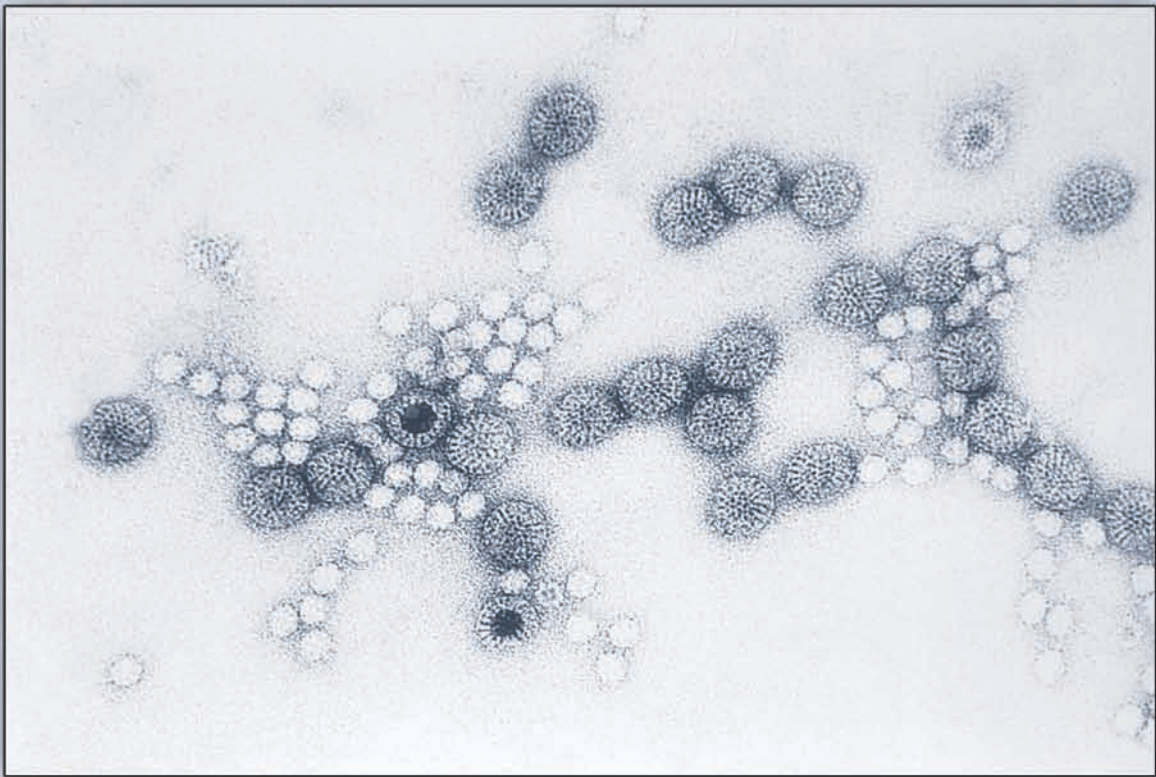


Selected Reportable  
Communicable Disease Summary

2008–2009 State of Oregon



PUBLIC HEALTH DIVISION  
Office of Disease Prevention and Epidemiology

Oregon  
**Health**  
Authority

# **Selected reportable communicable disease summary**

## **2008–2009 State of Oregon**

OREGON PUBLIC HEALTH DIVISION  
Office of Disease Prevention and Epidemiology  
Acute and Communicable Disease Prevention  
800 N.E. Oregon Street, Suite 772  
Portland, OR 97232

Phone: 971-673-1111

E-mail: [ohd.acdp@state.or.us](mailto:ohd.acdp@state.or.us)

Website: <http://oregon.gov/DHS/ph/acd>

Compiled and prepared by  
June Bancroft, M.P.H., epidemiologist  
Leslie Byster, electronic publications specialist

December 2010

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## 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. This report reflects reporting laws in effect for 2008 and 2009. 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 2008–2009 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.

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.

Population estimates for rate calculations were obtained from the Center for Population Research at Portland State University ([www.pdx.edu/prc](http://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.

Incidence is annualized by onset date unless otherwise stated. Case counts include both confirmed and presumptive cases.

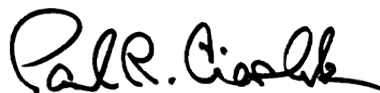
Also keep in mind that cases are assigned to the county of residence at the time of the report — not to the county in which the case received medical care, or the county where the exposure to infection occurred.

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 2008–2009 communicable disease summary. We present 22 years of data whenever possible.

For most of the diseases, we include the following: figures showing case counts by year for the past 22 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 22 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 tally of disease outbreaks reported in the past year, a summary of enhanced data on gastroenteritis outbreaks, 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](mailto:ohd.acdp@state.or.us).



Paul R. Cieslak, M.D.

Manager,  
Acute and Communicable Disease Prevention

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List of contributors

June Bancroft, M.P.H.

Michelle Barber, M.P.H.

Paul Cieslak, M.D.

Emilio DeBess, D.V.M., M.P.V.M.

Doug Harger, B.S.

Bill Keene, Ph.D., M.P.H.

Lindsey Lane, M.P.H.

Lore Lee R.N., M.P.H.

Juventila Liko, M.D., M.P.H.

Tasha Poissant, M.P.H.

Melissa Powell, M.P.H.

Barbara Progulske, D.V.M., M.P.H.

Beletshachew Shiferaw, M.D., M.P.H.

Sean Schafer, M.D.

Graci VanNess, M.P.H.

## 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 health care 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.

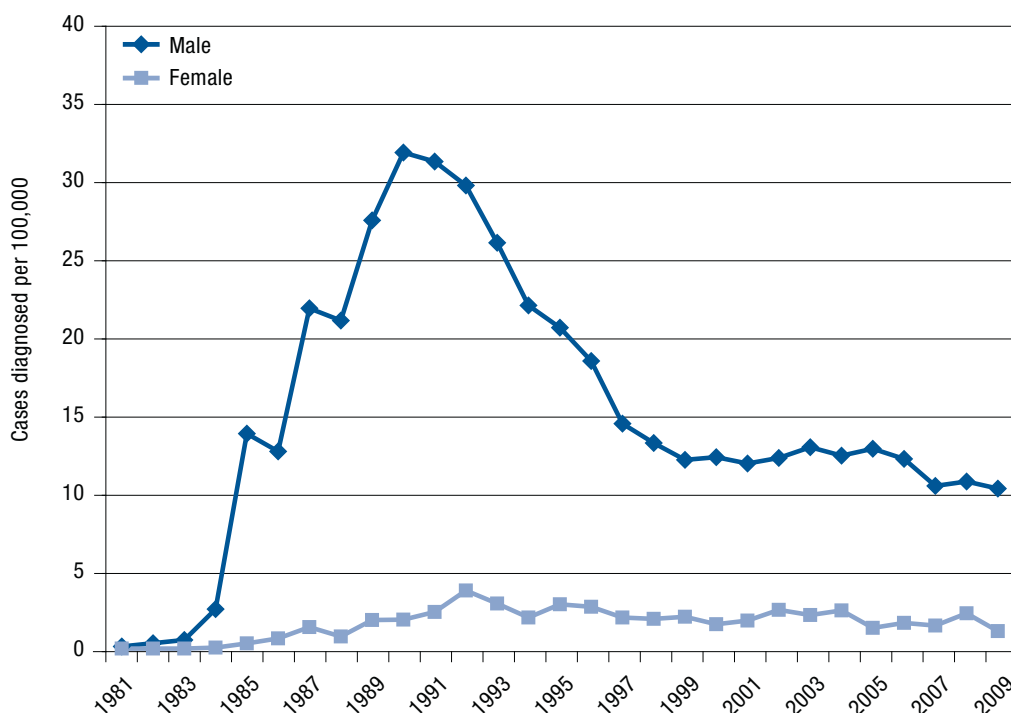
As of July 2010, 8,467 cases of HIV infection (including cases that had, and cases that had not yet progressed to AIDS) had been diagnosed among Oregon residents between

1981 and 2009 and reported to the Oregon HIV/STD/TB Program; 3,466 of these case-patients had died, leaving 5,001 living with HIV infection. Approximately 64% of these infections had progressed to AIDS by the end of 2009. In addition, approximately 1,329 people are estimated to be infected, but not yet diagnosed; about 2,100 people with HIV infection who resided in another state at the time of their diagnosis had moved to Oregon by the end of 2009.

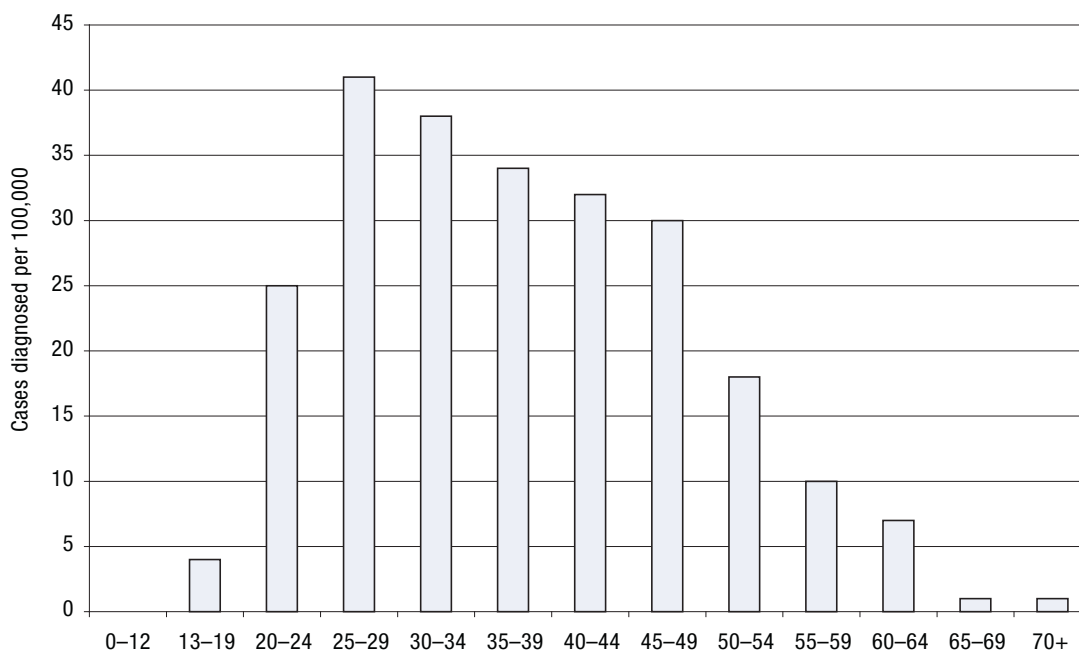
Men accounted for 87% of prevalent cases. Whites accounted for 78%, blacks and/or African Americans, 7%, and Hispanics, 11%. Among men, the five year average annual incidence of new HIV diagnoses was 11.4 cases per 100,000 whites, 29.6 cases per 100,000 blacks and/or African Americans and 18.1 per 100,000 among Hispanics. Among females, these rates were 1.2, 13.5, and 3.1 respectively.

During 2005–2009, 69% 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 6% of males and heterosexual transmission the most likely mode for 3%. Among women with HIV infection, heterosexual transmission was believed to be the most likely mode for 61% and injection drug use for 22%.

