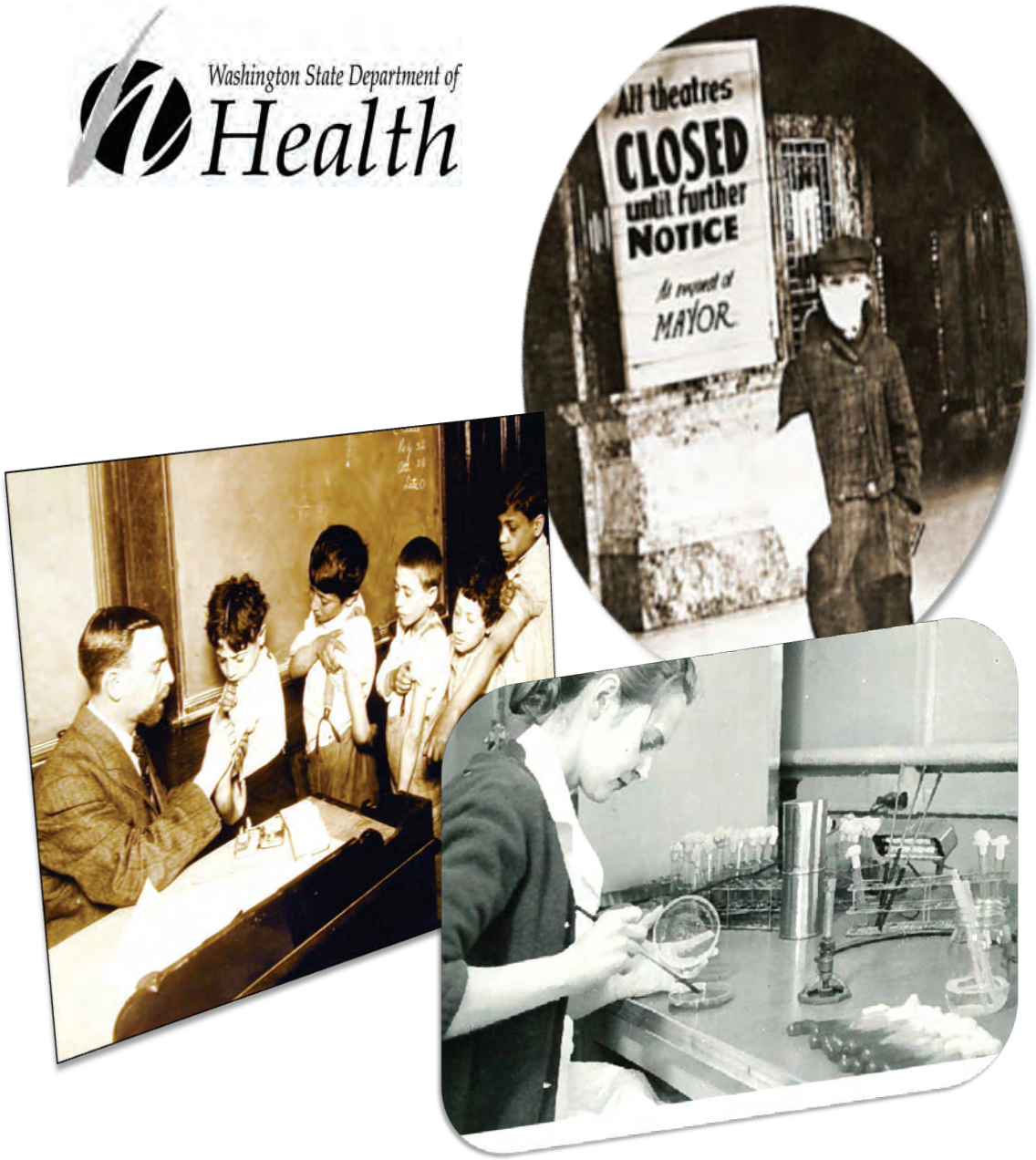
Washington State
COMMUNICABLE DISEASE REPORT 2009

Washington State Department of Health



For additional copies of this document or to obtain this document in an alternative format please contact:

Washington State Department of Health
Communicable Disease Epidemiology Section
1610 NE 15th Street
Shoreline, WA 98155
206.418.5500 or 1.877.539.4344

Artwork on cover courtesy of National Archives, RG 90-G-5-6 and PHL historical photos

WASHINGTON STATE DEPARTMENT OF HEALTH
Epidemiology, Health Statistics and Public Health Laboratories
Communicable Disease Epidemiology Section
1610 NE 150th Street
Shoreline, WA 98155
206-418-5500 or 1-877-539-4344

COMMUNICABLE DISEASE REPORT 2009

CONTRIBUTORS

COMMUNICABLE DISEASE EPIDEMIOLOGY

Mary Chadden
Erin Chester, MPH
Natasha Close, MPH
Marisa D'Angeli, MD, MPH
Chas DeBolt, RN, MPH
Marcia Goldoft, MD, MPH, MS
Kathy Lofy, MD
Kathryn MacDonald, PhD
Anthony A. Marfin, MD, MPH, MA
Nicola Marsden-Haug, MPH
Judith May, RN, MPH
Katelin Nickel, MPH
Tracy Powell, MPH
Tracy Sandifer, MPH
Azadeh Tasslimi, MPH
Doreen Terao
Sherryl Terletter
Deborah Todd, RN, MPH
Wayne Turnberg, PhD, MSPH

COMMUNITY AND FAMILY HEALTH

Maria Courogen, MPH
Kim Field, RN, MSN
Salem Gugsa, MPH
Tom Jaenicke, MPH, MBA, MES
Shana Johnny, RN, MN
Julieann Simon, MSPH

Mary Selecky
Secretary of Health

Maxine Hayes, MD, MPH
Health Officer

Dennis Dennis, PhD, RN
Assistant Secretary
Epidemiology, Health Statistics and Public Health Laboratories

Judith May, RN, MPH
Office Director for Communicable Disease Epidemiology Section

Anthony A. Marfin, MD, MPH, MA
State Epidemiologist for Communicable Disease

Romesh Gautom, PhD
Director, Public Health Laboratories

Juliet VanEenwyk, PhD, MS
State Epidemiologist for Non-Infectious Disease

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 25th 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 2010

Table of Contents

Executive Summary – 2009 v
Technical Notes v
Reporting a Notifiable Condition vi
Notifiable Conditions and the Health Care Provider vii
Notifiable Conditions and Washington's Hospitals viii
Notifiable Conditions and Washington's Laboratories ix
Notifiable Conditions and the Veterinarian x
Arboviral Disease 3
  West Nile Virus (WNV) Disease 3
  Yellow Fever 4
Botulism 4
Brucellosis 5
Campylobacteriosis 5
Chlamydia Infection 5
Cholera 6
Cryptosporidiosis 6
Cyclosporiasis 7
Diphtheria 7
Enterohemorrhagic *Escherichia coli* (EHEC) 8
Foodborne Outbreaks 8
Giardiasis 11
Gonorrhea 11
Haemophilus influenzae (Invasive Disease, Under Age 5 Years) 11
Hantavirus Pulmonary Syndrome (HPS) 12
Hemolytic Uremic Syndrome (HUS) 12
Hepatitis A 13
Hepatitis B 13
Hepatitis C 14
Hepatitis, Unspecified (Infectious) 14
Herpes Simplex, Genital and Neonatal 15
HIV/AIDS 15
Legionellosis 16
Leptospirosis 16
Listeriosis 16
Lyme Disease 17
Malaria 17
Measles 18
Meningococcal Disease (Invasive) 18
Mumps 19
Paralytic Shellfish Poisoning (PSP) 19
Pertussis 20
Plague 20
Polio 21
Psittacosis 21
Q Fever 21
Rabies Post-Exposure Prophylaxis 22
Rabies (Human) 25
Rare Diseases of Public Health Significance 25
  Coccidioidomycosis (Valley Fever) 25

Creutzfeldt-Jakob Disease (CJD) 25
Cryptococcosis 26
Diphyllobothriasis 26
African Trypanosomiasis (Sleeping Sickness) 27
Histoplasmosis 27
Paragonimiasis 27
Methicillin Resistant *Staphylococcus aureus* (MRSA), Invasive Disease 28
Rare Sexually Transmitted Diseases 28
Relapsing Fever 28
Rubella 29
Salmonellosis (Non-Typhoid) 29
Shigellosis 30
Syphilis 32
Tetanus 32
Trichinosis (Trichinellosis) 32
Tuberculosis 33
Tularemia 33
Typhoid Fever 34
Typhus 34
Vibriosis (Non-Cholera) 35
Waterborne Outbreaks 35
Yersiniosis 36
Appendix I. Disease incidence and mortality rates 37
Appendix II. Special topics 77
Appendix III. State demographics 87

Tables

Table 1. Foodborne Outbreaks, 1986-2009 9
Table 2. Foodborne Outbreaks Reported to Washington State Department of Health, 2009 10
Table 3. Rabid Non-Bat Animals and Rabies Strains, Washington, 1987–2009 22
Table 4. Washington State Bats Tested for Rabies, 2004-2009 23
Table 5. Washington State Animals Tested for Rabies, 1988-2009 24
Table 6. *Salmonella* Serotypes, 2009 31
Table 7. Waterborne Outbreaks, 1991-2009 36

Executive Summary – 2009

This report summarizes notifiable communicable diseases reported by local health jurisdictions to the Department of Health (DOH) in 2009. The emergence of the 2009 H1N1 influenza virus in the spring of 2009 and the ensuing influenza pandemic was the biggest communicable disease event of 2009. Influenza was temporarily made a Notifiable condition and by the end of May, over 500 cases of 2009 H1N1 had been reported to DOH. By the end of 2009, there were over 1500 influenza hospitalizations and deaths recorded in Washington State, mostly due to infections with 2009 H1N1. Aside from influenza, the most common case reports continued to be sexually transmitted conditions, infections caused by enteric pathogens, tuberculosis, and pertussis. Rare conditions of interest that were reported include 36 endemic West Nile virus infections, four cases of foodborne botulism, one case of hepatitis E infection, and one case of Q fever.

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.

Cases of notifiable conditions were included in this annual report if they met the following criteria (these criteria do not apply to HIV, chronic hepatitis, sexually transmitted diseases, or tuberculosis):

1. Resident of Washington
2. Onset dates during the 2009 CDC Year (January 4, 2009 – January 2, 2010).
3. Case report entered into PHIMS by March 1, 2010 if the condition is common (>10 cases per year).
4. Reported to DOH through PHIMS prior to May 13, 2010 if the condition is rare (≤10 cases per year). Very rare conditions (0-2 cases per year) that are reported to DOH after the previous year's deadline if they were not reported in a previous annual report.
5. Given a valid DOH case classification by DOH (as described in the guidelines for each condition: http://www.doh.wa.gov/notify/forms/). For select conditions, certain valid DOH classifications are excluded from the annual report. The following table lists the combinations of conditions and classifications that are excluded from the annual report.

Classification(s)	Conditions
Probable and Suspect	Measles; Rubella
Probable	Diphtheria; Poliomyelitis; Vibriosis
Suspect	Lyme Disease; Mumps

Please note that counts of asymptomatic presumptive viremic blood donors with West Nile Virus are also included in the annual report; these cases are classified as suspect West Nile Virus Disease cases in PHIMS.

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, are symptomatic but 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/2009cdr/cdr2009.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/forms/.

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
Shoreline, WA 98155
206-418-5500

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 at http://www.doh.wa.gov/notify/other/lhjcontacts.pdf. 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 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/forms.

Notifiable Conditions and the Health Care Provider

Washington State Department of Health

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 bites [I]
Arboviral disease [3] (West Nile virus disease, dengue, Eastern & Western equine encephalitis, etc.)
Botulism [I] **(foodborne, wound and infant)**
Brucellosis [I]
Campylobacteriosis [3]
Chancroid [3]
Chlamydia trachomatis [3]
Cholera [I]
Cryptosporidiosis [3]
Cyclosporiasis [3]
Diphtheria [I]
Disease of suspected bioterrorism origin [I] **(including Anthrax and Smallpox)**
Disease of suspected foodborne origin [I] **(clusters only)**
Disease of suspected waterborne origin [I] **(clusters only)**
Enterohemorrhagic *E. coli*, including *E. coli* O157:H7 infection [I]
Giardiasis [3]
Gonorrhea [3]
Granuloma inguinale [3]
***Haemophilus influenzae* invasive disease** [I] **(under age five years, excluding otitis media)**
Hantavirus pulmonary syndrome [3]
Hemolytic uremic syndrome (HUS) [I]
Hepatitis A, acute [I]
Hepatitis B, acute [3] ; chronic [M] (initial diagnosis only)
Hepatitis B, surface antigen positive pregnant women [3]
Hepatitis C, acute and chronic [M] (initial diagnosis only)
Hepatitis, unspecified (infectious) [3]
Herpes simplex, genital (initial infection only) and neonatal [3]
HIV infection [3]
Immunization reactions [3] (severe, adverse)
Legionellosis [3]
Leptospirosis [3]
Listeriosis [I]
Lyme disease [3]
Lymphogranuloma venereum [3]
Malaria [3]
Measles (rubeola) [I]
Meningococcal disease [I]
Mumps [3]
Paralytic shellfish poisoning [I]
Pertussis [I]
Plague [I]
Poliomyelitis [I]
Psittacosis [3]
Q fever [3]
Rabies [I]
Rabies post-exposure prophylaxis [3]
Relapsing fever (borreliosis) [I]
Rubella [I] **(including congenital)**
Salmonellosis [I]
Shigellosis [I]
Syphilis [3] (including congenital)
Tetanus [3]
Trichinosis [3]
Tuberculosis [I]
Tularemia [3]
Typhus [I]
Vibriosis [3]
Yellow fever [I]
Yersiniosis [3]
Unexplained critical illness or death [I]
Rare diseases of public health significance [I]

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

Notification time frame: [I] **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) [I]	**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

Washington State Department of Health

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 [I]
Arboviral disease [3] (West Nile virus disease, dengue, Eastern & Western equine encephalitis, etc.)
Botulism [I] **(foodborne, wound and infant)**
Brucellosis [I]
Campylobacteriosis [3]
Chancroid [3]
Chlamydia trachomatis [3]
Cholera [I]
Cryptosporidiosis [3]
Cyclosporiasis [3]
Diphtheria [I]
Disease of suspected bioterrorism origin [I] **(including Anthrax and Smallpox)**
Disease of suspected foodborne origin [I] **(clusters only)**
Disease of suspected waterborne origin [I] **(clusters only)**
Enterohemorrhagic *E. coli*, including *E. coli* O157:H7 infection [I]
Giardiasis [3]
Gonorrhea [3]
Granuloma inguinale [3]
***Haemophilus influenzae* invasive disease** [I] **(under age five years, excluding otitis media)**
Hantavirus pulmonary syndrome [3]
Hemolytic uremic syndrome (HUS) [I]
Hepatitis A, acute [I]
Hepatitis B, acute [3]; chronic [M] (initial diagnosis only)
Hepatitis B, surface antigen positive pregnant women [3]
Hepatitis C, acute and chronic [M] (initial diagnosis only)
Hepatitis, unspecified (infectious) [3]
HIV infection [3]
Immunization reactions [3] (severe, adverse)
Legionellosis [3]
Leptospirosis [3]
Listeriosis [I]
Lyme disease [3]
Lymphogranuloma venereum [3]
Malaria [3]
Measles (rubeola) [I]
Meningococcal disease [I]
Mumps [3]
Paralytic shellfish poisoning [I]
Pertussis [I]
Plague [I]
Poliomyelitis [I]
Psittacosis [3]
Q fever [3]
Rabies [I]
Rabies post-exposure prophylaxis [3]
Relapsing fever (borreliosis) [I]
Rubella [I] **(including congenital)**
Salmonellosis [I]
Shigellosis [I]
Syphilis [3] (including congenital)
Tetanus [3]
Trichinosis [3]
Tuberculosis [I]
Tularemia [3]
Typhus [I]
Vibriosis [3]
Yellow fever [I]
Yersiniosis [3]

Outbreaks of disease that occur or are treated in the hospital (pertussis, influenza, nosocomial infections, viral meningitis, etc.) [I]
Unexplained critical illness or death [I]
Rare diseases of public health significance [I]

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

Notification time frame: [I] **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) [I]	**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

Washington State Department of Health

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*]

Blood lead level (elevated) [2&i]

Blood lead level (non-elevated) [M&i]

Bordetella pertussis [2*]

Brucella [2*!]

