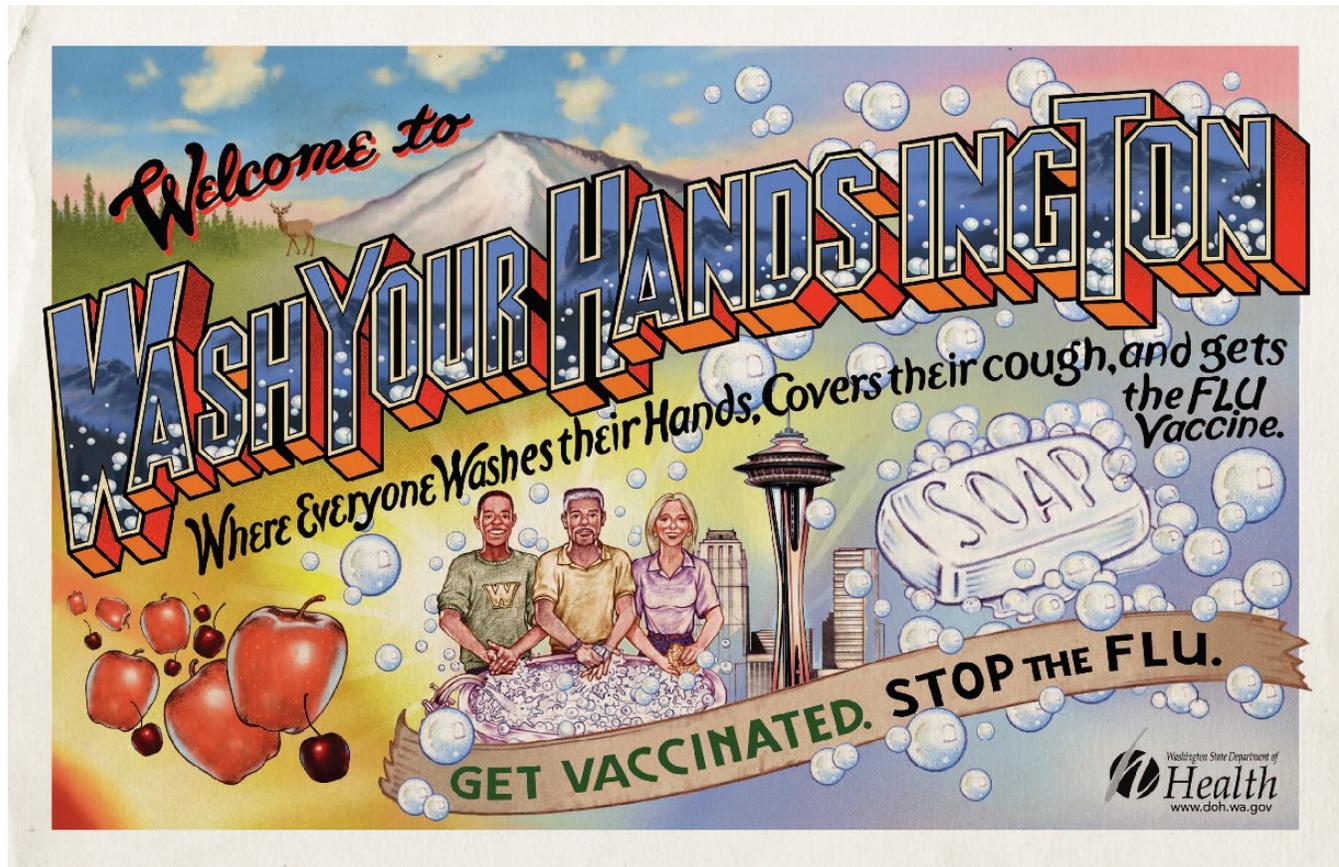


# Washington State COMMUNICABLE DISEASE REPORT 2011



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DOH 420-004

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# ***COMMUNICABLE DISEASE REPORT 2011***

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This report represents Washington State communicable disease surveillance: the ongoing collection, analysis and dissemination of morbidity and mortality data to prevent and control communicable disease. 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 January 2013

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## Executive Summary – 2011

This report summarizes notifiable communicable diseases reported by local health jurisdictions to the Department of Health (DOH) in 2011. The most common case reports continued to be sexually transmitted conditions, infections caused by enteric pathogens, pertussis, and tuberculosis. The number of pertussis cases reached a six year high with 962 cases reported. Eight cases of Q fever were reported; seven of which were related to an outbreak tied to goats. Rare conditions of public health significance that were reported include melioidosis, coccidioidomycosis, Creutzfeldt-Jakob Disease (CJD), cryptococcosis, ehrlichiosis, Rocky Mountain spotted fever, tick paralysis, and a varicella-associated death. Overall, influenza activity during the 2011–2012 influenza season was mild compared to previous seasons and occurred later than usual.

### 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. Local health jurisdictions report to the Department Health electronically via the Public Health Issue Management System (PHIMS).

Cases of communicable 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 2011 CDC Year (January 2, 2011 – December 31, 2011).
3. Case report entered into PHIMS by March 1, 2012 if the condition is common (>10 cases per year).
4. Reported to DOH through PHIMS prior to May 15, 2012 if the condition is rare (≤10 cases per year).
5. Very rare conditions (0-2 cases per year) reported to DOH after the previous year's deadline (if not reported in a previous annual report).
6. Given a valid DOH case classification by DOH (as described in the guidelines for each condition: <http://www.doh.wa.gov/PublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions.aspx>). For select conditions, certain valid DOH classifications are excluded from the annual report. The following table lists the valid 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

Counts of asymptomatic presumptive viremic blood donors with West Nile Virus are 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 to a surveillance system because case patients 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/asr/default.asp>. Previously reported disease rates for 2000 through 2010 were updated using new population estimates based on the 2010 decennial census. 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/Portals/1/Documents/5100/420-004-CDAnnualReport2011.pdf>

The online newsletter, *EpiTrends*, contains monthly Washington State disease tallies and is available at: <http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/CommunicableDiseaseSurveillanceData/MonthlyCDSurveillanceReport.aspx>.

Additional information on communicable disease surveillance and case investigation in Washington is available at: <http://www.doh.wa.gov/PublicHealthandHealthcareProviders/NotifiableConditions/ListofNotifiableConditions.aspx>.

For other information or to request the report in an alternate format, contact:  
Washington State Department of Health, Office of Communicable Disease Epidemiology  
1610 NE 150<sup>th</sup> Street, MS K17-9  
Shoreline, WA 98155  
206-418-5500

## **Reporting a Notifiable Condition**

In accordance with Washington State rule (<http://www.doh.wa.gov/PublicHealthandHealthcareProviders/NotifiableConditions.aspx>), 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/Portals/1/Documents/1200/phsd-LHJ.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: 877-539-4344. For a complete list of notifiable conditions for health care providers, hospitals, laboratories and veterinarians, please refer to <http://www.doh.wa.gov/PublicHealthandHealthcareProviders/NotifiableConditions/HowToReport.aspx>.

# Notifiable Conditions & the Health Care Provider

The following conditions are notifiable to public health authorities in accordance with WAC 246-101

- Report to the local health jurisdiction of the patient's residence within the timeframe indicated by footnote (except for conditions followed by a reporting phone number)
- **Immediately notifiable conditions (Bold <sup>Imm</sup>) must be reported as soon as clinically suspected**

Acquired immunodeficiency syndrome (AIDS) <sup>3d</sup> (including AIDS in persons previously reported with HIV infection) <sup>3d</sup>	Lymphogranuloma venereum <sup>3d</sup>
<b>Animal bites (when human exposure to rabies is suspected)</b> <sup>Imm</sup>	Malaria <sup>3d</sup>
<b>Anthrax</b> <sup>Imm</sup>	<b>Measles (rubeola) acute disease only</b> <sup>Imm</sup>
Arboviral disease <sup>3d</sup> (West Nile virus disease, dengue, Eastern & Western equine encephalitis, St Louis encephalitis, and Powassan) <sup>3d</sup>	<b>Meningococcal disease (invasive)</b> <sup>Imm</sup>
Asthma, occupational (suspected or confirmed) <sup>Mo</sup> <b>1-888-66SHARP</b>	<b>Monkeypox</b> <sup>Imm</sup>
Birth Defects <sup>Mo</sup> : autism spectrum disorders, cerebral palsy, alcohol related birth defects <sup>Mo</sup> <b>360-236-3533</b>	Mumps (acute disease only) <sup>24h</sup>
<b>Botulism (foodborne, wound and infant)</b> <sup>Imm</sup>	<b>Outbreaks of suspected foodborne origin</b> <sup>Imm</sup>
Brucellosis ( <i>Brucella</i> species) <sup>24h</sup>	<b>Outbreaks of suspected waterborne origin</b> <sup>Imm</sup>
<b>Burkholderia mallei (Glanders)</b> <sup>Imm</sup> and <b>pseudomallei (Melioidosis)</b> <sup>Imm</sup>	<b>Paralytic shellfish poisoning</b> <sup>Imm</sup>
Campylobacteriosis <sup>3d</sup>	Pertussis <sup>24h</sup>
Chancroid <sup>3d</sup>	<b>Pesticide poisoning</b> <b>1-800-222-1222</b>
<i>Chlamydia trachomatis</i> infection <sup>3d</sup>	<b>Hospitalized, fatal, or cluster</b> <sup>Imm</sup>
<b>Cholera</b> <sup>Imm</sup>	Pesticide poisoning, all other <sup>3d</sup>
Cryptosporidiosis <sup>3d</sup>	<b>Plague</b> <sup>Imm</sup>
Cyclosporiasis <sup>3d</sup>	<b>Poliomyelitis</b> <sup>Imm</sup>
<b>Diphtheria</b> <sup>Imm</sup>	Prion disease <sup>3d</sup>
<b>Disease of suspected bioterrorism origin</b> <sup>Imm</sup>	Psittacosis <sup>24h</sup>
<b>Domoic acid poisoning</b> <sup>Imm</sup>	Q fever <sup>24h</sup>
<b>E. coli - Refer to "Shiga toxin producing E. coli"</b> <sup>Imm</sup>	<b>Rabies (confirmed human or animal)</b> <sup>Imm</sup>
<b>Emerging condition with Outbreak potential</b> <sup>Imm</sup>	<b>Rabies, suspected human exposure</b> <sup>Imm</sup>
Giardiasis <sup>3d</sup>	<b>Relapsing fever (borreliosis)</b> <sup>24h</sup>
Gonorrhea <sup>3d</sup>	<b>Rubella (include congenital rubella syndrome)</b> <sup>Imm</sup>
Granuloma inguinale <sup>3d</sup>	(acute disease only)
<b>Haemophilus influenzae (invasive disease, children &lt; age 5)</b> <sup>Imm</sup>	Salmonellosis <sup>24h</sup>
Hantavirus pulmonary syndrome <sup>24h</sup>	<b>SARS</b> <sup>Imm</sup>
Hepatitis A, acute infection <sup>24h</sup>	<b>Shiga toxin-producing E. coli infections</b> <sup>Imm</sup>
Hepatitis B, acute <sup>24h</sup>	(enterohemorrhagic <i>E. coli</i> including, but not limited to, <i>E. coli</i> 0157:H7; also includes post-diarrheal hemolytic uremic syndrome)
Hepatitis B, chronic (initial diagnosis/previously unreported cases) <sup>Mo</sup>	Shigellosis <sup>24h</sup>
Hepatitis B, surface antigen positive pregnant women <sup>3d</sup>	<b>Smallpox</b> <sup>Imm</sup>
Hepatitis C, acute <sup>3d</sup> and chronic <sup>Mo</sup> (initial diagnosis only)	Syphilis (including congenital) <sup>3d</sup>
Hepatitis D (acute and chronic infections) <sup>3d</sup>	Tetanus <sup>3d</sup>
Hepatitis E (acute infection) <sup>24h</sup>	Trichinosis <sup>3d</sup>
Herpes simplex, neonatal and genital (initial infection only) <sup>3d</sup>	<b>Tuberculosis</b> <sup>Imm</sup>
HIV infection <sup>3d</sup>	<b>Tularemia</b> <sup>Imm</sup>
Immunization reactions <sup>3d</sup> (severe, adverse)	<b>Vaccinia transmission</b> <sup>Imm</sup>
<b>Influenza, novel or unsubtypeable strain</b> <sup>Imm</sup>	Vancomycin-resistant <i>Staphylococcus aureus</i> <sup>24h</sup>
Influenza-associated death (lab confirmed) <sup>3d</sup>	(not to include vancomycin intermediate)
Legionellosis <sup>24h</sup>	Varicella-associated death <sup>3d</sup>
Leptospirosis <sup>24h</sup>	Vibriosis <sup>24h</sup>
Listeriosis <sup>24h</sup>	<b>Viral hemorrhagic fever</b> <sup>Imm</sup>
Lyme disease <sup>3d</sup>	<b>Yellow fever</b> <sup>Imm</sup>
	Yersiniosis <sup>24h</sup>
	Other rare diseases of public health significance <sup>24h</sup>
	Unexplained critical illness or death <sup>24h</sup>

## CODE LEGEND

- <sup>Imm</sup> **Immediately – Requires a phone call to reach a live person at the local health jurisdiction, 24/7**
- <sup>24h</sup> Within 24 hours – Requires a phone call if reporting after normal public health business hours
- <sup>3d</sup> Within 3 business days
- <sup>Mo</sup> Monthly

Phone numbers by county: <http://www.doh.wa.gov/Portals/1/Documents/1200/phsd-LHJ.pdf> If no one is available at the local health jurisdiction, call **1-877-539-4344**

# Notifiable Conditions & Washington's Health Care Facilities



The following conditions are notifiable to public health authorities in accordance with WAC 246-101  
When a condition occurs in or is treated by the health care facility:

- Report to the local health jurisdiction of the patient's residence within the timeframe indicated by footnote (except for conditions followed by a reporting phone number)
- **Immediately notifiable conditions (Bold <sup>Imm</sup>) must be reported as soon as clinically suspected**

Hospital laboratories should refer to *Notifiable Conditions & Washington's Laboratories*.

<p>Acquired immunodeficiency syndrome (AIDS) <sup>3d</sup> (including AIDS in persons previously reported with HIV infection)</p> <p><b>Animal bites (when human exposure to rabies is suspected) <sup>Imm</sup></b></p> <p><b>Anthrax <sup>Imm</sup></b></p> <p>Arboviral disease <sup>3d</sup> (acute disease only: West Nile virus, dengue, Eastern &amp; Western equine encephalitis, etc.)</p> <p>Asthma, occupational (suspected or confirmed) <sup>Mo</sup> <b>1-888-66SHARP</b></p> <p>Birth Defects <sup>Mo</sup> <b>360-236-3533</b> (abdominal wall defects, autism spectrum disorders, cerebral palsy, Down syndrome, alcohol-related birth defects, hypospadias, limb reductions, neural tube defects, oral clefts)</p> <p><b>Botulism <sup>Imm</sup> (foodborne, infant, and wound)</b></p> <p>Brucellosis <sup>24h</sup></p> <p><b>Burkholderia mallei (Glanders) <sup>Imm</sup> and pseudomallei (Meliodiosis) <sup>Imm</sup></b></p> <p>Campylobacteriosis <sup>3d</sup></p> <p>Chancroid <sup>3d</sup></p> <p><i>Chlamydia trachomatis</i> <sup>3d</sup></p> <p><b>Cholera <sup>Imm</sup></b></p> <p>Cryptosporidiosis <sup>3d</sup></p> <p>Cyclosporiasis <sup>3d</sup></p> <p><b>Diphtheria <sup>Imm</sup></b></p> <p><b>Disease of suspected bioterrorism origin <sup>Imm</sup></b></p> <p><b>Domoic acid poisoning <sup>Imm</sup></b></p> <p><b><i>E. coli</i> – Refer to “Shiga toxin-producing <i>E. coli</i> <sup>Imm</sup></b></p> <p><b>Emerging condition with outbreak potential <sup>Imm</sup></b></p> <p>Giardiasis <sup>3d</sup></p> <p>Gonorrhea <sup>3d</sup></p> <p>Granuloma inguinale <sup>3d</sup></p> <p>Gunshot Wounds <sup>Mo</sup> <b>360-236-2867</b></p> <p><b><i>Haemophilus influenzae</i> (invasive disease, children &lt; age 5) <sup>Imm</sup></b></p> <p>Hantavirus pulmonary syndrome <sup>24h</sup></p> <p>Hepatitis A, acute <sup>24h</sup></p> <p>Hepatitis B, acute <sup>24h</sup></p> <p>Hepatitis B, chronic (initial diagnosis/previously unreported cases) <sup>Mo</sup></p> <p>Hepatitis B, surface antigen positive pregnant women <sup>3d</sup></p> <p>Hepatitis C, acute <sup>3d</sup>; chronic <sup>Mo</sup> (initial diagnosis only)</p> <p>Hepatitis D, acute and chronic <sup>3d</sup></p> <p>Hepatitis E, acute <sup>24h</sup></p> <p>HIV infection <sup>3d</sup></p> <p>Immunization reactions <sup>3d</sup> (severe, adverse)</p> <p><b>Influenza, novel or unsubtypeable strain <sup>Imm</sup></b></p> <p>Influenza-associated death (laboratory confirmed) <sup>3d</sup></p> <p>Legionellosis <sup>24h</sup></p> <p>Leptospirosis <sup>24h</sup></p> <p>Listeriosis <sup>24h</sup></p> <p>Lyme disease <sup>3d</sup></p>	<p>Lymphogranuloma venereum <sup>3d</sup></p> <p>Malaria <sup>3d</sup></p> <p><b>Measles (rubeola) acute disease only <sup>Imm</sup></b></p> <p><b>Meningococcal disease (invasive) <sup>Imm</sup></b></p> <p><b>Monkeypox <sup>Imm</sup></b></p> <p>Mumps (acute disease only) <sup>24h</sup></p> <p><b>Outbreaks of disease that occur or are treated in the health care facility <sup>Imm</sup></b></p> <p><b>Outbreak of suspected foodborne origin <sup>Imm</sup></b></p> <p><b>Outbreak of suspected waterborne origin <sup>Imm</sup></b></p> <p><b>Paralytic shellfish poisoning <sup>Imm</sup></b></p> <p>Pertussis <sup>24h</sup></p> <p><b>Pesticide poisoning <b>1-800-222-1222</b></b> <b>Hospitalized, fatal, or cluster <sup>Imm</sup></b> Pesticide poisoning, all other <sup>3d</sup></p> <p><b>Plague <sup>Imm</sup></b></p> <p><b>Poliomyelitis <sup>Imm</sup></b></p> <p>Prion disease <sup>3d</sup></p> <p>Psittacosis <sup>24h</sup></p> <p>Q fever <sup>24h</sup></p> <p><b>Rabies (confirmed human or animal) <sup>Imm</sup></b></p> <p><b>Rabies, suspected human exposure <sup>Imm</sup></b></p> <p>Relapsing fever (borreliosis) <sup>24h</sup></p> <p><b>Rubella (include congenital rubella syndrome) <sup>Imm</sup></b> (acute disease only)</p> <p>Salmonellosis <sup>24h</sup></p> <p><b>SARS <sup>Imm</sup></b></p> <p><b>Shiga toxin-producing <i>E. coli</i> infections <sup>Imm</sup></b> (enterohemorrhagic <i>E. coli</i> including, but not limited to, <i>E. coli</i> 0157:H7; also includes post-diarrheal hemolytic uremic syndrome)</p> <p>Shigellosis <sup>24h</sup></p> <p><b>Smallpox <sup>Imm</sup></b></p> <p>Syphilis (including congenital) <sup>3d</sup></p> <p>Tetanus <sup>3d</sup></p> <p>Trichinosis <sup>3d</sup></p> <p><b>Tuberculosis <sup>Imm</sup></b></p> <p><b>Tularemia <sup>Imm</sup></b></p> <p><b>Vaccinia transmission <sup>Imm</sup></b></p> <p>Vancomycin-resistant <i>Staphylococcus aureus</i> <sup>24h</sup> (not to include vancomycin intermediate)</p> <p>Varicella-associated death <sup>3d</sup></p> <p>Vibriosis <sup>24h</sup></p> <p><b>Viral hemorrhagic fever <sup>Imm</sup></b></p> <p><b>Yellow fever <sup>Imm</sup></b></p> <p>Yersiniosis <sup>24h</sup></p> <p>Other rare diseases of public health significance <sup>24h</sup></p> <p>Unexplained critical illness or death <sup>24h</sup></p>
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## CODE LEGEND

