to departure from the United States to Asia, the family had visited a travel medicine clinic to obtain recommended vaccines and malaria prophylaxis. Although JE vaccination was recommended, it was deferred primarily due to cost and inadequate time to complete a full primary series prior to travel.

San Juan County 2007 – 2008 Pertussis Outbreak

S. Leff, J. Campbell

In mid-December 2007, a preschool reported 15 children having an extended cough illness, some of whom had paroxysms and vomiting. San Juan's health officer issued an alert about suspected pertussis to health care providers, initially on Orcas Island then countywide. All symptomatic contacts were referred to their health care providers for diagnosis and appropriate treatment. Upon confirmation of pertussis by PCR and culture, an outbreak was declared. Before closure for the Christmas break, notification went to all the pre-schools and schools in the county to alert and educate parents about pertussis and encourage vaccination with either DTaP or Tdap as needed. The Health Department held clinics for vaccination updates and screening of symptomatic individuals. Unfortunately the outbreak was already well-established and spread to neighboring islands. Trace-back investigation identified pertussis in the community in October 2007. The last week of December 2007 was spent on contact investigation, case identification

and reporting, vaccine distribution, and preparing return-to-school guidelines prior to their re-opening in January.

In three months there were a total of 99 suspected, probable, and confirmed cases of pertussis identified in San Juan County. During contact follow-up, over 500 people were notified, educated, and evaluated regarding the need for prophylactic treatment. The cases occurred primarily in the school/pre-school age population as well as the working adults or parents of this age group. Although the population of San Juan County is only 16,000, the extrapolated rate for pertussis cases during this period was 277 per 100,000.

There were several factors contributing to the extent of this outbreak. Among them was a change in CDC guidance for pertussis management recommending that close contacts of a pertussis case receive antibiotic treatment only if they become symptomatic. This guidance did not control spread, as household contacts who later developed symptoms were communicable until their illness was recognized and treated for 5 days. A more effective control strategy would have been to refer all household and close contacts for prophylactic antibiotics because the disease is most contagious in the prodromal and early cough stages of the illness.

It is interesting to note that the island in the county with the largest population did not have any reported cases of pertussis. This may have been due to recent pertussis outbreaks on San Juan Island in 2003 and 2005 which were effective in boosting immunization rates and in infecting susceptibles to produce immunity.

Mumps Outbreak, Skagit County

S. Paciotti, M. Skjei, D. Downes, H. Leibrand

On September 8, 2008, a physician diagnosed one case of presumptive mumps. Shortly thereafter two additional clinical cases were identified. Another case, identified from a healthcare facility contact exposure, resulted in a total of four confirmed cases by the end of September. Cases ranged in age from 43 to 64 years old and were residents of Skagit (3) and Island (1) counties. Three of the four cases were lab-confirmed as IgM positive, while the other case was symptomatic and epi-linked to a lab-confirmed case; all were quarantined. Skagit County Public Health Department (SCPHD) conducted contact tracing for the confirmed mumps cases and identified potential exposures to 30 community actors, 135 workplace colleagues, 150 attendees at a school open-house, 25 household members and 25 patients in a hospital. Four mumps cases were thus linked to 365 potentially ill and contagious individuals.

In accord with SCPHD outbreak management standards, all contacts were investigated to prove their immunity. MMR vaccine was administered to those lacking appropriate vaccine documentation, to health care personnel, and to school participants as a result of voluntary serologic testing. SCPHD issued a broadcast facsimile (i.e. Facts by Fax) to all school staff, day care employees and health care workers to alert them of the outbreak, and subsequently all county schools voluntarily reviewed the MMR status of their employees. Of the 420 employees tested, 39 (9.3%) were not immune to mumps. Interestingly, nearly half of those lacking mumps immunity were born before 1957 so were presumed to be immune. As a result of this outbreak, MMR-related herd immunity was increased in Skagit County and potential future workforce disruption has been decreased.

INFLUENZA SURVEILLANCE, 2008–2009

The Washington State Department of Health (DOH), in collaboration with local health jurisdictions and the Centers for Disease Control and Prevention (CDC), conducts routine influenza surveillance each year from October to May. The main objectives of influenza surveillance are to determine the types of viruses circulating; determine the intensity of the influenza season; and detect unusual events related to influenza such as large or severe outbreaks, unusually severe cases, or infection by novel viruses. DOH and partners in Washington participate in a variety of national influenza surveillance efforts including the World Health Organization/National Respiratory and Enteric Virus Surveillance System (WHO/NREVSS), Outpatient Influenza-like Illness Surveillance Network (ILINet), Influenza-associated Pediatric Mortality Surveillance, and the 122-Cities Mortality Reporting System.

