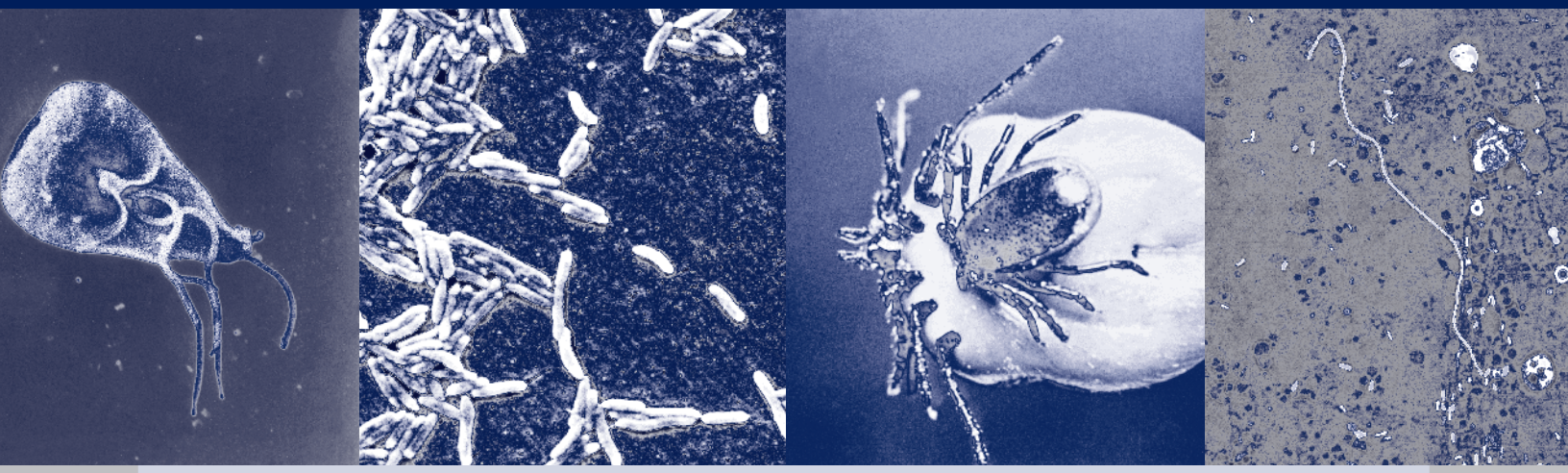

# Selected Reportable Communicable Disease Summary

## 2007 State of Oregon

Oregon Public Health Division
Office of Disease Prevention and Epidemiology
Acute and Communicable Disease Prevention

# 2007 State of Oregon Selected Reportable Communicable Disease Summary

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December 2008

## About surveillance data

Oregon law specifies diseases of public health importance that must be reported to local public health authorities by diagnostic laboratories and health care professionals.[1] In general, local public health officials investigate reports of a communicable disease in order to characterize the illness and collect demographic information about the case, to identify possible sources of the infection, and to take steps to prevent further transmission. Basic information about each case is forwarded to the Oregon Public Health Division. In some cases (e.g., *Salmonella* infection), laboratories are required to forward bacterial isolates to the Oregon State Public Health Laboratory for subtyping. Together, these epidemiologic and laboratory data constitute our communicable disease surveillance system; data from 2007 and trends from recent years are summarized in this report.

But caveat lector! Disease surveillance data have many limitations.

First, for most diseases, reported cases represent but a fraction of the true number. The most important reason for this is that many patients — especially those with mild disease — do not present themselves for medical care. Even if they do, the health care professional may not order a test to identify the causative microorganism. The reader may be scandalized to learn that not every reportable disease gets reported as the law requires. Cases are "lost" to surveillance along each step of the path from patient to physician to laboratory to public health department; in the case of salmonellosis, for example, reported cases are estimated to account for only about 3% of the true number.[2]

Second, cases that do get reported are a skewed sample of the total. More severe illnesses (e.g., meningococcal disease) are more likely to be reported than milder illnesses. Infection with hepatitis A virus is more likely to cause symptoms (and those symptoms are more likely to be severe) in adults than in children. Testing is not random; clinicians are more likely to test stool from children with bloody diarrhea for *E. coli* O157 than they are to test stool from adults with bloody diarrhea. Health care professionals may be more inclined to report contagious diseases such as tuberculosis — where the public health importance of doing so is obvious — than they are to report non-contagious diseases such as Lyme disease. Outbreaks of disease or media coverage about a particular disease can greatly increase testing and reporting rates.

In 2007 population estimates for rate calculations were obtained from the Center for Population Research at Portland State University (www.pdx.edu/prc). Using rates instead of case counts allows for comparisons between populations of different sizes — e.g., United States versus Oregon. Rates are usually reported as cases per 100,000 persons per year. However, if the population in which the rate is calculated is very small (e.g., in "frontier" counties in Oregon), a case or two might mean the difference between a rate of zero and a very high rate. To compensate for this, some of our maps showing rates by county give an average over multiple years of data or report case counts per county. Even with this aggregation, for some conditions, the number of cases remains small. In addition, the rates presented are not adjusted for age due to the small number of cases in each age group.

Also keep in mind that cases are assigned to the county of residence at the time of the report — not to the county in which the case received medical care.

Even with these limitations, surveillance data are valuable in a variety of ways. They help identify demographic groups at higher risk of illness. They allow analysis of disease trends and identify outbreaks of disease.

With this in mind, we present the 2007 communicable disease summary. This year we present 20 years of data whenever possible. For most of the diseases, we include the following: figures showing case counts by year for the past 20 years; aggregate case counts by month to demonstrate any seasonal trends; incidence by age and sex; incidence in Oregon compared to national incidence over the past 20 years; and incidence by county. Where appropriate, additional data on subtypes or risk factors are included. At the end of the booklet you will find a brief tally of disease outbreaks reported in the past year, a summary table of statewide case counts over the past 20 years and disease totals by county.

We hope that, with all their limitations, you will find these data useful. If you have additional questions, please call our epidemiology staff at 971-673-1111 or e-mail ohd.acdp@state.or.us.

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Manager, Acute and Communicable Disease Prevention

1 Oregon Administrative Rules, chapter 333, division 18. Available at http://oregon.gov/DHS/ph/acd/oars/div18.shtml#018-0015.
2 Chalker RB, Blaser MJ. A review of human salmonellosis: III. Magnitude of Salmonella infection in the United States. Rev Infect Dis 1988; 10:111-24.

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# AIDS and HIV infection

Human immunodeficiency virus (HIV) is spread by having sex, sharing injection drug equipment, or receiving a transfusion or transplant from an infected person. It can be spread from mother to fetus, to infant at the time of delivery, or by breastfeeding. Rarely, HIV spreads by inadvertent exposure to bodily fluids of an infected person such as a contaminated needle stick in a healthcare worker. The acquired immunodeficiency syndrome (AIDS) represents the late stage of HIV infection with immune system impairment, marked by low CD4-positive lymphocyte counts and opportunistic or atypical infections. There is no cure for HIV infection, but treatment can prolong life and reduce transmission.

HIV infection can be avoided by abstaining from sex outside of a monogamous relationship with an uninfected partner and by not injecting recreational drugs. Using a condom during intercourse and not sharing injection drug equipment also reduce risk of acquiring HIV. A pregnant woman who is infected with HIV can minimize transmission of infection to her fetus by taking medication during pregnancy and refraining from breastfeeding. Caesarean section may also prevent transmission when the mother's infection is not well controlled.

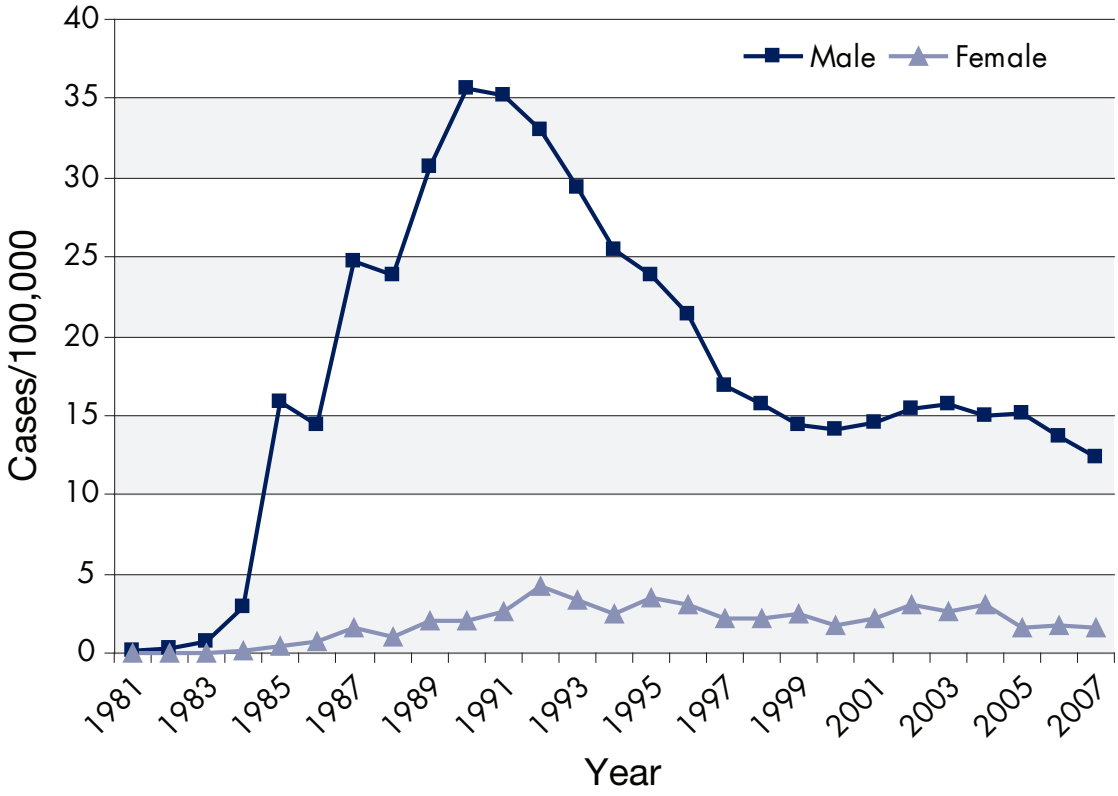


As of July 2008, 8,252 cases of HIV infection (including cases that had, and cases that had not yet progressed to AIDS) had been diagnosed among Oregon residents between 1981 and 2007 and reported to the Oregon HIV/STD/TB Program; 3,330 of these case-patients had died, leaving 4,922 living with HIV infection. Approximately 60% of these infections had progressed to AIDS by the end of 2007. In addition, approximately 1,250 people are estimated to be infected, but not yet diagnosed; almost 2,000 people with HIV infection who resided in another state at the time of their diagnosis had moved to Oregon by the end of 2007.

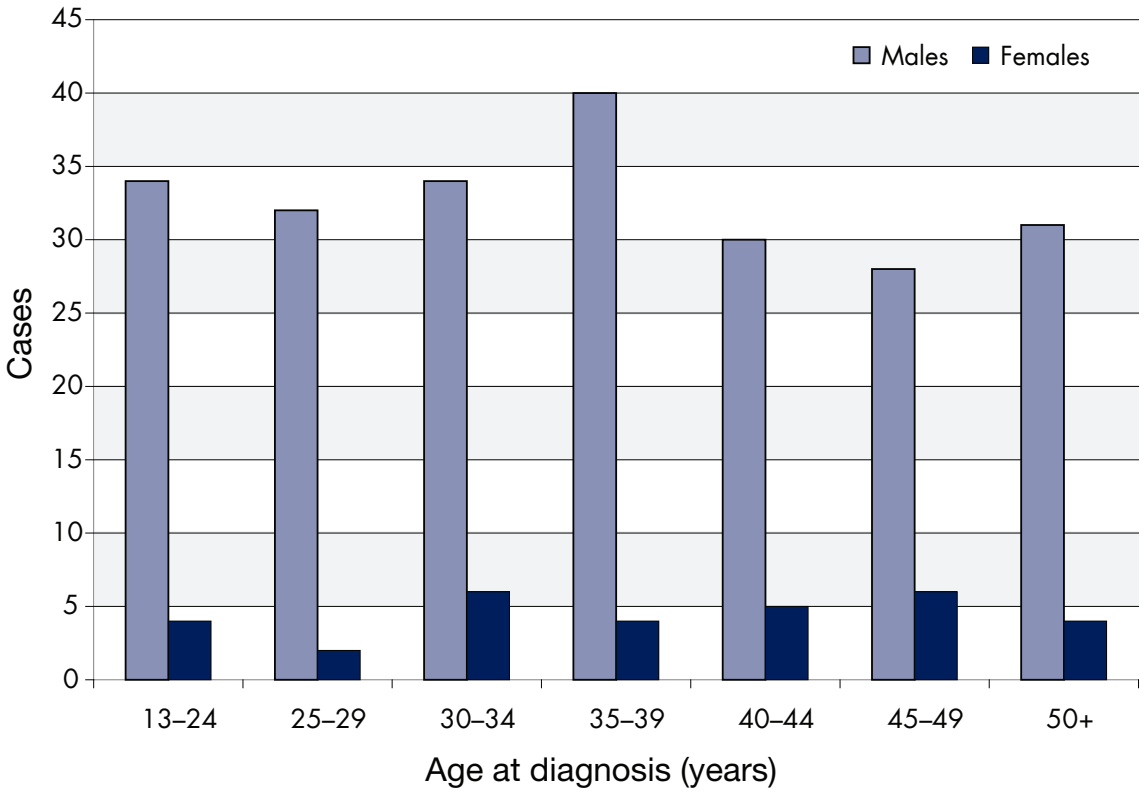
Men accounted for 88% of prevalent cases. Whites accounted for 80%, blacks and/or African Americans, 7%, and Hispanics, 10%. Among men, annual incidence of new HIV diagnoses was 11.2 cases per 100,000 whites, 21.3 cases per 100,000 blacks and/or African Americans and 18.6 per 100,000 among Hispanics. Among females, these rates were 1.3, 2.6 and 3.3 respectively.

Seventy percent of infected men in Oregon acquired their infection by sex with other men, while 9% of men with HIV acknowledged both sex with other men and previous injection drug use, obscuring their most likely transmission mode. Injection drug use was the most likely transmission mode for 9% and heterosexual transmission the most likely mode for 8%. Among women with HIV infection, heterosexual transmission was believed to be the most likely mode for 69% and injection drug use for 25%.

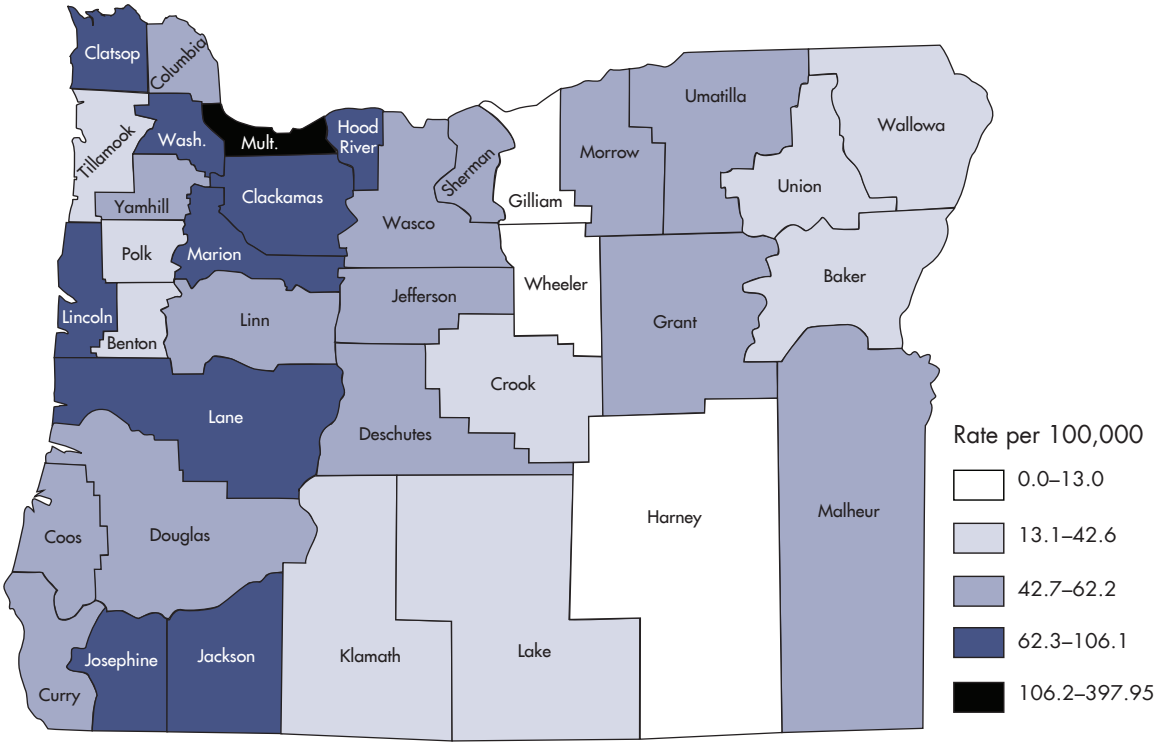
Incidence of HIV infection by sex and year of diagnosis: Oregon, 1981–2007



New cases of HIV infection by age and sex at diagnosis: Oregon, 2007




Persons living with HIV or AIDS by county of residence: Oregon, 1998–2007



## Campylobacteriosis

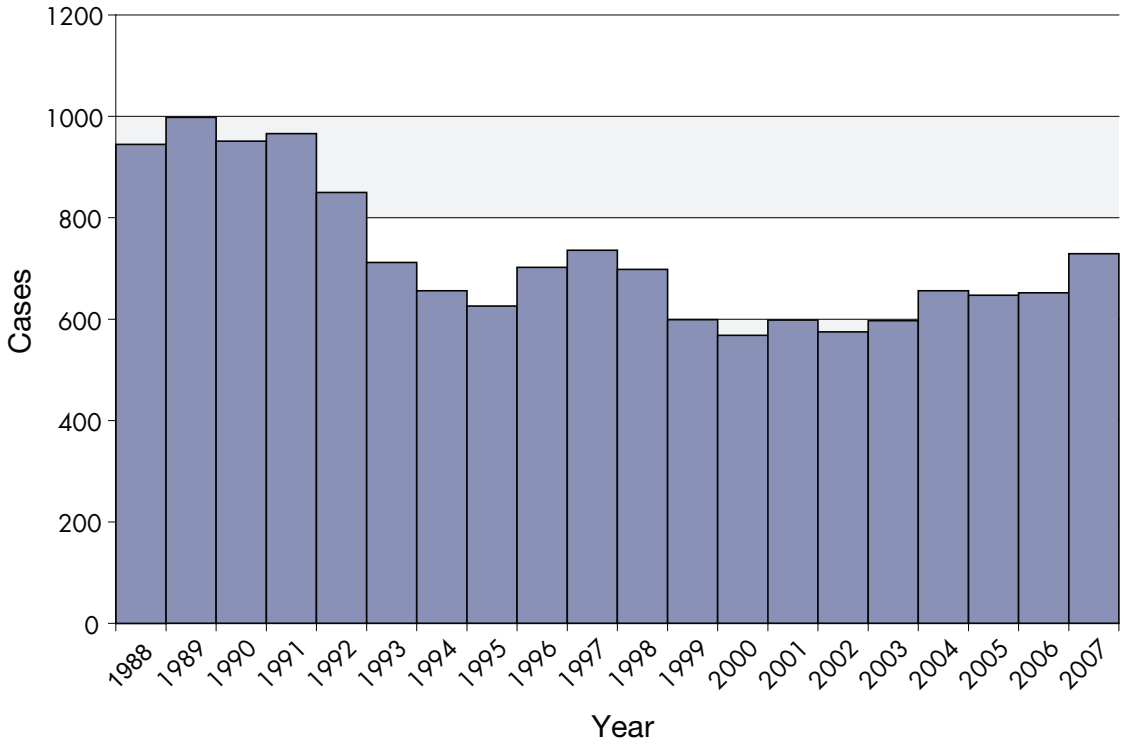
Campylobacteriosis is caused by a Gram-negative bacterium. It is characterized by acute onset of diarrhea, vomiting, abdominal pain, fever and malaise. Campylobacteriosis is the most common bacterial enteric infection reported. It is of worldwide epidemiologic importance due to the fecal-oral route of infection and the extensive reservoir of the organism in both wild and domestic animals.

Children aged 0–4 years have the highest rates of illness. Infections occur year-round in Oregon, with peak incidence in the summer months. Campylobacteriosis is not nationally reportable. Rates are highest in Malheur, Harney, Wheeler and Tillamook counties.

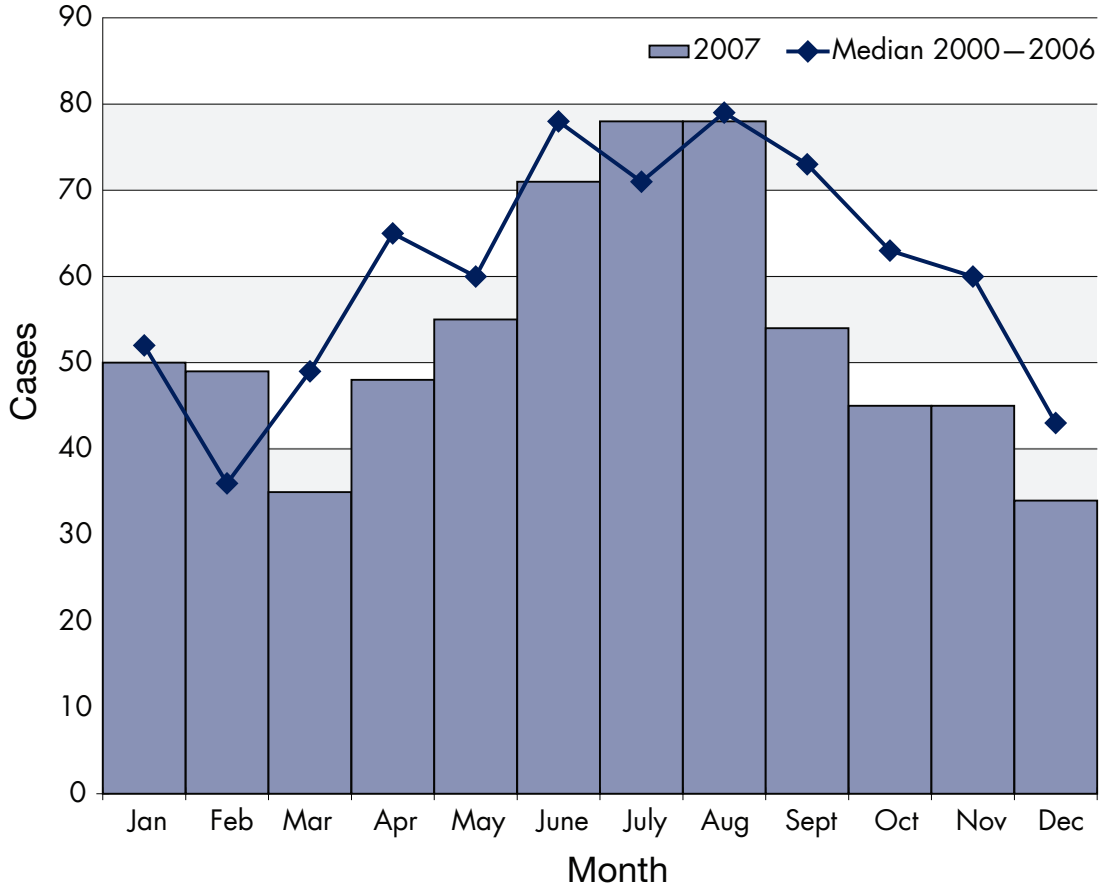
Most illnesses are sporadic, but outbreaks may be associated with undercooked meat (often chicken), unpasteurized milk, direct contact with animals or non-chlorinated water. Since 1998, seven outbreaks of campylobacteriosis have been investigated: two foodborne, two waterborne, two from animal contact, and one of unknown etiology. Proper food handling and water treatment, along with good hygienic practices (hand washing!) are the keys to prevention.

Though not statistically significant, the 2007 rate of 19.5 per 100,000 was noticeably higher than the 2006 rate of 17.7.

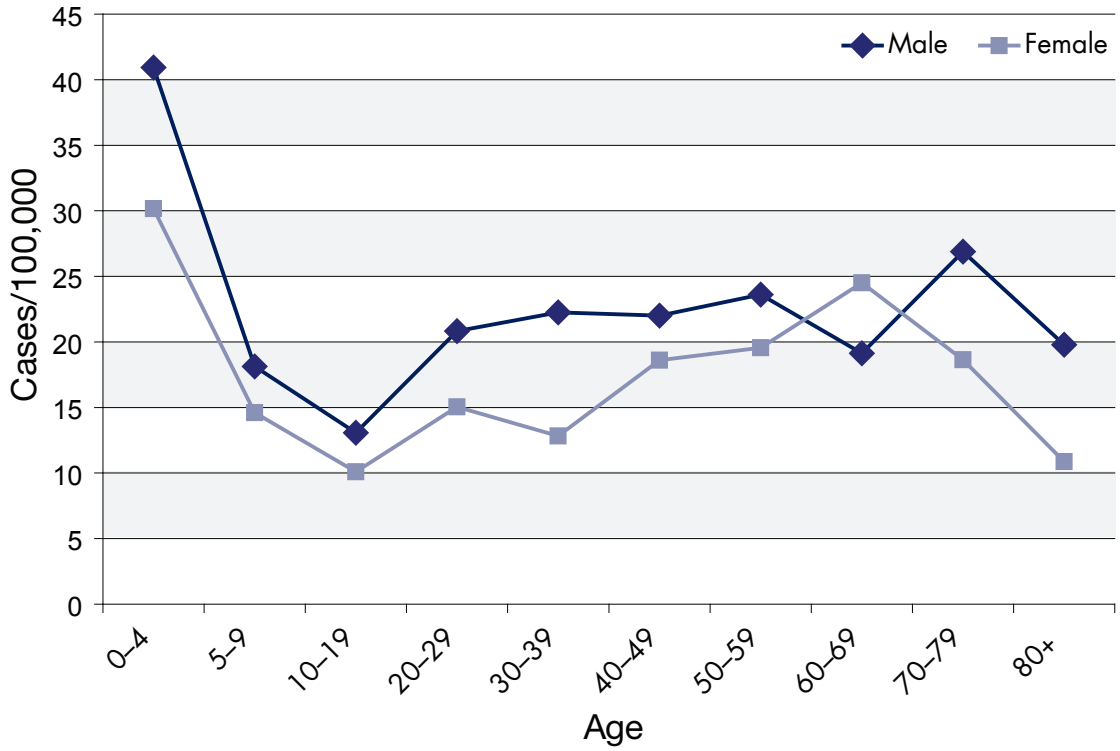
Campylobacteriosis by year: Oregon, 1988–2007



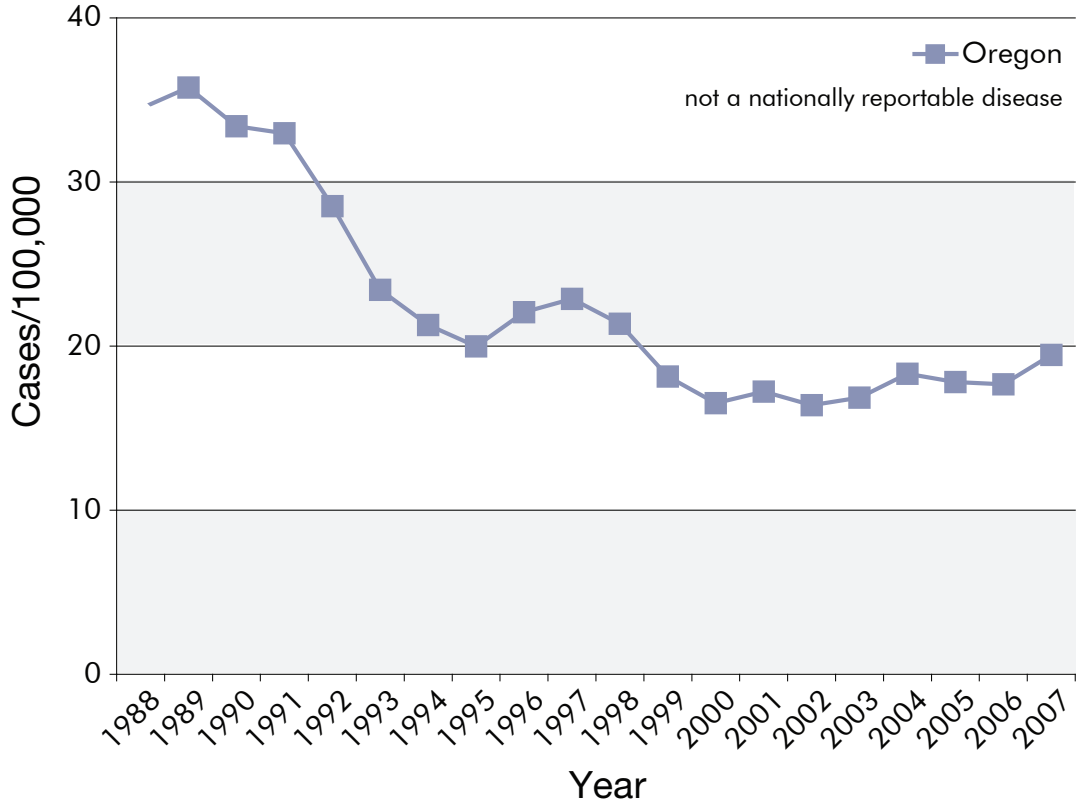

Campylobacteriosis by report month: Oregon, 2007



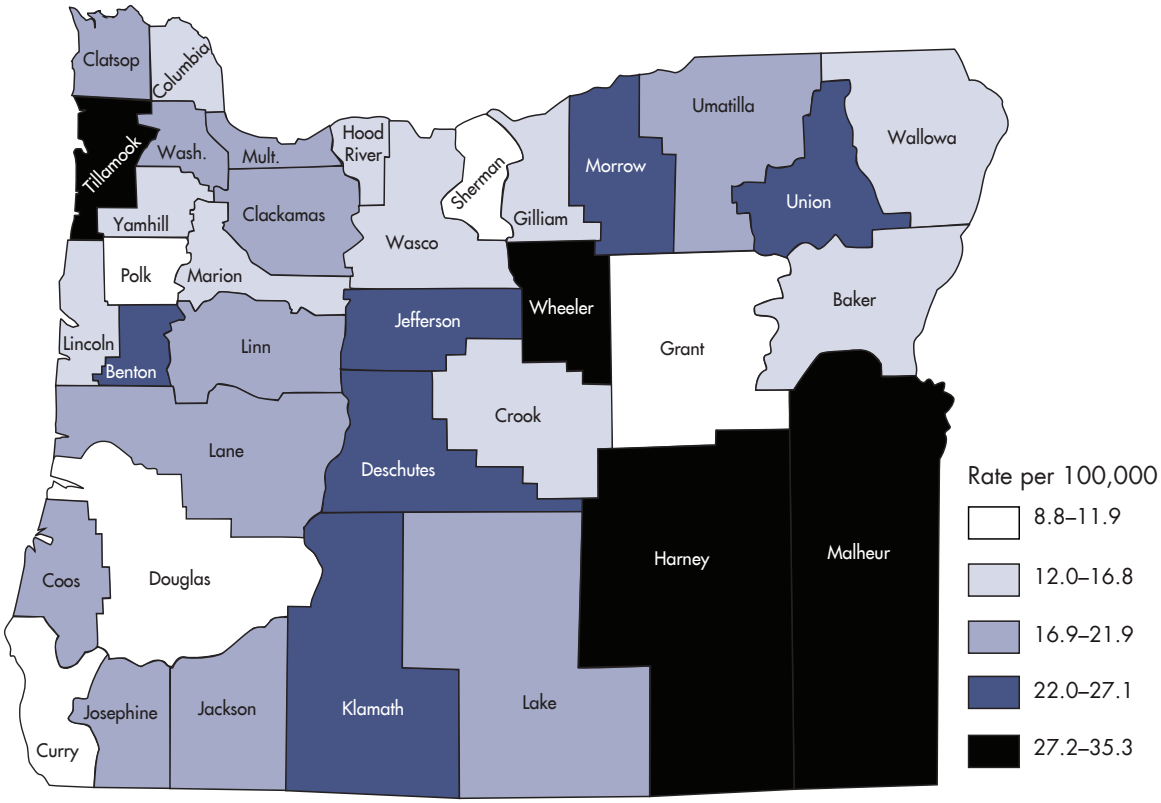
Incidence of campylobacteriosis by age and sex: Oregon, 2007




Incidence of campylobacteriosis: Oregon vs. nationwide, 1988–2007



## Incidence of campylobacteriosis by county of residence: Oregon, 1998–2007

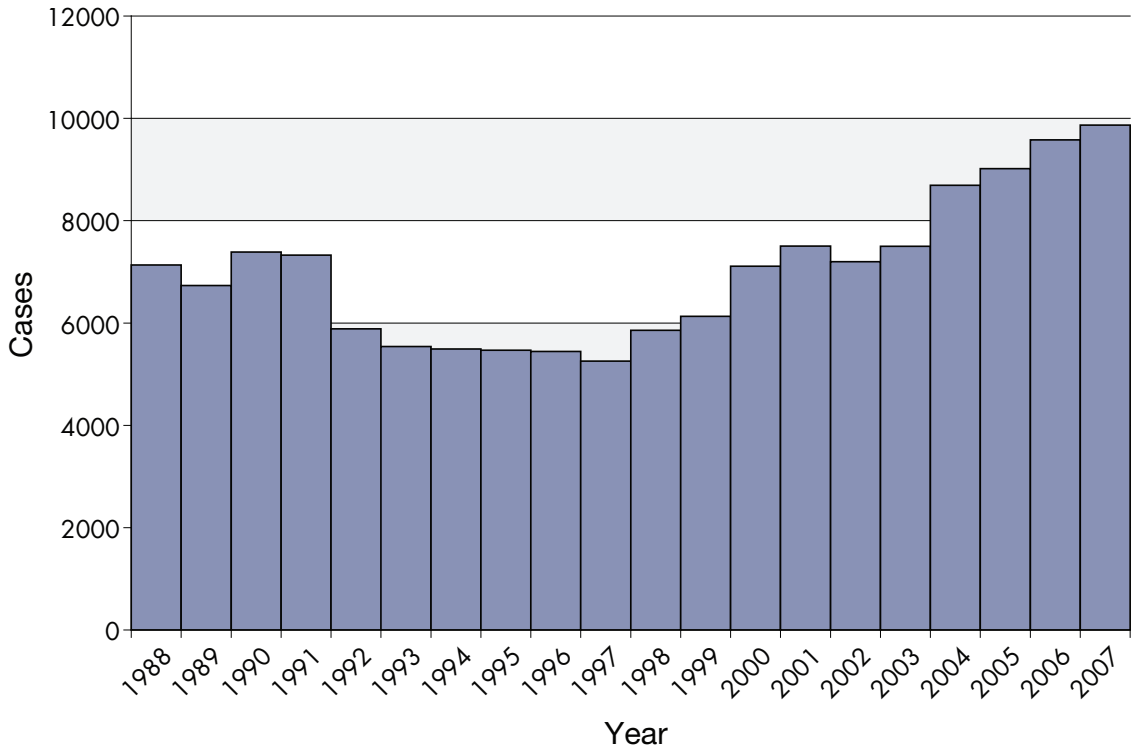


## Chlamydiosis

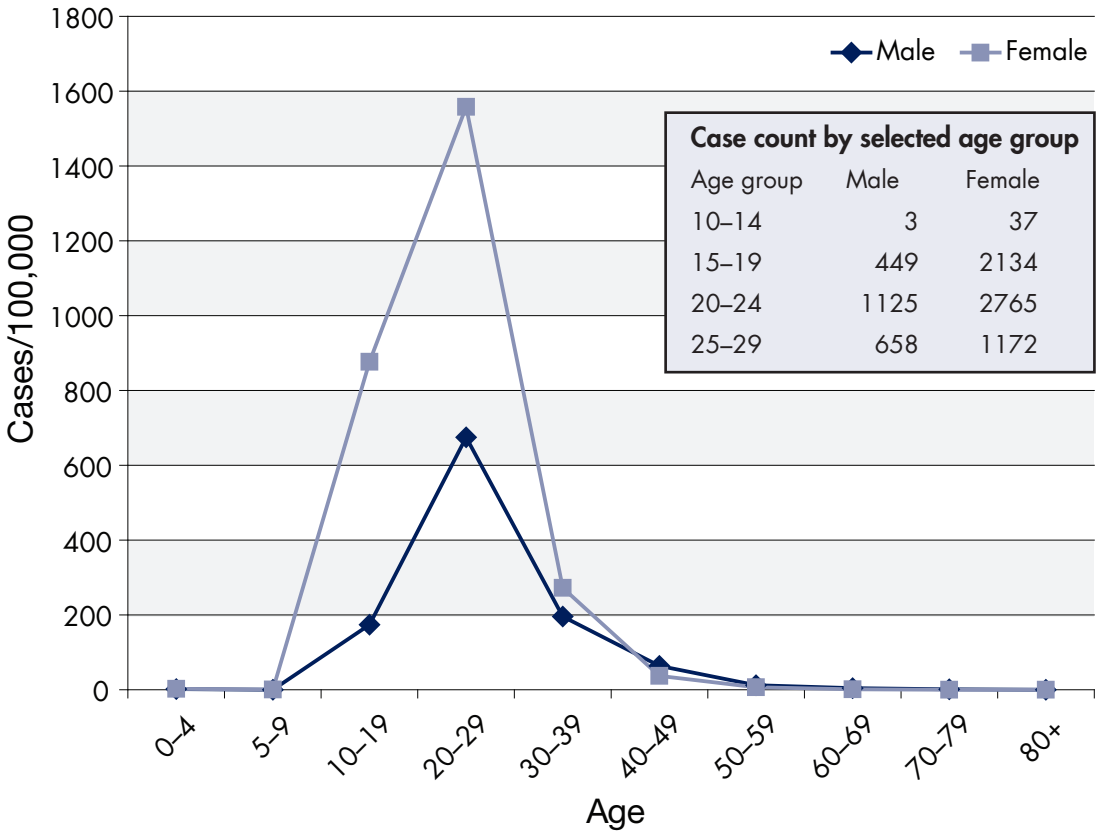
*Chlamydia trachomatis* is Oregon's most commonly reported infection. In 2007, there were 9,867 cases reported, an increase of 289 cases (3%) compared to cases reported in 2006. The highest rates of infection occur among women in the 15–24 year age group. As with gonorrhea and syphilis, chlamydial infections are transmitted by vaginal, rectal and oral sexual contact. Chlamydiosis may be prevented by abstaining from sexual contact or only having sex with one uninfected sex partner. Those who are sexually active outside of a mutually monogamous relationship can lower their risks of infection by using a condom when engaging in sexual activity.

Chlamydial infections are likely to be silent, with neither men nor women having symptoms. However, reproductive health complications, especially among women, may lead to infertility and an increased risk of tubal pregnancy.

Chlamydiosis by year: Oregon, 1988–2007



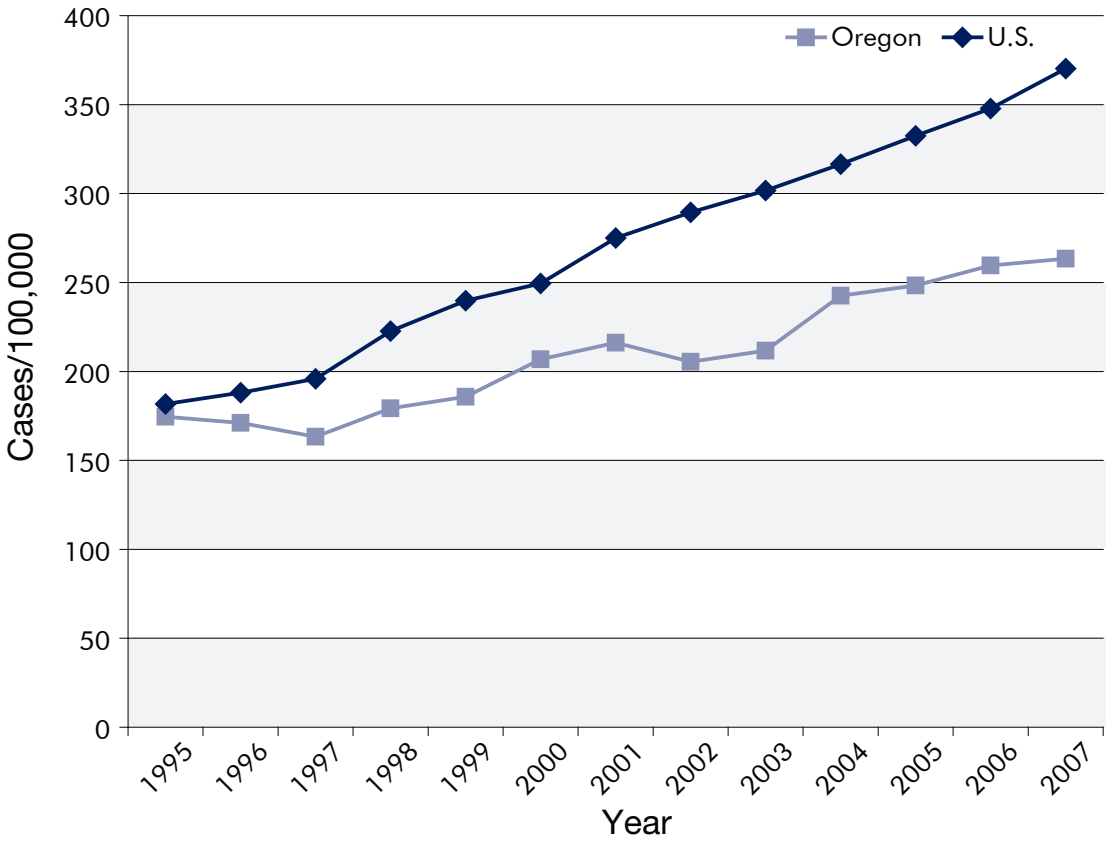
Incidence of chlamydiosis by age and sex: Oregon, 2007



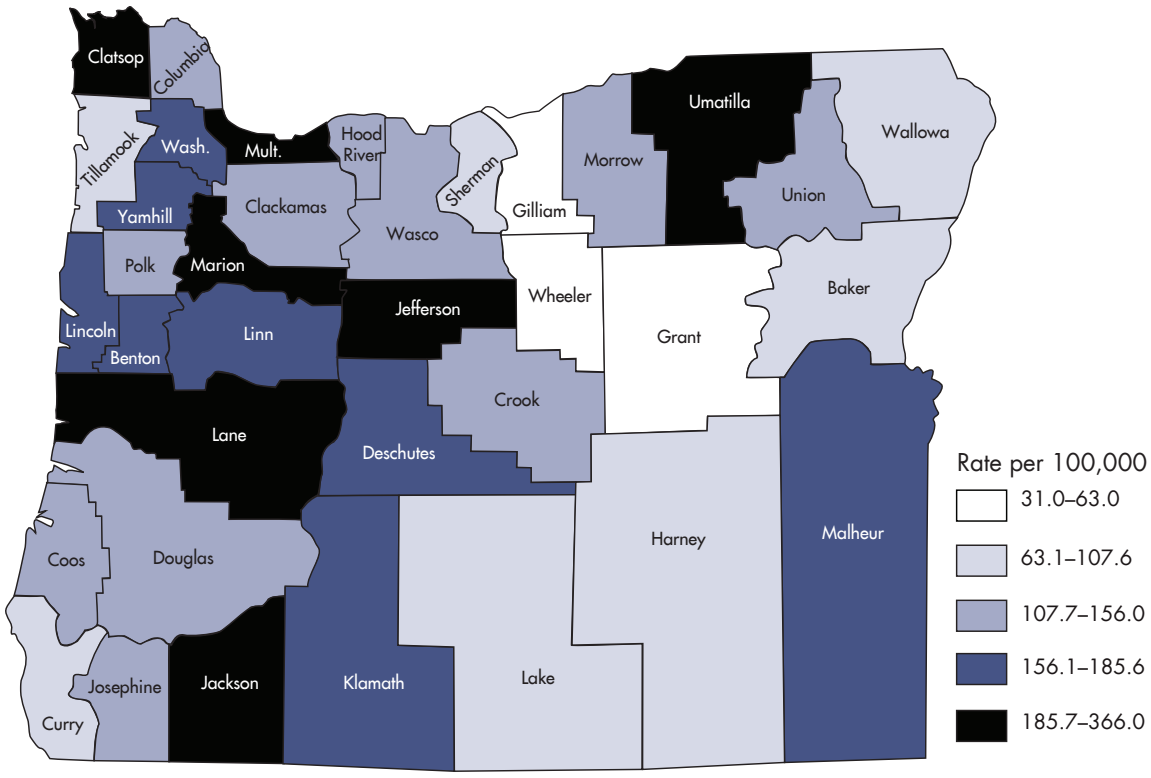

**Case count by selected age group**

| Age group | Male | Female |
|---|---|---|
| 10–14 | 3 | 37 |
| 15–19 | 449 | 2134 |
| 20–24 | 1125 | 2765 |
| 25–29 | 658 | 1172 |

Incidence of chlamydiosis Oregon vs. nationwide, 1995–2007



## Incidence of chlamydiosis by county of residence: Oregon, 1998–2007



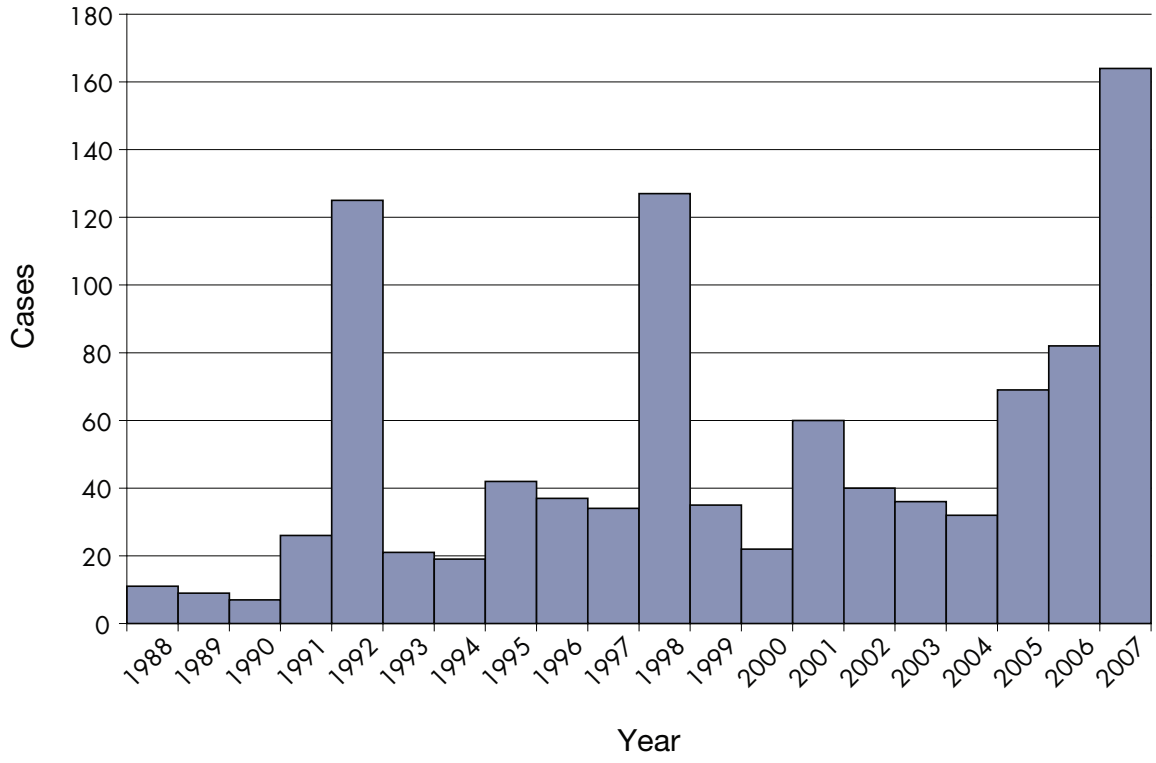
## Cryptosporidiosis

Cryptosporidiosis in humans results from infection with protozoal parasites in the genus *Cryptosporidium*—most commonly *C. hominis* or *C. parvum*. Symptomatic infections are characterized by watery diarrhea and abdominal cramps. Symptoms typically resolve in one to four weeks in immunocompetent persons. Infections can be difficult to control among the immunocompromised. Studies suggest that the prevalence of cryptosporidiosis among young children, particular those in large child care facilities, is surprisingly high. Many of these infections are asymptomatic.

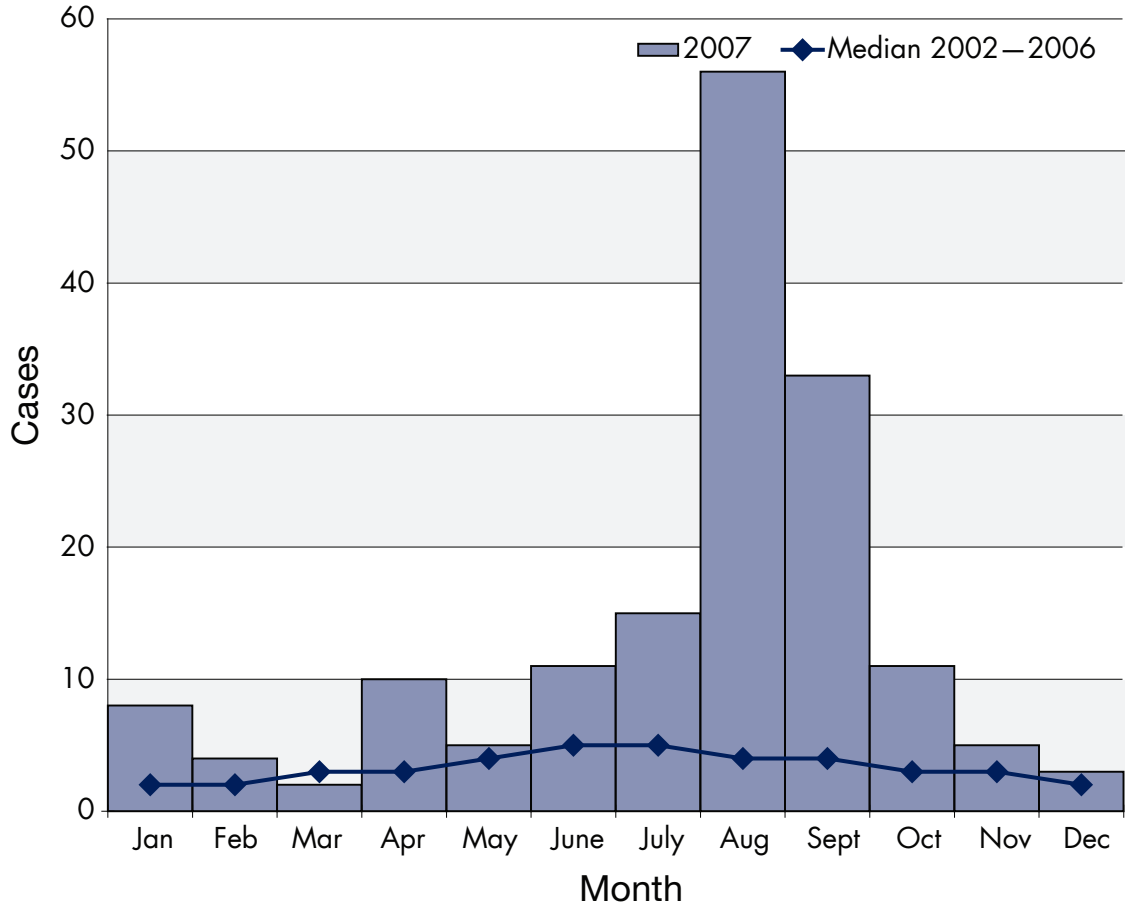
Both nationally and in Oregon the rate of infection with *Cryptosporidium* has been steadily increasing since 2005. It is not clear whether this is due to increased awareness and testing or the emergence of strains more resistant to routine chlorination practices. In 2007, Oregon had a record 163 cases. Recently the Oregon investigative guidelines were changed to reflect the increasing numbers of cases; previously, investigations were required only for abnormally high case counts. All cases will now be routinely investigated to identify the source of infection.