CD4+ counts [M&ii]

Chlamydia trachomatis [2*]

Clostridium botulinum **[I*!]**

Corynebacterium diphtheriae [2*!]

Cryptosporidium parvum [2*]

Cyclospora cayetanensis [2*!]

Disease of suspected bioterrorism origin [I*!]
Anthrax *(Bacillus anthracis)* [I*!]
Smallpox (Variola virus) [I*!]

*Escherichia coli (*Shiga-like toxin only) [2*!]

Francisella tularensis [2*!]

Hepatitis A (IgM +) [2*]

Hepatitis B (detection of viral antigen, antibody, or nucleic acid) [M*]

Hepatitis C (detection of antibody or nucleic acid) [M*]

Human immunodeficiency virus (Western blot, P-24 antigen, or viral culture) [2&ii]

Human immunodeficiency virus [M&iig] (RNA or DNA nucleic acid tests)

Listeria monocytogenes [2*]

Mycobacterium tuberculosis [2&iii!@]

Neisseria gonorrhoeae [2*]

Neisseria meningitidis [2*!]

Rabies [I*]

Rubeola [I*!]

Salmonella species [2*!]

Shigella species [2*!]

Treponema pallidum [2!]

Rare diseases of public health significance [I*]

Vibrio cholerae **[I*!]**

Yersinia pestis **[I*!]**

CODE LEGEND

I Immediately notifiable
2 Notifiable within 2 work days
M Notifiable on a monthly basis
* Notifiable to the local health 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

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

Notifiable Conditions and the Veterinarian

Washington State Department of Health

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 (*Bacillus anthracis*)	X	
Arthropod–borne viruses: West Nile virus; Eastern & Western equine encephalitis	X	
Bat bite or contact exposure to human or domestic animal	X	
Brucellosis (*Brucella abortus*, *B. melitensis*, *B. suis*, *B. canis*, *B. ovis*)	X	
Herpes B virus	X	
Leptospirosis	X	
Plague (*Yersinia pestis*)	X	
Psittacosis/Ornithosis (*Chlamydophila psittaci*)	X	
Q Fever (*Coxiella burnetii*)	X	
Rabies	X	
Tick-borne diseases: Babesiosis, Relapsing fever (*Borrelia hermsii*) Lyme (*B. burgdorferi*), Rocky Mt. spotted fever (*Rickettsia rickettsii*)		X
Trichinosis (*Trichinella spiralis*)		X
Tuberculosis (*Mycobacterium tuberculosis*, *M. bovis*)	X	
Tularemia (*Francisella tularensis*)	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), Chikungunya virus disease, Colorado tick fever, dengue fever, eastern and western equine encephalitis, St. Louis encephalitis, and Japanese encephalitis.

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 14 cases of travel-associated dengue fever are reported with rare reports of other travel-associated arboviral diseases including Chikungunya fever in 2006, Colorado tick fever and Japanese encephalitis in 2008. 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.

2009: 11 cases of dengue fever were reported following travel to Bolivia, Curacao, Egypt, India, Mexico, and Thailand. One case of St. Louis encephalitis occurred in a patient after travel to Arizona. In addition, there was one case of Toscana virus following sandfly bites while travelling in Italy. One case of an unidentified flavivirus occurred without a history of travel outside of Washington State.

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, 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.

2009: 38 cases of West Nile virus disease were reported. 36 of the cases were known to be endemically acquired in the following Washington counties: Yakima (23), Benton (10), Klickitat (2), and Grant (1). In addition, two presumptive viremic blood donors were 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.

2009: 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 4 reports of foodborne botulism, 0 to 9 reports of infant botulism and 0 to 7 reports of wound botulism.

2009: Four cases of foodborne botulism, 2 cases of infant botulism and 4 cases of wound botulism were reported. One case of wound botulism was fatal. 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.

2009: 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.

2009: 1,030 cases were reported (15.4 cases/100,000 population) with one death.

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 patient and sexual partners should take appropriate antibiotics. Treated patients should be retested in 3 to 4 months.

Sources: Chlamydial infection is sexually transmitted or may be 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 infection in asymptomatic patients. If C*hlamydia* is found, also screen or treat for gonorrhea.

Recent Washington trends: Each year over 18,000 cases are reported.

2009: 21,178 cases were reported (317.6 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.

2009: 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.

2009: 102 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.

2009: No cases were reported.

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.

2009: 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 - 200 reports each year. EHEC has a seasonal pattern. Most cases occur during summer and fall months.

2009: 206 cases were reported (3.1 cases/100,000 population). 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 13 cases. 34 (18.4%) of all confirmed and serotyped EHEC cases were non-O157:H7 (11 O26:H11; 5 O121:H19; 3 O103:H2; 2 O103:H25; 2 O121; 2 O111:NM; 2 non-O157; O123:H11; O118:H16; O157:NM; O91:NM; O26:NM; O26; O103).

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, with 2 to dozens or even hundreds of cases in each outbreak (Table 1).

2009: 27 foodborne outbreaks were reported, affecting a total of 307 cases (Table 2). A *Bacillus cereus* outbreak at a catered event involved 15 cases. Six cases of hepatitis A were associated with a restaurant meal. A *Salmonella* Enteritidis outbreak associated with eggs served at a camp involved 54 cases. Viral agents accounted for 10 outbreaks (37% of total) and 125 cases (41% of total), including a group camp outbreak with 56 cases. Washington had 25 *Salmonella* Typhimurium (from peanut butter), 3 *Salmonella* Rissen (from white pepper), *Salmonella* Muenchen (from sandwiches), 26 *Salmonella* Typhimurium (from lettuce), and 5 *E. coli* O157:H7 (from cookie dough) cases related to national outbreaks.

Table 1. Foodborne Outbreaks, 1986-2009

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
2009	307	27

Table 2. Foodborne Outbreaks Reported to Washington State Department of Health, 2009

No.	Month	County	Illness Agent	Total # ill	# Ill lab confirmed	Food Source	Setting	Contributing Factors
1	Jan	{ Multiple }	*Salmonella* Typhimurium	25	25	Peanut butter	Commercial product	Unknown
2	Jan	{ Multiple }	*Salmonella* Rissen	3	3	White pepper	Commercial product	Contaminated raw product
3	Feb	Snohomish	Virus*	13	--	Pea salad	Church	Unknown
4	March	King	Hepatitis A	6	6	Restaurant meal	Restaurant	Infected food handler
5	April	Jefferson	Virus*	10	--	Restaurant meal	Restaurant	Insufficient handwashing
6	May	{ Multiple }	*E. coli* O157:H7	5	5	Cookie dough	Commercial product	Contaminated raw product; insufficient initial cooking time/temperature
7	June	Stevens	Norovirus	13	6	Ill food worker	Restaurant	Bare-handed contact
8	June	Clallam	Virus*	56	--	Potato salad	Group camp	Unknown
9	June	{ Multiple }	*Salmonella* Muenchen	4	4	Sandwiches	Cafeteria/Deli	Unknown
10	June	King	Virus*	2	--	Salad	Restaurant	Infected worker
11	June	{ Multiple }	*Salmonella* Newport	6	6	Burritos	Restaurant	Unknown
12	June	King	Virus*	4	--	Restaurant meal	Restaurant	Bare-handed contact; infected worker; storage in contaminated environment
13	June	Clark	Scombroid poisoning	3	--	Fish	Food Market	Toxic substance part of tissue
14	July	Clark	*Salmonella* Enteritidis	54	15	Eggs	Camp	Contaminated raw product; process failures that permit pathogen survival
15	July	Chelan	Norovirus	7	2	Take out meal	Workplace	Ill food worker
16	July	King	*Bacillus cereus*	15	1	Pasta	Catered event	Food preparation practices that support proliferation of pathogens; improper cold holding; slow cooling
17	July	{ Multiple }	*Salmonella* Typhimurium	26	26	Lettuce	Commercial product	Contaminated raw product
18	July	King	*Salmonella*	17	9	Restaurant meal	Restaurant	Contaminated raw product; cross-contamination of ingredients; bare-handed contact; contaminated storage environment
19	July	King	Chemical ingestion	2	--	Unidentified chemical	Restaurant	Poisonous substance inadvertently added
20	August	King	*Salmonella* Enteritidis	2	2	Eggs	Restaurant	Cross-contamination of ingredients; improper cold holding
21	Sept	Jefferson	Bacterial toxin	5	--	Pizza	Home delivery	Unknown
22	Sept	King	*E. coli* O157:H7	2	2	Unidentified	Restaurant	Unknown
23	Sept	King	Virus*	4	--	Ill food worker	Restaurant	Cross-contamination of ingredients; glove-handed contact by an infected food handler
24	Sept	{ Multiple }	Shiga toxin-producing *E. coli*	3	3	Raw milk	Dairy product	Contaminated raw product
25	Sept	King	*E. coli* O157:H7	4	3	Unidentified	Restaurant	Unknown
26	Oct	Benton	*Salmonella* Enteritidis	6	6	Pork	Restaurant	Unknown
27	Nov	King	Virus*	10	--	Ill food worker	Restaurant	Bare-handed contact; glove-handed contact by an infected food handler

* 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 by 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.

2009: 467 cases were reported (7.0 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 sepsis. Treatment is with antibiotics.

Sources: Gonorrhea is sexually transmitted or may be 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 infection in asymptomatic patients. If gonorrhea is found, also screen or treat for chlamydia.

Recent Washington trends: Recently over 3,000 cases were reported each year.

2009: 2,268 cases were reported (34.0 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.

2009: 9 cases in children under 5 years were reported with no deaths. There was one each of serotype a, b, e, and f. Two were untypable and three were not serotyped. All of these cases were hospitalized, with six reporting 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 2009, 40 cases were reported with 13 (33%) associated deaths. Each year there are 1 to 5 reports, mainly from eastern counties.

2009: 3 cases were reported with one death; two exposures were in eastern Washington and one in northern California.

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) reservoirs 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.

2009: There were no cases of HUS that did not follow a diarrheal illness. 13 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.
2009: 42 cases (0.6 cases/100,000 population), including one death, were reported. There were 22 reports of exposures occurring during foreign travel, including 12 to Mexico, 3 to the Philippines, 2 to Ecuador, 2 to India and 1 to Brazil.

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; a specialist can determine treatment options. 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 all pregnant women, infants born to infected mothers, household contacts and sex partners of infected individuals to prevent transmission. Routine testing is recommended for

individuals born in Asia, Africa, and other geographical regions with 2 percent or higher prevalence of chronic hepatitis B virus infections. 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 1,400 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.

2009: 48 acute cases (0.7 cases/100,000 population), 371 infants born to surface antigen positive women and no perinatal infections were reported (perinatal data from 2008, the most recent data).

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; a specialist can determine treatment options.

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 5,700 chronic cases are reported. Current chronic hepatitis reports are posted at: http://www.doh.wa.gov/cfh/IDRH-Assessment/HepC.htm

2009: 22 acute cases (0.3 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.

2009: One case of hepatitis E was reported with no exposure information available.

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 mild to 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 be transmitted to the genital area.

Prevention: Use safe sexual practices to reduce transmission.

Recent Washington trends: Each year there are about 2,000 cases reported.

2009: 1,875 cases of initial genital HSV infection (28.1 cases/100,000 population) and 4 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 550 to 600 new cases diagnosed every year. Approximately 35% 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.

2009: 556 cases were reported (8.3/100,000 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.

2009: 29 cases (0.4 cases/100,000 population) were reported; with 2 deaths. Ten (34%) were admitted to the intensive care unit and nine (31%) required ventilation. Ages ranged from 22 to 83 years (median 58 years). 23 (79%) 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.

2009: No human cases were reported.

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 29 reports with 0 to 5 deaths.

2009: 24 cases were reported in 2009 (0.4 cases/100,000 population), including 9 in persons over the age of 50 (0.4/100,000) and 8 newborn infants. Four deaths were reported. Consumption of unpasteurized dairy products was reported by 19% of adult cases including two pregnant women.

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 23 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.

2009: 16 cases were reported; 3 with in-state exposure in San Juan, Skagit, and Stevens 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.

2009: 26 cases (0.4 cases/100,000 population), including one death, were reported: 12 *P. falciparum*, 2 *P. malariae,* 1 *P. ovale*, 5 *P. vivax*, 1 *ovale-vivax* coinfection, and 5 undetermined. Cases were associated with travel to Africa, Asia, and Central 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.

2009: One case was reported after travel to India.

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 (meningococcemia) 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.

2009: 26 cases (0.4 cases/100,000 population) were reported with 3 deaths. 22 cases had known serogroup: 12 serogroup B, 8 serogroup Y, and 2 serogroup C. Serogroup B, which is not included in the vaccine, caused the 3 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. 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.

2009: 6 cases were reported. The age range for reported cases was 15 to 70 years, with a median of 25 years. Three cases (50%) were reported as ever having received any mumps vaccine, and of these, 2 (66.7%) 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 Biotoxin 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.

2009: 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.

2009: 291 cases (4.4 cases/100,000 population) were reported. Rates were highest for children under a year (64.4/100,000) and 1 to 4 years (11.4/100,000). 41% of cases were reported as "up to date" for pertussis vaccine. 41 (14%) were related to an outbreak (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 2009 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.

2009: 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.

2009: 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.

2009: 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.

2009: One case was reported with a suspected exposure to placenta while assisting with goat birthing.

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 became official in March 2010 (*MMWR* 2010; 59 (No. RR-2). <http://www.cdc.gov/mmwr/pdf/rr/rr5902.pdf>). 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).

2009: There were 264 reports of PEP. The most common exposures were bats (64%), raccoons (19%), dogs (9%), and cats (3%). For 16 cases, PEP followed exposure to a bat testing positive for rabies; 9 persons receiving PEP had exposures out of state and 26 had exposures outside of the country. 14 of 311 (5%) bats tested were rabid (Table 4). No other animals tested in Washington were rabid (Table 5).