### HIV infection diagnoses in Oregon by sex and year of diagnosis, 1981–2009

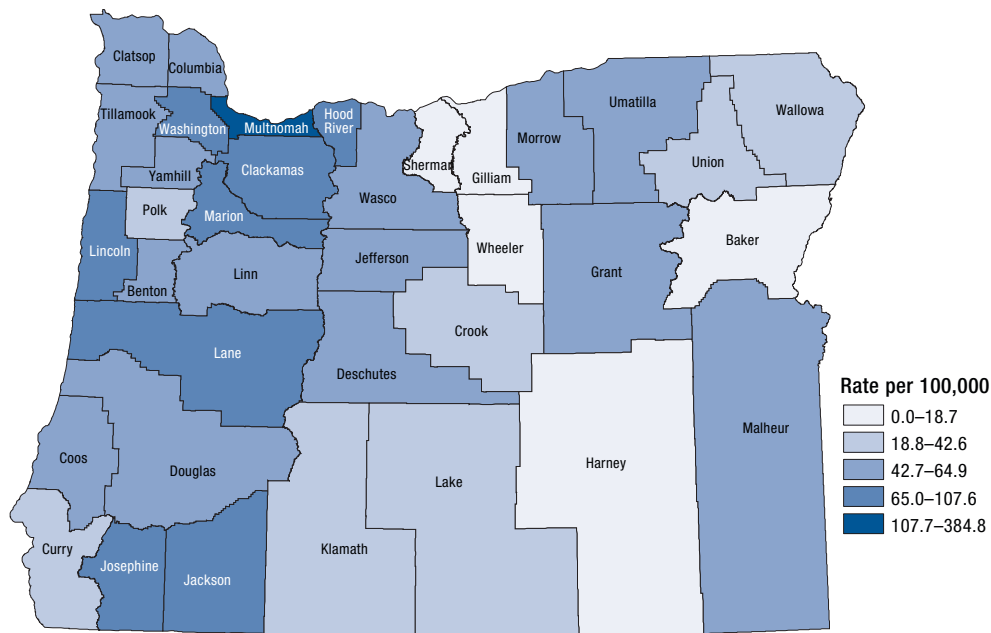


### New cases of HIV infection by age at diagnosis, Oregon, 2009





## Persons living with HIV or AIDS by county of residence, Oregon, 2009



## Campylobacteriosis

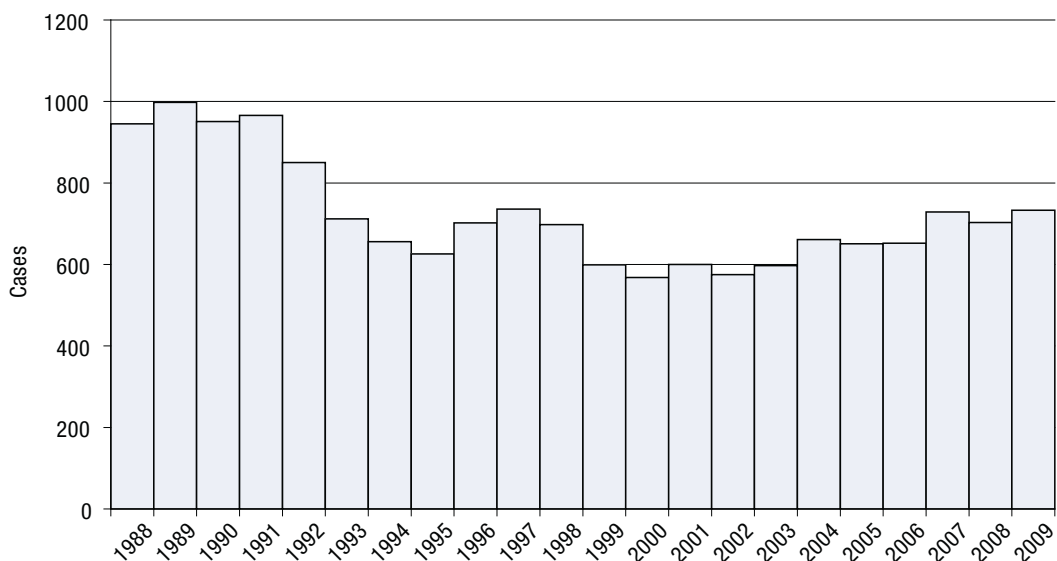
Campylobacteriosis is caused by a Gram-negative bacterium. It is characterized by acute onset of diarrhea, vomiting, abdominal pain, fever and malaise. Campylobacteriosis is the most common bacterial enteric infection reported. It is of worldwide epidemiologic importance due to the fecal-oral route of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

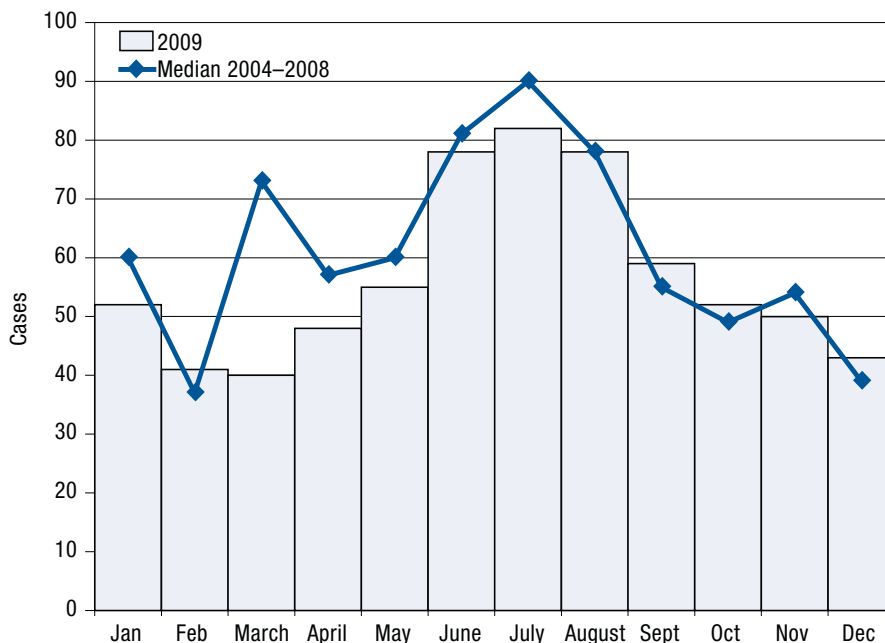
reportable. Rates are highest in Malheur and Harney counties.

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, eight outbreaks of campylobacteriosis have been investigated: three 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.

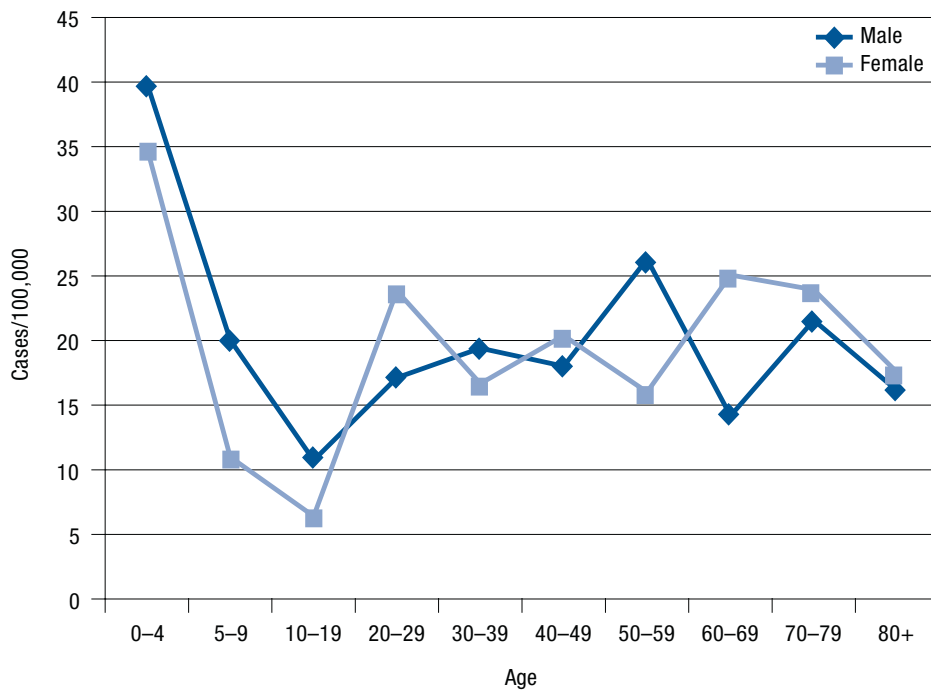
Campylobacteriosis by year: Oregon, 1988–2009



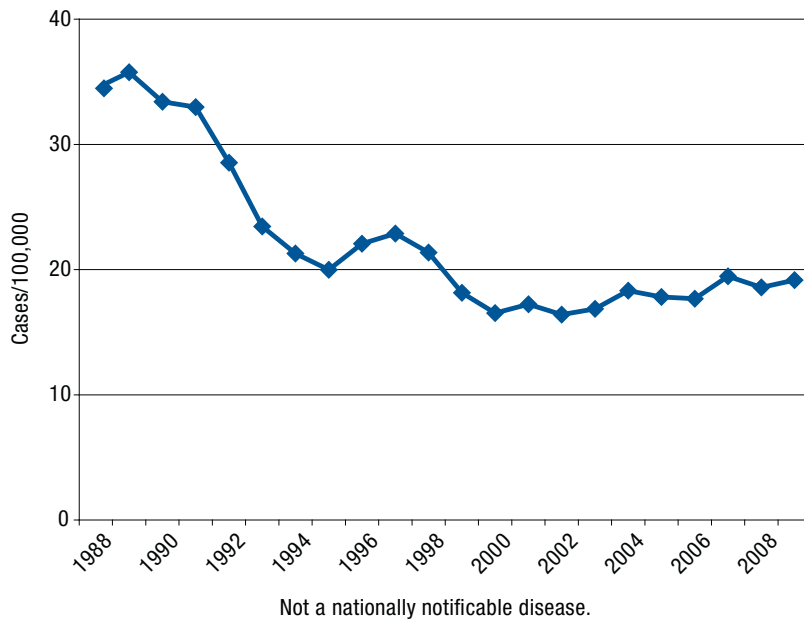
Campylobacteriosis by report month: Oregon, 2009



### Incidence of campylobacteriosis by age and sex: Oregon, 2009

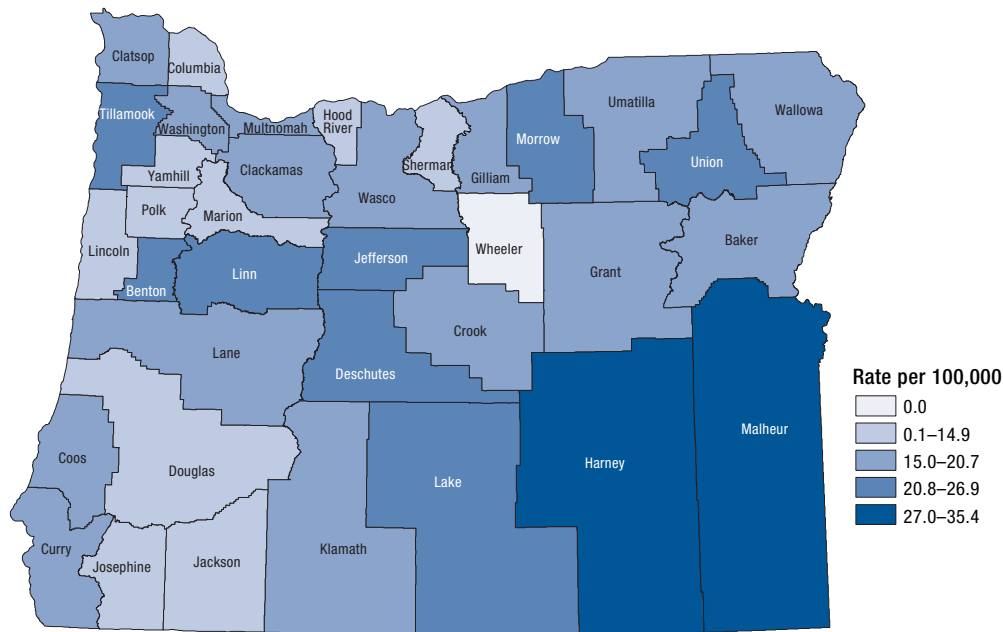


### Incidence of campylobacteriosis: Oregon, 1988–2009



Not a nationally notifiable disease.