The highlight of the 2008–2009 influenza season was the detection of the pandemic influenza A (2009 H1N1) virus in Mexico and the United States in April 2009. This novel virus contains a unique set of gene segments from four different influenza viruses (human, North American avian, North American swine, and Eurasian swine strains). By early June 2009, the virus had spread around the world and on June 11, 2009, the World Health Organization declared a pandemic.

World Health Organization/National Respiratory and Enteric Virus Surveillance System (WHO/NREVSS)

Three laboratories in Washington State, along with 147 other laboratories across the nation, conduct virologic surveillance as part of WHO/NREVSS. Participating laboratories provide the total number of positive influenza tests, by virus type/subtype, and the percent of specimens testing positive each week. A subset of these clinical isolates is sent to the CDC for further characterization, including gene sequencing, antiviral resistance testing, and antigenic determination.

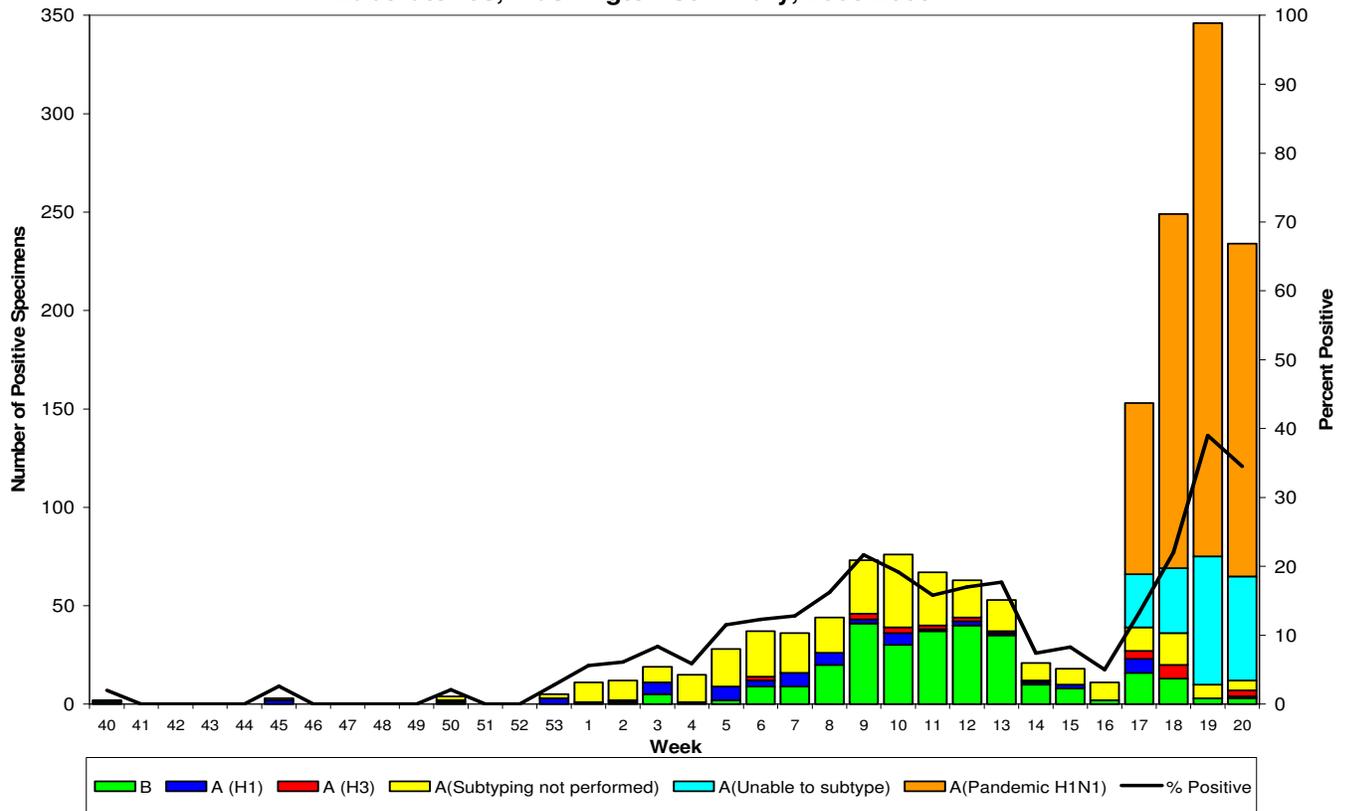
During the typical 2008–2009 influenza season (CDC reporting weeks 40–20), sentinel influenza surveillance laboratories in Washington reported 1580 influenza isolates of which 1294 (82%) were type A and 286 (18%) were type B. Of the 1294 influenza A isolates, 5% were H1; 2% were H3; 55% were 2009 H1N1; and 38% could not be or were not subtyped.