Table 3. Rabid Non-Bat Animals and Rabies Strains, Washington, 1987–2009

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, 2004-2009

	2005**		2006**		2007**		2008		2009		County Total	
Counties	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Total	Positive	Tested
Adams	0	1	0	0	0	0	0	0	0	0	0	1
Asotin	0	0	0	4	1	1	0	1	0	0	1	6
Benton	0	2	0	1	0	4	0	33	1	37	1	77
Chelan	0	8	1	8	0	1	1	7	0	1	2	25
Clallam	0	4	0	7	1	2	1	4	0	6	2	23
Clark	1	6	0	8	1	15	2	14	0	10	4	53
Columbia	0	0	0	0	0	1	0	0	0	1	0	2
Cowlitz	0	10	1	8	1	9	0	5	0	12	2	44
Douglas	0	0	0	1	0	0	0	1	0	2	0	4
Ferry	0	1	0	1	1	1	0	0	0	4	1	7
Franklin	0	2	0	0	0	0	0	1	0	0	0	3
Garfield	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	1	0	2	0	0	0	0	0	1	0	4
Grays Harbor	1	6	0	2	1	3	0	4	1	8	3	23
Island	1	12	1	15	0	8	1	15	1	6	4	56
Jefferson	0	0	0	2	0	1	0	1	1	5	1	9
King	1	50	3	58	4	98	1	83	1	38	10	327
Kitsap	1	15	1	13	3	20	0	17	0	18	5	83
Kittitas	0	1	0	1	0	0	0	1	1	2	1	5
Klickitat	0	2	0	0	0	2	0	1	0	1	0	6
Lewis	0	12	0	13	0	15	0	17	0	13	0	70
Lincoln	1	2	0	0	0	1	0	0	0	0	1	3
Mason	0	5	0	3	1	8	0	4	0	2	1	22
Okanogan	0	1	0	2	1	2	0	0	1	3	2	8
Pacific	0	7	0	0	0	1	2	8	1	4	3	20
Pend Oreille	0	1	1	2	0	0	0	0	0	1	1	4
Pierce	2	15	1	20	2	29	1	31	1	29	7	124
San Juan	0	0	0	1	0	3	0	0	0	2	0	6
Skagit	0	3	0	6	1	4	1	7	1	7	3	27
Skamania	0	0	1	1	0	2	0	1	0	0	1	4
Snohomish	0	19	3	25	0	24	2	20	2	29	7	117
Spokane	2	21	0	18	3	18	0	12	0	19	5	88
Stevens	0	3	0	8	0	3	0	4	1	4	1	22
Thurston	1	9	1	19	0	24	1	22	1	27	4	101
Wahkiakum	0	4	0	1	0	1	2	7	0	2	2	15
Walla Walla	2	3	0	1	0	3	0	0	0	0	2	7
Whatcom	2	17	1	20	1	7	1	8	0	15	5	67
Whitman	0	0	0	0	0	1	1	6	0	1	1	8
Yakima	0	2	0	2	0	3	0	2	0	1	0	10
Total	15	245	15	273	22	315	17	337	14	311	83	1481

** Numbers reported through 2007 were inclusive of only 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, 1988-2009
(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
2009	311 (14)	133	90	1	12	5	5	1	6	9	573
Total 1988-2009	**5404 (361)**	**2723 (1)**	**1914**	**145**	**212**	**66**	**207**	**22**	**251**	**186 (2)**	**11130 (364)**

* 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

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 in this country 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.

2009: No human rabies cases were reported.

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.

Coccidioidomycosis (Valley Fever)

Cause: The soil fungus *Coccidioides immitis.*

Illness and treatment: A pneumonia or flu-like illness with symptoms including fever, cough, headache, rash, and muscle aches. Disseminated infections can occur. Treatment is with antifungal drugs.

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

Prevention: Avoid exposure to dusty environments in endemic regions.

Recent Washington trends: Recently there are up to two travel-associated cases each year.

2009: Six cases were reported. Four cases reported travel to Arizona during their exposure period. One case was an immigrant from Mexico who was likely exposed prior to arriving in Washington. No exposure information is known about the sixth case.

Creutzfeldt-Jakob Disease (CJD)

Cause: Prions, or "proteinaceous infectious particles" in which normal cellular prion proteins in the brain fold into abnormal, pathologic forms, causing a fatal neurodegenerative disease.

Illness and treatment: 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 17 cases were reported each year.
2009: Nine cases were reported. The median age was 67 years old (range 45–80 years). All cases were laboratory confirmed; 7 were sporadic CJD, one was familial CJD, and one was pending at the time of publication of this report.

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, and air in the Pacific Northwest. Exposure is through inhalation of the organism.

Prevention: There are no specific precautions.

Recent Washington trends: More than 20 animals, including cats, dogs, porpoises, and a bird, have tested positive in Washington since 2004. In 2006, *C. gattii* was found in soil from Whatcom County and the first 2 state residents with *C. gattii* infections were reported. Since then, 2-6 human cases are reported in Washington each year, some with presumed in-state exposure and others with exposure likely in British Columbia (BC), Canada.

2009: Three cases were reported from Clark, Jefferson, and Whatcom counties. All had travel to other endemic areas (BC, Oregon, and Mexico) during the exposure period, but in-state exposure could not be ruled out either.

Diphyllobothriasis

Cause: The cestode *Diphyllobothrium latum* (the fish or broad tapeworm).

Illness and treatment: Most infections are asymptomatic. Symptoms include abdominal discomfort, diarrhea, and weight loss. Anemia may occur as a result of a vitamin B12 deficiency. Severe infections can result in diarrhea, obstruction of the bile duct or intestine, and toxic symptoms. Treatment is with anthelminthics.

Sources: *D. latum* can acquired after ingestion of raw or undercooked infected fish.

Prevention: Consume fish only if it is fully cooked, frozen for 24 hours at 0°F, or irradiated.

Recent Washington trends: No cases have been reported in recent history.

2009: One case was reported in a person with a history of consuming sushi.

African Trypanosomiasis (Sleeping Sickness)

Cause: The parasite *Trypanosoma brucei,* subspecies *rhodesiense* and *gambiense.*

Illness and treatment: Usual symptoms are fever, severe headache, irritability, extreme fatigue, swollen lymph nodes, and aching muscles and joints followed by neurological symptoms including progressive confusion and personality changes. The chronic (*T. b. gambiense*) form can last several years; but the acute (*T. b. rhodesiense*) form can be fatal within months. Treatment depends on the form and phase of disease. In the United States the only source of medication is CDC.

Sources: Tsetse flies, found only in rural woodland and savannah areas of Africa, can become infected and transmit the parasites to humans through bites. Tourists, hunters, and others working in or visiting game parks are at risk of exposure. *T. b. gambiense* is in western and central Africa, whereas *T. b. rhodesiense* is in eastern and southern Africa.

Prevention: During outdoor activities in endemic areas, wear appropriate clothing, avoid bushes, and use repellents.

Recent Washington trends: No cases have been reported in recent history.

2009: One case of *T. b. rhodesiense* was reported after the bite of a tsetse fly in Tanzania.

Histoplasmosis

Cause: *Histoplasma capsulatum* var. *capsulatum* and var. *duboisii*.

Illness and treatment: Usual symptoms are acute respiratory disease, fever, chest pains, malaise, and a dry cough. Chronic lung disease resembling tuberculosis can develop. Disseminated disease can occur and is fatal unless treated. Treatment is with antifungals; mild disease may resolve without treatment.

Sources: Infection occurs through inhaling disturbed soil and materials contaminated with bat or bird droppings where the fungus may grow.

Prevention: Avoid areas with accumulations of bird or bat droppings. Wear appropriate personal protective equipment when working in such areas.

Recent Washington trends: No cases have been reported in recent history.

2009: One case was reported with presumed exposure while living in Vietnam.

Paragonimiasis

Cause: Trematodes in the genus *Paragonimus.* The specific agent depends on the geographic location.

Illness and treatment: Symptoms during the acute phase include diarrhea, abdominal pain, fever, cough, urticaria, hepatosplenomegaly, pulmonary abnormalities, and eosinophilia. During the chronic phase, symptoms include cough, discolored sputum, hemoptysis, and abnormal chest x-rays. Treatment is with antihelminthics.

Sources: *Paragonimus* species are distributed throughout the Americas, Africa, and southeast Asia. Humans are infected after ingesting undercooked or inadequately pickled crustaceans (e.g. crabs and crayfish) that are infected with *Paragonimus*.

Prevention: Consume only crustaceans that have been fully cooked. Dispose of sputum and feces from infected persons in a sanitary manner and attempt to control snail populations.

Recent Washington trends: No cases have been reported in recent history.

2009: One case was reported in a recent Mexican immigrant with a history of consuming ceviche.

Methicillin Resistant *Staphylococcus aureus* (MRSA), Invasive Disease

Cause: *Staphylococcus aureus* bacteria with resistance to common antibiotics including penicillins and cephalosporins.

Illness and treatment: Any *S. aureus* strain including MRSA can cause disease ranging from minor skin pimples or boils to invasive pneumonia or bloodstream infection.

Sources: Humans.

Prevention: Good hygiene such as hand washing, wound care, and not sharing personal items will reduce the spread of skin infections including MRSA

Recent Washington trends: One fatal case was reported in 2008. No likely exposures could be identified.

2009: One fatal case was reported. The exposure source is unknown.

Rare Sexually Transmitted Diseases

Cause: Bacterium *Haemophilus ducreyi* causes chancroid. Bacterium *Calymmatobacterium granulamatis* 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 are endemic in some tropical and subtropical regions.

Prevention: Use safe sexual practices to reduce transmission.

Recent Washington trends: In the past decade there were 2 chancroid cases, no granuloma inguinale cases, and 12 lymphogranuloma venereum cases.

2009: 2 lymphogranuloma venereum cases, no 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 *Ornithodorus 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.

2009: 5 tick-borne cases were reported, including 2 with exposures in Okanogan County, one with exposure in California, and 2 with exposure in Idaho.

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.

2009: No cases were reported.

Salmonellosis (Non-Typhoid)

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

2009: 820 cases were reported (12.3 cases/100,000 population) with two 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.

2009: 153 cases were reported (2.3 cases/100,000 population). Shigellosis was diagnosed most frequently in the children 1 to 4 years of age. 40% of cases were associated with travel outside of the United States. The most frequently reported travel destinations were Jamaica, Africa, India, and Mexico.

Table 6. *Salmonella* Serotypes, 2009

Serotype	No.	%
Typhimurium	148	18.1
Enteritidis	147	17.9
Heidelberg	63	7.7
Montevideo	44	5.4
Newport	29	3.5
Saintpaul	22	2.7
Oranienburg	21	2.6
Thompson	19	2.3
Paratyphi B Tar + Java	18	2.2
4,5,12:I:--	17	2.1
Infantis	15	1.8
Hadar	15	1.8
Braenderup	14	1.7
Muenchen	12	1.5
Stanley	10	1.2
Agona	9	1.1
Javiana	9	1.1
4,12:I;--	8	1.0
Anatum	7	0.9
Senftenberg	6	0.7
Potsdam	6	0.7
Unknown	47	5.7

2-5 Cases Each: Braenderup; Mbandaka; Panama; Virchow; Derby; Dublin; Litchfield; Reading; Kentucky; Paratyphi A; Rissen; Telelkebir; 1,4,5,12;I;--; 18:Z4,Z23:--; 45:G;Z51;-; Adelaide; Bareilly; Carrau; Cotham; Daytona; Havana; Hvittingfoss; Johannesburg; Kintambo; Marina; Oslo; Pomona; Poona

One Case Each: 1,4,12:I:--; 41:Z4 Z23:-; 50:K:Z; 60:Z52:Z53; 9,12:1,Z28:---; Beaudesert; Bovismorbificans; Bradford; Charity; Chester; Clackamas; Concord; Corvallis; D, IC,5:-; Denver; Eastbourne; Flint; Florida; Galiema; Istanbul; Kisarawe; Liverpool; Mississippi; Napoli; Ohio; Paratyphi B; Putten; Richmond; Rubislaw; Sandiego; Schwarzengrund; Singapore; Subgenus I; Tennessee; Uganda; Urbana; Vejle; Wandsworth; Weltevreden; Worthington; Arizonae

Syphilis

Cause: Spirochete bacterium *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.

2009: 135 cases of primary and secondary syphilis were reported (2.0 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.

2009: 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 artic 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.

2009: 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. There has been a steady decrease in crude tuberculosis incidence rate.

2009: There were 256 reported cases (3.8/100,000 population) statewide and 9 deaths. Seventy five percent of the statewide TB cases were reported from King, Pierce, and Snohomish counties. Of those initiated on therapy, 3.53% of cases were fatal. Washington State transitioned into a new electronic data reporting system starting 2009.

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, bite from an arthropod (e.g., tick, deerfly), 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, exposure to wild rabbits or rodents, 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.

2009: 5 cases were reported in state residents, 3 were exposed in western Washington, one in Oregon, and one in Idaho. Three had exposure to wild rabbits or rodents, one was presumed to be exposed while mowing the lawn and another had an insect bite while gardening. One case was fatal.

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.

2009: 4 cases were reported; 3 reported international travel, and 1 reported exposure in western Washington. The exposure in Washington was related to transmission from a household member with confirmed typhoid fever who had a history of international travel.

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 typus. 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.

2009: 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.

2009: 48 cases were reported (0.7 cases/100,000 population) with 41 reporting shellfish ingestion. The age groups most affected were persons 45–49 and 50–54 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, and untreated drinking water.

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).

2009: No waterborne outbreaks were reported.

Table 7. Waterborne Outbreaks, 1991-2009

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
2009	0	0

Yersiniosis

Cause: Bacteria in the genus Y*ersinia*, 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.

2009: 15 cases were reported in 2009 (0.2 cases/100,000 population). 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	Chikungunya	Colorado Tick Fever	Dengue	Japanese Encephalitis	St. Louis Encephalitis	West Nile Virus	Yellow Fever	Other/ Unknown flavivirus
2002	1	0	0	0	0	0	0	1[V]	0
2003	8	0	0	0	0	0	8[T]	0	0
2004	3	0	0	1[T]	1[T]	0	1[T]	0	0
2005	6	0	0	3[T]	0	0	3[T]	0	0
2006	13	1[T]	0	4[T]	0	0	8 (5[T], 3[E])	0	0
2007	16	0	0	10[T]	0	0	5[T]	0	1[T]
2008	20	0	1[T]	14[T]	1[T]	0	4[E] (3[C], 1[P])	0	0
2009	54	0	0	11[T]	0	1[T]	40 (36[E], 2[U], 2[P])	0	2 (1[T], 1[E])

[V] Vaccine-associated

[T] Travel-associated

[E] Endemically acquired

[C] Confirmed case

[U] Unknown exposure location

[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	0.0	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
2009	4	2	4	0.1	1

‡ 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
2009	1	0.0	0

*All rates are cases per 100,000 population.

