Communicable Disease Data Report
2008-2012

For Healthcare Providers

Tacoma - Pierce County Health Department
Healthy People in Healthy Communities

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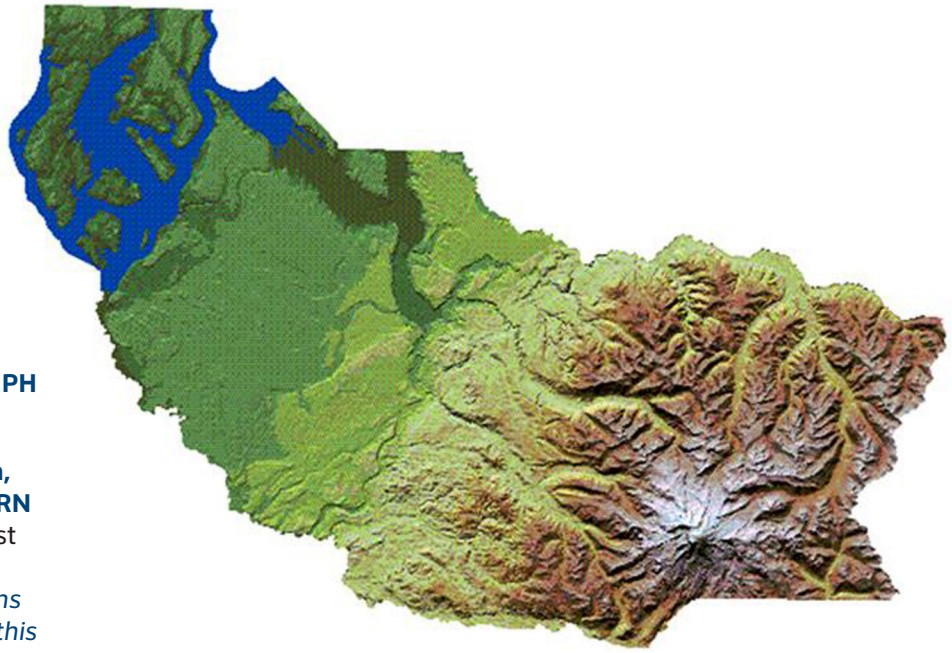
Introduction

WAC 246-101 requires healthcare providers and laboratories to report cases of certain communicable diseases to the local health jurisdiction where the patient resides.

Pierce County healthcare providers and laboratories help ensure effective communicable disease surveillance by reporting notifiable conditions to Tacoma-Pierce County Health Department in a timely manner. The Health Department is committed to ensuring that healthcare providers and laboratories have access to countywide disease data summaries to inform their practice.

The Health Department investigates reports of notifiable conditions to detect outbreaks and prevent the spread of communicable diseases. Data are analyzed to determine disease rates, trends and geographical clustering; data are used to develop policy, redirect program activities and refine outbreak investigation.

The total number of cases and incidence per 100,000 of the population for these diseases are included in this summary. Incidence is not calculated if fewer than five cases have been reported.



Pierce County, Washington

Enteric Diseases

Except for cryptosporidiosis and campylobacteriosis, Pierce County's incidence for the enteric diseases listed below is lower than Washington State's. Noteworthy is the increase in *Campylobacter* cases. *Campylobacter* is also on the rise nationally, and in 2012, incidence in the United States was at its highest level since 2000. Associated exposures include consumption of poultry, raw milk, produce, untreated water, and contact with animals.

Much of the increase in campylobacteriosis in Pierce County (from a rate of 16.5 in 2011 to a rate of 27.3 in 2012) is thought to be due to a transition from culture to the use of *Campylobacter* antigen tests by local hospital laboratories. *Campylobacter* is a difficult organism to isolate using culture, and the antigen tests are much more sensitive, identifying many more positives. However, false positives are not uncommon (the specificity of the antigen test is 93%), so clinicians need to take into account clinical symptoms and epidemiological factors when diagnosing *Campylobacter* gastroenteritis using the antigen test.

Most infections due to *Campylobacter* and *Salmonella* are self-limiting and antibiotic treatment is usually not necessary. Antimicrobial therapy is warranted only for patients with severe disease or those at high risk for severe disease, such as infants or those with immune systems severely weakened from medications or other illnesses. Unnecessary antibiotic use can lead to the development of resistance, can expose the patient to unnecessary side effects and can lead to the development of potentially deadly enteritis due to *Clostridium difficile* infection.