## Incidence of campylobacteriosis by county of residence: Oregon, 2000–2009



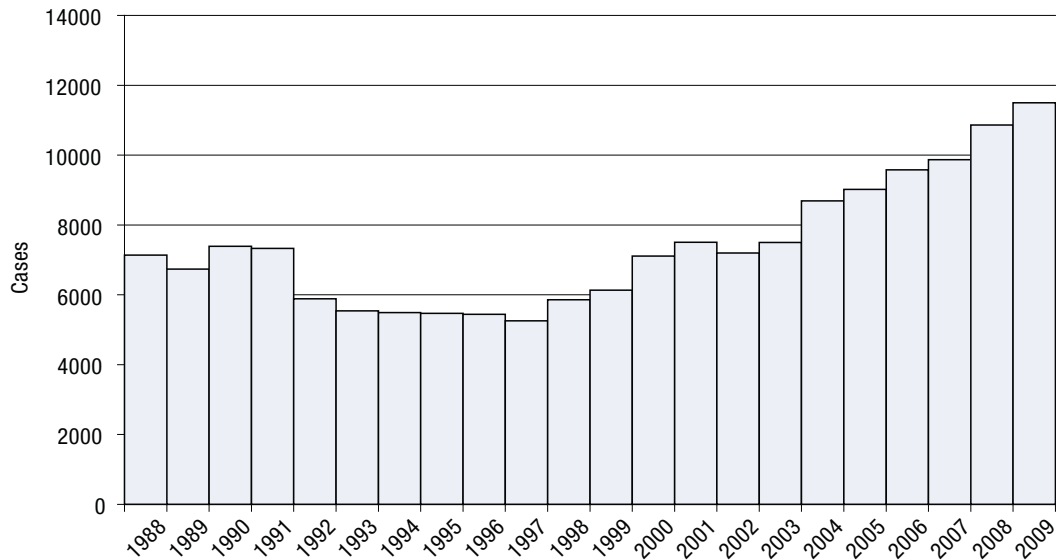
## Chlamydia

*Chlamydia trachomatis* is Oregon's most commonly reported infection. In 2009, there were 11,497 cases reported for a rate of 303.3 cases per 100,000 population. Compared to 2008 this is an increase of 635 cases (5.8%). The highest rates of infection in 2009 were observed in females aged 15–19 followed closely by females aged 20–24. As with gonorrhea and syphilis, chlamydial infections are transmitted by vaginal, rectal and oral sexual contact. Chlamydia may be prevented by abstaining from sexual contact

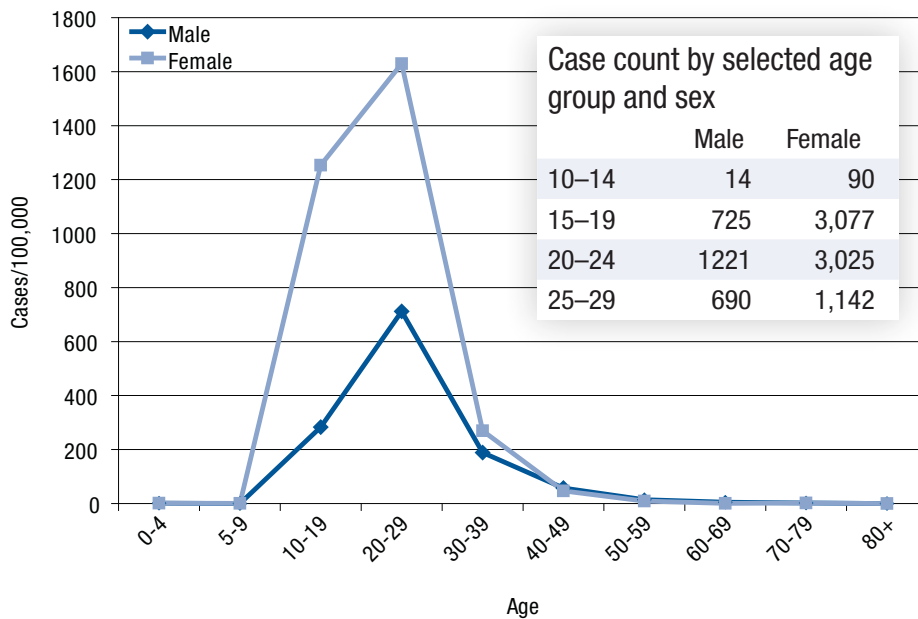
or only having sex with one uninfected sex partner. Those who are sexually active outside of a mutually monogamous relationship can lower their risks of infection by using a condom when engaging in sexual activity.

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.

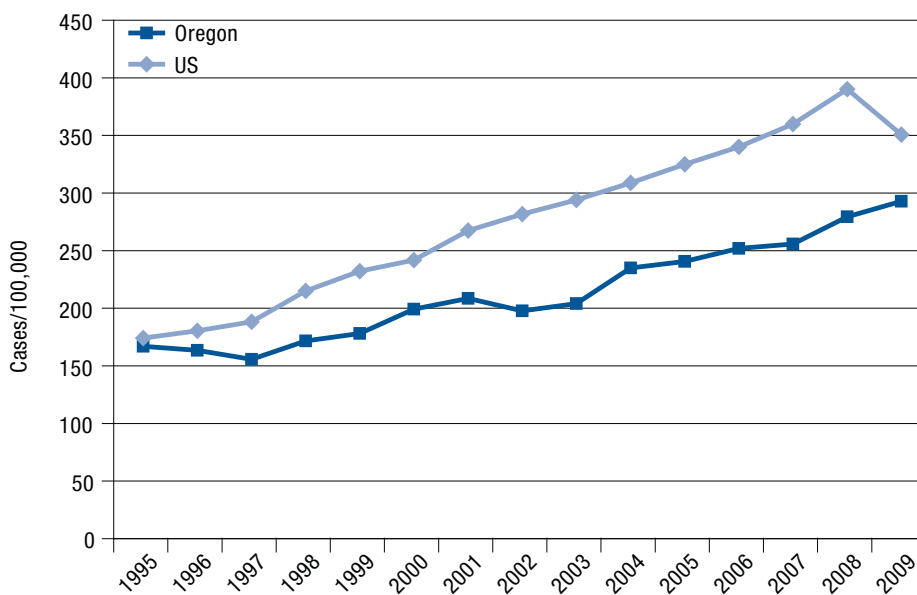
### Chlamydia by year: Oregon, 1988–2009



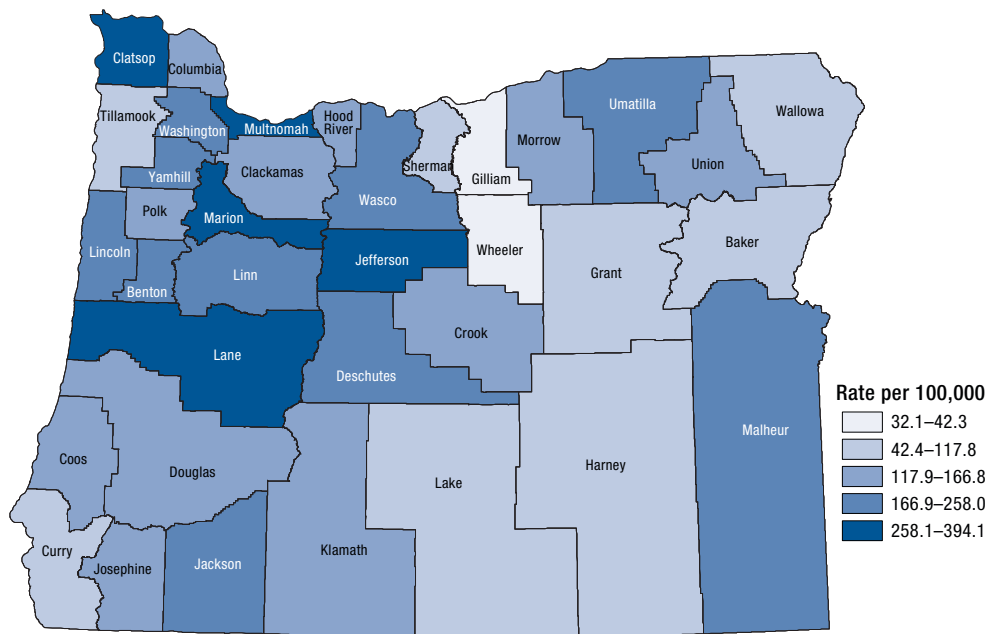
### Incidence of chlamydia by age and sex: Oregon, 2009



### Incidence of chlamydia: Oregon vs. nationwide, 1995–2009



### Incidence of chlamydia by county of residence: Oregon, 2000–2009



## Cryptosporidiosis

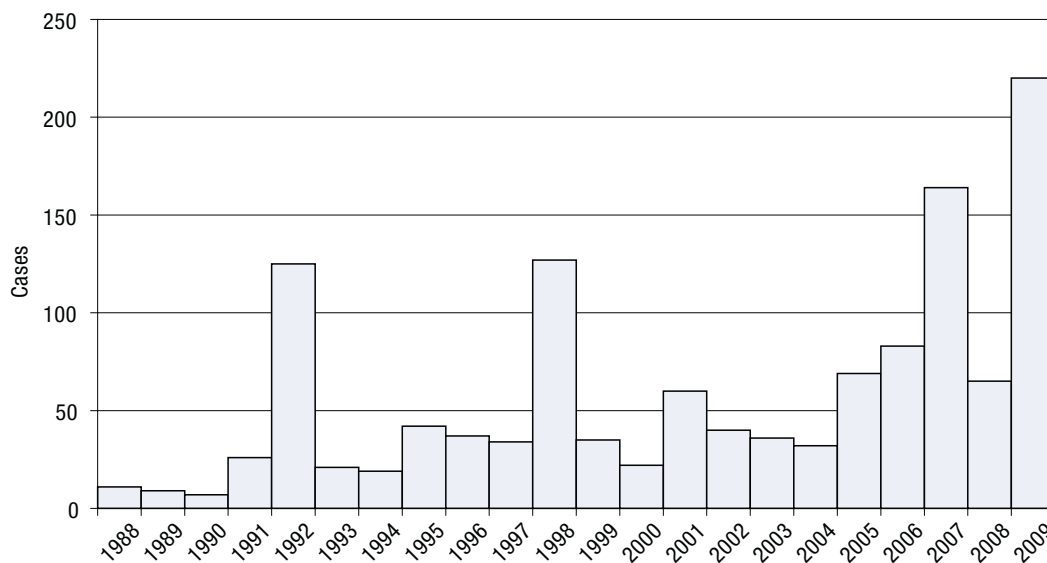
Cryptosporidiosis in humans results from infection with protozoal parasites in the genus *Cryptosporidium* — most commonly *C. hominis* or *C. parvum*. Symptomatic infections are characterized by watery diarrhea and abdominal cramps. Symptoms typically resolve in one to four weeks in immunocompetent 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.