CAMPYLOBACTERIOSIS

	2005		2006		2007		2008		2009	
County	Cases	Rate*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	4	*	2	*	1	*	1	*	6	33.3
Asotin	0	0.0	0	0.0	0	0.0	1	*	1	*
Benton	26	16.4	23	14.3	24	14.7	22	13.3	33	19.5
Chelan	9	13.0	11	15.7	4	*	9	12.5	4	*
Clallam	7	10.5	6	8.8	6	8.8	12	17.3	14	20.1
Clark	57	14.6	57	14.1	70	16.9	54	12.7	74	17.2
Columbia	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Cowlitz	16	16.7	12	12.4	14	14.3	14	14.1	18	18.1
Douglas	0	0.0	1	*	2	*	0	0.0	2	*
Ferry	2	*	0	0.0	0	0.0	1	*	2	*
Franklin	6	9.9	11	17.1	14	20.8	14	19.9	21	28.9
Garfield	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Grant	19	24.0	11	13.6	12	14.5	15	17.7	17	19.7
Grays Harbor	10	14.3	11	15.6	12	16.9	14	19.7	15	21.1
Island	10	13.2	7	9.1	6	7.7	11	13.9	14	17.4
Jefferson	8	29.0	1	*	3	*	1	*	7	24.1
King	337	18.6	258	14.1	263	14.1	294	15.6	261	13.7
Kitsap	28	11.6	24	9.9	16	6.5	25	10.1	34	13.7
Kittitas	6	16.4	3	*	1	*	3	*	2	*
Klickitat	4	*	3	*	3	*	1	*	3	*
Lewis	16	22.3	6	8.2	15	20.2	13	17.4	24	31.9
Lincoln	1	*	1	*	0	0.0	1	*	1	*
Mason	5	9.6	7	13.2	10	18.3	9	16.0	10	17.6
Okanogan	0	0.0	2	*	6	15.1	6	15.0	2	*
Pacific	3	*	3	*	1	*	6	27.5	1	*
Pend Oreille	0	0.0	0	0.0	2	*	1	*	2	*
Pierce	48	6.4	50	6.5	69	8.7	75	9.3	79	9.7
San Juan	2	*	4	*	3	*	4	*	4	*
Skagit	22	19.8	24	21.2	29	25.2	31	26.4	24	20.2
Skamania	2	*	0	0.0	0	0.0	0	0.0	2	*
Snohomish	110	16.8	94	14.0	117	17.0	123	17.7	92	13.1
Spokane	74	17.0	67	15.1	73	16.2	79	17.2	62	13.3
Stevens	2	*	1	*	1	*	4	*	1	*
Thurston	26	11.6	30	13.0	50	21.0	57	23.2	31	12.4
Wahkiakum	0	0.0	2	*	1	*	1	*	1	*
Walla Walla	2	*	3	*	3	*	3	*	5	8.4
Whatcom	66	36.5	56	30.4	64	34.0	45	23.6	59	30.6
Whitman	0	0.0	0	0.0	1	*	2	*	1	*
Yakima	116	50.6	202	87.1	123	52.5	117	49.6	101	42.4
STATEWIDE TOTAL	1,045	16.7	993	15.6	1,020	15.7	1,069	16.2	1,030	15.4

*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	1,020	15.7	0
2008	1,069	16.2	0
2009	1,030	15.4	1

*All rates are cases per 100,000 population.

CHLAMYDIA TRACHOMATIS

	2005		2006		2007		2008		2009	
County	Cases	Rate*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	32	188.2	70	404.6	39	221.6	57	320.2	77	427.8
Asotin	37	177.0	40	189.6	29	136.2	53	247.7	41	190.7
Benton	406	256.8	375	233.5	506	310.6	555	335.3	570	336.7
Chelan	174	251.4	165	235.4	139	195.2	210	291.3	161	221.8
Clallam	145	217.1	142	209.4	135	197.1	161	232.7	164	236.0
Clark	916	234.0	818	202.7	899	216.6	1,096	258.4	1,312	304.3
Columbia	4	*	3	*	2	*	3	*	4	*
Cowlitz	322	335.8	369	381.2	324	331.3	289	291.9	340	341.4
Douglas	72	207.5	78	218.5	64	176.3	76	205.4	77	204.8
Ferry	16	216.2	26	346.7	18	238.4	26	337.7	16	205.1
Franklin	221	365.3	284	442.4	252	373.9	282	401.7	310	426.4
Garfield	1	*	0	0.0	3	*	1	*	1	*
Grant	188	237.7	195	241.9	209	253.3	251	296.7	262	304.3
Grays Harbor	164	235.0	155	220.2	140	197.7	175	246.8	140	196.6
Island	183	240.8	171	221.5	205	261.5	222	279.9	171	213.0
Jefferson	57	206.5	30	106.4	36	125.9	48	166.7	47	162.1
King	5,604	309.9	5,244	285.7	6,015	323.2	5,957	316.2	5,805	304.0
Kitsap	660	274.5	683	280.6	688	281.0	780	316.0	725	292.8
Kittitas	155	423.5	102	272.7	85	221.9	122	309.6	110	275.7
Klickitat	26	133.3	17	85.9	16	80.4	16	79.6	32	158.4
Lewis	162	226.3	150	205.8	143	193.0	191	255.7	160	212.8
Lincoln	5	49.5	5	49.0	9	87.4	5	48.1	9	86.1
Mason	162	312.1	110	207.2	126	230.8	105	186.5	130	228.9
Okanogan	124	313.1	123	309.0	92	231.2	113	281.8	105	259.3
Pacific	33	154.9	19	88.4	19	88.0	29	133.0	37	169.7
Pend Oreille	10	82.0	9	73.2	18	142.9	17	132.8	16	124.0
Pierce	3,428	453.5	3,031	391.9	3,357	424.7	3,807	472.7	3,861	474.6
San Juan	10	64.5	12	76.4	12	75.5	14	87.0	6	36.8
Skagit	294	265.1	283	250.2	303	262.8	351	298.7	331	278.4
Skamania	9	87.4	8	75.5	10	93.5	18	168.2	22	203.7
Snohomish	1,556	237.3	1,503	223.7	1,416	206.3	1,719	246.8	1,701	241.5
Spokane	1,071	245.5	1,121	252.6	1,259	279.0	1,719	374.5	1,637	352.0
Stevens	72	174.8	46	109.3	47	109.3	87	199.1	74	168.2
Thurston	528	235.6	576	249.2	602	252.9	771	314.3	716	286.6
Wahkiakum	5	128.2	7	179.5	4	*	5	122.0	1	*
Walla Walla	160	278.3	93	160.6	144	247.0	201	343.0	152	256.8
Whatcom	480	265.5	519	281.6	450	239.0	467	244.5	544	281.7
Whitman	152	358.5	117	273.4	126	295.1	140	325.6	131	302.5
Yakima	973	424.3	1,120	483.2	1,182	504.7	1,188	503.6	1,180	495.0
STATEWIDE TOTAL	18,617	297.6	17,819	279.5	19,123	294.7	21,327	323.7	21,178	317.6

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases
Note: Data prior to 2009 are based on year reported rather than year diagnosed.

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	207.8	0
2000	13,066	221.7	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
2009	21,178	317.6	0

*All rates are cases per 100,000 population.

**First year reported, July - December

Note: Data prior to 2009 are based on year reported rather than year diagnosed

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
2009	0	0.0	0

*All rates are cases per 100,000 population.

CRYPTOSPORIDIOSIS+

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	2	*	0	0.0	0	0.0
Benton	4	*	3	*	0	0.0	1	*	2	*
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	1	*	4	*
Clark	7	1.8	5	1.2	9	2.2	1	*	18	4.2
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	3	*	1	*	7	7.2	4	*	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	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	1	*	1	*	0	0.0	0	0.0
Island	1	*	1	*	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	2	*	5	17.4	5	17.2
King	55	3.0	46	2.5	43	2.3	34	1.8	32	1.7
Kitsap	2	*	1	*	5	2.0	8	3.2	0	0.0
Kittitas	2	*	1	*	2	*	13	33.0	1	*
Klickitat	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Lewis	1	*	0	0.0	2	*	2	*	2	*
Lincoln	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Mason	1	*	1	*	1	*	2	*	0	0.0
Okanogan	0	0.0	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	4	*	7	0.9	21	2.7	13	1.6	17	2.1
San Juan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Skagit	0	0.0	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	2	*	9	1.3	14	2.0	5	0.7	6	0.9
Spokane	0	0.0	4	*	6	1.3	2	*	4	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Thurston	1	*	3	*	4	*	0	0.0	0	0.0
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	1	*	0	0.0	0	0.0	1	*	0	0.0
Whatcom	1	*	3	*	3	*	0	0.0	2	*
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	7	3.1	6	2.6	15	6.4	7	3.0	3	*
STATEWIDE TOTAL	94	1.5	95	1.5	139	2.1	99	1.5	102	1.5

+ 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

CRYPTOSPORIDIOSIS STATEWIDE BY YEAR

Year	Cases	Rate*	Deaths
2001	73	1.2	0
2002	62	1.0	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
2009	102	1.5	0

*All rates are cases per 100,000 population.

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
2009	0	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
2009	0	0.0	0

*All rates are cases per 100,000 population.

E. COLI, ENTEROHEMORRHAGIC

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Asotin	1	*	1	*	1	*	2	*	0	0.0
Benton	3	*	3	*	2	*	1	*	4	*
Chelan	1	*	5	7.1	0	0.0	0	0.0	2	*
Clallam	1	*	0	0.0	1	*	0	0.0	0	0.0
Clark	30	7.7	14	3.5	9	2.2	7	1.7	25	5.8
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	7	7.3	2	*	3	*	1	*	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	*	1	*	1	*	0	0.0	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Grant	0	0.0	5	6.2	0	0.0	2	*	3	*
Grays Harbor	2	*	0	0.0	0	0.0	1	*	1	*
Island	2	*	1	*	1	*	2	*	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	3	*	0	0.0
King	43	2.4	45	2.5	44	2.4	48	2.5	68	3.6
Kitsap	9	3.7	7	2.9	6	2.5	2	*	3	*
Kittitas	1	*	0	0.0	0	0.0	3	*	2	*
Klickitat	1	*	0	0.0	3	*	0	0.0	1	*
Lewis	1	*	4	*	0	0.0	4	*	1	*
Lincoln	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Mason	1	*	0	0.0	0	0.0	0	0.0	1	*
Okanogan	0	0.0	0	0.0	2	*	0	0.0	1	*
Pacific	0	0.0	0	0.0	0	0.0	1	*	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	6	0.8	22	2.8	14	1.8	15	1.9	11	1.4
San Juan	0	0.0	1	*	0	0.0	0	0.0	1	*
Skagit	2	*	1	*	5	4.3	10	8.5	4	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	17	2.6	17	2.5	19	2.8	53	7.6	32	4.5
Spokane	3	*	9	2.0	3	*	6	1.3	10	2.2
Stevens	0	0.0	0	0.0	1	*	2	*	0	0.0
Thurston	4	*	6	2.6	8	3.4	5	2.0	12	4.8
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	0	0.0	1	*	1	*	1	*
Whatcom	9	5.0	10	5.4	11	5.8	8	4.2	9	4.7
Whitman	0	0.0	2	*	0	0.0	0	0.0	0	0.0
Yakima	3	*	5	2.2	5	2.1	12	5.1	11	4.6
STATEWIDE TOTAL	149	2.4	162	2.5	141	2.2	189	2.9	206	3.1

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

E. COLI, ENTEROHEMORRHAGIC 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
2009	206	3.1	0

*All rates are cases per 100,000 population.

GIARDIASIS

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	1	*	3	*	0	0.0	2	*
Benton	7	4.4	22	13.7	4	*	15	9.1	8	4.7
Chelan	2	*	2	*	1	*	2	*	3	*
Clallam	5	7.5	5	7.4	8	11.7	4	*	8	11.5
Clark	31	7.9	26	6.4	33	8.0	35	8.3	38	8.8
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	1	*	2	*	6	6.1	4	*	1	*
Douglas	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Franklin	1	*	4	*	5	7.4	3	*	2	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	6	7.6	3	*	2	*	3	*	5	5.8
Grays Harbor	3	*	4	*	8	11.3	6	8.5	4	*
Island	3	*	2	*	13	16.6	12	15.1	7	8.7
Jefferson	7	25.4	6	21.3	4	*	9	31.3	6	20.7
King	140	7.7	125	6.8	143	7.7	109	5.8	105	5.5
Kitsap	10	4.2	12	4.9	16	6.5	9	3.6	8	3.2
Kittitas	1	*	2	*	0	0.0	4	*	4	*
Klickitat	6	30.8	1	*	3	*	6	29.9	1	*
Lewis	1	*	5	6.9	6	8.1	6	8.0	8	10.6
Lincoln	4	*	0	0.0	2	*	0	0.0	0	0.0
Mason	6	11.6	4	*	5	9.2	8	14.2	2	*
Okanogan	1	*	4	*	3	*	5	12.5	5	12.3
Pacific	4	*	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	21	2.8	17	2.2	53	6.7	25	3.1	31	3.8
San Juan	0	0.0	0	0.0	1	*	0	0.0	2	*
Skagit	2	*	5	4.4	5	4.3	9	7.7	10	8.4
Skamania	0	0.0	1	*	0	0.0	0	0.0	1	*
Snohomish	54	8.2	62	9.2	73	10.6	80	11.5	70	9.9
Spokane	54	12.4	56	12.6	57	12.6	47	10.2	55	11.8
Stevens	0	0.0	0	0.0	1	*	1	*	2	*
Thurston	17	7.6	21	9.1	48	20.2	21	8.6	27	10.8
Wahkiakum	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Walla Walla	3	*	0	0.0	0	0.0	4	*	3	*
Whatcom	16	8.8	27	14.7	37	19.6	34	17.8	23	11.9
Whitman	0	0.0	0	0.0	2	*	2	*	0	0.0
Yakima	28	12.2	31	13.4	47	20.1	22	9.3	26	10.9
STATEWIDE TOTAL	437	7.0	451	7.1	590	9.1	486	7.4	467	7.0

*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	18.3	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
2009	467	7.0	0

*All rates are cases per 100,000 population.

GONORRHEA

	2005		2006		2007		2008		2009	
County	Cases	Rate*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	5	29.4	3	*	1	*	2	*	3	*
Asotin	1	*	1	*	2	*	4	*	4	*
Benton	21	13.3	43	26.8	30	18.4	32	19.3	34	20.1
Chelan	6	8.7	2	*	6	8.4	7	9.7	2	*
Clallam	21	31.4	17	25.1	13	19.0	16	23.1	12	17.3
Clark	206	52.6	129	32.0	160	38.6	170	40.1	124	28.8
Columbia	2	*	0	0.0	0	0.0	1	*	0	0.0
Cowlitz	104	108.4	223	230.4	128	130.9	39	39.4	9	9.0
Douglas	2	*	0	0.0	2	*	2	*	3	*
Ferry	0	0.0	0	0.0	1	*	1	*	0	0.0
Franklin	17	28.1	18	28.0	15	22.3	21	29.9	10	13.8
Garfield	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Grant	13	16.4	11	13.6	10	12.1	14	16.5	9	10.5
Grays Harbor	5	7.2	30	42.6	15	21.2	20	28.2	12	16.9
Island	31	40.8	24	31.1	27	34.4	16	20.2	14	17.4
Jefferson	2	*	6	21.3	4	*	2	*	2	*
King	1,785	98.7	1,937	105.5	1,492	80.2	1,290	68.5	1,083	56.7
Kitsap	76	31.6	72	29.6	98	40.0	62	25.1	44	17.8
Kittitas	8	21.9	4	*	5	13.1	11	27.9	6	15.0
Klickitat	5	25.6	3	*	0	0.0	3	*	2	*
Lewis	12	16.8	44	60.4	28	37.8	21	28.1	8	10.6
Lincoln	0	0.0	1	*	2	*	1	*	1	*
Mason	14	27.0	9	16.9	15	27.5	13	23.1	5	8.8
Okanogan	1	*	4	*	9	22.6	9	22.4	7	17.3
Pacific	3	*	8	37.2	4	*	2	*	1	*
Pend Oreille	2	*	1	*	1	*	1	*	0	0.0
Pierce	675	89.3	825	106.7	830	105.0	676	83.9	457	56.2
San Juan	0	0.0	1	*	0	0.0	6	37.3	2	*
Skagit	32	28.9	37	32.7	17	14.7	9	7.7	12	10.1
Skamania	3	*	0	0.0	0	0.0	2	*	2	*
Snohomish	244	37.2	317	47.2	296	43.1	207	29.7	148	21.0
Spokane	121	27.7	120	27.0	207	45.9	272	59.3	131	28.2
Stevens	5	12.1	3	*	2	*	1	*	4	*
Thurston	56	25.0	58	25.1	47	19.7	43	17.5	26	10.4
Wahkiakum	0	0.0	3	*	0	0.0	2	*	0	0.0
Walla Walla	1	*	3	*	3	*	7	11.9	5	8.4
Whatcom	117	64.7	103	55.9	52	27.6	28	14.7	38	19.7
Whitman	2	*	5	11.7	11	25.8	17	39.5	10	23.1
Yakima	139	60.6	166	71.6	113	48.2	86	36.5	38	15.9
STATEWIDE TOTAL	3,738	59.7	4,231	66.4	3,646	56.2	3,116	47.3	2,268	34.0

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

Note: Data prior to 2009 are based on year reported rather than year diagnosed

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	102.9	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	41.0	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
2009	2,268	34.0	0

*All rates are cases per 100,000 population.