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- <sup>24h</sup> Within 24 hours – Requires a phone call if reporting after normal public health business hours
- <sup>3d</sup> Within 3 business days
- <sup>Mo</sup> Monthly

Phone numbers by county: <http://www.doh.wa.gov/Portals/1/Documents/1200/phsd-LHJ.pdf> If no one is available at the local health jurisdiction, call **1-877-539-4344**

# Notifiable Conditions & Washington's Laboratories



The following laboratory results (preliminary or confirmed) are notifiable to public health authorities in Washington in accordance with WAC 246-101. Timeframes and report recipients are indicated in the 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 health care provider's name and telephone number; test result; and name of patient. Also required when available in the lab database are: patient sex, date of birth or age, and full address (or zip code at a minimum)

<p>Arboviruses<sup>2d*</sup> (West Nile virus, eastern and western equine encephalitis, dengue, St. Louis encephalitis, La Crosse encephalitis, Japanese encephalitis, Powassan, California serogroup, Chikungunya) Acute: IgM positivity, PCR positivity, viral isolation</p> <p><b>Bacillus anthracis (Anthrax)</b><sup>Imm*!</sup></p> <p>Blood lead level (elevated)<sup>2d&amp;i</sup></p> <p>Blood lead level (non-elevated)<sup>Mo&amp;i</sup></p> <p><i>Bordetella pertussis</i> (Pertussis)<sup>24h*!</sup></p> <p><i>Borrelia burgdorferi</i> (Lyme disease)<sup>2d*</sup></p> <p><i>Borrelia hermsii</i> or <i>recurrentis</i> (Relapsing fever, tick- or louseborne)<sup>24h*</sup></p> <p><i>Brucella</i> species (Brucellosis)<sup>24h*!</sup></p> <p><b>Burkholderia mallei and pseudomallei</b><sup>Imm*!</sup></p> <p><i>Campylobacter</i> species (Campylobacteriosis)<sup>2d*</sup></p> <p>CD4 + (T4) lymphocyte counts and/or CD4 + (T4)<sup>Mo&amp;i</sup> (patients aged thirteen or older)</p> <p><i>Chlamydia psittaci</i> (Psittacosis)<sup>24h*</sup></p> <p><i>Chlamydia trachomatis</i><sup>2d*</sup></p> <p><b>Clostridium botulinum (Botulism)</b><sup>Imm*!</sup></p> <p><b>Corynebacterium diphtheriae (Diphtheria)</b><sup>Imm*!</sup></p> <p><i>Coxiella burnetii</i> (Q fever)<sup>24h*!</sup></p> <p><i>Cryptococcus non v.neoformans</i><sup>!</sup></p> <p><i>Cryptosporidium</i> (Cryptosporidiosis)<sup>2d*</sup></p> <p><i>Cyclospora cayentanensis</i> (Cyclosporiasis)<sup>2d*!</sup></p> <p><b>E. coli</b><sup>Imm*!</sup> (refer to "Shiga toxin-producing E. coli")</p> <p><b>Francisella tularensis (Tularemia)</b><sup>Imm*!</sup></p> <p><i>Giardia lamblia</i> (Giardiasis)<sup>2d*</sup></p> <p><b>Haemophilus influenzae (children &lt; 5 years)</b><sup>Imm*!</sup></p> <p>Hantavirus<sup>24h*</sup></p> <p>Hepatitis A virus (acute) by IgM positivity<sup>24h*</sup> (Hepatocellular enzyme levels to accompany report)</p> <p>Hepatitis B virus (acute) by IgM positivity<sup>24h*</sup></p> <p>Hepatitis B virus, by: HBsAg (Surface antigen); HBeAg (E antigen); HBV DNA<sup>Mo*</sup></p>	<p>Hepatitis C virus<sup>Mo*</sup></p> <p>Hepatitis D virus<sup>2d*</sup></p> <p>Hepatitis E virus<sup>24h*</sup></p> <p>Human immunodeficiency virus (HIV) infection<sup>2d&amp;ii</sup> (for example, positive Western blot assays, P24 antigen or viral culture tests)</p> <p>Human immunodeficiency virus (HIV) infection<sup>Mo&amp;ii</sup> (All viral load detection test results - detectable and undetectable)</p> <p><b>Influenza virus, novel or unsubtypeable strain</b><sup>Imm*!</sup></p> <p><i>Legionella</i> species (Legionellosis)<sup>24h*!</sup></p> <p><i>Leptospira</i> species (Leptospirosis)<sup>24h*</sup></p> <p><i>Listeria monocytogenes</i> (Listeriosis)<sup>24h*!</sup></p> <p><b>Measles virus (rubeola)</b><sup>Imm*!</sup>, acute, by: <b>IgM positivity, PCR positivity</b></p> <p>Mumps virus, acute, by IgM positivity; PCR positivity<sup>24h*!</sup></p> <p><i>Mycobacterium tuberculosis</i> (Tuberculosis)<sup>2d&amp;iii!@</sup></p> <p><i>Neisseria gonorrhoeae</i> (Gonorrhea)<sup>2d*</sup></p> <p><b>Neisseria meningitidis (Meningococcal disease)</b><sup>Imm*!</sup></p> <p><i>Plasmodium</i> species (Malaria)<sup>2d*</sup></p> <p><b>Poliovirus</b><sup>Imm*!</sup>, acute, by: <b>IgM positivity, PCR positivity</b></p> <p><b>Rabies virus (human or animal)</b><sup>Imm*!</sup></p> <p><i>Salmonella</i> species (Salmonellosis)<sup>24h*!</sup></p> <p><b>SARS-associated coronavirus</b><sup>Imm*!</sup></p> <p><b>Shiga toxin-producing E. coli</b><sup>Imm*!</sup> (enterohemorrhagic <i>E.coli</i> including, but not limited to, <i>E. coli</i> O157:H7)</p> <p><i>Shigella</i> species (Shigellosis)<sup>24h*!</sup></p> <p><i>Treponema pallidum</i> (Syphilis)<sup>2d*!</sup></p> <p><i>Trichinella</i> species<sup>2d*</sup></p> <p>Vancomycin-resistant <i>Staphylococcus aureus</i><sup>24h*!</sup></p> <p><b>Varia virus (smallpox)</b><sup>Imm*!</sup></p> <p><b>Vibrio cholerae O1 or O139 (Cholera)</b><sup>Imm*!</sup></p> <p><i>Vibrio</i> species (Vibriosis)<sup>24h*!</sup></p> <p><b>Viral hemorrhagic fever</b><sup>Imm*!</sup> <b>Arenaviruses, Bunyaviruses, Filoviruses, Flaviviruses</b></p> <p><b>Yellow fever virus</b><sup>Imm*!</sup></p> <p><i>Yersinia enterocolitica</i> or <i>pseudotuberculosis</i><sup>24h*</sup></p> <p><b>Yersinia pestis (Plague)</b><sup>Imm*!</sup></p>
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## CODE LEGEND

- Imm** Immediately notifiable - Requires a phone call to reach a live person at the local health jurisdiction, 24/7
- 24h** Notifiable within 24 hours - Requires a phone call if reporting after normal public health business hours
- 2d** Notifiable within 2 business days
- Mo** Notifiable on a monthly basis
- \*** Notifiable to the local health jurisdiction (LHJ) of the patient's residence. If unknown, notify the LHJ of the health care provider that ordered the diagnostic test
- &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 (submission upon request for all others)
- @** Antibiotic sensitivity testing (first isolates only)

Phone numbers by county are posted at:  
<http://www.doh.wa.gov/Portals/1/Documents/1200/phsd-LHJ.pdf>  
 If no one is available at your local health jurisdiction, please call **1-877-539-4344**

# Notifiable Conditions & the Veterinarian



Veterinarians, including those working in private practices, laboratories, academic settings, zoos, wildlife centers, animal shelters and government agencies, have an important public health role in the identification and control of zoonotic and vector-borne diseases.

The Washington State Administrative Code ([WAC 246-101-405](#)) outlines these responsibilities for veterinarians:

- A. Notify the local health officer of the jurisdiction in which the human resides of any suspected human case or suspected human outbreak based on the human's exposure to a confirmed animal case of any disease listed in Table
- B. Cooperate with public health authorities in the investigation of cases, suspected cases, outbreaks, and suspected outbreaks of zoonotic disease.
- C. Cooperate with public health authorities in the implementation of infection control measures including isolation and quarantine.
- D. Comply with requirements in chapter 16-70 WAC for submitting positive specimens and isolates for specific diseases, and provide information requested by the Washington State Department of Health or local health jurisdiction.

Notifiable Condition (report suspected human cases)	Report Immediately	Report within 24 hours
Anthrax	X	
Arboviral disease		X
Brucellosis ( <i>Brucella</i> species)		X
<i>Burkholderia mallei</i> (Glanders)	X	
Disease of suspected bioterrorism origin (including but not limited to anthrax)	X	
<i>E. coli</i> – Refer to "Shiga toxin-producing <i>E. coli</i> "	X	
Emerging condition with outbreak potential	X	
Influenza virus, novel or unsubtypable strain	X	
Leptospirosis		X
Plague	X	
Psittacosis		X
Q Fever		X
Rabies (suspected human case or exposure or animal case)	X	
Shiga toxin-producing <i>E. coli</i> infections (enterohemorrhagic <i>E. coli</i> including, but not limited to, <i>E. coli</i> O157:H7)	X	
Tularemia	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). See: <http://apps.leg.wa.gov/WAC/default.aspx?cite=16-70>.

\*A list of local health departments can be found at <http://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions.aspx>.

# Communicable Disease Summary

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## 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, Japanese encephalitis, and others.

**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:** In recent years, 10-20 cases of travel-associated dengue fever and a few travel-associated Chikungunya cases have been reported annually. Rare reports of other travel-associated arboviral diseases including Colorado tick fever and Japanese encephalitis in 2008, and St. Louis encephalitis and Toscana virus in 2009. 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.

**2011:** 9 cases of dengue fever were reported following travel to Costa Rica, Ecuador, India, Laos, Peru, Philippines, Puerto Rico, and Sudan.

## 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. Mosquitoes are the vectors, transmitting the virus through bites to humans and other mammals such as horses. WNV can be transfused, so donated blood is screened and asymptomatic presumptive viremic donors are reported.

**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. In 2009, Washington had the highest number of cases to date with 38 cases and 2 presumptive viremic donors. Of these cases, 36 were known to be endemically acquired within Washington.

**2011:** No cases were reported.

## 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. Transmission is by the bite of an infected mosquito. There are 2 transmission cycles, a jungle cycle involving non-human primates and an urban cycle involving humans.

**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.

**2011:** 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 hyperimmune globulin (BIG-IV) for infants or botulism antitoxin for older children and adults. In addition, 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 foodborne botulism. Wound botulism is usually associated with injecting black-tar heroin injection into the skin ("skin popping") or muscle.

**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. Almost all are type A.

**2011:** Three cases of infant botulism and 4 cases of wound botulism were reported. There were no cases of foodborne botulism reported. All 5 confirmed cases 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 broken or damaged skin contacting 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). Airborne infection can occur in laboratories. Strains of *Brucella* used in animal vaccine prior to 1996 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.

**2011:** One case of brucellosis was reported after travel to India. Five laboratory workers were exposed to a *B. canis* isolate that originated from a dog adopted from 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 reservoirs. 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 1,000 to 1,300 reports each year. Outbreaks involving multiple persons and person-to-person spread are uncommon. Infections are reported most commonly in children and during the summer months.

**2011:** Cases reported in 2011 increased 42% over recent years (five-year average 1085 cases/year). In 2011, 1,538 cases were reported (22.7 cases/100,000 population) with 164 hospitalizations. This is the highest rate since the 1990s when rates were running nearly as high. The increasing use of non-culture testing methods may be increasing case detection in some jurisdictions. There were no common source outbreaks reported in 2011.

## 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.

**Recent Washington trends:** Each year over 20,000 cases are reported.

**2011:** 23,237 cases were reported (343.3 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. 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.

**2011:** 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 for 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 using the toilet or 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:** After an increase in case reporting during 2005, following changed treatment and diagnostic practices, case rates have stabilized to between 88 and 139 cases per year in Washington.

**2011:** 88 cases were reported (1.3 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 water or food, 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 at many diagnostic labs in addition to O&P testing.

**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.

**2011:** Four cases were reported. One case had traveled to China while the other 3 reported travel to Central America.

## 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 but may be asymptomatic. Transmission is by respiratory droplets, but may occur from skin lesions or articles soiled with discharges from an infected person.

**Additional risks:** Susceptible travelers to areas where routine immunization 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.

**2011:** No cases were reported.

## 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 can occur, 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 using the toilet or 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.

**2011:** 529 cases were reported (7.8 cases/100,000 population). The infection was diagnosed most commonly in children 1 to 4 years of age.

## 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, producing 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 2,000 cases were reported each year.

**2011:** 2,730 cases were reported (40.3 cases/100,000 population).

## *Haemophilus influenzae* (Invasive Disease, Under Age 5 Years)

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

**Illness and treatment:** Invasive syndromes can include meningitis, bacteremia, epiglottitis, pneumonia, or bone and joint infections. Symptoms of meningitis include fever, headache, stiff neck, vomiting, light sensitivity and confusion. About 10% of cases surviving *H. influenzae* meningitis

have permanent neurological damage; however, among cases surviving meningitis due to Hib, 15-30% have hearing impairment or permanent neurologic damage. Treatment is with antibiotics.

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

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

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

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

**2011:** Eight cases in children under 5 years were reported with 1 death. Serotyping results were: serotype a – 3 cases; serotype b – 1 case; and the remaining 4 cases were untypable. Seven of the 8 cases were hospitalized, with 4 requiring admission to an intensive care unit.

### **Hantavirus Pulmonary Syndrome (HPS)**

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

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

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

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

**Recent Washington trends:** Since the recognition of hantavirus in 1993, 41 cases were reported through 2010 with 13 (32%) associated deaths (including a retrospectively identified case from 1985). Each year there are 1 to 5 cases reported, mainly exposed in eastern counties.

**2011:** Two cases were reported with 1 death; 1 exposure occurred in eastern Washington, and the other in western Washington.

### **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 (fecal-oral spread) 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 within 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.

**2011:** 31 cases (0.5 cases/100,000 population) were reported with one death. There were 8 reports of exposures occurring during foreign travel, including 3 to Mexico, 2 to India, and one each to Ecuador, Nepal, and Puerto Rico.

## 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 develop after decades. 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 high risk for chronic infection. A specialist can determine treatment options for hepatitis B virus infections.

**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 and any adults with risks for exposure. Screen and, if appropriate, vaccinate all pregnant women, infants born to infected women, household contacts and sex partners of infected individuals. Routine testing is recommended for those born in Asia, Africa, and other regions with  $\geq 2\%$  prevalence of chronic infections. Use safe sexual practices, avoid sharing drug paraphernalia, and screen blood and tissue products to prevent transmission.

**Recent Washington trends:** An average of 61 (range: 48–80) cases of acute hepatitis B have been reported annually over the past five years. Acute cases declined with increased vaccination. 1100 to 1400 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/Portals/1/Documents/Pubs/150-028-ChronicHepatitisBandCSurveillanceReport.pdf>. About 380 hepatitis B surface antigen positive pregnant women are reported each year with 2 to 6 cases of perinatal hepatitis B virus infections.

**2011:** 35 acute cases (0.5 cases/100,000 population); among 318 infants born to surface antigen positive women 0 perinatal infections were reported.

## Hepatitis C

**Cause:** Hepatitis C virus, which has 6 genotypes.

**Illness and treatment:** Most acute infections are asymptomatic but about 20% of cases have abrupt onset with fever, abdominal pain, and jaundice. Chronic infection is typically asymptomatic until complications such as liver damage or cancer develop after decades. A specialist can determine treatment options for acute and chronic infections.

**Sources:** Transmission is usually by contact with blood, particularly while sharing drug paraphernalia, or less commonly with 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. Routine testing is recommended for those with any bloodborne transmission risk and once for those born 1945-1965.

**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/Portals/1/Documents/Pubs/150-028-ChronicHepatitisBandCSurveillanceReport.pdf>

**2011:** 41 acute cases (0.6 cases/100,000 population) were reported.

## Hepatitis D or E

**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 blood or body fluids, particularly shared drug paraphernalia. Humans and animals (swine) are the reservoirs for hepatitis E, which is transmitted most commonly through fecally contaminated food and water.

**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.

**2011:** One case of hepatitis E whose source of exposure is unknown.

## 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.

**2011:** 2,149 cases of initial genital HSV infection (31.8 cases/100,000 population) and 8 cases of neonatal infection were reported.

## HIV/AIDS

**Cause:** HIV disease is caused by the human immunodeficiency virus (HIV). After HIV enters the body, it infects and kills white blood cells (CD4+ T-cell lymphocytes). This weakens the body's immune system, and can eventually cause a person to develop Acquired Immune Deficiency Syndrome (AIDS).

**Illness and treatment:** AIDS is defined by a person's CD4+ T-cell count being below 200 cells/mL and/or the existence of one or more of a broad range of opportunistic illnesses that are specific to HIV disease. The presence of AIDS is usually an indication that a person has been infected with HIV for many years.

**Sources and spread:** HIV enters the body as a result of direct contact with blood, semen, vaginal fluid, or breast milk from a person with HIV infection. Most HIV cases are the result of unprotected sex with an HIV-positive partner.

**Additional risks:** Groups at increased risk for HIV include injection drug users, people who use illegal stimulants such as methamphetamines or cocaine, people who have concurrent sexual relationships, and people recently diagnosed with other sexually-transmitted infections.

**Prevention:** Wear condoms during sex. Use clean needles and other equipment used to inject drugs. Do not have a sexual relationship with more than one person at a time.

**Recent Washington trends:** Statewide, annual HIV case counts have been stable over the past decade. Between 550 and 600 people are newly diagnosed with HIV infection each year. About one in three cases is diagnosed late in the course of his or her HIV illness, or develops AIDS within 12 months of HIV diagnosis. HIV rates are highest among gay and bisexual men, as well as racial or ethnic minorities.

**2011:** 514 cases were reported (7.6/100,000 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*, and *L. longbeachae*.

**Illness and treatment:** There are two clinically and epidemiologically distinct illnesses. Legionnaires' disease presents with fever, muscle aches, cough, and pneumonia. Pontiac fever is 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 50 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 typically 20–35 cases, including one to 4 deaths, reported in Washington.

**2011:** 43 cases (0.6 cases/100,000 population) were reported with 4 deaths; 21 (48%) were admitted to intensive care units and 10 (23%) required ventilation. Median age was 64 years (range 26-90) and 36 (84%) reported at least one of the following risk factors: chronic liver disease, immunosuppressive therapy, chronic diabetes, chronic lung disease, or smoking. Of cases with a species identified, 32 (89%) had *L. pneumophila*. 12 (28%) were travel-associated with 2 cases reporting travel to Mexico.

## 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 skin or mucous membrane contact with urine or tissues from an infected animal 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.

**2011:** No leptospirosis cases were reported.

## Listeriosis

**Cause:** Bacterium *Listeria monocytogenes*.

**Illness and treatment:** Diarrhea may occur but the organism is generally not diagnosed by standard stool culture methods. Complications include septicemia or meningitis, which cause fever, headache, vomiting, delirium, or coma; fetal loss can occur subsequent to infection in pregnant women. 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, 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. 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.

**2011:** 19 cases were reported (0.3 cases/100,000 population), including 15 in persons over the age of 50 (0.7/100,000 population). Two deaths were reported.

## Lyme Disease

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

**Illness and treatment:** The classic symptom is a target-shaped (bull's-eye) rash called erythema migrans. Systemic symptoms, such as fatigue, headache, fever, and muscle and joint aches also typically occur in early illness. 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 rash, fever, facial paralysis, or joint pain over the next month. If symptoms develop, see 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.