Sporadic cases of influenza began in October, 2008. Reports of laboratory confirmed seasonal influenza peaked in the second week of March while cases of laboratory confirmed 2009 H1N1 cases peaked in mid-May, possibly reflecting intensity of reference laboratory testing. The data in the following table and graph reflect numbers reported to the CDC between September 28, 2008 and May 23, 2009.

Washington Influenza Isolates – Cumulative

A(H1)	A (2009 H1N1)	A (H3)	A (Subtyping not performed)	A (Unable to subtype)	B	Total Influenza	Total # Tested	Total % Influenza Positive
61	707	29	319	178	286	1580	13024	15

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, Washington Summary, 2008-2009



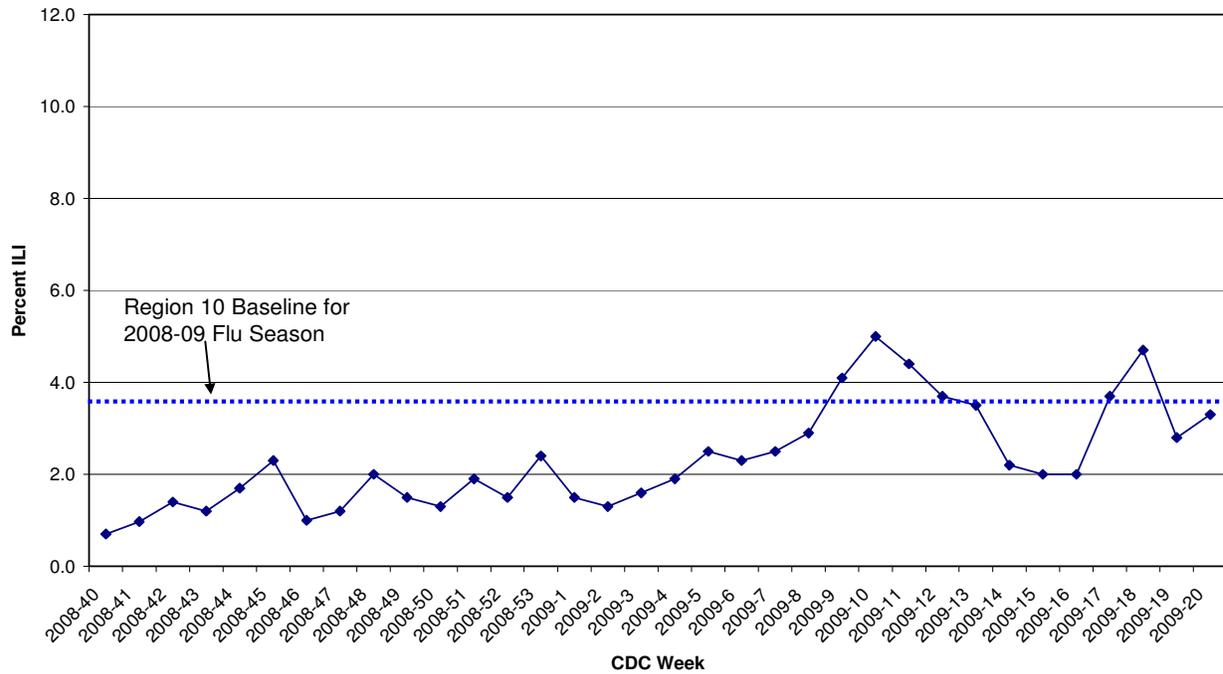
The absolute number and percent of positive specimens near the end of the season may have been affected, at least in part, by changes in testing strategies in week 17. These changes included testing primarily rapid A positive specimens, testing only severe cases of influenza-like illness, and concluding testing for seasonal flu in early May.

U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

The national outpatient influenza-like illness surveillance network consists of 2400 health care providers, 30 from Washington. Each week, participating providers report to the CDC the total number of patients seen and the number of those patients with influenza-like illness (ILI) by age group. The Washington State Department of Health has access to these data and disseminates this valuable information to local health jurisdictions and providers.

Reported influenza activity peaked for the first time in early March and a second time in the first week of May (see chart below). At the end of the typical influenza surveillance season (Week 20, ending 5/23/09) an elevated number of ILI reports were still being received from sentinel physicians, although the number had fallen below the regional baseline of 3.5%.

**Percent of Patient Visits for Influenza - Like Illness by Week
Sentinel Provider Network
Washington 2008-2009**



Influenza-associated Pediatric Mortality

Influenza-associated pediatric deaths reported to a public health agency are investigated and relayed to CDC. Washington requests reporting of suspected or confirmed pediatric influenza-associated deaths as rare diseases of public health significance.

There was one pediatric influenza death during the 2008–2009 influenza season in Washington. The death occurred in an infant less than one year of age infected with influenza A (H3N2).