Note: Data prior to 2009 are based on year reported rather than year diagnosed

HAEMOPHILUS INFLUENZAE INVASIVE DISEASE

Year	Cases	Rate*	Deaths
1980	126	3.1	0
1981	156	3.7	0
1982	149	3.5	6
1983	123	2.9	5
1984	110	2.5	5
1985	153	3.5	6
1986	319	7.2	11
1987	271	6.0	6
1988	200	4.4	0
1989	163	3.5	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
2009*	9	2.0	0

*All rates are cases per 100,000 population. Rates for 2001-2009 are for population aged 0-4 years.

HANTAVIRUS PULMONARY SYNDROME‡

Year	Cases	Rate*	Deaths
1994	2	0.0	1
1995	4	0.1	2
1996	4	0.1	2
1997	3	0.1	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
2008	2	0.0	1
2009	3	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
2009	0	0.0	0

‡ Hemolytic uremic syndrome (HUS) is a complication of bacterial infections, most commonly *E. coli* O157:H7. HUS first became a notifiable condition in Washington in 12/2000. HUS following a diarrheal illness is reported in Washington as suspect enterohemorrhagic *E. coli* and are not included in this table.

*All rates are cases per 100,000 population.

HEPATITIS A, ACUTE

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	0	0.0	0	0.0	1	*	0	0.0	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	1	*	0	0.0	1	*	0	0.0	0	0.0
Clallam	3	*	0	0.0	1	*	0	0.0	0	0.0
Clark	7	1.8	1	*	3	*	6	1.4	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	2	*	0	0.0	1	*	2	*	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	1	*	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	5	6.3	1	*	1	*	0	0.0	1	*
Grays Harbor	0	0.0	1	*	1	*	0	0.0	1	*
Island	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Jefferson	0	0.0	0	0.0	2	*	1	*	0	0.0
King	16	0.9	16	0.9	18	1.0	16	0.8	15	0.8
Kitsap	1	*	0	0.0	2	*	1	*	2	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	1	*	0	0.0	1	*
Lewis	0	0.0	1	*	0	0.0	1	*	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	1	*	0	0.0	0	0.0
Okanogan	0	0.0	6	15.1	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	5	0.7	3	*	5	0.6	3	*	5	0.6
San Juan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Skagit	1	*	1	*	2	*	1	*	0	0.0
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	11	1.7	8	1.2	9	1.3	10	1.4	7	1.0
Spokane	1	*	5	1.1	3	*	2	*	1	*
Stevens	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Thurston	3	*	1	*	1	*	1	*	2	*
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	1	*	0	0.0
Whatcom	2	*	6	3.3	6	3.2	1	*	2	*
Whitman	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	3	*	1	*	0	0.0	2	*	2	*
STATEWIDE TOTAL	63	1.0	52	0.8	60	0.9	51	0.8	42	0.6

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

HEPATITIS A, ACUTE 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
2009	42	0.6	1

*All rates are cases per 100,000 population.

HEPATITIS B, ACUTE

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	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	1	*	0	0.0	1	*
Clallam	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Clark	13	3.3	6	1.5	1	*	3	*	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	5	5.2	3	*	3	*	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	1	*
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	*	0	0.0	0	0.0	1	*	0	0.0
Grays Harbor	1	*	4	*	1	*	2	*	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	23	1.3	21	1.1	20	1.1	29	1.5	11	0.6
Kitsap	6	2.5	6	2.5	2	*	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	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	1	*	0	0.0	0	0.0
Pacific	0	0.0	1	*	0	0.0	0	0.0	2	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	5	0.7	5	0.6	11	1.4	6	0.7	9	1.1
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	0	0.0	1	*	2	*	1	*	1	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	6	0.9	6	0.9	3	*	1	*	2	*
Spokane	14	3.2	19	4.3	21	4.7	8	1.7	10	2.2
Stevens	0	0.0	0	0.0	1	*	0	0.0	3	*
Thurston	1	*	2	*	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	1	*
Whatcom	4	*	0	0.0	0	0.0	0	0.0	0	0.0
Whitman	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Yakima	1	*	5	2.2	1	*	2	*	1	*
STATEWIDE TOTAL	80	1.3	80	1.3	71	1.1	56	0.9	48	0.7

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

HEPATITIS B, ACUTE 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
2009	48	0.7	0

*All rates are cases per 100,000 population.

HEPATITIS C, ACUTE

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	0	0.0	0	0.0	1	*	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	1	*	1	*	1	*	0	0.0
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Clark	0	0.0	1	*	0	0.0	1	*	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	1	*	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	0	0.0	1	*
Island	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	9	0.5	8	0.4	7	0.4	11	0.6	5	0.3
Kitsap	0	0.0	1	*	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	1	*
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	1	*	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	5	0.7	3	*	3	*	1	*	1	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	2	*	2	*	1	*	1	*	1	*
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	*	1	*
Spokane	2	*	5	1.1	2	*	5	1.1	7	1.5
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	0	0.0	1	*	0	0.0	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	1	*	0	0.0	3	*	2	*
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	2	*	1	*	1	*	0	0.0	1	*
STATEWIDE TOTAL	21	0.3	23	0.4	18	0.3	25	0.4	22	0.3

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

HEPATITIS C, ACUTE 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
2009	22	0.3	0

*All rates are cases per 100,000 population.

HERPES SIMPLEX

	2005		2006		2007		2008		2009	
County	Cases	Rate*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	2	*	2	*	3	*	2	*	2	*
Asotin	18	86.1	18	85.3	4	*	4	*	3	*
Benton	38	24.0	38	23.7	55	33.8	42	25.4	60	35.4
Chelan	23	33.2	23	32.8	27	37.9	37	51.3	14	19.3
Clallam	29	43.4	25	36.9	24	35.0	26	37.6	21	30.2
Clark	72	18.4	37	9.2	44	10.6	81	19.1	87	20.2
Columbia	2	*	1	*	0	0.0	0	0.0	3	*
Cowlitz	30	31.3	55	56.8	42	42.9	42	42.4	38	38.2
Douglas	15	43.2	11	30.8	11	30.3	11	29.7	5	13.3
Ferry	0	0.0	0	0.0	0	0.0	2	*	2	*
Franklin	15	24.8	22	34.3	16	23.7	18	25.6	15	20.6
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	22	27.8	11	13.6	12	14.5	11	13.0	14	16.3
Grays Harbor	11	15.8	17	24.1	25	35.3	14	19.7	13	18.3
Island	34	44.7	47	60.9	63	80.4	42	53.0	29	36.1
Jefferson	14	50.7	9	31.9	12	42.0	6	20.8	4	*
King	798	44.1	769	41.9	618	33.2	516	27.4	542	28.4
Kitsap	67	27.9	68	27.9	75	30.6	64	25.9	82	33.1
Kittitas	18	49.2	29	77.5	10	26.1	14	35.5	10	25.1
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	25	34.9	23	31.6	22	29.7	6	8.0	16	21.3
Lincoln	2	*	0	0.0	1	*	0	0.0	0	0.0
Mason	20	38.5	21	39.5	13	23.8	11	19.5	13	22.9
Okanogan	13	32.8	11	27.6	4	*	8	20.0	7	17.3
Pacific	2	*	5	23.3	2	*	4	*	2	*
Pend Oreille	4	*	3	*	4	*	4	*	4	*
Pierce	231	30.6	307	39.7	184	23.3	246	30.5	261	32.1
San Juan	2	*	1	*	2	*	7	43.5	1	*
Skagit	65	58.6	62	54.8	52	45.1	37	31.5	31	26.1
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	3	*
Snohomish	305	46.5	395	58.8	270	39.3	328	47.1	221	31.4
Spokane	155	35.5	148	33.3	132	29.3	187	40.7	158	34.0
Stevens	5	12.1	5	11.9	8	18.6	11	25.2	5	11.4
Thurston	82	36.6	121	52.4	91	38.2	85	34.7	85	34.0
Wahkiakum	0	0.0	1	*	0	0.0	2	*	0	0.0
Walla Walla	22	38.3	12	20.7	20	34.3	23	39.2	20	33.8
Whatcom	77	42.6	67	36.4	53	28.1	39	20.4	41	21.2
Whitman	14	33.0	12	28.0	3	*	10	23.3	6	13.9
Yakima	99	43.2	70	30.2	50	21.3	69	29.2	57	23.9
STATEWIDE TOTAL	2,331	37.3	2,446	38.4	1,952	30.1	2,009	30.5	1,875	28.1

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

Note: Data prior to 2009 are based on year reported rather than year diagnosed

HERPES SIMPLEX STATEWIDE BY YEAR

Year	Cases	Rate*	Deaths
2001	1,836	30.7	0
2002	1,914	31.7	0
2003	2,073	34.0	0
2004	2,153	34.9	0
2005	2,331	37.3	0
2006	2,446	38.4	0
2007	1,952	30.1	0
2008	2,009	30.5	0
2009	1,875	28.1	0

*All rates are cases per 100,000 population.

Note: Data prior to 2009 are based on year reported rather than year diagnosed

HUMAN IMMUNODEFICIENCY VIRUS (HIV)§

	2005		2006		2007		2008		2009	
County	Cases	Rate*	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Asotin	1	*	1	*	0	0.0	1	*	2	*
Benton	2	*	9	5.6	5	3.1	2	*	4	*
Chelan	5	7.2	4	*	3	*	1	*	3	*
Clallam	4	*	1	*	1	*	2	*	3	*
Clark	26	6.6	20	5.0	42	10.1	17	4.0	20	4.6
Columbia	0	0.0	0	0.0	2	*	0	0.0	0	0.0
Cowlitz	2	*	6	6.2	5	5.1	5	5.1	5	5.0
Douglas	0	0.0	0	0.0	2	*	0	0.0	1	*
Ferry	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Franklin	6	9.9	2	*	3	*	5	7.1	4	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	3	*	3	*	3	*	1	*
Grays Harbor	6	8.6	2	*	2	*	6	8.5	1	*
Island	0	0.0	2	*	2	*	3	*	7	8.7
Jefferson	0	0.0	3	*	1	*	0	0.0	0	0.0
King	321	17.8	309	16.8	320	17.2	320	17.0	321	16.8
Kitsap	9	3.7	13	5.3	8	3.3	6	2.4	10	4.0
Kittitas	3	*	3	*	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	2	*	1	*	0	0.0	0	0.0
Lewis	0	0.0	4	*	1	*	2	*	4	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	4	*	1	*	7	12.8	9	16.0	3	*
Okanogan	0	0.0	0	0.0	1	*	3	*	3	*
Pacific	3	*	3	*	2	*	1	*	1	*
Pend Oreille	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Pierce	61	8.1	59	7.6	64	8.1	64	7.9	62	7.6
San Juan	0	0.0	1	*	1	*	0	0.0	1	*
Skagit	6	5.4	5	4.4	3	*	5	4.3	1	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Snohomish	53	8.1	45	6.7	43	6.3	36	5.2	39	5.5
Spokane	22	5.0	25	5.6	36	8.0	26	5.7	17	3.7
Stevens	1	*	1	*	0	0.0	1	*	1	*
Thurston	10	4.5	9	3.9	15	6.3	9	3.7	13	5.2
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	1	*	1	*	0	0.0	3	*	1	*
Whatcom	7	3.9	8	4.3	10	5.3	10	5.2	9	4.7
Whitman	2	*	1	*	0	0.0	2	*	1	*
Yakima	10	4.4	8	3.5	13	5.6	12	5.1	16	6.7
STATEWIDE TOTAL	566	9.0	552	8.7	597	9.2	554	8.4	556	8.3

§ 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 from years 2005-2008 have been adjusted since previous editions of this report. Data

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

DEATHS ATTRIBUTED TO HIV DISEASE‡

Year	Cases	Rate*	Deaths
1990	1,081	22.2	351
1991	1,015	20.3	429
1992	985	19.3	368
1993	930	17.7	573
1994	804	15.1	598
1995	696	12.8	570
1996	685	12.4	399
1997	608	10.8	180
1998	530	9.3	119
1999	587	10.2	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	566	9.0	139
2006	552	8.7	94
2007	597	9.2	95
2008	554	8.4	85
2009	556	8.3	87

‡ Includes only deaths attributed to HIV/AIDS

*All rates are new diagnoses per 100,000 population.

Note: Data from years 2005-2008 have been adjusted since previous editions of this report.

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
2009	29	0.4	2

*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
2009	0	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	0.3	3
2007	25	0.4	2
2008	29	0.4	3
2009	24	0.4	4

*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
2009	16	0.2	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	0.4	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
2009	26	0.4	1

*All rates are cases per 100,000 population.

MEASLES

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	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	19	22.5	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	1	*	0	0.0	1	*	0	0.0	1	*
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	1	*	0	0.0	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	0	0.0	0	0.0	1	*	0	0.0	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	1	*	0	0.0	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	1	0.0	1	0.0	3	0.0	19	0.3	1	0.0

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

MEASLES STATEWIDE BY YEAR

Year	Cases	Rate*	Deaths
1980	178	4.3	0
1981	3	0.1	0
1982	42	1.0	0
1983	43	1.0	0
1984	178	4.1	0
1985	178	4.1	0
1986	176	4.0	0
1987	47	1.0	0
1988	7	0.2	0
1989	56	1.2	0
1990	357	7.3	2
1991	67	1.3	0
1992	11	0.2	0
1993	0	0.0	0
1994	5	0.1	0
1995	17	0.3	0
1996	38	0.7	0
1997	2	0.0	0
1998	1	0.0	0
1999	5	0.1	0
2000	3	0.1	0
2001	15	0.3	0
2002	1	0.0	0
2003	0	0.0	0
2004	7	0.1	0
2005	1	0.0	0
2006	1	0.0	0
2007	3	0.0	0
2008	19	0.3	0
2009	1	0.0	0

*All rates are cases per 100,000 population.