Shiga toxin-producing *E. coli* (STEC) should be suspected in patients with bloody diarrhea. Testing for shiga toxin will identify infections caused by non-O157 *E. coli*, which is actually now more common than *E. coli* O157 serotypes. Illnesses caused by non-O157 STEC in the United States tend to be less severe than those caused by *E. coli* O157:H7. Centers for Disease Control and Prevention (CDC) estimates that 46.2% of *E. coli* O157:H7 patients develop illness severe enough to require hospitalization, compared with 12.8% of all lab confirmed non-O157 STEC patients.

Antibiotics **should not** be given for known or suspected STEC infection as they may increase the risk of developing hemolytic uremic syndrome and subsequent kidney damage.

Enteric Diseases		2008		2009		2010		2011		2012	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Campylobacter	Pierce County	75	9.3	79	9.7	103	13.0	132	16.5	221	27.3
	Washington	1,069	16.2	1,030	15.4	1,315	19.6	1,538	22.7	1,551	22.7
Cryptosporidia	Pierce County	13	1.6	17	2.1	32	4.0	39	4.9	22	2.7
	Washington	99	1.5	102	1.5	102	1.5	88	1.3	101	1.5
Giardia	Pierce County	25	3.1	31	3.9	37	4.7	42	5.2	48	5.9
	Washington	486	7.4	467	7.0	521	7.7	429	7.8	512	7.5
Salmonella (non-Typhoid)	Pierce County	78	9.7	78	9.6	71	8.9	53	6.6	75	9.3
	Washington	846	12.8	820	12.3	780	11.6	589	8.7	842	12.4
Shiga toxin-producing *E. coli*	Pierce County	15	1.9	11	1.4	11	1.4	22	2.7	11	1.4
	Washington	189	2.9	206	3.1	226	3.4	203	3.0	239	3.5
Shigella	Pierce County	5	0.6	8	1.0	7	0.9	2	nc	5	0.6
	Washington	116	1.8	153	2.3	112	1.7	104	1.5	133	2.0
Vibriosis	Pierce County	1	nc	6	0.8	5	0.6	3	nc	4	nc
	Washington	29	0.4	48	0.7	59	0.9	45	0.7	67	1.0

Source: Washington State Communicable Disease Report 2012
nc = not calculated

Vaccine Preventable Diseases

Pertussis—Pertussis epidemics historically have occurred at 3–5 year intervals. Incidence began to rise in 2010 and by 2012, epidemic levels were present in many states in the United States, including Washington State. Pierce County incidence was the highest in the South Puget Sound region (96.1/100,000) and was higher than Washington State as a whole (72.1/100,000). The highest incidence was in infants (495/100,000) and children ages 10–13 (425/100,000).

Infants under age 3 months are most at risk for severe pertussis. Centers for Disease Control and Prevention (CDC) recommends that household members of pertussis cases be given antibiotic prophylaxis, as well as all high-risk contacts to a case (young infants, pregnant women within three weeks of delivery and healthcare workers). Tdap vaccination, regardless of the timing of previous Tdap doses, is now recommended during every pregnancy after the 20th week (preferably late 2nd or 3rd trimester). Passive antibody from mother to fetus may protect young infants in the first weeks of life.

Invasive Meningococcal Disease—There were three cases in 2012. Two were infants under age 6 months, one infected with serogroup B which is not covered by the vaccine, and one infected with serogroup Y. The third case was a toddler, infected with serogroup B. All of the patients recovered. The currently available vaccine is given at age 11–12 and protects against types A, C, Y and W-135. In 2011, the Advisory Committee on Immunization Practices (ACIP) recommended a second dose for adolescents after age 16.

Invasive meningococcal disease is immediately notifiable. Household and child care contacts will need prophylaxis, coordinated by the Health Department. Healthcare personnel usually do not need prophylaxis unless there is direct contact with secretions during mouth to mouth resuscitation or splatter to an unprotected face during intubation or suctioning.

Measles and Rubella—There have been no cases of measles or rubella reported in Pierce County between 2008 and 2012. Endemic measles and rubella have been eliminated from the United States, however, imported cases stemming from foreign travel do occur. There were no cases of measles or rubella in Washington State in 2012.

Although measles elimination (i.e., interruption of continuous transmission lasting ≥12 months) was declared in the United States in 2000, importation of measles cases continues to occur. Since elimination, the highest numbers of U.S. cases were reported in 2008 (140 cases) and 2011 (220). At end of year 2012, the cumulative number of measles cases in the United States was 53. All cases in the United States are the result of importation from foreign travel and subsequent transmission to susceptible people. Two MMR are recommended for persons over age 12 months. It is recommended that infants age 6–12 months who travel with their families outside the United States receive a dose of MMR vaccine which is not counted as a valid lifetime dose, but can protect them during travel.