In Oregon the rate of infection with *Cryptosporidium* has been increasing since 2005. In 2008, there was a lull in Oregon cases, however, the increase continued in 2009. New antigen tests for *Cryptosporidium*

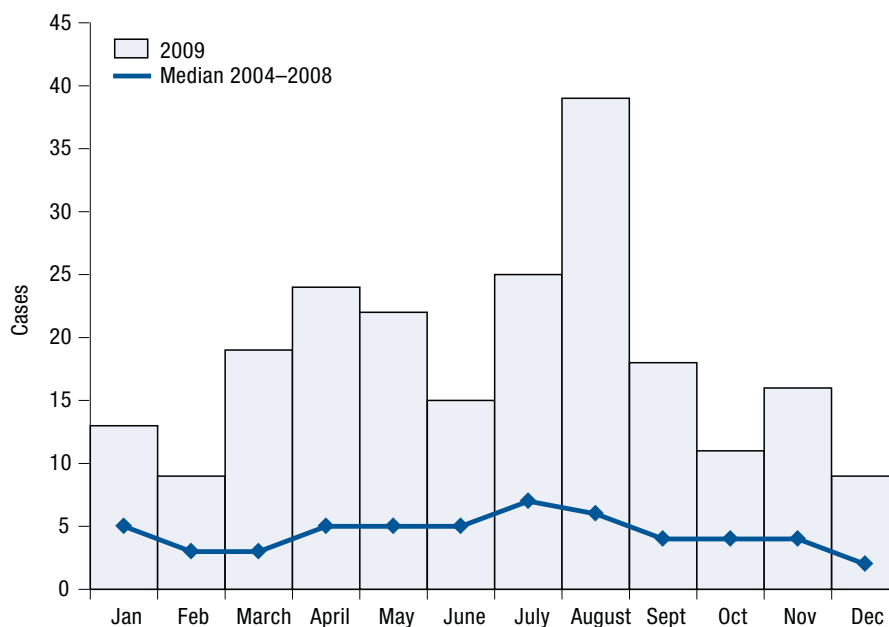
might be playing a role. In 2009, we had a record 220 cases. In 2007, the Oregon investigative guidelines were changed to reflect the increasing numbers of cases; previously, investigations were required only for abnormally high case counts. All cases will now be routinely investigated to identify the 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 2008 no outbreaks were investigated, in 2009 one outbreak (15 cases) occurred in a health care setting.

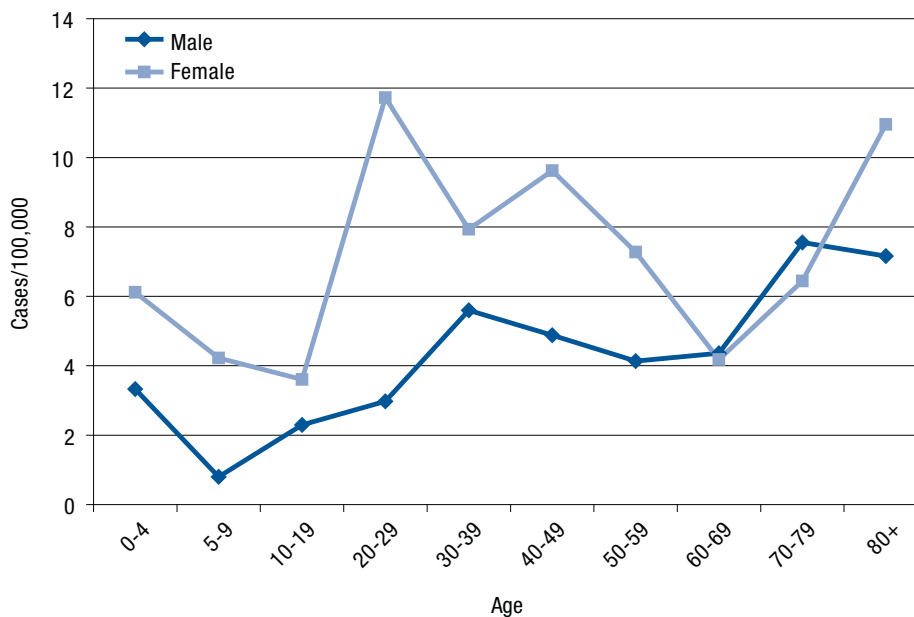
**Cryptosporidiosis by year: Oregon, 1988–2009**



### Cryptosporidiosis by onset month: Oregon, 2009

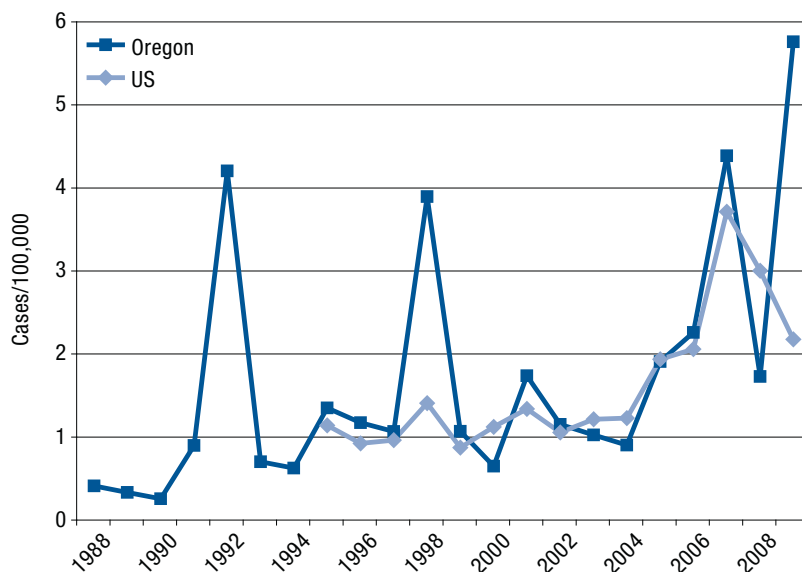


### Incidence of cryptosporidiosis by age and sex: Oregon, 2009



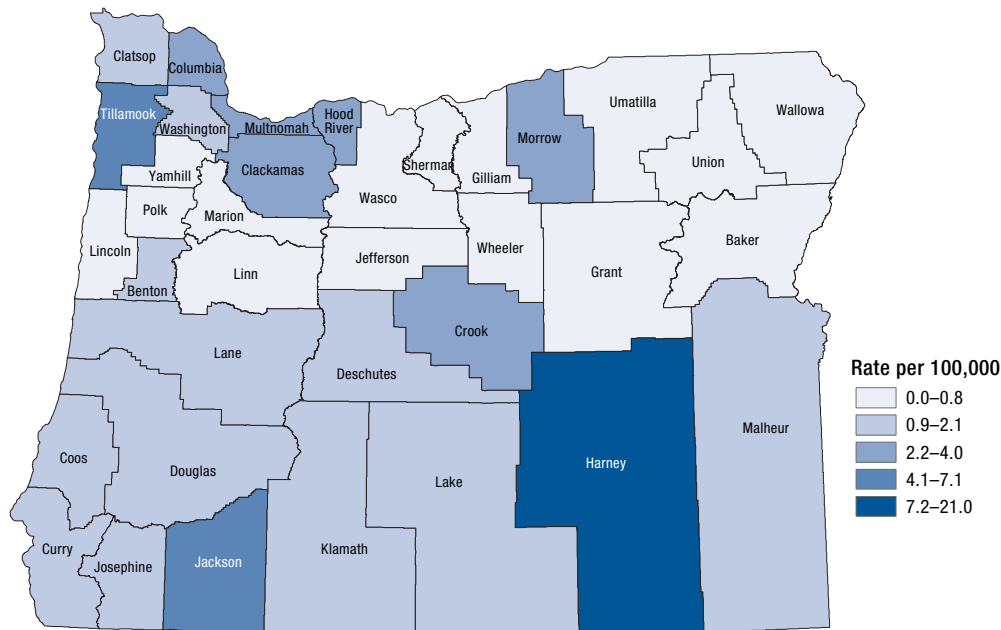


### Incidence of cryptosporidiosis: Oregon vs. nationwide, 1988–2009



Not nationally reportable until 1995.

### Incidence of cryptosporidiosis by county of residence: Oregon, 2000–2009



## *Escherichia coli* O157 and other Shiga toxin producing *Escherichia coli* (STEC) infections

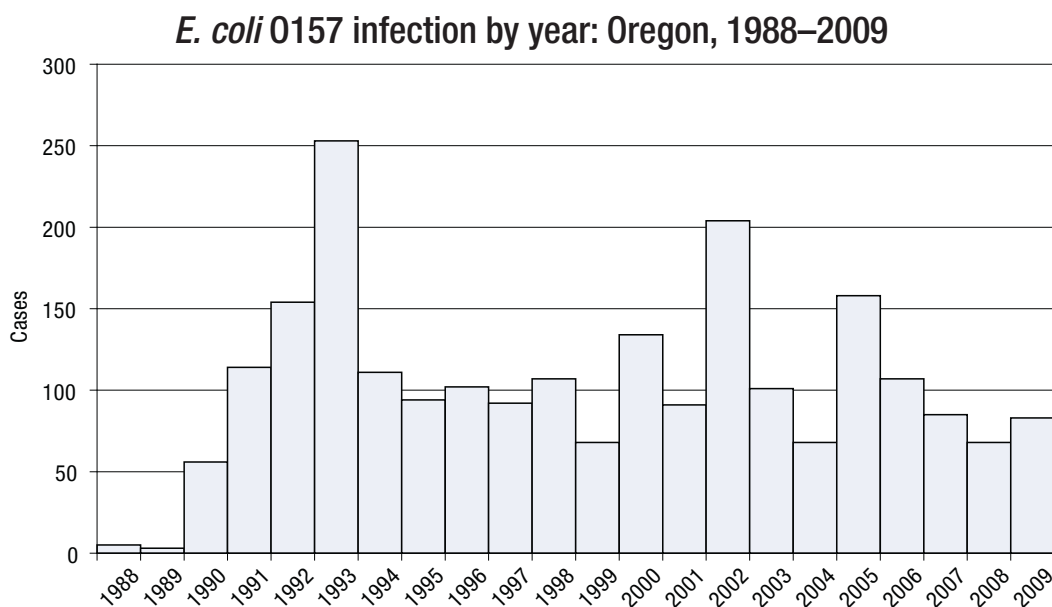
*E. coli* O157 (O157) has become one of the most feared common causes of infectious diarrhea. Oregon has been the setting for many O157 outbreaks, and investigations of those outbreaks combined with the analysis of other surveillance information have contributed greatly to our understanding of this pathogen. 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.

We identified two O157 outbreaks in 2008 and five in 2009. These included a nationwide outbreak associated with Nestlé

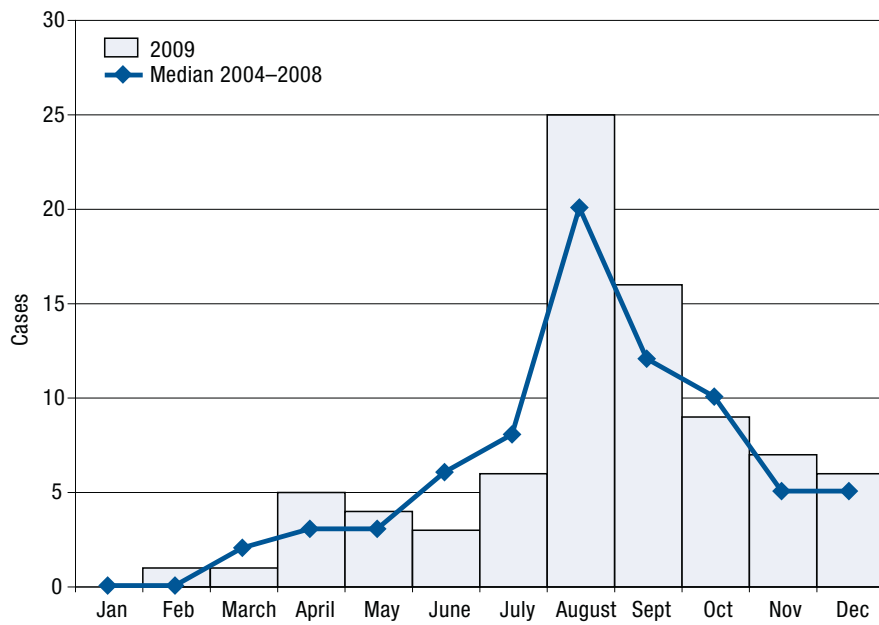
cookie dough, and multi-state outbreaks associated with organic spinach from Washington, a summer camp in Washington, and an Oregon rodeo —the latter with most cases among Washington residents. (Notice any theme here?)