MENINGOCOCCAL DISEASE

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	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	1	*	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Clark	6	1.5	6	1.5	5	1.2	4	*	3	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	3	*	1	*	1	*	0	0.0	0	0.0
Douglas	0	0.0	0	0.0	1	*	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	1	*	0	0.0
Garfield	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	0	0.0	1	*	2	*	1	*
Grays Harbor	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Island	0	0.0	1	*	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	14	0.8	12	0.7	5	0.3	6	0.3	5	0.3
Kitsap	1	*	1	*	0	0.0	3	*	2	*
Kittitas	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Klickitat	0	0.0	0	0.0	2	*	0	0.0	0	0.0
Lewis	2	*	1	*	0	0.0	0	0.0	0	0.0
Lincoln	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	1	*	0	0.0	0	0.0	1	*
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	1	*	1	*	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	7	0.9	4	*	0	0.0	3	*	3	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Skagit	0	0.0	3	*	1	*	1	*	0	0.0
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	4	*	5	0.7	4	*	5	0.7	2	*
Spokane	5	1.1	3	*	3	*	8	1.7	4	*
Stevens	0	0.0	2	*	1	*	0	0.0	0	0.0
Thurston	0	0.0	1	*	2	*	2	*	1	*
Wahkiakum	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Walla Walla	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Whatcom	3	*	1	*	2	*	0	0.0	1	*
Whitman	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Yakima	2	*	1	*	2	*	1	*	2	*
STATEWIDE TOTAL	53	0.8	45	0.7	32	0.5	40	0.6	26	0.4

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

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
2009	26	0.4	3

*All rates are cases per 100,000 population.

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
2009	6	0.1	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
2009	0	0.0	0

*All rates are cases per 100,000 population.

PERTUSSIS

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	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	7	4.4	5	3.1	3	*	4	*	6	3.5
Chelan	1	*	1	*	5	7.0	3	*	0	0.0
Clallam	5	7.5	1	*	0	0.0	3	*	0	0.0
Clark	61	15.6	22	5.5	26	6.3	29	6.8	18	4.2
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	4	*	13	13.4	2	*	2	*	6	6.0
Douglas	0	0.0	0	0.0	1	*	1	*	0	0.0
Ferry	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Franklin	2	*	3	*	5	7.4	0	0.0	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	4	*	1	*	4	*	4	*	1	*
Grays Harbor	2	*	1	*	4	*	4	*	7	9.8
Island	5	6.6	2	*	0	0.0	86	108.4	1	*
Jefferson	8	29.0	0	0.0	0	0.0	0	0.0	0	0.0
King	316	17.5	94	5.1	130	7.0	85	4.5	38	2.0
Kitsap	60	25.0	18	7.4	24	9.8	13	5.3	5	2.0
Kittitas	5	13.7	2	*	3	*	2	*	26	65.2
Klickitat	0	0.0	1	*	0	0.0	0	0.0	3	*
Lewis	14	19.6	5	6.9	2	*	10	13.4	6	8.0
Lincoln	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Mason	5	9.6	1	*	2	*	3	*	0	0.0
Okanogan	0	0.0	0	0.0	8	20.1	2	*	7	17.3
Pacific	0	0.0	0	0.0	0	0.0	3	*	3	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	70	9.3	36	4.7	23	2.9	33	4.1	29	3.6
San Juan	12	77.4	3	*	44	276.7	18	111.8	2	*
Skagit	40	36.1	15	13.3	3	*	14	11.9	9	7.6
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	55	8.4	21	3.1	46	6.7	46	6.6	35	5.0
Spokane	19	4.4	39	8.8	34	7.5	6	1.3	4	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	14	6.2	11	4.8	6	2.5	4	*	11	4.4
Wahkiakum	0	0.0	2	*	0	0.0	0	0.0	6	146.3
Walla Walla	4	*	0	0.0	0	0.0	1	*	0	0.0
Whatcom	120	66.4	58	31.5	66	35.1	55	28.8	34	17.6
Whitman	3	*	1	*	3	*	0	0.0	0	0.0
Yakima	189	82.4	21	9.1	37	15.8	29	12.3	34	14.3
STATEWIDE TOTAL	1,026	16.4	377	5.9	482	7.4	460	7.0	291	4.4

*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
2009	291	4.4	0

*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
2009	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
2009	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
2009	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
2009	1	0.0	0

*All rates are cases per 100,000 population.

RABIES (HUMAN)

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
2009	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
2009	2	0	0	2

Note: Data prior to 2009 are based on year reported rather than year diagnosed

RELAPSING FEVER

Year	Cases	Rate*	Deaths
1986	2	0.0	0
1987	7	0.2	1
1988	5	0.1	0
1989	5	0.1	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	0.1	0
1997	4	0.1	0
1998	5	0.1	0
1999	3	0.1	0
2000	5	0.1	1
2001	1	0.0	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
2009	5	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	0.0	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
2009	0	0.0	0

*All rates are cases per 100,000 population.

SALMONELLOSIS

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	4	*	2	*	2	*	1	*	3	*
Asotin	2	*	0	0.0	2	*	2	*	3	*
Benton	19	12.0	18	11.2	25	15.3	18	10.9	21	12.4
Chelan	8	11.6	15	21.4	7	9.8	10	13.9	8	11.0
Clallam	4	*	3	*	11	16.1	15	21.7	7	10.1
Clark	40	10.2	53	13.1	43	10.4	45	10.6	98	22.7
Columbia	0	0.0	0	0.0	2	*	0	0.0	1	*
Cowlitz	4	*	1	*	8	8.2	7	7.1	9	9.0
Douglas	0	0.0	0	0.0	3	*	0	0.0	1	*
Ferry	0	0.0	0	0.0	6	79.5	0	0.0	0	0.0
Franklin	7	11.6	11	17.1	0	0.0	10	14.2	6	8.3
Garfield	1	*	0	0.0	0	0.0	0	0.0	1	*
Grant	5	6.3	10	12.4	24	29.1	14	16.5	7	8.1
Grays Harbor	3	*	7	9.9	6	8.5	6	8.5	12	16.9
Island	10	13.2	5	6.5	7	8.9	11	13.9	10	12.5
Jefferson	2	*	3	*	2	*	4	*	4	*
King	214	11.8	203	11.1	247	13.3	304	16.1	257	13.5
Kitsap	19	7.9	16	6.6	13	5.3	21	8.5	22	8.9
Kittitas	4	*	3	*	2	*	10	25.4	5	12.5
Klickitat	2	*	3	*	4	*	1	*	4	*
Lewis	2	*	11	15.1	10	13.5	11	14.7	7	9.3
Lincoln	0	0.0	1	*	0	0.0	3	*	1	*
Mason	4	*	2	*	3	*	4	*	3	*
Okanogan	2	*	1	*	8	20.1	7	17.5	2	*
Pacific	2	*	2	*	2	*	2	*	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Pierce	52	6.9	71	9.2	85	10.8	78	9.7	78	9.6
San Juan	1	*	1	*	1	*	2	*	1	*
Skagit	13	11.7	11	9.7	8	6.9	13	11.1	10	8.4
Skamania	0	0.0	1	*	1	*	0	0.0	1	*
Snohomish	69	10.5	65	9.7	73	10.6	87	12.5	88	12.5
Spokane	40	9.2	30	6.8	37	8.2	39	8.5	41	8.8
Stevens	1	*	0	0.0	1	*	1	*	2	*
Thurston	23	10.3	15	6.5	36	15.1	29	11.8	36	14.4
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	1	*	2	*	16	27.4	7	11.9	6	10.1
Whatcom	16	8.8	22	11.9	23	12.2	30	15.7	24	12.4
Whitman	0	0.0	5	11.7	6	14.1	3	*	1	*
Yakima	52	22.7	34	14.7	34	14.5	49	20.8	40	16.8
STATEWIDE TOTAL	626	10.0	627	9.8	758	11.7	846	12.8	820	12.3

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

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	13.0	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
2009	820	12.3	2

*All rates are cases per 100,000 population.

SHIGELLOSIS

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Adams	0	0.0	0	0.0	1	*	2	*	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	5	3.2	7	4.4	4	*	5	3.0	8	4.7
Chelan	4	*	3	*	2	*	3	*	2	*
Clallam	0	0.0	1	*	1	*	1	*	0	0.0
Clark	10	2.6	6	1.5	8	1.9	4	*	5	1.2
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	2	*	1	*	0	0.0	0	0.0	0	0.0
Douglas	1	*	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	7	10.9	3	*	3	*	2	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	3	*	2	*	3	*	5	5.9	3	*
Grays Harbor	0	0.0	2	*	0	0.0	0	0.0	0	0.0
Island	1	*	1	*	1	*	0	0.0	1	*
Jefferson	1	*	0	0.0	1	*	0	0.0	0	0.0
King	72	4.0	52	2.8	52	2.8	41	2.2	64	3.4
Kitsap	1	*	2	*	3	*	2	*	2	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	1	*	0	0.0	0	0.0	2	*	0	0.0
Lewis	2	*	0	0.0	0	0.0	1	*	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	1	*	0	0.0	1	*	2	*
Okanogan	1	*	0	0.0	0	0.0	0	0.0	1	*
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	6	0.8	14	1.8	5	0.6	8	1.0
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Skagit	10	9.0	5	4.4	2	*	2	*	3	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	16	2.4	11	1.6	30	4.4	11	1.6	15	2.1
Spokane	6	1.4	3	*	2	*	4	*	4	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	3	*	1	*	1	*	4	*	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	3	*	21	35.5
Whatcom	5	2.8	26	14.1	5	2.7	9	4.7	3	*
Whitman	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Yakima	29	12.6	32	13.8	26	11.1	8	3.4	7	2.9
STATEWIDE TOTAL	185	3.0	170	2.7	159	2.5	116	1.8	153	2.3

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

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
2009	153	2.3	0

*All rates are cases per 100,000 population.

SYPHILIS (PRIMARY AND SECONDARY)

	2005		2006		2007		2008		2009	
County	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	1	*	0	0.0
Benton	1	*	1	*	1	*	3	*	0	0.0
Chelan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Clark	5	1.3	2	*	1	*	2	*	4	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Cowlitz	1	*	1	*	1	*	1	*	1	*
Douglas	1	*	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	0	0.0	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	0	0.0	0	0.0	0	0.0
Grays Harbor	0	0.0	0	0.0	1	*	1	*	0	0.0
Island	4	*	1	*	0	0.0	0	0.0	0	0.0
Jefferson	1	*	0	0.0	0	0.0	0	0.0	1	*
King	119	6.6	147	8.0	120	6.4	127	6.7	97	5.1
Kitsap	4	*	4	*	3	*	9	3.6	5	2.0
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	*	1	*	0	0.0	1	*	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	1	*	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	3	*	7	0.9	19	2.4	19	2.4	9	1.1
San Juan	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	1	*	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	3	*	6	0.9	9	1.3	7	1.0	5	0.7
Spokane	0	0.0	2	*	6	1.3	5	1.1	7	1.5
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	2	*	4	*	5	2.1	2	*	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	1	*	3	*	0	0.0	0	0.0	0	0.0
Whitman	1	*	0	0.0	1	*	0	0.0	0	0.0
Yakima	2	*	3	*	0	0.0	1	*	2	*
STATEWIDE TOTAL	152	2.4	182	2.9	168	2.6	181	2.7	135	2.0

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

Note: Data prior to 2009 are based on year reported rather than year diagnosed

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	7.3	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
2009	135	2.0	0

*All rates are cases per 100,000 population.

Note: Data prior to 2009 are based on year reported rather than year diagnosed

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
2009	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
2009	0	0.0	0

*All rates are cases per 100,000 population.

TUBERCULOSIS

	2005		2006		2007		2008		2009	
County	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	1	*	0	0.0	0	0.0	0	0.0
Benton	0	0.0	6	3.7	4	*	1	*	3	*
Chelan	1	*	3	*	2	*	1	*	2	*
Clallam	0	0.0	1	*	4	*	0	0.0	1	*
Clark	9	2.3	8	2.0	7	1.7	7	1.7	16	3.7
Columbia	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	1	*	2	*	1	*	1	*	0	0.0
Douglas	1	*	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	2	*	0	0.0	4	*	4	*	1	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	3	*	1	*	1	*	1	*	3	*
Grays Harbor	3	*	2	*	4	*	0	0.0	0	0.0
Island	1	*	0	0.0	6	7.7	2	*	2	*
Jefferson	1	*	0	0.0	1	*	0	0.0	0	0.0
King	125	6.9	145	7.9	161	8.6	121	6.4	130	6.8
Kitsap	6	2.5	6	2.5	10	4.1	5	2.0	4	*
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	1	*
Lewis	0	0.0	1	*	0	0.0	1	*	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	2	*	2	*	2	*	2	*
Okanogan	0	0.0	0	0.0	1	*	2	*	0	0.0
Pacific	0	0.0	0	0.0	3	*	1	*	0	0.0
Pend-Oreille	0	.	0	.	0	.	0	.	0	.
Pierce	27	3.6	21	2.7	24	3.0	18	2.2	34	4.2
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	6	5.4	2	*	0	0.0	2	*	2	*
Skamania	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	24	3.7	26	3.9	24	3.5	25	3.6	28	4.0
Spokane	13	3.0	10	2.3	5	1.1	8	1.7	9	1.9
Stevens	1	*	0	0.0	1	*	1	*	0	0.0
Thurston	6	2.7	5	2.2	6	2.5	5	2.0	8	3.2
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	2	*	2	*	0	0.0	3	*	0	0.0
Whatcom	5	2.8	4	*	7	3.7	5	2.6	3	*
Whitman	1	*	0	0.0	1	*	0	0.0	1	*
Yakima	14	6.1	14	6.0	12	5.1	11	4.7	5	2.1
STATEWIDE TOTAL	254	4.1	262	4.1	291	4.5	228	3.5	256	3.8

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

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	4.0	9
2005	254	4.1	14
2006	262	4.1	18
2007	291	4.5	12
2008	228	3.5	2
2009	256	3.8	9

*All rates are cases per 100,000 population.

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	0.0	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
2009	5	0.1	1

*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	0.2	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
2009	4	0.1	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
2009	0	0.0	0

*All rates are cases per 100,000 population.

VIBRIOSIS

Year	Cases	Rate*	Deaths
1985	4	0.1	0
1986	7	0.2	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
2009	48	0.7	0

*All rates are cases per 100,000 population.

YERSINIOSIS

	2005		2006		2007		2008		2009	
County	Case	Rate*	Case	Rate	Case	Rate	Case	Rate	Case	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	1	*	1	*	2	*	1	*	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	1	*	0	0.0	0	0.0	2	*	0	0.0
Clark	0	0.0	2	*	2	*	2	*	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	0	0.0	1	*	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	1	*	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	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	1	*
Jefferson	1	*	2	*	2	*	0	0.0	0	0.0
King	10	0.6	9	0.5	6	0.3	6	0.3	7	0.4
Kitsap	0	0.0	0	0.0	1	*	1	*	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	1	*	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	1	*
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	2	*	2	*	2	*	1	*
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	1	*	3	*	5	0.7	1	*	4	*
Spokane	0	0.0	3	*	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	1	*	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	2	*	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	1	*	0	0.0	6	2.6	1	*	0	0.0
STATEWIDE TOTAL	19	0.3	22	0.3	28	0.4	19	0.3	15	0.2

*All rates are cases per 100,000 population. Incidence rates not calculated for <5 cases

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
2009	15	0.2	0

*All rates are cases per 100,000 population.