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Vaccine Preventable Diseases		2008		2009		2010		2011		2012	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Haemophilus influenzae	Pierce County*	0	nc	0	nc	0	nc	1	nc	0	nc
	Washington**	2	nc	9	2.1	10	2.3	8	1.8	4	nc
Measles	Pierce County	0	nc	0	nc	0	nc	0	nc	0	nc
	Washington	19	0.3	1	nc	1	nc	4	0.1	0	nc
Meningococcal	Pierce County	3	nc	3	nc	3	nc	1	nc	3	nc
	Washington	40	0.6	26	0.4	33	0.5	22	0.3	24	0.4
Mumps	Pierce County*	0	nc	2	nc	3	nc	0	nc	0	nc
	Washington	14	0.2	6	0.1	7	0.1	2	nc	2	nc
Pertussis	Pierce County	33	4.1	29	3.6	84	10.6	129	16.1	783	96.9
	Washington	460	7.0	291	4.4	607	9.0	962	14.2	4,916	72.1

Source: Washington State Communicable Disease Report 2012
nc = not calculated

*Source: Public Health Issue Management System (PHIMS)
**Population adjusted for age 0 to 4 years (Source: OFM)

Vaccine Preventable Diseases (continued)

Mumps—Five cases of mumps, none in 2012 were reported in Pierce County between 2008 and 2012. In the past few years, large mumps outbreaks in the United States have occurred in college students and other student groups. Immunity to mumps from MMR vaccination is estimated to be at 80–90%. Mumps outbreaks can occur in highly vaccinated populations because the 10% to 20% of people who have received two doses of MMR but are still susceptible can sustain an outbreak, especially in settings where people have a high number of close contacts with others (e.g., school and college).

Many different viruses can cause parotitis. Diagnosis of acute mumps using serology alone is problematic as the results in vaccinated persons are unreliable. A buccal swab for viral culture is recommended and can be done at the Washington State Public Health Laboratory (WSPHL). If mumps is suspected, call the Health Department to coordinate testing at WSPHL.

***Haemophilus influenzae* Invasive Disease**—It is reportable only for cases under age 5 years. In 2012 there were no cases reported. Invasive *Hemophilus influenzae* type B (Hib) disease has all but disappeared due a very effective vaccine against serotype B which is given in infancy. Prior to the introduction of the conjugate vaccine in 1988, Hib was the most common cause of bacterial meningitis in young American children.

Voluntarily Reportable Diseases

Since 2000, Pierce County has supported voluntary reporting of methicillin-resistant *Staphylococcus aureus* (MRSA) and Vancomycin-resistant enterococci (VRE) from all seven Pierce County hospitals and several long-term care facilities and outpatient clinics. The numbers in the tables represent first isolate per patient per year. A substantial majority of reported MRSA cases (81% in 2012) were skin and soft-tissue infections. The percentage of *S. aureus* isolates reported that are resistant to methicillin have been decreasing since 2009.

	2008		2009		2010		2011		2012	
	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
MRSA	5,382	668.0	4,122	507.0	3,901	479.0	3,806	361.0	3,941	362.0
VRE	55	6.6	107	13.2	92	11.3	95	11.8	54	6.68

Percent of *Staphylococcus aureus* Isolates Resistant to Methicillin			
2008	**2009**	**2010**	**2011**
51.1%	48.7%	47.6%	44.6%

Hepatitis

Hepatitis A—Annual case counts in Pierce County have fallen to single digits for the past several years, following implementation of routine hepatitis A vaccination for children. The most common exposure for cases of acute hepatitis A is travel to areas of the world where the disease is common. Acute hepatitis A manifests as nausea, vomiting, abdominal distress and jaundice. Liver enzymes are usually markedly elevated (ALT > 1,000) with a positive hepatitis A IgM.