Mid-to-late summer is the peak season for *E. coli* O157 infections. The statewide incidence has been more-or-less stable over the past few years.

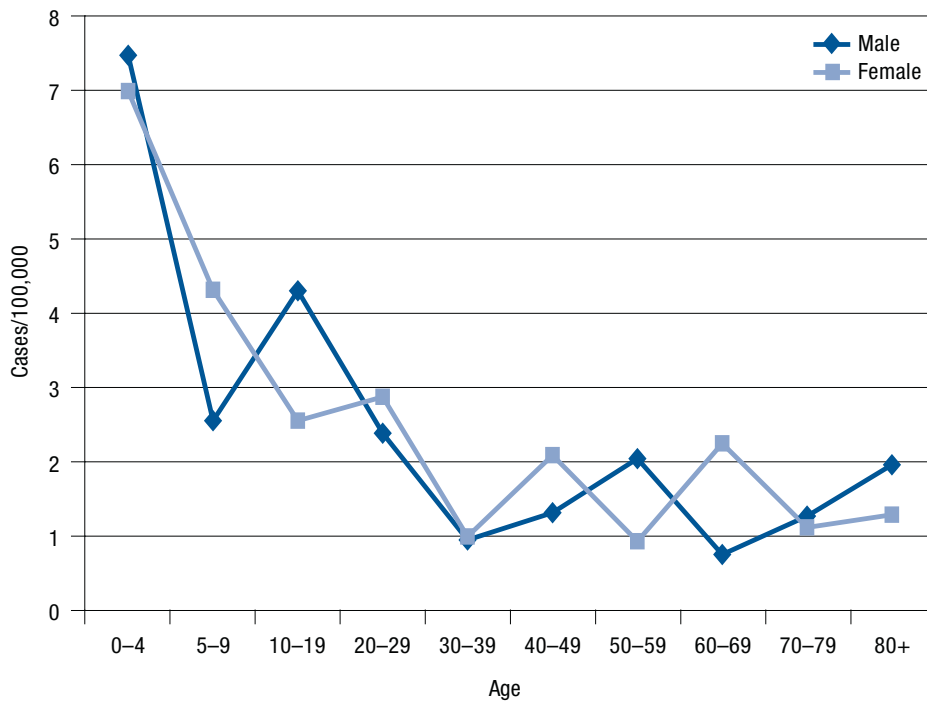
Non-O157 STEC are a small but growing proportion of the problem, with increasing use of Shiga-toxin screening tests driving that trend. For 2008–2009, 12% of STEC isolates were other than O157, with O26, O121, O111, and O103 leading the pack.



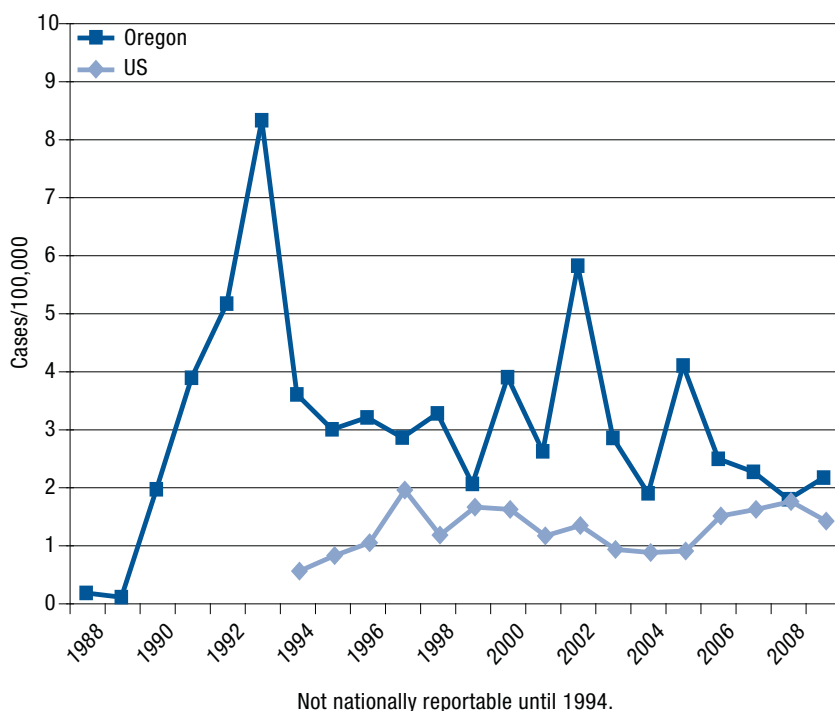
***E. coli* O157 infection by onset month: Oregon, 2009**



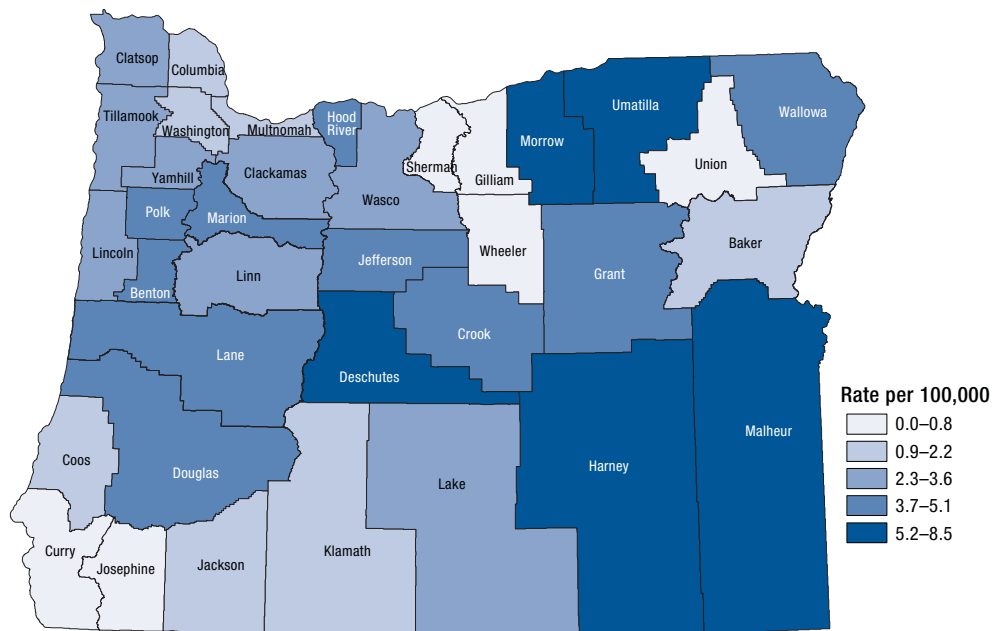
**Incidence of *E. coli* O157 infection by age and sex: Oregon, 2009**



### Incidence of *E. coli* O157 infection: Oregon vs. nationwide, 1988–2009



### Incidence of *E. coli* O157 infection by county of residence: Oregon, 2000–2009



## Giardiasis

*Giardia intestinalis*, the flagellated protozoan originally named *G. lamblia*, is the most commonly identified parasitic pathogen in the United States. Children in daycare 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.

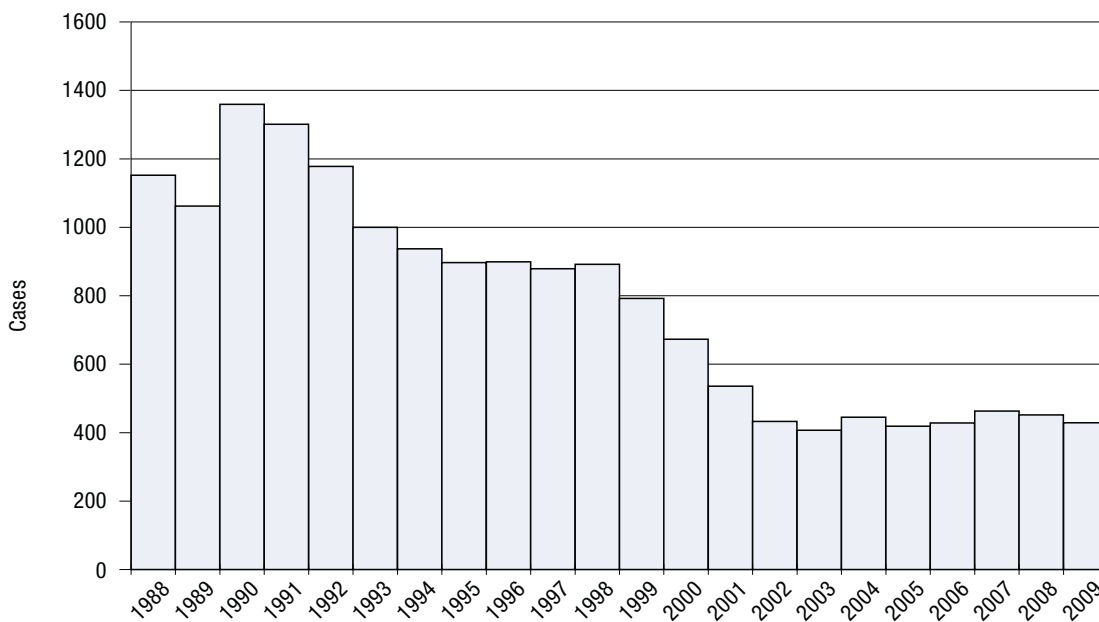
The majority of *Giardia* infections occur without symptoms. When symptomatic, patients report chronic diarrhea, steatorrhea,

abdominal cramps, bloating, frequent loose and pale greasy stools, fatigue, and weight loss.

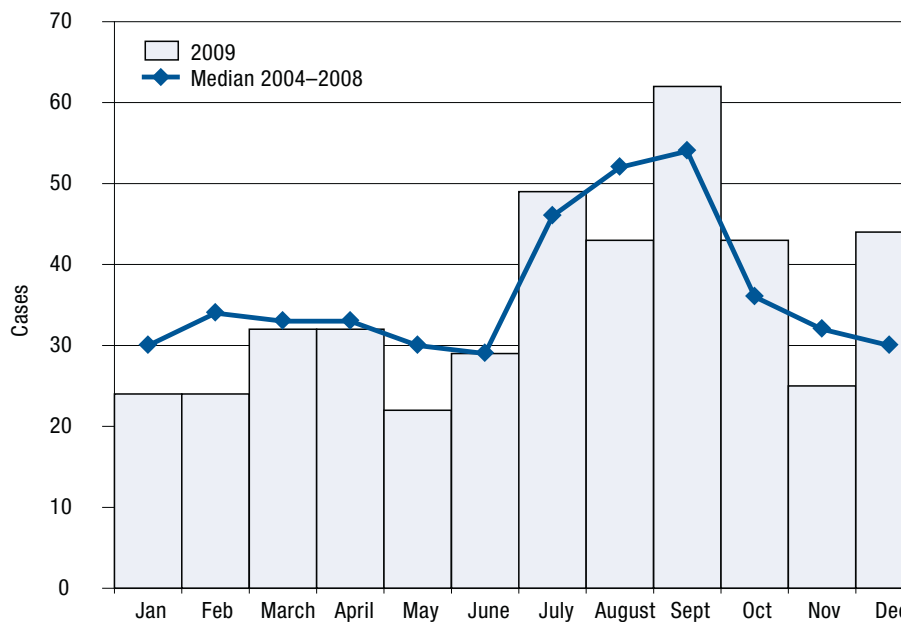
In 2009, the reported incidence of giardiasis in Oregon remained nearly twice that of the rest of the United States, with 11.2 cases per 100,000 population. Fifty-eight percent of 2008–2009 cases were reported as sporadic or household-associated; one outbreak occurred in a daycare center. Children less than 5 years of age continue to have the highest incidence, with 36 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.