Given the number of asymptomatic and undiagnosed infections, surveillance data can be difficult to interpret. However, these data have been used to identify a number of outbreaks over the years, most commonly associated with child care or water (both drinking and recreational). In 2007, a large outbreak (44 cases) was identified among campers at a private youth camp.

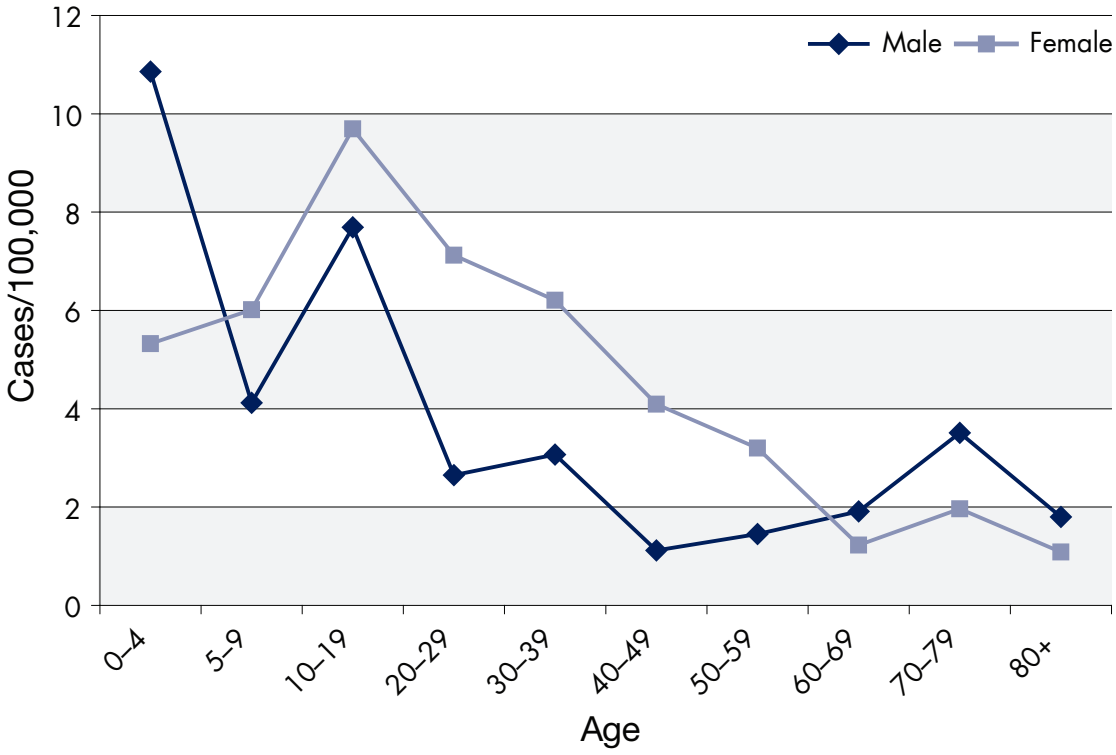
Cryptosporidiosis by year: Oregon, 1988–2007



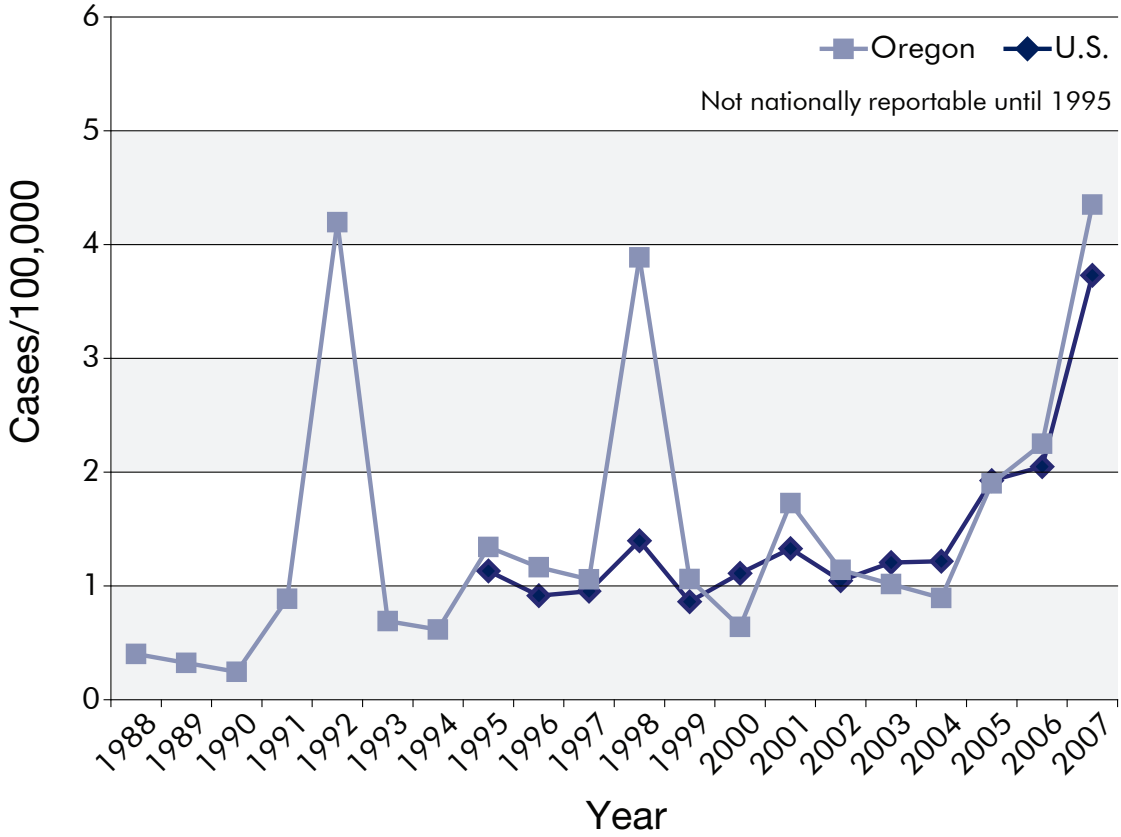

Cryptosporidiosis by onset month: Oregon, 2007



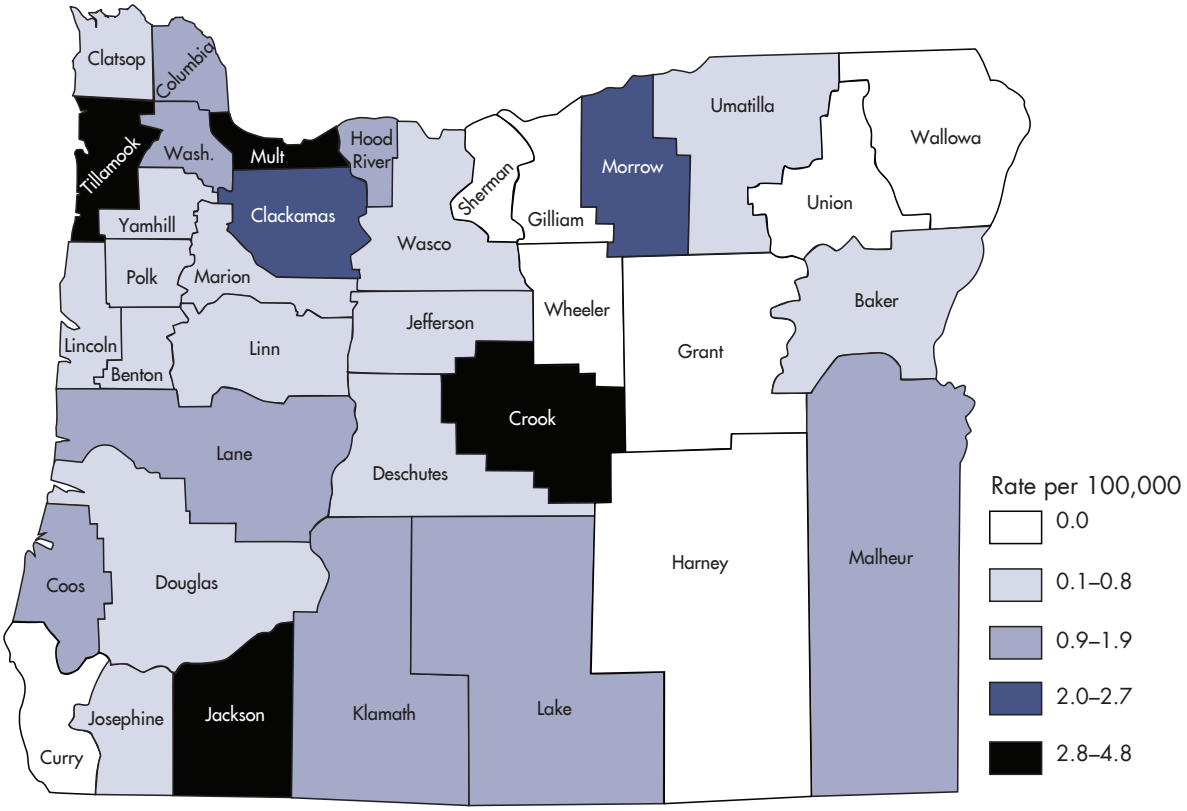
Incidence of cryptosporidiosis by age and sex: Oregon, 2007




Incidence of cryptosporidiosis: Oregon vs. nationwide, 1988–2007



## Incidence of cryptosporidiosis by county of residence: Oregon, 1998–2007



## *Escherichia coli* O157 infection

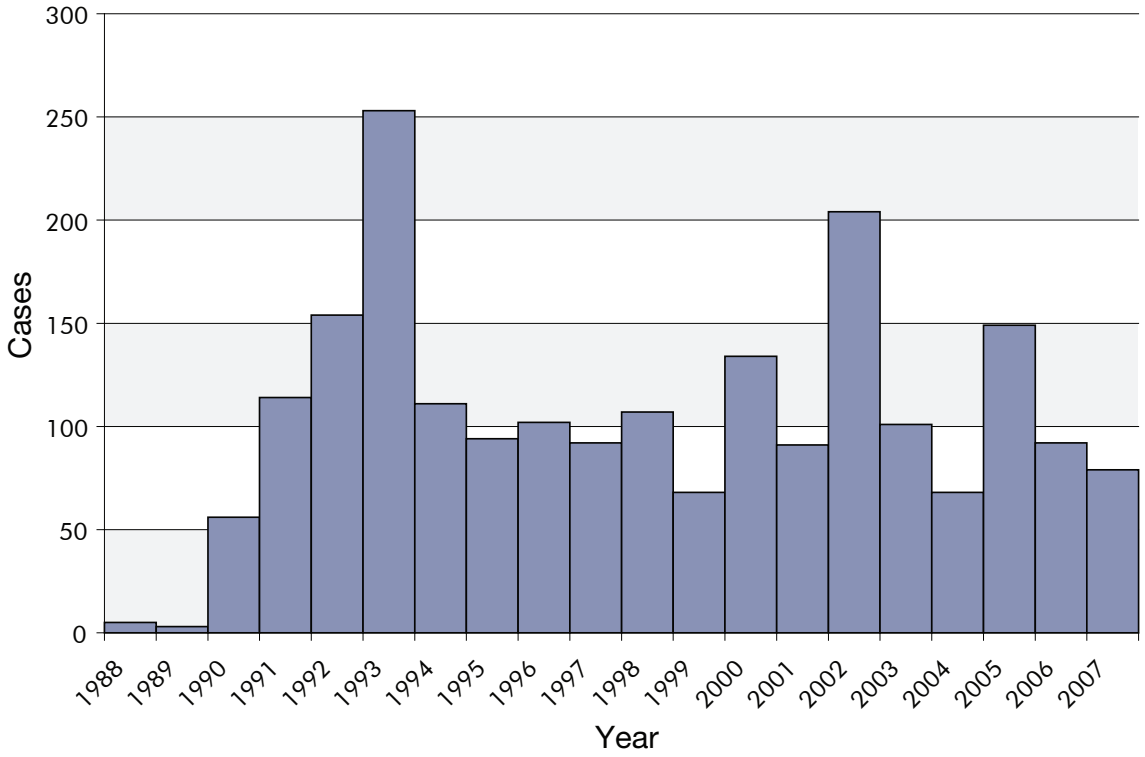
*E. coli* O157 (O157) has become one of the most feared common causes of infectious diarrhea. Oregon has been the setting for many O157 outbreaks, and investigations of those outbreaks combined with the analysis of other surveillance information have contributed greatly to our understanding of this pathogen. Spread by the fecal-oral route, O157 has a number of animal reservoirs, the most important of which are ruminants, including cattle, goats, sheep, deer and elk. Transmission often occurs from consumption of contaminated food or water, as well as direct person-to-person spread.

After a spike in 2005 of 149 cases, the yearly total fell back to a more typical 79 reports for 2007 — a phenomenon known as "regression to the mean." Nationwide, however, reported case counts drifted upwards for the third year in a row.

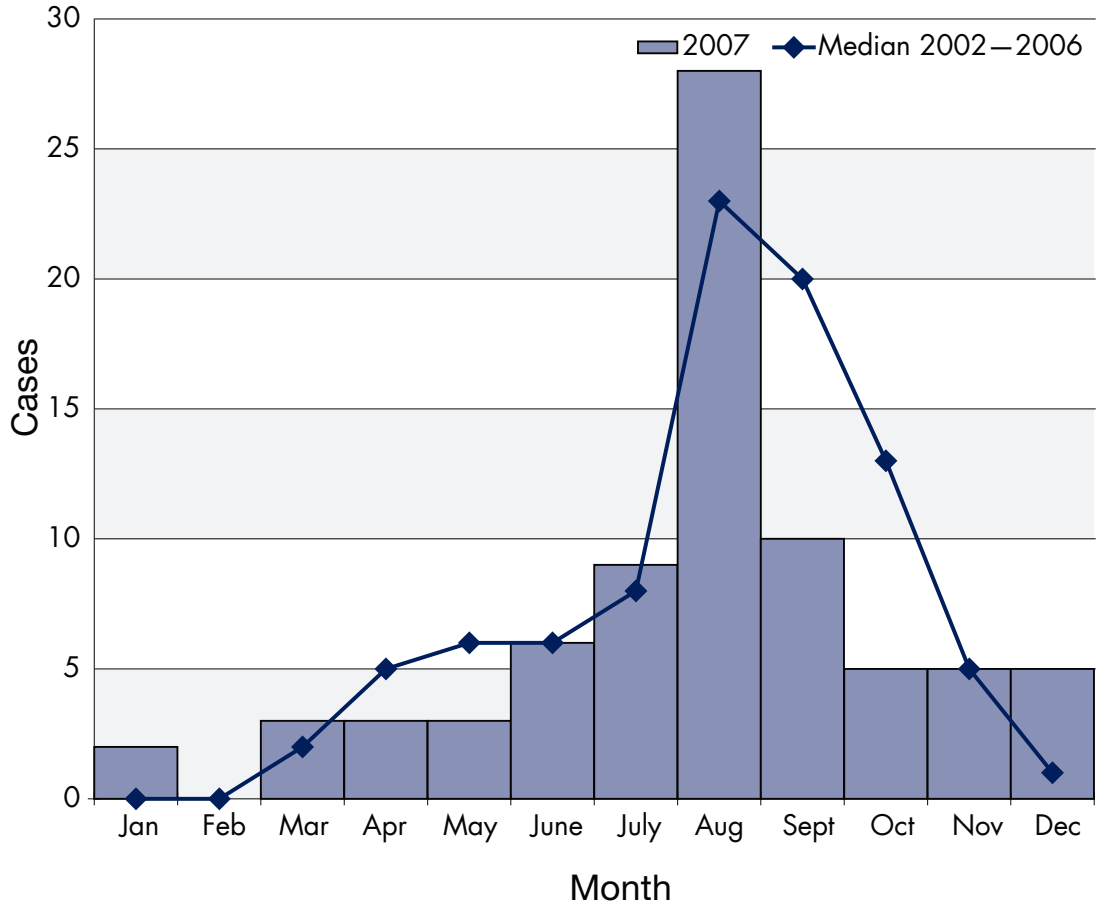
We identified four O157 outbreaks in 2007. These included a small cluster at a Portland restaurant — specific source uncertain; another small cluster lingering from 2006 associated with visiting a county fairgrounds; another outbreak traced to a regional hamburger distributor; and a two-person blip among persons with a history of travel to Kauai. Summer sees more outbreaks of *E. coli* than other seasons.



*E. coli* O157 infection by year: Oregon, 1988–2007

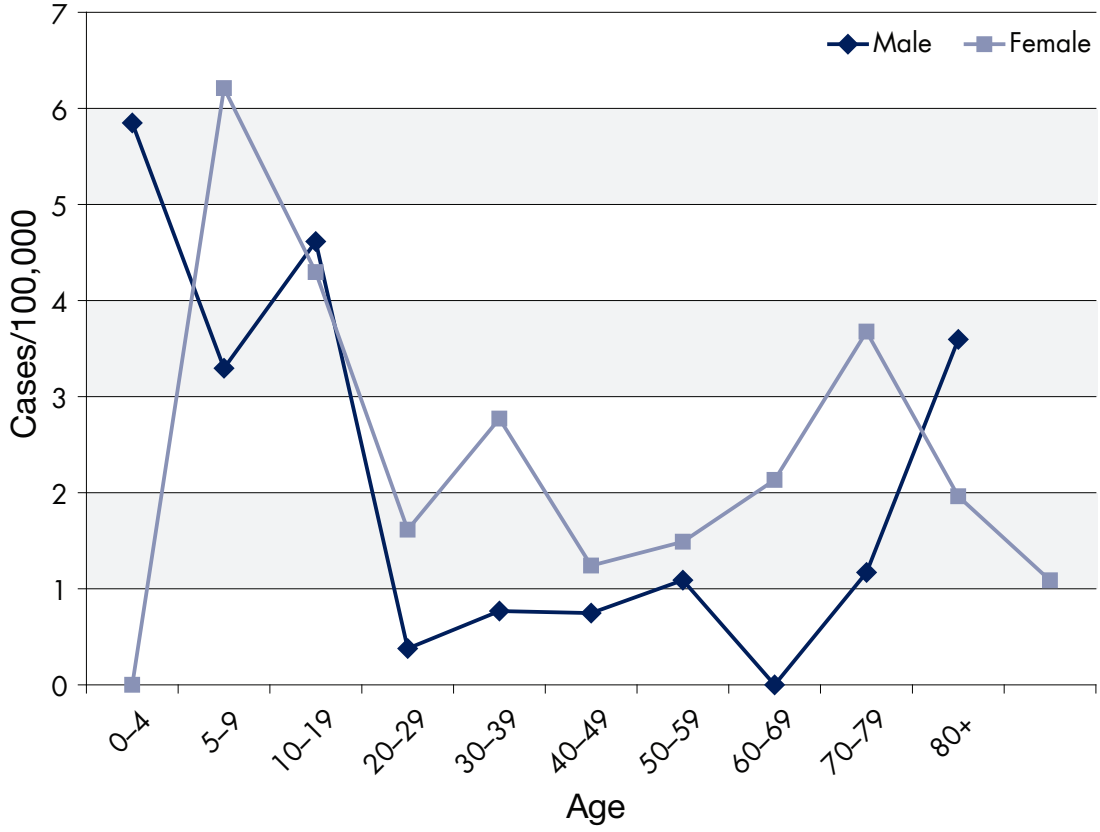


*E. coli* O157 infection by onset month: Oregon, 2007

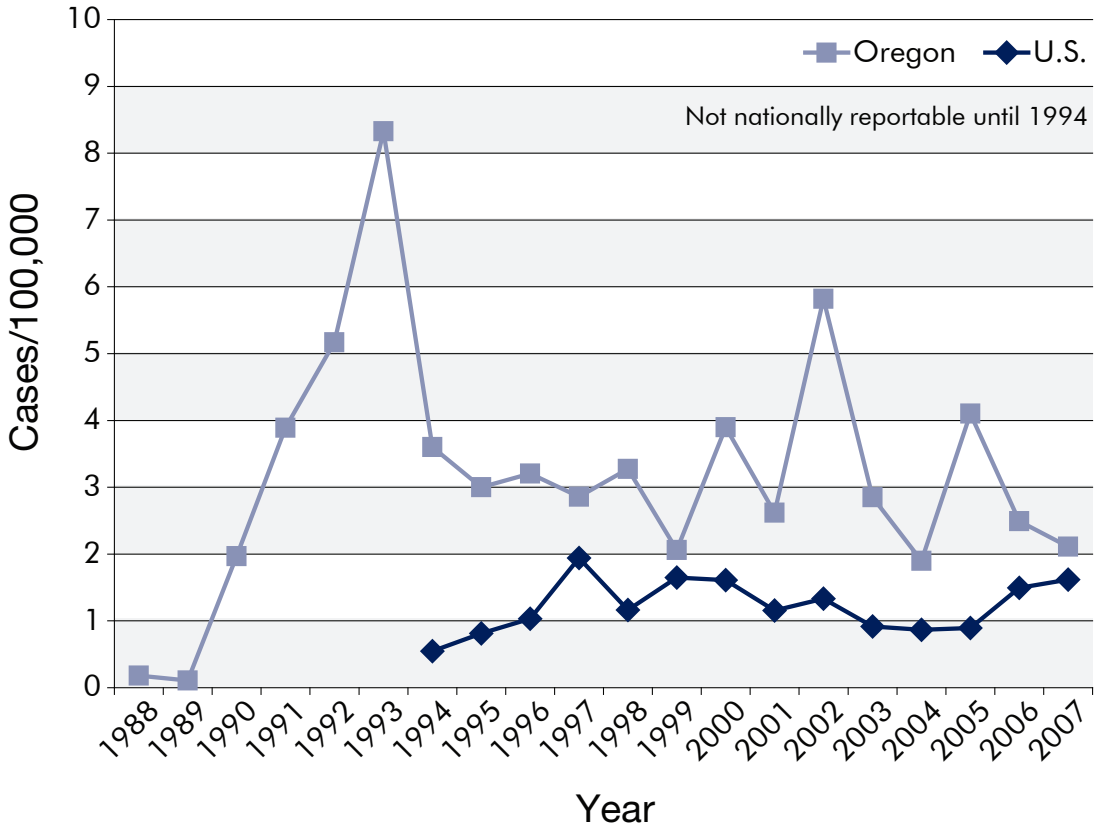




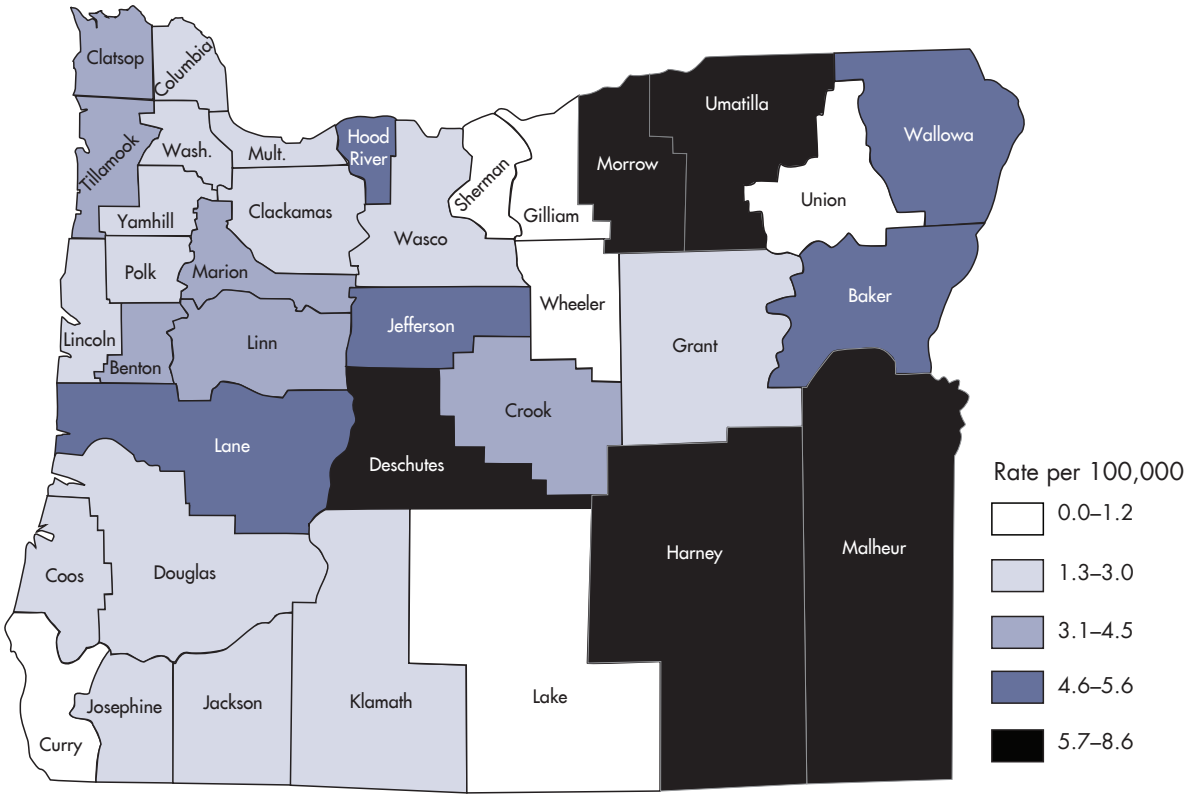

Incidence of *E. coli* O157 infection by age and sex: Oregon, 2007



Incidence of *E. coli* O157 infection: Oregon vs. nationwide, 1988–2007




Incidence of *E. coli* O157 infection by county of residence: Oregon, 1998–2007



## Giardiasis

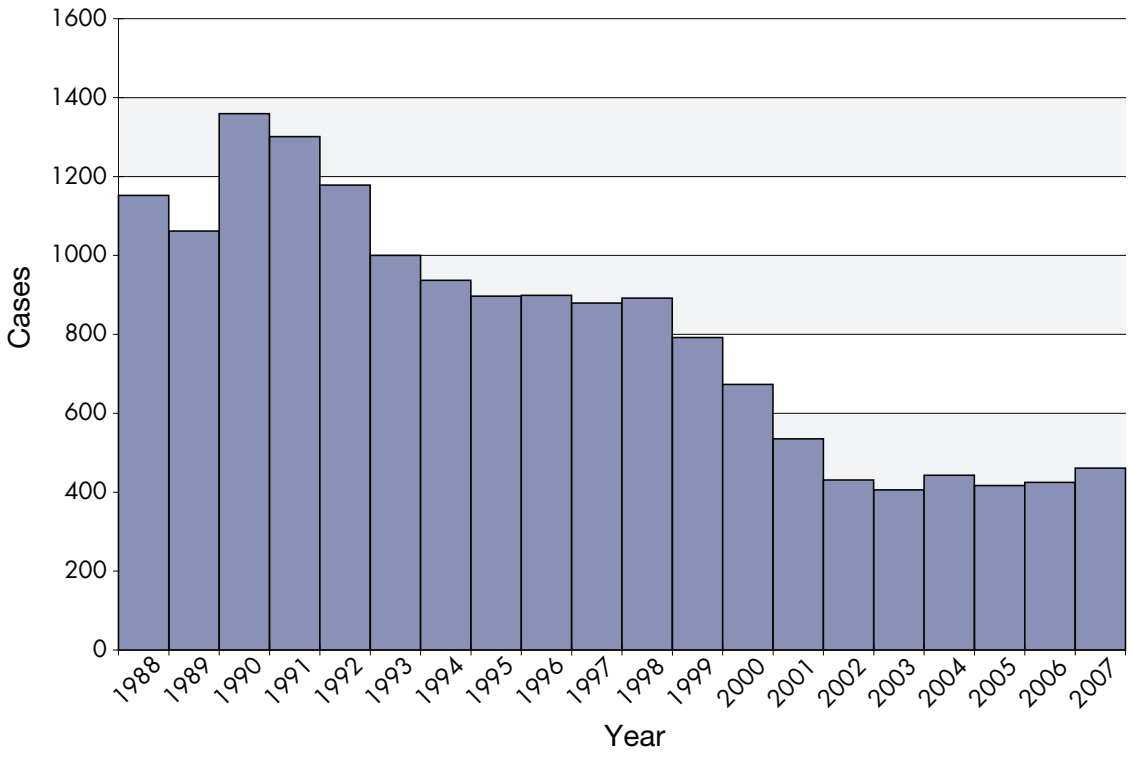
*Giardia intestinalis*, the flagellated protozoan originally named *G. lamblia*, is the most commonly identified parasitic pathogen in the United States. Children in day care and their close contacts are at greatest risk, as are backpackers and campers (by drinking unfiltered, untreated water), persons drinking from shallow wells, travelers to disease-endemic areas, and men who have sex with men. *Giardia* cysts can be excreted in the stool intermittently for weeks or months, resulting in a protracted period of communicability. Transmission occurs when as few as 10 cysts are ingested through person-to-person or animal-to-person contact, or by ingestion of fecally contaminated water or food.

The majority of *Giardia* infections occur without symptoms. When symptomatic, patients report chronic diarrhea, steatorrhea, abdominal cramps, bloating, frequent loose and pale greasy stools, fatigue, and weight loss.

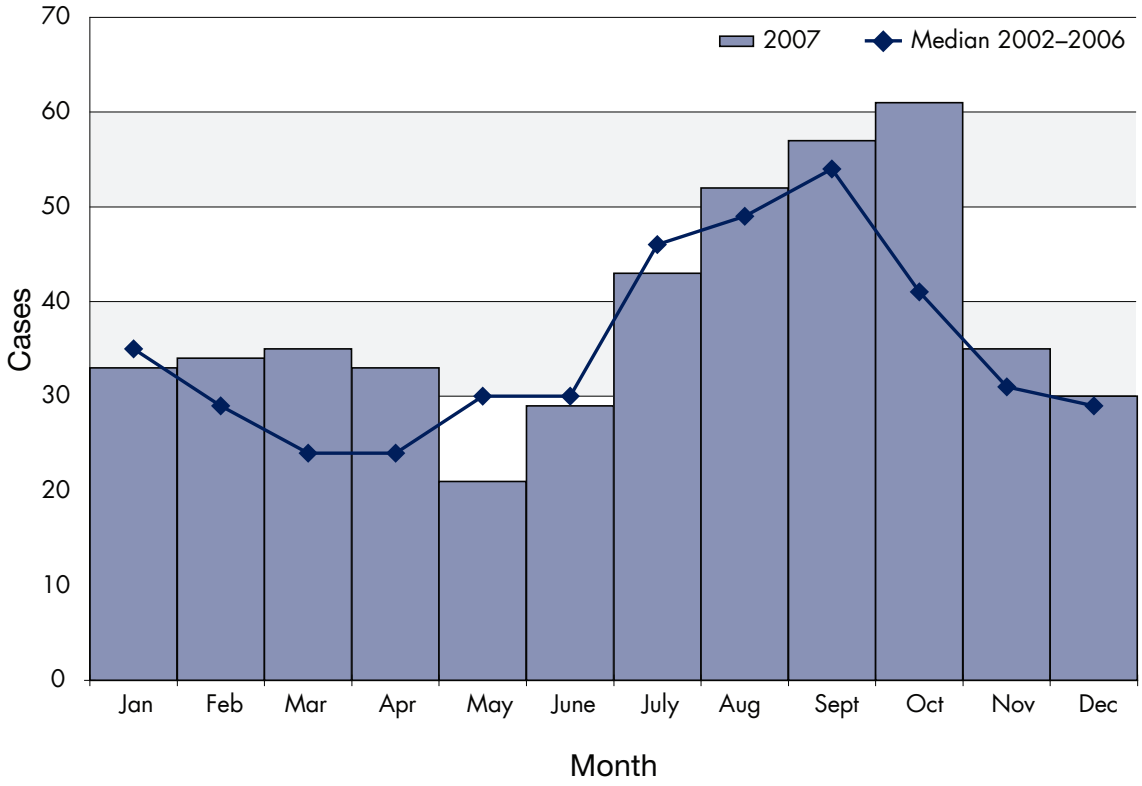
In 2007, the reported incidence of giardiasis in Oregon remained nearly twice that of the rest of the United States, with 12.4 cases per 100,000 population. All 2007 cases were reported as sporadic or household-associated; no outbreaks were reported. Children less than 5 years of age continue to have the highest incidence, with 34 cases/100,000. Rates of infection tend to be higher in the summer months with transmission related to outdoor activities in or near untreated water.

Prevention depends upon good personal hygiene (hand washing!) and avoiding consumption of fecally contaminated water. Travel warnings on water quality should be heeded.

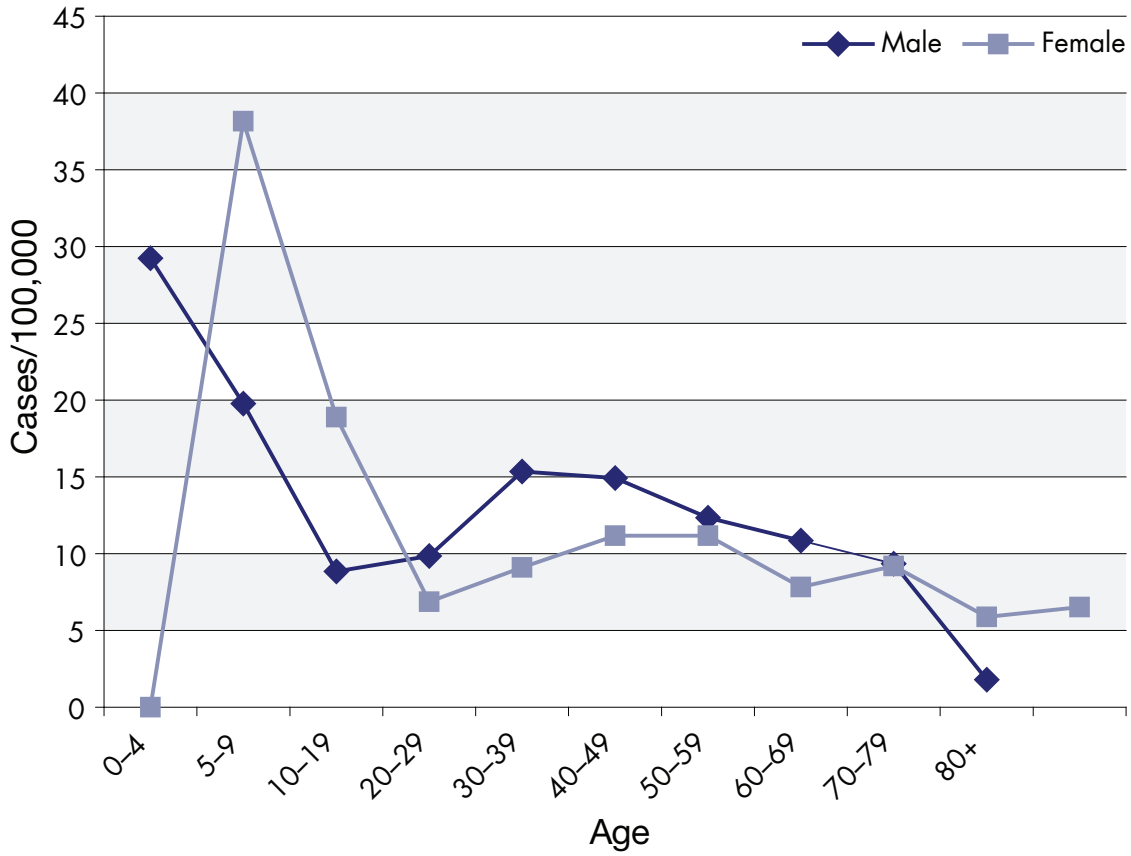
## Giardiasis by year: Oregon, 1988–2007



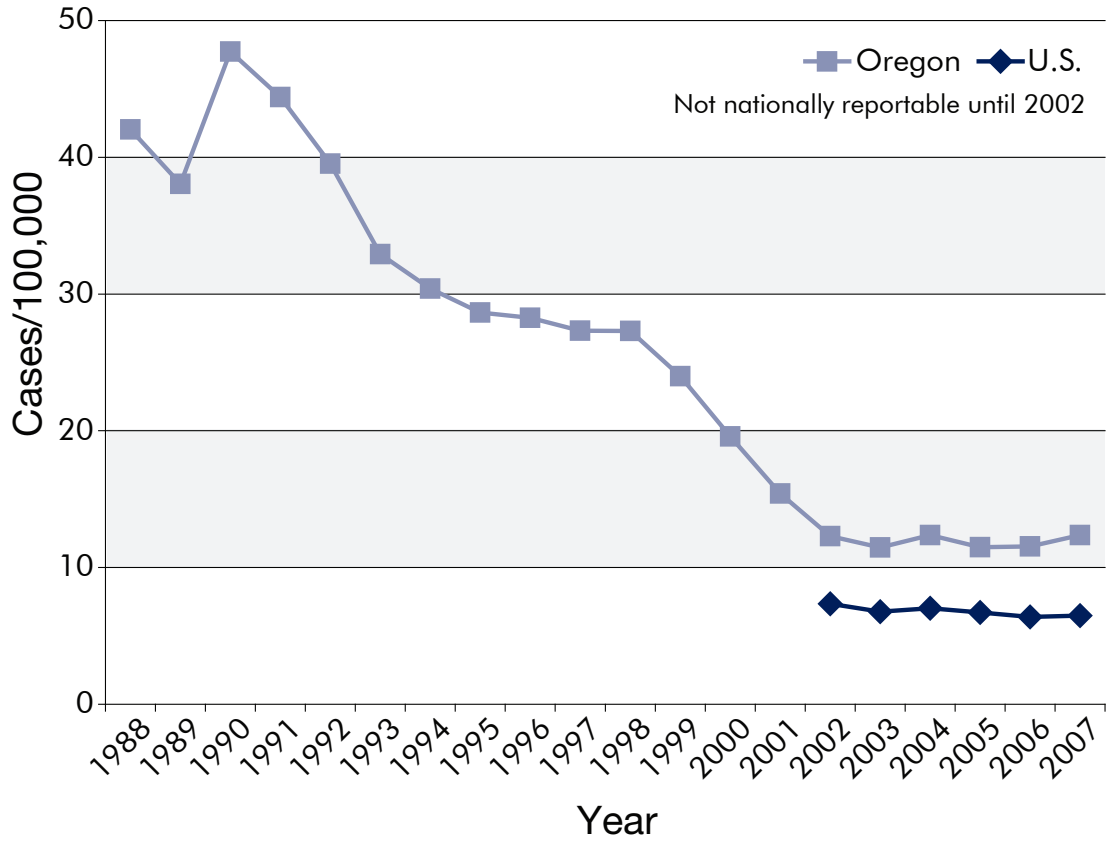

## Giardiasis by onset month: Oregon, 2007



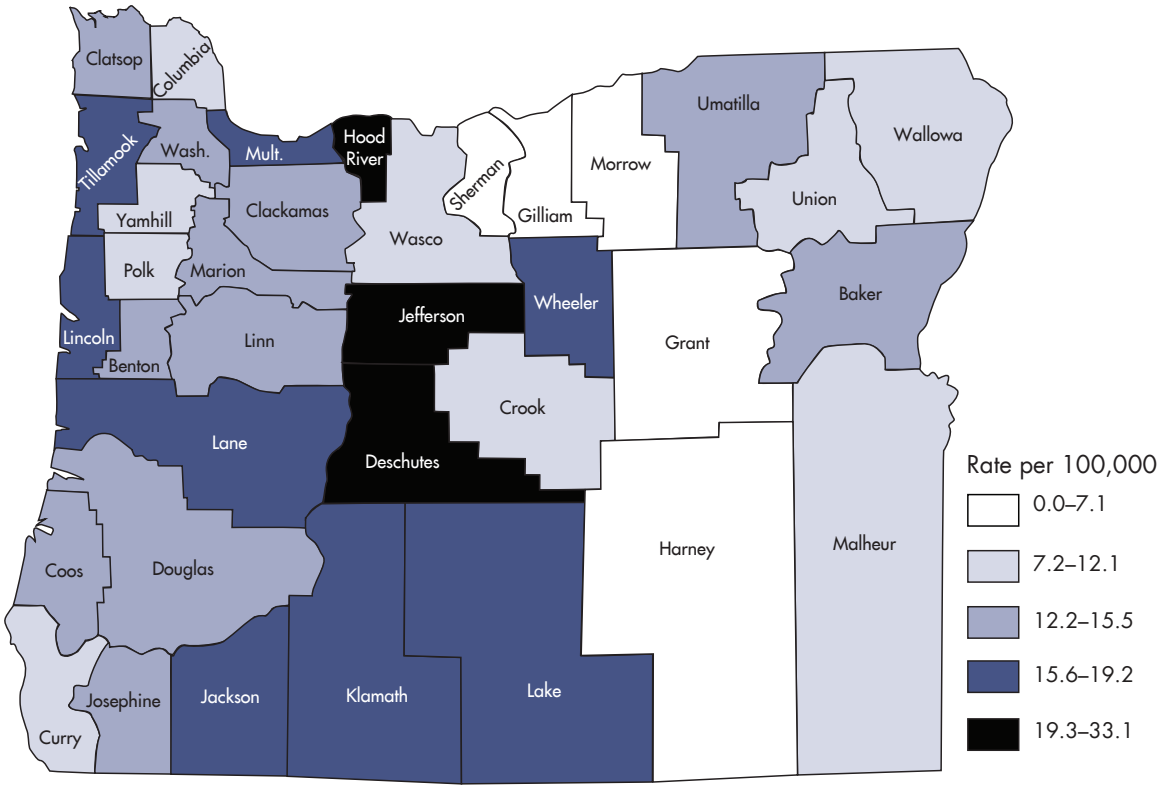
Incidence of giardiasis by age and sex: Oregon, 2007




Incidence of giardiasis: Oregon vs. nationwide, 1988–2007



## Incidence of giardiasis by county of residence: Oregon, 1998–2007

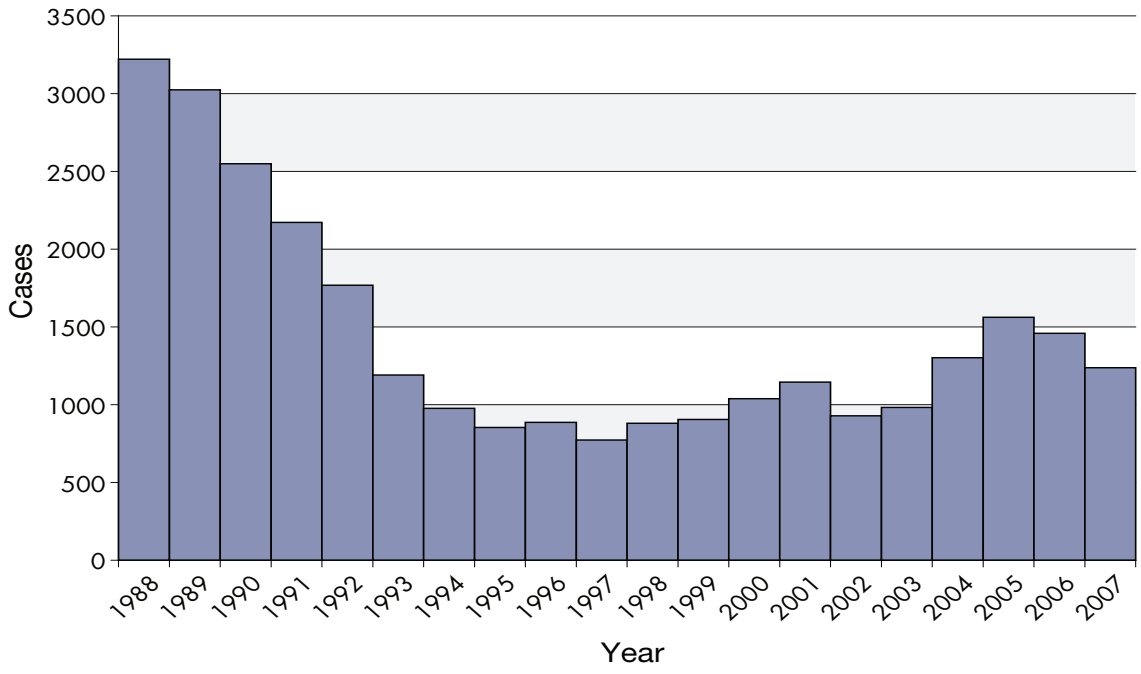


## Gonorrhea

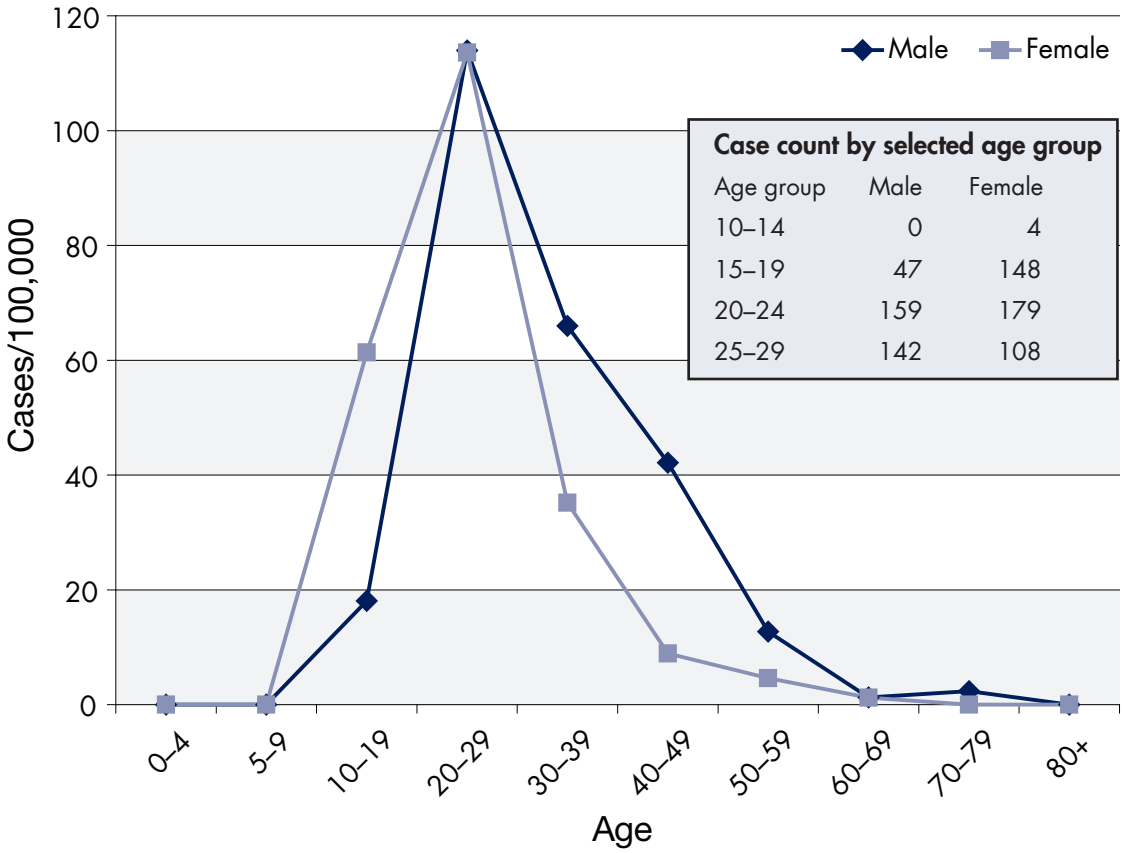
Gonorrhea, caused by the Gram-negative bacterium *Neisseria gonorrhoeae*, is easily transmitted from person to person through vaginal, rectal and oral sexual contact. Gonorrhea can be prevented by abstaining from sexual contact or only having sex with one uninfected sex partner. Those who are sexually active outside of a mutually monogamous relationship can lower their risks of infection by using a condom when engaging in sexual activity.

If untreated, gonococcal infections cause a variety of health problems for men, women and infants. The major complications of gonorrhea are infertility and tubal pregnancies among women. Recent sex partners of persons infected with gonorrhea should be evaluated and treated for gonorrhea. The 1,238 gonorrhea cases reported in 2007 represent a decrease of 15% from the 1,459 cases reported in 2006.