Acute Hepatitis B—Due to widespread vaccination, incidence has declined dramatically. Acute hepatitis B often goes undiagnosed because it is frequently (50–70% of the time) asymptomatic. Most acute cases in the U.S. are due to sexual transmission. Hepatitis B can be also be transmitted by sharing injection equipment, needle sticks and from mother to infant during birth. Perinatal transmission is the cause of most cases of chronic hepatitis B. Chronic infection occurs in about 90% of infected infants, 30% of infected children younger than age 5, and 2–6% of adults. Although hepatitis B infection in pregnancy is reportable, Centers for Disease Control and Prevention (CDC) estimates that half of all pregnant women with positive HBsAg are not reported to the Health Department. When the report is received, our nurses case-manage infants of hepatitis B positive mothers to ensure post-exposure prophylaxis and testing at age one year.

Chronic Hepatitis B—Most people in Pierce County newly reported with chronic hepatitis B infection are immigrants from endemic countries who most likely acquired the disease from perinatal or early childhood exposure. The CDC recommends routine screening for HBsAg for people from countries where the prevalence of HBsAg positive is 2% or greater, which includes most counties in Asia, Africa, the Middle East, the Pacific Islands, and Eastern Europe.

Chronic Hepatitis C—Is the leading cause of liver transplantation in the United States. It is transmitted through infected blood, most importantly through injection drug use. Transfusion of infected blood products was also a common exposure source prior to 1990. It is estimated that up to 75% of persons with hepatitis C are unaware of their infection. Most persons diagnosed with hepatitis C are people born between 1945 and 1965. For this reason the CDC issued recommendations in 2012 that call for one-time screening for all persons in this age group. Positive antibody screening tests should be confirmed by PCR.

Now more than ever, identification of persons with chronic hepatitis C is important to direct them into care. In recent years, direct acting antivirals (DAAs, telaprevir and boceprevir) in combination with pegylated interferon and ribavirin have dramatically improved treatment success for genotype 1 disease. New interferon-free regimens are expected soon which will improve patient acceptance and compliance with therapy.

Hepatitis		2008		2009		2010		2011		2012	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Hepatitis A (enteric transmission)	Pierce County	3	nc	5	0.6	2	nc	2	nc	1	nc
	Washington	51	0.8	42	0.6	21	0.3	31	1.5	29	0.4
Hepatitis B, Acute (vaccine preventable)	Pierce County	6	0.7	9	1.1	2	nc	1	nc	1	nc
	Washington	59	0.9	48	0.7	50	0.7	35	0.5	34	0.5
Hepatitis C, Acute	Pierce County	1	nc	1	nc	2	nc	2	nc	3	nc
	Washington	25	0.4	22	0.3	25	0.4	41	0.6	54	0.8
Hepatitis B, Chronic*	Pierce County	140	17.4	124	15.2	103	13.3	96	12.0	119	14.7
	Washington	1,577	23.9	1,301	19.5	1,284	19.1	1,027	15.2	1,060	15.5
Hepatitis C, Chronic*	Pierce County	1,226	152.2	884	108.7	731	91.9	741	92.4	576	71.3
	Washington	5,789	87.9	5,746	86.2	4,925	73.2	6,091	90.0	4,631	67.9

Source: Washington State Communicable Disease Report 2012
nc = not calculated
*Source: Washington State Department of Health, Office of Infectious Disease and Reproductive Health

Sexually Transmitted Diseases

Chlamydia—Remains the most commonly reported condition in Pierce County, Washington State, and the United States. In 2012, healthcare providers in Pierce County reported 4,293 cases of chlamydia. Pierce County has the highest rate of chlamydia infection in Washington State (531.2 per 100,000). Most of these infections are among those aged 15 to 24 and most are asymptomatic. Screening sexually active young people aged 15 to 24 is a critical cornerstone of chlamydia prevention. The Health Department recommends annual screening for all sexually active patients under age 25.

Gonorrhea—In 2012, Washington State and Pierce County experienced an increase of reported gonorrhea. Healthcare providers in Pierce County reported 657 cases of gonorrhea, up from 424 the previous year, (rate of 81.3 per 100,000). According to Washington State Department of Health's estimates, approximately 10% of those reported with gonorrhea are infected with HIV. Because of this, the Health Department recommends that providers screen any patient with gonorrhea for HIV. The recommended treatment for uncomplicated gonococcal infections of the cervix, urethra, rectum and pharynx is the combination therapy of both Ceftriaxone (250 mg IM in a single dose) plus Azithromycin (1 g orally in a single dose). Someone presumptively diagnosed with gonorrhea should be treated at the time of their initial evaluation, before test results become available.

Syphilis (Primary and Secondary)—In 2012, Pierce County experienced a slight decrease of primary and secondary syphilis cases. Many of the syphilis cases have been in men who have sex with men (MSM) who are also infected with HIV. Because of this, the Health Department recommends that providers conduct syphilis testing for all male patients who have sex with men, especially those who are already infected with HIV. When someone is infected with HIV, syphilis can invade the central nervous system at any stage.