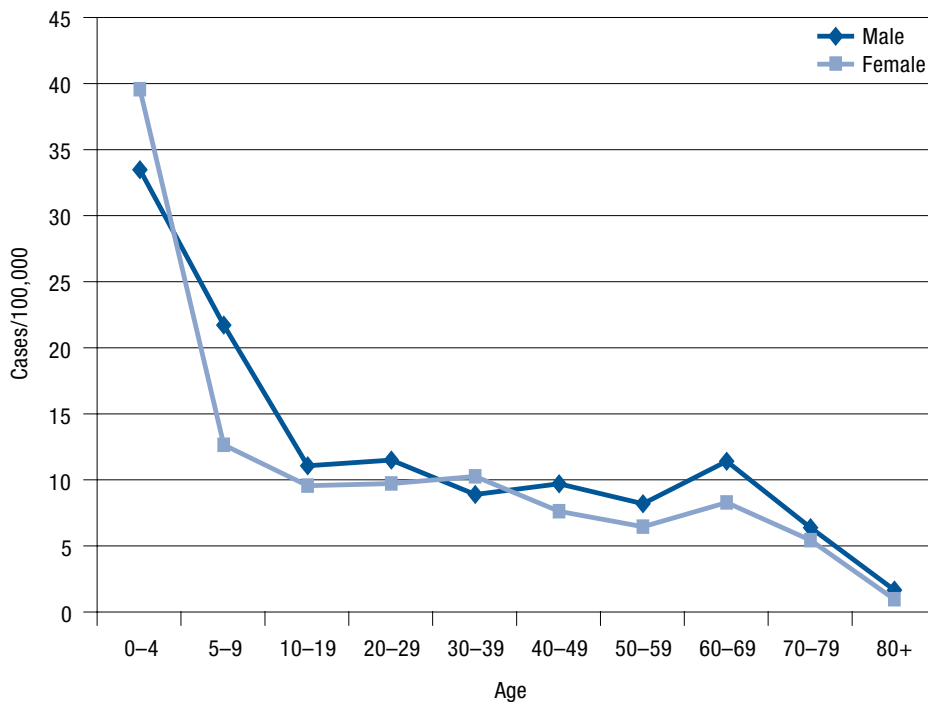
**Giardiasis by year: Oregon, 1988–2009**



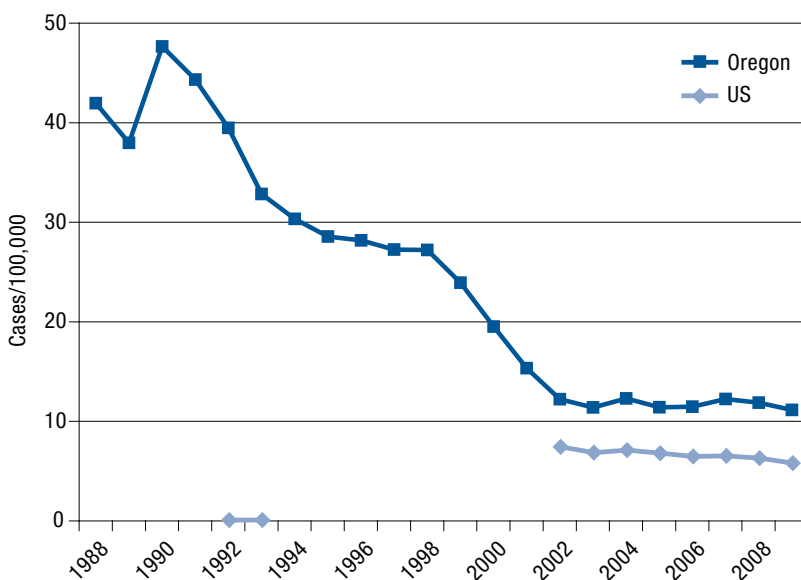
### Giardiasis by onset month: Oregon, 2009



### Incidence of giardiasis by age and sex: Oregon, 2009

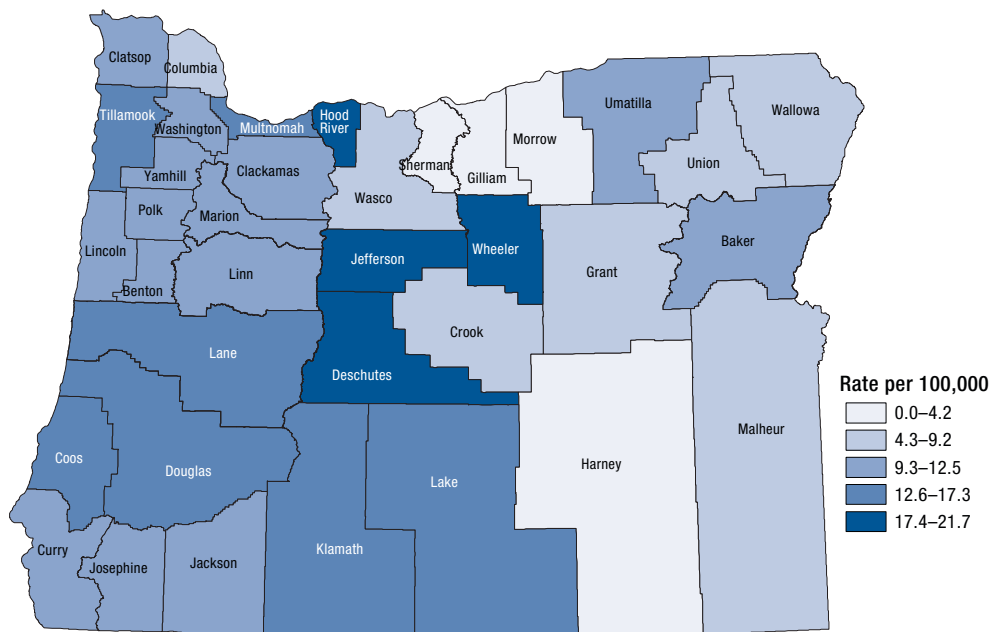


### Incidence of giardiasis: Oregon vs. nationwide, 1988–2009



Not nationally reportable until 2002.

### Incidence of giardiasis by county of residence: Oregon, 2000–2009



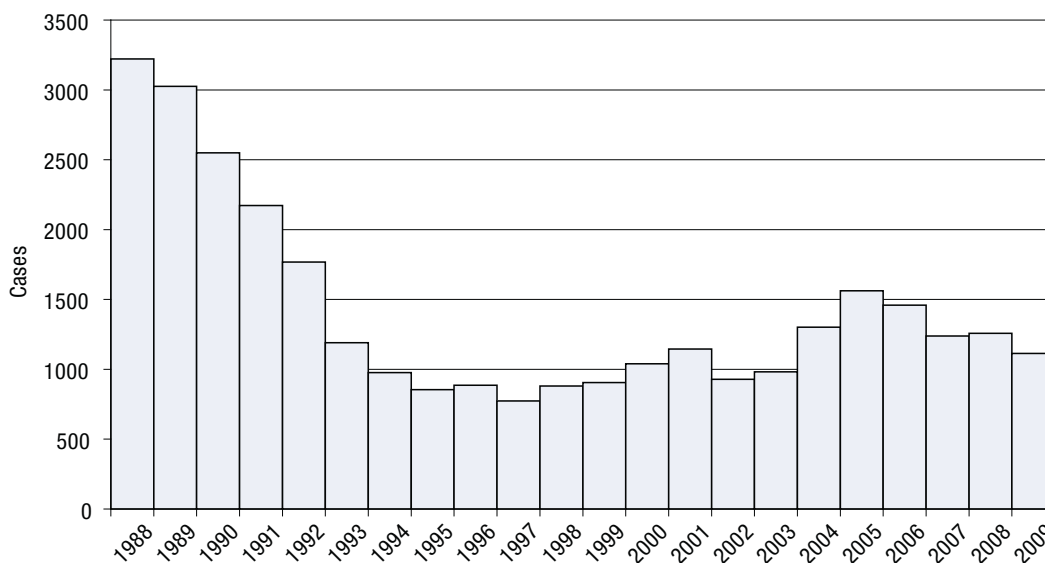
## Gonorrhea

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.

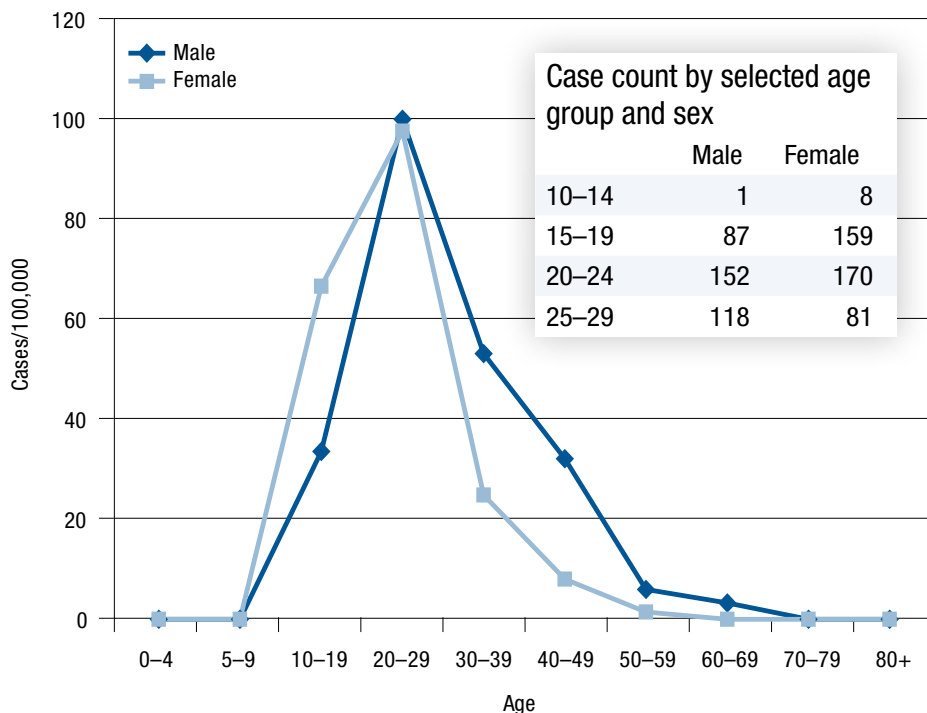
If untreated, gonococcal infections cause a variety of health problems for men, women and infants. The major complications of gonorrhea are infertility and tubal pregnancies among women. Recent sex partners of persons infected with gonorrhea should be evaluated and treated for gonorrhea. The 1,113 gonorrhea cases reported in 2009 represent a decrease of 11.5% from the 1,258 cases reported in 2008.