APPENDIX II

Special Topics

Local Health Jurisdiction Contributors are acknowledged for special topics.

Q Fever, Skagit County

M. Skjei, S. Paciotti, A. Gutierrez

In April 2009, Skagit County Public Health received a report of a positive *Coxiella burnetti* Phase II titer in a 35 year old Skagit County resident. The case presented in mid-March with fever, chills, mid-thoracic back pain, headache and cough. A chest x-ray performed at the time of illness was negative for pneumonia. PPD skin testing was positive; Quantiferon testing for TB was negative. Liver enzymes showed slight elevation and sedimentation rate was elevated. Blood cultures were negative.

The case has been employed for seven years as a livestock worker at a Snohomish County farm which raises goats for show purposes. Primary duties at the farm include cleaning pens and assisting with birthing of animals. The case wears gardening gloves while assisting with birthing of goats, but does not wash his hands after removing gloves. Animals are buried at the farm if they die, and are not butchered. The goats are also milked by the owners, but no contact with or consumption of goat milk was reported by the case.

The case was treated with appropriate antibiotic therapy, as well as anti-inflammatories and pain medication as needed. Convalescent Q fever antibody serology drawn at 4 weeks showed a four-fold increase, indicative of acute disease. The Washington State Department of Agriculture was notified; however, no follow-up was conducted since milk was not sold at the farm. The case recovered fully.

Rabies at the Tavern

S. Wellhausen, N. Marsden-Haug, N. Close

On Tuesday July 21st, 2009, Northeast Tri-County Health District (NETCHD) Environmental Health Office in Colville received an anonymous call about a patron (patron A) being bitten by a bat at a tavern in Chewelah, WA on Sunday, July 19th.

Upon interview, patron A said he had felt a small prick on his skin when he picked up the bat, but that the bite had not broken his skin.

NETCHD investigators acquired the deceased bat from a second tavern patron (patron B) who had been keeping the bat on his dashboard until he could stuff the “cute flying mouse”. The bat was tested by the Washington State Public Health Laboratories and was positive for rabies.

Armed with the positive result, the NETCHD investigators went to the tavern to identify additional persons who may have been exposed to the bat. Upon a second interview with patron A, he reported that he went out the back door of the tavern and noticed a bat clinging to the brick wall about 2 feet off the ground. He reported picking up the bat to throw it to the other side of the alley. He said he felt the bat prick his skin after which he dropped it and stepped on it. A third patron (patron C) at the tavern contradicted patron A’s story, saying that after being bitten,

patron A tried to feed the bat a lemon slice because he thought it was a fruit bat. Patron B did not have a clear recollection of his contact with the bat, but it was determined that he had cupped the deceased bat in his hand when he picked it up to place it on his dashboard.

A fourth account of the incident from patron D indicated that after patron A was bitten while attempting to feed the bat, he dropped it and the bat crawled to the other side of the building and died. As far as patron D knew no one else touched the bat until Monday when patron D picked the bat up by the wing with his thumb and forefinger. After touching the bat, patron D washed his hands. Patron D also reported that patron B had not picked up the bat until Tuesday, shortly before the arrival of the NETCHD investigators.

Both patron A and patron B were advised to get rabies post-exposure prophylaxis (PEP), however, patron B did not feel this was necessary. A friend was called on to assist in convincing patron A and patron B to get PEP.

Since the bat had been in the alley for two days, NETCHD posted signs in the area and notices in the local papers requesting that people call immediately if they had contact with the rabid bat. A memo was sent to all medical providers and hospitals in Stevens County and the mayor was notified. Only one call was received about in response to the press, but the call involved an unrelated bat with which the caller reportedly had had no contact.

Pertussis Outbreak in Kittitas County January – April 2009

L. Navarre, K. Nickel, N. Close

On February 10th, Kittitas County Public Health Department (KCPHD) identified a case of pertussis whose onset was in mid-January. An interview revealed that the case had visited her children's childcare facility while contagious. As a result, KCPHD evaluated the children at the childcare facility. Eleven days later, KCPHD identified two more pertussis cases; both were linked to the index case. One was the index case's child and the second was a person who had attended a Bunco party with the index case during the index case's contagious period. Only a week later, six additional cases of pertussis were reported, five of whom attended the same secondary school. KCPHD then began to receive a flurry of reports of wrestlers and wrestling coaches with pertussis. Some of the wrestlers had been contagious for pertussis while attending the 2009 Mat Classic State Wrestling Championship held at the Tacoma Dome on February 20th and 21st.

The outbreak quickly became a multi-county affair as it became clear that pertussis was circulating in the high school wrestling community across the state. Then in late March, Yakima Health District reported that there was pertussis circulating in a wrestling league for elementary school children where high school-aged wrestlers often volunteer.

Meanwhile, a community outbreak of pertussis had developed in Kittitas County with the high school being the epi-center. Class schedules and absentee records were obtained for the case-patients. Vaccination records and contact information was obtained for students that shared classes with the case-patients. KCPHD sent out letters written in both Spanish and English to the parents and staff (teachers, bus drivers, custodians) at four schools in two different school

districts in Kittitas County. Numerous discussions and communications occurred with the school superintendents, principals, transportation directors, school nurses, school clubs, youth groups, coaches, and athletic directors associated with the four schools. On March 12, the Kittitas County Health Officer issued an order to cancel or postpone all extracurricular activities where anyone outside of the school (including family members of students) might be present until April 1st. A similar health officer order was issued on March 25th in the other school district.

By April, the outbreak was winding down. Kittitas County had identified 30 outbreak-associated cases of pertussis. Cases ranged in age from 2-50 years. In addition, 226 other persons had been tested for pertussis and 1094 follow-up investigations of persons who had contact with a case had been conducted. Prevention and control measures were also required at two healthcare facilities due to potential exposures to staff and patients.

Outside of Kittitas County, an additional 22 outbreak-associated cases of pertussis were reported from other counties across Washington State: Pacific (1), Pierce (2), Skagit (1), Snohomish (12), Whatcom (4), and Yakima (2).

PANDEMIC INFLUENZA A (H1N1) SURVEILLANCE, 2009–2010

In April 2009, the Centers for Disease Control and Prevention (CDC) detected a novel influenza virus in two children from adjacent counties in Southern California. This novel influenza A (H1N1) virus contained a unique set of gene segments from four different influenza viruses (human, North American avian, North American swine, and Eurasian swine strains). These children did not have contact with each other or pigs which suggested the virus was circulating in the region. Outbreaks of respiratory illness in Mexico in March 2009 were subsequently determined to be caused by this same novel influenza A (H1N1) virus (2009 H1N1). By early June 2009, the virus had spread around the world and on June 11, 2009, the World Health Organization declared the first pandemic of the 21st century.

The Washington State Department of Health (DOH), in collaboration with local health jurisdictions and CDC, performed enhanced surveillance for 2009 H1N1 influenza during April 2009 through May 2010. Initially, the goals of surveillance were to determine the severity of the virus and the extent of transmission in Washington State. By fall, the goals focused on determining the geographic spread, estimating influenza morbidity and mortality, and identifying risk factors for severe disease. DOH and local health jurisdictions accomplished these goals using several surveillance systems including:

1) Mandatory reporting of hospitalized and fatal ("severe") 2009 H1N1 cases
2) World Health Organization/National Respiratory and Enteric Virus Surveillance System (WHO/NREVSS)
3) Outpatient Influenza-like Illness Surveillance Network (ILINet)
4) Public Health Reporting of Electronic Data (PHRED)
5) 122-Cities Mortality Reporting System

Hospitalized and Fatal 2009 H1N1 Influenza Cases, April 2009–May 2010

Surveillance efforts changed over time, first focusing on identifying all 2009 H1N1 infections, and subsequently monitoring hospitalized and fatal cases ("severe cases"). In spring and summer 2009, only severe cases of 2009 H1N1 influenza were tracked but, starting in September 2009, data were collected on severe cases of influenza of any type.

During April 2009–May 2010, surveillance identified 1667 hospitalized and fatal influenza cases with laboratory-confirmed 2009 H1N1 or influenza A virus of unknown subtype. Since our virologic data showed that nearly 100% of the subtyped influenza A specimens were 2009 H1N1 (see below), all unsubtyped influenza A specimens were assumed to be 2009 H1N1. Of these 1667 patients, approximately 27% required critical care and 98 (6%) were fatal.

The 2009 H1N1 pandemic occurred in two waves in Washington, an initial wave in the spring and summer of 2009 which primarily affected western Washington residents and a larger wave in the fall of 2009 which affected residents of both western and eastern Washington but peaked two weeks earlier in eastern Washington (Figure 1).

The hospitalization rate was highest among children ages 0 to 4 years old. Mortality rates were lowest for those younger than age 25 years and increased with age with the highest mortality rates in those 50 years and older (Figure 2).

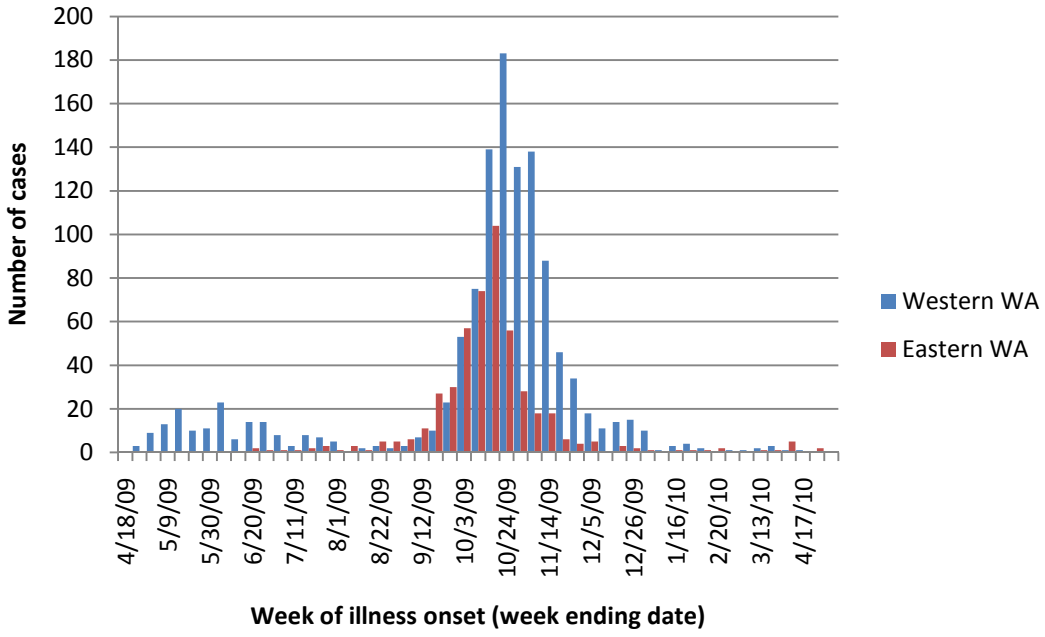


Figure 1. Number of hospitalized and fatal 2009 H1N1 cases by region of residence, plotted by week of illness onset, April 2009–April 2010

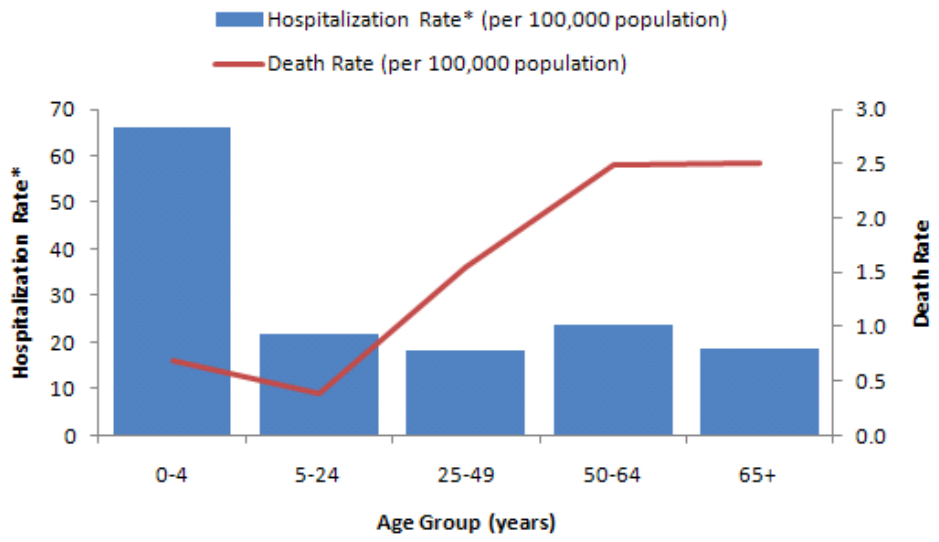


Figure 2. Hospitalization and death rates of influenza A cases by age group, April 2009–April 2010. *Includes hospitalized, nonfatal influenza A cases

Overall, 69% of hospitalized nonfatal cases, and 73% of fatal cases had at least one underlying medical condition (as defined by the Advisory Committee of Immunization Practices) putting them at risk for flu complications. The most common medical conditions reported included asthma, diabetes, chronic lung disease, heart disease, and immunosuppression (Table 1).

Table 1. Underlying conditions among hospitalized, nonfatal and fatal influenza A cases, April 2009–April 2010

Condition	Hospitalized, nonfatal (n=1356)* No. (%)	Fatal (n=97)* No. (%)
Any ACIP-defined risk factor	934 (69)	71 (73)
Asthma	294 (22)	12 (12)
Chronic lung disease	196 (14)	28 (29)
Diabetes	203 (15)	26 (27)
Heart disease	149 (11)	26 (27)
Pregnancy	115 (8)	2 (2)
Immunocompromised	149 (11)	22 (23)
Neurologic condition	121 (9)	8 (8)
Chronic liver condition	27 (2)	5 (5)
Chronic kidney condition	65 (5)	16 (16)
Hemoglobinopathy	13 (1)	0 (0)
Metabolic	11 (1)	0 (0)

*Data on underlying conditions missing for 213 hospitalized, nonfatal cases and 1 fatal case.

Overall, 87% of severe influenza cases received antiviral treatment. Of those who received treatment with a known antiviral start date, 54% received their first dose of oseltamivir within 2 days of illness onset. Among cases that required critical care or were fatal, only 35% received their first dose within 2 days of onset. The proportion of cases receiving antiviral therapy within 2 days increased slightly from the first to second wave (43% vs. 55%, respectively).

2009 H1N1 Influenza in Pregnant Women

Medical chart reviews were performed on all pregnant women hospitalized with 2009 H1N1 influenza and reported to DOH during April 2009 through January 2010. For this analysis, hospitalization was defined as having at least one overnight stay. Based on the slightly different case definition and time period of detection, the number of pregnant women in this analysis is slightly different than stated above.

During April 2009 through January 2010, 101 hospitalized or fatal pregnant women with influenza were detected; 78 (77%) were confirmed to have 2009 H1N1 and 23 (23%) had influenza A of unknown subtype which was presumed to be 2009 H1N1. Of these cases, 11 (11%) required critical care and 2 (2%) died. Both deaths occurred during the first wave of the pandemic.

Pregnant women were almost 8 times more likely to be hospitalized for 2009 H1N1 compared to non-pregnant women and 11 times more likely than men of the same age (Table 2).