**2011:** 19 cases were reported; only 3 had in-state exposure in Clark, Pierce, and Thurston 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 rarely seen 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.

**2011:** 24 cases (0.4 cases/100,000 population) were reported: 11 *P. falciparum*, one *P. malariae*, 7 *P. vivax*, one mixed *ovale-vivax*, and 4 unknown. Exposures were in Africa, Asia, and Central America.

## Measles

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

**Illness and treatment:** Typical measles includes a 2–4 day prodrome that includes fever up to 105°F and cough, conjunctivitis, or runny nose, followed by a maculopapular rash which typically starts at

the hairline and extends downward to cover the entire body. The rash lasts 5–6 days or longer. Complications can include diarrhea, ear infection, pneumonia, acute encephalitis, and even death; they are more common among children under 5 and adults over 20 years of age. Rarely, measles can occur in a person known to have received a vaccination for measles. The illness in these cases may not be typical. The case fatality rate for measles 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 is mainly related to international travel by susceptible persons to countries where measles is endemic, or through contact by a susceptible U.S. resident with infected international travelers. Transmission to additional persons within this country can occur. In developing countries, 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 5 cases reported, although outbreaks with 7–19 cases occurred in Washington in 2001, 2004, and 2008.

**2010:** Four cases were reported. Two were exposed within Washington. One was exposed in India while the other was exposed in Romania.

### **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 most commonly manifests as meningitis with symptoms of fever, headache, stiff neck, vomiting, light sensitivity and confusion. Bloodstream infections (meningococcemia), which cause fever and often shock as well as a rash or bruise-like skin lesions, frequently lead to severe outcomes such as permanent disability or death. A person may have both syndromes. Pneumonia and joint infections can also occur. Even with appropriate antibiotic treatment and supportive care, overall case fatality rate for invasive disease 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 such as dormitories, recent history of an upper respiratory illness, and tobacco smoke exposure may increase risk, as do certain immune deficiencies including asplenia.

**Prevention:** Universal immunization is recommended for all adolescents aged 11–18 years and persons aged 2–55 years at increased risk for this disease (e.g., persons with HIV, complement disorder or asplenia, and microbiologists and travelers at prolonged increased risk for disease exposure). Prophylactic antibiotics are usually advised for persons having recent close contact with a confirmed case. Good respiratory hygiene can reduce transmission.

**Recent Washington trends:** During the past decade, an average of 48 cases (range 22 to 76 ) have been reported annually, with as many as 8 deaths in a year.

**2011:** 22 cases (0.3 cases/100,000 population) were reported with 0 deaths. Serogroups for these cases were: 12 serogroup B, 7 serogroup Y, 2 serogroup C, and 1 serogroup W135. There were no reports of breakthrough disease among vaccinated adolescents.

## Mumps

**Cause:** Mumps virus, a paramyxovirus.

**Illness and treatment:** Mumps causes inflammation of glandular tissue, most commonly the salivary glands (parotitis occurs in 30-40% of infected persons). Up to 20% of infections have no symptoms and an additional 40-50% have mild, nonspecific, or primarily respiratory symptoms. Complications include inflammation of testes (orchitis) or ovaries (oophoritis), encephalitis or aseptic meningitis (occasionally resulting in 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 respiratory droplets or saliva.

**Additional risks:** The average age of reported mumps cases has gradually increased, with 40% of cases now occurring in persons 15 years of age and older. A large outbreak of mumps occurred in 2006 in 9 Midwestern states; the majority of cases were college-aged persons and adults in their 20s. Another outbreak in 2009-10 involved a religious community with many of the cases in immunized adolescent males who attended private schools and spent many hours face to face each day.

**Prevention:** Recommendations for universal childhood immunization have greatly reduced the number of infections. 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 also reduce transmission.

**Recent Washington trends:** Between 1992 and 2005 the rate of reported mumps infections in Washington was 0.5 per 100,000 persons or less (0-26 cases per year). Due to the increased awareness of mumps following the 2006 outbreak in the Midwest, 42 and 53 cases were reported in 2006 and 2007, respectively. A change in the national reporting criteria was made in 2008 and the rate of reported mumps returned to pre-2006 levels.

**2011:** Two cases were reported. Neither case reported ever receiving any mumps vaccine. One case was exposed in Brazil while the other case had not traveled out of Washington.

## Pertussis

**Cause:** Bacterium *Bordetella pertussis*.

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

**Sources:** Humans. Older adolescents and adults with mild symptoms not recognized as pertussis are often the reservoir. Pertussis is transmitted through respiratory droplets or direct contact.

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

**Prevention:** Recommended universal childhood immunization with a booster dose for adolescents and adults can reduce the risk of infection and generally prevents severe illness in most age groups. Very young infants (under 2 months of age) too young to be immunized can be protected by vaccinating the mothers during the last trimester of pregnancy, as well as assuring that others who will have close contact with the infant have been vaccinated. Respiratory and hand hygiene can reduce transmission. Any person with a cough illness should avoid contact with pregnant women and young infants.

**Recent Washington trends:** The number of cases reported each year varies considerably, ranging from 184 to 1026 cases a year since 1995. There is also variation in the rate of reported disease among health jurisdictions, reflecting local outbreaks.

**2011:** 965 cases (14.3 cases/100,000 population) were reported. Rates were highest for children under 1 year of age (137/100,000). Of cases aged 3 months to 10 years, 61% were reported as being “up to date” for their childhood pertussis vaccine series. Receipt of Tdap was documented in the case report for 53% of cases 11-12 years old and 76% of cases 13-18 years old.

## 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 11% 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. In neighboring Oregon, 2 people were diagnosed with plague in 2010 and a cat was positive in 2011.

**2011:** 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% result in only minor illnesses. Non-paralytic aseptic meningitis with full recovery occurs in 1–2% of infections. Less 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 childhood 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 the United States).

**2011:** 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.

**2011:** No cases were reported.

## Q Fever

**Cause:** Bacterium *Coxiella burnetii*.

**Illness and treatment:** Acute Q fever symptoms are fever, cough, 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 birthing 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.

**2011:** Eight cases were reported. Seven were related to an outbreak tied to goats; additionally 4 asymptomatic infections were discovered during the outbreak investigation.

## **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 to be universally fatal with a few notable exceptions: experimental treatment in this country saved one young girl in Wisconsin (2005); Texas reported a case of presumptive abortive human rabies (2009); California reported a recovery of a patient with clinical rabies (2011).

**Sources:** In Washington, bats are the primary reservoir. Skunks, raccoons and foxes are additional reservoirs elsewhere 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.

**2011:** No human rabies cases were reported.

## **Rabies, Suspected Human Exposure**

Information about rabies post-exposure prophylaxis (PEP) is available from the Advisory Committee on Immunization Practices available from CDC ([www.cdc.gov/rabies/](http://www.cdc.gov/rabies/)). Also see Rabies (Human).

**Recent Washington trends:** In previous years PEP administration was tracked, with typically 240-290 persons receiving PEP per year. Following a WAC change in February 2011 this condition to “suspected rabies exposure” which should include all PEP as well as instances where PEP was advised but declined by patient. Of bats tested in Washington, 5 to 10% are identified as rabid. Since 1987, only 4 rabid domestic animals have been identified; 2 were bat variant virus (Table 1).

**2011:** There were 248 reports of suspected rabies exposure. The most common exposures were bats (69%), dogs (13%), raccoons (7%), and cats (6%). Eighteen cases were exposed to a bat that tested positive for rabies; 11 of 204 (5%) bats tested were rabid (Table 2). 15 persons had exposures out of state and 34 had exposures abroad. Most dog bite exposures were abroad. No other animals tested in Washington were rabid (Table 3).

**Table 1. Rabid Non-Bat Animals and Rabies Strains, Washington, 1987–2011**

<b>Year</b>	<b>Animal type (County)</b>	<b>Rabies strain</b>
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 2. Washington State Bats Tested for Rabies, 2007-2011**

Counties	2007**		2008		2009		2010		2011		County Total	
	Positive	Total	Positive	Tested								
Adams	0	0	0	0	0	0	0	0	0	1	0	1
Asotin	1	1	0	1	0	0	1	2	0	1	2	5
Benton	0	4	0	33	1	37	0	4	0	0	1	78
Chelan	0	1	1	7	0	1	0	2	1	1	2	12
Clallam	1	2	1	4	0	6	0	1	1	7	3	20
Clark	1	15	2	14	0	10	1	11	0	11	4	61
Columbia	0	1	0	0	0	1	0	0	0	0	0	2
Cowlitz	1	9	0	5	0	12	1	5	0	5	2	36
Douglas	0	0	0	1	0	2	0	1	0	1	0	5
Ferry	1	1	0	0	0	4	1	1	0	1	2	7
Franklin	0	0	0	1	0	0	0	1	0	0	0	2
Garfield	0	0	0	0	0	0	0	0	0	0	0	0
Grant	0	0	0	0	0	1	0	2	0	1	0	4
Grays Harbor	1	3	0	4	1	8	0	0	0	1	2	16
Island	0	8	1	15	1	6	0	6	1	10	3	45
Jefferson	0	1	0	1	1	5	0	2	0	1	1	10
King	4	98	1	83	1	38	2	45	1	45	9	309
Kitsap	3	20	0	16	0	18	1	10	0	15	4	79
Kittitas	0	0	0	1	1	2	1	2	0	0	2	5
Klickitat	0	2	0	1	0	1	0	3	0	1	0	8
Lewis	0	15	0	17	0	13	0	10	1	9	1	64
Lincoln	0	1	0	0	0	0	0	0	0	0	0	1
Mason	1	8	0	4	0	2	0	4	0	2	1	20
Okanogan	1	2	0	0	1	3	0	0	0	0	2	5
Pacific	0	1	2	8	1	4	0	3	0	1	3	17
Pend Oreille	0	0	0	0	0	1	0	0	0	3	0	4
Pierce	2	29	1	31	1	29	1	12	1	10	6	111
San Juan	0	3	0	0	0	2	0	2	0	3	0	10
Skagit	1	4	1	7	1	7	0	5	0	2	3	25
Skamania	0	2	0	1	0	0	0	0	0	0	0	3
Snohomish	0	24	2	20	2	29	3	24	1	15	8	112
Spokane	3	18	0	12	0	19	0	8	0	7	3	64
Stevens	0	3	0	4	1	4	0	4	0	2	1	17
Thurston	0	24	1	22	1	27	2	16	2	37	6	126
Wahkiakum	0	1	2	7	0	2	0	1	0	2	2	13
Walla Walla	0	3	0	0	0	0	0	2	1	1	1	6
Whatcom	1	7	1	8	0	15	0	10	1	5	3	45
Whitman	0	1	1	5	0	1	0	1	0	2	1	10
Yakima	0	3	0	2	0	1	0	0	0	1	0	7
<b>Total</b>	<b>22</b>	<b>315</b>	<b>17</b>	<b>335</b>	<b>14</b>	<b>311</b>	<b>14</b>	<b>200</b>	<b>11</b>	<b>204</b>	<b>78</b>	<b>1365</b>

\*\* 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 3. Washington State Animals Tested for Rabies, 1988-2011**  
(Rabid animals in parentheses)

Year	Bat	Cat	Dog	Ferret	Raccoon	Skunk	Rodent	Lagomorph	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	4	1	7	9	573
2010	200 (14)	103	63	0	14	1	6	1	9	10	407
2011	204 (11)	87	51	1	9	1	2	0	8	5	368
<b>Total</b>											
<b>1988-2011</b>	<b>5808 (386)</b>	<b>2913 (1)</b>	<b>2028</b>	<b>146</b>	<b>235</b>	<b>68</b>	<b>214</b>	<b>23</b>	<b>269</b>	<b>201 (2)</b>	<b>11905 (389)</b>

\* 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: burro, cattle, goat, horse, llama, mule, pig, sheep, zebra

**Other wild** include: badger, bear, bison, bobcat, cougar, coyote, deer, fox, kinkajou, lynx, marten, mink, mole, monkey/non-human primate, ocelot, opossum, otter, seal, shrew, sugar glider, weasel, wolf, wolf-hybrid, zorilla (striped polecat)

## 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.

### Melioidosis

**Cause:** The bacteria *Burkholderia pseudomallei*.

**Illness and treatment:** Infection may cause abscesses, pneumonia, or septicemia. Treatment includes intensive antimicrobial therapy.

**Sources:** Exposure of non-intact skin to contaminated soil or surface water in tropical or subtropical areas throughout the world where the organism is endemic.

**Prevention:** People with impaired immune capacity should avoid exposure to soil and water in endemic areas. People with high levels of exposure to soil and water (e.g. agricultural workers) should wear boots and gloves.

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

**2011:** One case was reported in a girl who was in Mexico during the exposure period.

### Coccidioidomycosis (Valley Fever)

**Cause:** The soil fungus *Coccidioides immitis*.

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

**Sources:** Exposure to airborne spores. The fungi are found in soil in semi-arid climates such as southwestern United States and parts of Central and South America.

**Prevention:** Avoid exposure to dusty environments in endemic regions.

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

**2011:** Ten cases were reported. Seven cases reported travel to Arizona during their exposure period. One case reported travel to Mexico. One case was likely exposed in Washington; investigation is ongoing for another potential in-state acquired 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 10–15% 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 2006 to 2011, 5 to 17 cases were reported each year for an average annual incidence of 1.4 cases per million population per year.

**2011:** Nine cases were reported. The median age was 73 years old (range 59–84 years). All six cases confirmed through examination of brain tissue were sporadic CJD.

### **Cryptococcosis**

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

**Illness and treatment:** Symptoms include severe cough with shortness of breath, chills, night sweats, and loss of appetite. Typical presentations are meningitis and pneumonia. 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 spores.

**Prevention:** There are no specific precautions.

**Recent Washington trends:** Since 2004 more than 35 animals have tested positive in the state, including porpoises, cats, dogs, and a bird. *C. gattii* has been found in 1 soil specimen and a few surface swabs of wells, a fence post, and a parking lot in northwestern counties. Since 2006, 1–7 human cases are reported each year, some with presumed in-state exposure.

**2011:** Four cases were reported from Skagit and Whatcom counties. Two cases had no travel outside Washington State so exposures were in-state though specific locations are not known. The other cases had limited travel within the Pacific Northwest (i.e., British Columbia and Oregon), but in-state exposures are also likely.

### **Ehrlichiosis (due to *Ehrlichia chaffeensis*)**

**Cause:** Bacterium *Ehrlichia chaffeensis*.

**Illness and treatment:** Previously known as human monocytic ehrlichiosis (or HME), now specified as *E. chaffeensis* infection. Symptoms are non-specific and may include fever, headache, anorexia, nausea, myalgia, and vomiting. A small proportion of cases develop meningoencephalitis. Treatment is with antibiotics.

**Sources:** *E. chaffeensis* is transmitted by the bite of an infected tick. Most cases are reported from the southeastern and south-central United States.

**Prevention:** During outdoor activities in endemic areas avoid tick bites by wearing appropriate clothing and using repellents. Check the body for ticks.

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

**2011:** One case was reported in a woman who was bitten by a tick while in North Carolina.

### **Rocky Mountain Spotted Fever**

**Cause:** Bacterium *Rickettsia rickettsii*.

**Illness and treatment:** Symptoms include a persistent high fever, malaise, muscle pain, severe headache, chills, and conjunctival injection. A maculopapular rash appears on the extremities after 3 to 5 days and spreads to the trunk. Treatment is with antibiotics.

**Sources:** *R. rickettsii* is transmitted by the bite of an infected tick. Attachment of 4–6 hours is required for transmission.

**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 within a week of the bite. If symptoms develop, contact a health

care provider.

**Recent Washington trends:** 0–1 case is reported each year in Washington.

**2011:** Three probable cases were reported. Of 2 cases that recalled tick bites, one had been in Okanogan County while the other had been in wooded acreage in Klickitat County. The third case had camped in Chelan County during the exposure period; but with no known tick bite.

### Tick Paralysis

**Cause:** Toxin in the saliva of ticks.

**Illness and treatment:** Symptoms include acute ataxia and ascending flaccid paralysis which develop after 4 to 7 days of tick feeding. Treatment requires removal of the engorged tick. Recovery typically occurs within 24 hours of tick removal with no lasting deficits.

**Sources:** In the Pacific Northwest, the American dog tick (*Dermacentor variabilis*) or the Rocky Mountain wood tick (*D. andersoni*) can cause tick paralysis. Cases typically occur between April and June when *Dermacentor* ticks emerge to mate and seek blood meals.

**Prevention:** During outdoor activities avoid tick bites by wearing appropriate clothing and using repellents. Check the body for ticks and use tweezers to remove any attached ticks.

**Recent Washington trends:** Washington has had 1–2 cases per year since 2007, with exposures mostly in eastern Washington.

**2011:** One case was reported in a child from Yakima.

### Varicella-associated Death

**Cause:** Human (alpha) herpesvirus 3 (varicella zoster virus), excluding shingles-related deaths.

**Illness and treatment:** Symptoms include fever and a vesicular rash that leaves behind scabs. Rare and severe manifestations can include pneumonia, encephalitis, or even death.

**Sources:** The virus is spread person-to-person through direct contact, droplet or airborne spread of vesicle fluid or secretions from the respiratory tract of infected individuals.

**Prevention:** Recommended universal childhood immunization and vaccination of all persons 13 years of age and older without evidence of varicella immunity can reduce the risk of infection and generally prevent severe illness. Respiratory and hand hygiene can reduce transmission.

**Recent Washington trends:** Since varicella-associated death became reportable, one varicella death was reported in 2007; no other fatal cases had been reported in subsequent years.

**2011:** One varicella death was reported in a middle-aged adult male who had varicella pneumonia. No known risk factors were identified and the exposure source was unknown.

### Rare Sexually Transmitted Diseases

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

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

**Sources:** The infections are sexually transmitted.

**Additional risks:** These diseases 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 3 chancroid cases, no granuloma inguinale cases, and 14 lymphogranuloma venereum cases.

**2011:** One 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 (TBRF) 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:** For TBRF the most common reservoirs in Washington appear to be wild rodents and *Ornithodoros hermsi*, 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 infected body louse contaminates a wound or mucous membranes.

**Prevention:** Avoid sleeping in rodent infested buildings. Rodent-proof structures to prevent future colonization by rodents and their soft ticks.

**Recent Washington trends:** Each year there are 1 to 12 reports of TBRF cases. Most are associated with overnight stays in rustic summer cabins, but some are exposed in their primary homes. Louse-borne disease is rare, even in travelers; there have been no recent reports.

**2011:** 11 TBRF cases were reported, including 4 with exposures in Spokane, 3 in Okanogan, 2 in Klickitat, 1 in Chelan, and 1 in California.

## Rubella

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

**Illness and treatment:** Acquired rubella is a mild illness that usually includes fever and a maculopapular rash that starts on the face and spreads downward to include the entire body. The rash usually lasts 3 days and may itch. However, up to 50% of infections can be sub-clinical or inapparent. Older children and adults may have malaise, lymph node swelling, and upper respiratory symptoms before the rash. Arthritis and arthralgia frequently accompany the disease in adults, especially in women. 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, the most common of which is deafness. Fetal death, spontaneous abortion, or premature delivery may occur.

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

**Additional risks:** Since 2004, rubella is no longer considered endemic in the United States. Most reported rubella cases in the country are now among adults born in areas where rubella vaccine was not routinely used, or in unimmunized persons who travel outside the United States to areas where rubella is still endemic.

**Prevention:** Universal childhood immunization has been effective in preventing infection. Respiratory and hand hygiene can also reduce the risk of transmission. Pregnant women are routinely tested at initial prenatal visits to verify immunity to rubella.

**Recent Washington trends:** Since 2000 only 0 to 2 cases of acquired rubella have been 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.

**2011:** Two cases were reported. The index case was a recent arrival from India; a secondary case was identified in a member of the household where the index case was staying.

### **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* without illness 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 589 to 850 cases reported per year. Infections occur all year with some increase during the spring and summer months. Many serotypes are reported (Table 4).