Gonorrhea by year: Oregon, 1988–2009

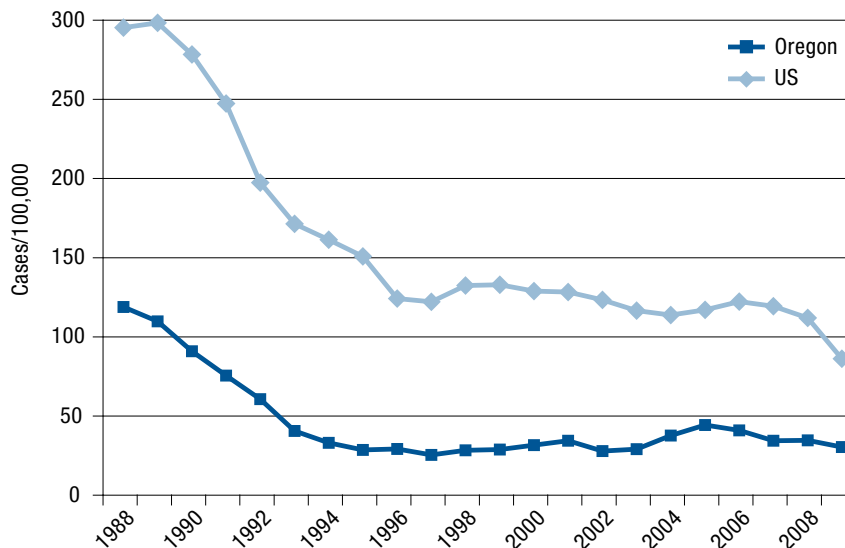




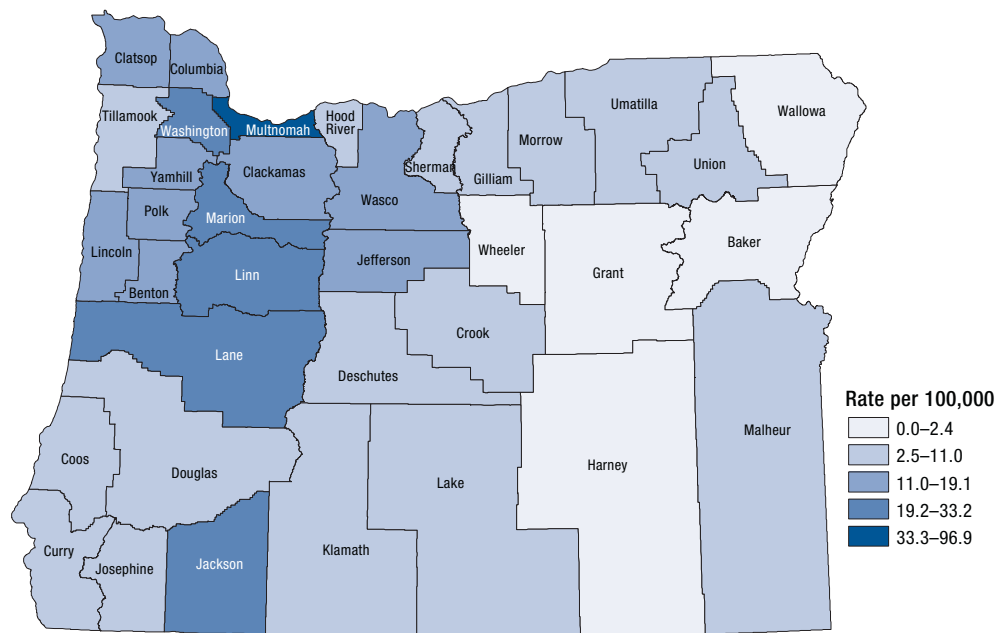
### Incidence of gonorrhea by age and sex: Oregon, 2009



### Incidence of gonorrhea: Oregon vs. nationwide, 1988–2009



## Incidence of gonorrhea by county of residence: Oregon, 2000–2009

*Haemophilus influenzae*

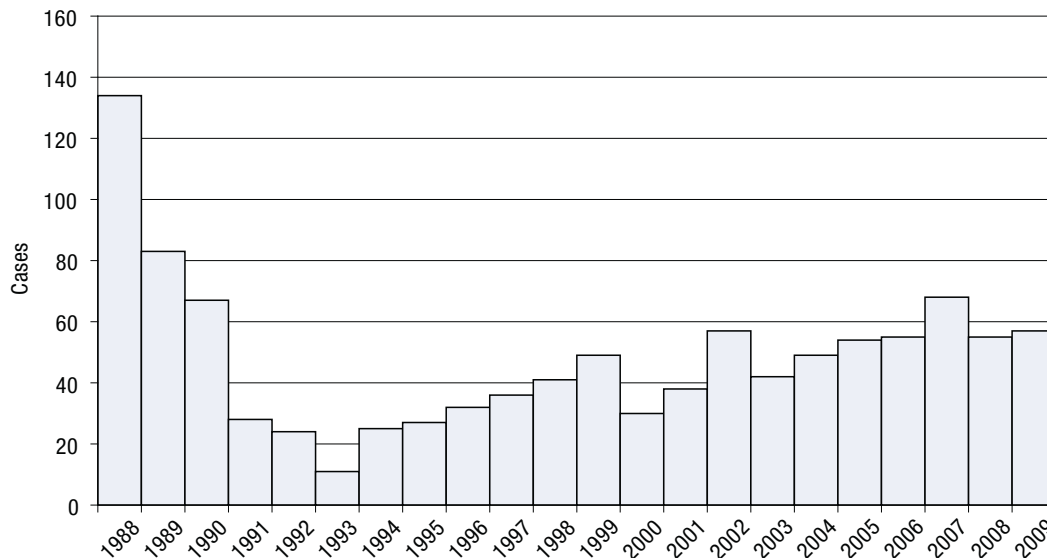
Until the advent of an effective vaccine against serotype b (Hib) organisms, *Haemophilus influenzae* (*H. influenzae*) was the leading cause of bacterial meningitis in children under 5 years of age in Oregon and elsewhere. Today it is well down the listing, with *Streptococcus pneumoniae* now in the lead. In 2008–2009, Hib was cultured from sterile body fluids in three persons, all aged >40 years. 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 serotype “b” infections is an increase in other serotypes.

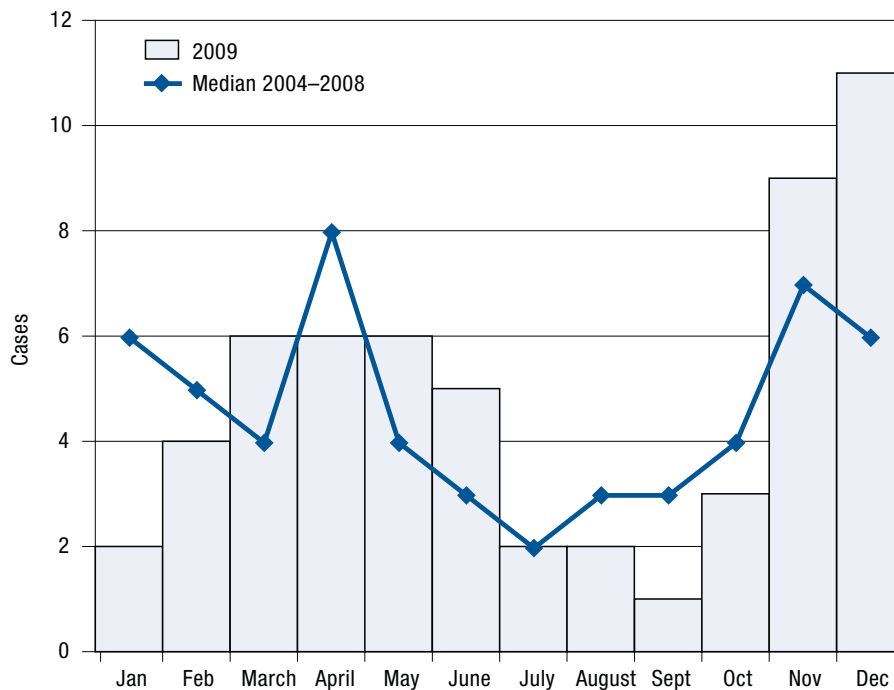
In 2009, 71% of cases were non-typeable, 15% were identified as serotype f, and the remainder were other serotypes. This shift in dominant strains changes the clinical manifestations of illness. From 2003–2009 Oregon clinical manifestations of Oregon cases included primarily pneumonia (more than 50%), followed by sepsis (35%). Less than 10% of cases had meningitis. Concurrent with the changes in clinical manifestations is a shift in age distribution from infants to older persons. The majority of cases in 2008–2009 continue to be among those aged 50 and over.

Peak incidence occurs in late winter and early spring. Fifty-seven cases were reported in 2009.

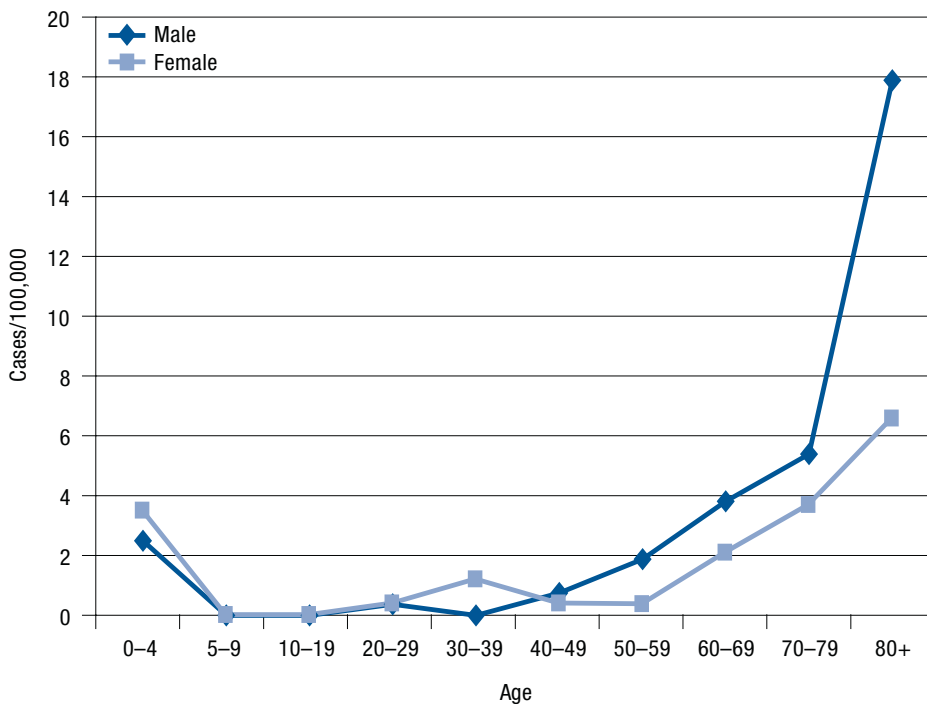
*H. influenzae* by year: Oregon, 1988–2009



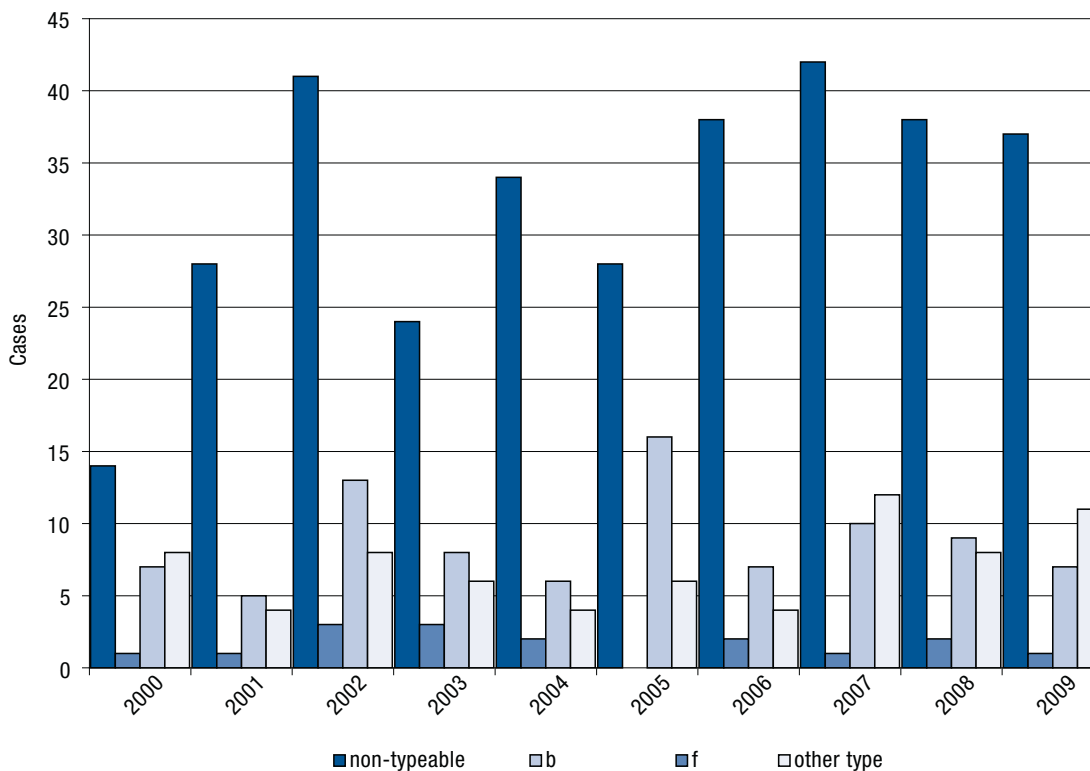
*H. influenzae* by onset month: Oregon, 2009