Table 2. Gender and pregnancy status-specific hospitalization rates by age group, April 2009–January 2010

	Hospitalization Rate			Severe Case Rate (ICU + Deaths)		
Age	**Males**	**Non-Pregnant Females**	**Pregnant Females**	**Males**	**Non-Pregnant Females**	**Pregnant Females**
10–24 Years	12.4	18.0	224.5	3.5	4.0	16.9
25–44 Years	12.6	18.5	100.1	4.4	5.7	14.6
Total	12.5	18.3	141.1	4.0	5.0	15.4

Most hospitalized pregnant women were in their third trimester of pregnancy. Among pregnant women, those younger than 20 years of age, Hispanic, Black, or with Medicaid insurance had a higher rate of hospitalization compared to other pregnant women.

Overall, 93% of hospitalized pregnant women received antiviral treatment. Of hospitalized pregnant women, 70% received antivirals within 2 days of illness onset which was a higher proportion than other groups.

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

The Washington State Public Health Laboratories (WAPHL), the Public Health Seattle & King County Public Health Laboratory and the University of Washington Virology Laboratory, along with approximately 150 other laboratories across the nation, conduct virologic surveillance as part of WHO/NREVSS. Participating laboratories report the total number of positive influenza tests, by virus type/subtype, and the percent of specimens testing positive each week. A subset of these specimens is sent to the CDC for further characterization, including gene sequencing, antiviral resistance testing, and antigenic determination.

2009 H1N1 virus was first detected in Washington at the end of the 2008–2009 influenza season during week 17 (week ending May 2, 2009) (Figure 3). At this time, seasonal influenza viruses were still in circulation. After an initial wave of illness in the spring and summer of 2009, a second wave began around week 35 (week ending September 4, 2009). The absolute number of positive specimens and percent positive during the first and second wave should not be compared because different testing strategies were used in the spring and fall. WAPHL requested that laboratories submit all positive influenza tests during the first wave and limit submissions to hospitalized patients in the second wave.

Of the specimens which tested positive for influenza during August 30, 2009–May 22, 2010, 2654 (100%) were influenza A and 2 (<1%) were influenza B. Almost 100% of the influenza A viruses subtyped during this time were 2009 H1N1 (Table 3).

Table 3. Washington Influenza Specimens – Cumulative August 30, 2009–May 22, 2010

A(H1)	A (2009 H1N1)	A (H3)	A (Subtyping not performed)	A (Unable to subtype)	B	Total Influenza	Total # Tested	Total % Influenza Positive
1	2304	0	349	0	2	2656	15160	18

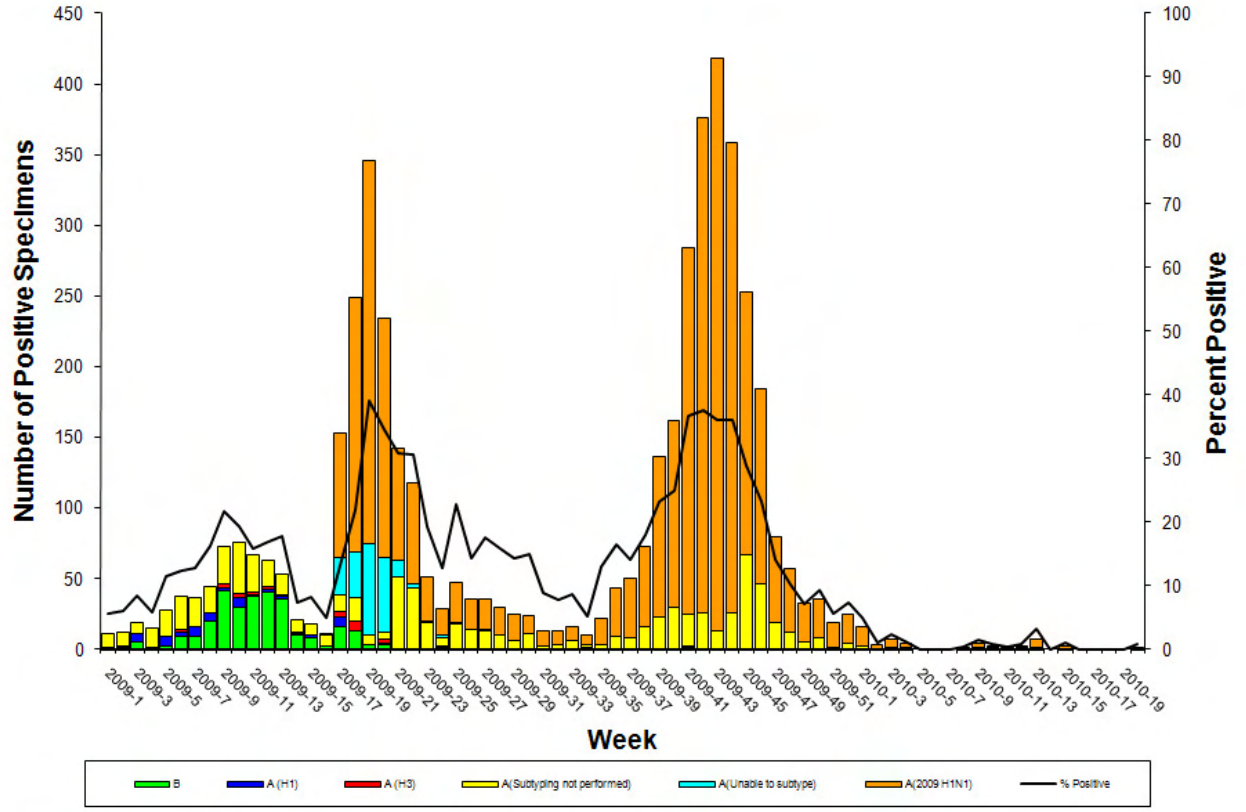


Figure 3. Influenza positive tests reported to CDC by WHO/NREVSS collaborating laboratories, Washington, 2009–2010

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

During the 2009–2010 season, the national outpatient Influenza-like Illness Surveillance Network consisted of approximately 3,400 health care providers including 34 from Washington. Each week, participating providers reported to the CDC the total number of patients seen and the number of those patients with influenza-like illness (ILI) by age group.

Sentinel providers reported an increase in the proportion of visits for ILI in late April/early May 2009 (weeks 17–18) after the novel virus was detected. During the fall of 2009, the proportion of visits for ILI greatly exceeded the state baseline (Figure 4).

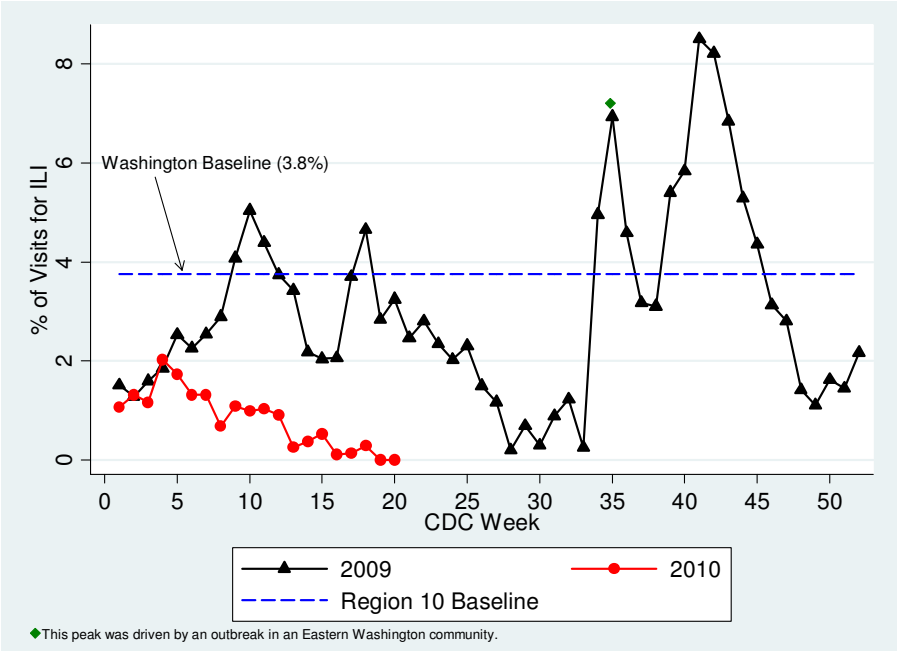


Figure 4. Percentage of patient visits for influenza-like illness (ILI) reported by sentinel providers in Washington, 2009–2010

Public Health Reporting of Electronic Data (PHRED)

In May 2009, five large commercial laboratories in Washington began reporting the number of influenza positive results obtained each week to the Department of Health through PHRED. The trends reflected by the test results obtained through PHRED mimic that of the other influenza surveillance systems (Figure 5).

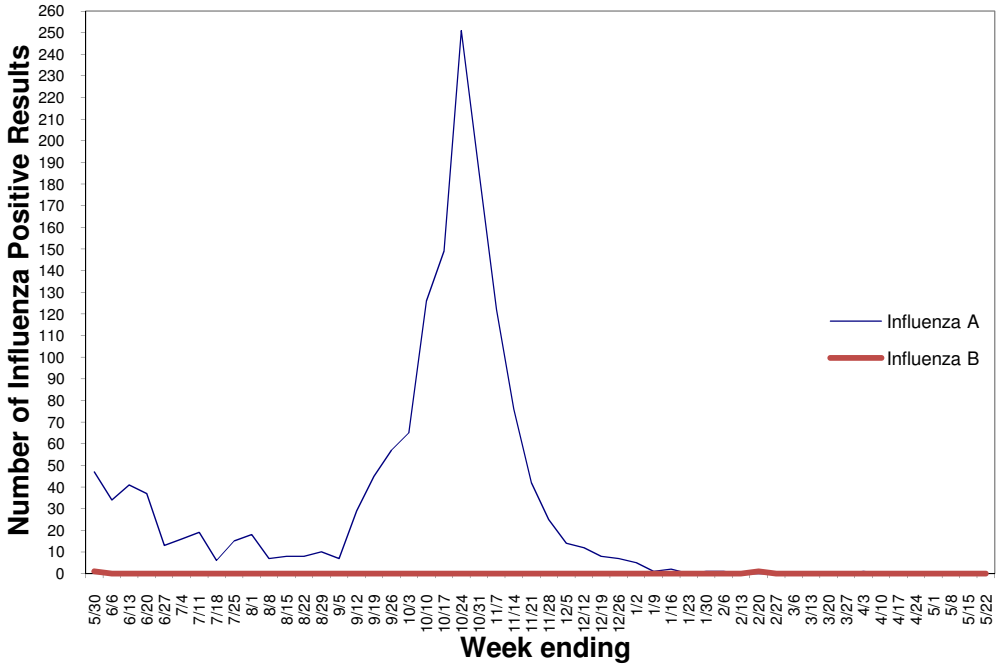


Figure 5. Positive influenza specimens reported by five commercial labs, Washington, 2009–

2010

122-Cities Mortality Reporting System

CDC's 122-Cities Mortality Reporting System tracks the weekly proportion of deaths due to pneumonia and influenza (P&I) from 122 cities in the United States. Seattle, Spokane, and Tacoma are the three Washington State cities that contribute to this system. During the pandemic, the proportion of deaths due to pneumonia and influenza in Washington reported by these three cities did not exceed the expected proportion (Figure 6).

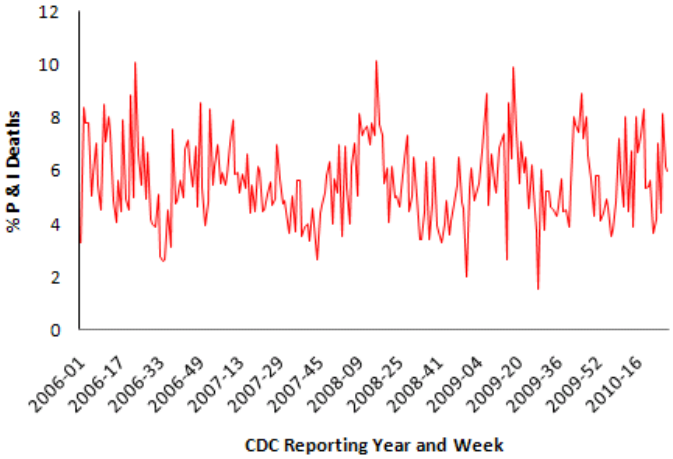


Figure 6. Percentage of deaths due to pneumonia and influenza (P&I) reported by Seattle, Spokane and Tacoma by CDC week, 2006–2010

Influenza Trivalent Vaccine 2010–2011

In 2010, the Centers for Disease Control and Prevention expanded the influenza vaccination recommendations to include annual vaccination for everyone 6 months of age and older. The 2010–2011 trivalent influenza vaccine contains the following:

- A/California/7/2009 (H1N1)-like antigens
- A/Perth/16/2009 (H3N2)-like antigens
- B/Brisbane/60/2008-like antigens

APPENDIX III

State Demographics

Washington State Population Estimates, 1985-2009*
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
2009	6,668,200

*April 1, 2009 estimate updated August 2009; Accessed on 5/25/10 from: http://www.ofm.wa.gov/pop/coagemf

Washington State Population Estimates By County, 2009*

Washington State Office of Financial Management

County	Estimate
Adams	18,000
Asotin	21,500
Benton	169,300
Chelan	72,600
Clallam	69,500
Clark	431,200
Columbia	4,100
Cowlitz	99,600
Douglas	37,600
Ferry	7,800
Franklin	72,700
Garfield	2,250
Grant	86,100
Grays Harbor	71,200
Island	80,300
Jefferson	29,000
King	1,909,300
Kitsap	247,600
Kittitas	39,900
Klickitat	20,200
Lewis	75,200
Lincoln	10,450
Mason	56,800
Okanogan	40,500
Pacific	21,800
Pend Oreille	12,900
Pierce	813,600
San Juan	16,300
Skagit	118,900
Skamania	10,800
Snohomish	704,300
Spokane	465,000
Stevens	44,000
Thurston	249,800
Wahkiakum	4,100
Walla Walla	59,200
Whatcom	193,100
Whitman	43,300
Yakima	238,400
Washington State	**6,668,200**

*April 1, 2009 estimate updated August 2009; Accessed on 5/25/10 from: http://www.ofm.wa.gov/pop/coagemf

Washington State Population By Age and Sex, 2009*
Washington State Office of Financial Management

Age (years)	Male	Female	TOTAL
0-4	225,215	214,951	440,166
5-9	220,076	209,835	429,911
10-14	222,711	212,216	434,927
15-19	241,684	229,115	470,799
20-24	244,408	233,190	477,598
25-29	246,379	233,732	480,111
30-34	221,611	210,382	431,993
35-39	232,306	222,188	454,494
40-44	233,068	226,062	459,130
45-49	252,639	250,773	503,412
50-54	244,750	247,208	491,958
55-59	216,234	223,438	439,672
60-64	174,571	181,981	356,552
65-69	122,178	129,573	251,751
70-74	83,531	94,170	177,701
75-79	60,742	76,295	137,037
80-84	43,085	65,103	108,188
85+	39,909	82,891	122,800
TOTAL	3,325,097	3,343,103	6,668,200

*April 1, 2009 estimate updated August 2009; Accessed on 5/25/10 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 5/25/10). 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 November 2009 forecast of the state population by age and sex were used (http://www.ofm.wa.gov/pop/stfc/; accessed 5/25/10).