HIV/AIDS—In Pierce County, most of those infected with HIV are white men who have sex with men; however, there are heterosexual men and women also infected with HIV. Rates of HIV infection are higher among African American and Latinos than Whites. Because an estimated 25% of those infected with HIV are unaware of their infection, CDC recommends that healthcare providers conduct routine HIV screening for all of their patients at least once and annually for all patients who are known to be at risk (especially MSM).

Sexually Transmitted Diseases		2008		2009		2010		2011		2012	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Chlamydia	Pierce County	3,807	472.7	3,861	474.6	3,815	479.7	4,159	518.5	4,293	531.2
	Washington	21,327	323.7	21,178	317.6	21,401	317.8	23,237	343.3	24,600	360.8
Gonorrhea	Pierce County	676	83.9	457	56.2	414	52.1	424	52.9	657	81.3
	Washington	3,116	47.3	2,268	34.0	2,865	42.6	2,730	40.3	3,282	48.1
Herpes (genital, initial infection)	Pierce County	246	30.5	261	32.1	248	31.2	327	40.8	346	42.8
	Washington	2,009	30.5	1,875	28.1	2,028	30.2	2,149	31.8	2,197	32.2
Syphilis (primary and secondary)	Pierce County	19	2.4	9	1.1	9	1.1	27	3.4	22	2.7
	Washington	181	2.7	135	2.0	261	3.9	329	4.9	300	4.4
HIV Infection (new diagnosis)	Pierce County	64	7.9	62	7.6	63	7.9	75	9.3	46	5.7
	Washington	541	8.2	556	8.3	551	8.2	531	7.8	503	7.4

Source: Washington State Communicable Disease Report 2012

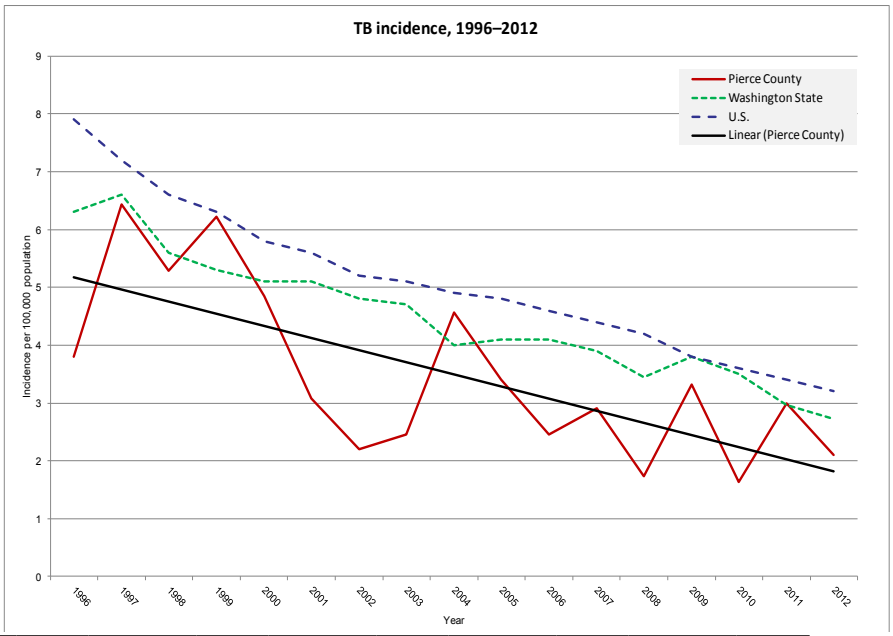
Tuberculosis

The annual incidence of tuberculosis in Pierce County continues to trend downward and remains below that of Washington State and the United States.

Fourteen of the 19 TB cases in Pierce County in 2012 were individuals who were born outside of the United States Seven cases were Asian and the highest incidence of TB was among Asians.

Of the 16 *Mycobacterium tuberculosis* isolates tested for drug resistance, five were resistant to one or more drugs and one was multidrug resistant (resistant to isoniazid, rifampin, and streptomycin).

There were 18 cases of pulmonary TB diagnosed in 2012, three of whom also had disease at extrapulmonary sites. Five pulmonary cases had radiographic evidence of cavitary lesions, a marker of advanced disease. Often, persons with advanced disease have a history of chronic pulmonary complaints with associated symptoms of TB, however the diagnosis of TB was delayed. CDC encougages clinicians to "Think TB."