Gonorrhea by year: Oregon, 1988–2007



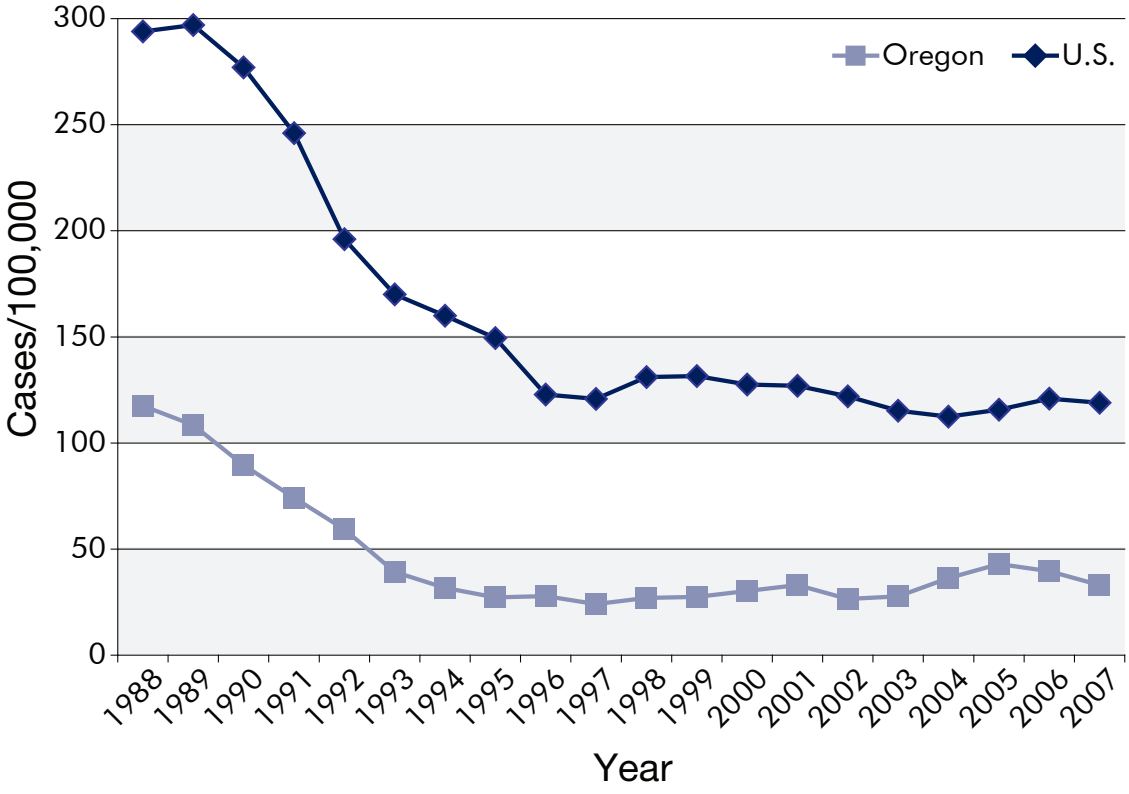
Incidence of gonorrhea by age and sex: Oregon, 2007



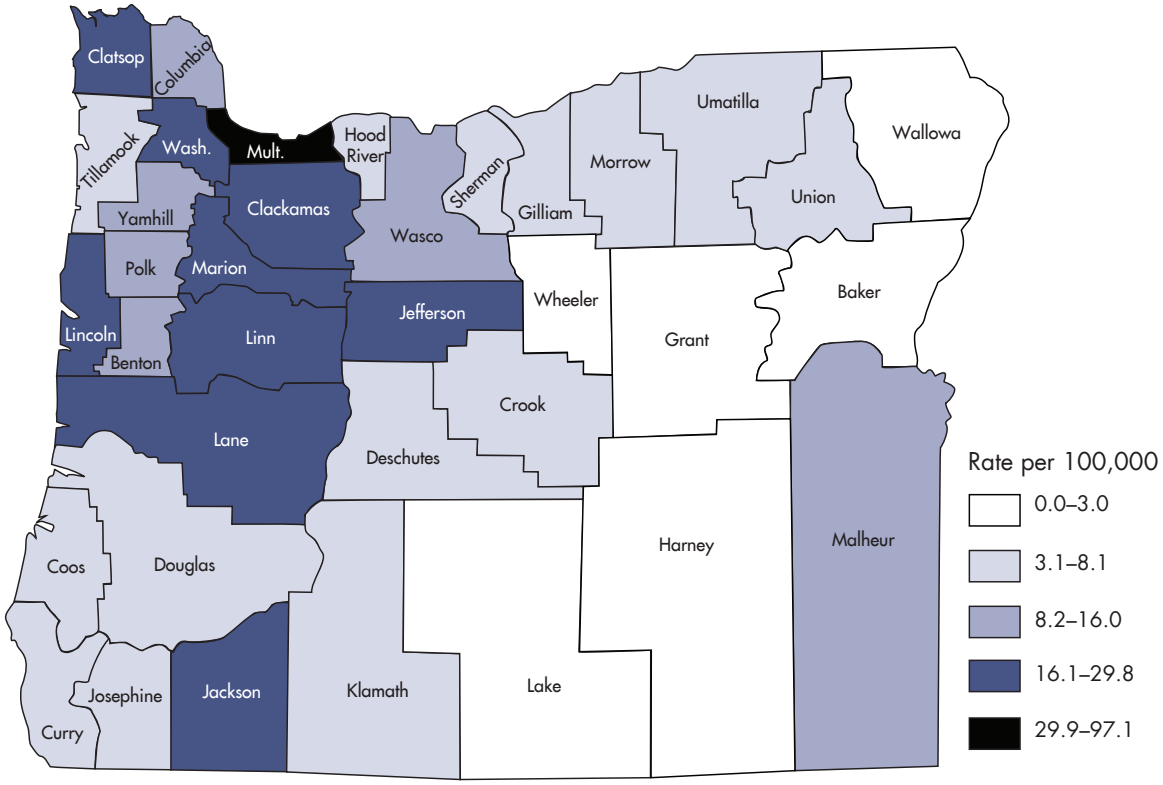

**Case count by selected age group**

| Age group | Male | Female |
|---|---|---|
| 10–14 | 0 | 4 |
| 15–19 | 47 | 148 |
| 20–24 | 159 | 179 |
| 25–29 | 142 | 108 |

Incidence of gonorrhea: Oregon vs. nationwide, 1988–2007



## Incidence of gonorrhea by county of residence: Oregon, 1998–2007



## *Haemophilus influenzae*

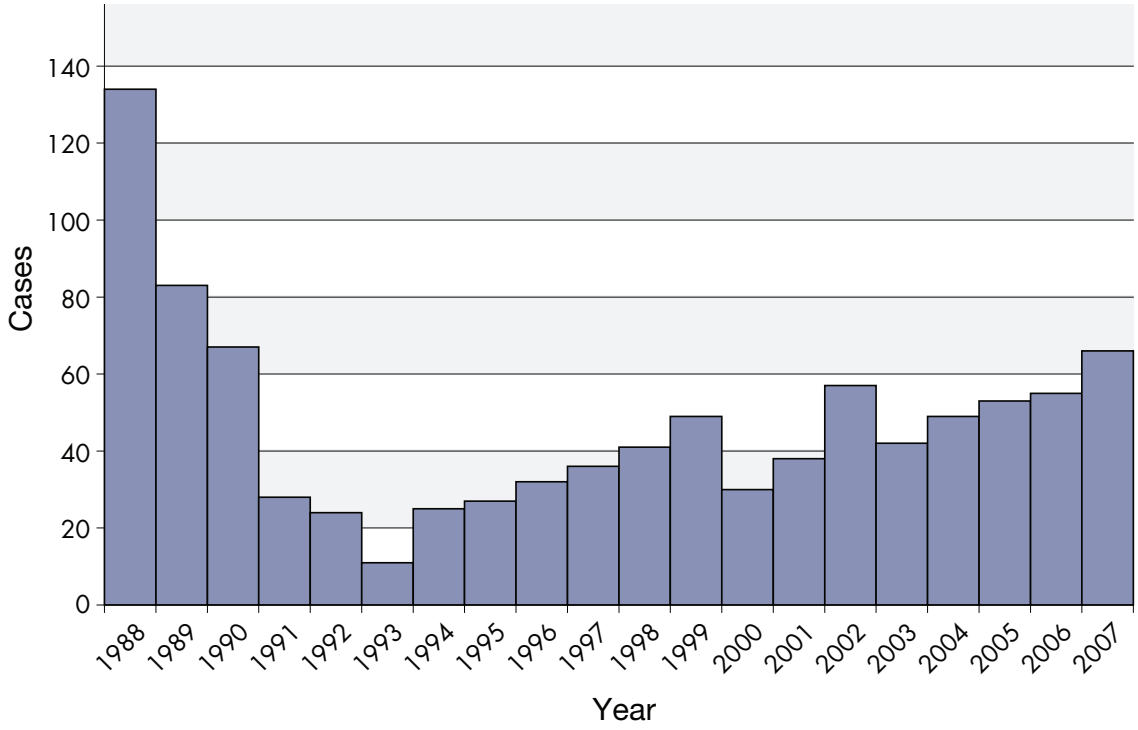
Until the advent of an effective vaccine against serotype b (Hib) organisms, *Haemophilus influenzae* (*H. influenzae*) was the leading cause of bacterial meningitis in children under 5 years of age in Oregon and elsewhere. Today it is well down the listing, with *Streptococcus pneumoniae* now in the lead. In Oregon, Hib was cultured from normally sterile body fluids in one adult with a history of recent travel to China. Appropriate use of conjugate vaccine will help ensure that Hib occurrence remains minimal well into the future. All sterile site *H. influenzae* isolates must be sent to the Oregon State Public Health Laboratory for additional typing.

Concurrent with the decline in Hib infections is an increase in other serotypes. In 2007, 36% of cases were non-typeable, 15% were identified as serotype f, and the remainder were other serotypes. This shift in dominant strains changes the clinical manifestations of illness. From 1998–2007 Oregon clinical manifestations of Oregon cases included primarily pneumonia (more than 50%), followed by sepsis (35%). Only 9% of cases had meningitis. Concurrent with the changes in clinical manifestations is a shift in age distribution from infants to older persons. As in 2006, the majority of cases in 2007 were among those aged 50 and over.

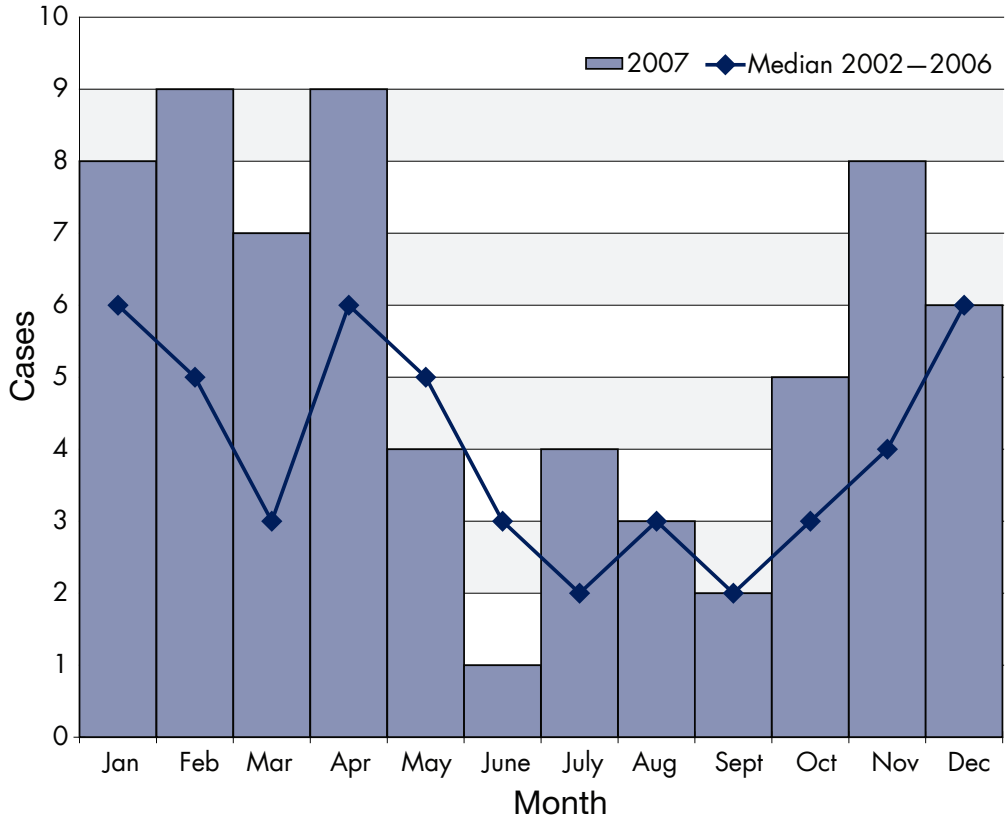


Peak incidence occurs in late winter and early spring. Sixty-six cases, the highest number since 1990, were reported in 2007.

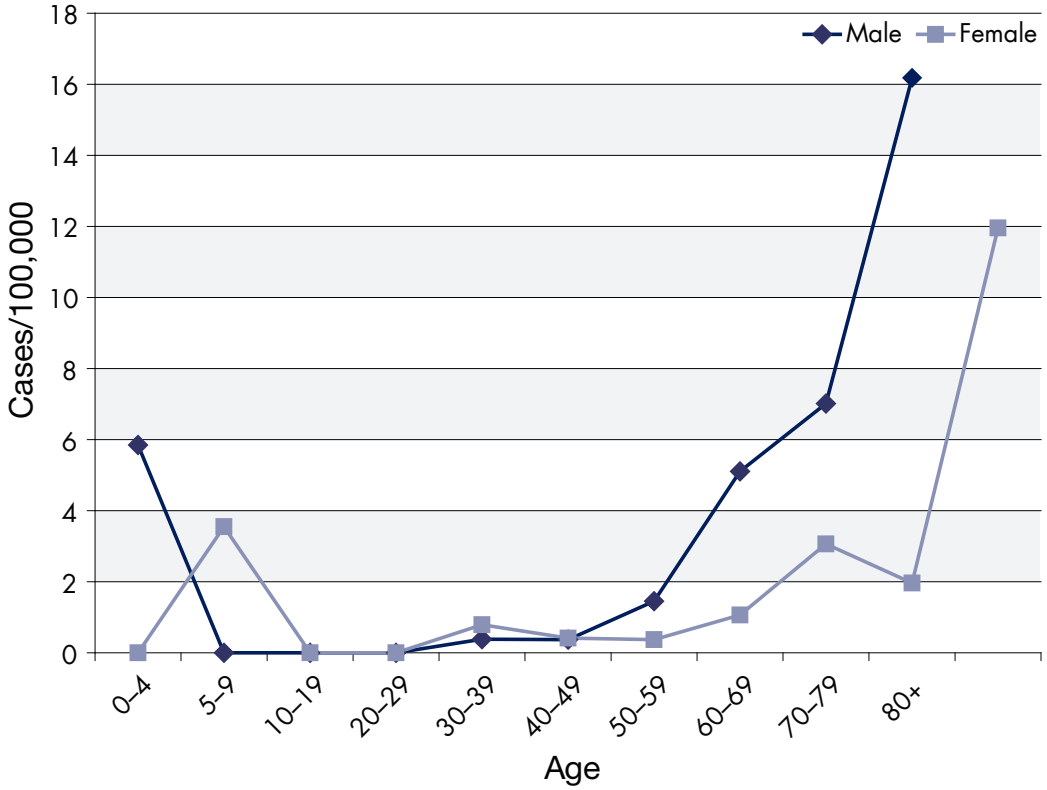
*H. influenzae* by year: Oregon, 1988–2007



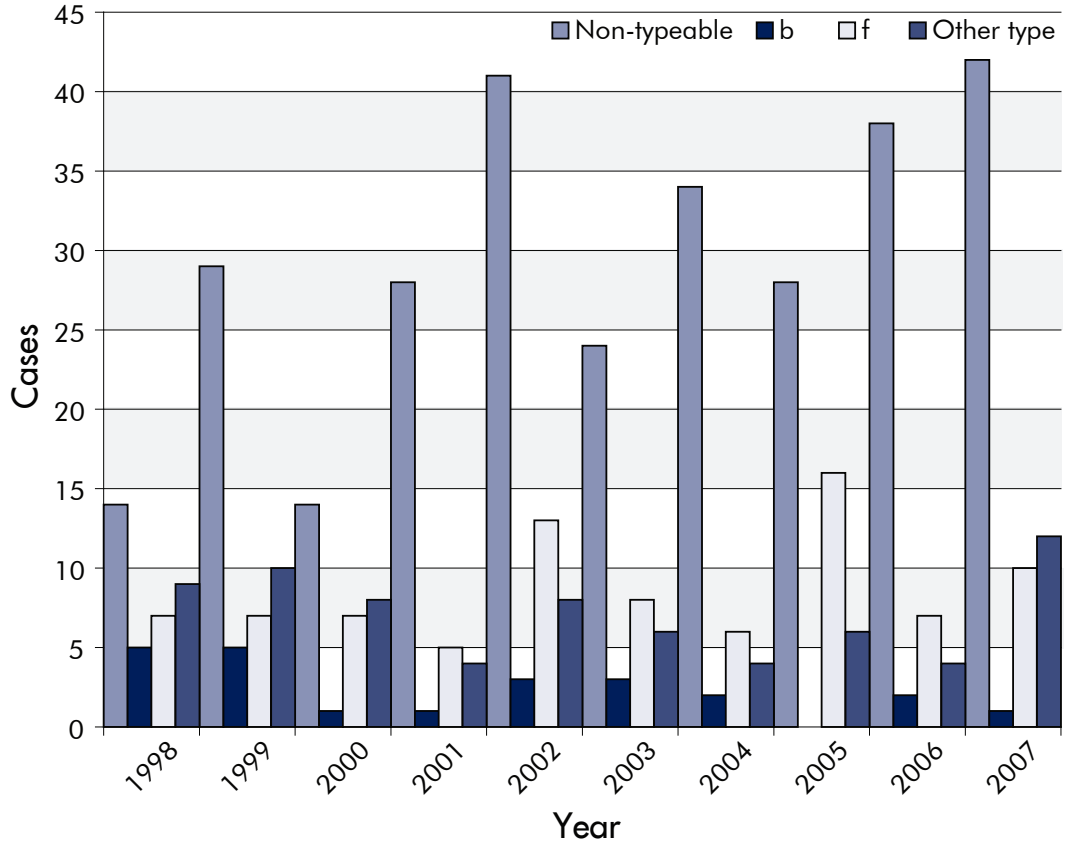

*H. influenzae* by onset month: Oregon, 2007



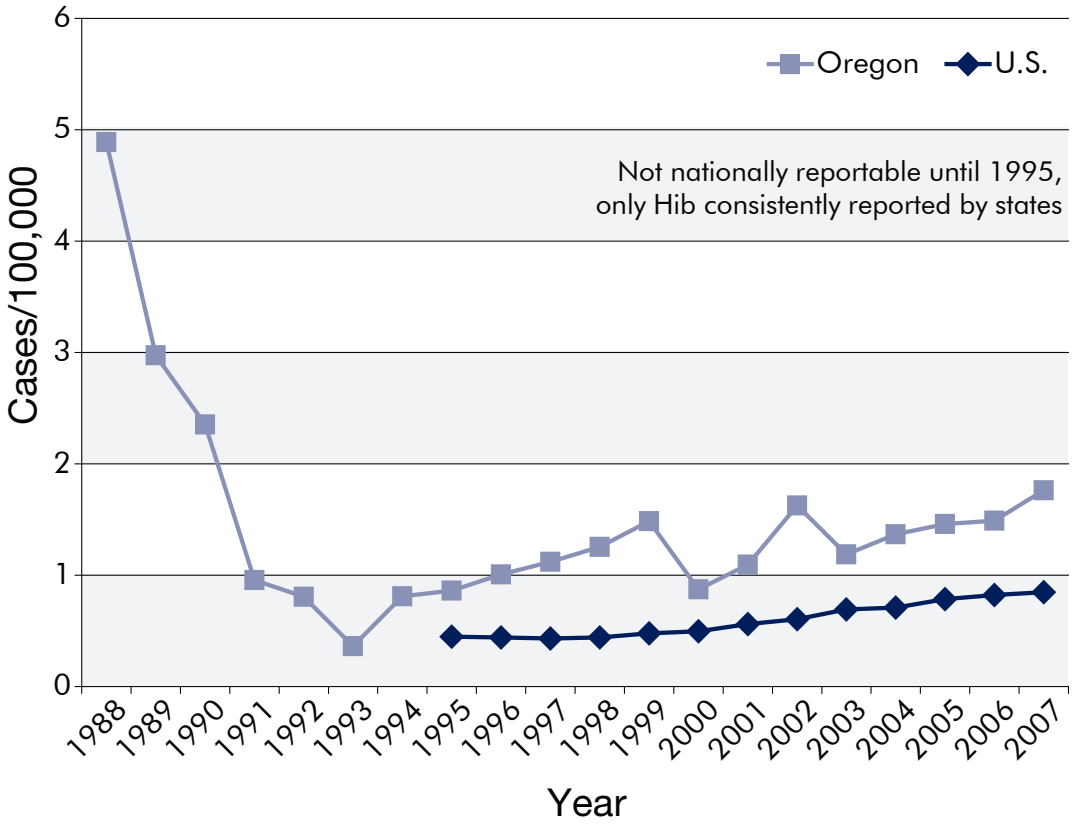
Incidence of *H. influenzae* by age and sex: Oregon, 2007



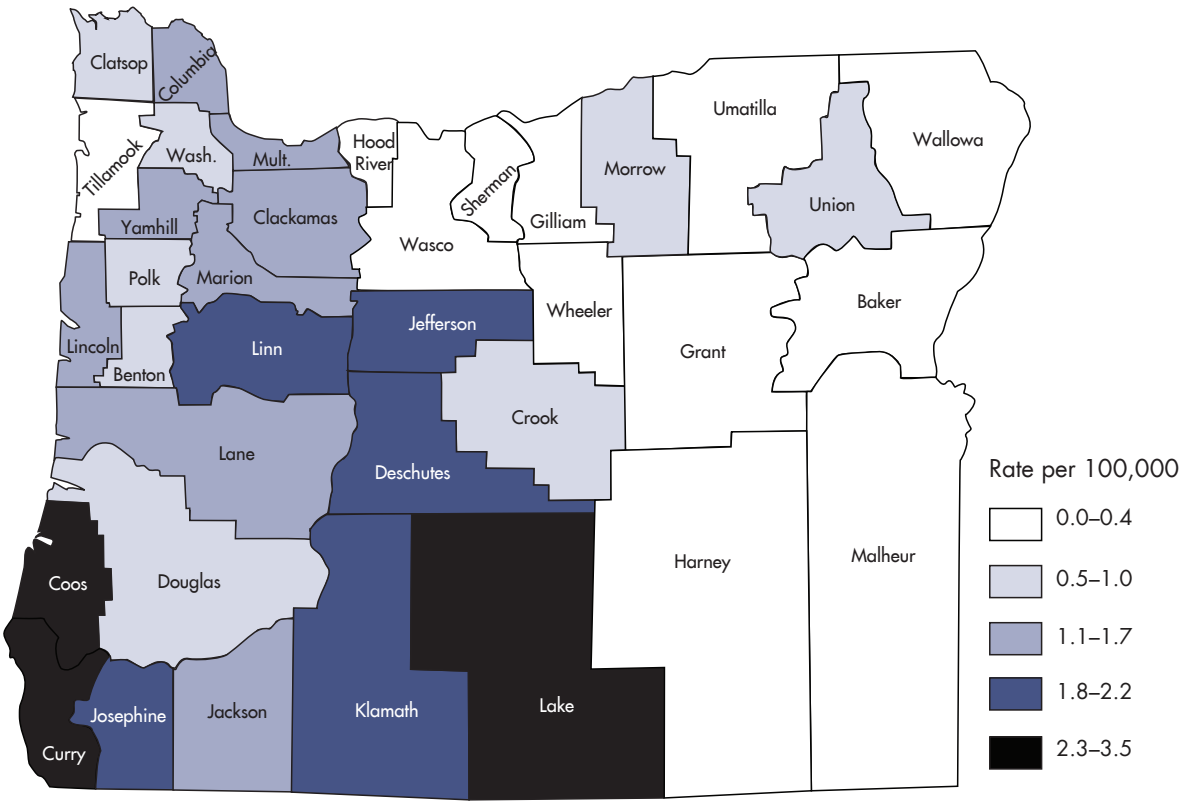

*H. influenzae* by type and year: Oregon, 1998–2007



Incidence of *H. influenzae*: Oregon vs. nationwide, 1988–2007




Incidence of *H. influenzae* by county of residence: Oregon, 1998–2007



## Hepatitis A

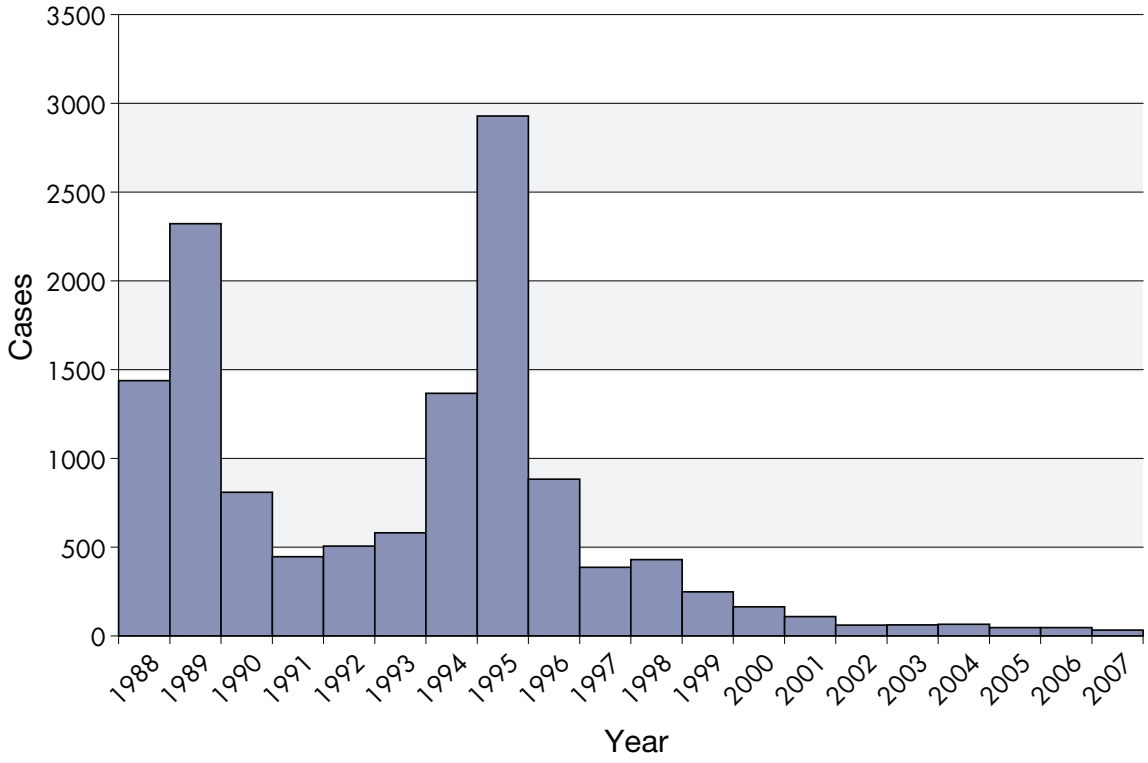
Hepatitis A is a liver disease caused by the hepatitis A virus, which infects humans via fecal-oral transmission. In Oregon, hepatitis A can occur in situations ranging from isolated cases of disease to statewide outbreaks.

Good personal hygiene and proper sanitation can help prevent hepatitis A. Vaccines are recommended for long-term prevention of hepatitis A in all Oregon children 1 year of age and older, as well as for adults in high-risk groups. Since licensure of the vaccine in 1995–1996, rates of infection have declined nationally and in Oregon, one of the higher incidence states.

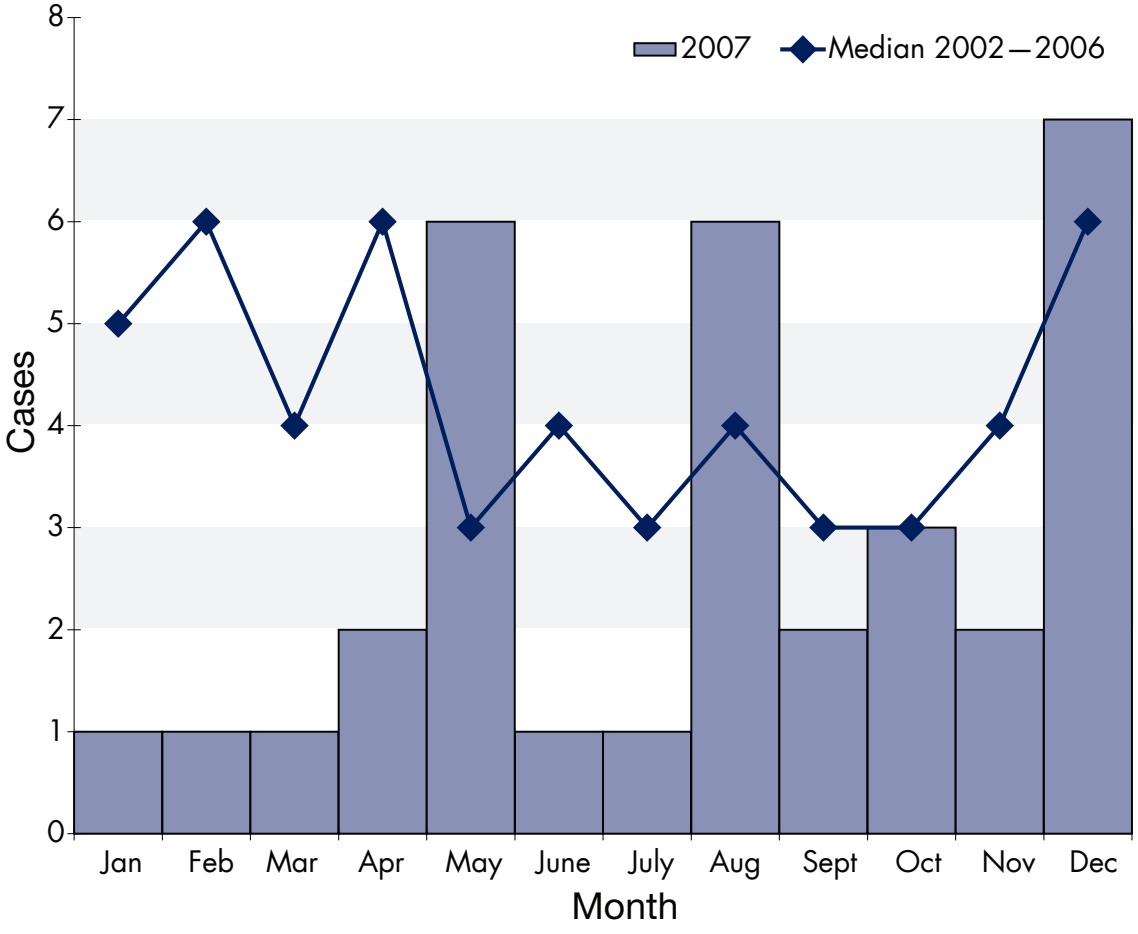
In 2007, Oregon adopted the CDC case definition; laboratory positive, asymptomatic infections are no longer reportable. Recent changes in post-exposure prophylaxis include vaccination instead of immune globulin for immune-competent contacts aged 1–40 years. For those over 40 years of age, or with immune-compromising conditions, immune globulin is still recommended.

In 2007, Oregon logged 33 cases of acute hepatitis A. No outbreaks were recorded. Nine (27%) of the 33 cases were acquired by venturing outside of Oregon to countries with high rates of hepatitis A. Such persons placing themselves at elevated risk should receive a dose of hepatitis A vaccine as soon as travel is considered. Completion of the hepatitis A vaccination series (administered according to the licensed schedule) is recommended for long-term protection.

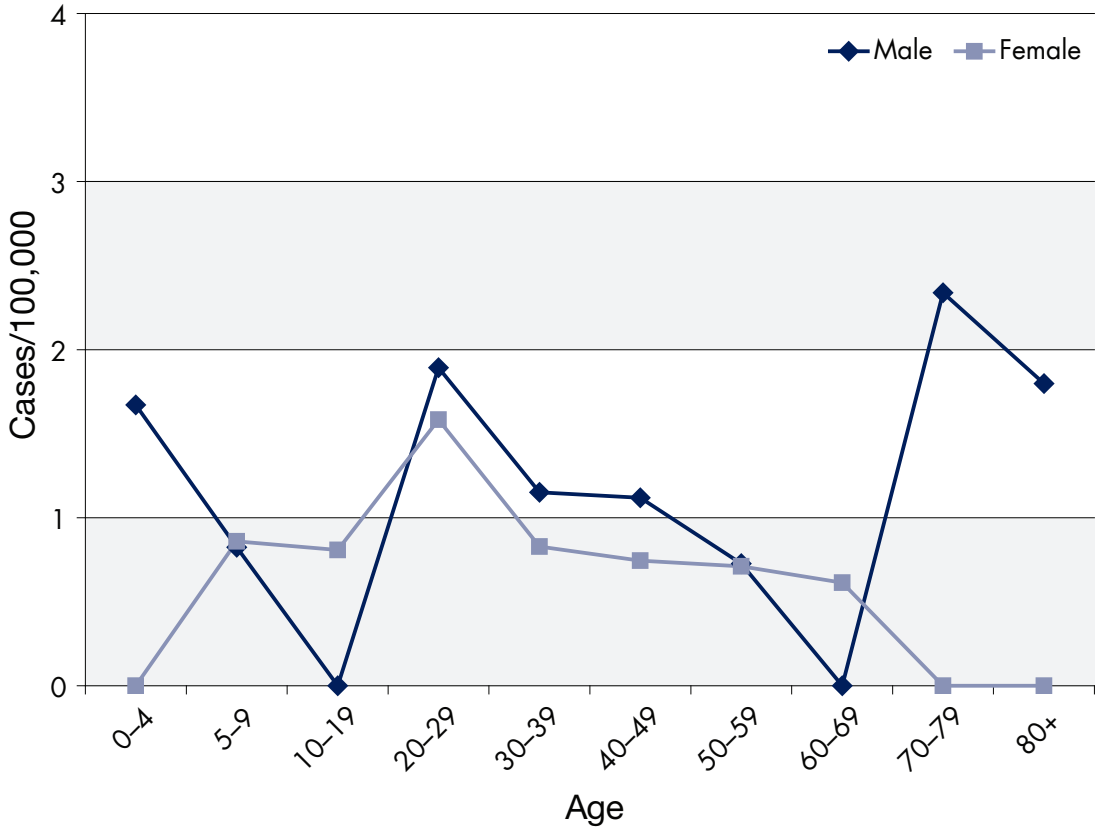
Hepatitis A by year: Oregon, 1988–2007



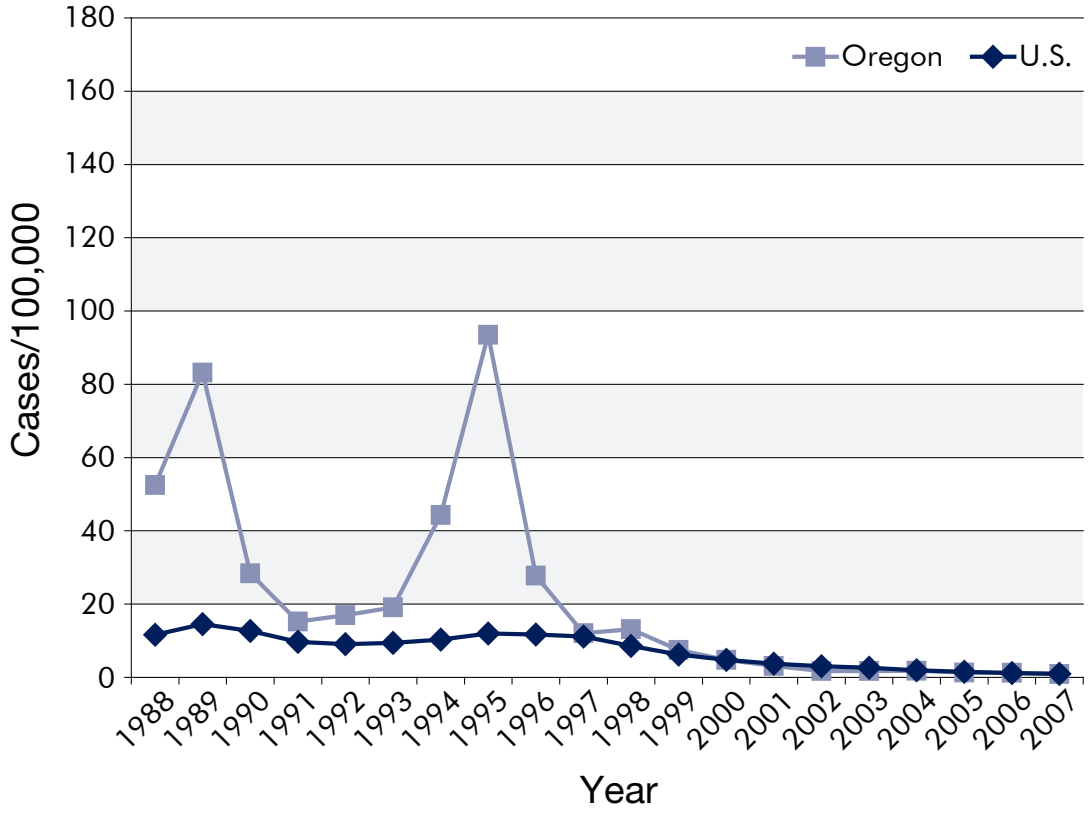

Hepatitis A by onset month: Oregon, 2007



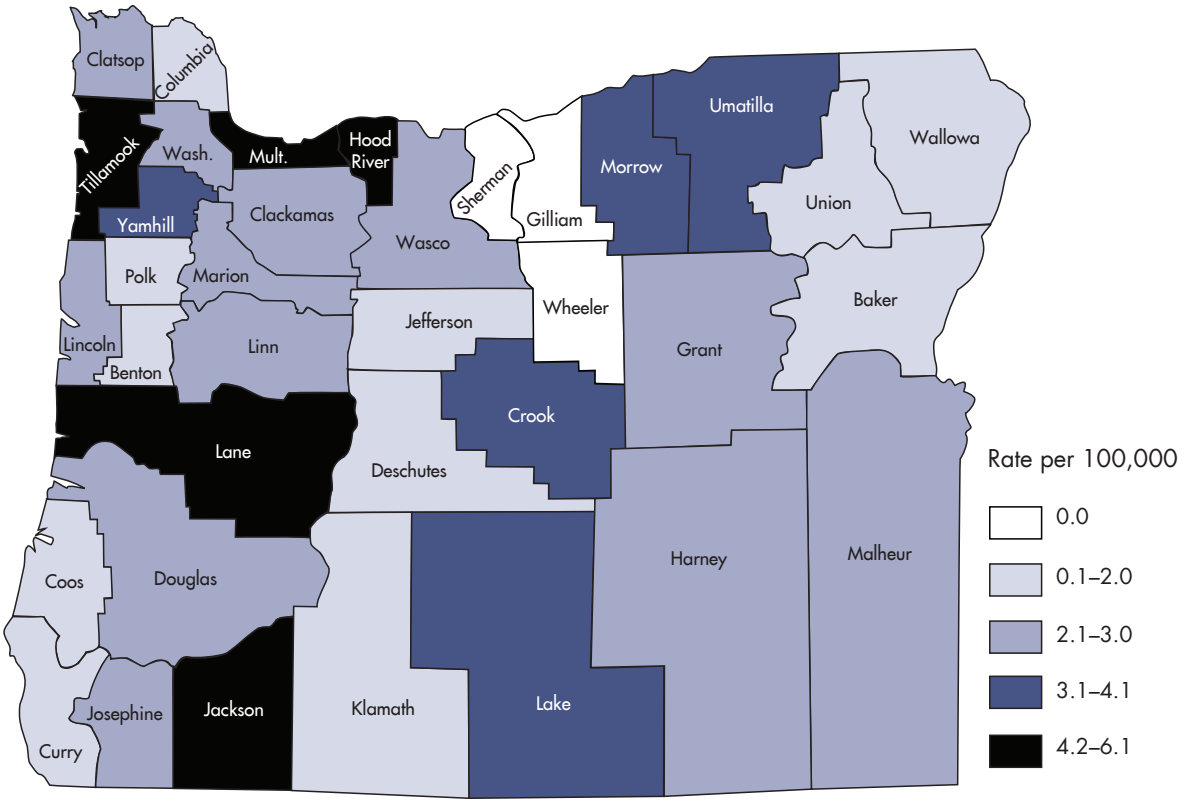
Incidence of hepatitis A by age and sex: Oregon, 2007




Incidence of hepatitis A: Oregon vs. nationwide, 1988–2007



## Incidence of hepatitis A by county of residence: Oregon, 1998–2007



## Hepatitis B

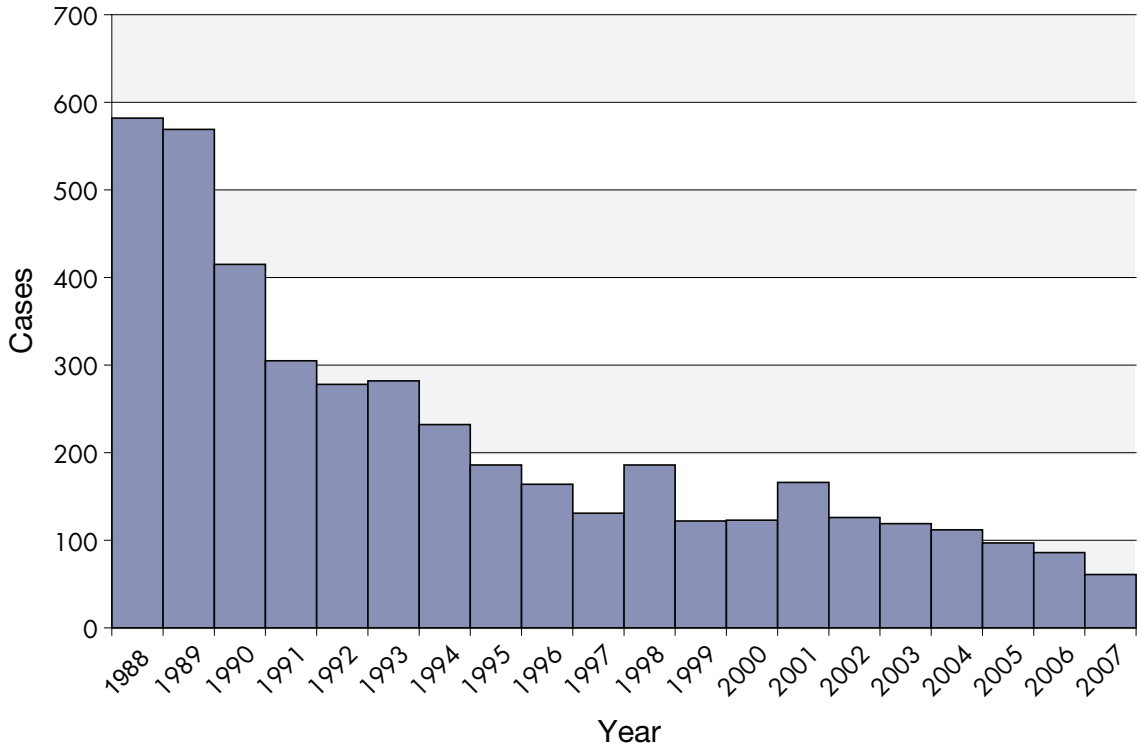
Hepatitis B is a vaccine-preventable viral disease of the liver that occurs when the virus of an infected person passes (through blood, semen, or saliva) into the blood stream of a non-immune person. Percutaneous or permucosal exposures take place when hypodermic needles are shared; when blood splashes into an eye; during sex; by biting; when improperly sterilized injection devices are used for tattooing, body piercing and acupuncture; and when the baby of a mother who is a hepatitis B carrier is being born.

Acute hepatitis B virus infection (diagnosed by the presence in serum of IgM antibody to the hepatitis B core antigen [IgM anti-HBc]) usually, but not always, causes jaundice. Some infections are mild, even asymptomatic, and may go undetected. Hepatitis B has been vaccine-preventable since 1982 and, to promote universal vaccination and hence protection, was added to the recommended childhood immunization schedule in 1992 with the series starting at birth.

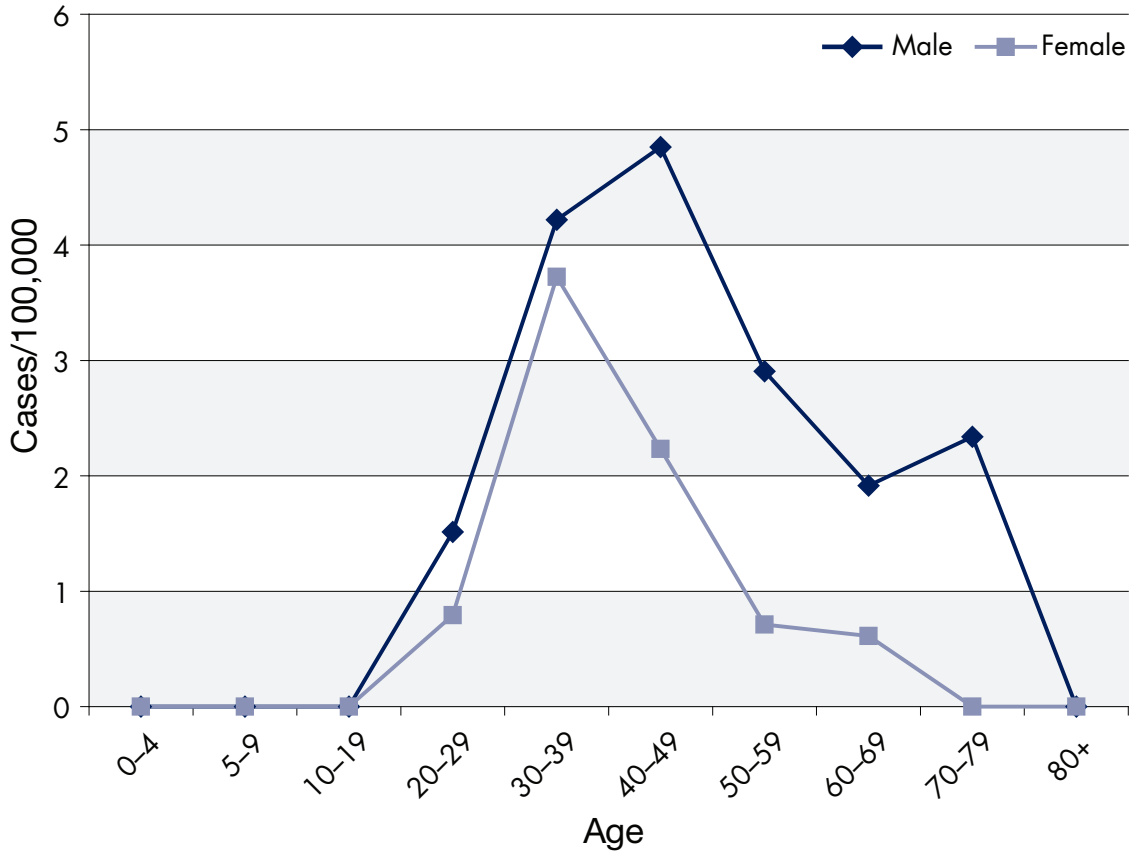
Acute hepatitis B continues to decline in Oregon — a decline that started here after the hepatitis B vaccine was licensed in 1982.

Local health departments investigated and reported 61 acute cases in 2007. Sixty-seven percent of the cases were male. The number of cases reporting injection drug use decreased in 2007 (29%) from 2006 (32%).

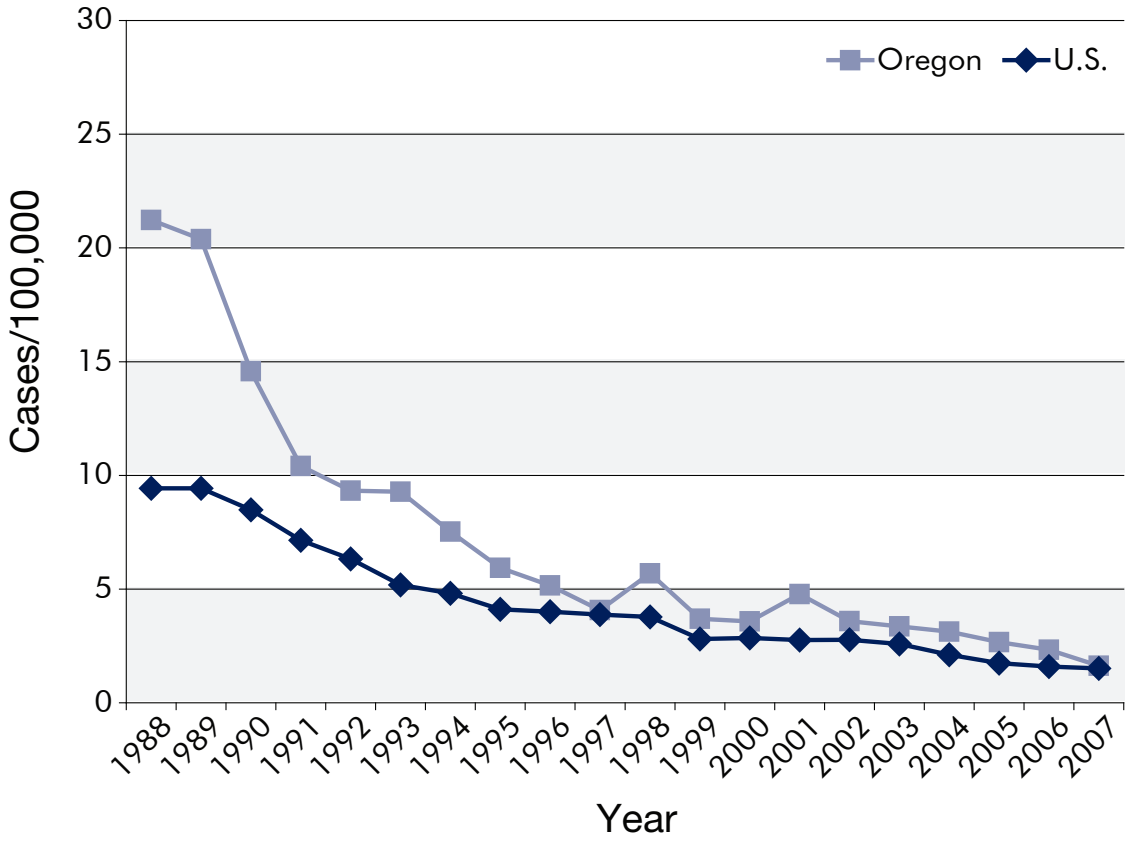
Acute hepatitis B by year: Oregon, 1988–2007



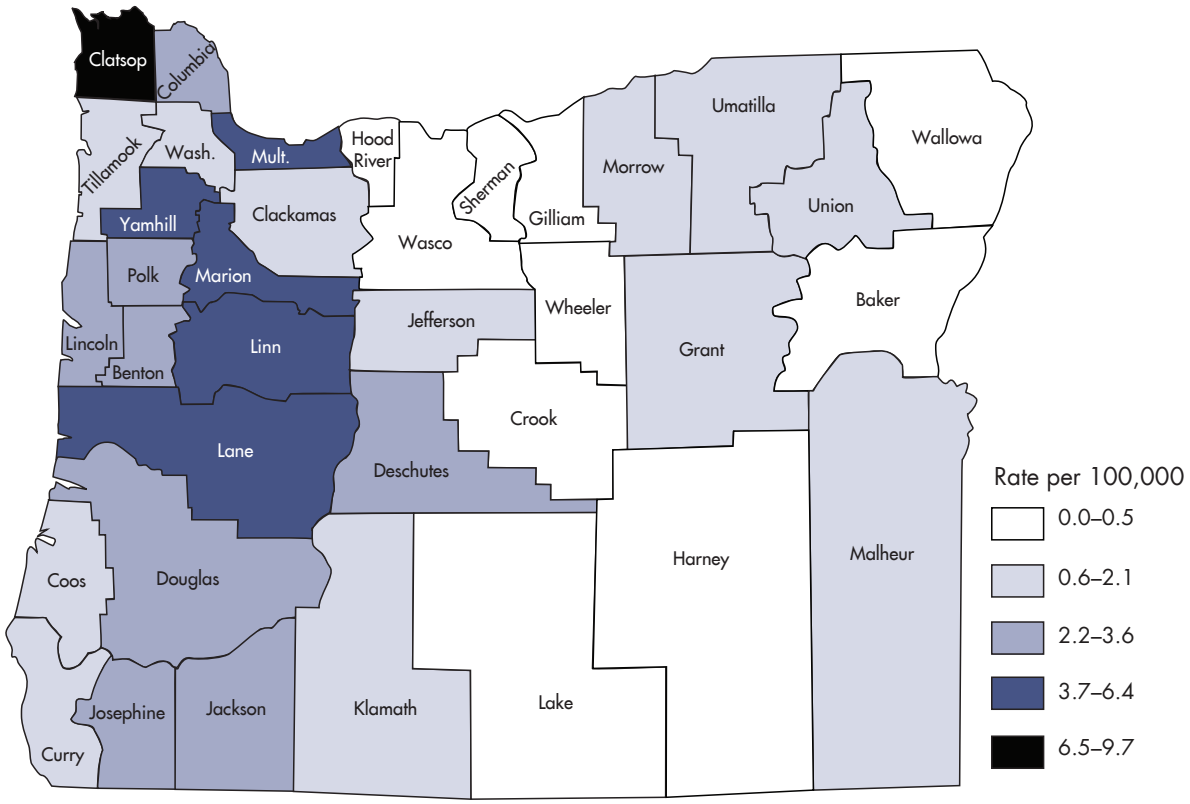

Incidence of acute hepatitis B by age and sex: Oregon, 2007



Incidence of acute hepatitis B: Oregon vs. nationwide, 1988–2007




Incidence of acute hepatitis B by county of residence: Oregon, 1998–2007



## Chronic hepatitis B

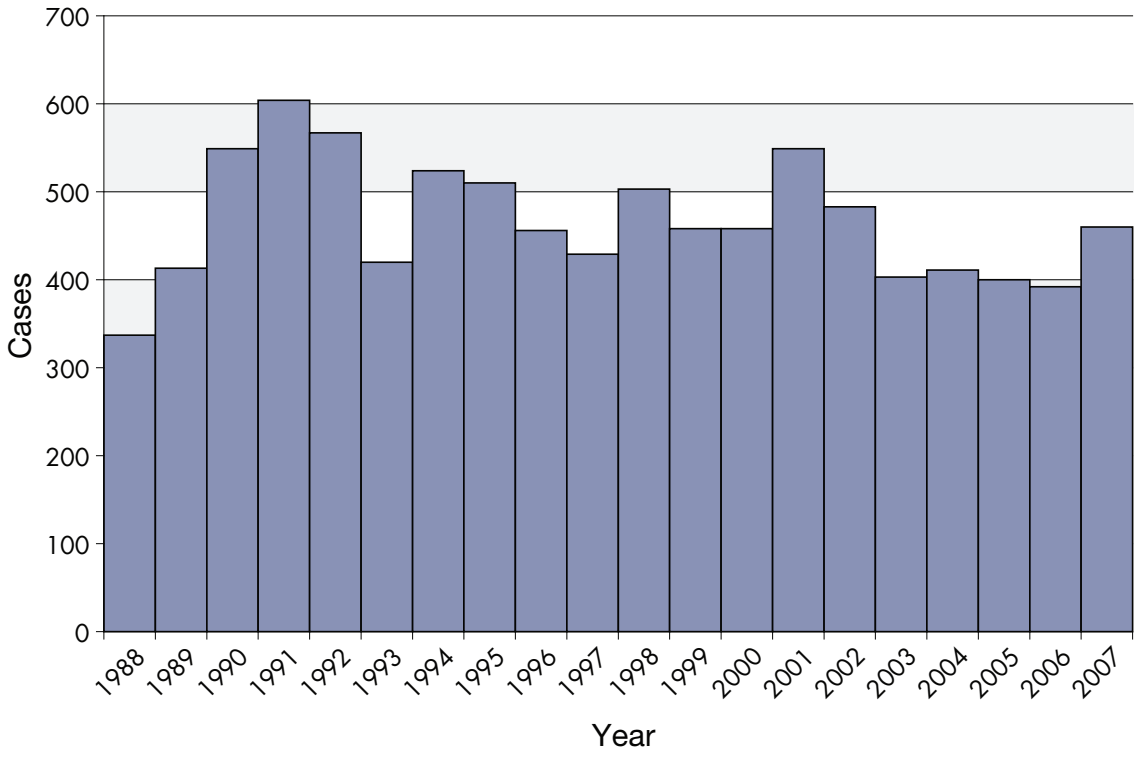
Persons with chronic hepatitis B are known as "chronic carriers" — a state of infection defined by the persistence of hepatitis B surface antigen (HBsAg) in the blood for more than six months. The likelihood of becoming a chronic carrier is affected by the age at infection. Fewer than 6% of acutely infected adults in the United States become carriers, compared to 25% (with HBeAg-negative moms) to 90% (with HBeAg-positive moms) of children infected in early childhood or during birth. Perinatal infection can be prevented by prompt administration of hepatitis B immune globulin and initiation of the three-dose hepatitis B vaccination series. This perinatal intervention is widely practiced in the United States — all states have federal funding for perinatal hepatitis B prevention programs — but not in other parts of the world, particularly Asia and sub-Saharan Africa, where the prevalence of chronic hepatitis B is higher. In 2007, 56% of chronic carriers were born outside the United States, presumably in hepatitis-B-endemic countries. Chronic carriers are at greater risk of developing life-threatening diseases (e.g., chronic active hepatitis, cirrhosis or liver cancer) decades later. Carriers will sustain transmission of hepatitis B in the United States until vaccine-induced immunity is nearly universal.