**2011:** 589 cases were reported (8.7 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.

**Table 4. *Salmonella* Serotypes, 2011**

<b>Serotype</b>	<b>No.</b>	<b>%</b>
Enteritidis	137	23.3
Typhimurium	88	14.9
Heidelberg	27	4.6
Newport	20	3.4
Agona	18	3.1
Braenderup	17	2.9
Stanley	14	2.4
Montevideo	13	2.2
Hadar	12	2.0
4,[5],12:i:--	16	2.7
Infantis	11	1.9
Javiana	11	1.9
Paratyphi B Tartrate + (Java)	11	1.9
Oranienburg	10	1.7
Panama	10	1.7
Thompson	9	1.5
Brandenburg	8	1.4
Anatum	7	1.2
Muechen	7	1.2
Mbandaka	6	1.0
Other/Unknown	23	3.9

**2-5 Cases Each:** 14,[5],12:B:-; 47:Z4,Z23:-; 50:K:Z; Agbeni; Bardo; Bareilly; Berta; Daytona; Derby; Dublin; Hvittingfoss; Johannesburg; Kentucky; Litchfield; Muenster; Paratyphi A; Paratyphi B; Pomona; Postdam; Rissen; Saintpaul; Sandiego; Senftenberg; Tennessee; Tsevie; Urbanan; Virchow; Weltevreden

**One Case Each:** 41:Z4 Z23:-; 48:D:Z6; 48:Z4:Z24:--; 50:GZ51:-; 50:R:Z; 61:K:1,5,(7); 9,12:1,Z28:--; Albany; Altona; Amager; Bonariensis; Bredeney; Bron; Chailey; Clackamas; Cotham; Durham; Fluntern; Gaminara; Give; Haifa; Hartford; Havana; Jangwani; Lomita; Manhattan; Minnesota; Newbrunswick; Ohio; Oslo; Poona; Reading; Santiago; Senegal; Stormont; Waycross

### **Shellfish Poisoning, Paralytic or Domoic Acid**

**Cause:** i) Saxitoxin from the phytoplankton *Alexandrium catenella*. [paralytic shellfish poisoning (PSP)] or ii) domoic acid from the diatom *Pseudo-nitzschia* [domoic acid poisoning (DAP)]

**Illness and treatment:** PSP symptoms begin minutes or hours after consumption with numbness of the mouth and limbs. Severe poisoning progresses rapidly to paralysis and respiratory arrest. Mild symptoms resolve completely in hours to days. Severe cases may need supportive care, including mechanical ventilation. With DAP, gastrointestinal symptoms of vomiting, diarrhea and abdominal cramps begin within 24 hours of shellfish ingestion and there may be later confusion, seizures and permanent short-term memory loss. Neither condition has an anti-toxin.

**Sources:** Bivalve mollusks such as clams, oysters, mussels, and geoduck concentrate the PSP toxin. Razor clams, Dungeness crab, other clams, mussels, and oysters concentrate the DAP toxin. There is no person-to-person spread for either.

**Additional risks:** PSP is only rarely associated with reddish discoloration of the water, although the term “red tide” is popularly used. PSP or DAP can be present in dangerous amounts even when the harvest site water looks clean. Cooking does not destroy either 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 20 years (7 reports in 2000 and 5 in 1998). Both clusters were associated with mussels gathered recreationally from south Puget Sound waters. There are no recent DAP cases reported.

**2011:** No cases were reported.

### **Shiga Toxin-producing *Escherichia coli* (STEC)**

**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 STEC diarrhea with antibiotics may increase the risk of developing HUS.

**Sources:** Cattle are the most important source, although other herbivores also may carry STEC. Other known sources are unpasteurized milk, undercooked ground beef and contaminated raw produce. There can be person-to-person and animal-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 150–250 reports each year. STEC has a seasonal pattern. Most cases occur during summer and fall months.

**2011:** A total of 203 STEC cases were reported (rate 3.4 cases/100,000 population); 14 reported HUS as a complication. Among 189 confirmed cases with a known serogroup, only 104 (55%) were serogroup O157. The 85 non-O157 STEC infections included 35 serogroup O26, 20 O103, 17 O121, 5 O145, 2 O119, and one case each of O103, O111, O165, O69, O71, and O80.

### **Shigellosis**

**Cause:** Bacteria in the genus *Shigella*, typically *S. sonnei* or *S. flexneri*. Other species including *S. boydii* and *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 100 to 185 reports.

**2011:** 104 cases were reported (1.5 cases/100,000 population). Shigellosis was diagnosed most frequently in children 1 to 4 years of age. 26% of cases were associated with travel outside of the United States. The most frequently reported travel destinations were Mexico and India.

## 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.

**2011:** 329 cases of primary and secondary syphilis were reported (4.9 cases/100,000 population).

## Tetanus

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

**Illness and treatment:** About 80% of cases are generalized tetanus, with descending rigidity and painful spasms of skeletal muscles starting with the jaw and neck (commonly referred to as “lockjaw”). Spasms can continue for 3-4 weeks and complete recovery can take months. Complications include bone fractures and abnormal heart rhythms. Case fatality rate for generalized tetanus is 10% or higher, depending on available care, with more deaths occurring in infants and elderly persons. Treatment includes tetanus immune globulin (TIG), wound care, antibiotics, supportive care, and active immunization as soon as the person is stable. Neonatal

tetanus is a form of generalized tetanus that occurs in newborn infants born without protective passive immunity, because the mother was not immune. Local tetanus and cephalic tetanus are other less common forms of the disease.

**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 and in contaminated heroin. *C. tetani* usually enters the body through a wound (which may or may not be apparent) and grows best deep within damaged tissue in an anaerobic environment. Tetanus is not transmitted person to person.

**Additional risks:** Almost all reported cases of tetanus are in persons with no history of vaccination with tetanus toxoid or in those without a booster in the preceding decade. Cases related to injection-drug use have increased in recent years.

**Prevention:** Universal childhood immunization with regular booster doses for adolescents and adults is effective in reducing the incidence of tetanus.

**Recent Washington trends:** The most recent case was reported in 2005 in a person approximately 60 years of age who had been gardening and got a splinter in a finger. The person's most recent tetanus booster dose had been given 20 years prior to onset of illness.

**2011:** No cases were reported.

### **Trichinosis (Trichinellosis)**

**Cause:** Intestinal roundworm *Trichinella spiralis*.

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

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

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

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

**Washington trends:** In the past decade only 2 cases have been reported. Exposures were bear and cougar meat eaten raw or undercooked.

**2011:** No cases were reported.

### **Tuberculosis**

**Cause:** Bacterium *Mycobacterium tuberculosis*.

**Illness and treatment:** Tuberculosis (TB) usually affects the lungs, but can affect lymph nodes, bones, joints, and other parts of the body. Infection with TB may remain latent, and not communicable, or develop into active TB disease that can be infectious. Typical symptoms of TB disease may include persistent cough, bloody sputum, fever, unexplained weight loss, night sweats, and chest pain. If you have latent TB infection (LTBI) but not TB disease, your

physician may want you to take medication to prevent you from developing TB disease. If you have active TB disease you must complete a course of curative therapy.

**Sources and spread:** TB is spread person-to-person through the air. When a person with active TB disease of the lungs or throat coughs or sneezes the bacteria may be breathed in by others.

**Additional risks:** About 75% of cases in Washington are among foreign-born persons, typically from countries with higher rates of TB, where the risk of becoming infected is greater. Young children, people infected with the HIV, diabetics, persons with a weakened immune system, and the elderly are among those at increased risk of developing active TB disease if infected.

**Prevention:** If you are diagnosed with TB disease the most effective ways to decrease the spread of TB are by covering your mouth and nose when coughing, and by taking all TB medications exactly as prescribed by a physician. Consult a healthcare provider or your local health department immediately if you or a family member experience symptoms of TB disease. Persons at risk for infection or the development of disease if infected can be screened for LTBI. Completing treatment for LTBI further prevents TB disease and its spread.

**Washington trends:** Each year there are approximately 200 to 250 cases of TB diagnosed in Washington, with TB disease accounting for between 2 and 18 deaths annually. Overall, Washington's crude TB incidence rate continues to decline.

**2011:** Washington State reported 200 cases of TB for a crude case rate of 3.0 per 100,000 persons. Only 7 of the 39 counties had 5 or more cases of TB, together accounting for 92% of the cases in Washington. King County reported 106 cases, resulting in a county rate of 5.5 cases per 100,000, while representing 53% of all Washington cases.

## 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. Avoid tick and insect bites.

**Recent Washington trends:** Each year there are 1 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 370 outdoor pet cats and dogs found 0.6% positive overall but 4.5% positive in southwest counties.

**2011:** Five cases were reported in state residents; 4 were exposed in western Washington and 1 in eastern Washington. One was presumed to be exposed while baling hay; 2 had seen rabbits near their homes though had no direct contact; 1 was skinning a bear; and the other had been handling squirrels. There were no fatal cases. Three laboratory workers were exposed to a bacterial culture during the identification process.

## 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. Case counts are variable, ranging from 5 to 22 reports each year.

**2011:** 9 cases were reported; 7 reported international travel (6 to India and 1 to Pakistan), and 2 had exposures in western Washington resulting from exposures to an acute or chronic case.

## 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* (serotypes O1 or O139) 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 raw or undercooked oysters 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 only from 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). Annual case counts are variable, ranging from 9 to 80 cases reported, with a mixture of locally acquired and travel associated exposures. Non-laboratory confirmed cases and cases from out of state associated with consumption of Washington shellfish are not included in these counts.

**2011:** 45 cases were reported (0.7 cases/100,000 population) with 39 reporting shellfish ingestion. The age groups most affected were persons 65–69 and 40–44 years of age. Males predominate among reported cases.

## 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 exposure to 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 5).

**2011:** No waterborne outbreaks were reported.

**Table 5. Waterborne Outbreaks, 1991-2011**

<b>Year</b>	<b>Cases</b>	<b>Outbreaks</b>
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
2010	0	0
2011	0	0

## Yersiniosis

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

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

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

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

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

**Recent Washington trends:** Rates have been stable with 15 to 30 reports each year.

**2011:** 21 cases were reported (0.3 cases/100,000 population). Yersiniosis was most frequently diagnosed in infants less than one year of age.

# **APPENDIX I**

## **Disease Incidence and Mortality Rates**

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## 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 <sup>V</sup>	0
2003	8	0	0	0	0	0	8 <sup>T</sup>	0	0
2004	3	0	0	1 <sup>T</sup>	1 <sup>T</sup>	0	1 <sup>T</sup>	0	0
2005	6	0	0	3 <sup>T</sup>	0	0	3 <sup>T</sup>	0	0
2006	13	1 <sup>T</sup>	0	4 <sup>T</sup>	0	0	8 (5 <sup>T</sup> , 3 <sup>E</sup> )	0	0
2007	16	0	0	10 <sup>T</sup>	0	0	5 <sup>T</sup>	0	1 <sup>T</sup>
2008	20	0	1 <sup>T</sup>	14 <sup>T</sup>	1 <sup>T</sup>	0	4 <sup>E</sup> (3 <sup>C</sup> , 1 <sup>P</sup> )	0	0
2009	54	0	0	11 <sup>T</sup>	0	1 <sup>T</sup>	40 (36 <sup>E</sup> , 2 <sup>U</sup> , 2 <sup>P</sup> )	0	2 (1 <sup>T</sup> , 1 <sup>E</sup> )
2010	24	3 <sup>T</sup>	0	19 <sup>T</sup>	0	0	2 (1 <sup>E</sup> , 1 <sup>T</sup> )	0	0
2011	9	0	0	9 <sup>T</sup>	0	0	0	0	0

<sup>V</sup> Vaccine-associated

<sup>T</sup> Travel-associated

<sup>E</sup> Endemically acquired

<sup>C</sup> Confirmed case

<sup>U</sup> Unknown exposure location

<sup>P</sup> 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	0
2010	0	3	1	0.1	0
2011	0	3	4	0.1	0

**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
2010	0	0.0	0
2011	1	0.0	0

\*All rates are cases per 100,000 population.

\*All rates are cases per 100,000 population.

## CAMPYLOBACTERIOSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	1	*	6	32.6	4	*	9	47.5
Asotin	0	0.0	1	*	1	*	1	*	1	*
Benton	24	14.5	22	13.1	33	19.3	41	23.4	29	16.3
Chelan	4	*	9	12.5	4	*	15	20.7	9	12.4
Clallam	6	8.6	12	17.0	14	19.7	13	18.2	5	7.0
Clark	70	17.0	54	12.9	74	17.5	110	25.9	118	27.6
Columbia	1	*	0	0.0	0	0.0	2	*	0	0.0
Cowlitz	14	13.9	14	13.8	18	17.6	23	22.5	38	37.0
Douglas	2	*	0	0.0	2	*	6	15.6	3	*
Ferry	0	0.0	1	*	2	*	2	*	1	*
Franklin	14	20.1	14	19.4	21	28.0	19	24.3	23	28.6
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Grant	12	14.3	15	17.4	17	19.4	17	19.1	30	33.3
Grays Harbor	12	16.7	14	19.4	15	20.7	12	16.5	11	15.1
Island	6	7.7	11	14.0	14	17.8	11	14.0	10	12.7
Jefferson	3	*	1	*	7	23.5	6	20.1	7	23.3
King	263	14.1	294	15.5	261	13.7	304	15.7	403	20.7
Kitsap	16	6.5	25	10.0	34	13.5	33	13.1	45	17.7
Kittitas	1	*	3	*	2	*	6	14.7	8	19.4
Klickitat	3	*	1	*	3	*	2	*	7	34.1
Lewis	15	20.3	13	17.4	24	31.9	25	33.1	27	35.5
Lincoln	0	0.0	1	*	1	*	0	0.0	0	0.0
Mason	10	17.2	9	15.1	10	16.6	7	11.5	13	21.3
Okanogan	6	14.8	6	14.8	2	*	6	14.6	5	12.1
Pacific	1	*	6	28.9	1	*	5	23.9	13	62.2
Pend Oreille	2	*	1	*	2	*	1	*	2	*
Pierce	69	8.8	75	9.4	79	9.9	103	13.0	132	16.5
San Juan	3	*	4	*	4	*	2	*	5	31.4
Skagit	29	25.5	31	26.9	24	20.6	24	20.5	21	17.9
Skamania	0	0.0	0	0.0	2	*	0	0.0	2	*
Snohomish	117	17.0	123	17.6	92	13.0	172	24.1	219	30.5
Spokane	73	16.1	79	17.2	62	13.3	73	15.5	54	11.4
Stevens	1	*	4	*	1	*	2	*	7	16.1
Thurston	50	20.9	57	23.3	31	12.4	57	22.6	60	23.6
Wahkiakum	1	*	1	*	1	*	0	0.0	1	*
Walla Walla	3	*	3	*	5	8.5	8	13.6	11	18.7
Whatcom	64	32.8	45	22.8	59	29.5	74	36.8	86	42.6
Whitman	1	*	2	*	1	*	8	17.9	1	*
Yakima	123	51.9	117	48.8	101	41.8	121	49.7	121	49.4
<b>STATEWIDE TOTAL</b>	<b>1,020</b>	<b>15.6</b>	<b>1,069</b>	<b>16.2</b>	<b>1,030</b>	<b>15.4</b>	<b>1,315</b>	<b>19.6</b>	<b>1,538</b>	<b>22.7</b>

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	17.0	1
2003	943	15.4	0
2004	861	13.9	0
2005	1,045	16.6	0
2006	993	15.5	0
2007	1,020	15.6	0
2008	1,069	16.2	0
2009	1,030	15.4	1
2010	1,315	19.6	2
2011	1,538	22.7	0

\*All rates are cases per 100,000 population.

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

## CHLAMYDIA TRACHOMATIS

### CHLAMYDIA TRACHOMATIS STATEWIDE BY YEAR

County	2007		2008		2009		2010		2011		CHLAMYDIA TRACHOMATIS STATEWIDE BY YEAR			
	Cases	Rate	Year	Cases	Rate*	Deaths								
Adams	39	217.2	57	312.9	77	418.0	64	341.7	56	295.5	1987**	5,071	113.2	0
Asotin	29	135.4	53	246.3	41	189.9	76	351.5	59	272.5	1988	12,534	274.6	0
Benton	506	306.5	555	331.1	570	332.6	585	333.9	596	335.0	1989	10,865	233.1	0
Chelan	139	196.4	210	292.5	161	223.0	170	234.6	170	233.8	1990	12,709	261.1	0
Clallam	135	193.3	161	228.0	164	230.9	164	229.7	165	230.4	1991	12,917	258.3	0
Clark	899	217.8	1,096	261.5	1,312	309.6	1,347	316.7	1,490	348.1	1992	11,762	229.9	0
Columbia	2	*	3	*	4	*	7	171.7	2	*	1993	10,331	197.1	0
Cowlitz	324	322.8	289	284.6	340	332.8	327	319.3	380	370.0	1994	10,575	198.2	0
Douglas	64	176.1	76	204.1	77	202.4	83	216.0	114	295.0	1995	9,463	174.3	0
Ferry	18	240.5	26	345.3	16	211.6	15	198.6	29	381.6	1996	9,237	167.4	0
Franklin	252	362.2	282	390.4	310	412.7	268	342.9	298	370.2	1997	9,523	169.8	0
Garfield	3	*	1	*	1	*	4	*	1	*	1998	10,998	193.4	0
Grant	209	249.6	251	291.9	262	298.7	288	323.2	286	317.4	1999	11,964	207.8	0
Grays Harbor	140	194.3	175	242.1	140	192.9	155	212.9	137	187.9	2000	13,066	221.7	0
Island	205	262.1	222	282.6	171	217.2	200	254.8	216	274.1	2001	13,631	228.3	0
Jefferson	36	123.1	48	162.0	47	157.9	58	194.2	40	133.1	2002	14,936	246.5	0
King	6,015	321.5	5,957	315.0	5,805	304.1	5,945	307.8	6,406	329.8	2003	16,796	274.1	0
Kitsap	688	278.0	780	312.1	725	288.6	780	310.6	824	324.5	2004	17,635	284.0	0
Kittitas	85	217.2	122	303.9	110	270.2	130	317.7	142	343.8	2005	18,617	295.6	0
Klickitat	16	79.6	16	79.1	32	158.0	36	177.2	45	219.5	2006	17,819	277.5	0
Lewis	143	193.2	191	255.2	160	212.5	157	208.1	226	297.4	2007	19,123	293.1	0
Lincoln	9	85.4	5	47.0	9	84.7	15	141.9	10	94.3	2008	21,327	322.7	0
Mason	126	217.0	105	176.4	130	215.8	137	225.7	161	263.5	2009	21,178	317.4	0
Okanogan	92	227.6	113	278.4	105	256.3	117	284.5	115	279.1	2010	21,401	318.3	0
Pacific	19	91.4	29	139.8	37	177.1	30	143.4	17	81.3	2011	23,237	343.3	0
Pend Oreille	18	142.2	17	132.2	16	124.6	21	161.5	16	123.1	*All rates are cases per 100,000 population.			
Pierce	3,357	426.6	3,807	479.3	3,861	484.5	3,815	479.7	4,159	518.5	**First year reported, July - December			
San Juan	12	77.5	14	89.5	6	38.1	8	50.7	20	125.8	Note: Data prior to 2009 are based on year reported rather than year diagnosed.			
Skagit	303	266.0	351	304.1	331	283.8	324	277.2	320	272.6				
Skamania	10	91.8	18	164.5	22	200.1	25	225.9	25	224.2				
Snohomish	1,416	205.4	1,719	245.8	1,701	241.0	1,729	242.4	1,760	245.5				
Spokane	1,259	277.3	1,719	373.4	1,637	351.0	1,617	343.2	1,780	376.6				
Stevens	47	109.9	87	201.0	74	170.1	56	128.6	73	167.4				
Thurston	602	251.3	771	314.9	716	287.2	663	262.8	958	377.0				
Wahkiakum	4	*	5	124.8	1	*	9	226.2	5	125.0				
Walla Walla	144	249.3	201	346.2	152	259.6	164	279.0	201	341.8				
Whatcom	450	230.4	467	236.2	544	272.4	571	283.9	555	274.6				
Whitman	126	294.4	140	317.7	131	297.7	131	292.6	156	348.2				
Yakima	1,182	498.9	1,188	496.0	1,180	488.2	1,110	456.4	1,224	500.2				
<b>STATEWIDE TOTAL</b>	<b>19,123</b>	<b>293.1</b>	<b>21,327</b>	<b>322.7</b>	<b>21,178</b>	<b>317.4</b>	<b>21,401</b>	<b>318.3</b>	<b>23,237</b>	<b>343.3</b>				

\*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.