Pneumonia and Influenza Mortality

The weekly proportion of deaths due to pneumonia and influenza (P&I) is tracked through the CDC’s 122-Cities Mortality Reporting System. Seattle, Spokane, and Tacoma are the three Washington State cities that contribute to this system. Nationally, the percentage of deaths due to P&I peaked at 7.8% during the week ending April 11, 2009. In Washington, the percentage of deaths attributable to P&I during the 2008–2009 influenza season peaked at 9.9% in the week ending May 9, 2009.

Influenza Trivalent Vaccine 2008-2009

The Food and Drug Administration is recommending the same influenza strains for the 2009-2010 U.S influenza vaccine as the World Health Organization is recommending for the 2009-2010 Northern Hemisphere influenza vaccination. Only the influenza B component of the 2008-2009 vaccine (B, Florida/4/2006-like) will be changing. This reflects a transition from the

B/Yamagata lineage to the B/Victoria lineage. The strains for the 2009-2010 influenza vaccine are as follows:

- A/Brisbane/59/2007 (H1N1)-like virus [no change from current vaccine]
- A/Brisbane/10/2007 (H3N2)-like virus [no change from current vaccine]
- B/Brisbane/60/2008-like virus

A vaccine for 2009 H1N1 had been developed and was scheduled for distribution at the time of publication.

APPENDIX III

State Demographics

Washington State Population Estimates, 1985-2008*
Washington State Office of Financial Management

Year	Estimate
1985	4,384,100
1986	4,419,700
1987	4,481,100
1988	4,565,000
1989	4,660,700
1990	4,866,663
1991	5,021,335
1992	5,141,177
1993	5,265,688
1994	5,364,338
1995	5,470,104
1996	5,567,764
1997	5,663,763
1998	5,750,033
1999	5,830,835
2000	5,894,143
2001	5,974,900
2002	6,041,700
2003	6,098,300
2004	6,167,800
2005	6,256,400
2006	6,375,600
2007	6,488,000
2008	6,587,600

*April 1, 2008 estimate updated September 2008; Accessed on 5/19/09 from:

<http://www.ofm.wa.gov/pop/coagemf>

Washington State Population Estimates By County, 2008*
 Washington State Office of Financial Management

County	Estimate
Adams	17,800
Asotin	21,400
Benton	165,500
Chelan	72,100
Clallam	69,200
Clark	424,200
Columbia	4,100
Cowlitz	99,000
Douglas	37,000
Ferry	7,700
Franklin	70,200
Garfield	2,300
Grant	84,600
Grays Harbor	70,900
Island	79,300
Jefferson	28,800
King	1,884,200
Kitsap	246,800
Kittitas	39,400
Klickitat	20,100
Lewis	74,700
Lincoln	10,400
Mason	56,300
Okanogan	40,100
Pacific	21,800
Pend Oreille	12,800
Pierce	805,400
San Juan	16,100
Skagit	117,500
Skamania	10,700
Snohomish	696,600
Spokane	459,000
Stevens	43,700
Thurston	245,300
Wahkiakum	4,100
Walla Walla	58,600
Whatcom	191,000
Whitman	43,000
Yakima	235,900
Washington State	6,587,600

*April 1, 2008 estimate updated September 2008; Accessed on 5/19/09 from:

<http://www.ofm.wa.gov/pop/coagemf>

Washington State Population By Age and Sex, 2008*
Washington State Office of Financial Management

Age (years)	Male	Female	TOTAL
0-4	221,722	211,624	433,346
5-9	218,693	208,496	427,189
10-14	222,692	212,018	434,710
15-19	242,472	229,650	472,122
20-24	243,154	231,501	474,655
25-29	240,180	227,573	467,753
30-34	216,541	206,292	422,833
35-39	236,897	225,956	462,853
40-44	234,812	229,327	464,139
45-49	251,836	251,012	502,848
50-54	242,120	245,229	487,349
55-59	210,835	216,801	427,636
60-64	165,899	172,957	338,856
65-69	114,643	121,150	235,793
70-74	80,126	91,042	171,168
75-79	60,546	76,606	137,152
80-84	42,927	65,797	108,724
85+	38,423	80,051	118,474
TOTAL	3,284,518	3,303,082	6,587,600

*April 1, 2008 estimate updated September 2008; Accessed on 5/19/09 from: <http://www.ofm.wa.gov/pop/coagemf>

†An estimate of April 1 population by age and sex was obtained from the Office of Financial Management website (<http://www.ofm.wa.gov/pop/coagemf/default.asp>; accessed 5/19/09). These population estimates are updated on a periodic basis and, therefore, may not reflect what is printed in this report. Please note that when smaller age brackets were needed for analysis purposes, data from the 2007 forecast of the state population by age and sex were used (<http://www.ofm.wa.gov/pop/stfc/>; accessed 5/19/09).