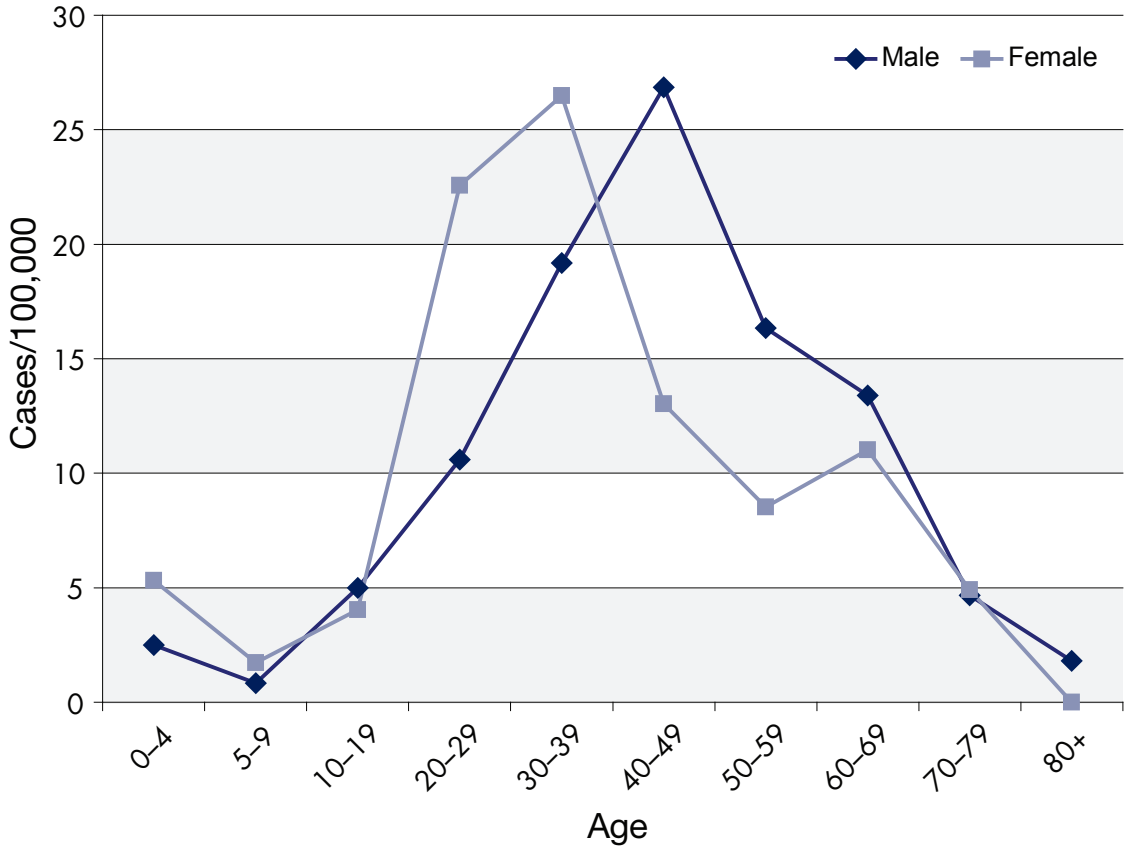
New recommendations and strategies to prevent new cases include the following: routinely vaccinating all infants at birth; screening all pregnant women for hepatitis B; administering hepatitis B immune globulin (HBIG) in addition to hepatitis B vaccine to infants born to HBsAg-positive mothers; and ensuring that all infants complete the hepatitis B vaccine series.

In 2007, there were 460 newly reported carriers and, as in the past, they were older than acute cases and close to evenly distributed between men and women. Women, however, are diagnosed earlier than men, perhaps due to pre-natal screening. One perinatal hepatitis case was reported in 2007. Chronic carriers are not reportable in many states, so a table comparing Oregon to the rest of the United States is not given.

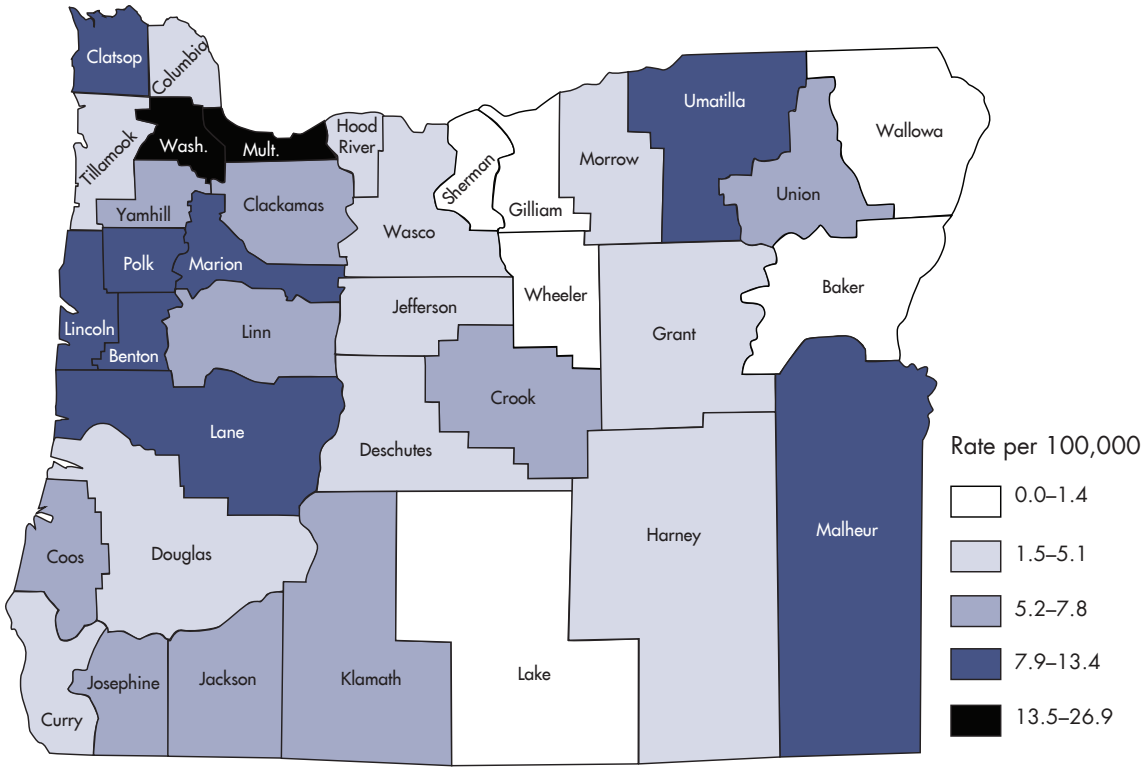
Chronic hepatitis B by year: Oregon, 1988–2007




Incidence of chronic hepatitis B by age and sex: Oregon, 2007



## Incidence of chronic hepatitis B by county of residence: Oregon 1998–2007



## Hepatitis C

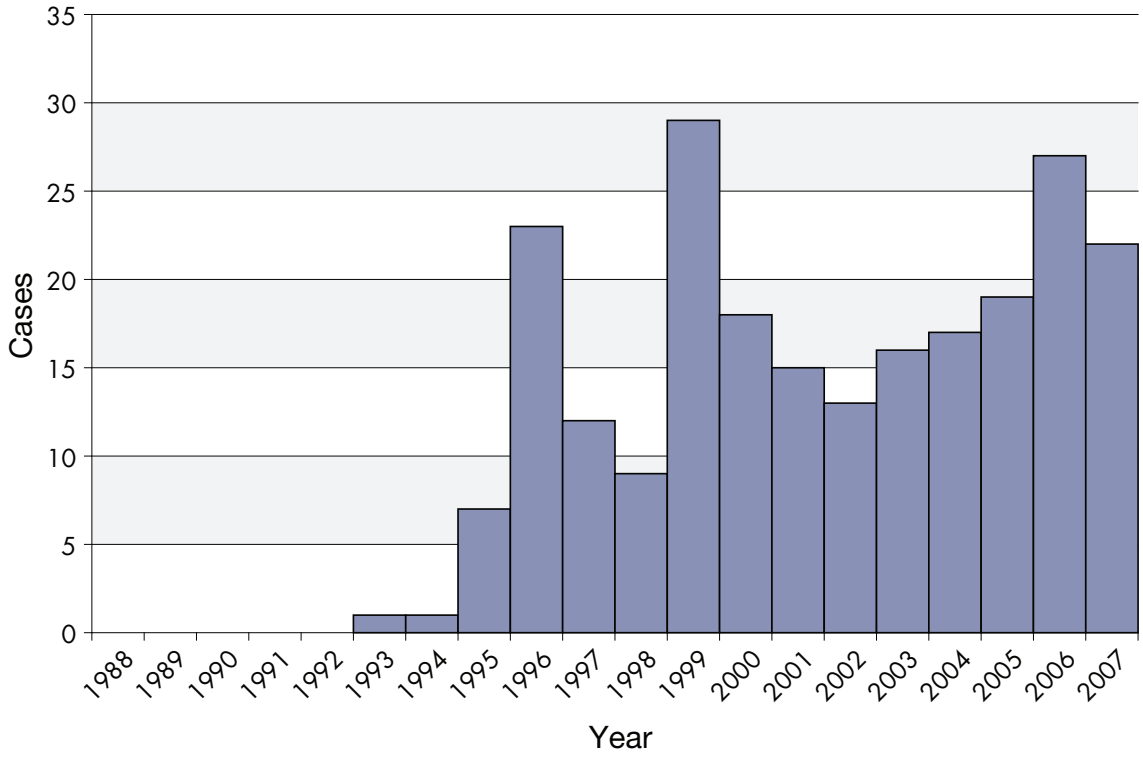
Infection with hepatitis C virus (HCV) causes acute and chronic hepatitis C disease. HCV is found in the blood of persons who have the disease. The most common signs and symptoms of hepatitis C include: jaundice, fatigue, dark urine, abdominal pain, loss of appetite and nausea. However, 80% of persons are asymptomatic. Hepatitis C cases are underreported due to the fact that most persons are asymptomatic and that there are no laboratory tests for acute HCV infection. Hepatitis C can lead to liver damage and sometimes death due to liver breakdown. Nearly 4.1 million people in the United States have been infected with hepatitis C, of whom 3.2 million are chronically infected. Chronic liver disease develops in up to 70% of chronically infected persons. Hepatitis C infection is the leading indication for liver transplant. Currently, 8,000 to 10,000 people die each year in the United States from hepatitis C. There is no vaccine for hepatitis C.

Hepatitis C is spread from one person to another primarily by direct contact with human blood. Most infections are due to illegal injection drug use. The virus can also be transmitted through sexual contact and from infected mothers to their infants at the time of birth. The risk for perinatal HCV transmission is about 4%. If the mother is coinfected with HIV, the risk for perinatal infection increases to about 19%. Since the adoption of routine blood donor screening in 1992, transfusion-associated cases now occur less than one per 2 million units of blood transfused.

## Acute hepatitis C

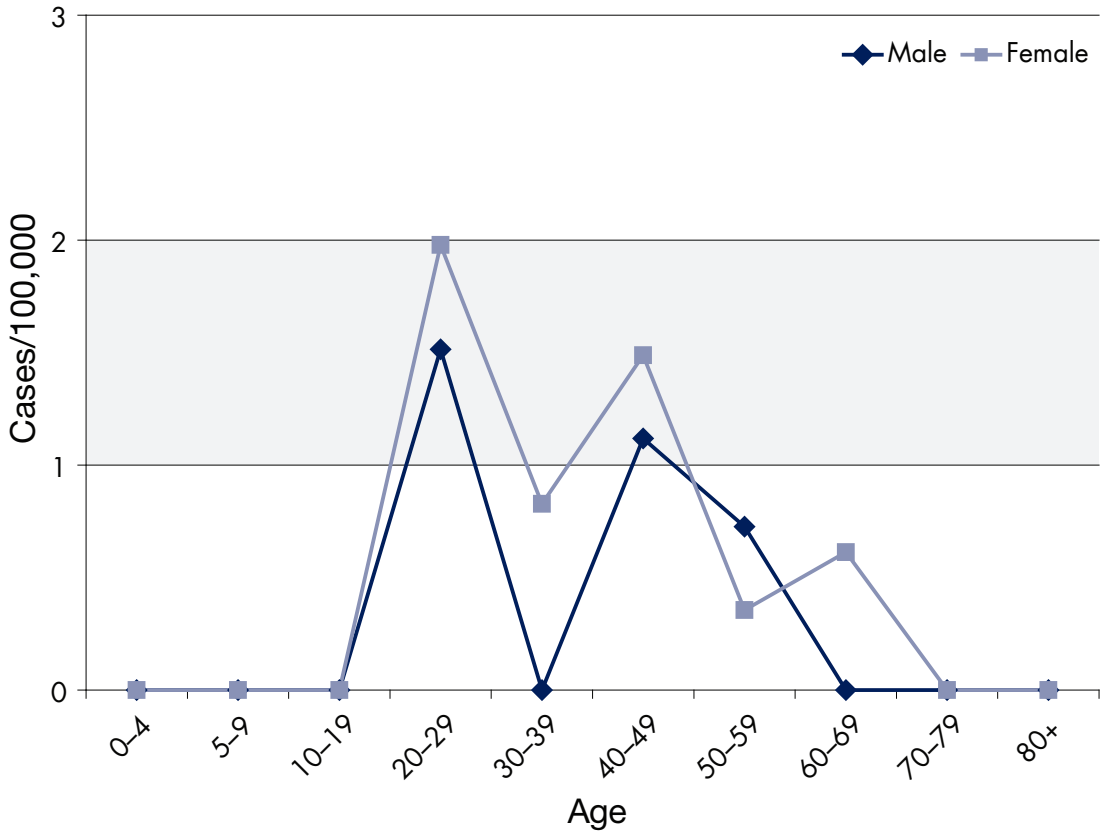
On average, from 1998–2007, there were 18 acute hepatitis C cases reported per year in Oregon. In 2007, 22 cases were reported. In 50% of the cases, patients were less than 40 years of age, and 59% of all cases were female.

Acute hepatitis C by year: Oregon, 1988–2007*

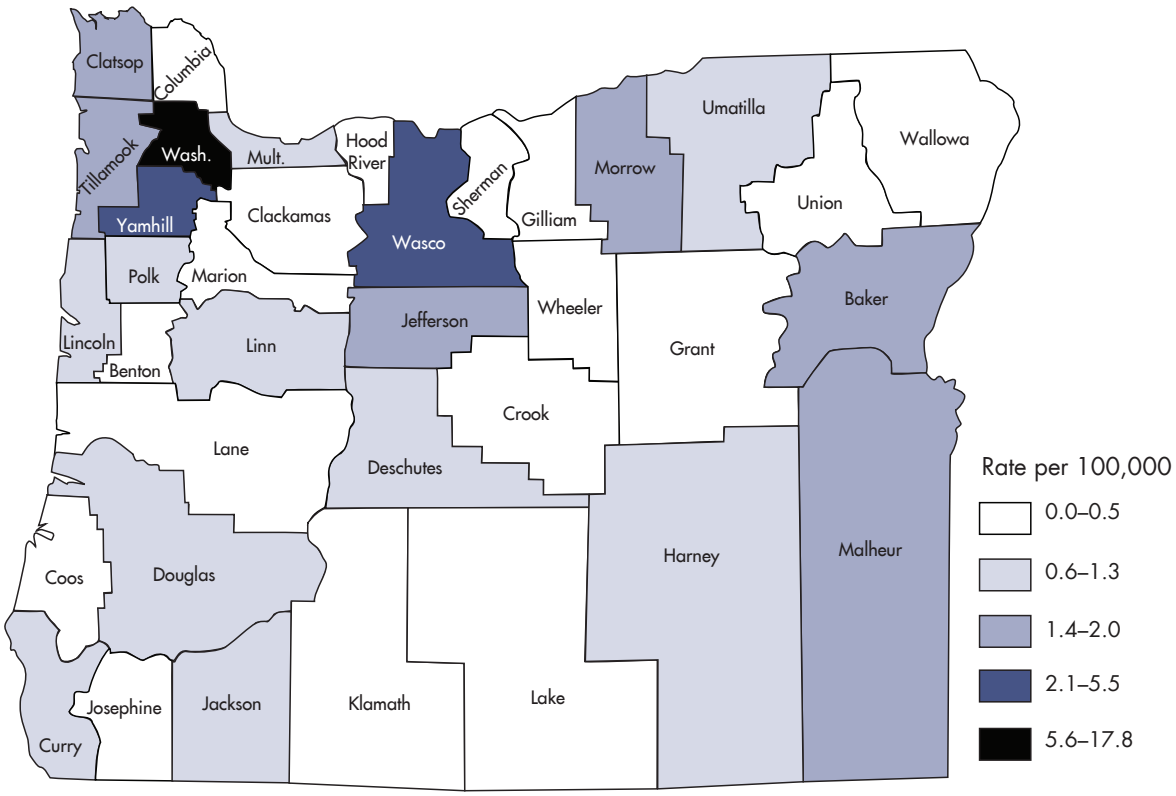



* Prior to 1993, cases were classified as non-A or non-B hepatitis but not as hepatitis C

## Incidence of acute hepatitis C by age and sex: Oregon, 2007



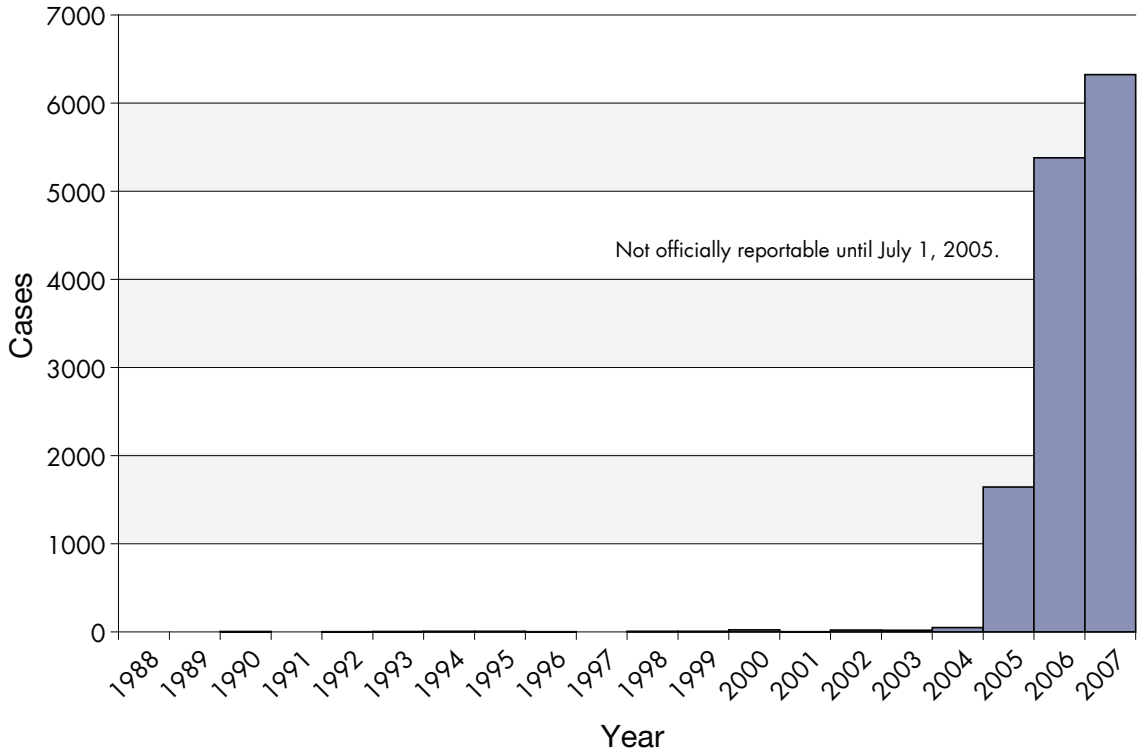

## Incidence of acute hepatitis C by county of residence: Oregon, 1998–2007



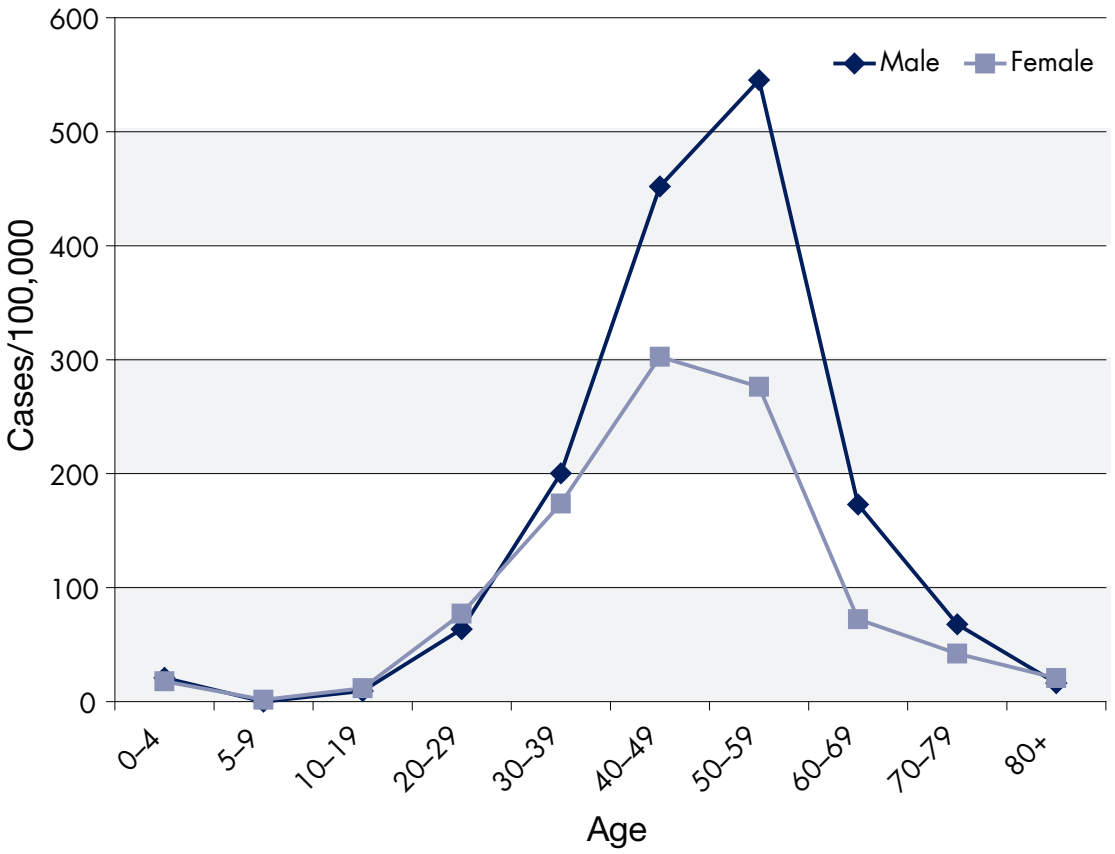
## Chronic hepatitis C

Chronic hepatitis C was reportable in Oregon as of July 1, 2005. In 2007, 6,323 chronic hepatitis C cases were reported. Preliminary analyses of these data show that infection in males (59%) is higher than females, and in those aged 40–60 years (69%). These numbers are likely an underestimate of the true incidence because most infections are asymptomatic and therefore are not diagnosed or reported to public health.

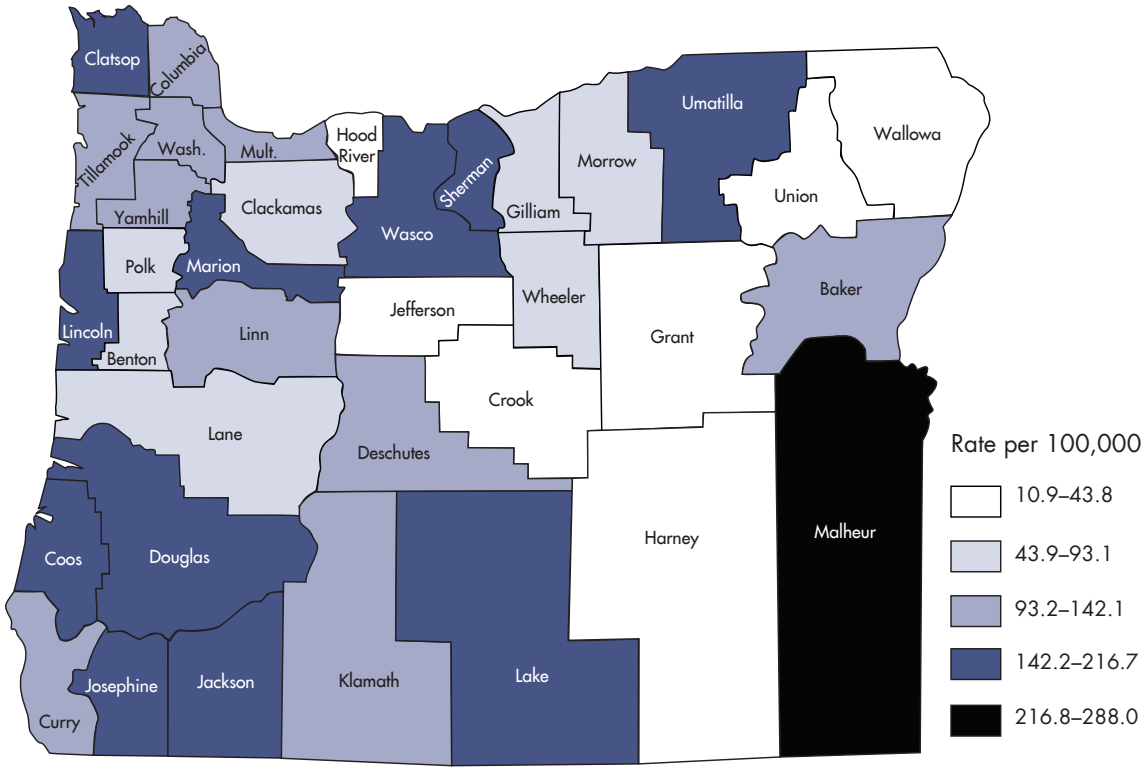
Chronic hepatitis C by year: Oregon, 1988–2007



Incidence of chronic hepatitis C by age and sex: Oregon, 2007




Incidence of chronic hepatitis C by county of residence: Oregon, 1998–2007



## Legionellosis

Legionellosis is usually an acute respiratory tract infection that begins two to 14 days after exposure to *Legionella* spp. Signs of the disease can include a high fever, chills and cough, in addition to head and muscle aches. Since symptoms are similar to those seen in other forms of pneumonia, the diagnosis is rarely obvious and can be difficult to make. Available diagnostic tests include direct fluorescent antibody staining, culture, polymerase chain reaction on sputum, and urine antigen detection.

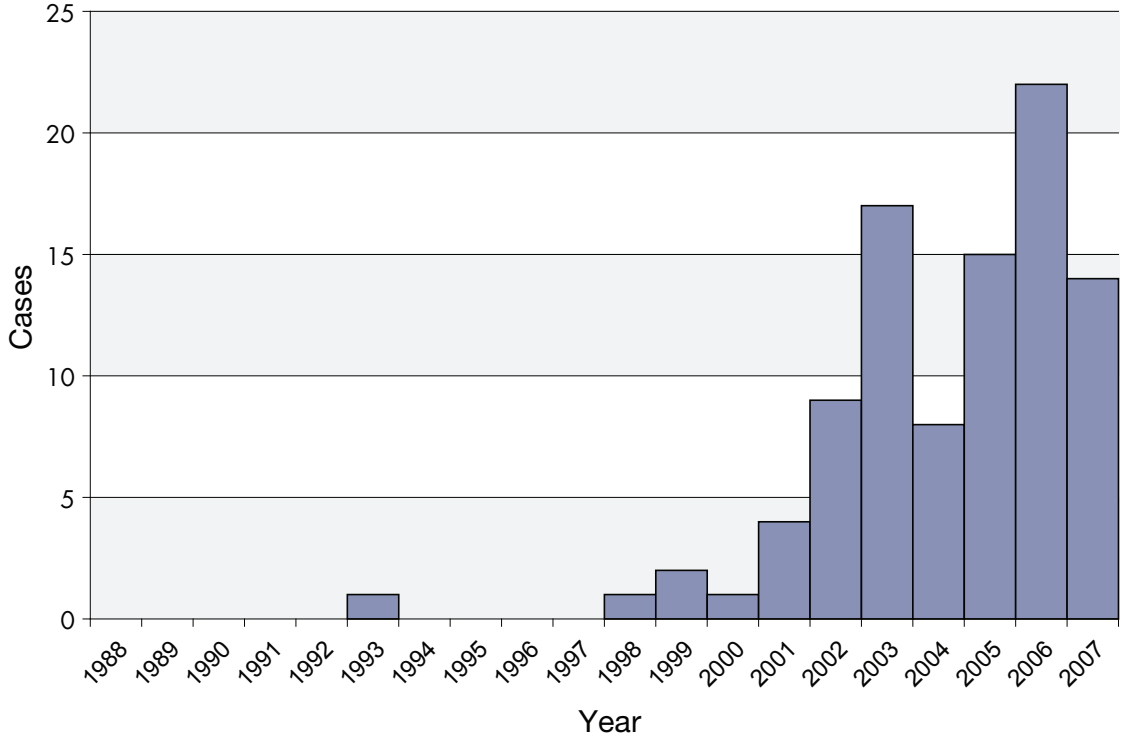
"Pontiac Fever," a milder illness associated with *Legionella* bacteria, is characterized by fever and myalgias without pneumonia. It typically occurs a few hours to two days after exposure.

*Legionella* bacteria are found naturally in the environment, usually in water, and grow best in warm conditions such as hot tubs, cooling towers, hot water tanks, large plumbing systems, or the air-conditioning systems of large buildings. Person-to-person transmission does not occur.

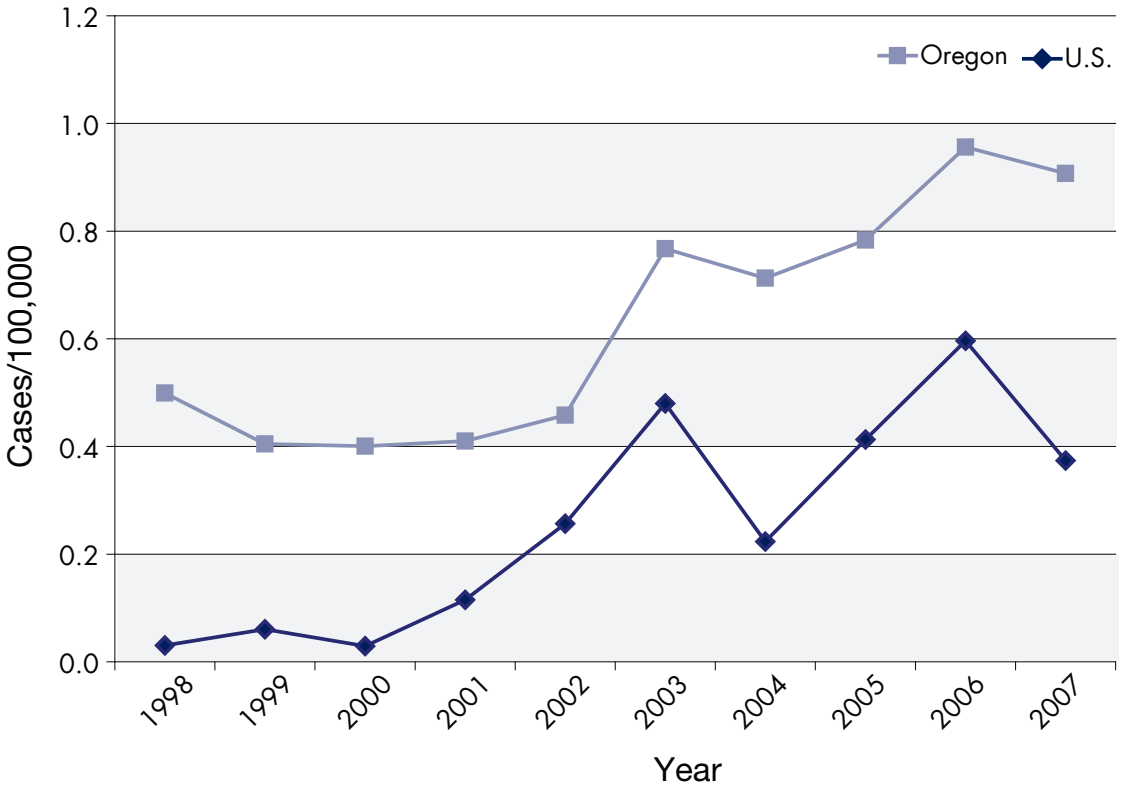
Risks for infection include older age, smoking, chronic lung disease (like emphysema), renal insufficiency, diabetes and immune deficiency. Death occurs in 10% to 15% of cases: a substantially higher proportion of fatal cases occur during nosocomial outbreaks.

Legionellosis became officially reportable in Oregon in 2001. In 2007, 14 cases of legionellosis were reported among Oregonians. All 14 cases were hospitalized and one died.

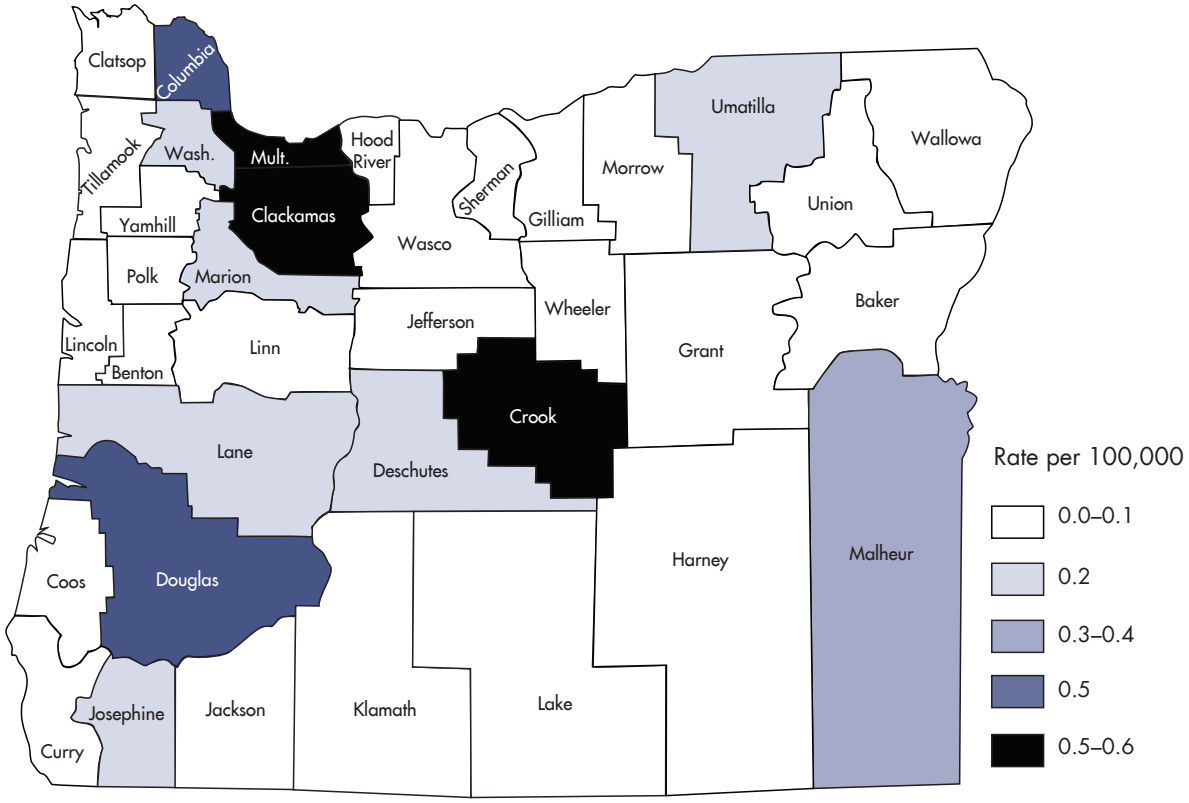
Legionellosis by year: Oregon, 1988–2007




Incidence of legionellosis: Oregon vs. nationwide, 1998–2007



## Incidence of legionellosis by county of residence: Oregon, 1998–2007



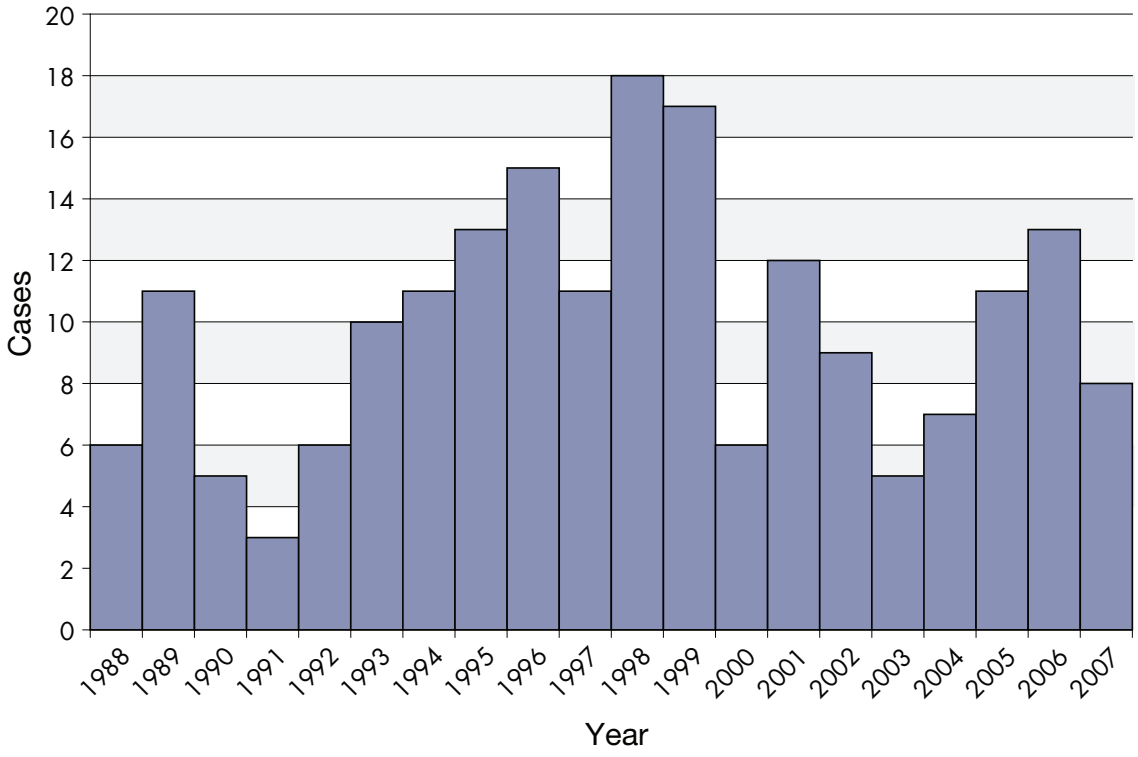
## Listeriosis

Listeriosis is a bacterial infection that may present as influenza-like illness with high fever, headache and myalgias; as a gastrointestinal illness; or as an invasive disease with sepsis or meningitis. In pregnant women, listeriosis may cause miscarriages or stillbirths. The case fatality rate of invasive listeriosis is as high as 30% in infants infected prenatally and in non-pregnant adults.

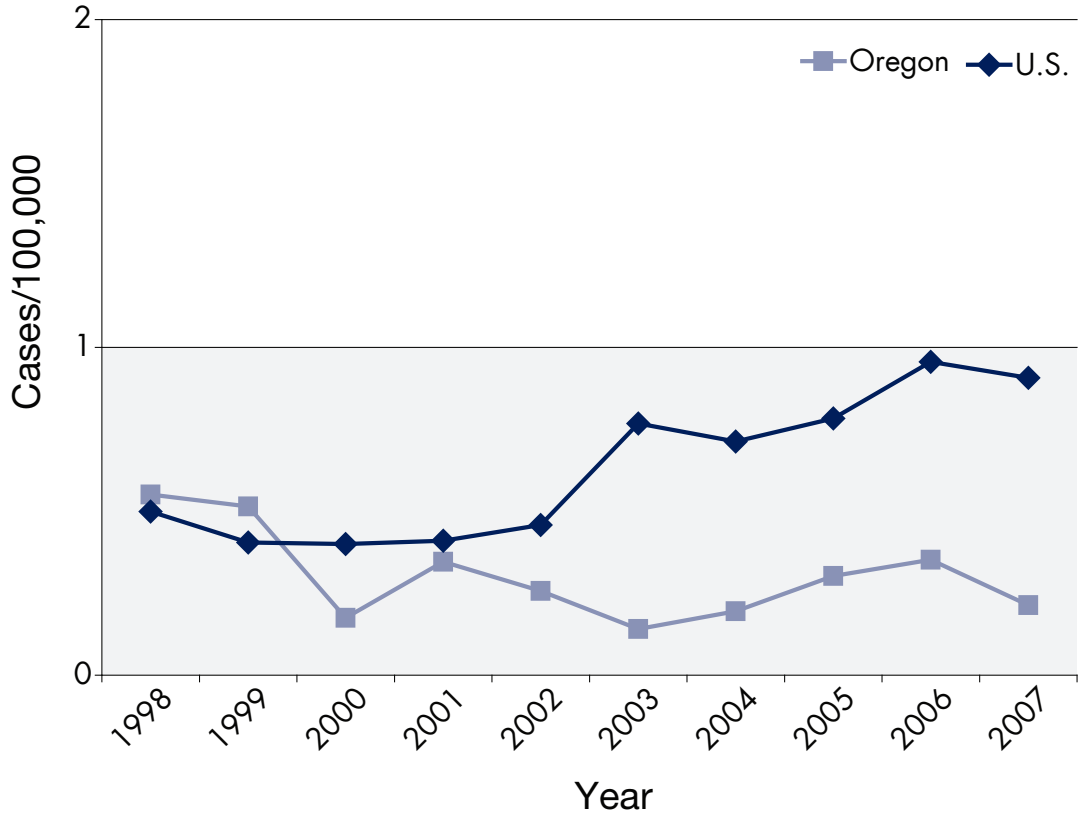
Most cases of listeriosis are sporadic rather than epidemic. However, several large outbreaks have been associated with consumption of contaminated foods. It is important to track the incidence of this disease to identify such outbreaks, as well as to identify high risk groups. The rate is higher among pregnant women, newborns, the elderly and immunocompromised persons. Cooking food properly is the most important means of prevention. When listerosis is diagnosed, treatment with antibiotics should be instituted promptly.

In 2007, eight cases were reported, a slight decrease from the 13 cases reported in 2006. No outbreak-related cases were reported.