## 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
2010	0	0.0	0
2011	0	0.0	0

\*All rates are cases per 100,000 population.

## CRYPTOSPORIDIOSIS<sup>+</sup>

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Benton	0	0.0	1	*	2	*	1	*	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	1	*	4	*	4	*	8	11.2
Clark	9	2.2	1	*	18	4.2	13	3.1	9	2.1
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	7	7.0	4	*	4	*	7	6.8	3	*
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	1	*	1	*	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	1	*	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	2	*	5	16.9	5	16.8	8	26.8	7	23.3
King	43	2.3	34	1.8	32	1.7	17	0.9	13	0.7
Kitsap	5	2.0	8	3.2	0	0.0	0	0.0	0	0.0
Kittitas	2	*	13	32.4	1	*	0	0.0	0	0.0
Klickitat	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	2	*	2	*	2	*	0	0.0	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Mason	1	*	2	*	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	21	2.7	13	1.6	17	2.1	32	4.0	39	4.9
San Juan	1	*	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	14	2.0	5	0.7	6	0.8	8	1.1	1	*
Spokane	6	1.3	2	*	4	*	4	*	1	*
Stevens	0	0.0	0	0.0	1	*	1	*	0	0.0
Thurston	4	*	0	0.0	0	0.0	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	0	0.0	1	*
Whatcom	3	*	0	0.0	2	*	0	0.0	0	0.0
Whitman	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Yakima	15	6.3	7	2.9	3	*	4	*	1	*
<b>STATEWIDE TOTAL</b>	139	2.1	99	1.5	102	1.5	102	1.5	88	1.3

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
2010	102	1.5	0
2011	88	1.3	0

\*All rates are cases per 100,000 population.

<sup>+</sup>Cryptosporidiosis first became a notifiable condition in Washington in 12/2000.

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

**CYCLOSPORIASIS<sup>‡</sup>**

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
2010	2	0.0	0
2011	4	0.1	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
2010	0	0.0	0
2011	0	0.0	0

\*All rates are cases per 100,000 population.

## GIARDIASIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	1	*	1	*
Asotin	3	*	0	0.0	2	*	1	*	0	0.0
Benton	4	*	15	8.9	8	4.7	5	2.9	3	*
Chelan	1	*	2	*	3	*	8	11.0	7	9.6
Clallam	8	11.5	4	*	8	11.3	7	9.8	4	*
Clark	33	8.0	35	8.4	38	9.0	56	13.2	47	11.0
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Cowlitz	6	6.0	4	*	1	*	2	*	2	*
Douglas	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Ferry	0	0.0	1	*	0	0.0	1	*	0	0.0
Franklin	5	7.2	3	*	2	*	1	*	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	2	*	3	*	5	5.7	5	5.6	1	*
Grays Harbor	8	11.1	6	8.3	4	*	6	8.2	9	12.3
Island	13	16.6	12	15.3	7	8.9	10	12.7	7	8.9
Jefferson	4	*	9	30.4	6	20.2	9	30.1	6	20.0
King	143	7.6	109	5.8	105	5.5	110	5.7	156	8.0
Kitsap	16	6.5	9	3.6	8	3.2	16	6.4	18	7.1
Kittitas	0	0.0	4	*	4	*	4	*	4	*
Klickitat	3	*	6	29.7	1	*	1	*	0	0.0
Lewis	6	8.1	6	8.0	8	10.6	8	10.6	6	7.9
Lincoln	2	*	0	0.0	0	0.0	0	0.0	1	*
Mason	5	8.6	8	13.4	2	*	7	11.5	8	13.1
Okanogan	3	*	5	12.3	5	12.2	4	*	4	*
Pacific	1	*	0	0.0	0	0.0	2	*	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	3	*	0	0.0
Pierce	53	6.7	25	3.1	31	3.9	37	4.7	42	5.2
San Juan	1	*	0	0.0	2	*	0	0.0	1	*
Skagit	5	4.4	9	7.8	10	8.6	11	9.4	9	7.7
Skamania	0	0.0	0	0.0	1	*	0	0.0	2	*
Snohomish	73	10.6	80	11.4	70	9.9	59	8.3	67	9.3
Spokane	57	12.6	47	10.2	55	11.8	47	10.0	31	6.6
Stevens	1	*	1	*	2	*	2	*	2	*
Thurston	48	20.0	21	8.6	27	10.8	22	8.7	37	14.6
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	4	*	3	*	1	*	5	8.5
Whatcom	37	18.9	34	17.2	23	11.5	44	21.9	29	14.3
Whitman	2	*	2	*	0	0.0	3	*	2	*
Yakima	47	19.8	22	9.2	26	10.8	27	11.1	17	6.9
<b>STATEWIDE TOTAL</b>	590	9.0	486	7.4	467	7.0	521	7.7	529	7.8

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	6.9	0
2006	451	7.0	0
2007	590	9.0	0
2008	486	7.4	0
2009	467	7.0	0
2010	521	7.7	0
2011	529	7.8	0

\*All rates are cases per 100,000 population.

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

## GONORRHEA

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	2	*	3	*	2	*	1	*
Asotin	2	*	4	*	4	*	5	23.1	6	27.7
Benton	30	18.2	32	19.1	34	19.8	16	9.1	30	16.9
Chelan	6	8.5	7	9.7	2	*	2	*	8	11.0
Clallam	13	18.6	16	22.7	12	16.9	21	29.4	15	20.9
Clark	160	38.8	170	40.6	124	29.3	170	40.0	159	37.1
Columbia	0	0.0	1	*	0	0.0	1	*	0	0.0
Cowlitz	128	127.5	39	38.4	9	8.8	35	34.2	19	18.5
Douglas	2	*	2	*	3	*	2	*	7	18.1
Ferry	1	*	1	*	0	0.0	2	*	1	*
Franklin	15	21.6	21	29.1	10	13.3	19	24.3	18	22.4
Garfield	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Grant	10	11.9	14	16.3	9	10.3	17	19.1	21	23.3
Grays Harbor	15	20.8	20	27.7	12	16.5	5	6.9	12	16.5
Island	27	34.5	16	20.4	14	17.8	13	16.6	6	7.6
Jefferson	4	*	2	*	2	*	2	*	3	*
King	1,492	79.7	1,290	68.2	1,083	56.7	1,568	81.2	1,376	70.8
Kitsap	98	39.6	62	24.8	44	17.5	48	19.1	54	21.3
Kittitas	5	12.8	11	27.4	6	14.7	8	19.6	9	21.8
Klickitat	0	0.0	3	*	2	*	1	*	1	*
Lewis	28	37.8	21	28.1	8	10.6	10	13.3	6	7.9
Lincoln	2	*	1	*	1	*	1	*	0	0.0
Mason	15	25.8	13	21.8	5	8.3	7	11.5	6	9.8
Okanogan	9	22.3	9	22.2	7	17.1	3	*	8	19.4
Pacific	4	*	2	*	1	*	1	*	2	*
Pend Oreille	1	*	1	*	0	0.0	0	0.0	0	0.0
Pierce	830	105.5	676	85.1	457	57.3	414	52.1	424	52.9
San Juan	0	0.0	6	38.4	2	*	4	*	1	*
Skagit	17	14.9	9	7.8	12	10.3	17	14.5	16	13.6
Skamania	0	0.0	2	*	2	*	4	*	4	*
Snohomish	296	42.9	207	29.6	148	21.0	191	26.8	169	23.6
Spokane	207	45.6	272	59.1	131	28.1	137	29.1	158	33.4
Stevens	2	*	1	*	4	*	5	11.5	2	*
Thurston	47	19.6	43	17.6	26	10.4	49	19.4	57	22.4
Wahkiakum	0	0.0	2	*	0	0.0	0	0.0	0	0.0
Walla Walla	3	*	7	12.1	5	8.5	9	15.3	3	*
Whatcom	52	26.6	28	14.2	38	19.0	30	14.9	18	8.9
Whitman	11	25.7	17	38.6	10	22.7	11	24.6	11	24.6
Yakima	113	47.7	86	35.9	38	15.7	34	14.0	99	40.5
<b>STATEWIDE TOTAL</b>	<b>3,646</b>	<b>55.9</b>	<b>3,116</b>	<b>47.2</b>	<b>2,268</b>	<b>34.0</b>	<b>2,865</b>	<b>42.6</b>	<b>2,730</b>	<b>40.3</b>

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	48.3	0
2003	2,754	44.9	0
2004	2,810	45.3	0
2005	3,738	59.3	0
2006	4,231	65.9	0
2007	3,646	55.9	0
2008	3,116	47.2	0
2009	2,268	34.0	0
2010	2,865	42.6	0
2011	2,730	40.3	0

\*All rates are cases per 100,000 population.

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

\*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.

### ***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	1.2	0
2003*	13	3.2	1
2004*	4	1.0	0
2005*	5	1.2	0
2006*	5	1.2	0
2007*	6	1.4	0
2008*	2	0.5	0
2009*	9	2.1	0
2010*	10	2.3	1
2011*	8	1.8	1

\*All rates are cases per 100,000 population. Rates for 2001-2011 are for population aged 0-4 years.

**HANTAVIRUS PULMONARY  
SYNDROME<sup>‡</sup>**

Year	Cases	Rate*	Deaths
1985**	1	0.0	1
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
2009	3	0.0	1
2010	2	0.0	0
2011	2	0.0	1

<sup>‡</sup> Hantavirus Pulmonary Syndrome first became a notifiable condition in Washington in 12/2000.

\*All rates are cases per 100,000 population.

\*\* One retrospective case from 1985 was reported.

## HEPATITIS A, ACUTE

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	1	*	1	*
Benton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	1	*	0	0.0	0	0.0	0	0.0	1	*
Clallam	1	*	0	0.0	0	0.0	1	*	0	0.0
Clark	3	*	6	1.4	1	*	1	*	0	0.0
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	1	*	2	*	0	0.0	1	*	0	0.0
Douglas	0	0.0	1	*	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	1	*	0	0.0	1	*	0	0.0
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	0	0.0	1	*	1	*	1	*
Grays Harbor	1	*	0	0.0	1	*	0	0.0	0	0.0
Island	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Jefferson	2	*	1	*	0	0.0	0	0.0	0	0.0
King	18	1.0	16	0.8	15	0.8	7	0.4	16	0.8
Kitsap	2	*	1	*	2	*	2	*	2	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	1	*	0	0.0	1	*	0	0.0	0	0.0
Lewis	0	0.0	1	*	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	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Pacific	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	5	0.6	3	*	5	0.6	2	*	2	*
San Juan	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Skagit	2	*	1	*	0	0.0	0	0.0	2	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	9	1.3	10	1.4	7	1.0	2	*	2	*
Spokane	3	*	2	*	1	*	0	0.0	0	0.0
Stevens	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	1	*	1	*	2	*	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	1	*	0	0.0	0	0.0	0	0.0
Whatcom	6	3.1	1	*	2	*	1	*	3	*
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	0	0.0	2	*	2	*	0	0.0	0	0.0
<b>STATEWIDE TOTAL</b>	<b>60</b>	<b>0.9</b>	<b>51</b>	<b>0.8</b>	<b>42</b>	<b>0.6</b>	<b>21</b>	<b>0.3</b>	<b>31</b>	<b>0.5</b>

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
2010	21	0.3	0
2011	31	0.5	1

\*All rates are cases per 100,000 population.

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

## HEPATITIS B, ACUTE

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Chelan	1	*	0	0.0	1	*	0	0.0	0	0.0
Clallam	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Clark	1	*	3	*	1	*	3	*	3	*
Columbia	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Cowlitz	3	*	2	*	4	*	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	1	*	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	1	*	0	0.0	0	0.0	1	*
Grays Harbor	1	*	2	*	0	0.0	0	0.0	1	*
Island	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	20	1.1	29	1.5	11	0.6	13	0.7	15	0.8
Kitsap	2	*	0	0.0	0	0.0	0	0.0	2	*
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	1	*	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	1	*	0	0.0	0	0.0	0	0.0	1	*
Pacific	0	0.0	0	0.0	2	*	0	0.0	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	11	1.4	6	0.8	9	1.1	2	*	1	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	2	*	1	*	1	*	1	*	0	0.0
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	3	*	1	*	2	*	8	1.1	3	*
Spokane	21	4.6	8	1.7	10	2.1	12	2.5	1	*
Stevens	1	*	0	0.0	3	*	1	*	0	0.0
Thurston	0	0.0	1	*	0	0.0	3	*	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	1	*	0	0.0	0	0.0
Whatcom	0	0.0	0	0.0	0	0.0	3	*	0	0.0
Whitman	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	1	*	2	*	1	*	0	0.0	0	0.0
<b>STATEWIDE TOTAL</b>	71	1.1	56	0.8	48	0.7	50	0.7	35	0.5

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	1.2	2
2007	71	1.1	1
2008	56	0.8	0
2009	48	0.7	0
2010	50	0.7	1
2011	35	0.5	0

\*All rates are cases per 100,000 population.

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

## HEPATITIS C, ACUTE

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	1	*	1	*	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	0	0.0	1	*	0	0.0	3	*
Clark	0	0.0	1	*	0	0.0	3	*	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Douglas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Franklin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Garfield	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Grant	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Grays Harbor	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Island	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	7	0.4	11	0.6	5	0.3	8	0.4	7	0.4
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	1	*	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	1	*	0	0.0	0	0.0	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	3	*	1	*	1	*	2	*	1	*
San Juan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Skagit	1	*	1	*	1	*	1	*	4	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	0	0.0	1	*	1	*	1	*	3	*
Spokane	2	*	5	1.1	7	1.5	4	*	10	2.1
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Thurston	1	*	0	0.0	0	0.0	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	2	*	0	0.0
Whatcom	0	0.0	3	*	2	*	4	*	8	4.0
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	1	*	0	0.0	1	*	0	0.0	0	0.0
<b>STATEWIDE TOTAL</b>	18	0.3	25	0.4	22	0.3	25	0.4	41	0.6

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
2010	25	0.4	0
2011	41	0.6	0

\*All rates are cases per 100,000 population.

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

## HERPES SIMPLEX

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	3	*	2	*	2	*	3	*	3	*
Asotin	4	*	4	*	3	*	4	*	7	32.3
Benton	55	33.3	42	25.1	60	35.0	33	18.8	50	28.1
Chelan	27	38.2	37	51.5	14	19.4	13	17.9	20	27.5
Clallam	24	34.4	26	36.8	21	29.6	16	22.4	10	14.0
Clark	44	10.7	81	19.3	87	20.5	82	19.3	67	15.7
Columbia	0	0.0	0	0.0	3	*	0	0.0	0	0.0
Cowlitz	42	41.8	42	41.4	38	37.2	41	40.0	32	31.2
Douglas	11	30.3	11	29.5	5	13.1	7	18.2	11	28.5
Ferry	0	0.0	2	*	2	*	0	0.0	1	*
Franklin	16	23.0	18	24.9	15	20.0	10	12.8	14	17.4
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	12	14.3	11	12.8	14	16.0	16	18.0	12	13.3
Grays Harbor	25	34.7	14	19.4	13	17.9	18	24.7	19	26.1
Island	63	80.5	42	53.5	29	36.8	38	48.4	35	44.4
Jefferson	12	41.0	6	20.2	4	*	10	33.5	9	30.0
King	618	33.0	516	27.3	542	28.4	601	31.1	632	32.5
Kitsap	75	30.3	64	25.6	82	32.6	74	29.5	71	28.0
Kittitas	10	25.6	14	34.9	10	24.6	12	29.3	14	33.9
Klickitat	0	0.0	0	0.0	0	0.0	2	*	1	*
Lewis	22	29.7	6	8.0	16	21.2	19	25.2	22	28.9
Lincoln	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Mason	13	22.4	11	18.5	13	21.6	15	24.7	16	26.2
Okanogan	4	*	8	19.7	7	17.1	10	24.3	15	36.4
Pacific	2	*	4	*	2	*	2	*	1	*
Pend Oreille	4	*	4	*	4	*	1	*	6	46.2
Pierce	184	23.4	246	31.0	261	32.8	248	31.2	327	40.8
San Juan	2	*	7	44.8	1	*	4	*	2	*
Skagit	52	45.7	37	32.1	31	26.6	40	34.2	34	29.0
Skamania	0	0.0	0	0.0	3	*	3	*	0	0.0
Snohomish	270	39.2	328	46.9	221	31.3	280	39.3	297	41.4
Spokane	132	29.1	187	40.6	158	33.9	174	36.9	185	39.1
Stevens	8	18.7	11	25.4	5	11.5	4	*	3	*
Thurston	91	38.0	85	34.7	85	34.1	93	36.9	77	30.3
Wahkiakum	0	0.0	2	*	0	0.0	2	*	1	*
Walla Walla	20	34.6	23	39.6	20	34.2	23	39.1	17	28.9
Whatcom	53	27.1	39	19.7	41	20.5	75	37.3	62	30.7
Whitman	3	*	10	22.7	6	13.6	5	11.2	2	*
Yakima	50	21.1	69	28.8	57	23.6	50	20.6	74	30.2
<b>STATEWIDE TOTAL</b>	1,952	29.9	2,009	30.4	1,875	28.1	2,028	30.2	2,149	31.8

HERPES SIMPLEX STATEWIDE BY YEAR			
Year	Cases	Rate*	Deaths
2001	1,836	30.8	0
2002	1,914	31.6	0
2003	2,073	33.8	0
2004	2,153	34.7	0
2005	2,331	37.0	0
2006	2,446	38.1	0
2007	1,952	29.9	0
2008	2,009	30.4	0
2009	1,875	28.1	0
2010	2,028	30.2	0
2011	2,149	31.8	0

\*All rates are cases per 100,000 population.

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

\*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.

## HUMAN IMMUNODEFICIENCY VIRUS (HIV)<sup>§</sup>

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	1	*	0	0.0	1	*
Asotin	0	0.0	1	*	2	*	2	*	1	*
Benton	5	3.0	1	*	6	3.5	7	4.0	14	7.9
Chelan	3	*	1	*	3	*	5	6.9	4	*
Clallam	1	*	2	*	3	*	1	*	3	*
Clark	41	9.9	17	4.1	20	4.7	32	7.5	29	6.8
Columbia	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	5	5.0	5	4.9	4	*	5	4.9	4	*
Douglas	2	*	0	0.0	1	*	2	*	1	*
Ferry	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	3	*	5	6.9	6	8.0	4	*	1	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	3	*	3	*	1	*	3	*	3	*
Grays Harbor	2	*	6	8.3	0	0.0	5	6.9	5	6.9
Island	2	*	3	*	8	10.2	3	*	1	*
Jefferson	1	*	0	0.0	0	0.0	0	0.0	0	0.0
King	320	17.1	316	16.7	304	15.9	324	16.8	281	14.5
Kitsap	7	2.8	7	2.8	10	4.0	2	*	5	2.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	1	*	2	*	4	*	0	0.0	5	6.6
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	7	12.1	8	13.4	3	*	11	18.1	6	9.8
Okanogan	1	*	3	*	3	*	0	0.0	1	*
Pacific	2	*	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	61	7.8	59	7.4	62	7.8	61	7.7	58	7.2
San Juan	1	*	0	0.0	1	*	2	*	0	0.0
Skagit	3	*	4	*	1	*	4	*	6	5.1
Skamania	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Snohomish	43	6.2	36	5.1	42	5.9	34	4.8	33	4.6
Spokane	36	7.9	26	5.6	18	3.9	21	4.5	26	5.5
Stevens	0	0.0	1	*	1	*	0	0.0	1	*
Thurston	15	6.3	9	3.7	12	4.8	12	4.8	7	2.8
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	3	*	0	0.0	0	0.0	0	0.0
Whatcom	9	4.6	10	5.1	9	4.5	1	*	8	4.0
Whitman	0	0.0	2	*	1	*	1	*	2	*
Yakima	12	5.1	12	5.0	17	7.0	16	6.6	8	3.3
<b>STATEWIDE TOTAL</b>	<b>590</b>	<b>9.0</b>	<b>543</b>	<b>8.2</b>	<b>545</b>	<b>8.2</b>	<b>558</b>	<b>8.3</b>	<b>514</b>	<b>7.6</b>

DEATHS ATTRIBUTED TO HIV DISEASE <sup>‡</sup>			
STATEWIDE BY YEAR			
Year	Cases	Rate*	Deaths
1990	1,081	22.2	355
1991	1,015	20.3	432
1992	985	19.3	370
1993	930	17.7	580
1994	804	15.1	599
1995	696	12.8	572
1996	685	12.4	401
1997	608	10.8	183
1998	530	9.3	120
1999	587	10.2	101
2000	697	11.8	125
2001	568	9.5	115
2002	571	9.4	112
2003	565	9.2	147
2004	559	9.0	121
2005	563	8.9	139
2006	547	8.5	94
2007	590	9.0	95
2008	543	8.2	90
2009	545	8.2	113
2010	558	8.3	86
2011	514	7.6	0

‡ Includes only deaths attributed to HIV/AIDS.