Tuberculosis		2008		2009		2010		2011		2012	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Tuberculosis	Pierce County	18	2.2	34	4.2	15	1.9	25	3.1	19	2.4
	Washington	228	3.5	256	3.8	236	3.5	200	3.0	185	2.7

Source: Washington State Communicable Disease Report 2012

Rabies Post-Exposure Prophylaxis

Animal bites considered low-risk for rabies exposure are no longer reportable (WAC revision 2011). In Washington State, rabies is rarely identified in any animal except bats. Since 1987, only four rabid domestic, terrestrial animals were identified, two with bat variant virus. Of bats tested in Washington, 5 to 10% are identified as rabid, although this is not representative of the population of bats as a whole. We estimate that in the wild less than 1% of bats are rabid.

Rabies post-exposure prophylaxis (PEP) involves immune globulin and a series of vaccinations administered over weeks. It is very expensive and time-consuming for the patient, and should be undertaken only after careful evaluation of the exposure. PEP is recommended for bat bites where the bat was not captured and tested for rabies. Since bat bites can be unapparent, PEP should be administered if a bat is found with a small child or was in a room with a person who was asleep. Exposures from wild animals should be evaluated and PEP can be recommended on a case-by-case basis. Rabies is still fairly common in some developing countries, and PEP is usually recommended for animal bites that occur during travel outside the United States.

Health Department staff are available to assist with evaluation of exposures 24/7, and can be reached at (253) 798-6410.

	2008	2009	2010	2011	2012
Rabies Post-Exposure Prophylaxis	38	48	25	22	41

Other Reportable Diseases

Dengue—The seven reported cases of this mosquito-borne illness were acquired by travelers to the Philippines, Mexico, Haiti, Puerto Rico, Bali and Nicaragua.

Legionellosis—All 11 reported cases were hospitalized, and two patients died. The average age of cases was 60 years (range 35–63 years). Four cases were related to travel. Because travelers disperse, clinicians may not detect cases with the same travel-related exposure, e.g., a hotel shower or sauna. Please test for *Legionella* in community-acquired pneumonia cases who traveled in the two weeks prior to symptom onset.

Listeriosis—Seven cases ranging in age from newborn to 87 years occurred between 2008 and 2012. This invasive bacterial disease is usually acquired through contaminated food, and affects the elderly, pregnant women, infants and person with immune compromise. Risky foods include processed deli meets, soft or blue veined cheese, raw milk, smoked fish and pates. A large national outbreak due to cantaloupe occurred in 2011.

Lyme Disease—Of the seven reported cases, five were exposed during travel outside Washington State. One case had not traveled outside Pierce County and one patient could not be interviewed to obtain history. Two-tiered testing is recommended by the CDC; the algorithm is available at www.cdc.gov/lyme/diagnosistreatment/labtest/twostep.

Malaria—All 15 reported cases involved travel to Asia or Africa. Nine of the cases were due to *Plasmodium falciparum*, all of which were acquired in Africa.

Wound Botulism—There were five cases from 2008 through 2010 and no confirmed cases in 2011 and 2012. Wound botulism is almost always associated with injection drug use and presents as a descending paralysis with double vision, ptosis and slurred speech.

Immediately contact Tacoma-Pierce County Health Department if you suspect wound botulism, especially in an individual with a history of injection drug use. Call (253) 798-6410. The Health Department will then work with the Washington State Department of Health and the Centers for Disease Control and Prevention to determine, based on clinical presentation, whether to release antitoxin for treatment.

Rare Reportable Disease Investigated in 2012

		2008	2009	2010	2011	2012	2008–2012 Cases
Dengue	Pierce County	1	1	3	0	2	7
	Washington	14	11	19	9	16	69
Legionellosis	Pierce County	1	2	1	4	3	11
	Washington	19	29	35	43	30	156
Listeriosis	Pierce County	0	2	4	0	1	7
	Washington	29	24	24	19	26	122
Lyme Disease	Pierce County	2	1	1	2	1	7
	Washington	23	16	16	19	15	89
Malaria	Pierce County	6	2	3	1	3	15
	Washington	32	26	39	24	26	147
Typhoid Fever	Pierce County	2	0	1	0	0	3
	Washington	15	4	22	9	11	61
Wound Botulism	Pierce County	2	2	1	0	0	5
	Washington	2	4	1	4	2	13

Source: Washington State Department of Health