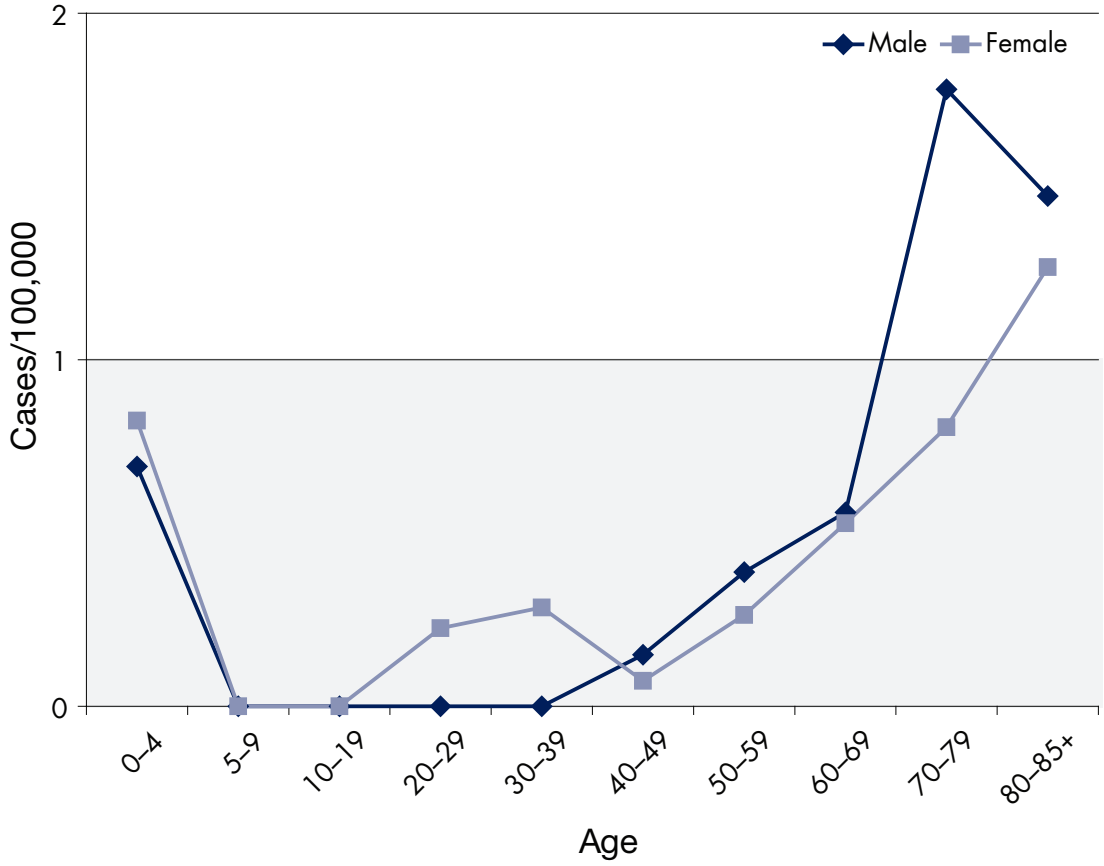
Listeriosis by year: Oregon, 1988–2007



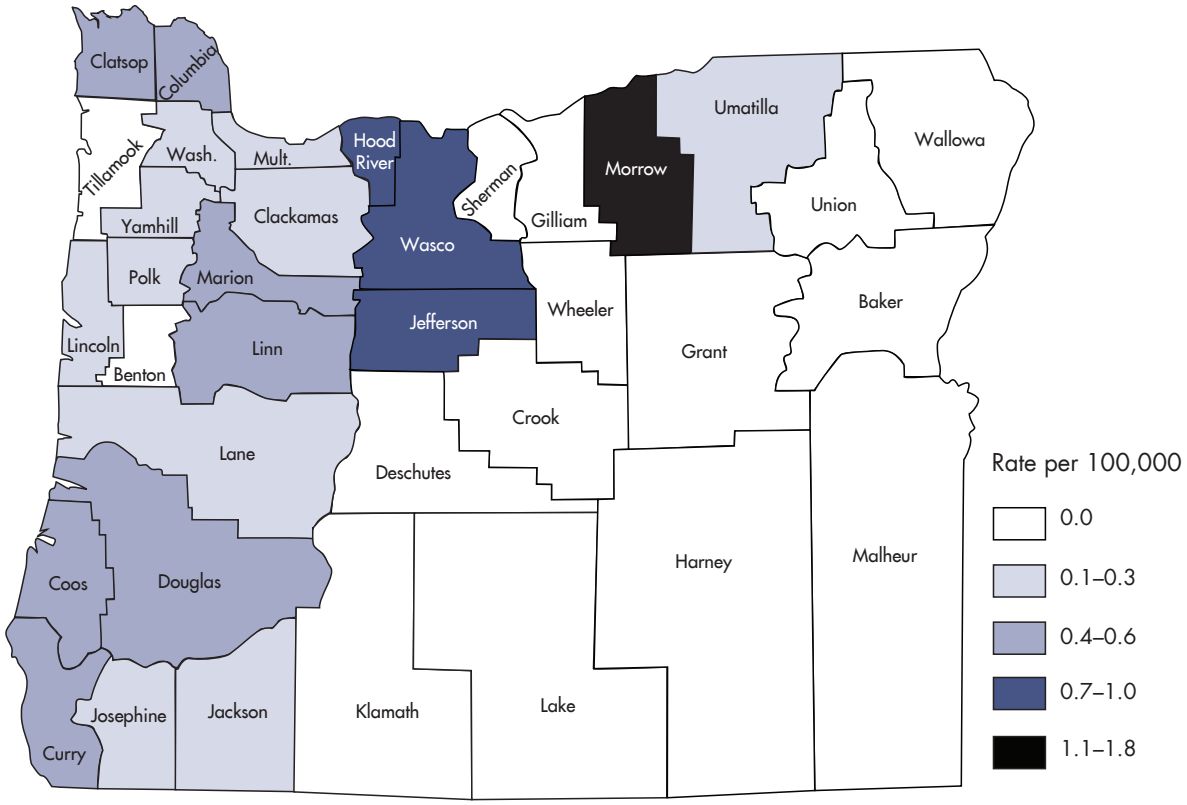
Incidence of listeriosis: Oregon vs. nationwide, 1998–2007




Incidence of listeriosis by age and sex: Oregon, 1998–2007



## Incidence of listeriosis by county of residence: Oregon, 1998–2007



## Lyme disease

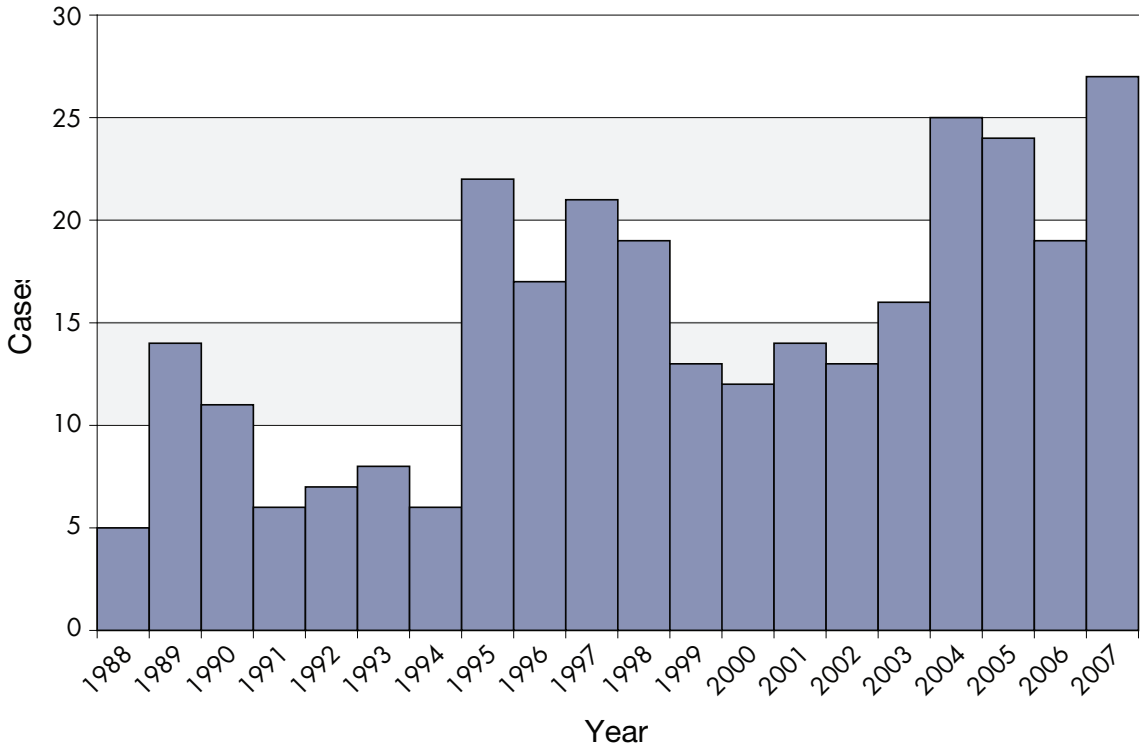
Lyme disease is a tick-borne zoonotic disease caused by the spirochete *Borrelia burgdorferi*. The first manifestation in about 60% of patients appears as a red macule or papule (bull's eye) that expands slowly in an annular manner, sometimes with multiple similar lesions. This distinctive skin lesion is called erythema migrans. The incubation period for Lyme disease ranges from three to 32 days after tick exposure; however, the early stages of the illness may be asymptomatic, and the patient may later develop systemic symptoms and rheumatologic, neurologic or cardiac involvement in varying combinations over a period of months to years.

Currently, increasing recognition of the disease is redefining enzootic areas for *B. burgdorferi*; Lyme disease cases have been reported in 47 states, and in Ontario and British Columbia, Canada. Elsewhere, related borrelioses have been found in Europe, the former Soviet Union, China and Japan.

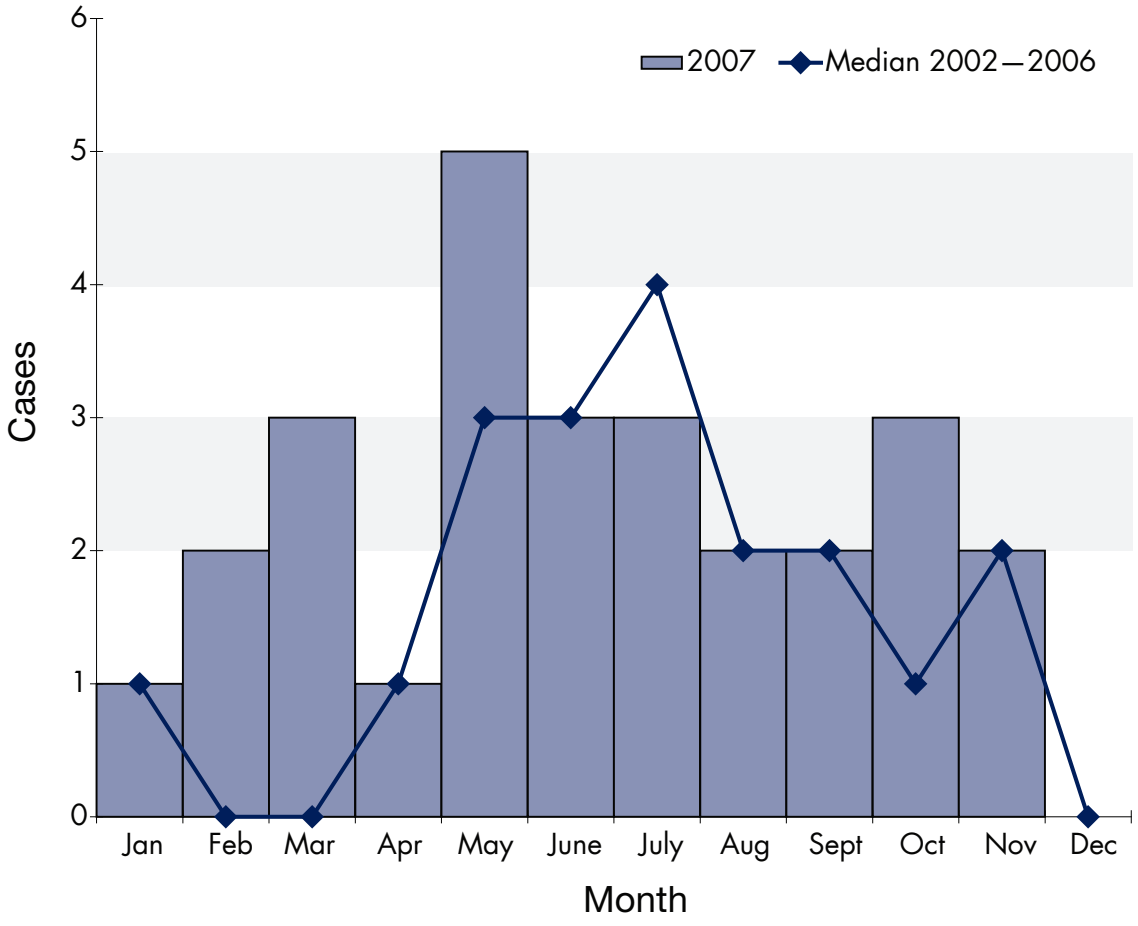
In 1997–1998, a tick identification and *Borrelia* isolation study was conducted by the Centers for Disease Control and Prevention and the Oregon Department of Human Services in Deschutes, Josephine and Jackson counties. No ticks from Deschutes County were identified as carrying *Borrelia* in this study. The organism was isolated in 3.5% of *Ixodes pacificus* ticks tested.

During 2007, 27 cases were reported in Oregon, a 20-year high. The median age was 41 years. Eighteen cases (66%) were female. Unlike prior years where case counts were highest in the summer months, cases in 2007 occurred year-round with a peak of five in May.

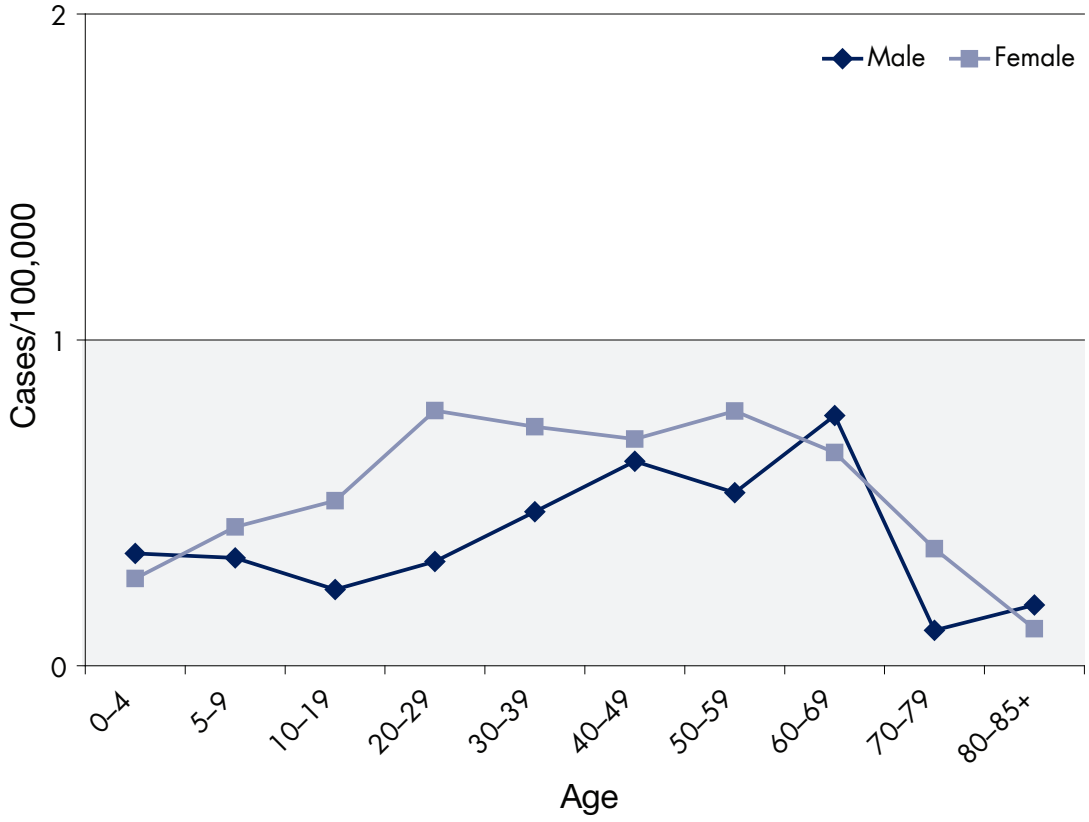
Lyme disease by year: Oregon, 1988–2007



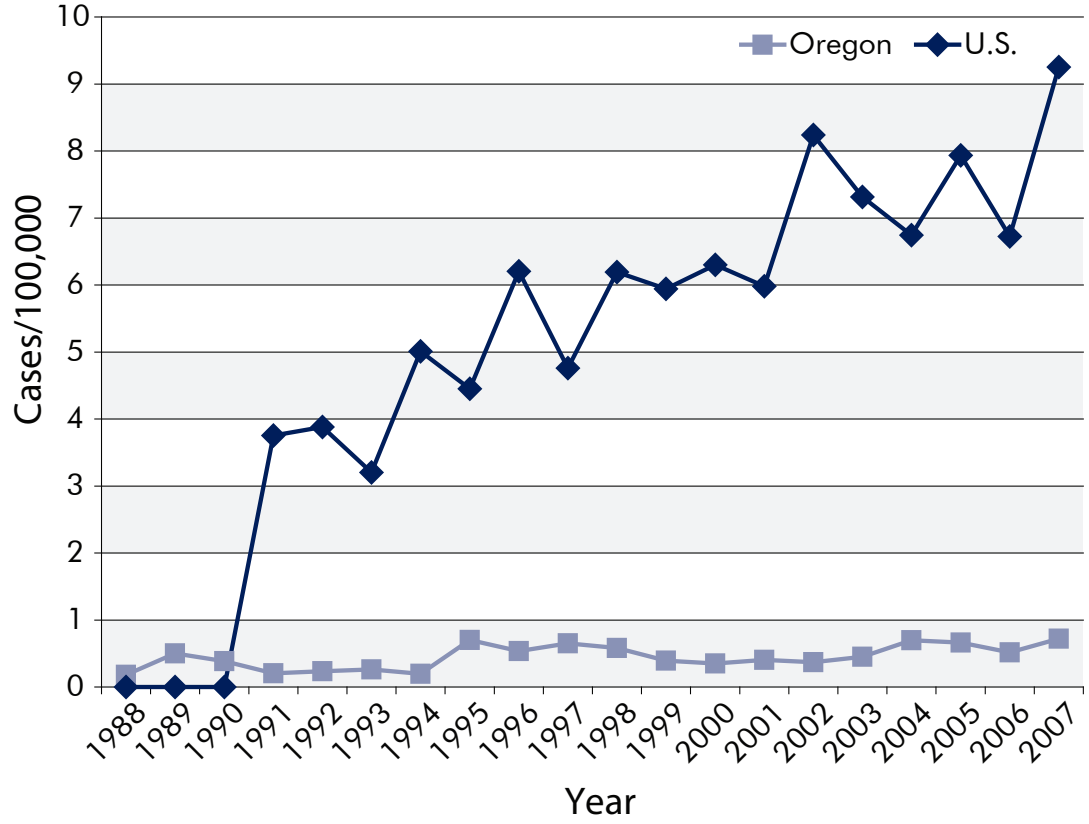

Lyme disease by onset month: Oregon, 2007



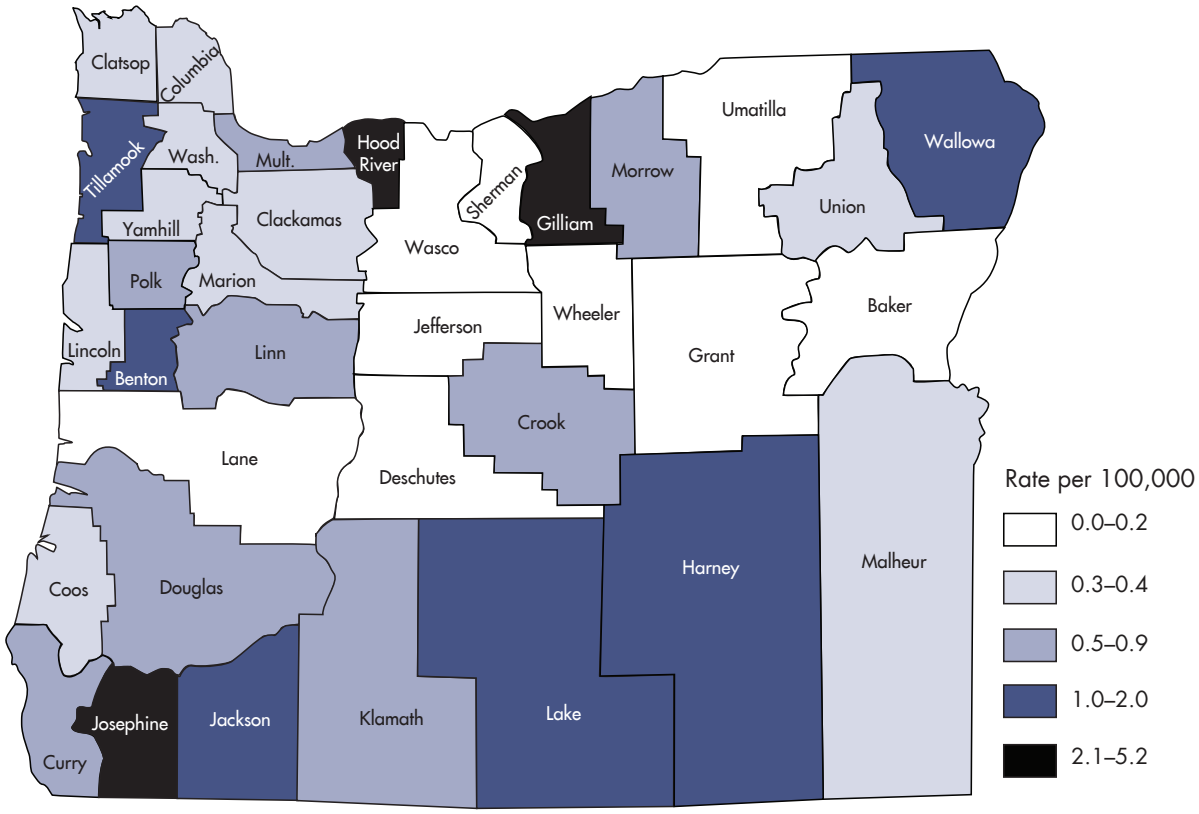
Incidence of Lyme disease by age and sex: Oregon, 1998–2007




Incidence of Lyme disease: Oregon vs. nationwide, 1988–2007



## Incidence of Lyme disease by county of residence*: Oregon, 1998–2007

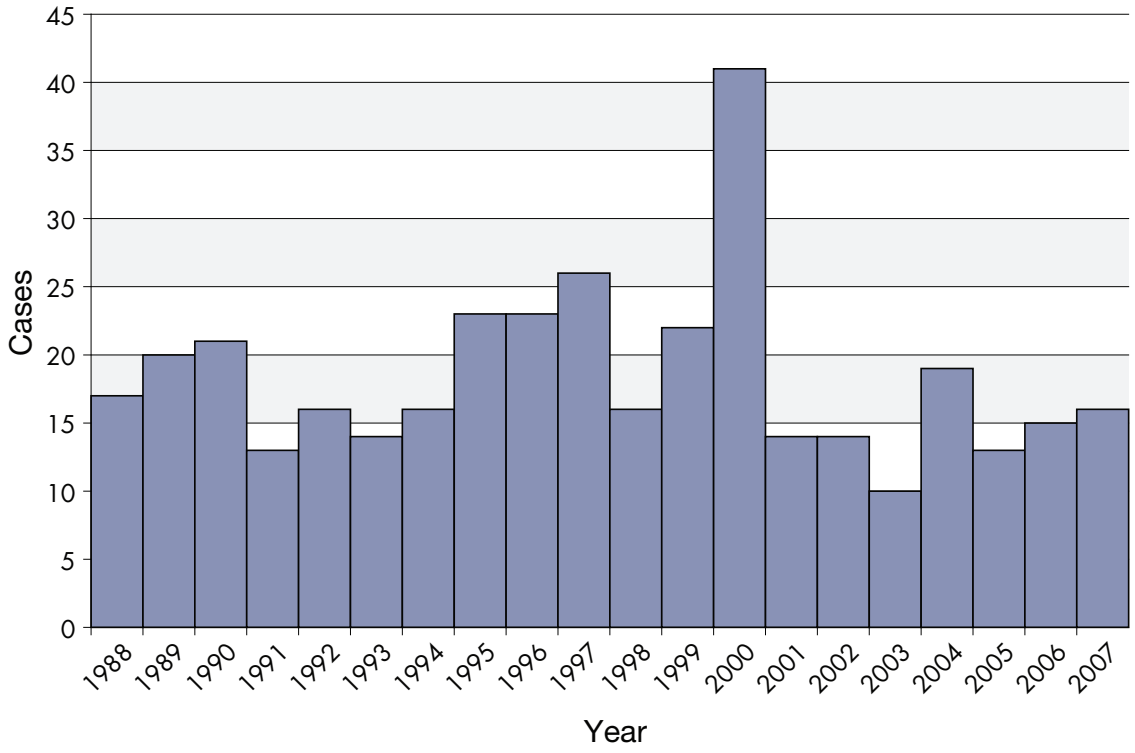



*Not necessarily county of acquisition

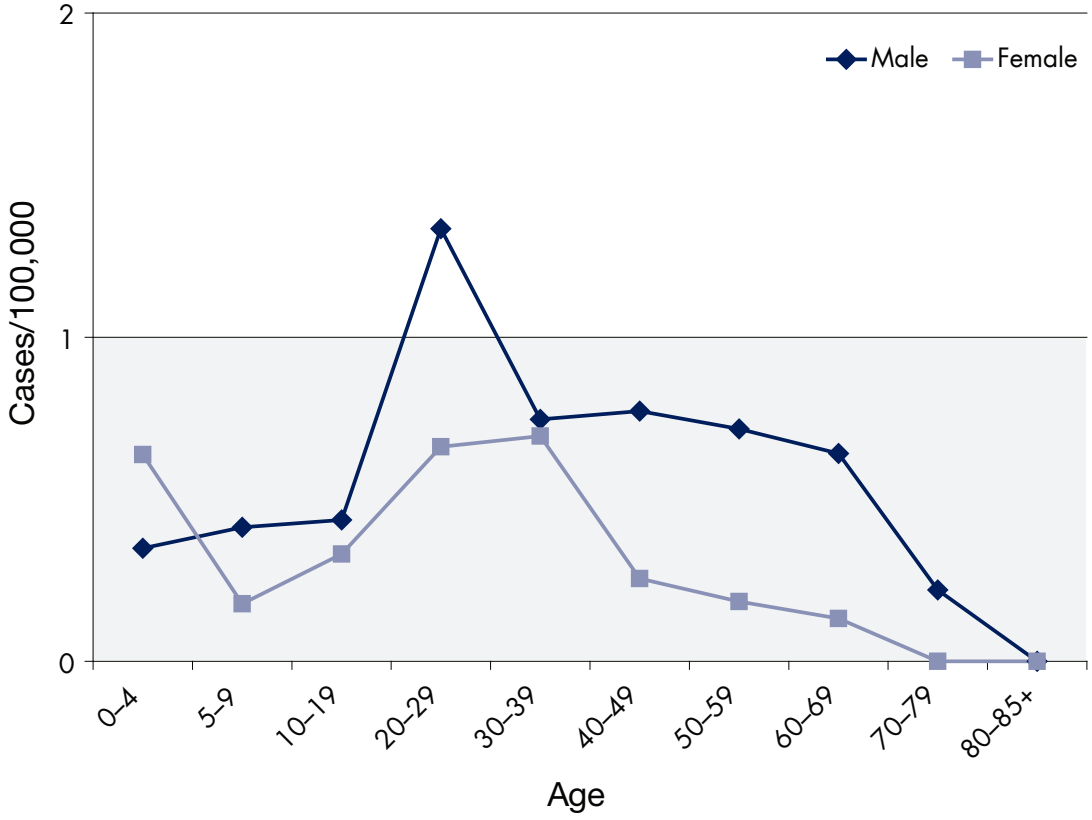
## Malaria

Worldwide, malaria is one of the most devastating of the communicable diseases, causing perhaps 1 million to 2 million deaths annually, not to mention an enormous burden of disability and medical costs. While transmission has not been documented in Oregon for decades, malaria is reported every year; all cases have resulted from exposures outside the United States. Competent anopheline mosquitoes are resident in Oregon, so limited local transmission remains a theoretical possibility. Oregon rates are similar to the national average. Oregon surveillance data contributes to the national database, which is used to tailor recommendations for prophylaxis and treatment. *Plasmodium falciparum* (the most severe of the four human parasite species) was the most commonly reported flavor in 2007.

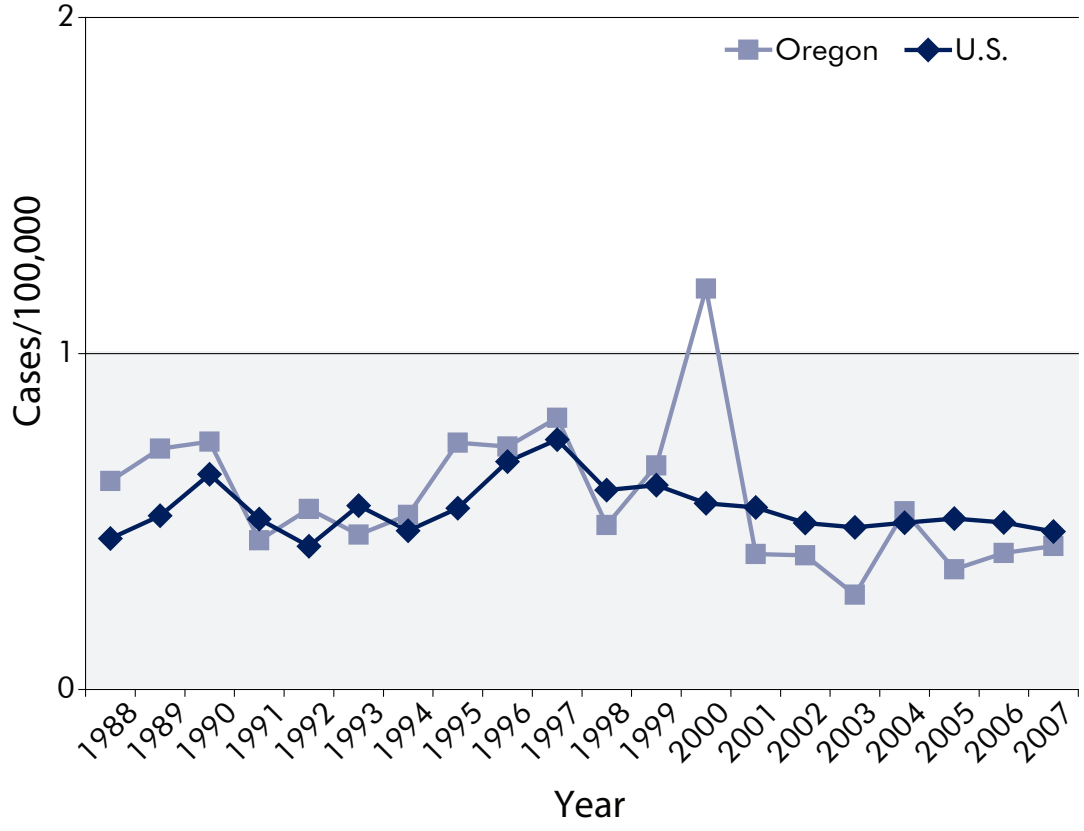
Malaria by year: Oregon, 1988–2007



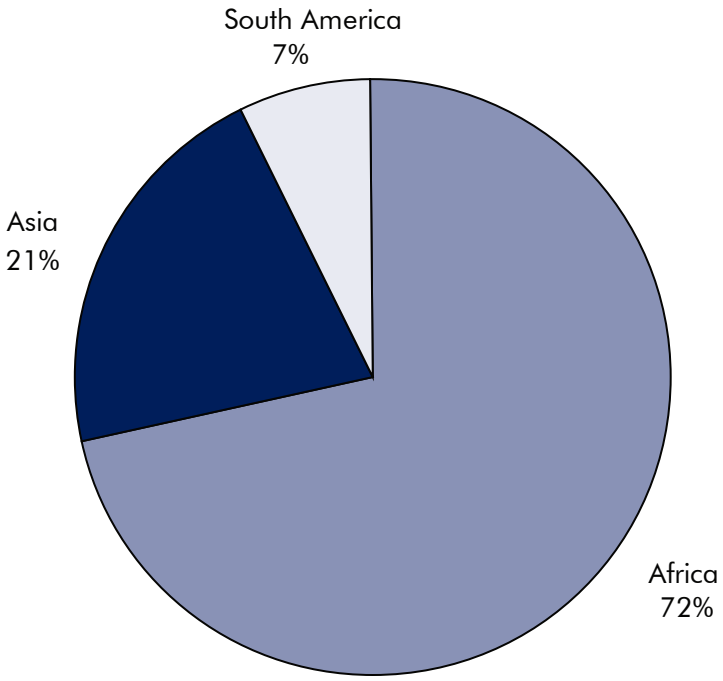
Incidence of malaria by age and sex: Oregon, 1998–2007




Incidence of malaria: Oregon vs. nationwide, 1988–2007



Malaria cases by continent of acquisition: Oregon, 2007



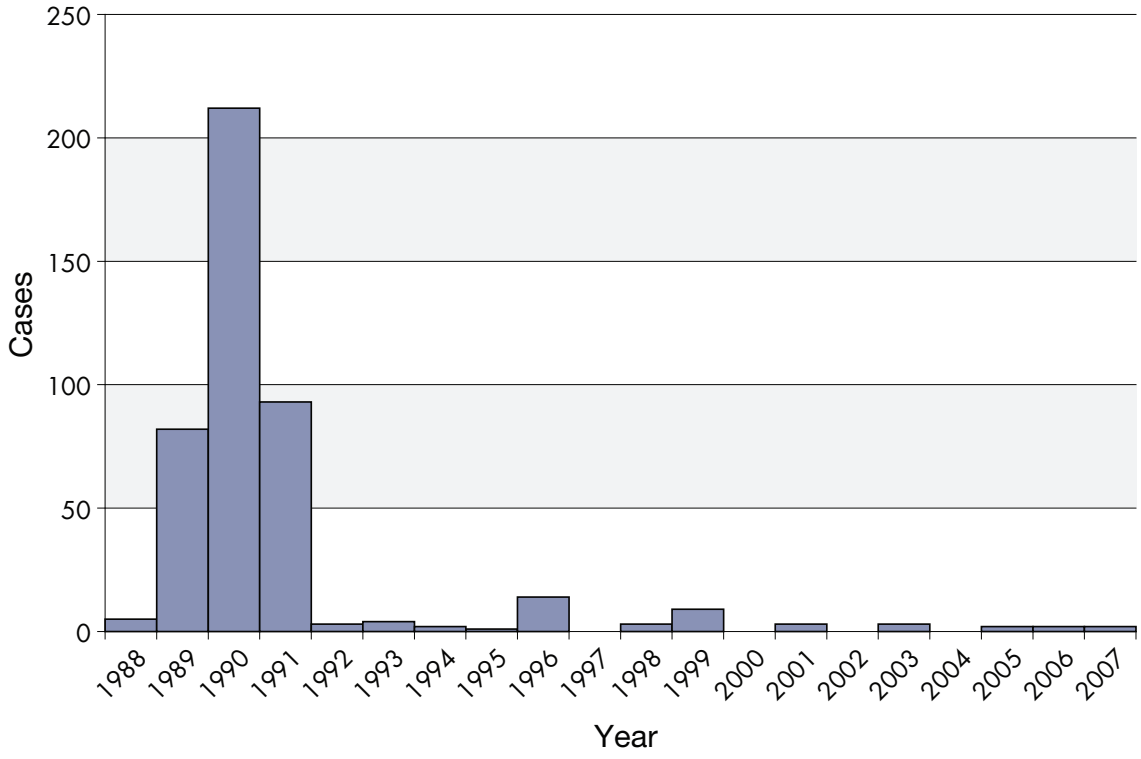
## Measles

Measles is an acute, highly communicable viral illness known for its red, blotchy rash that starts on the face and then becomes generalized. The rash is preceded by a febrile prodrome that includes cough, coryza and conjunctivitis, and sometimes photophobia and Koplik spots. Diagnosis is confirmed by the presence of serum IgM antibodies (in a patient who has not recently been immunized).

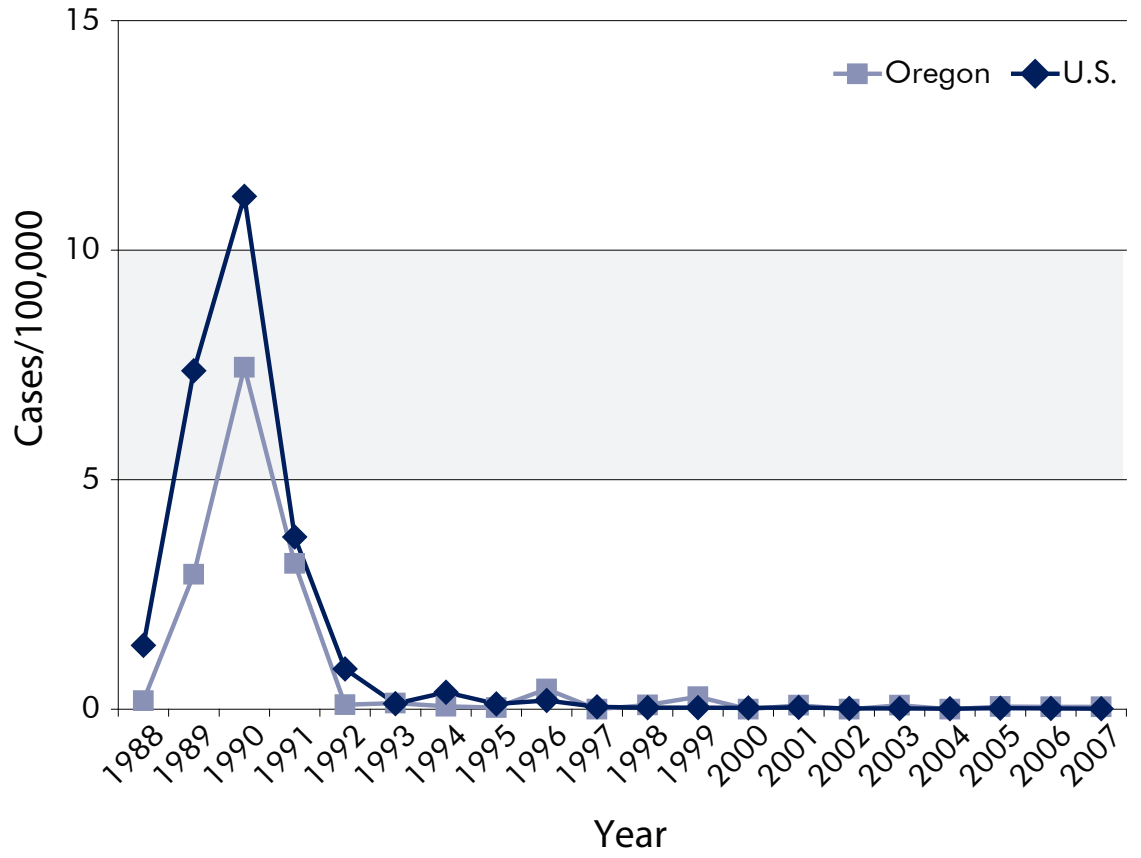
During 1989–1991, a major resurgence of measles occurred in the United States. More than 55,000 cases and greater than 120 measles-related deaths were reported. The resurgence was characterized by an increasing proportion of cases among unvaccinated preschool-aged children. A focus on increasing vaccination among preschool children by following the 1989 recommendation for two doses of MMR vaccine resulted in a dramatic reduction in illness.

Measles is no longer endemic in the United States. However, cases are occasionally imported; in 2007, a case was diagnosed in a person who traveled to Japan. A close contact of this case resulted in an indigenous case. Though measles is highly infectious, the risk of exposure to measles in Oregon remains low. Sustaining high levels of vaccination is important to limit the spread of measles from imported cases and to prevent it from becoming re-established as an endemic disease in the United States.

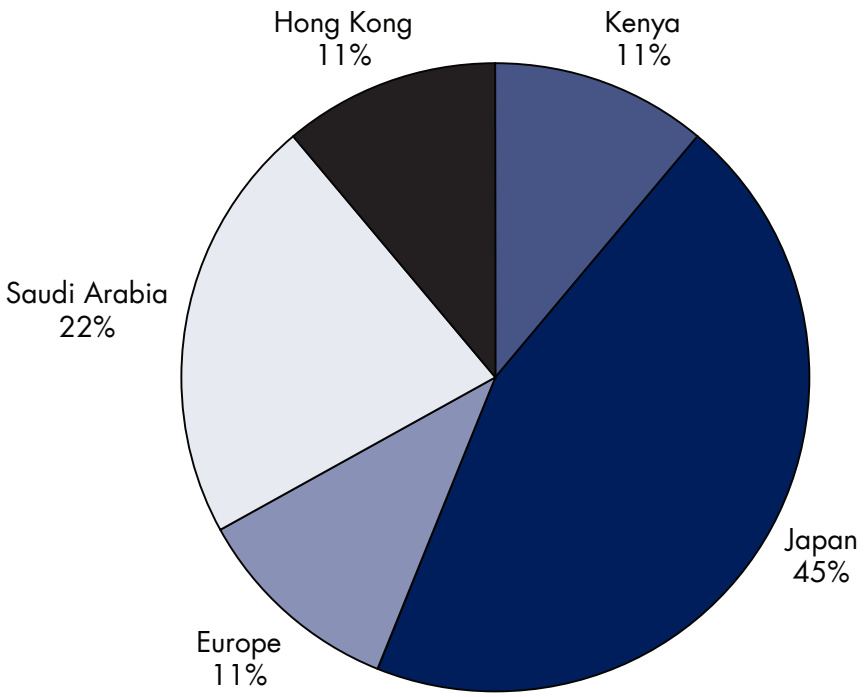
Measles by year: Oregon, 1988–2007




Incidence of measles: Oregon vs. nationwide, 1988–2007



Measles by country of importation: 1998–2007

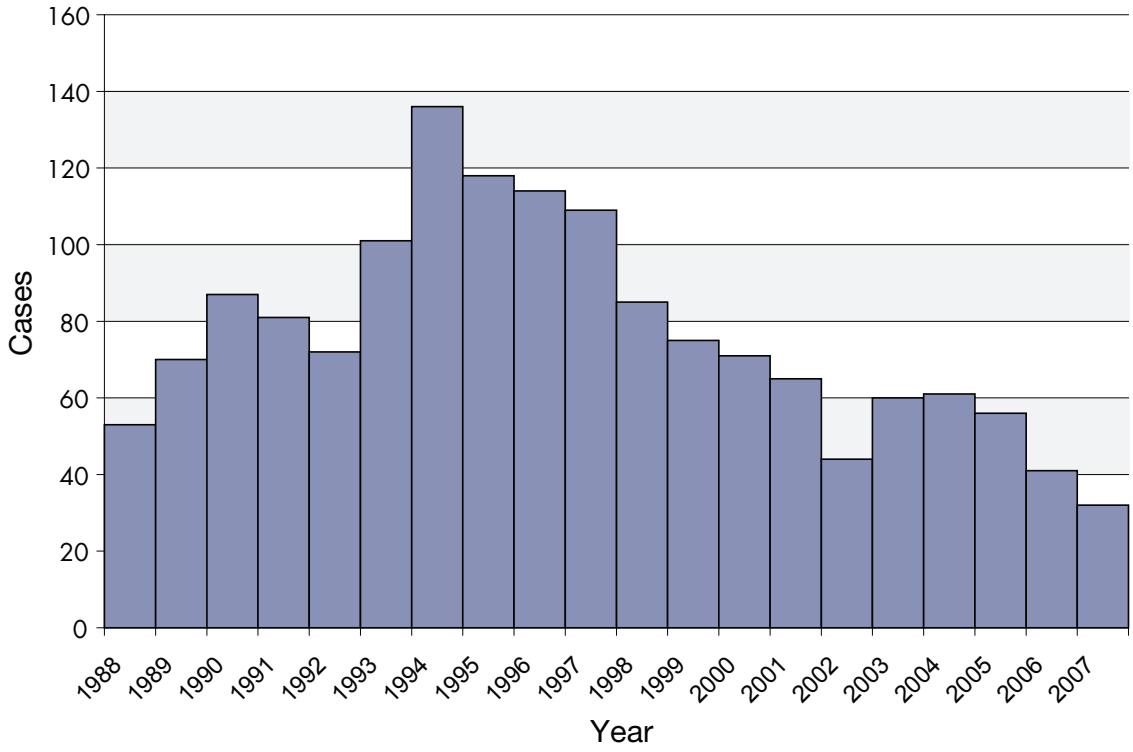


## Meningococcal disease

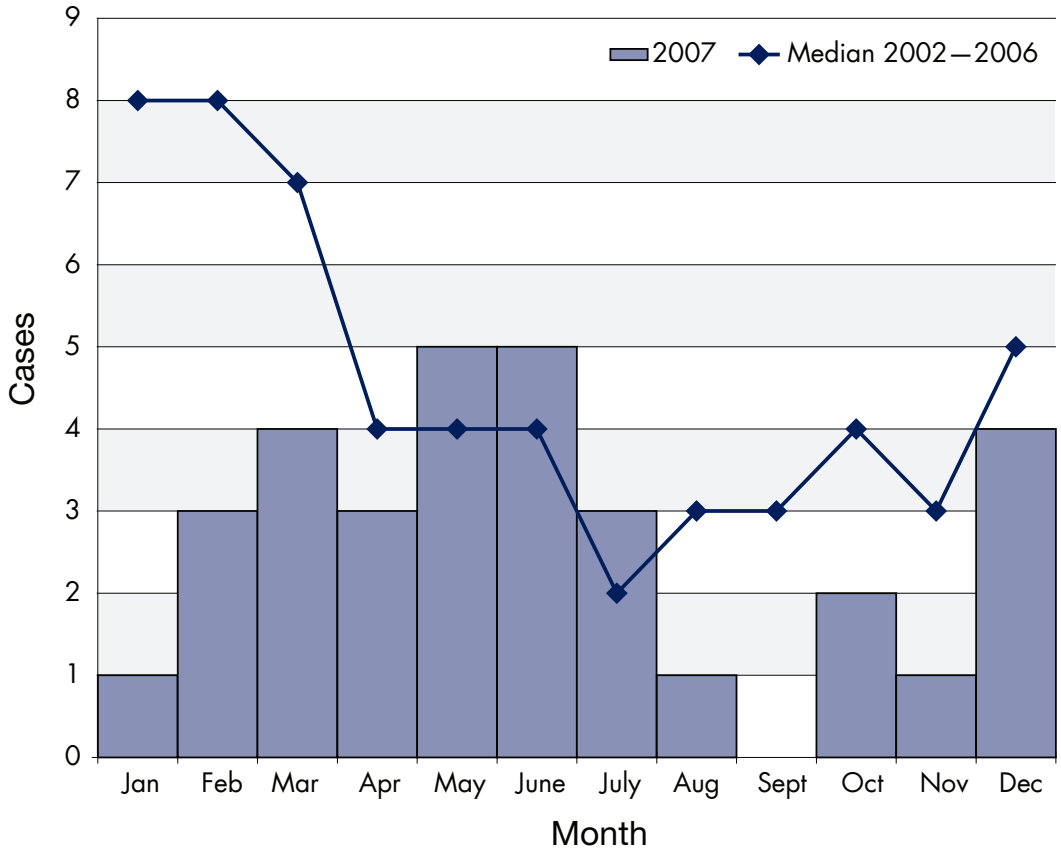
Reported cases of invasive meningococcal infections, including sepsis and meningitis, have declined from the hyperendemic levels seen in 1993–1997 to those observed prior to the advent of the enzyme-type 5 (ET5) strain of serogroup B. Respiratory secretions and droplets continue to be shared among Oregonians and predispose secondary cases.

In 2007, 32 cases of meningococcal disease were reported, at least a 20-year low. Though Oregon's trend is one of decline, we do continue to have higher rates than the nation. In 2007, the highest majority (53%) of illness in Oregon was once again caused by serogroup B organisms. December through March shows an increase in meningococcal activity, with the highest rates of disease occurring among infants. Higher rates are also seen in those aged 10–19 years and in persons more than 70 years of age. Though a new conjugate vaccine (Menectra) for adolescents and young adults was licensed in 2006, this vaccine does not protect against serogroup B disease.

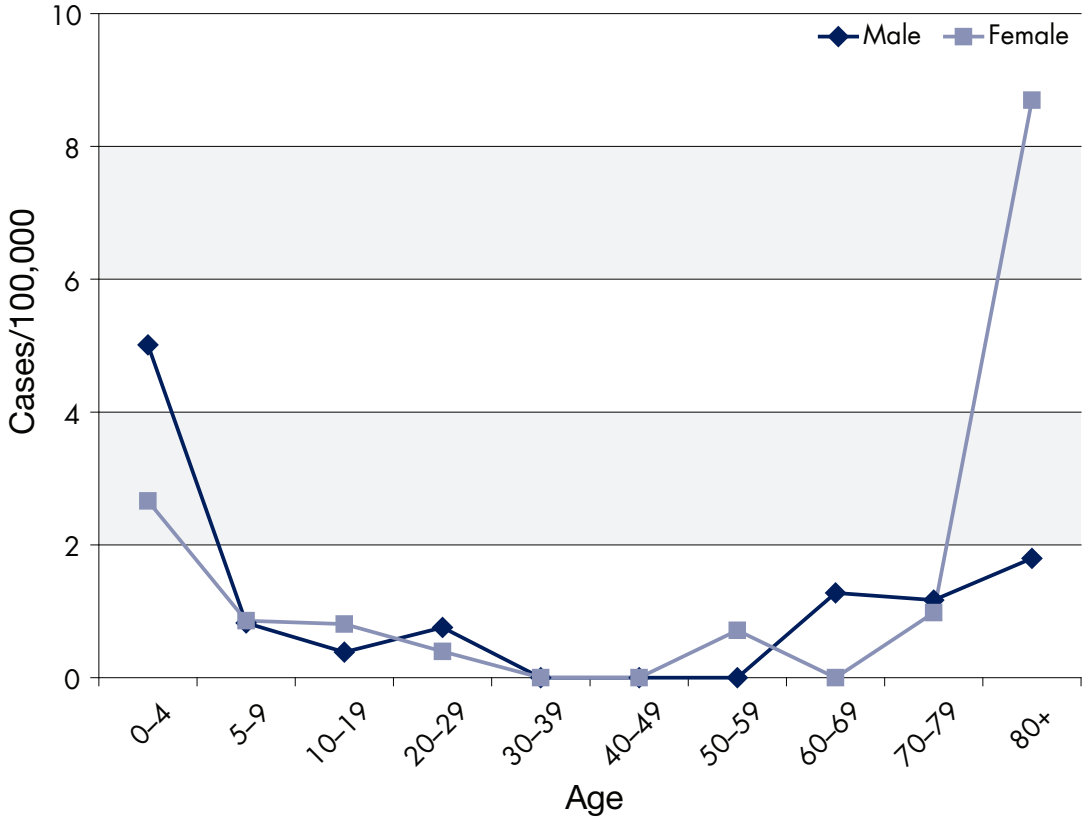
Meningococcal disease by year: Oregon, 1988–2007



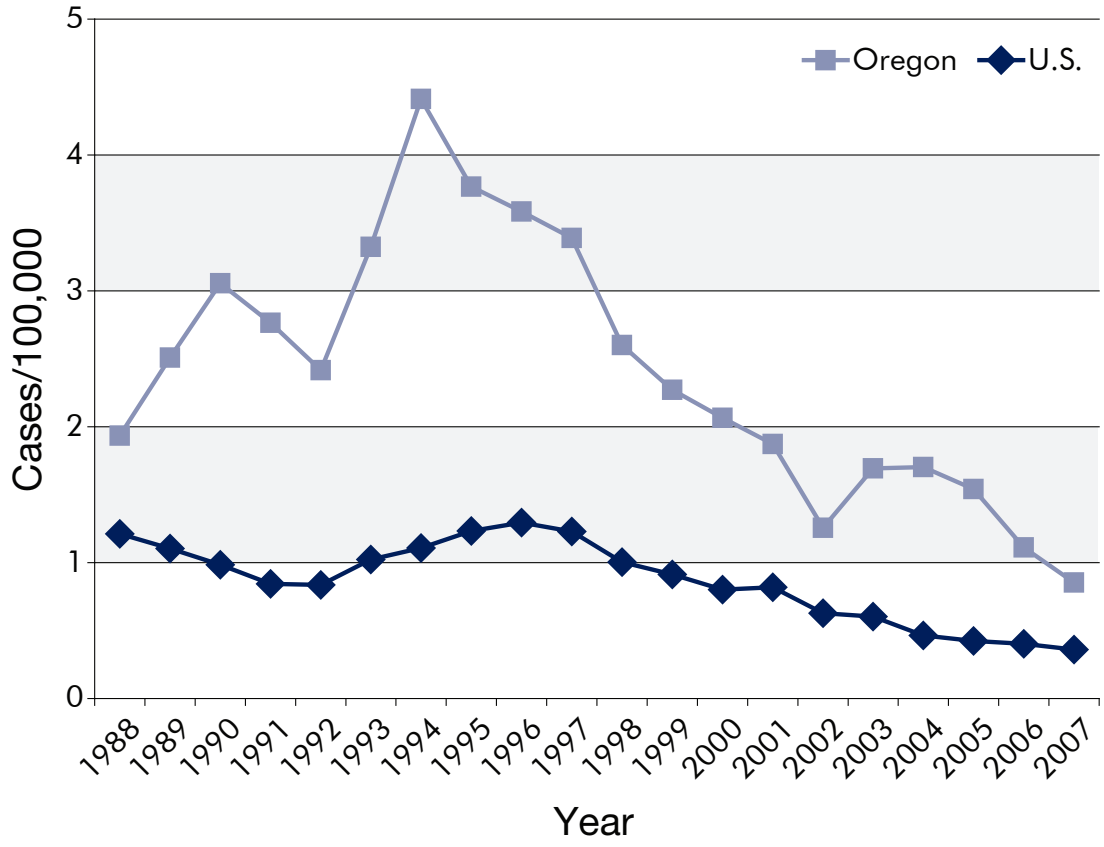
Meningococcal disease by onset month: Oregon, 2007



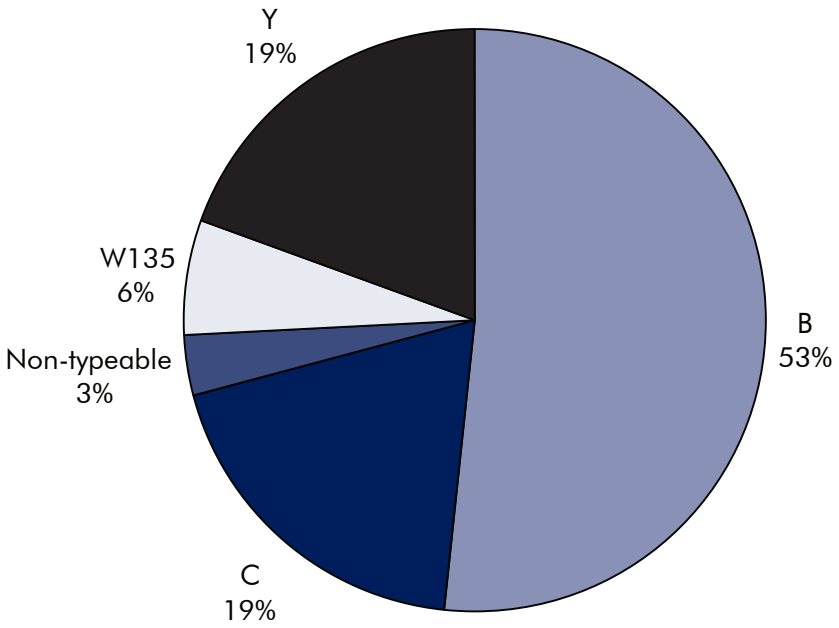

Incidence of meningococcal disease by age and sex: Oregon, 2007



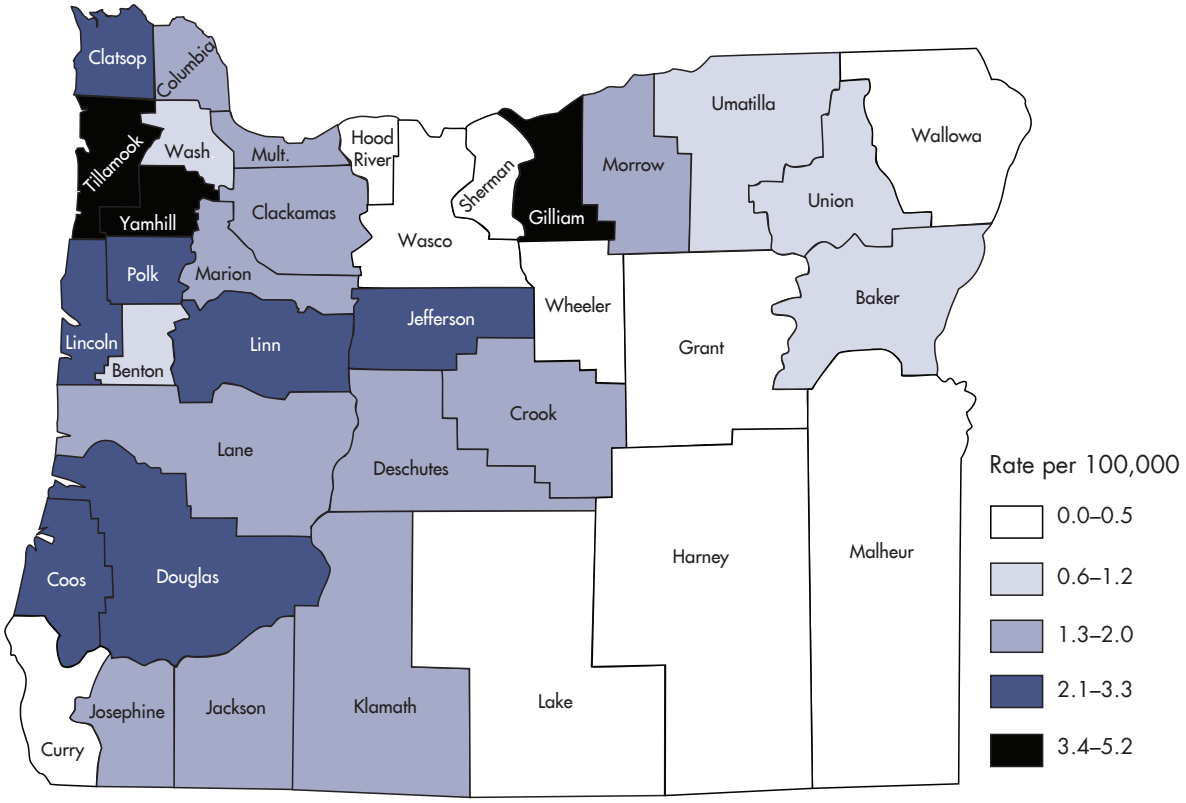
Incidence of meningococcal disease: Oregon vs. nationwide, 1988–2007




Meningococcal disease by serogroup: Oregon, 2007



Incidence of meningococcal disease by county of residence: Oregon, 1998–2007



## Mumps

Mumps is an acute viral illness characterized by fever and swelling of the salivary glands, typically the parotids. Transmission is generally airborne through respiratory droplets or through direct contact with nasal secretions.