\*All rates are cases per 100,000 population.

Note: Data have been adjusted since previous editions of this report.

§ 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 2007-2009 have been adjusted since previous editions of this report. Data reflects cases through 5/31/12.

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

**LEGIONELLOSIS**

Year	Cases	Rate*	Deaths
1985	7	0.2	2
1986	15	0.3	8
1987	24	0.5	3
1988	29	0.6	4
1989	30	0.6	5
1990	18	0.4	4
1991	15	0.3	5
1992	15	0.3	5
1993	12	0.2	2
1994	13	0.2	2
1995	22	0.4	6
1996	7	0.1	2
1997	11	0.2	0
1998	15	0.3	2
1999	21	0.4	4
2000	19	0.3	1
2001	10	0.2	1
2002	8	0.1	3
2003	14	0.2	1
2004	15	0.2	4
2005	18	0.3	1
2006	20	0.3	1
2007	24	0.4	2
2008	19	0.3	1
2009	29	0.4	2
2010	35	0.5	4
2011	43	0.6	4

\*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
2010	1	0.0	0
2011	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
2010	24	0.4	1
2011	19	0.3	2

\*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
2010	16	0.2	0
2011	19	0.3	0

\*All rates are cases per 100,000 population.

## MALARIA

Year	Cases	Rate*	Deaths
1981	30	0.7	0
1982	24	0.6	0
1983	15	0.4	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
2010	39	0.6	0
2011	24	0.4	0

\*All rates are cases per 100,000 population.

## MEASLES

County	2007		2008		2009		2010		2011	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clark	0	0.0	0	0.0	0	0.0	0	0.0	3	*
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	19	22.1	0	0.0	0	0.0	0	0.0
Grays Harbor	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Island	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	1	*	0	0.0	1	*	1	*	0	0.0
Kitsap	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pend Oreille	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pierce	0	0.0	0	0.0	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	1	*	0	0.0	0	0.0	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	1	*	0	0.0	0	0.0	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
<b>STATEWIDE TOTAL</b>	<b>3</b>	<b>0.0</b>	<b>19</b>	<b>0.3</b>	<b>1</b>	<b>0.0</b>	<b>1</b>	<b>0.0</b>	<b>4</b>	<b>0.1</b>

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
2010	1	0.0	0
2011	4	0.1	0

\*All rates are cases per 100,000 population.

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

## MENINGOCOCCAL DISEASE

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	0	0.0	1	*	0	0.0	0	0.0	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	0	0.0	0	0.0
Clark	5	1.2	4	*	3	*	4	*	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	1	*	0	0.0	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	1	*	0	0.0	0	0.0	2	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	2	*	1	*	0	0.0	0	0.0
Grays Harbor	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Island	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Jefferson	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
King	5	0.3	6	0.3	5	0.3	8	0.4	8	0.4
Kitsap	0	0.0	3	*	2	*	0	0.0	1	*
Kittitas	0	0.0	1	*	0	0.0	0	0.0	0	0.0
Klickitat	2	*	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	0	0.0	0	0.0	0	0.0	0	0.0	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	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	1	*	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	3	*	3	*	3	*	1	*
San Juan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Skagit	1	*	1	*	0	0.0	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	2	*	5	0.7	5	0.7
Spokane	3	*	8	1.7	4	*	2	*	0	0.0
Stevens	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	2	*	2	*	1	*	2	*	0	0.0
Wahkiakum	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	2	*	0	0.0	1	*	0	0.0
Whatcom	2	*	0	0.0	1	*	0	0.0	2	*
Whitman	0	0.0	0	0.0	0	0.0	3	*	0	0.0
Yakima	2	*	1	*	2	*	2	*	0	0.0
<b>STATEWIDE TOTAL</b>	<b>32</b>	<b>0.5</b>	<b>40</b>	<b>0.6</b>	<b>26</b>	<b>0.4</b>	<b>33</b>	<b>0.5</b>	<b>22</b>	<b>0.3</b>

MENINGOCOCCAL DIS-EASE 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
2010	33	0.5	3
2011	22	0.3	0

\*All rates are cases per 100,000 population.

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

## MUMPS

Year	Cases	Rate*	Deaths
1980	166	4.0	0
1981	165	3.9	0
1982	102	2.4	0
1983	55	1.3	0
1984	56	1.3	0
1985	42	1.0	0
1986	30	0.7	0
1987	70	1.6	0
1988	44	1.0	0
1989	59	1.3	0
1990	66	1.4	0
1991	178	3.6	0
1992	18	0.4	0
1993	14	0.3	0
1994	23	0.4	0
1995	16	0.3	0
1996	26	0.5	0
1997	21	0.4	0
1998	11	0.2	0
1999	2	0.0	0
2000	10	0.2	0
2001	2	0.0	0
2002	0	0.0	0
2003	11	0.2	0
2004	2	0.0	0
2005	3	0.0	0
2006	42	0.7	0
2007	53	0.8	0
2008	14	0.2	0
2009	6	0.1	0
2010	7	0.1	0
2011	2	0.0	0

\*All rates are cases per 100,000 population.

## PERTUSSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	3	*	2	*
Asotin	0	0.0	0	0.0	0	0.0	3	*	0	0.0
Benton	3	*	4	*	6	3.5	9	5.1	4	*
Chelan	5	7.1	3	*	0	0.0	1	*	2	*
Clallam	0	0.0	3	*	0	0.0	2	*	4	*
Clark	26	6.3	29	6.9	18	4.2	92	21.6	94	22.0
Columbia	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Cowlitz	2	*	2	*	6	5.9	26	25.4	71	69.1
Douglas	1	*	1	*	0	0.0	0	0.0	0	0.0
Ferry	1	*	0	0.0	0	0.0	1	*	0	0.0
Franklin	5	7.2	0	0.0	0	0.0	0	0.0	5	6.2
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	4	*	4	*	1	*	25	28.1	30	33.3
Grays Harbor	4	*	4	*	7	9.6	2	*	3	*
Island	0	0.0	86	109.5	1	*	13	16.6	30	38.1
Jefferson	0	0.0	0	0.0	0	0.0	2	*	2	*
King	130	6.9	85	4.5	38	2.0	69	3.6	124	6.4
Kitsap	24	9.7	13	5.2	5	2.0	31	12.3	16	6.3
Kittitas	3	*	2	*	26	63.9	19	46.4	9	21.8
Klickitat	0	0.0	0	0.0	3	*	3	*	2	*
Lewis	2	*	10	13.4	6	8.0	41	54.3	6	7.9
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Mason	2	*	3	*	0	0.0	2	*	0	0.0
Okanogan	8	19.8	2	*	7	17.1	6	14.6	2	*
Pacific	0	0.0	3	*	3	*	0	0.0	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	10	76.9	0	0.0
Pierce	23	2.9	33	4.2	29	3.6	84	10.6	129	16.1
San Juan	44	284.2	18	115.1	2	*	17	107.8	38	239.0
Skagit	3	*	14	12.1	9	7.7	4	*	5	4.3
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	2	*
Snohomish	46	6.7	46	6.6	35	5.0	46	6.4	268	37.4
Spokane	34	7.5	6	1.3	4	*	7	1.5	18	3.8
Stevens	0	0.0	0	0.0	0	0.0	13	29.9	1	*
Thurston	6	2.5	4	*	11	4.4	36	14.3	10	3.9
Wahkiakum	0	0.0	0	0.0	6	149.9	0	0.0	0	0.0
Walla Walla	0	0.0	1	*	0	0.0	1	*	2	*
Whatcom	66	33.8	55	27.8	34	17.0	25	12.4	68	33.6
Whitman	3	*	0	0.0	0	0.0	1	*	2	*
Yakima	37	15.6	29	12.1	34	14.1	11	4.5	11	4.5
<b>STATEWIDE TOTAL</b>	<b>482</b>	<b>7.4</b>	<b>460</b>	<b>7.0</b>	<b>291</b>	<b>4.4</b>	<b>607</b>	<b>9.0</b>	<b>962</b>	<b>14.2</b>

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	13.6	0
2005	1,026	16.3	0
2006	377	5.9	1
2007	482	7.4	0
2008	460	7.0	1
2009	291	4.4	0
2010	607	9.0	2
2011	962	14.2	2

\*All rates are cases per 100,000 population.

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

**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
2010	0	0.0	0
2011	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
2010	0	0.0	0
2011	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
2010	0	0.0	0
2011	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
2010	3	0.0	1
2011	8	0.1	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
2010	0	0.0	0
2011	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
2010	3	1	0	2
2011	1	0	0	1

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
2010	7	0.1	0
2011	11	0.2	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
2010	1	0.0	0
2011	2	0.0	0

\*All rates are cases per 100,000 population.

## SALMONELLOSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	2	*	1	*	3	*	3	*	3	*
Asotin	2	*	2	*	3	*	5	23.1	2	*
Benton	25	15.1	18	10.7	21	12.3	25	14.3	12	6.7
Chelan	7	9.9	10	13.9	8	11.1	9	12.4	8	11.0
Clallam	11	15.7	15	21.2	7	9.9	2	*	0	0.0
Clark	43	10.4	45	10.7	98	23.1	63	14.8	50	11.7
Columbia	2	*	0	0.0	1	*	1	*	2	*
Cowlitz	8	8.0	7	6.9	9	8.8	5	4.9	7	6.8
Douglas	3	*	0	0.0	1	*	3	*	3	*
Ferry	6	80.2	0	0.0	0	0.0	0	0.0	2	*
Franklin	0	0.0	10	13.8	6	8.0	13	16.6	8	9.9
Garfield	0	0.0	0	0.0	1	*	2	*	1	*
Grant	24	28.7	14	16.3	7	8.0	12	13.5	4	*
Grays Harbor	6	8.3	6	8.3	12	16.5	9	12.4	6	8.2
Island	7	8.9	11	14.0	10	12.7	10	12.7	3	*
Jefferson	2	*	4	*	4	*	3	*	1	*
King	247	13.2	304	16.1	257	13.5	224	11.6	193	9.9
Kitsap	13	5.3	21	8.4	22	8.8	27	10.8	25	9.8
Kittitas	2	*	10	24.9	5	12.3	1	*	3	*
Klickitat	4	*	1	*	4	*	1	*	5	24.4
Lewis	10	13.5	11	14.7	7	9.3	11	14.6	10	13.2
Lincoln	0	0.0	3	*	1	*	1	*	1	*
Mason	3	*	4	*	3	*	7	11.5	3	*
Okanogan	8	19.8	7	17.2	2	*	5	12.2	1	*
Pacific	2	*	2	*	0	0.0	3	*	0	0.0
Pend Oreille	0	0.0	2	*	0	0.0	1	*	0	0.0
Pierce	85	10.8	78	9.8	78	9.8	71	8.9	53	6.6
San Juan	1	*	2	*	1	*	1	*	0	0.0
Skagit	8	7.0	13	11.3	10	8.6	17	14.5	3	*
Skamania	1	*	0	0.0	1	*	0	0.0	0	0.0
Snohomish	73	10.6	87	12.4	88	12.5	77	10.8	77	10.7
Spokane	37	8.1	39	8.5	41	8.8	46	9.8	39	8.3
Stevens	1	*	1	*	2	*	3	*	1	*
Thurston	36	15.0	29	11.8	36	14.4	27	10.7	13	5.1
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	16	27.7	7	12.1	6	10.2	4	*	11	18.7
Whatcom	23	11.8	30	15.2	24	12.0	24	11.9	19	9.4
Whitman	6	14.0	3	*	1	*	11	24.6	2	*
Yakima	34	14.4	49	20.5	40	16.5	53	21.8	18	7.4
<b>STATEWIDE TOTAL</b>	758	11.6	846	12.8	820	12.3	780	11.6	589	8.7

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	11.4	1
2004	660	10.6	2
2005	626	9.9	0
2006	627	9.8	3
2007	758	11.6	2
2008	846	12.8	3
2009	820	12.3	2
2010	780	11.6	3
2011	589	8.7	2

\*All rates are cases per 100,000 population.

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

**SHELLFISH POISONING,  
PARALYTIC AND DOMOIC ACID**

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
2010	0	0.0	0
2011	0	0.0	0

\*All rates are cases per 100,000 population.

## SHIGA TOXIN-PRODUCING *ESCHERICHIA COLI* (STEC)

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	1	*	2	*	0	0.0	0	0.0	0	0.0
Benton	2	*	1	*	4	*	1	*	6	3.4
Chelan	0	0.0	0	0.0	2	*	2	*	0	0.0
Clallam	1	*	0	0.0	0	0.0	3	*	0	0.0
Clark	9	2.2	7	1.7	25	5.9	34	8.0	12	2.8
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	3	*	1	*	1	*	3	*	1	*
Douglas	0	0.0	0	0.0	0	0.0	0	0.0	2	*
Ferry	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Franklin	1	*	0	0.0	0	0.0	2	*	2	*
Garfield	0	0.0	0	0.0	1	*	0	0.0	1	*
Grant	0	0.0	2	*	3	*	1	*	7	7.8
Grays Harbor	0	0.0	1	*	1	*	0	0.0	1	*
Island	1	*	2	*	0	0.0	2	*	0	0.0
Jefferson	0	0.0	3	*	0	0.0	1	*	1	*
King	44	2.4	48	2.5	68	3.6	45	2.3	56	2.9
Kitsap	6	2.4	2	*	3	*	2	*	0	0.0
Kittitas	0	0.0	3	*	2	*	35	85.5	6	14.5
Klickitat	3	*	0	0.0	1	*	1	*	2	*
Lewis	0	0.0	4	*	1	*	4	*	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	1	*	2	*	0	0.0
Okanogan	2	*	0	0.0	1	*	3	*	1	*
Pacific	0	0.0	1	*	1	*	1	*	1	*
Pend Oreille	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Pierce	14	1.8	15	1.9	11	1.4	11	1.4	22	2.7
San Juan	0	0.0	0	0.0	1	*	1	*	0	0.0
Skagit	5	4.4	10	8.7	4	*	3	*	2	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Snohomish	19	2.8	53	7.6	32	4.5	23	3.2	27	3.8
Spokane	3	*	6	1.3	10	2.1	11	2.3	14	3.0
Stevens	1	*	2	*	0	0.0	1	*	0	0.0
Thurston	8	3.3	5	2.0	12	4.8	6	2.4	11	4.3
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	1	*	1	*	1	*	2	*	1	*
Whatcom	11	5.6	8	4.0	9	4.5	10	5.0	11	5.4
Whitman	0	0.0	0	0.0	0	0.0	4	*	2	*
Yakima	5	2.1	12	5.0	11	4.6	10	4.1	12	4.9
<b>STATEWIDE TOTAL</b>	141	2.2	189	2.9	206	3.1	226	3.4	203	3.0

## SHIGA TOXIN-PRODUCING *ESCHERICHIA COLI* (STEC)

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
2010	226	3.4	1
2011	203	3.0	1

\*All rates are cases per 100,000 population.

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

## SHIGELLOSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	1	*	2	*	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	4	*	5	3.0	8	4.7	0	0.0	3	*
Chelan	2	*	3	*	2	*	2	*	0	0.0
Clallam	1	*	1	*	0	0.0	0	0.0	0	0.0
Clark	8	1.9	4	*	5	1.2	7	1.6	12	2.8
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	3	*	3	*	2	*	1	*	5	6.2
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	3	*	5	5.8	3	*	2	*	0	0.0
Grays Harbor	0	0.0	0	0.0	0	0.0	1	*	1	*
Island	1	*	0	0.0	1	*	1	*	0	0.0
Jefferson	1	*	0	0.0	0	0.0	0	0.0	2	*
King	52	2.8	41	2.2	64	3.4	44	2.3	41	2.1
Kitsap	3	*	2	*	2	*	0	0.0	0	0.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Klickitat	0	0.0	2	*	0	0.0	0	0.0	1	*
Lewis	0	0.0	1	*	0	0.0	2	*	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	1	*	2	*	0	0.0	1	*
Okanogan	0	0.0	0	0.0	1	*	1	*	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	14	1.8	5	0.6	8	1.0	7	0.9	2	*
San Juan	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Skagit	2	*	2	*	3	*	5	4.3	8	6.8
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	30	4.4	11	1.6	15	2.1	13	1.8	9	1.3
Spokane	2	*	4	*	4	*	3	*	4	*
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	1	*	4	*	1	*	2	*	1	*
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	3	*	21	35.9	0	0.0	0	0.0
Whatcom	5	2.6	9	4.6	3	*	18	8.9	2	*
Whitman	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Yakima	26	11.0	8	3.3	7	2.9	2	*	11	4.5
<b>STATEWIDE TOTAL</b>	159	2.4	116	1.8	153	2.3	112	1.7	104	1.5

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	4.0	0
2002	230	3.8	0
2003	188	3.1	0
2004	133	2.1	0
2005	185	2.9	0
2006	170	2.6	0
2007	159	2.4	0
2008	116	1.8	0
2009	153	2.3	0
2010	112	1.7	0
2011	104	1.5	0

\*All rates are cases per 100,000 population.

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

## SYPHILIS (PRIMARY AND SECONDARY)

County	2007		2008		2009		2010		2011	
	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	1	*	3	*	0	0.0	2	*	1	*
Chelan	1	*	0	0.0	0	0.0	1	*	0	0.0
Clallam	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Clark	1	*	2	*	4	*	6	1.4	5	1.2
Columbia	0	0.0	0	0.0	1	*	0	0.0	0	0.0
Cowlitz	1	*	1	*	1	*	1	*	0	0.0
Douglas	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	0	0.0	1	*	0	0.0	2	*	5	6.2
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	2	*
Grays Harbor	1	*	1	*	0	0.0	0	0.0	0	0.0
Island	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Jefferson	0	0.0	0	0.0	1	*	1	*	0	0.0
King	120	6.4	127	6.7	97	5.1	212	11.0	235	12.1
Kitsap	3	*	9	3.6	5	2.0	4	*	5	2.0
Kittitas	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Klickitat	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lewis	0	0.0	1	*	0	0.0	0	0.0	1	*
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pacific	0	0.0	1	*	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	19	2.4	19	2.4	9	1.1	9	1.1	27	3.4
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	1	*
Snohomish	9	1.3	7	1.0	5	0.7	10	1.4	16	2.2
Spokane	6	1.3	5	1.1	7	1.5	4	*	14	3.0
Stevens	0	0.0	0	0.0	0	0.0	1	*	1	*
Thurston	5	2.1	2	*	2	*	1	*	3	*
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	3	*
Whitman	1	*	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	0	0.0	1	*	2	*	6	2.5	9	3.7
<b>STATEWIDE TOTAL</b>	168	2.6	181	2.7	135	2.0	261	3.9	329	4.9

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	2.8	0
2007	168	2.6	0
2008	181	2.7	0
2009	135	2.0	0
2010	261	3.9	0
2011	329	4.9	0

\*All rates are cases per 100,000 population.

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

\*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.

**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
2010	0	0.0	0
2011	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
2010	0	0.0	0
2011	0	0.0	0

\*All rates are cases per 100,000 population.

## TUBERCULOSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Benton	4	*	1	*	3	*	3	*	0	0.0
Chelan	2	*	1	*	2	*	3	*	0	0.0
Clallam	4	*	0	0.0	1	*	0	0.0	2	*
Clark	7	1.7	7	1.7	16	3.8	22	5.2	10	2.3
Columbia	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Cowlitz	1	*	1	*	0	0.0	0	0.0	1	*
Douglas	0	0.0	1	*	0	0.0	1	*	0	0.0
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Franklin	4	*	4	*	1	*	4	*	3	*
Garfield	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Grant	1	*	1	*	3	*	2	*	0	0.0
Grays Harbor	4	*	0	0.0	0	0.0	0	0.0	1	*
Island	6	7.7	2	*	2	*	2	*	2	*
Jefferson	1	*	0	0.0	0	0.0	0	0.0	0	0.0
King	161	8.6	121	6.4	130	6.8	114	5.9	106	5.5
Kitsap	10	4.0	5	2.0	4	*	0	0.0	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	*	1	*	0	0.0
Lewis	0	0.0	1	*	1	*	1	*	0	0.0
Lincoln	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mason	2	*	2	*	2	*	2	*	1	*
Okanogan	1	*	2	*	0	0.0	0	0.0	0	0.0
Pacific	3	*	1	*	0	0.0	0	0.0	0	0.0
Pend-Oreille	0		0		0		0		0	
Pierce	24	3.0	18	2.3	34	4.3	15	1.9	25	3.1
San Juan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Skagit	0	0.0	2	*	2	*	1	*	2	*
Skamania	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Snohomish	24	3.5	25	3.6	28	4.0	26	3.6	24	3.3
Spokane	5	1.1	8	1.7	9	1.9	4	*	8	1.7
Stevens	1	*	1	*	0	0.0	0	0.0	0	0.0
Thurston	6	2.5	5	2.0	8	3.2	14	5.5	5	2.0
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	3	*	0	0.0	2	*	0	0.0
Whatcom	7	3.6	5	2.5	3	*	6	3.0	2	*
Whitman	1	*	0	0.0	1	*	1	*	0	0.0
Yakima	12	5.1	11	4.6	5	2.1	9	3.7	6	2.5
<b>STATEWIDE TOTAL</b>	291	4.5	228	3.5	256	3.8	236	3.5	200	3.0

TUBERCULOSIS STATEWIDE BY YEAR			
Year	Cases	Rate*	Deaths
1980	424	10.3	13
1981	401	9.4	15
1982	301	7.1	6
1983	239	5.6	10
1984	207	4.8	6
1985	220	5.0	5
1986	218	4.9	3
1987	255	5.7	10
1988	236	5.2	9
1989	248	5.3	4
1990	284	5.8	12
1991	309	6.2	7
1992	306	6.0	7
1993	286	5.5	7
1994	264	4.9	6
1995	278	5.1	2
1996	285	5.2	3
1997	305	5.4	6
1998	265	4.7	5
1999	258	4.5	5
2000	258	4.4	2
2001	261	4.4	6
2002	252	4.2	4
2003	250	4.1	11
2004	244	3.9	9
2005	254	4.0	14
2006	262	4.1	18
2007	291	4.5	12
2008	228	3.5	2
2009	256	3.8	7
2010	236	3.5	7
2011	200	3.0	8

\*All rates are cases per 100,000 population.  
 Note: The reported TB associated death count for 2010, represent the following:

1. TB cases dead at TB diagnosis, where TB was reported as among cause(s) of death (NOT necessarily as confirmed on death certificate), and the date of death was in 2010 or missing.

2. TB cases alive at TB diagnosis, where reason for TB treatment being stopped or never started was given as Died, and death was given as related to TB.

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

**TULAREMIA**

Year	Cases	Rate*	Deaths
1986	1	0.0	0
1987	4	0.1	0
1988	1	0.0	0
1989	2	0.0	0
1990	4	0.1	0
1991	2	0.0	0
1992	2	0.0	0
1993	2	0.0	0
1994	1	0.0	0
1995	4	0.1	0
1996	2	0.0	0
1997	2	0.0	0
1998	8	0.1	0
1999	2	0.0	0
2000	2	0.0	0
2001	5	0.1	0
2002	3	0.0	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
2010	3	0.0	0
2011	5	0.1	0

\*All rates are cases per 100,000 population.

**TYPHOID FEVER**

Year	Cases	Rate*	Deaths
1985	3	0.1	0
1986	3	0.1	0
1987	9	0.2	0
1988	13	0.3	0
1989	11	0.2	0
1990	22	0.5	0
1991	10	0.2	0
1992	11	0.2	0
1993	8	0.2	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
2010	22	0.3	0
2011	9	0.1	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	1.2	0
2007	25	0.4	0
2008	29	0.4	0
2009	48	0.7	0
2010	59	0.9	0
2011	45	0.7	0

\*All rates are cases per 100,000 population.

## YERSINIOSIS

County	2007		2008		2009		2010		2011	
	Cases	Rate								
Adams	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Asotin	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Benton	2	*	1	*	0	0.0	1	*	1	*
Chelan	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Clallam	0	0.0	2	*	0	0.0	0	0.0	1	*
Clark	2	*	2	*	1	*	1	*	1	*
Columbia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cowlitz	1	*	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	1	*	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	1	*	0	0.0	0	0.0
Jefferson	2	*	0	0.0	0	0.0	0	0.0	0	0.0
King	6	0.3	6	0.3	7	0.4	8	0.4	5	0.3
Kitsap	1	*	1	*	0	0.0	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	0	0.0	0	0.0	0	0.0
Lewis	0	0.0	1	*	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	1	*	0	0.0	0	0.0
Okanogan	0	0.0	0	0.0	0	0.0	1	*	0	0.0
Pacific	0	0.0	0	0.0	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	2	*	2	*	1	*	1	*	2	*
San Juan	0	0.0	1	*	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	5	0.7	1	*	4	*	5	0.7	5	0.7
Spokane	0	0.0	0	0.0	0	0.0	2	*	0	0.0
Stevens	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Thurston	0	0.0	1	*	0	0.0	1	*	1	*
Wahkiakum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Walla Walla	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Whatcom	0	0.0	0	0.0	0	0.0	0	0.0	1	*
Whitman	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yakima	6	2.5	1	*	0	0.0	3	*	1	*
<b>STATEWIDE TOTAL</b>	<b>28</b>	<b>0.4</b>	<b>19</b>	<b>0.3</b>	<b>15</b>	<b>0.2</b>	<b>25</b>	<b>0.4</b>	<b>21</b>	<b>0.3</b>

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	0.5	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
2010	25	0.4	0
2011	21	0.3	0

\*All rates are cases per 100,000 population.

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

# **APPENDIX II**

## **Special Topics**

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## **Local Health Jurisdiction Contributors are acknowledged for special topics.**

### **Varicella-associated death Public Health – Seattle & King County**

On September 12<sup>th</sup>, 2011 Public Health – Seattle & King County (PHSKC) received a report from the King County Medical Examiner's office of a 45 year old Asian male who was found dead at home with a recent diagnosis of varicella and a classic varicella rash.

On September 9<sup>th</sup> the decedent had been seen at an area emergency department with a chief complaint of a rash that had started a couple of days before along with a sore throat. He denied any pain, headache, neck stiffness, but did report moderate itching. He was discharged to home with a diagnosis of varicella without any evidence of encephalitis syndrome. No laboratory specimens were collected. He was given a prescription for vicodin and hydroxyzine.

The decedent's wife reported that on the morning of 9/10/12 he took his medications around 11:30 am and his speech began to slur. He lay down on the couch to take a nap and was found dead at 12:30 pm at which time 911 was called.

Specimens collected on 9/12/12 from both brain and lung tissues were positive for varicella by PCR. The medical examiner gave a final cause of death as varicella pneumonia.

PHSKC could not find any record of varicella vaccine in the decedent's medical history. There was also no recent travel, contacts with other ill people, recent visitors or foreign arrivals. The decedent worked in a restaurant at a busy shopping center.

### **Imported Measles Case Clark County Public Health**

On February 14, 2011, Clark County Public Health (CCPH) was notified of a 7 month old diagnosed with measles. The child presented to a local healthcare provider with a rash, coryza, cough, and fever. The case was IgM positive for measles, and measles was later culture confirmed. The child developed symptoms on February 13, 2011 while returning to Clark County from India.

Possible locations of exposure to the contagious child included the flights from India, Portland International Airport (PDX), the pediatric practice where the child was seen, and a local hospital where laboratory samples were collected. CCPH worked with WA DOH and the CDC/Department of Global Migration and Quarantine (DGMQ) to identify and notify potentially exposed persons on the flights from India. Multnomah County Public Health identified and notified those potentially exposed at PDX.

CCPH obtained records of potentially exposed individuals from the pediatric clinic and the hospital laboratory and contacted these individuals directly. A hallway accessible to the public near the hospital laboratory was another site for potential exposure. Due to the open nature of

this area, CCPH decided to contact the media. CCPH identified one secondary measles case in a previously unvaccinated 14 year old exposed at the pediatric clinic. CCPH followed up with several other potential exposure locations related to this second case. CCPH was unable to identify any additional secondary or tertiary cases.

### **Shiga Toxin-producing *E. coli* O157:H7 Outbreak Associated with a Local Petting Zoo**

**Hollianne Bruce, Mike Young, Micha Horn, Jean Zahalka, Amy Blanchard, – Snohomish Health District**

In June 2011, the Snohomish Health District (SHD) determined that there was an outbreak of shiga toxin-producing *E. coli* (STEC) associated with a local petting zoo. During the span of this outbreak there were a total of 5 confirmed, 1 probable and 2 suspect cases. All cases that met confirmed case definition were cultured at DOH-PHL and confirmed to be *E. coli* O157:H7 with matching pulsed field gel electrophoresis (PFGE) patterns.

Ages of cases ranged from 2 to 29 years old. The majority of the cases were children under the age of 5 years (66.67%). The average incubation period was 4 days, with a range of 2-7 days. Symptoms reported by cases included diarrhea (100.0%, 6/6), bloody diarrhea (83.33%, 5/6), abdominal cramps (100.0%, 6/6), nausea (100.0%, 6/6), vomiting (66.67%, 4/6), and fever (83.33%, 5/6). All cases recovered without sequelae.

After establishment of the outbreak, Environmental Health Specialists from SHD conducted an evaluation of the zoo's practices. While the zoo did meet all current regulations regarding petting zoos, there were many areas for improvement to decrease risk of zoonotic disease transmission. Recommendations for improvement included removing the calves from the animal interaction area; using stronger disinfecting agents; removing animal play/shelter tunnels which were attractive play areas to children; removing the craft tables from the animal interaction area; reducing the number of exits; relocating the employee lunch area; and providing more hand washing signage and educational materials. The petting zoo immediately implemented the recommendations and no further cases occurred.

### **Tularemia – A Case Study**

**Denise Stinson – Tacoma-Pierce County Health Department**

In September 2011, a 45 year old woman visited the ED of a local community hospital with complaints of fever, head ache, neck pain, cough and a tender mass in the right axilla. The initial concern for this patient was meningitis, so a lumbar puncture and CT scans were done which were negative. Complete blood count and other studies were essentially normal, with white count of 6.2. The patient was started on ceftriaxone and vancomycin. A general surgeon was consulted about the axillary mass, which was aspirated. After no evidence of abscess was found, fine-needle biopsy was completed and sent for culture and cytology. The patient was discharged home after a two-day stay in the hospital.

Ten days after the patient was discharged (which happened to be late on a Friday afternoon), the Tacoma-Pierce County Health Department was notified by the hospital laboratory that the

culture of material from the needle biopsy appeared to be growing *Francisella tularensis*. The isolate was sent to the Washington State Public Health laboratories for positive identification. Meanwhile, we were concerned about possible laboratory exposures. *F. tularensis* is a slow-growing organism, and laboratory workers who may examine the plates without first placing them under a biohazard hood may be exposed to the potentially deadly bacteria. Since the incubation period can be short as 3 days, we needed to determine potential exposures and coordinate prophylaxis right away.

We reached the hospital microbiologist and asked her to review staff schedules and activities and to collect names and contact information for persons who worked with the isolate. Then we attempted to call hospital infection control and employee health. We were finally able to reach the employee health nurse at 5:20PM and gave her instructions for appropriate prophylaxis of exposed persons. The employee health nurse worked with one of the physicians in the emergency department to prescribe the recommended prophylaxis. Ultimately, 4 laboratory workers completed the prophylaxis and the symptom watch. The microbiology laboratory reinforced lab protocols to be used with slow growing, difficult to identify organisms to minimize exposures in the future.

Patient interview yielded few clues as to how she could have been exposed to *F. tularensis*. She had no contact with wild animals. She had no travel or ill contacts. She reported living in an apartment and did not do yard work, mowing or camping. Her only outdoor activity was a daily 2 mile walk on trails in a suburban city park. She reported having seen rabbits on her walks, but had never touched one or come close to one. She did not recall any insect bites or scratches near the site of where the large lymph node developed. She reported that her son went mountain biking on the park trails and she helped him lift his bicycle into her truck, and could have been exposed to the dirt on the bike tires.

She was unemployed and uninsured, and reported that she was still suffering fevers and another lump in the axilla. As she did not have a primary care provider, we recommended that return immediately to the emergency department, and TPCHD staff coordinated with the hospital infection control nurse to have the emergency room physician contact an infectious disease consultant, with whom the patient was able to follow up. The patient was given a 21 day course of ciprofloxacin.

## **Diarrhetic Shellfish Poisoning**

During 2011 high levels of a biotoxin not previously identified in the United States was detected in shellfish from the Sequim Bay. Okadaic acid is produced by dinoflagellates and is associated with diarrhetic shellfish poisoning (DSP). Symptoms of diarrhea, nausea, vomiting, abdominal cramps and chills begin within a few hours of consumption and last one to three days. DSP occurs in several European countries and Japan, and the toxin was recently found in shellfish from British Columbia waters. Like other shellfish toxins, the DSP toxin is not destroyed by freezing or cooking.

A family of three became ill after eating mussels collected from a public area of Sequim Bay. Testing of mussel samples from the same site confirmed the DSP toxin. Those commercial and recreational harvest areas were closed for several weeks until toxin levels diminished.

## FOODBORNE DISEASE OUTBREAKS, 2011

Foodborne disease outbreaks are caused by a variety of agents including viruses, bacteria, toxins and parasites. A foodborne disease outbreak is defined as the occurrence of two or more cases of a similar illness resulting from the ingestion of a common food where food is implicated as the source of illness. Outbreaks of foodborne disease are reportable to DOH as outlined in WAC 246-101-510. In Washington, there are typically 30 to 50 outbreaks of foodborne disease reported every year.

**Table 1. Foodborne Disease Outbreaks, 2007 – 2011**

Year	Cases	Outbreaks
2007	722	43
2008	564	46
2009	307	27
2010	344	37
2011	371	30

In 2011, 30 outbreaks of foodborne disease were reported to DOH. Foodborne disease outbreaks are detected through public health surveillance and investigation of cases of notifiable conditions (e.g. bacterial agents such as *Salmonella* and *E. coli*) or by notification from members of the public or food establishments (mainly viral gastroenteritis and bacterial toxin outbreaks).

Outbreaks occurred in a wide range of settings in 2011. Restaurants (60%) and distributed commercial products (13%) were the most frequently reported settings. Other settings included catered dinners, markets, private clubs and residences.

The agents associated with foodborne disease outbreaks in 2011 are shown in Table 2

**Table 2. Agents associated with Foodborne Disease Outbreaks, 2011**

Bacterial		Viral	
Agent	Number of outbreaks	Agent	Number of outbreaks
Shiga Toxin-producing <i>E. coli</i>	1	Norovirus	4
		Virus – not laboratory confirmed	11
<i>Vibrio parahaemolyticus</i>	2	<b>Toxin</b>	
<i>Campylobacter</i>	1	<b>Agent</b>	<b>Number of outbreaks</b>
		Diarrhetic Shellfish Toxin	1
<i>Salmonella</i>	4	Bacterial toxin – not laboratory confirmed	4

Each outbreak of foodborne illness is investigated to determine contributing factors. A contributing factor is a fault or circumstance that singly or in combination led to the outbreak of

foodborne illness. Contributing factors may include food handling practices which lead to the contamination of a food; and/or the proliferation, amplification or survival of an agent. A single outbreak may have multiple contributing factors identified during an investigation.

In 2011, there were 15 viral foodborne disease outbreaks: 14/15 of these outbreaks involved factors related to a suspected infectious individual who had contact with food. These factors included evidence of inadequate handwashing practices and/or bare hand contact with ready-to-eat foods. Eleven (11/15) viral foodborne disease outbreaks occurred in a restaurant setting.

The eight bacterial outbreaks reported were associated with a variety of contaminated commercial products including papaya, sprouts, cantaloupe, chicken, oysters and raw milk. Contributing factors most frequently associated with bacterial outbreaks included consumption of food that was intended to be consumed raw or undercooked, and food that was intended to be consumed after a kill step that was inadequate.

Additionally, four bacterial toxin outbreaks were reported in 2011. Contributing factors associated with bacterial toxin outbreaks included improper hot holding, insufficient time/temperature during reheating, improper slow cooling and lack of control on time/temperature of the implicated food.

One outbreak caused by Diarrhetic Shellfish Toxin resulted from consumption of mussels harvested by a family at a public marine park. This was the first documented occurrence of illnesses from this agent in Washington.

**Table 3. Foodborne Disease Outbreaks Reported to Washington State Department of Health, 2011**

No.	Month	County	Agent	Total # ill	# Ill lab confirmed	Food source	Setting	Contributing Factors
1	Jan	Cowlitz	Virus	4	--	Restaurant meal	Restaurant	Inadequate handwashing, Bare hand contact with food
2	Jan	King	Bacterial toxin	2	--	Pork	Restaurant	Improper cooling, Insufficient reheating
3	Feb	King	<i>Salmonella</i> Panama	4	4	Cantaloupe	Commercial product	Contaminated product
4	Feb	King	Bacterial toxin	4	--	Buffet meal	Restaurant	Cross-contamination, Lack of temperature control, Improper hot and cold holding
5	Feb	Spokane	Norovirus	203	3	Banquet meals	Private club	Ill food worker, Bare hand contact with food
6	March	King	<i>Salmonella</i> Agona	5	5	Papaya	Commercial product	Contaminated product
7	March	King	Virus	6	--	Restaurant meal	Restaurant	Inadequate handwashing
8	March	Cowlitz	Bacterial toxin	2	--	Rice	Restaurant	Improper cooling
9	April	King	Norovirus	9	--	Sub sandwich	Residence	Unknown
10	April	King	Virus	3	--	Restaurant meal	Restaurant	Ill food worker, Bare hand contact with food
11	April	Multiple	<i>Salmonella</i> Braenderup	2	2	Sandwiches	Supermarket deli	Unknown
12	April	Kitsap	Norovirus	5	1	Restaurant meal	Restaurant	Ill food worker
13	May	Multiple	Virus	3	--	Restaurant meal	Restaurant	Unknown
14	May	Multiple	Virus	5	--	Restaurant meal	Restaurant	Inadequate handwashing
15	May	Multiple	<i>Salmonella</i> Enteritidis	10	10	Sprouts	Commercial product	Contaminated product
16	June	Kitsap	Diarrhetic Shellfish Toxin	3	--	Mussels	Marine park	Toxic substance part of tissue
17	July	Pierce	<i>Vibrio parahaemolyticus</i>	9	4	Oysters	Oyster market	Contaminated product
18	July	Multiple	Unknown	9	--	Oysters	Catered reception	Unknown
19	July	King	<i>Campylobacter</i>	4	1	Chicken	Residence	Contaminated product, Insufficient temperature control

No.	Month	County	Agent	Total # ill	# Ill lab confirmed	Food source	Setting	Contributing Factors
20	Aug	King	Bacterial toxin	2	--	Beans	Restaurant	No temperature control, Improper hot holding Insufficient reheating
21	Aug	King	STEC O157:H7	3	3	Raw milk	Commercial product	Contaminated product
22	Sept	King	<i>Vibrio parahaemolyticus</i>	2	1	Oysters	Restaurant	Contaminated product
23	Sept	King	Virus	6	--	Raw vegetables	Restaurant	Bare hand contact with food
24	Sept	King	Virus	4	--	Salad	Restaurant	Inadequate handwashing
25	Oct	Thurston	Norovirus	3	1	Oysters	Restaurant	Contaminated product
26	Oct	King	Virus	4	--	Sandwiches, fruit garnish	Cafeteria	Ill food worker, Handwashing, Improper glove use
27	Oct	King	Virus	11	--	Restaurant buffet	Restaurant	Inadequate handwashing
28	Dec	King	Virus	18	--	Restaurant meal	Restaurant	Ill food worker, Bare hand contact with food
29	Dec	Snohomish	Unknown	4	--	Unknown	Restaurant	Unknown
30	Dec	Snohomish	Virus	22	--	Unknown	Catered reception	Unknown

## INFLUENZA SURVEILLANCE, 2011–2012

The Washington State Department of Health (DOH), in collaboration with local health jurisdictions and CDC, performed surveillance for influenza during the 2011–2012 season using several different systems. This report summarizes data collected during July 24, 2011–July 21, 2012 through key systems.