Reporting of this vaccine-preventable viral infection was discontinued in Oregon in 1981. Once an almost universal childhood infection, mumps incidence decreased in the United States with routine childhood vaccination. Mumps reporting was re-established in Oregon July 1, 2006, prompted by outbreaks of illness among both vaccinated and unvaccinated persons. One case of mumps was reported in 2007.

Because as many as 20% of mumps infections are asymptomatic, and nearly 50% are associated with non-specific or primarily respiratory symptoms (with or without parotitis), mumps infections are significantly underreported.

In response to the 2006 nationwide mumps outbreak, the Advisory Committee on Immunization Practices (ACIP) updated its recommendations for prevention and control of mumps, with vaccination remaining the cornerstone of prevention.

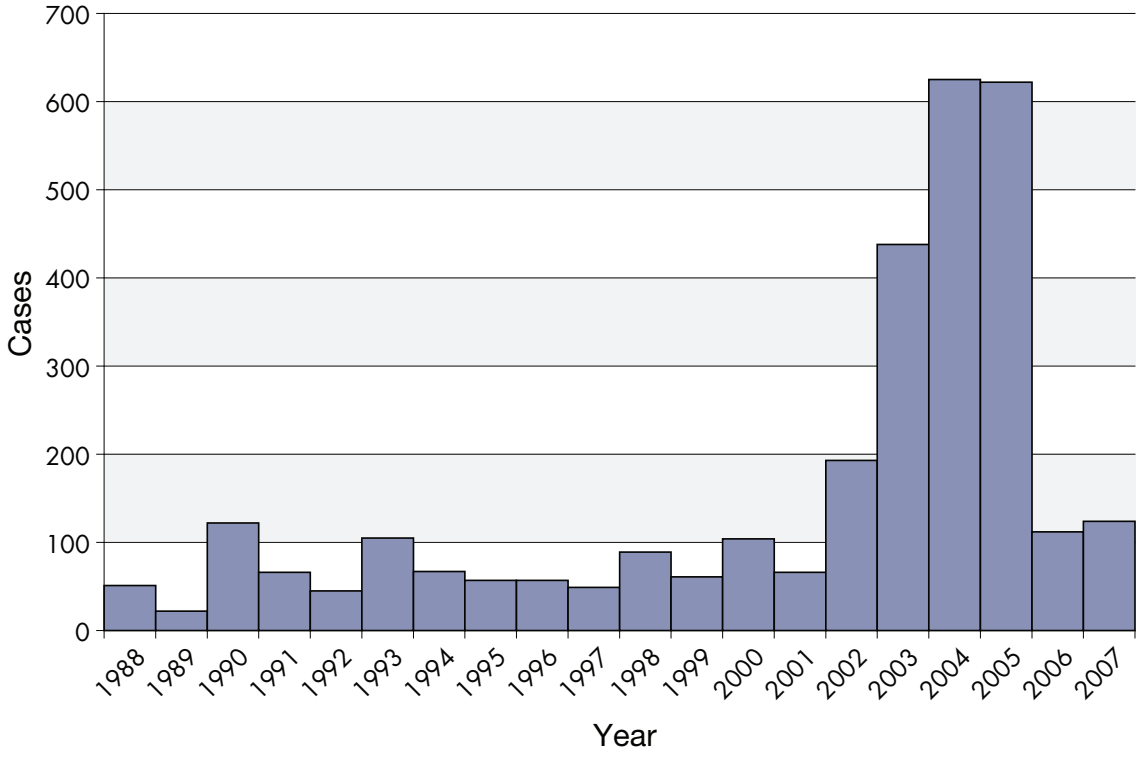
## Pertussis

Pertussis is a highly contagious acute bacterial infection of the respiratory tract attributable to *Bordetella pertussis*. It is transmitted from person to person through contact with respiratory secretions (droplet transmission). Illness presents as an irritating cough that gradually becomes paroxysmal, and more than 50% of cases develop the characteristic inspiratory "whoop." In 2004, reported cases reached the highest level since 1959. Although down considerably from levels seen in 2004 and 2005, case counts were up from 2006 and pertussis transmission continued in 2007. Because pertussis often goes undiagnosed in adolescents and adults, it is likely that the actual number of cases greatly exceeds the number reported.

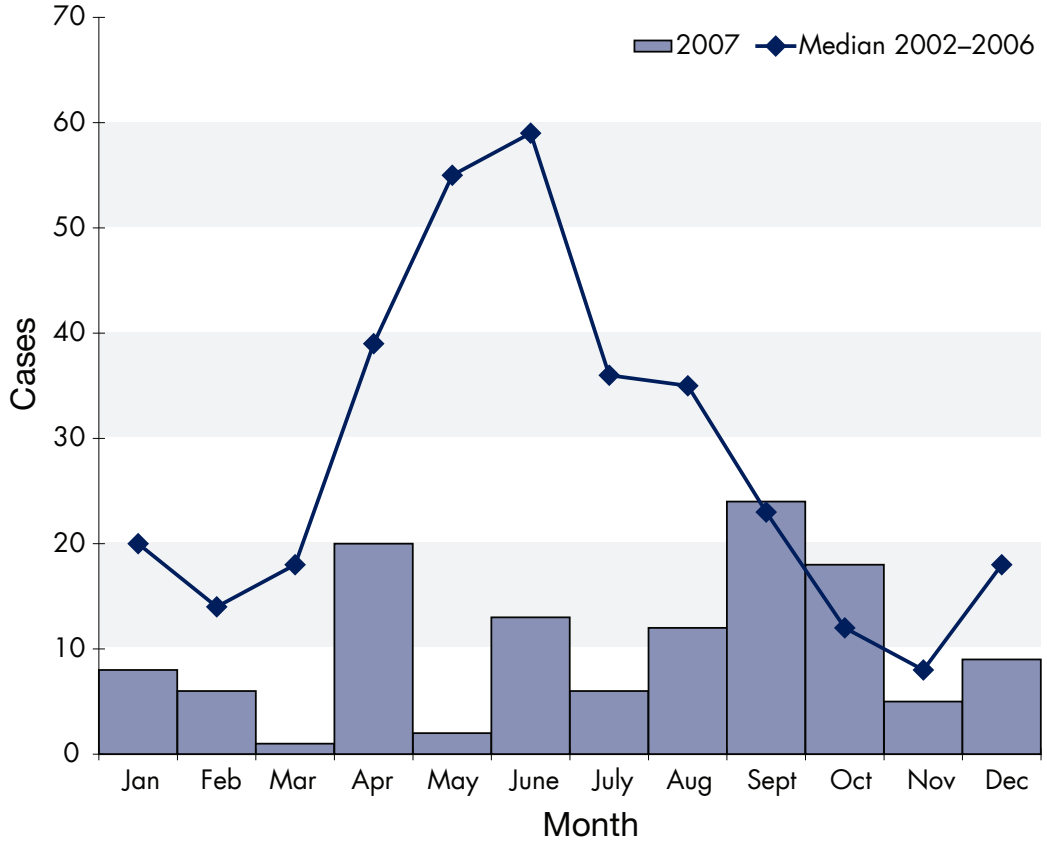
In Oregon, most hospitalizations and all deaths from pertussis are reported in infants less than 6 months of age, but substantial morbidity occurs in other age groups. Adolescents, included in the 10 to 19-year-old group, have high documented rates, and Oregon has seen a number of large and disruptive outbreaks among middle school and high school students. Pertussis vaccine, available for adolescents and adults as Tdap, should provide some immunity to the disease for all of us older kids. Health care workers in particular are encouraged to get a dose.



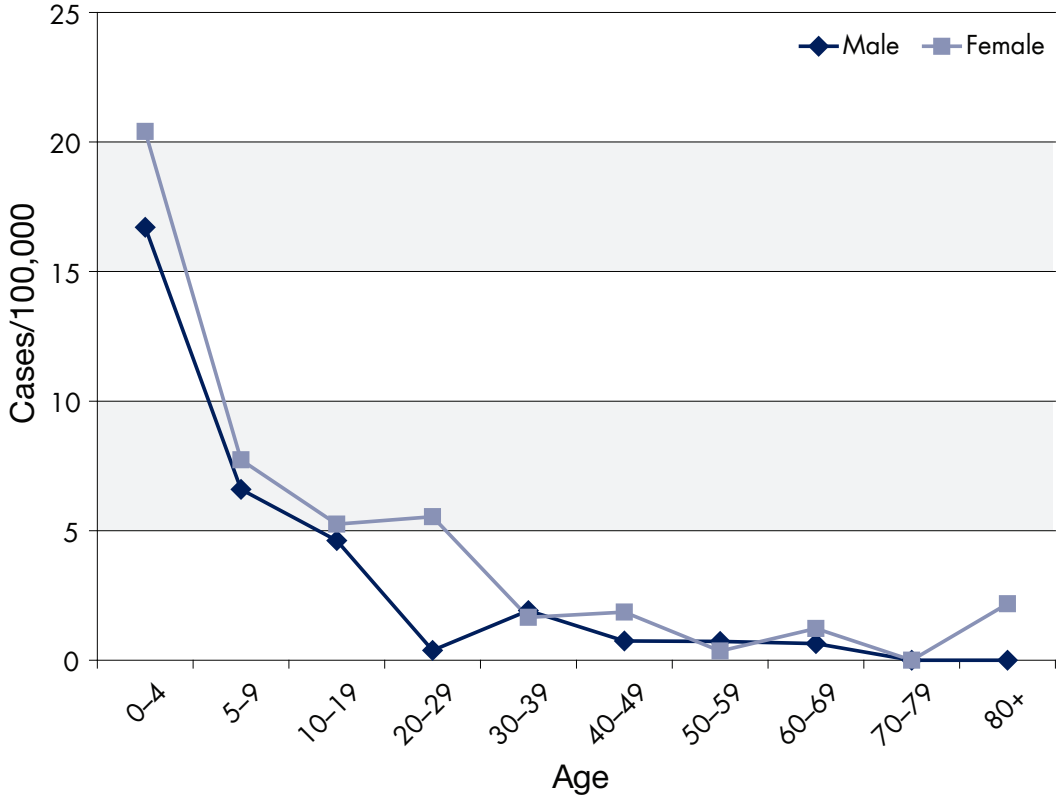
Pertussis by year: Oregon, 1988–2007



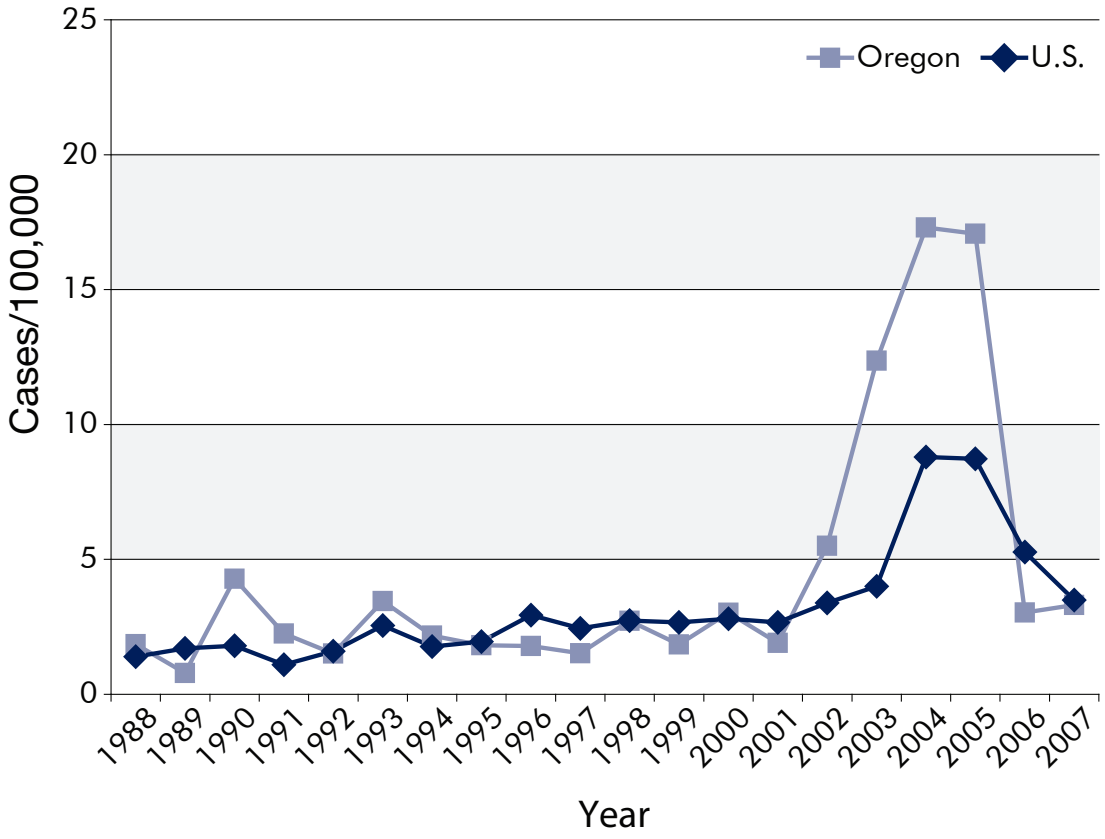
Pertussis by onset month: Oregon, 2007



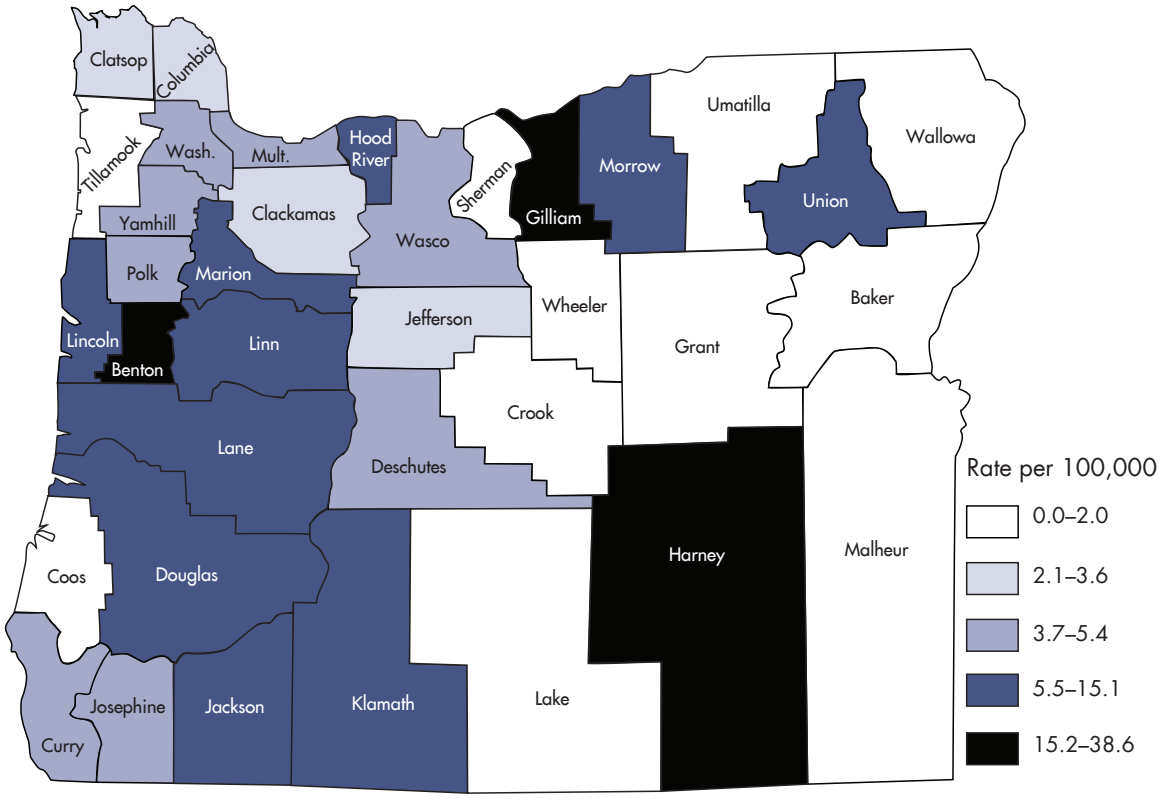

Incidence of pertussis by age and sex: Oregon, 2007



Incidence of pertussis: Oregon vs. nationwide, 1988–2007




Incidence of pertussis by county of residence: Oregon, 1998–2007



## Rabies

Rabies is an acute infection of the central nervous system caused by a neurotropic rhabdovirus of the genus *Lyssavirus*. All mammals, including humans, are susceptible to rabies. In humans, rabies causes a rapidly progressive and fatal encephalomyelitis. The incubation period in humans is usually two to 12 weeks, but there have been documented incubation periods as long as seven years. Bites from infected animals constitute the primary route of transmission. Transplanted organs including corneas from patients with undiagnosed rabies have also caused infection in recipients.

The Pacific Northwest is considered to be free of terrestrial rabies. In Oregon, the main reservoirs of rabies are bats and animals such as foxes and cats that may come in contact with rabid bats. An average of 10% of the bats tested in Oregon are positive for rabies. This is a targeted sample of bats that have bitten humans and animals. Bat contact and bat bites should be carefully evaluated in a timely manner. Twelve bats tested positive in 2007, down from a 20-year high of 23 rabid bats in 2006.

Oregon State Public Health Laboratories will test most human exposures and Oregon State University, Veterinary Diagnostic laboratory should test for animal-to-animal exposures. All potential human exposures should result in a call to a local public health department office.



Persons not previously immunized for rabies who are exposed to a rabid animal should obtain human rabies immune globulin (HRIG) infiltrated at the site of the bite and five doses of rabies vaccine, one each on days 0, 3, 7, 14 and 28.

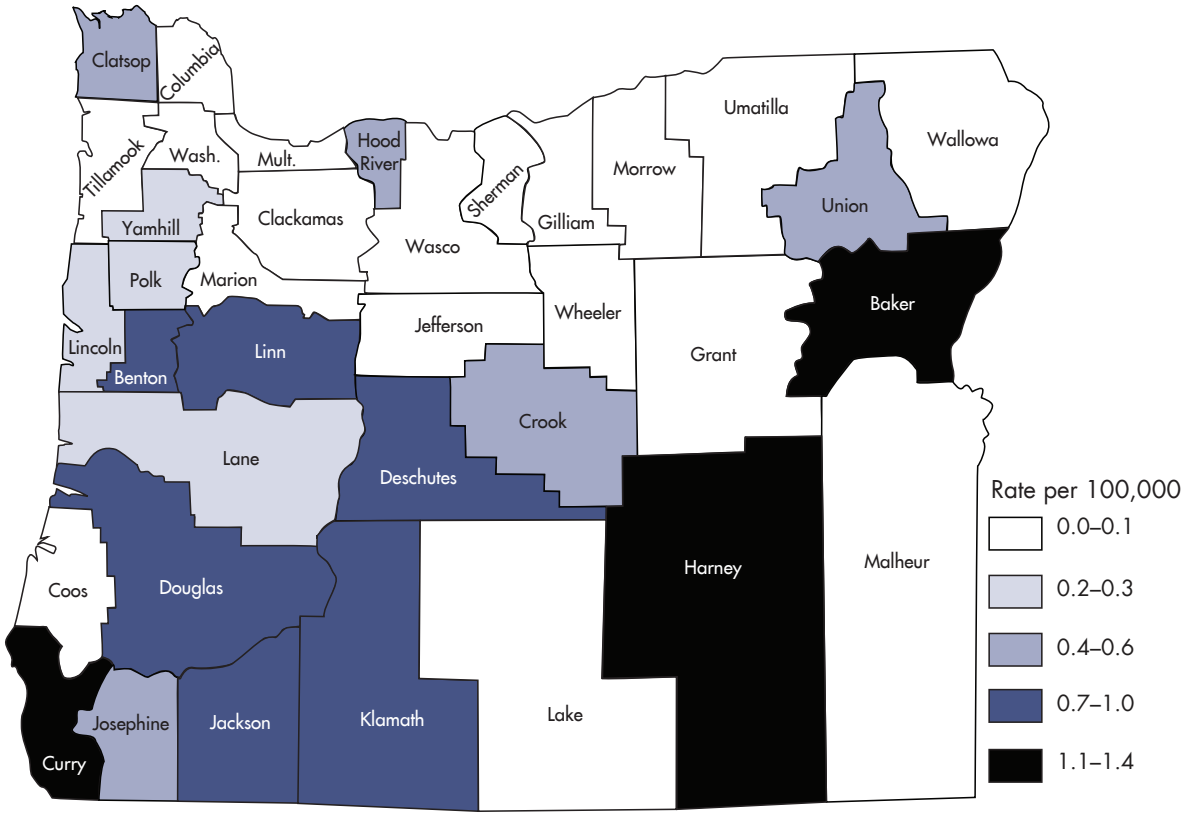
Though bats are the reservoir in Oregon, canine rabies still accounts for the majority of human rabies cases worldwide. Travelers to rabies-enzootic countries should be warned to seek immediate medical care if they are bitten by any mammal.

Additional information and an algorithm to follow for assessment of rabies risk are provided here. For a larger copy of this algorithm visit: www.oregon.gov/DHS/ph/acd/diseases/rabies/Visio-RabiesAlgorithm2_08.pdf

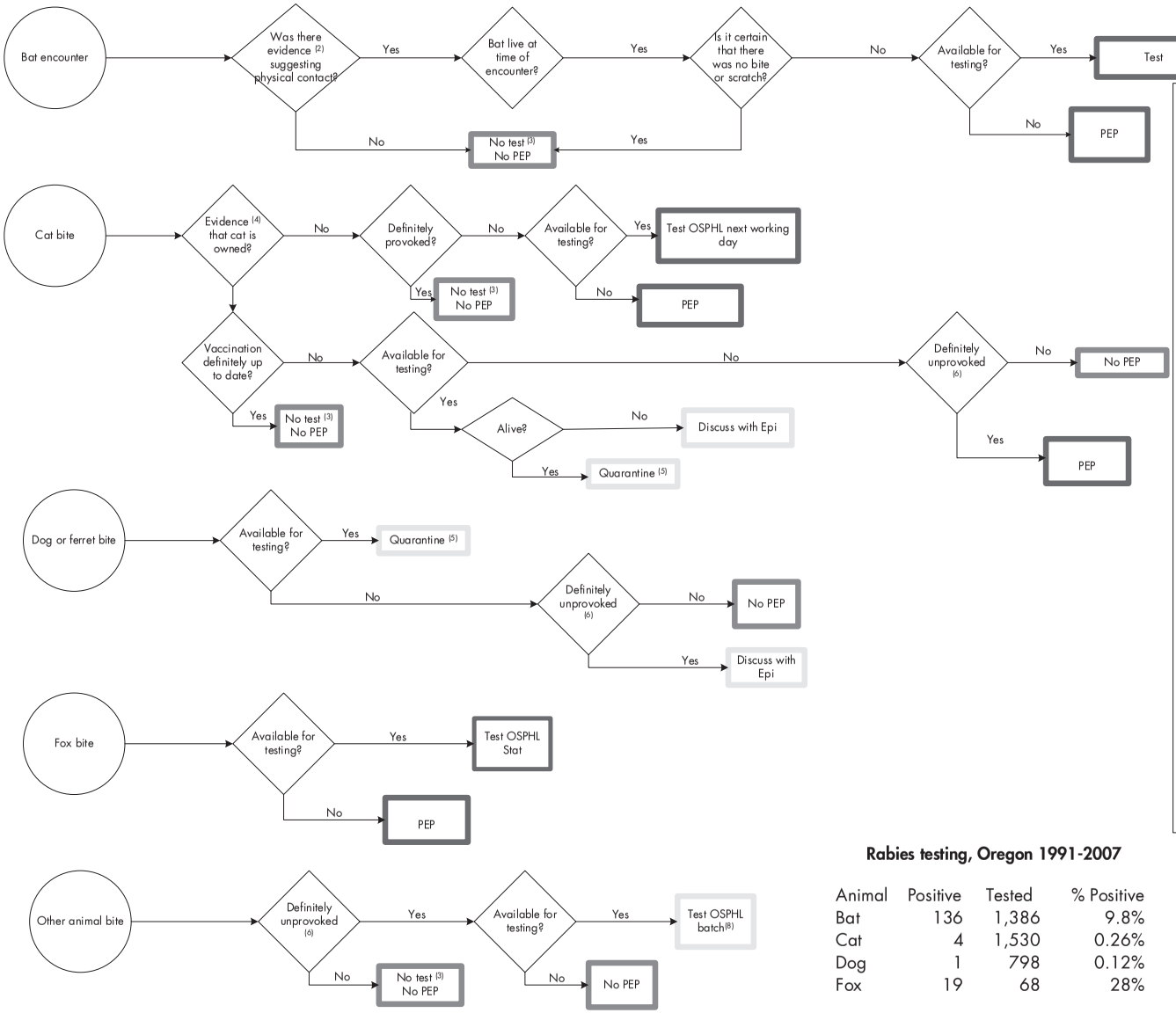
## Rabies tests: Oregon, 1990–2007
(Number of positive/total tested)

| Year | Bat | Cat | Dog | Fox | Other animals |
|---|---|---|---|---|---|
| 1990 | 1/29 | 0/61 | 0/34 | 0/1 | 0/14 |
| 1991 | 4/40 | 1/85 | 1/54 | 1/4 | 0/19 |
| 1992 | 2/29 | 0/98 | 0/54 | 0/4 | 0/54 |
| 1993 | 2/43 | 1/96 | 0/34 | 4/10 | 0/59 |
| 1994 | 10/47 | 0/88 | 0/58 | 3/7 | 0/78 |
| 1995 | 3/47 | 0/98 | 0/61 | 5/5 | 0/159 |
| 1996 | 3/48 | 0/51 | 0/33 | 0/5 | 0/58 |
| 1997 | 14/116 | 1/83 | 0/52 | 0/6 | 0/45 |
| 1998 | 6/95 | 0/95 | 0/56 | 0/3 | 0/49 |
| 1999 | 11/115 | 1/95 | 0/45 | 0/1 | 1/47 (Cow) |
| 2000 | 8/73 | 0/79 | 0/56 | 1/4 | 0/4 |
| 2001 | 4/59 | 0/67 | 0/46 | 0/1 | 0/41 |
| 2002 | 12/134 | 0/102 | 0/27 | 2/4 | 0/29 |
| 2003 | 6/61 | 0/75 | 0/36 | 1/5 | 0/39 |
| 2004 | 7/88 | 0/105 | 0/42 | 0/2 | 0/27 |
| 2005 | 8/83 | 0/100 | 0/48 | 0/1 | 0/23 |
| 2006 | 23/126 | 0/72 | 0/26 | 2/4 | 0/41 |
| 2007 | 12/153 | 0/80 | 0/33 | 0/1 | 0/26 |
| Totals | 136/1386<br>9.8% | 4/1530<br>0.26% | 1/798<br>0.12% | 19/68<br>28% | 1/812<br>0.1% |

Incidence of animal rabies cases by county: Oregon, 1998–2007



# Algorithm for Prevention of Rabies After Animal Encounters in Oregon [1]




**Notes**

1. Oregon law mandates reporting of any bite of a human being by any other mammal (Oregon Administrative Rule 333-018-0015[5] [c]); such reports should be made to the local public health authority for the jurisdiction in which the patient resides. Decisions about rabies PEP are the purview of the clinician attending the patient; although these recommendations regarding the need for rabies PEP represent the best judgment of state public-health officials, they are not binding on clinicians. Clinicians should be advised that, aside from concern about rabies, prophylaxis against tetanus or bacterial infection might be warranted, depending on the nature of the wound and the animal involved. Local health department personnel are advised to call Acute and Communicable Disease Prevention at 971-673-1111 with specific questions regarding application of these guidelines.

2. Such evidence might include, for example, a young child's waking up and crying, with a bat found in the room.

3. "No Test" means that the animal will not be tested at OSPHL, at state expense. In such cases, the animal may be tested at the Oregon State University Veterinary Diagnostics Laboratory (541-737-3261) at private expense.

4. Evidence of ownership might include, e.g., presence of collar or previous appearances of the animal in a neighborhood.

5. "Quarantine" means confining a dog, cat or ferret for 10 days to observe for signs of illness after biting a human being. The nature of the confinement is determined by the local public health authority. If the animal develops neurological illness during the period of quarantine, it should be euthanized and its head shipped to OSPHL for testing within one working day.

6. "Unprovoked" implies that, in the context of the situation, there was no obvious alternative motivation for the animal to bite. A good history is essential. In practice, unprovoked bites are quite rare. Examples of provocation would include being hit by a car; being handled, fed. or caged; being cornered in a garage; having a jogger run past your yard; or crowding animal's space, etc.

7. For purposes of determining need for rabies PEP, wolf-hybrids are considered wild animals and not dogs. Wolf-dog hybrids that bite or otherwise expose persons, pets or livestock should be considered for euthanasia and rabies examination. Whether an animal is a dog or a wolf-dog hybrid must be determined by a licensed veterinarian, subject to review by the State Public Health Veterinarian or designee (OR 333-019-0022).

8. Batch testing for rabies is generally done at OSPHL on Mondays and Wednesdays. Results are available the following day.

**Abbreviations**

OSPHL: Oregon State Public Health Laboratory 503-229-5882
PEP: post-exposure prophylaxis against rabies
Epi: Epidemiologists at the Oregon Department of Human Services; weekdays, nights and weekends, 971-673-1111

## Rabies testing, Oregon 1991-2007

| Animal | Positive | Tested | % Positive |
|---|---|---|---|
| Bat | 136 | 1,386 | 9.8% |
| Cat | 4 | 1,530 | 0.26% |
| Dog | 1 | 798 | 0.12% |
| Fox | 19 | 68 | 28% |

Oregon Department of Human Services
Office of Disease Prevention and Epidemiology
Acute and Communicable Disease Prevention

## Salmonellosis

Salmonellosis is a bacterial illness characterized by acute abdominal pain, diarrhea, and often fever that begins 12 hours to five days after infection. In cases of enterocolitis, fecal excretion usually persists for several days or weeks beyond the acute phase of illness. Antibiotics generally have no effect on the illness and, in fact, may increase the duration of organism excretion.

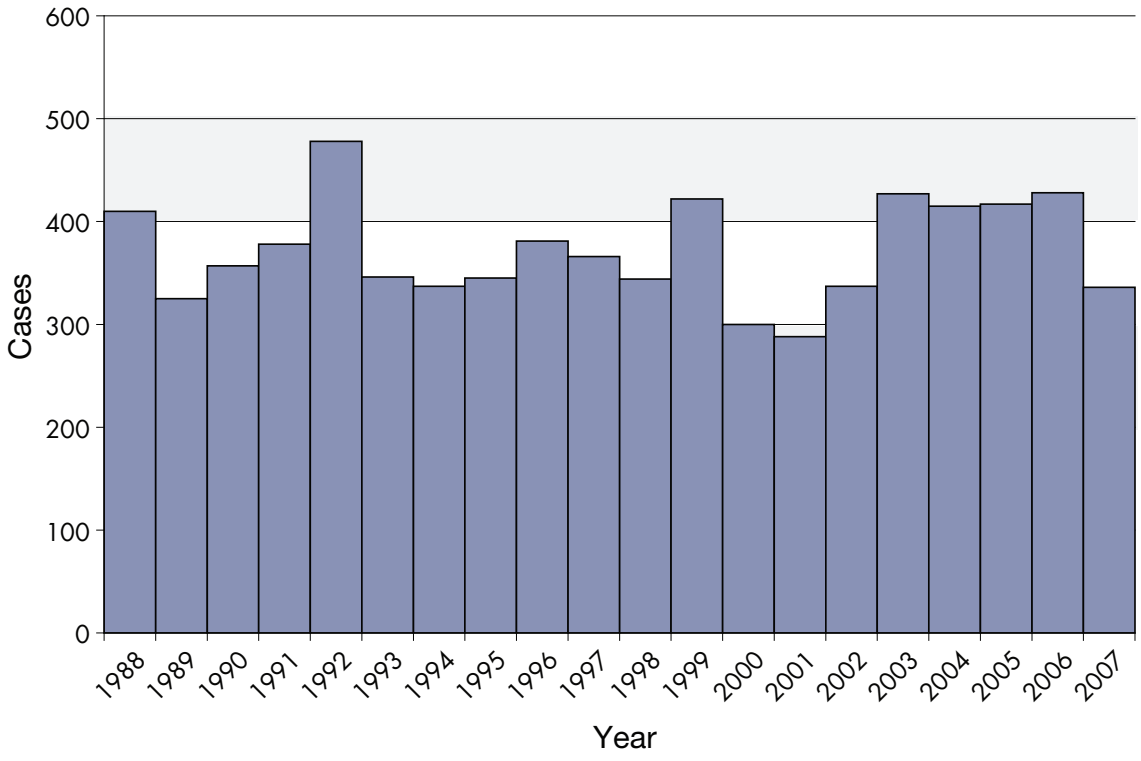
A wide range of domestic and wild animals are carriers of *Salmonella*, including poultry, swine, cattle, rodents, iguanas, tortoises, turtles, young poultry, dogs and cats. The majority of human infections are thought to result from the ingestion of fecally contaminated food or water. Raw or undercooked produce and products of animal origin such as eggs, milk, meat and poultry have been implicated as common sources of animal and human salmonellosis. Though uncommon, person-to-person spread can occur in humans via patients, convalescent carriers and, especially, mild and unrecognized cases. The incidence of infection is highest in infants and young children.

Of approximately 2,500 known serotypes, only about 200 are detected in the United States in any given year. In Oregon, *S.* Typhimurium and *S.* Enteritidis are the two most commonly reported.

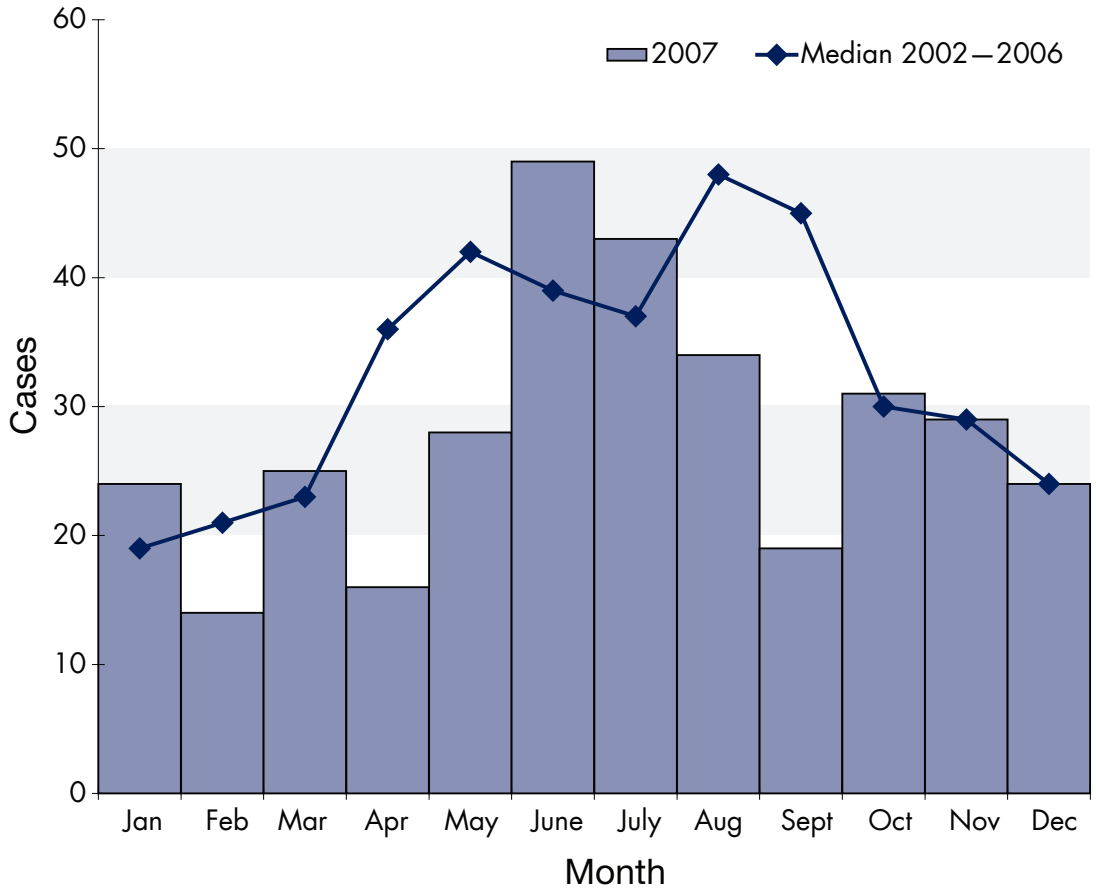


In 2007, 10 outbreaks of salmonellosis were investigated in Oregon. Of those, seven were confirmed to be foodborne, one was related to animal contact, and in two the source of the *Salmonella* could not be determined.

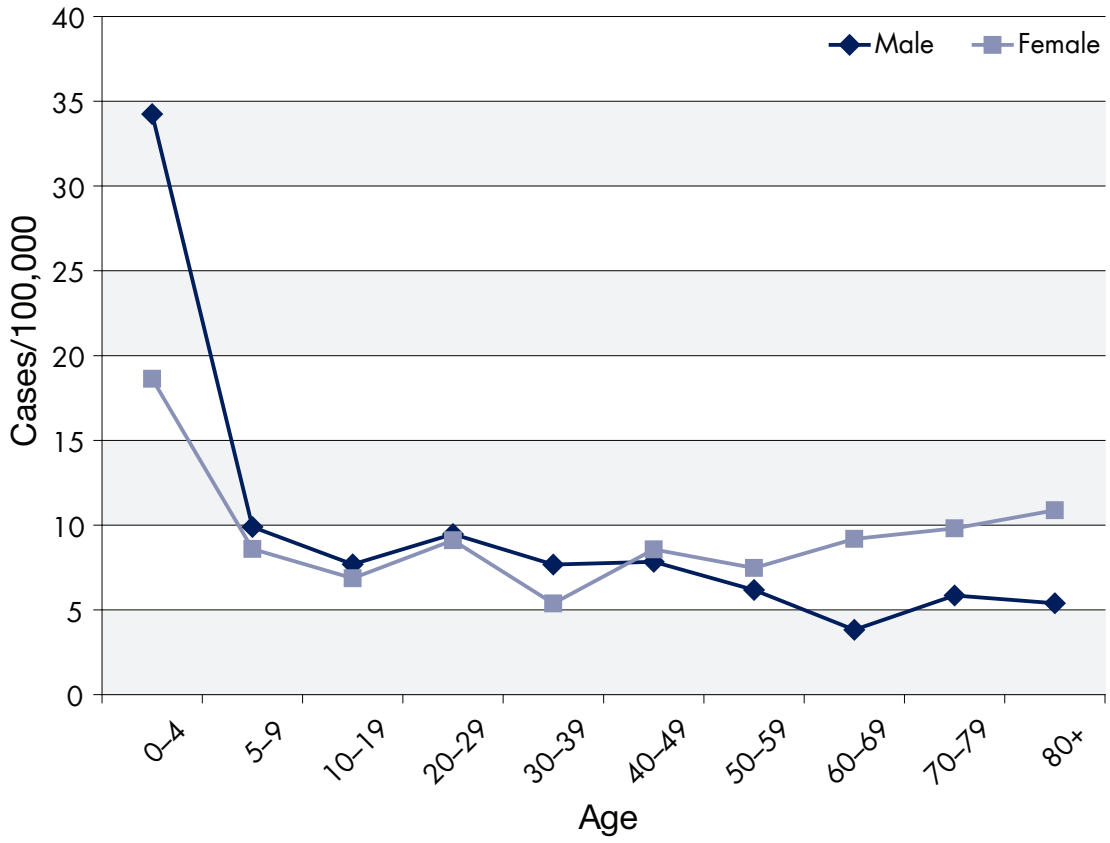
Salmonellosis by year: Oregon, 1988–2007



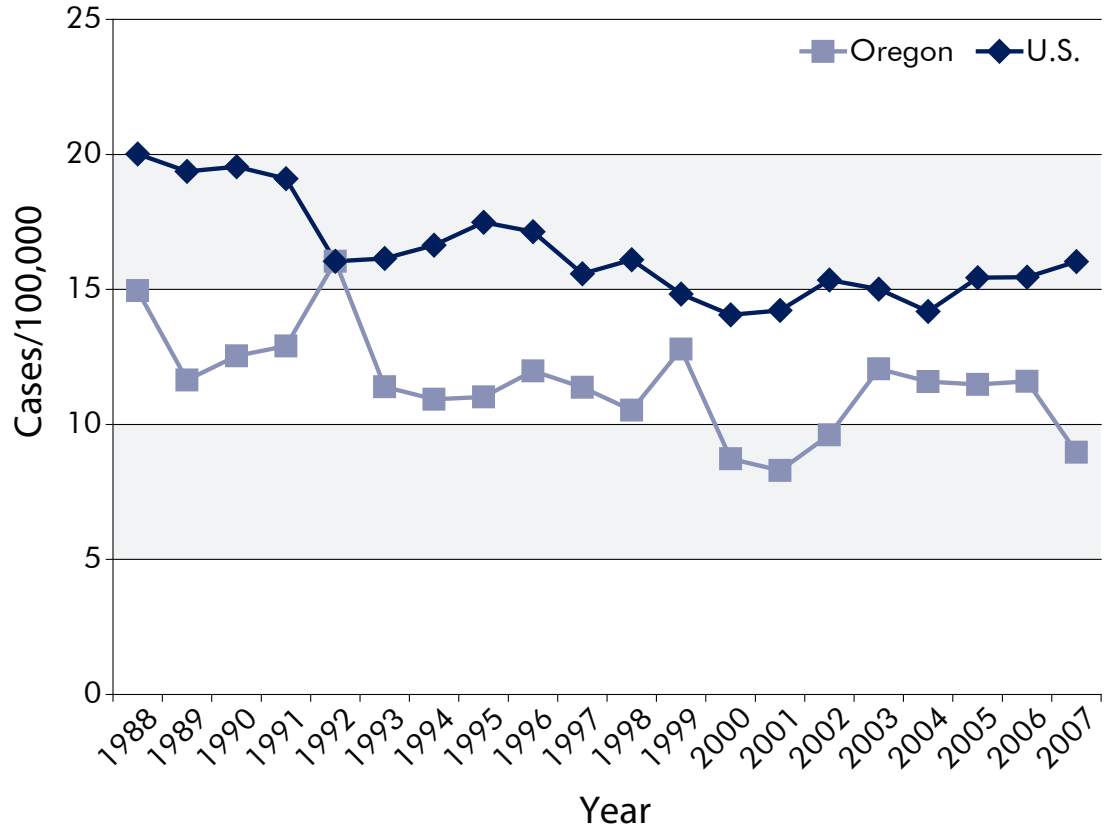

Salmonellosis by onset month: Oregon, 2007



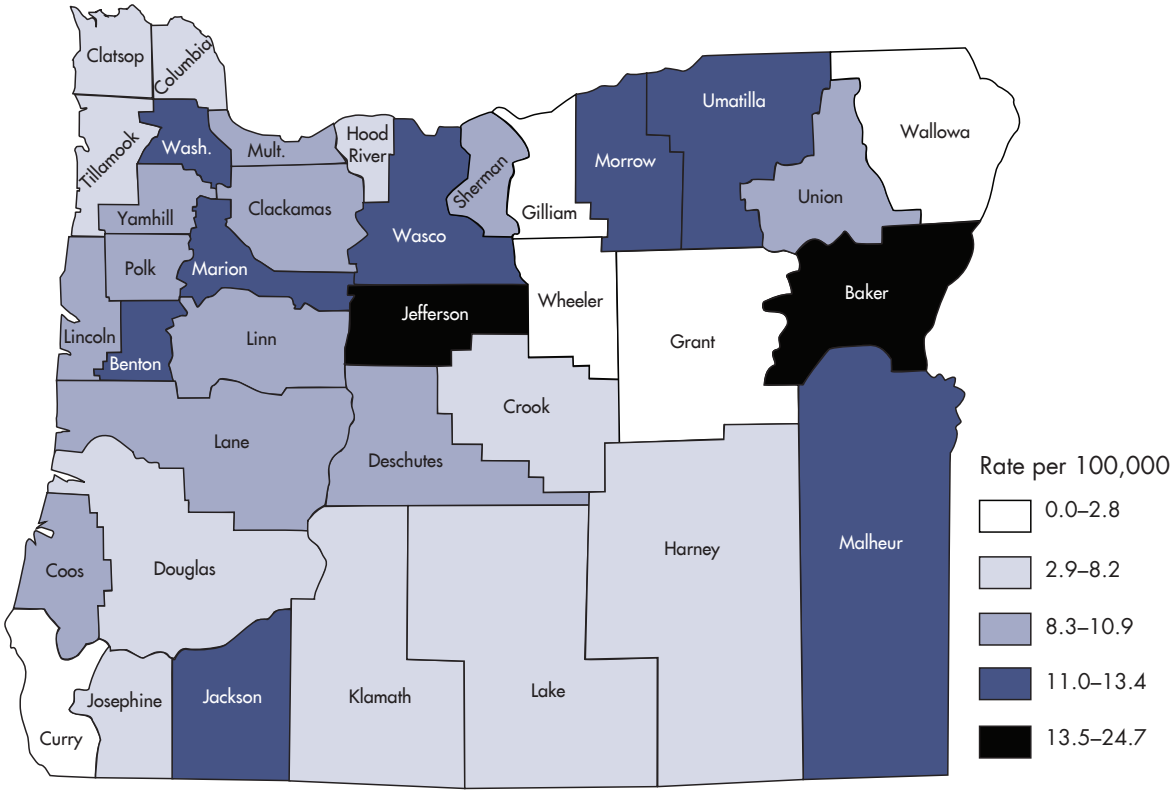
Incidence of salmonellosis by age and sex: Oregon, 2007




Incidence of salmonellosis: Oregon vs. nationwide, 1988–2007



## Incidence of salmonellosis by county of residence: Oregon, 1998–2007




## Selected* *Salmonella* by serotype, Oregon, 1998–2007

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|---|---|---|
| Enteritidis | 42 | 33 | 45 | 34 | 43 | 78 | 64 | 86 | 74 | 54 |
| Heidelberg | 14 | 20 | 10 | 26 | 27 | 12 | 42 | 51 | 19 | 26 |
| Montevideo | 10 | 17 | 20 | 13 | 17 | 16 | 15 | 15 | 13 | 12 |
| Muenchen | 5 | 73 | 6 | 8 | 10 | 5 | 7 | 8 | 8 | 9 |
| Newport | 10 | 12 | 9 | 16 | 31 | 38 | 14 | 17 | 16 | 17 |
| Oranienburg | 11 | 7 | 7 | 10 | 12 | 13 | 6 | 8 | 5 | 8 |
| Paratyphi B var. Java | 7 | 7 | 6 | 9 | 8 | 7 | 17 | 20 | 7 | 11 |
| Saintpaul | 17 | 6 | 12 | 4 | 18 | 36 | 16 | 7 | 10 | 3 |
| Typhimurium | 112 | 101 | 72 | 86 | 67 | 83 | 86 | 84 | 90 | 52 |

*Selected because at least one case was reported in 2007 and it is a more common serotype.

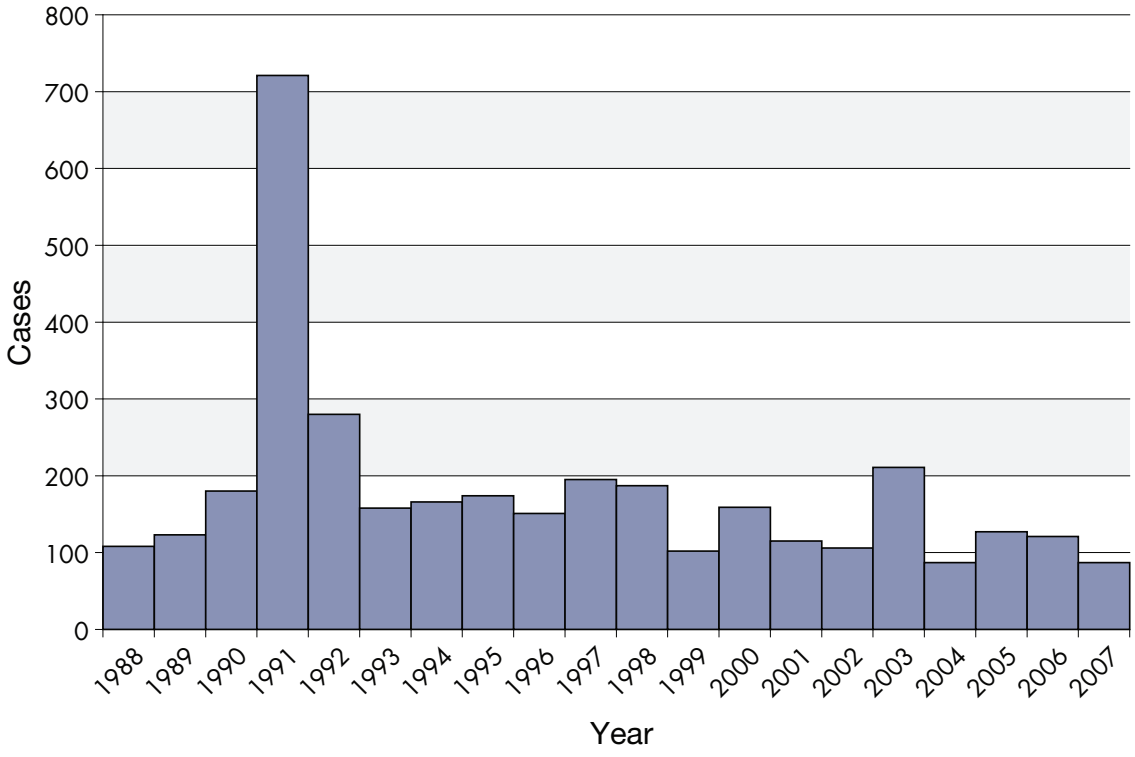
## Shigellosis

Shigellosis is an acute bacterial infection characterized by (sometimes bloody) diarrhea, vomiting, abdominal cramps and, often, fever. Humans are the only known reservoir. Shigellosis is transmitted from person to person, and just a few organisms can cause illness. It is important to track the incidence of this disease to see trends and to detect outbreaks. The rate is higher among children 1–4 years of age. The incidence of shigellosis usually increases in late summer and fall. A large community-wide outbreak in 1991 resulted in hundreds of cases in multiple Portland metropolitan area daycare centers from April onward. At the tail end of that summer, in August, additional cases were associated with a duel pathogen outbreak (*E. coli* and *Shigella*) at Blue Lake Park in Fairview.

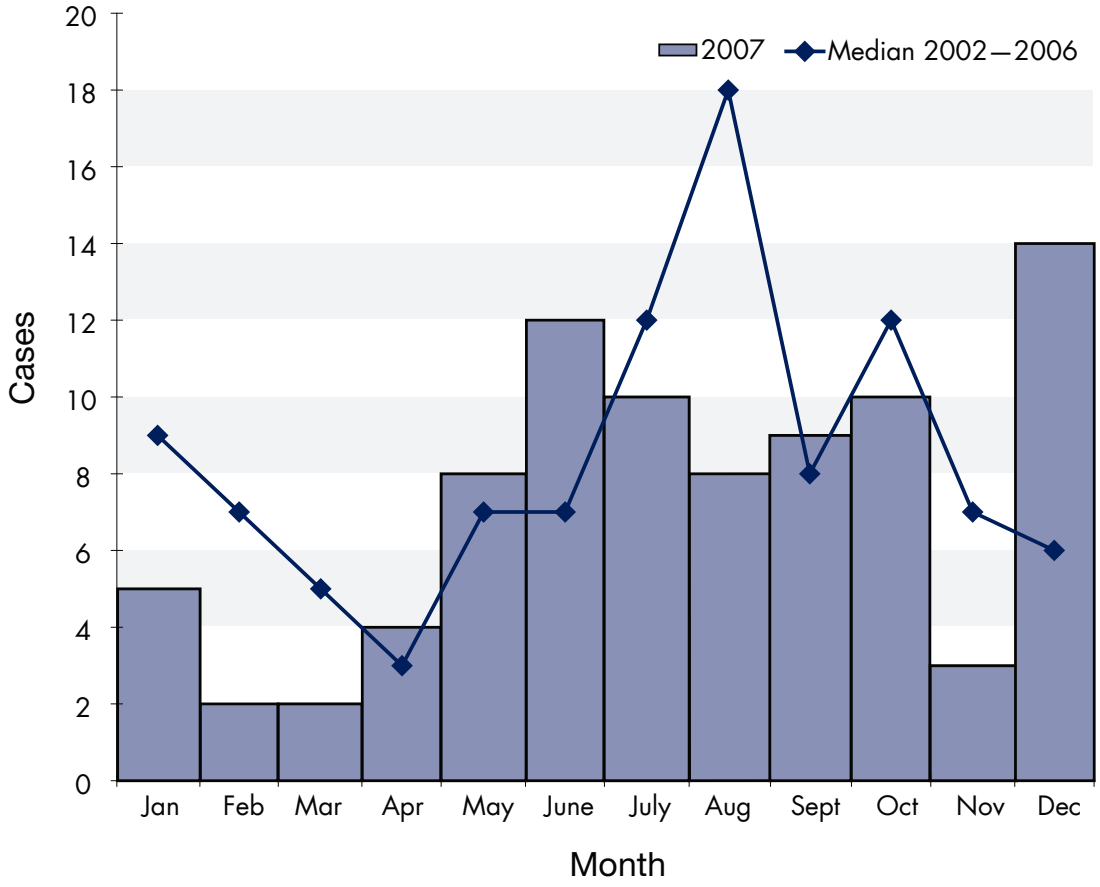
Outbreaks in daycare centers are common, mainly due to the poor hygienic practices of small children. Hand washing is the most important means of prevention. Treatment reduces duration of illness, but the organism has become resistant to many antibiotics used for empiric therapy. Testing for antibiotic susceptibility is important for treatment.

The number of cases in 2007 decreased to 87, the same number of cases reported in 2004, which was a 20-year low. Thirteen of these cases were presumptive cases with household transmission of illness. A small cluster of seven cases appeared to be person-to-person transmission within an elementary school. No other outbreaks were reported.

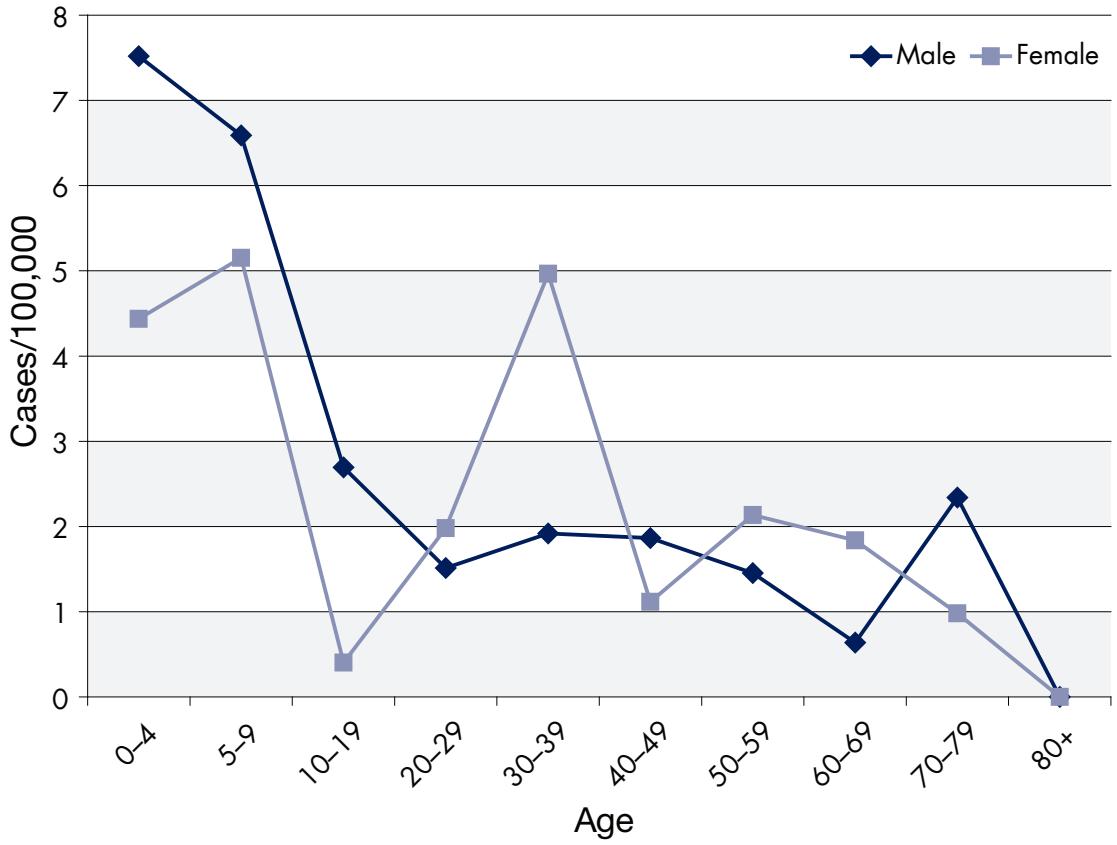
## Shigellosis by year: Oregon, 1988–2007



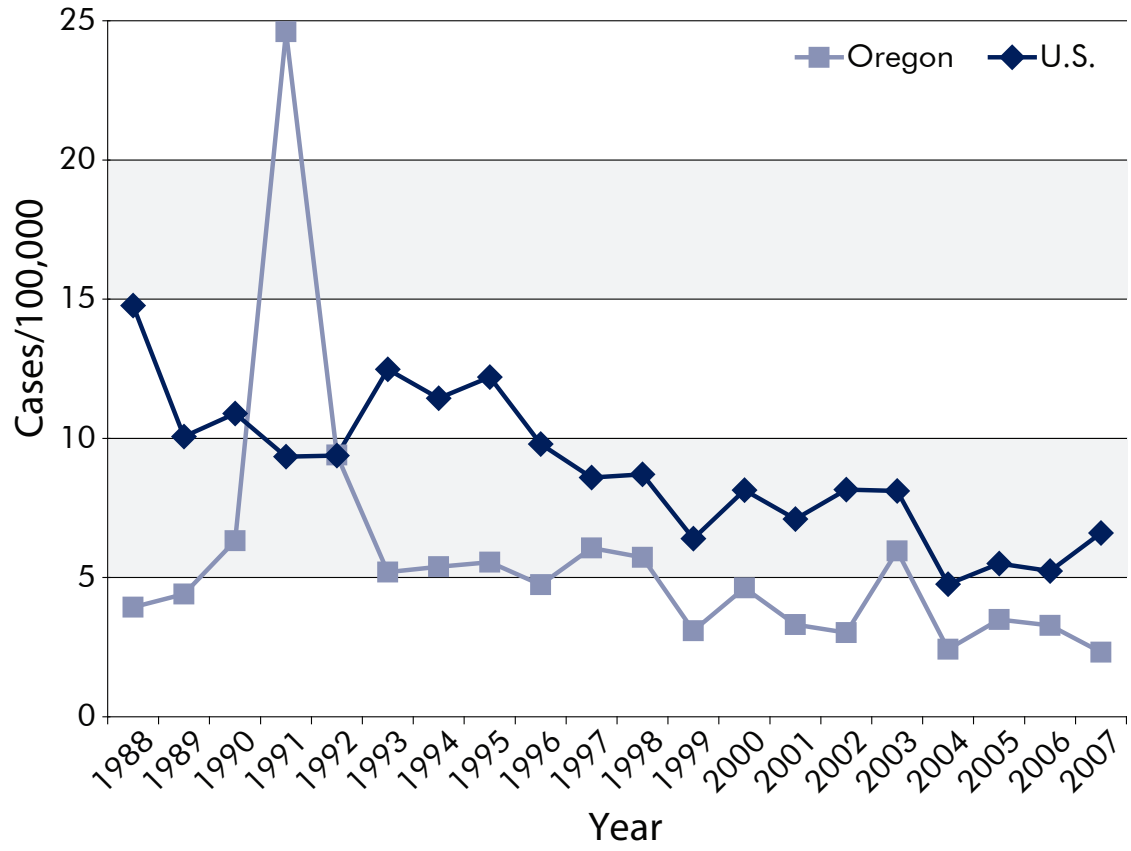

## Shigellosis by onset month: Oregon, 2007



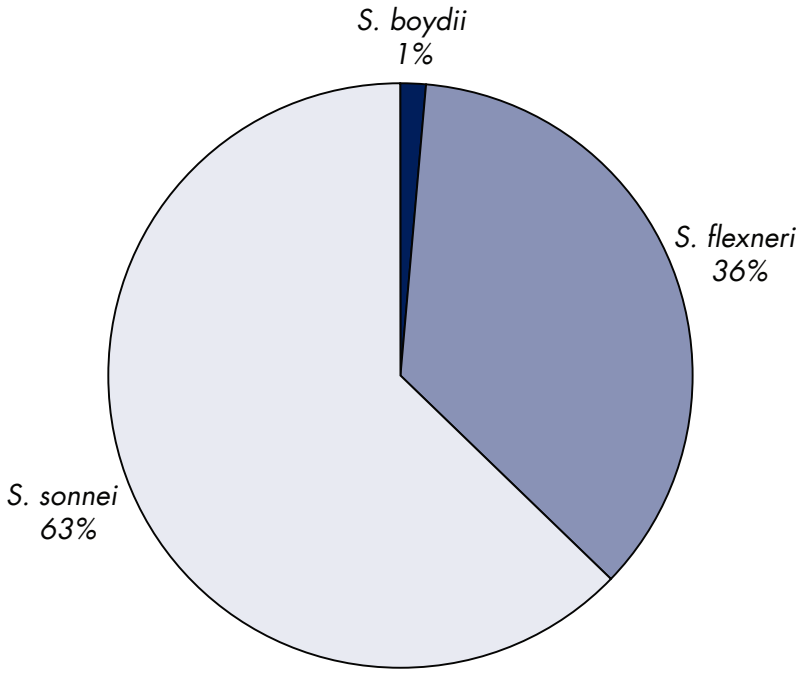
Incidence of shigellosis by age and sex: Oregon, 2007



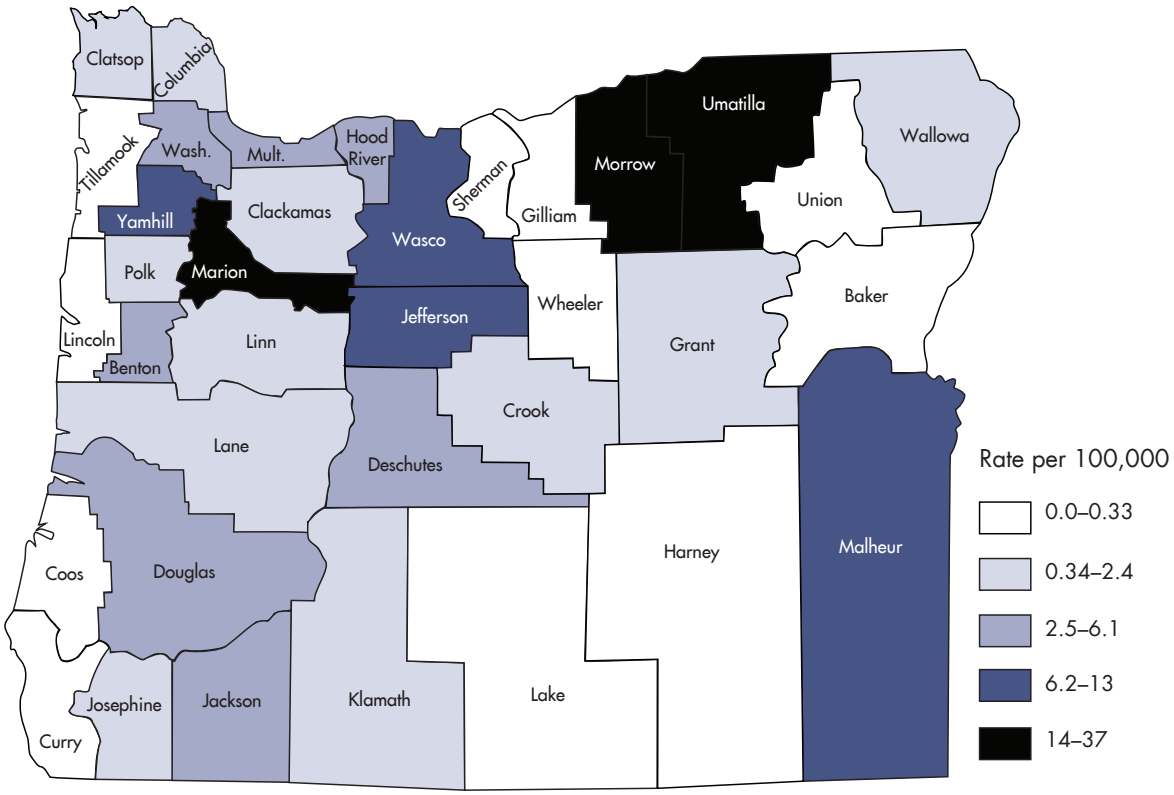

Incidence of shigellosis: Oregon vs. nationwide, 1988–2007



## Shigellosis by species: Oregon, 2007




## Incidence of shigellosis by county of residence: Oregon, 1998–2007



## Early syphilis

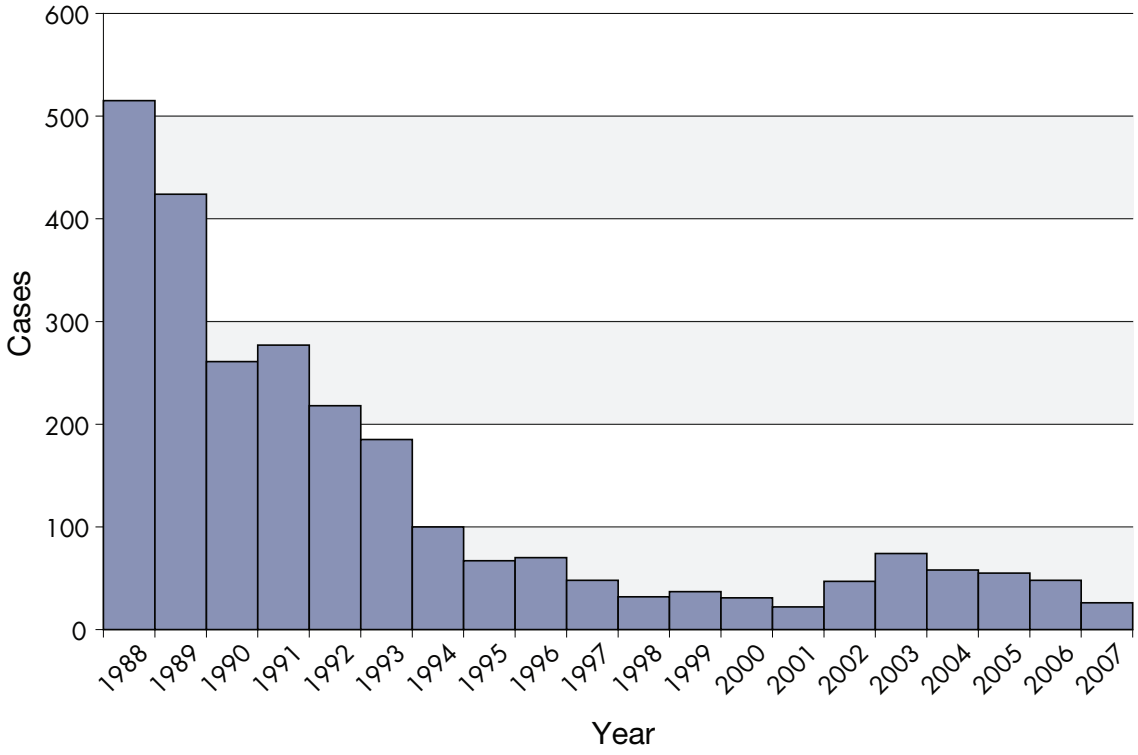
Syphilis is a sexually transmitted disease of protean manifestation caused by the spirochete *Treponema pallidum*. Early syphilis cases represent an aggregate of primary, secondary and early latent cases of less than one year's duration. The 26 early syphilis cases reported in 2007 reflect a 22-case decrease (54%) compared to the 48 cases reported during 2006. Twenty-one percent of the early syphilis cases reported during 2007 were among men who have sex with men. The infection may be transmitted among sex partners during the primary and second stages.

Syphilis is transmitted via vaginal, rectal or oral sexual contact. Syphilis can be prevented by abstaining from sex or only having sex with one uninfected sex partner. Those who are sexually active outside of a mutually monogamous relationship can lower their risks of infection by using a condom when engaging in sexual activity.

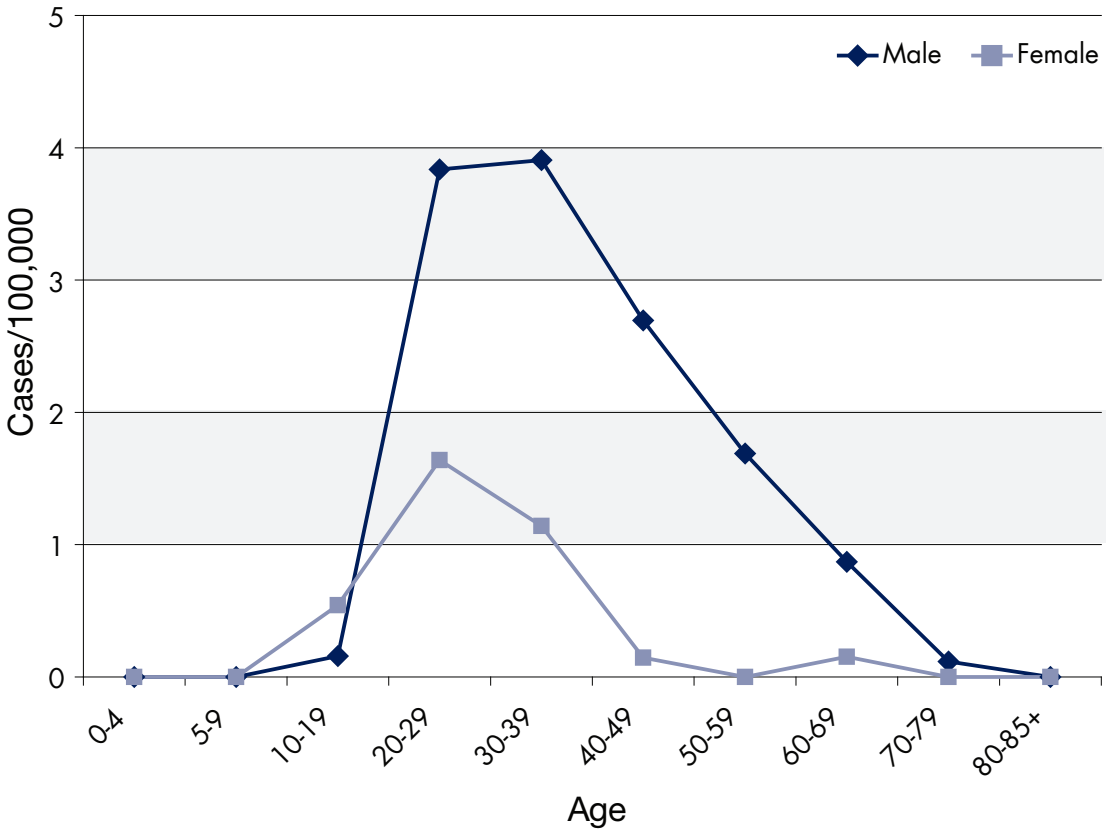
It is important to identify and treat persons with early syphilis to prevent late complications, such as brain and heart damage, and to prevent congenial infections. Moreover, persons with primary or secondary syphilis more easily acquire and transmit HIV. An effective way to limit the spread of syphilis is to evaluate and treat recent sex partners of persons with early syphilis.



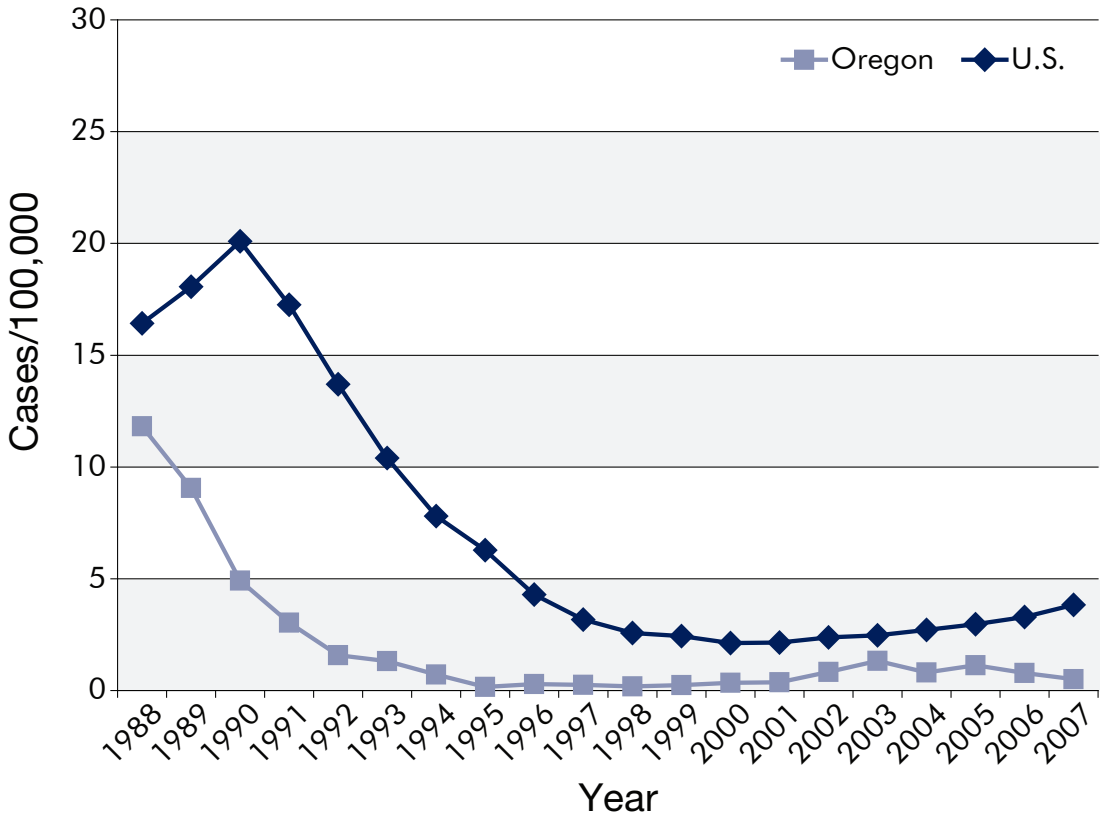
Early syphilis by year: Oregon, 1988–2007



Incidence of early syphilis by age and sex: Oregon, 1998–2007

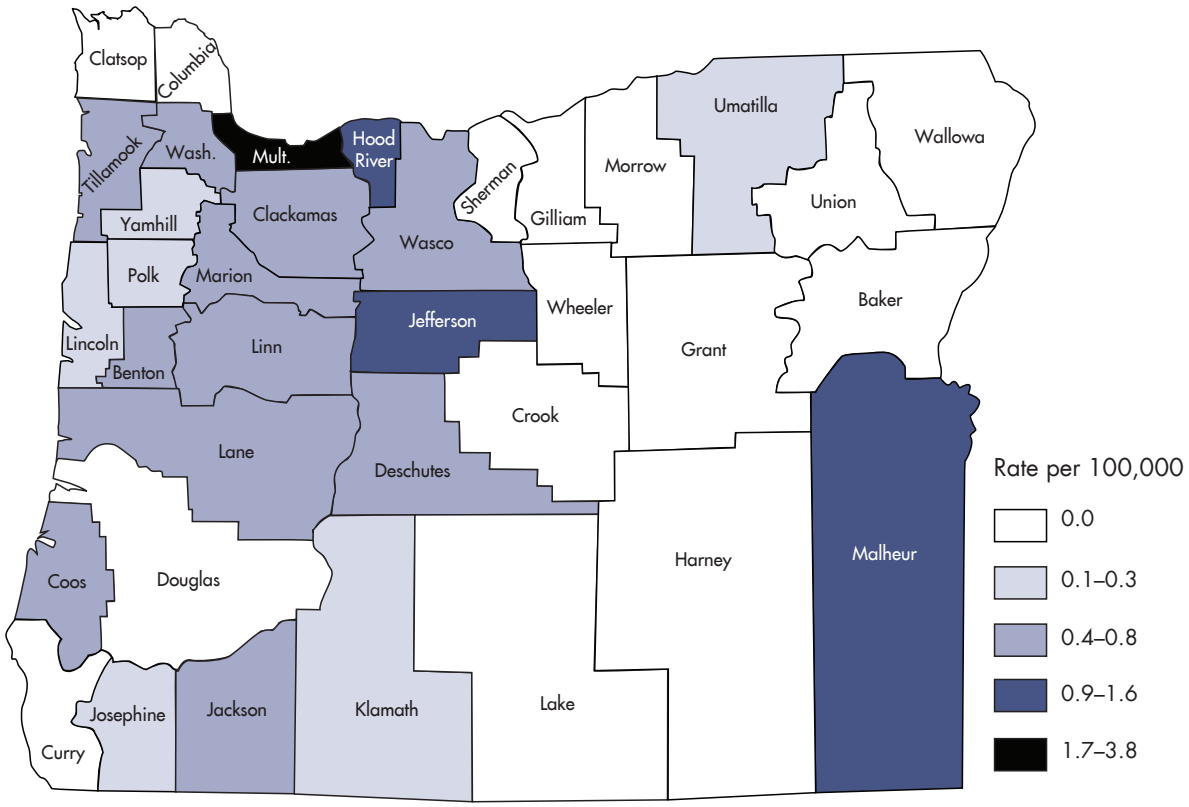



Incidence of primary and secondary syphilis: Oregon vs. nationwide, 1988–2007*




*For national surveillance, only primary and secondary syphilis cases are tracked and reported

## Incidence of early syphilis by county of residence: Oregon, 1998–2007



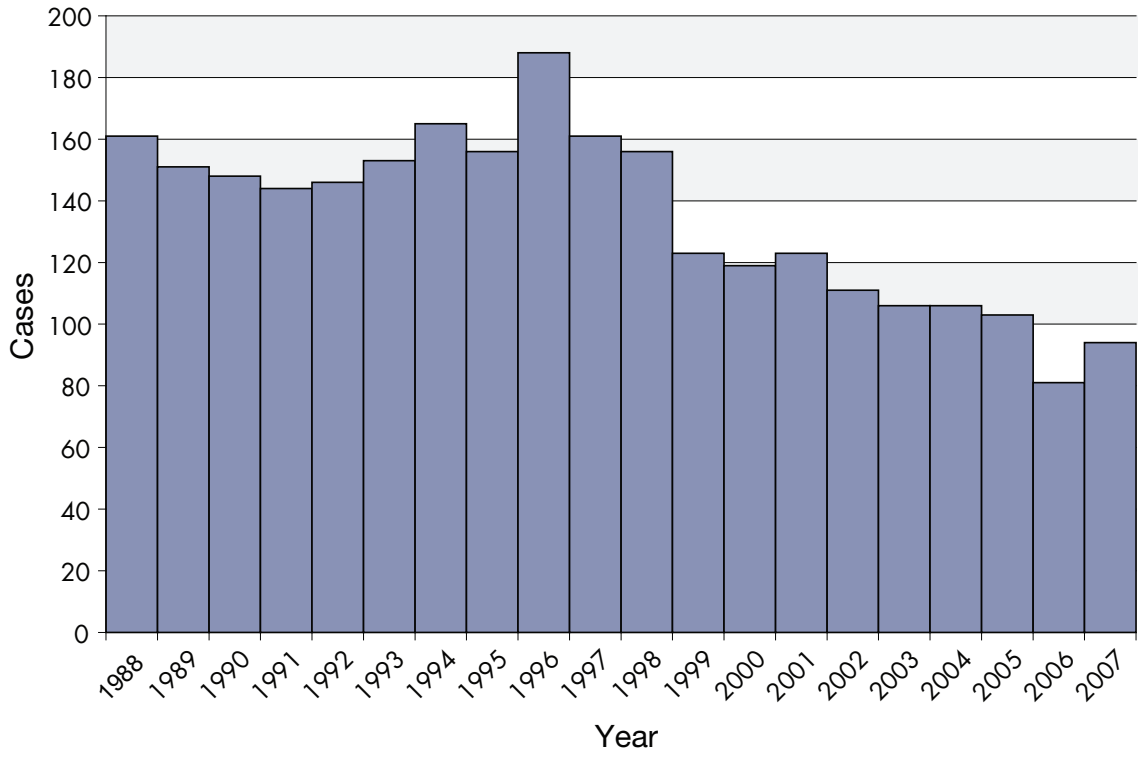
## Tuberculosis

Tuberculosis (TB) is a communicable disease caused by *Mycobacterium tuberculosis*. The most common site for active TB disease is the lung; however, TB can occur in any organ in the body. TB is spread when persons with active pulmonary or laryngeal TB cough the bacteria into the air, and other persons inhale the bacteria into their lungs.

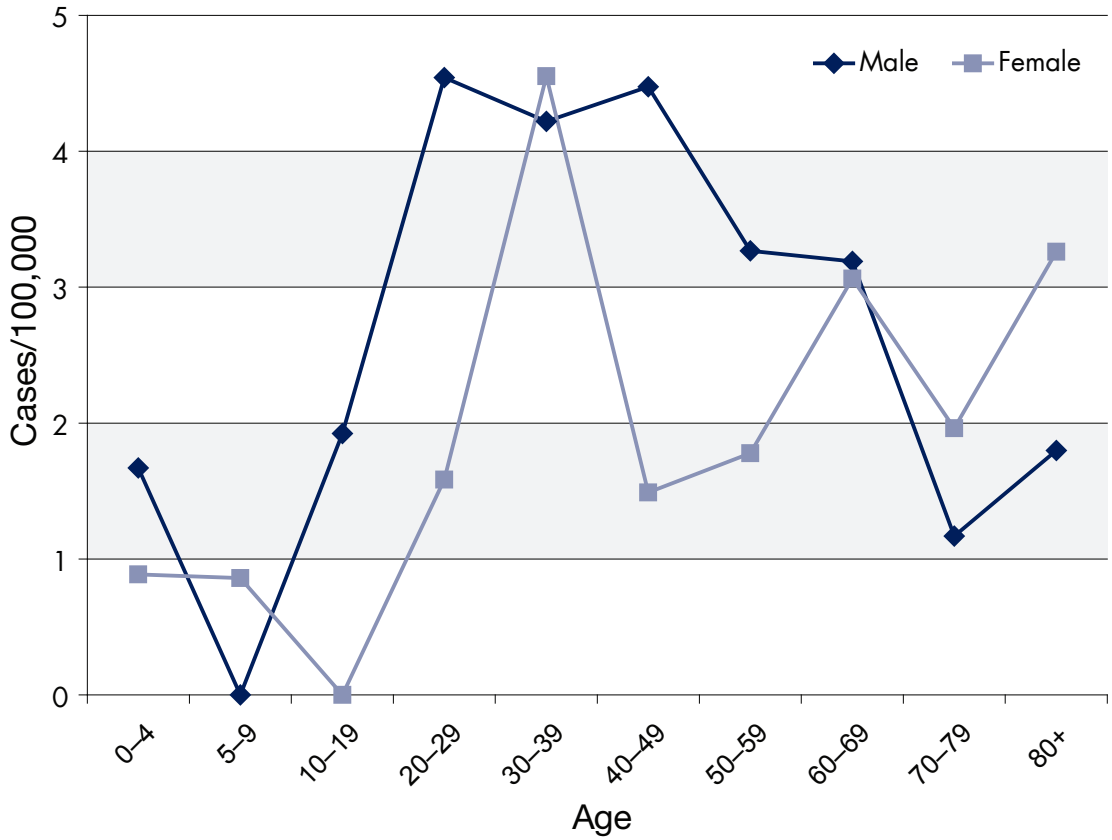
TB is preventable, treatable and curable. TB can be prevented by diagnosing and treating persons with active TB disease. It can also be prevented by identifying and treating persons with latent TB infection who, if untreated, are likely to develop active TB disease. Reporting of TB ensures that cases are treated and that contacts are identified and offered preventive antibiotics. The standard initial treatment for active TB in Oregon includes four drugs: INH, rifampin, pyrazinamide, and ethambutol pending susceptibility testing. Multidrug-resistant tuberculosis (MDR TB) is resistant to two or more of the standard TB drugs and requires treatment with second-line drugs.

The incidence rate of TB has been declining over the past decade. In 2007, a total of 94 cases of active TB disease were verified in Oregon, for a rate of 2.5 cases per 100,000 residents. Though an increase from the rate of 2.2 per 100,000 residents in 2006, Oregon's TB rate continues to meet the Healthy People 2010 goal of less than 3.5/100,000.

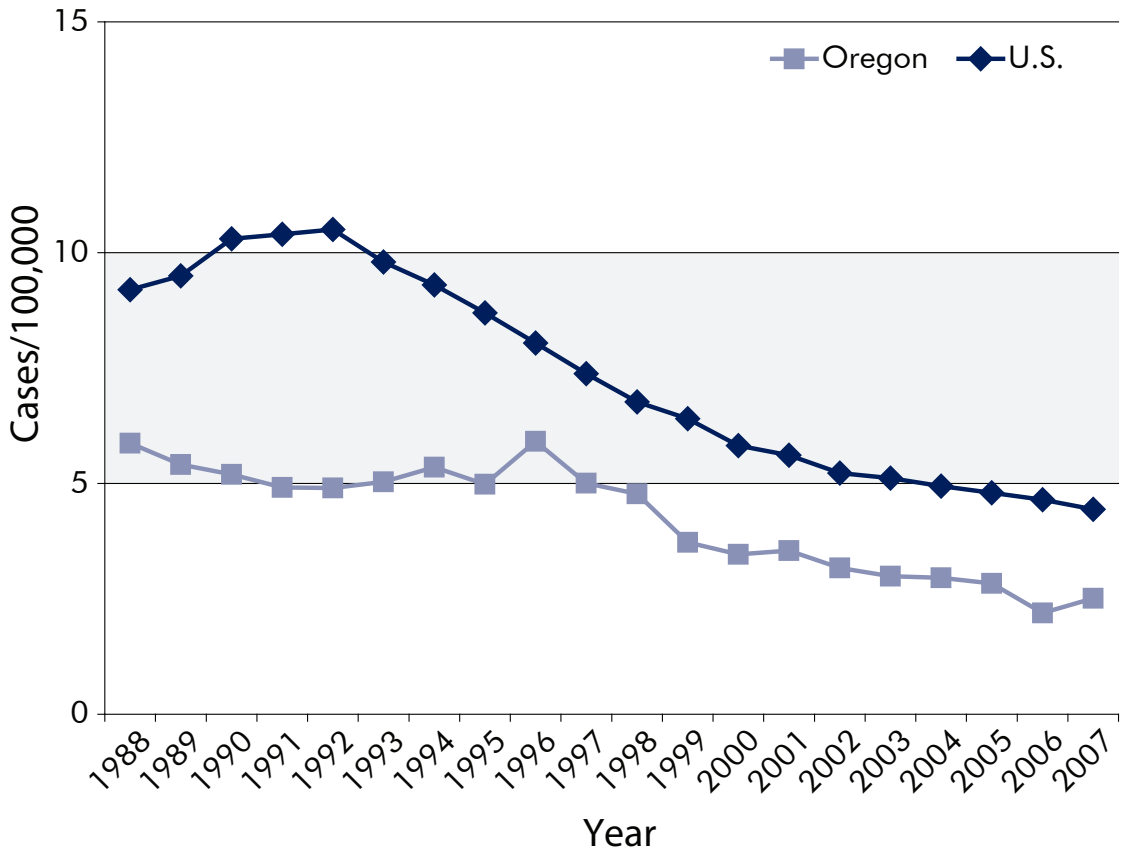
Tuberculosis by year: Oregon, 1988–2007



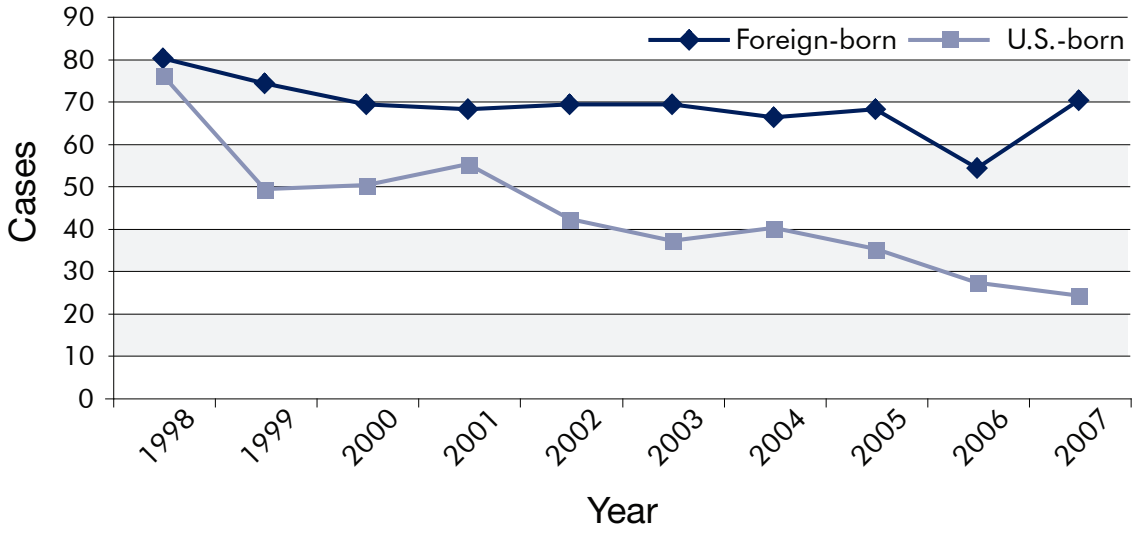

Incidence of tuberculosis by age and sex: Oregon, 2007



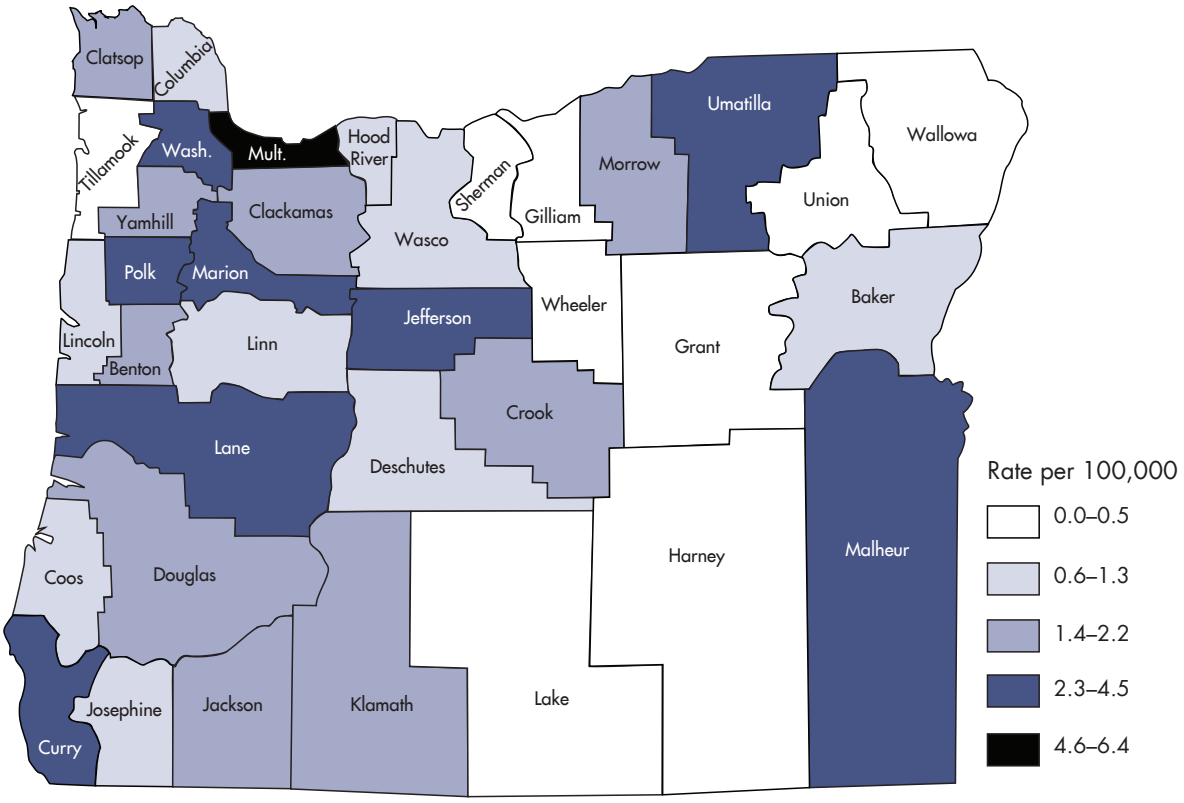
Incidence of tuberculosis: Oregon vs. nationwide,1988–2007




Tuberculosis cases by country of birth, foreign-born vs. U.S.-born: Oregon, 1998–2007



## Incidence of tuberculosis by county of residence: Oregon, 1998–2007



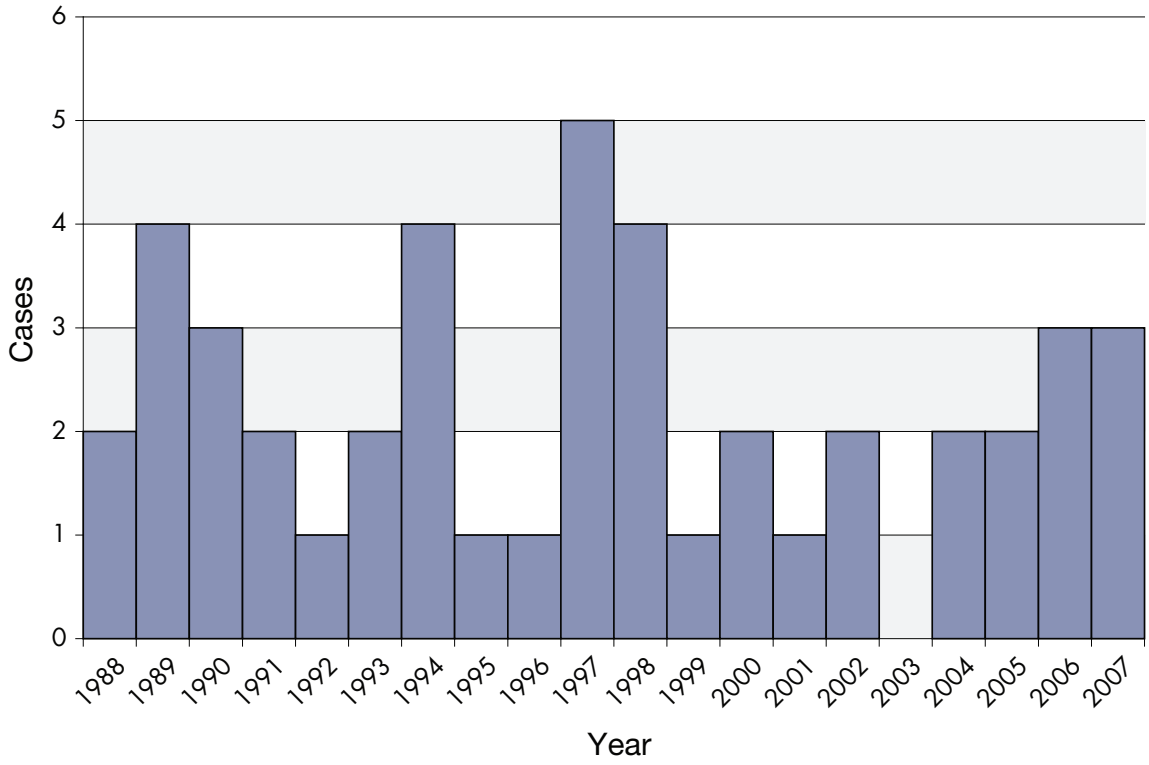
## Tularemia

Tularemia, also known as rabbit or deer-fly fever, has recently gained notoriety as a possible "category A" agent of bioterrorism. Tularemia is caused by *Francisella tularensis*, a hardy organism found in rodents, rabbits and squirrels; in ticks, flies and mosquitoes; and in contaminated soil, water and animal carcasses. Biovar type A, the most common type in North America, is highly virulent; as few as 10–50 organisms can cause disease.

General symptoms of tularemia include fever, malaise, myalgias, headache, chills, rigors and sore throat. Tularemia has six clinical forms, depending on portal of entry. Ulceroglandular tularemia is the most common form of the disease, accounting for 75% to 85% of naturally occurring cases. Other clinical forms include: pneumonic (pulmonary symptoms); typhoidal (gastral-intestinal symptoms and sepsis); glandular (regional adenopathy without skin lesion); oculoglandular (painful, purulent conjunctivitis with adenopathy); and oropharyngeal (pharyngitis with adenopathy).

Tularemia occurs throughout the United States. Persons become infected primarily through handling contaminated animals; the bite of infective deer flies, mosquitoes or ticks; direct contact with or ingestion of contaminated food, water or soil; or inhalation of infective aerosols. From 1998 to 2007, 20 cases of tularemia were reported in Oregon. Cases occurred in residents of 12 counties and were evenly spread across age groups. In 2007, there were three cases.

Tularemia by year: Oregon, 1988–2006



## Vibriosis

Vibriosis is caused by infection with *Vibrio* bacteria. *Vibrio* is a species of bacteria that cause watery diarrhea, abdominal cramps and fever. *Vibrio* are commonly found in coastal marine waters and, therefore, in filter-feeding shellfish such as oysters (which, for this reason, should be eaten only when fully cooked).