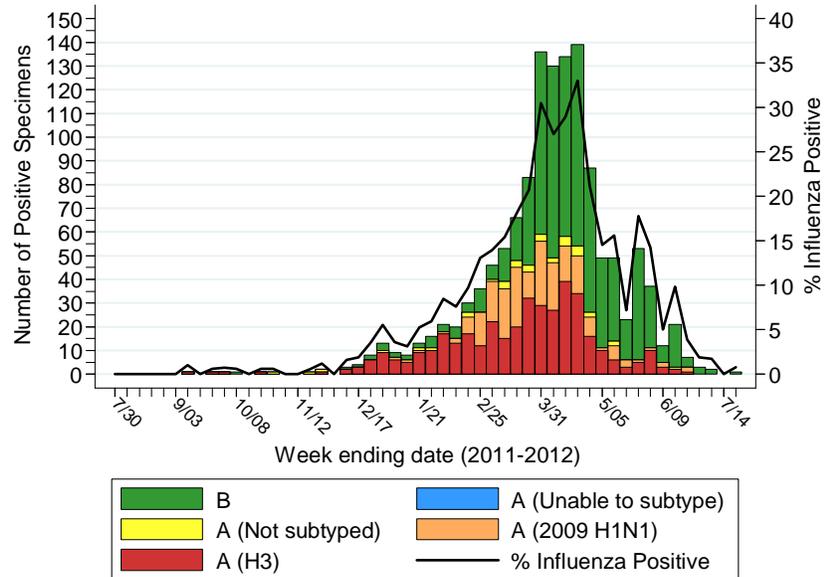
### Overall Summary

Overall, influenza activity during the 2011–2012 influenza season was mild compared to previous seasons and occurred later than usual, reaching peak activity in Western Washington around week 14 (week ending April 7, 2012) and peak activity in Eastern Washington around week 11 (week ending March 17, 2012). During the end of May and June 2012, a second wave of influenza activity due to influenza B was detected in the state. The predominant viruses circulating throughout the state were influenza A (H3N2) viruses and influenza B viruses.

### 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, the Spokane Regional Health District Laboratory, the University of Washington Virology Laboratory and the Seattle Children’s Hospital Laboratory 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.

Of 1321 specimens which tested positive for influenza during July 24, 2011–July 21, 2012, 627 (47%) were influenza A and 694 (53%) were influenza B. Of the subtyped influenza A specimens, 203 (34%) were influenza A (2009 H1N1) viruses and 388 (66%) were influenza A (H3) viruses.



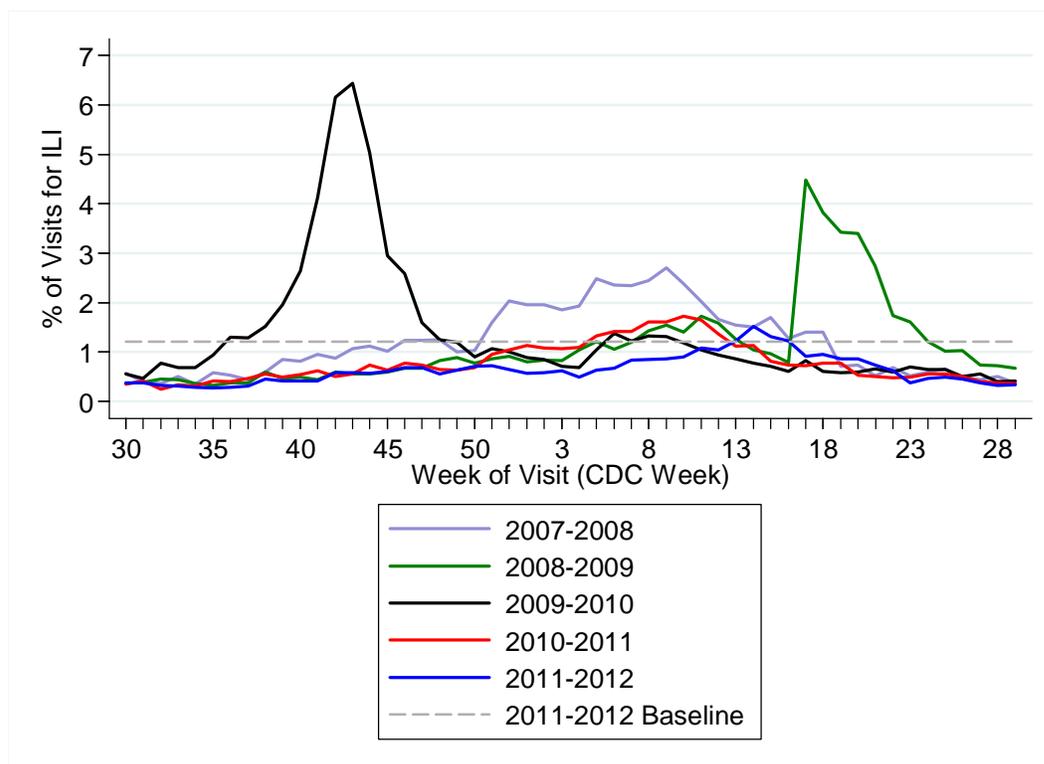
**Figure 1. Influenza positive tests reported to CDC by WHO/NREVSS collaborating laboratories, Washington, 2011–2012**

During the 2011–2012 season, the circulating viruses were moderately well-matched to the strains included in the vaccine. Sixteen (50%) of the influenza A (H3N2) viruses were characterized as A/Perth/16/2009-like, the influenza A (H3N2) component of the 2011–12 vaccine. The rest showed reduced titers with antiserum produced against A/Perth/16/2009. All 8 influenza A (2009 H1N1) viruses were characterized as A/California/07/2009-like, the influenza A (H1N1) component of the 2011–12 vaccine. Of the influenza B viruses tested, 63 (78%) belonged to the B/Victoria lineage of viruses and 18 (22%) belong to the B/Yamagata lineage of viruses. Of 35 influenza B/Victoria lineage viruses characterized, 33 (94%) were characterized as B/Brisbane/60/2008-like, the influenza B component of the 2011–12 vaccine.

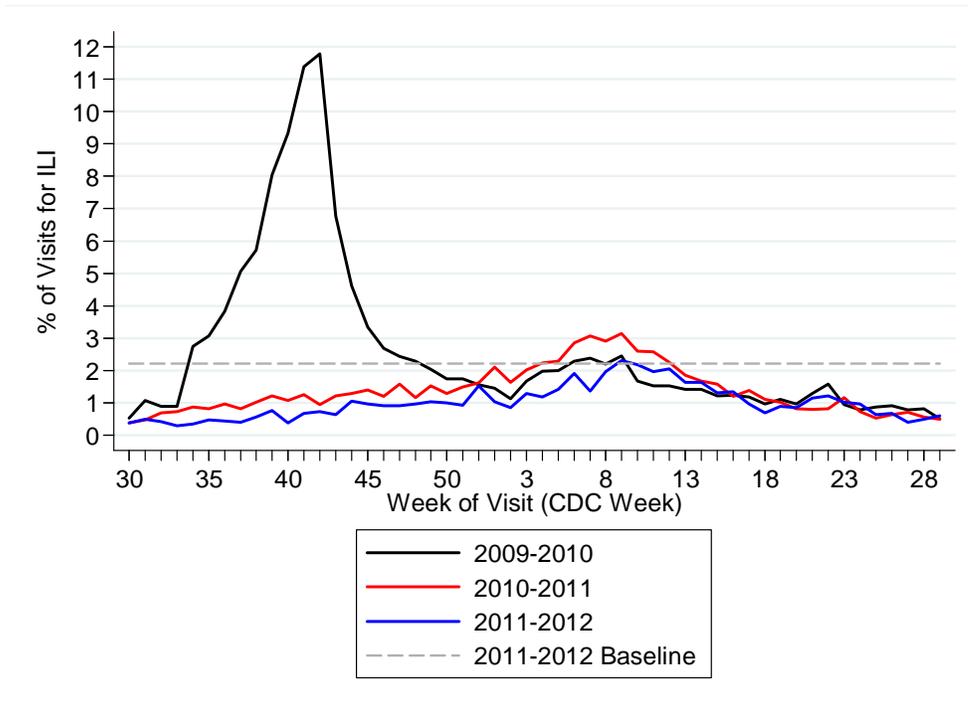
At the end of the season, one oseltamivir-resistant influenza A (2009 H1N1) virus was detected in a patient who acquired the infection overseas. No novel or variant influenza A virus infections were detected during the season.

### Syndromic Surveillance Data

ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics) WA: The following graphs show the proportion of emergency department visits, by CDC week, for a syndrome of influenza-like illness (ILI). A syndrome of ILI is derived from the chief complaint and is defined as “influenza” OR fever with cough or sore throat.



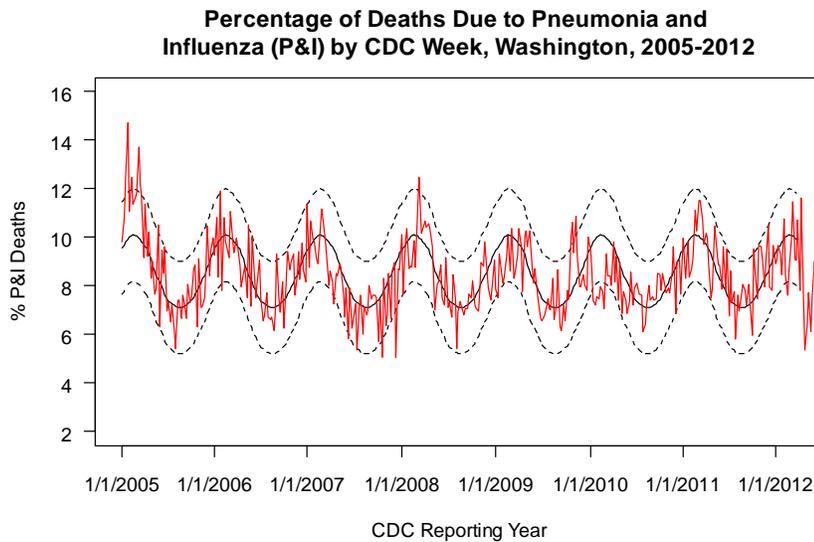
**Figure 2. Percentage of ED visits for ILI by CDC week, Western Washington, 2007–2012**



**Figure 3. Percentage of ED visits for ILI by CDC week, Eastern Washington, 2009–2012**

Pneumonia and Influenza (P&I) Mortality

DOH analyzes death records to determine the weekly proportion of deaths due to pneumonia and influenza (P&I). Figure 4 indicates the weekly proportion of deaths due to P&I during 2005–2012. Data points for the most recent 8–12 weeks do not represent all deaths in the state since there is a delay in submitting death records to DOH.



**Figure 4. Percentage of deaths due to pneumonia and influenza (P&I) by CDC week, Washington, 2005–2012**

### Laboratory-confirmed Influenza-associated Deaths

During July 24, 2011–July 21, 2012, surveillance identified 18 laboratory-confirmed influenza deaths. These deaths likely significantly underestimate the true number of deaths due to influenza since many patients with influenza are not tested for the virus and some patients with laboratory-confirmed influenza are not reported to a public health agency. Of these 18 deaths, 11 were due to influenza A virus (3 H3N2, 5 2009 H1N1, 3 unknown subtype), 6 were due to influenza B virus, and 1 was due to an influenza of unknown type. Sixteen (89%) had one or more risk factors known to increase complications from influenza.

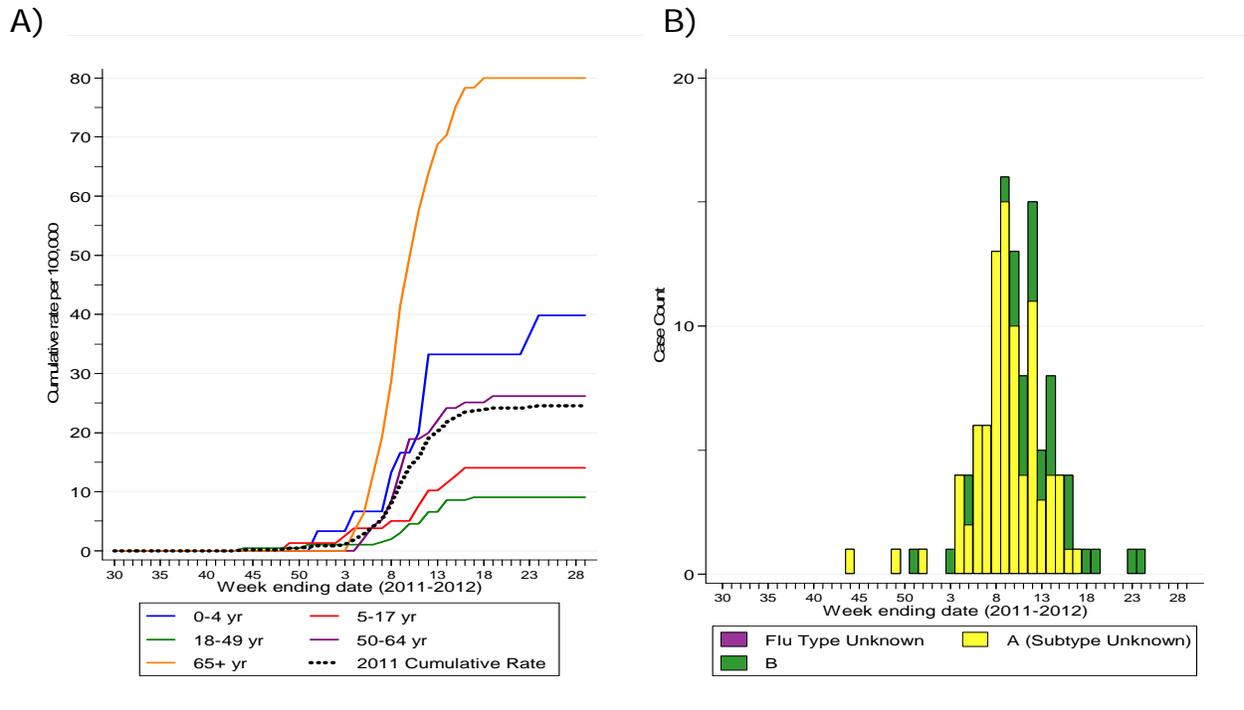
Mortality rates were lowest for those younger than age 50 years and increased with age with the highest mortality rates in those 65 years and older (Table 1).

**Table 1. Number and rate of reported laboratory-confirmed influenza deaths by age group, Washington, July 2011–July 2012**

<i>Age Group (years)</i>	<i>Deaths</i>	<i>Death Rate (per 100,000 population)</i>
0–4	0	NA
5–24	3	0.17
25–49	4	0.17
50–64	3	0.22
65+	8	0.94
Total	18	0.27

### Laboratory-confirmed Influenza-associated Hospitalizations, Spokane County

Spokane Regional Health District requires that their hospitals and providers report patients hospitalized with laboratory-confirmed influenza. Between July 24, 2011 and July 21, 2012, 93 adults and 23 children hospitalized with laboratory-confirmed influenza were reported among Spokane County residents. Cumulative hospitalization rates by age group and hospitalized cases by week of illness onset are shown on the below graphs.



**Figure 5. A) Laboratory-confirmed cumulative hospitalization rates by age group (per 100,000), Spokane County, Washington, 2011–2012, B) Hospitalized laboratory-confirmed influenza cases by week of illness onset, Spokane County, Washington, 2011–2012**

Influenza Trivalent Vaccine 2012–2013

The 2012–2013 trivalent influenza vaccine will contain the same H1N1 component from the 2011–2012 vaccine, but the H3N2 and B vaccine components will change. The 2012–2013 vaccine will include the following components:

- A/California/7/2009 (H1N1)pdm09-like virus
- A/Victoria/361/2011 (H3N2)-like virus
- B/Wisconsin/1/2010-like virus

# **APPENDIX III**

## **State Demographics**

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**Washington State Population Estimates, 1985-2011\***  
Washington State Office of Financial Management

<b>Year</b>	<b>Estimate</b>
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	5,970,330
2002	6,059,316
2003	6,126,885
2004	6,208,515
2005	6,298,816
2006	6,420,258
2007	6,525,086
2008	6,608,245
2009	6,672,159
2010	6,724,540
2011	6,767,900

\*April 1, 2011 estimate updated December 2011; Accessed on 8/15/12 from:  
<http://www.ofm.wa.gov/pop/asr/default.asp>

**Washington State Population Estimates By County, 2011\***  
 Washington State Office of Financial Management

<b>County</b>	<b>Estimate</b>
Adams	18,950
Asotin	21,650
Benton	177,900
Chelan	72,700
Clallam	71,600
Clark	428,000
Columbia	4,100
Cowlitz	102,700
Douglas	38,650
Ferry	7,600
Franklin	80,500
Garfield	2,250
Grant	90,100
Grays Harbor	72,900
Island	78,800
Jefferson	30,050
King	1,942,600
Kitsap	253,900
Kittitas	41,300
Klickitat	20,500
Lewis	76,000
Lincoln	10,600
Mason	61,100
Okanogan	41,200
Pacific	20,900
Pend Oreille	13,000
Pierce	802,150
San Juan	15,900
Skagit	117,400
Skamania	11,150
Snohomish	717,000
Spokane	472,650
Stevens	43,600
Thurston	254,100
Wahkiakum	4,000
Walla Walla	58,800
Whatcom	202,100
Whitman	44,800
Yakima	244,700
<b>Washington State</b>	<b>6,767,900</b>

\*April 1, 2011 estimate updated December 2011; Accessed on 8/15/12 from:  
<http://www.ofm.wa.gov/pop/asr/default.asp>

**Washington State Population By Age and Sex, 2011\***  
Washington State Office of Financial Management

<b>Age (years)</b>	<b>Male</b>	<b>Female</b>	<b>TOTAL</b>
0-4	214,629	224,883	439,512
5-9	209,870	219,450	429,320
10-14	213,562	224,828	438,390
15-19	221,463	234,336	455,799
20-24	223,712	238,228	461,940
25-29	233,876	244,381	478,257
30-34	228,290	234,701	462,991
35-39	216,460	220,869	437,329
40-44	230,886	236,852	467,738
45-49	239,536	240,823	480,359
50-54	250,237	247,251	497,488
55-59	237,080	226,995	464,075
60-64	206,706	196,013	402,719
65-69	145,461	136,208	281,669
70-74	101,966	92,700	194,666
75-79	78,158	65,051	143,209
80-84	65,136	46,710	111,846
85 +	79,221	41,372	120,593
<b>TOTAL</b>	<b>3,396,249</b>	<b>3,371,651</b>	<b>6,767,900</b>

\*April 1, 2011 estimate updated December 2011; Accessed on 8/15/12 from: <http://www.ofm.wa.gov/pop/asr/default.asp>

†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/asr/default.asp>; accessed 8/15/12). 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 2011 forecast of the state population by age and sex were used (<http://www.ofm.wa.gov/pop/stfc/default.asp>; accessed 8/21/12).