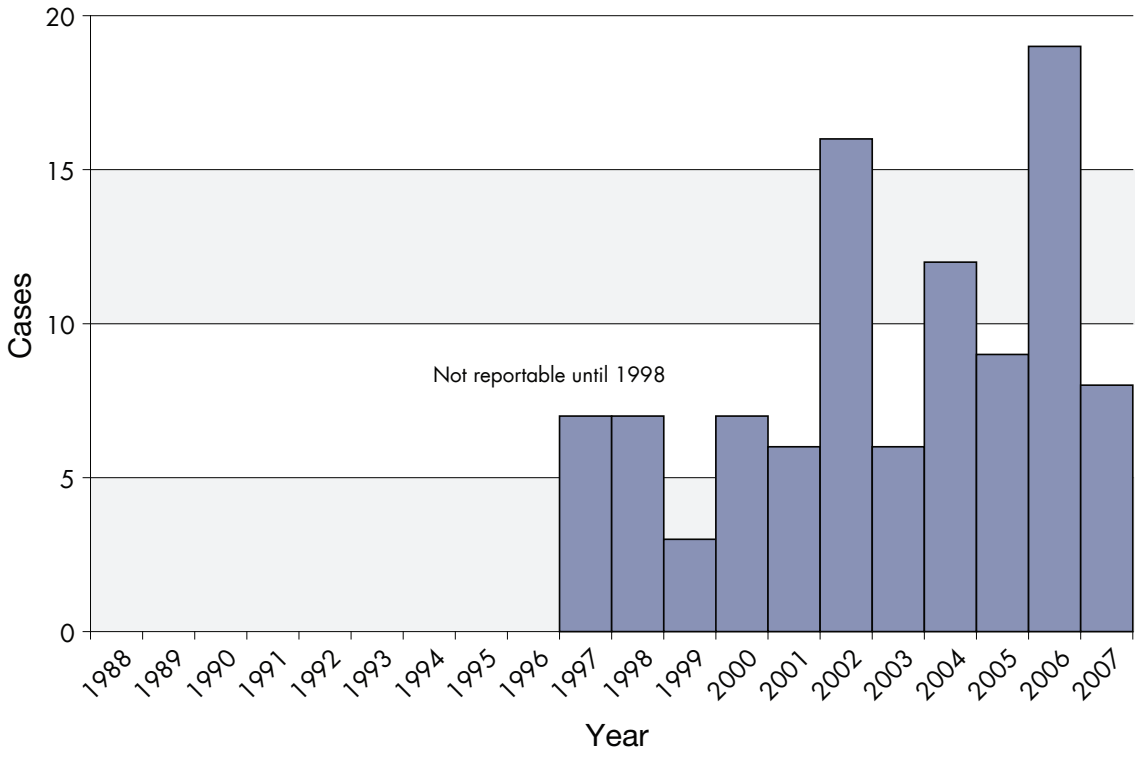
*V. vulnificus*, a species that occurs primarily in the Gulf of Mexico, can cause sepsis in immunocompromised persons, and infections caused by toxigenic *V. cholerae* are notifiable as cholera. *V. parahaemolyticus* occurs naturally in Pacific coastal waters, especially during warmer months, and is by far the most common species diagnosed in Oregon.

In 2007, eight laboratory-confirmed vibriosis cases were reported in Oregon. One infection was *V. vulnificus*, and the rest of the cases were attributed to *V. parahaemolyticus*. The majority (88%) of cases were male, aged 20–51 years.

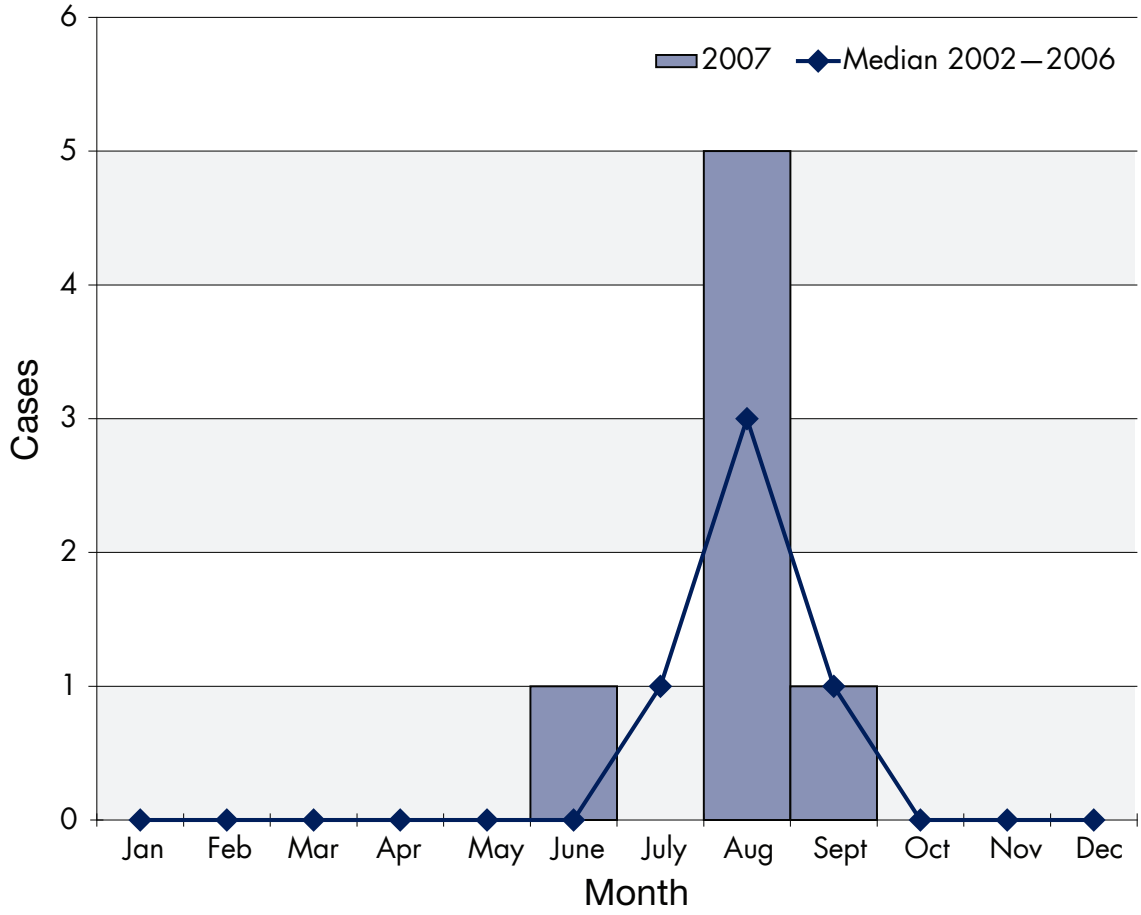
Non-cholera *Vibrio* infections were not nationally reportable until 2007 and not reportable in Oregon prior to 1998. Case reporting is essential to the identification of contaminated shellfish beds and removal of these shellfish from the raw seafood market.



*Vibrio parahaemolyticus* infections: Oregon, 1988–2007



*Vibrio parahaemolyticus* by onset month: Oregon, 2007



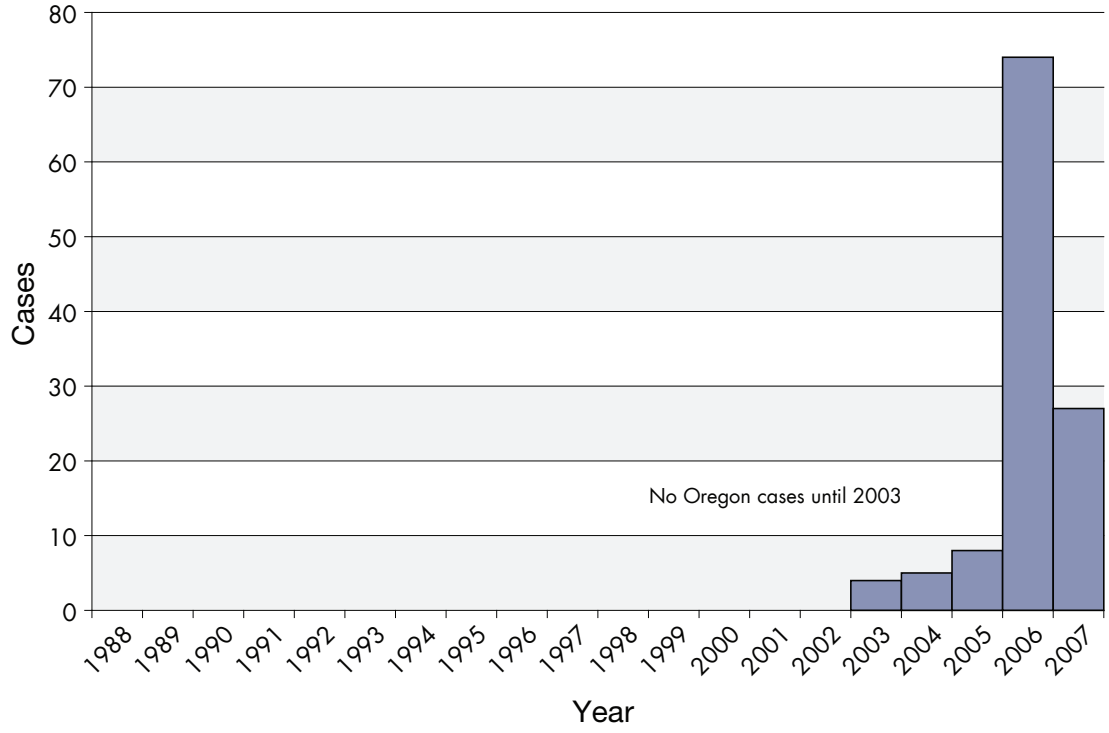
## West Nile virus

West Nile virus (WNv) first appeared in the United States in 1999, and has moved westward across the country. In Oregon, the first case was reported in 2004. West Nile virus is a mosquito-borne virus that affects both animals and humans. Birds are the reservoir; humans and other animals are considered "dead-end" hosts.

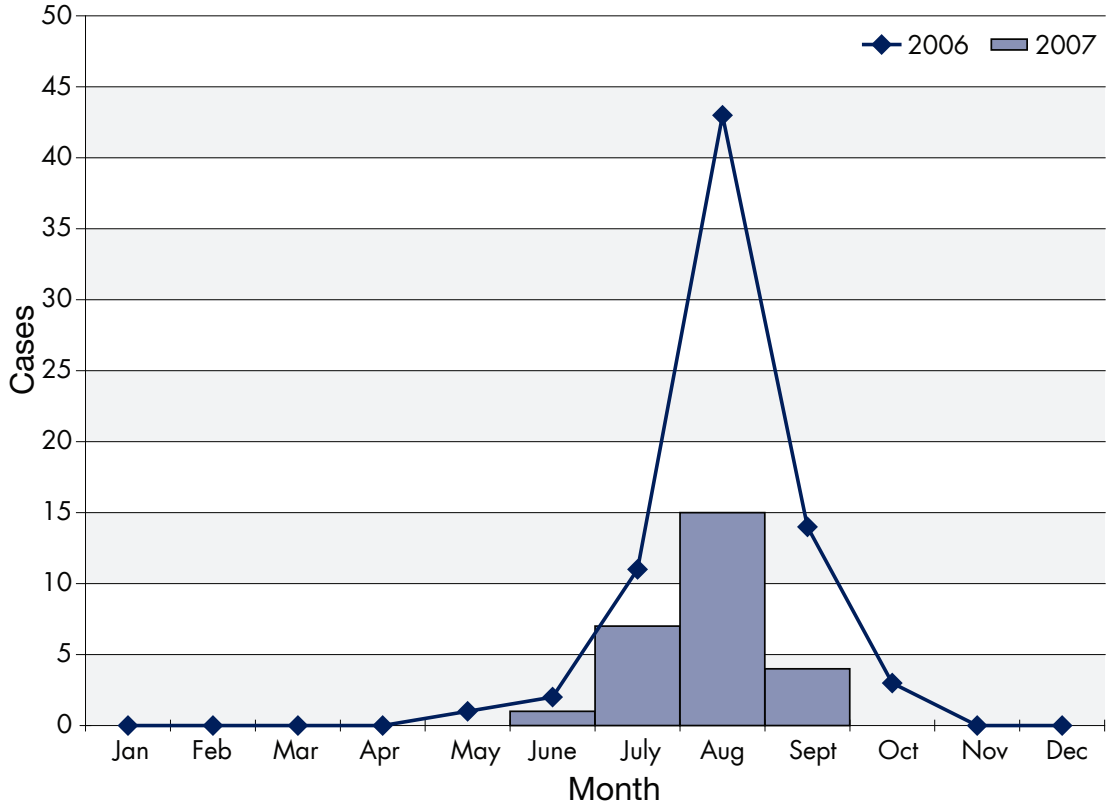
Of those infected, one in five will have mild symptoms such as fever, headache and muscle aches; fewer people, about one in 150, will have more severe symptoms that may include neck stiffness, stupor, disorientation, tremors, convulsions, muscle weakness, paralysis and coma. The risk of getting West Nile virus in Oregon has been very low. Though most cases were in those aged 20–50 years, those over 50 years of age have the highest risk of developing serious illness. The incidence in summer months is higher.

In 2006, a record 74 human cases were reported. In 2007, a total of 27 humans, 52 birds, 16 horses, 11 sentinel chickens, two pet dogs and one squirrel were diagnosed with WNv infection. Of the 27 human cases, the median age was 52 years; seven (26%) were neuroinvasive, and 15 (55%) were reported in males. Twenty-six of them acquired WNv in Oregon and one person contracted WNv in another state. Of the 26 Oregon residents, one of the cases developed WNv as a result of an organ transplant. The organ recipient developed neuroinvasive disease. Further investigation revealed that, although the organ donor was positive for WNv, the person died of non-WNv related causes.

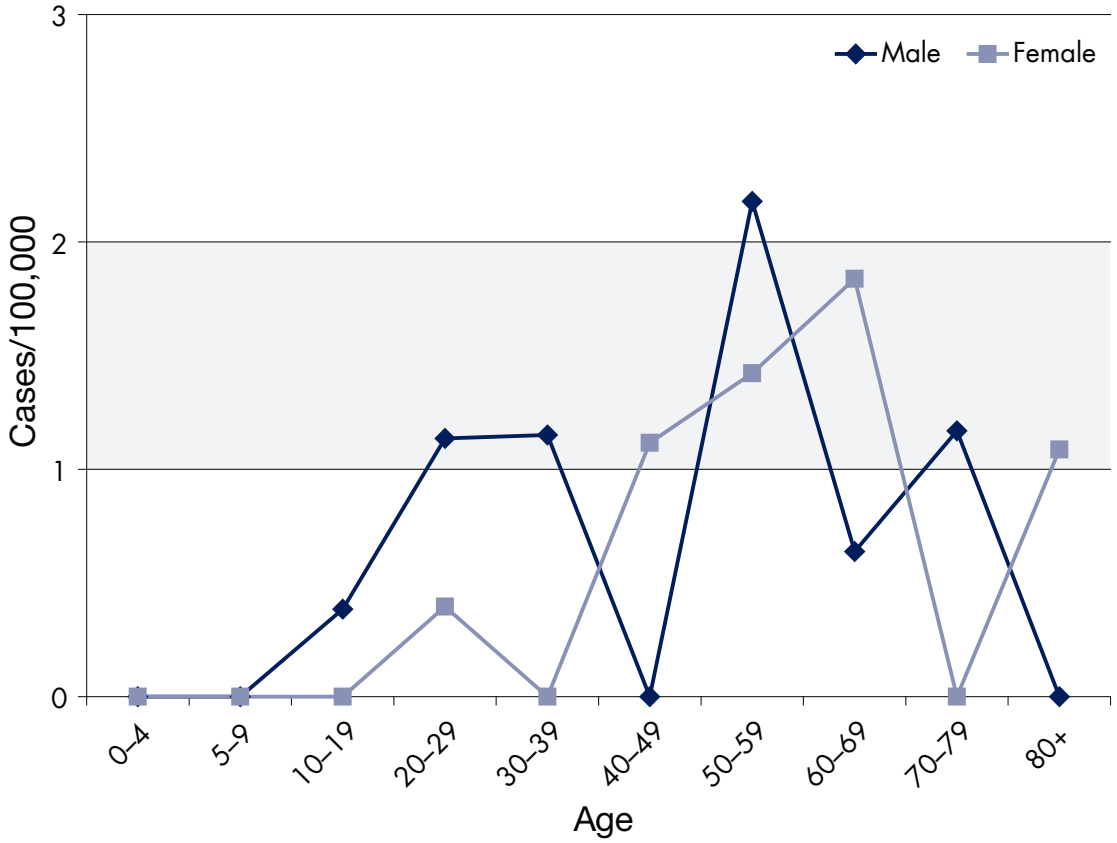
West Nile virus by year: Oregon, 1988–2007



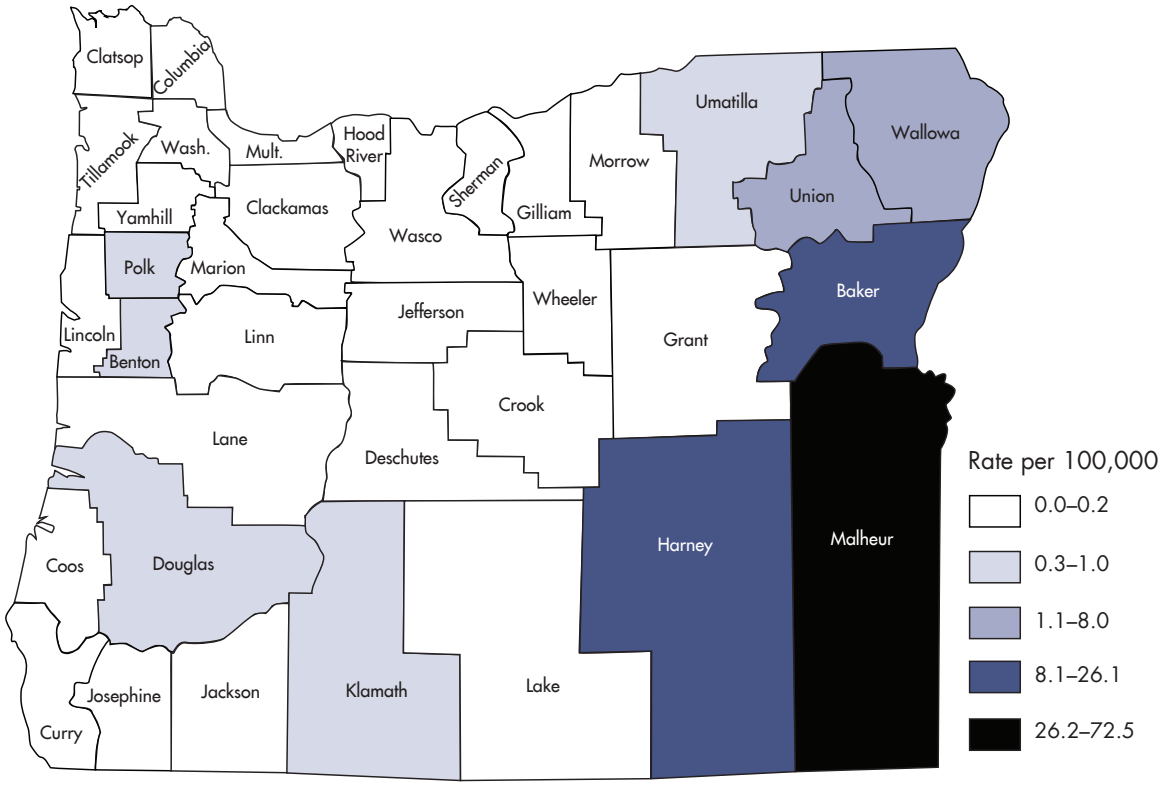

West Nile virus by month of onset: Oregon, 2007



## Incidence of West Nile virus by age and sex: Oregon, 2007




## Incidence of West Nile virus by county of residence: Oregon, 2005–2007

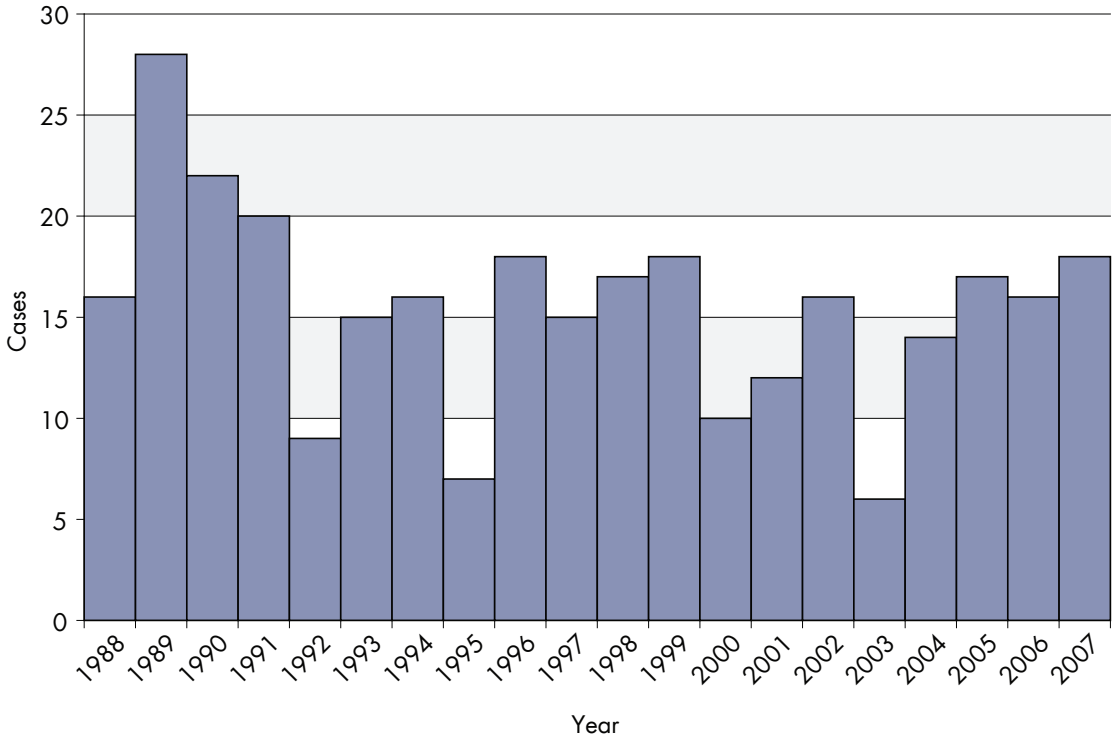


## Yersiniosis

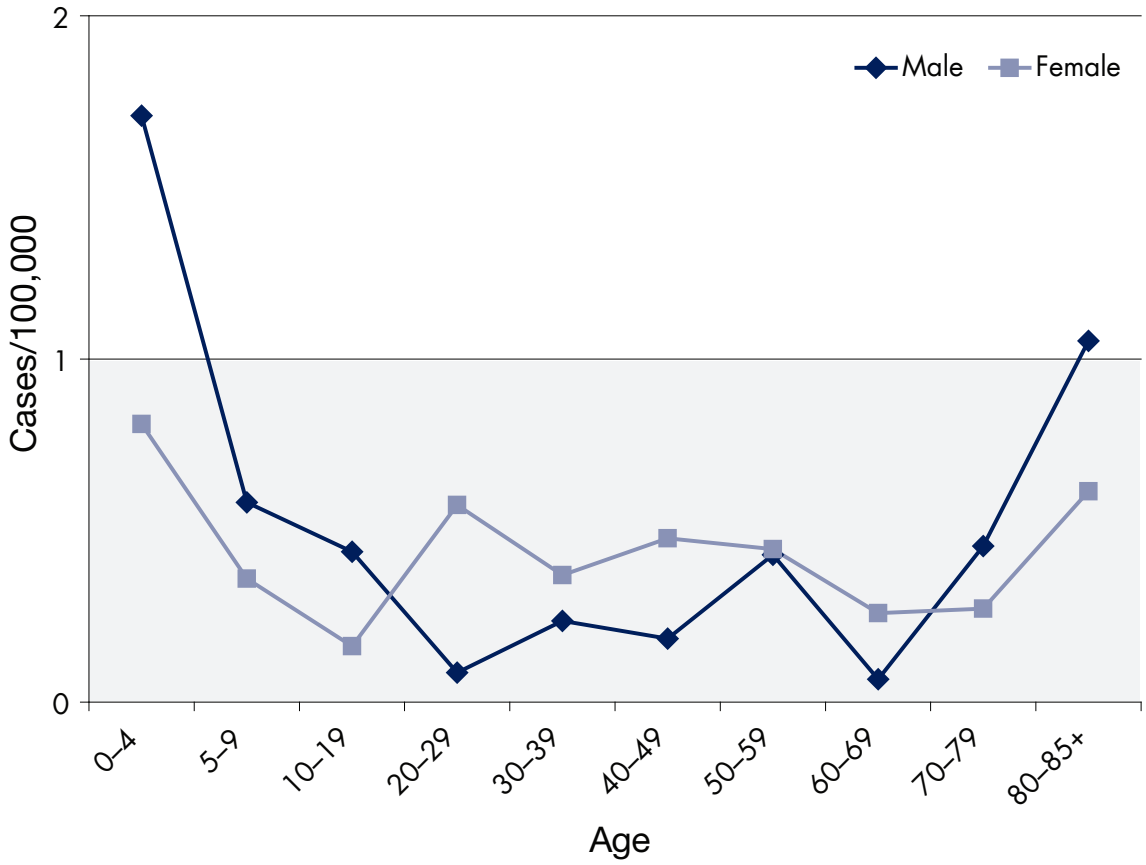
Yersiniosis is a bacterial infection characterized by (sometimes bloody) diarrhea, vomiting and abdominal pain. The main reservoir for *Yersinia* is the pig. Transmission occurs via the fecal-oral route through contaminated food and water, or through contact with infected people or animals. Preventive measures include cooking food thoroughly, avoiding cross-contamination with raw food of animal origin, and washing hands after handling food.

The incidence of yersiniosis in Oregon has been fairly stable over the years. In 2003, the number of cases dropped to six, the lowest reported incidence since 1995. The 18 cases reported in 2007 are slightly above the mean of 14 cases reported each year since the new millennium. Yersiniosis occurs throughout the year with no seasonality. The most common species (75%) is *Y. enterocolitica*.

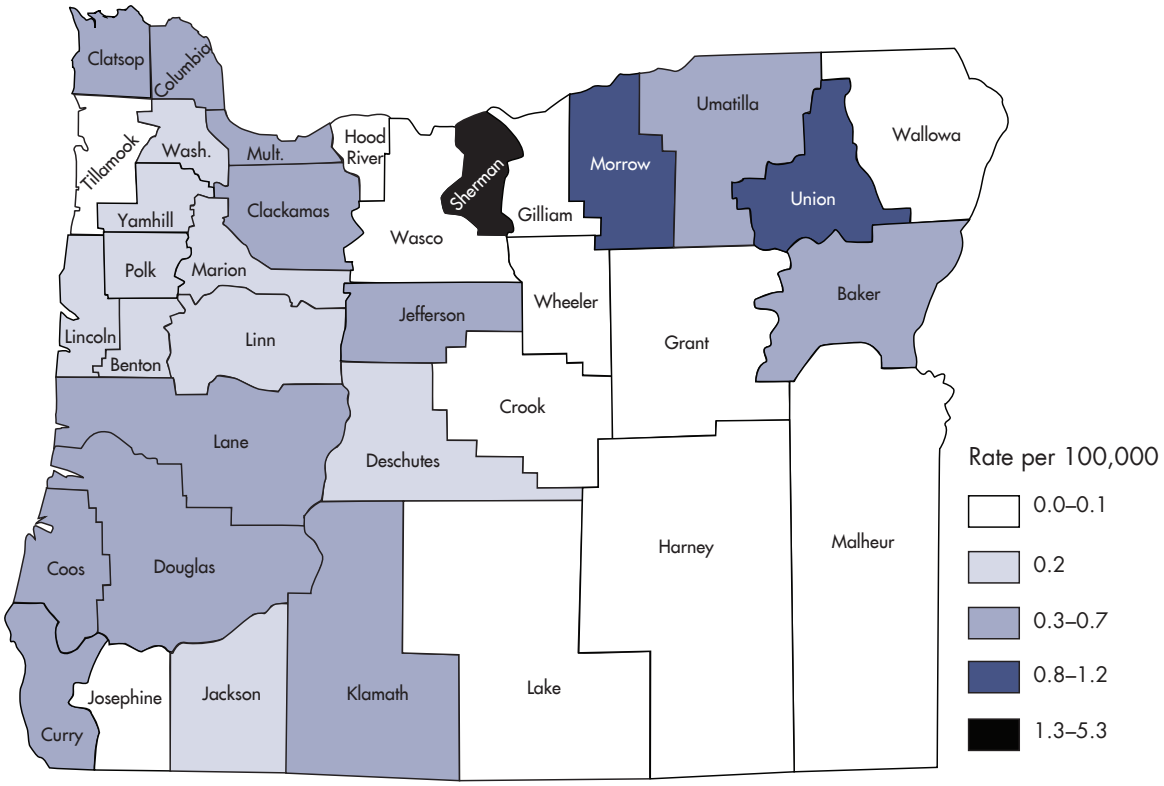
Yersiniosis by year: Oregon, 1988–2007



Incidence of yersiniosis by age and sex: Oregon, 1998–2007

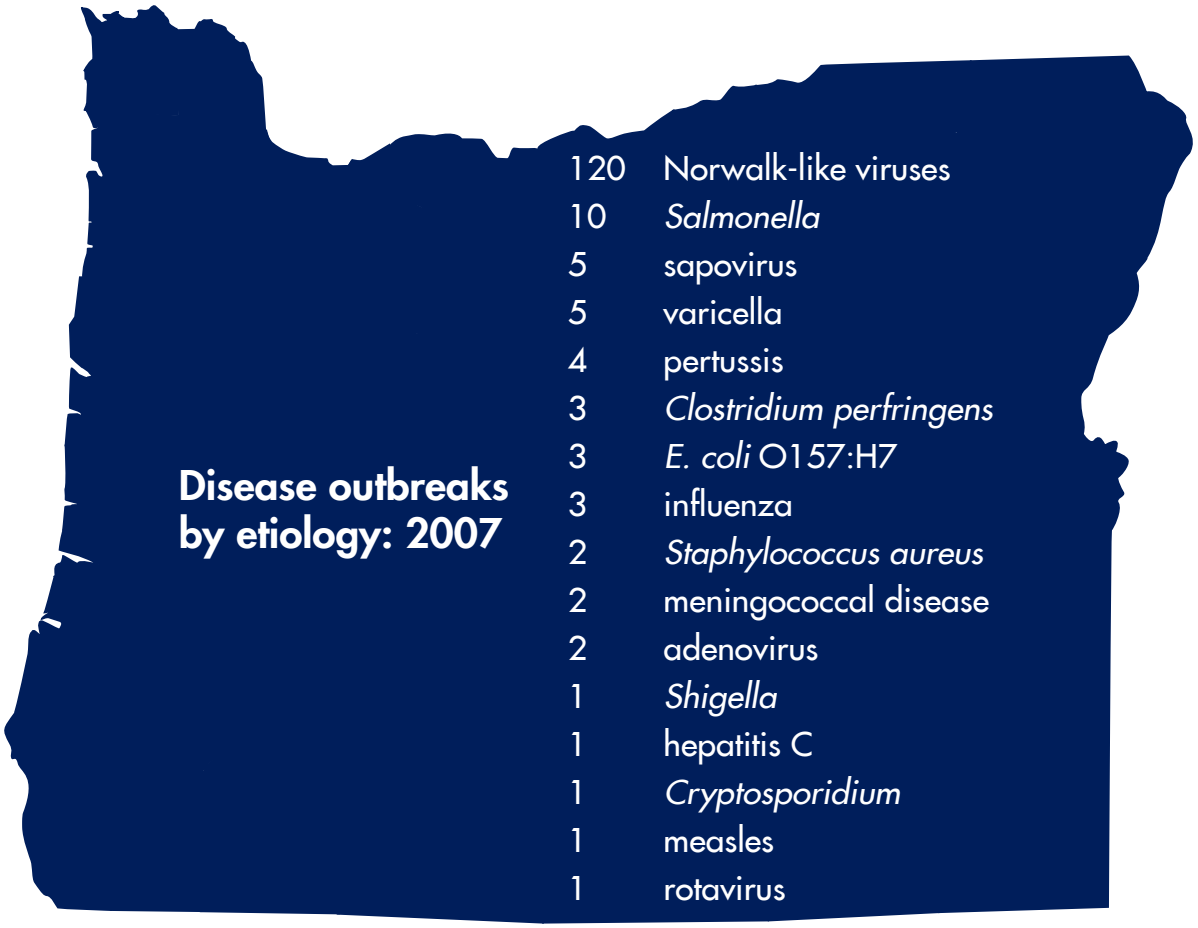



Incidence of yersiniosis by county of residence: Oregon, 1998–2007



## Disease outbreaks

Oregon state and local health departments investigated a record number (231) of communicable disease outbreaks in 2007. The majority (120) of these were person-to-person transmissions of norovirus causing gastroenteritis in the elder inhabitants of Oregon's assisted and long-term care facilities, or younger populations in restricted environments such as the state hospital or prison. However, there were a number of outbreaks of other bacterial and viral pathogens. Sharing of respiratory secretions caused clusters of influenza (3), pertussis (4), meningococcal disease (2) and adenovirus (2). Thirty-nine outbreaks of foodborne transmission were identified. Foods contaminated with a garden variety of *Salmonella* made folks ill at a variety of venues including restaurants, markets and fairs. Every outbreak reinforces the age-old public health mantras — "wash your hands" and "cover your cough."



## Public health reporting for clinicians

By law[1], Oregon clinicians must report diagnoses (confirmed or suspected) of the specified infections, diseases and conditions. Both lab-confirmed cases and clinically suspect cases are reportable. The parallel system of lab reporting does not obviate the clinician's obligation to report. Some conditions (e.g., uncommon illnesses of public health significance, animal bites, HUS, PID, pesticide poisoning, disease outbreaks) are rarely if ever identified by labs. In short, we depend upon clinicians to report. Reports should be made to the patient's local health department[2] and should include at least the patient's name, home address, phone number, date of birth, sex, diagnosis, and the date of symptom onset. Most reports should be made within one working day of the diagnosis, but there are several important exceptions.

Disease reporting enables appropriate public health follow-up for your patients, helps identify outbreaks, provides a better understanding of morbidity patterns, and may even save lives. Remember that HIPAA does not prohibit you from reporting protected health information to the public health authorities for the purpose of preventing or controlling disease, including public health surveillance and investigations; see 45 CFR 164.512(b)(1)(i).

### REPORT IMMEDIATELY

Anthrax
Botulism
Diphtheria
Marine intoxication[3]
Plague
SARS-coronavirus
Any outbreak of disease[4]
Any uncommon illness of potential public health significance[5]

### REPORT WITHIN 24 HOURS

*Haemophilus influenzae*
Measles (rubeola)
Meningococcal disease
Pesticide poisoning
Polio
Rabies
Rubella
*Vibrio* infection

### REPORT WITHIN ONE WORKING DAY

Animal bites
Any arthropod-borne infection[6]
Brucellosis
Campylobacteriosis
Chancroid
*Chlamydia* infection[7]
Cruetzfeld-Jakob disease (CJD) and other prion diseases
Cryptosporidiosis
*Cyclospora* infection
*Escherichia coli* (Shiga-toxigenic)[8]
Giardiasis
Gonorrhea
Hantavirus infection

Hepatitis A
Hepatitis B
Hepatitis C
Hepatitis D (delta)
HIV infection and AIDS
Hemolytic-uremic syndrome (HUS)
Legionellosis
Leptospirosis
Listeriosis
Lyme disease
Lymphogranuloma venereum (LGV)
Malaria
Mumps
Pelvic inflammatory disease
(acute, non-gonococcal)
Pertussis
Psittacosis
Q fever
Rocky Mountain spotted fever
Salmonellosis (including typhoid)
Shigellosis
Syphilis
*Taenia solium* infection/Cysticercosis
Tetanus
Trichinosis
Tuberculosis
Tularemia
West Nile virus
Yersiniosis

## REPORT WITHIN ONE WEEK

Lead poisoning
Diabetes in person ≤ 18 years old[9]

**FOOTNOTES**

1. ORS 433.004; OAR 333-018-0000 to 333-018-0015.
2. Refer to www.oregon.gov/DHS/ph/acd/reporting/disrpt.shtml for a list of local health departments and more details about what to report.
3. Paralytic shellfish poisoning, scombroid, domoic acid intoxication, ciguatera, etc.
4. Outbreaks are ≥ 2 cases from separate households associated with a suspected common source.
5. We can't list every exotic disease in the world. Ask yourself "Might there be public health implications from a case of possible Ebola, smallpox, meliodosis, or whatever?" If the answer is "yes" – or even "maybe" – then pick up the phone. There are no penalties for overreporting.
6. Including any viral, bacterial, and parasitic infections typically spread by ticks, mosquitos, fleas and their ilk (e.g., relapsing fever, typhus, babesiosis, dengue, filariasis, Colorado tick fever, ehrlichiosis, yellow fever, Chagas disease, leishmaniasis, SLE, WEE, EEE, CCHF, etc.)
7. STDs, trachoma, TWAR, psittacosis – all of 'em – even if they're named *Chlamydophila*.
8. *E. coli* O157:H7 is the exemplar of this group.
9. Fax all childhood diabetes cases to 971-673-0994. (Forms available at www.healthoregon.org/diabetes.)

## Public health reporting for laboratories

By law[1], Oregon labs must report all test results "indicative of and specific for" the following diseases, infections, microorganisms and conditions. These results include microbiological culture, isolation or identification; assays for specific antibodies; and identification of specific antigens, toxins or nucleic acid sequences.

In general, reports must be made to the patient's local health department[2] within one working day of the initial test report. Laboratories identifying possible agents of bioterrorism should contact their local health department and refer the isolates to the Oregon State Public Health Laboratory immediately, day or night. Reports must include the patient's name and county of residence, the specimen collection date, lab test and result, and contact information for the ordering clinician and the lab. If available, the patient's address, date of birth and sex are much appreciated.

The lab that reports to the clinician is responsible for reporting, regardless of who actually does the test. Out-of-state residents may document reports in a log sent directly to the state office; .

BACTERIA

*Bacillus anthracis*
*Bordetella pertussis*
*Borrelia*
*Brucella*
*Campylobacter*
*Chlamydia psittaci*
*Chlamydia trachomatis*
*Clostridium botulinum*
*Clostridium tetani*
*Corynebacterium diphtheriae*
*Coxiella burnetii*
*Ehrlichia*
*Escherichia coli* – Shiga-toxigenic[3,4]
*Francisella tularensis*
*Haemophilus influenzae*[3,5]
*Haemophilus ducreyi*
*Legionella*
*Leptospira*
*Listeria monocytogenes*[3]
*Mycobacterium tuberculosis*[3]
*Mycobacterium bovis*
*Neisseria gonorrhoeae*
*Neisseria meningitidis*[3,5]
*Rickettsia*
*Salmonella*[3]
*Shigella*[3]
*Treponema pallidum*
*Vibrio*[3]
*Yersinia*[3]

## PARASITES

*Cryptosporidium*
*Cyclospora*
*Giardia*
*Plasmodium*
*Taenia solium*[6]
*Trichinella*

## VIRUSES

Hantavirus
Hepatitis A[7]
Hepatitis B[7]
Hepatitis C
Hepatitis D (Delta)
HIV infection and AIDS
Measles (Rubeola)
Mumps
Polio
Rabies
Rubella
SARS-coronavirus
West Nile
Yellow Fever

## OTHER IMPORTANT REPORTABLES

Any "uncommon illness of potential public health significance"[2]
Any outbreak of disease[2]
Any other typically arthropod vector-borne infection[2]
All blood lead testing results
All CD4 cell counts and HIV viral loads
Creutzfeldt-Jakob disease (CJD) and other prion illnesses

**NOTES**

1. ORS 433.004; OAR 333-018-0000 to 333-018-0015.
2. Refer to www.oregon.gov/DHS/ph/acd/reporting/disrpt.shtml for a list of local health departments, reporting FAQs, and more details about what to report. When in doubt, report.
3. Isolates must be forwarded to the Oregon State Public Health Laboratory (phone, 503-693-4100).
4. Including all confirmed or suspected *E. coli* O157.
5. Report only isolates from normally sterile sites (e.g., neither sputum nor throat cultures).
6. Report cysticercosis and all undifferentiated *Taenia* sp., (e.g., eggs in stool O & P).
7. IgM positive HAV and HBV specimens must be forwarded to the Oregon State Public Health Laboratory.

## Selected cases of notifiable diseases by year*, Oregon 1988-2007

| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Campylobacteriosis | 945 | 998 | 951 | 966 | 850 | 712 | 656 | 626 | 702 | 736 | 698 | 599 | 568 | 598 | 575 | 597 | 656 | 647 | 652 | 729 |
| Chlamydiosis* | 7135 | 6734 | 7387 | 7327 | 5885 | 5539 | 5494 | 5468 | 5442 | 5254 | 5857 | 6163 | 7110 | 7504 | 7200 | 7500 | 8690 | 9019 | 9576 | 9867 |
| *E. coli O157 Infection* | 5 | 3 | 56 | 114 | 154 | 253 | 111 | 94 | 102 | 92 | 107 | 68 | 134 | 91 | 204 | 101 | 68 | 149 | 92 | 79 |
| Giardiasis | 1152 | 1062 | 1359 | 1301 | 1178 | 1000 | 937 | 897 | 899 | 879 | 892 | 792 | 673 | 535 | 431 | 406 | 443 | 417 | 425 | 463 |
| Gonorrhea* | 3221 | 3025 | 2549 | 2172 | 1768 | 1192 | 977 | 854 | 886 | 773 | 880 | 906 | 1039 | 1145 | 929 | 981 | 1302 | 1562 | 1460 | 1235 |
| *H. influenzae infection* | 134 | 83 | 67 | 28 | 24 | 11 | 25 | 27 | 32 | 36 | 41 | 49 | 30 | 38 | 57 | 42 | 49 | 53 | 55 | 66 |
| Hepatitis A | 1438 | 2322 | 809 | 446 | 506 | 581 | 1366 | 2929 | 883 | 387 | 430 | 248 | 164 | 109 | 61 | 62 | 65 | 47 | 47 | 33 |
| Acute hepatitis B | 582 | 569 | 415 | 305 | 278 | 282 | 232 | 186 | 164 | 131 | 186 | 122 | 123 | 166 | 126 | 119 | 112 | 97 | 86 | 61 |
| Acute hepatitis C | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 7 | 23 | 12 | 9 | 29 | 18 | 15 | 13 | 16 | 17 | 19 | 27 | 22 |
| Legionellosis | | | | | | | | | | | 1 | 2 | 1 | 4 | 9 | 17 | 8 | 15 | 22 | 14 |
| Listeriosis | 6 | 11 | 5 | 3 | 6 | 10 | 11 | 13 | 15 | 11 | 18 | 17 | 6 | 12 | 9 | 5 | 7 | 11 | 13 | 8 |
| Malaria | 17 | 20 | 21 | 13 | 16 | 14 | 16 | 23 | 23 | 26 | 16 | 22 | 41 | 14 | 14 | 10 | 19 | 13 | 15 | 16 |
| Measles | 5 | 82 | 212 | 93 | 3 | 4 | 2 | 1 | 14 | 0 | 3 | 9 | 0 | 3 | 0 | 3 | 0 | 2 | 2 | 2 |
| Meningococcal disease | 53 | 70 | 87 | 81 | 72 | 101 | 136 | 118 | 114 | 109 | 85 | 75 | 71 | 65 | 44 | 60 | 61 | 56 | 41 | 32 |
| Pertussis | 51 | 22 | 122 | 66 | 45 | 105 | 67 | 57 | 57 | 49 | 89 | 61 | 105 | 66 | 193 | 438 | 625 | 622 | 112 | 124 |
| Rubella | 0 | 4 | 75 | 5 | 2 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Salmonellosis | 410 | 325 | 357 | 378 | 478 | 346 | 337 | 345 | 381 | 366 | 344 | 422 | 300 | 288 | 337 | 427 | 416 | 417 | 428 | 336 |
| Shigellosis | 108 | 123 | 180 | 721 | 280 | 158 | 166 | 174 | 151 | 195 | 187 | 102 | 159 | 115 | 106 | 211 | 87 | 127 | 121 | 87 |
| Early syphilis* | 515 | 424 | 261 | 277 | 218 | 185 | 100 | 67 | 70 | 48 | 32 | 37 | 31 | 22 | 47 | 74 | 58 | 57 | 48 | 24 |
| Tuberculosis* | 161 | 151 | 148 | 144 | 146 | 153 | 165 | 156 | 188 | 161 | 156 | 123 | 119 | 123 | 111 | 106 | 106 | 103 | 81 | 94 |
| Tularemia | 2 | 4 | 3 | 2 | 1 | 2 | 4 | 1 | 1 | 5 | 4 | 1 | 2 | 1 | 2 | 0 | 2 | 2 | 3 | 3 |
| Typhoid fever | 7 | 6 | 5 | 6 | 2 | 3 | 5 | 3 | 4 | 3 | 1 | 7 | 4 | 8 | 2 | 3 | 1 | 4 | 4 | 0 |
| *Vibrio parahaemolyticus* | | | | | | | | | | 7 | 5 | 3 | 7 | 6 | 9 | 5 | 11 | 6 | 19 | 7 |
| Yersiniosis | 16 | 28 | 22 | 20 | 9 | 15 | 16 | 7 | 18 | 15 | 17 | 18 | 10 | 12 | 16 | 6 | 14 | 17 | 16 | 18 |

* Case counts by onset year except for where noted with * indicating counts by date of report  Blank cells = not reportable  Data as of 7/15/08

# Selected cases of notifiable diseases by county of residence: Oregon, 2007

| | AIDS/HIV** | Campylo bacteriosis | Chlamydiosis | Cryptosporidiosis | *E. coli* O157 infection | Giardiasis | Gonorrhea | *H. influenzae* | Hepatitis A | Hepatitis B (acute) | Hepatitis B (chronic) | Hepatitis C (acute) | HUS | Legionellosis | Listeriosis | Lyme disease | Malaria | Meningococcal disease | Pertussis | Rabies, animal | Salmonellosis | Shigellosis | Early Syphillis | Tuberculosis | *Vibrio parahaemolyticus* | West Nile | Yersiniosis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baker | 4 | 4 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 0 |
| Benton | 35 | 22 | 208 | 0 | 3 | 9 | 16 | 2 | 0 | 2 | 10 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |
| Clackamas | 257 | 86 | 734 | 26 | 12 | 29 | 79 | 12 | 1 | 6 | 32 | 2 | 0 | 3 | 2 | 2 | 1 | 2 | 4 | 0 | 43 | 7 | 0 | 12 | 0 | 1 | 4 |
| Clatsop | 25 | 10 | 117 | 1 | 1 | 5 | 7 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| Columbia | 25 | 4 | 96 | 1 | 0 | 5 | 7 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 |
| Coos | 37 | 12 | 75 | 0 | 1 | 11 | 1 | 2 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 |
| Crook | 7 | 2 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| Curry | 11 | 1 | 18 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Deschutes | 77 | 54 | 405 | 7 | 4 | 31 | 10 | 4 | 3 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 16 | 2 | 1 | 2 | 0 | 0 | 0 |
| Douglas | 65 | 12 | 194 | 1 | 10 | 10 | 6 | 1 | 2 | 5 | 2 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 9 | 0 | 0 | 1 | 0 | 1 | 0 |
| Gilliam | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Grant | 4 | 2 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Harney | 1 | 3 | 7 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hood River | 16 | 2 | 46 | 2 | 0 | 4 | 3 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 |
| Jackson | 139 | 52 | 530 | 27 | 3 | 19 | 52 | 5 | 1 | 2 | 8 | 1 | 1 | 0 | 0 | 6 | 0 | 2 | 5 | 1 | 27 | 3 | 0 | 1 | 0 | 0 | 0 |
| Jefferson | 12 | 7 | 98 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 1 |
| Josephine | 57 | 11 | 171 | 1 | 0 | 5 | 7 | 2 | 1 | 2 | 7 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Klamath | 22 | 9 | 113 | 2 | 0 | 8 | 6 | 2 | 2 | 0 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 3 | 0 | 2 | 0 |
| Lake | 2 | 1 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane | 296 | 63 | 848 | 11 | 10 | 57 | 53 | 10 | 1 | 9 | 33 | 5 | 1 | 1 | 0 | 0 | 0 | 3 | 13 | 3 | 24 | 4 | 2 | 8 | 1 | 1 | 5 |
| Lincoln | 37 | 2 | 99 | 0 | 1 | 8 | 14 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
| Linn | 54 | 20 | 284 | 1 | 3 | 10 | 33 | 2 | 0 | 3 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 14 | 0 | 12 | 2 | 1 | 2 | 0 | 0 | 0 |
| Malheur | 19 | 4 | 85 | 4 | 1 | 1 | 10 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 11 | 0 |
| Marion | 330 | 56 | 1035 | 5 | 4 | 28 | 112 | 3 | 1 | 5 | 39 | 0 | 1 | 1 | 0 | 1 | 2 | 2 | 5 | 0 | 24 | 3 | 2 | 10 | 0 | 1 | 0 |
| Morrow | 6 | 1 | 22 | 2 | 2 | 1 | 3 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Multnomah | 2,825 | 138 | 2928 | 40 | 13 | 141 | 647 | 9 | 14 | 18 | 170 | 5 | 0 | 7 | 2 | 5 | 11 | 5 | 21 | 2 | 63 | 34 | 13 | 28 | 3 | 1 | 3 |
| Polk | 27 | 7 | 135 | 1 | 2 | 9 | 8 | 0 | 1 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 6 | 1 | 1 | 1 | 0 | 1 | 0 |
| Sherman | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tillamook | 11 | 8 | 36 | 6 | 1 | 5 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Umatilla | 38 | 9 | 204 | 0 | 1 | 3 | 11 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 1 | 1 | 1 | 0 | 0 | 1 |
| Union | 9 | 8 | 36 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 3 | 0 | 0 | 0 | 0 | 5 | 0 |
| Wallowa | 2 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Wasco | 15 | 4 | 60 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 7 | 0 | 0 | 0 | 0 | 0 |
| Washington | 411 | 100 | 1014 | 23 | 4 | 48 | 124 | 4 | 2 | 5 | 95 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 18 | 0 | 44 | 13 | 1 | 17 | 3 | 0 | 2 |
| Wheeler | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yamhill | 43 | 14 | 189 | 1 | 2 | 8 | 7 | 5 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 5 | 0 | 3 | 1 | 2 | 3 | 0 | 0 | 0 |
| Total | 4920 | 729 | 9867 | 163 | 79 | 463 | 1235 | 66 | 33 | 61 | 462 | 22 | 9 | 14 | 8 | 27 | 16 | 32 | 124 | 12 | 336 | 87 | 24 | 94 | 7 | 27 | 18 |

CD Data as of 7/15/2008 **Number of persons living HIV/AIDS

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Oregon Department of Human Services

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