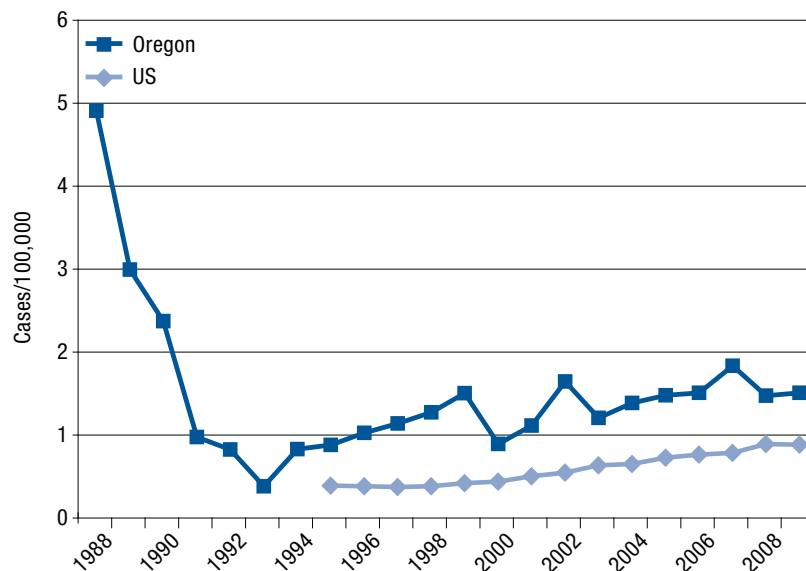
Incidence of *H. influenzae* by age and sex: Oregon, 2009



*H. influenzae* by year and serotype: Oregon, 2000–2009

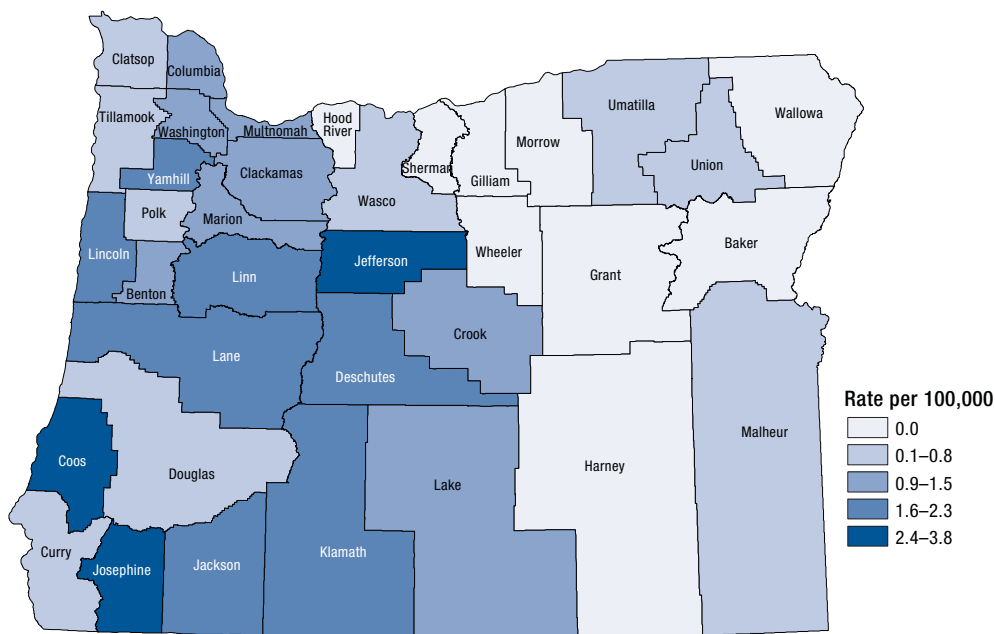


### Incidence of *H. influenzae*: Oregon vs. nationwide, 1988–2009



Not nationally reportable until 1995, only Hib consistently reported by states.

### Incidence of *H. influenzae* by county of residence: Oregon, 2000–2009



## 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.

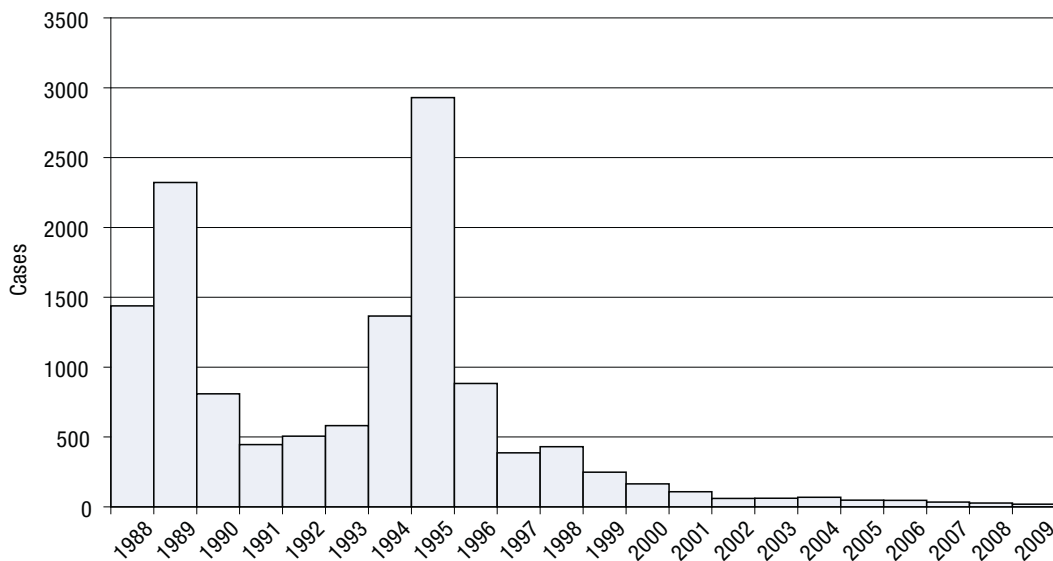
Good personal hygiene and proper sanitation can help prevent hepatitis A. Vaccines are recommended for long-term prevention of hepatitis A in all Oregon children 1 year of age and older, as well as for adults in high-risk groups. Since licensure of the vaccine in 1995–1996, rates of infection have declined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

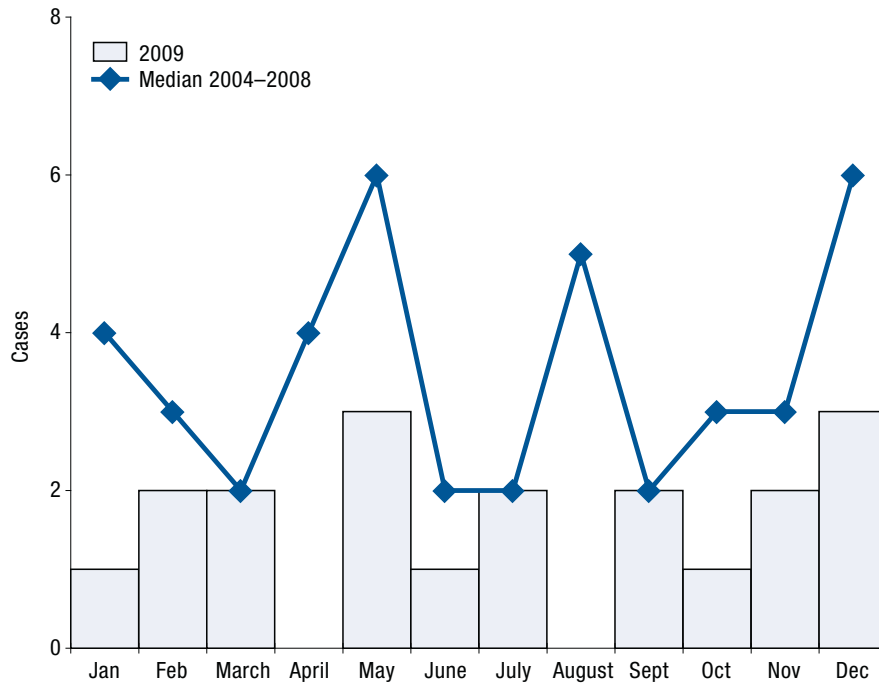
changes in post-exposure prophylaxis include vaccination instead of immunoglobulin for immune-competent contacts aged 1-40 years. For those over 40 years of age, or with immune-compromising conditions, immune globulin is still recommended.

In 2009, Oregon logged 19 cases of acute hepatitis A. No outbreaks were recorded. Twenty-eight (61%) of the 46 cases in 2008–2009 were acquired by venturing outside of Oregon, often 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.

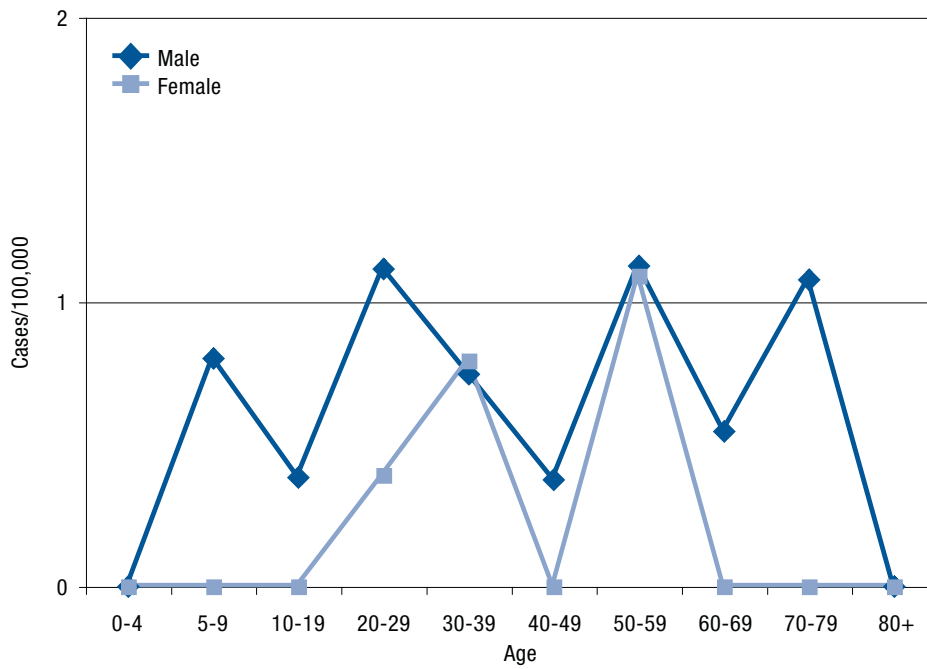
**Hepatitis A by year: Oregon, 1988–2009**



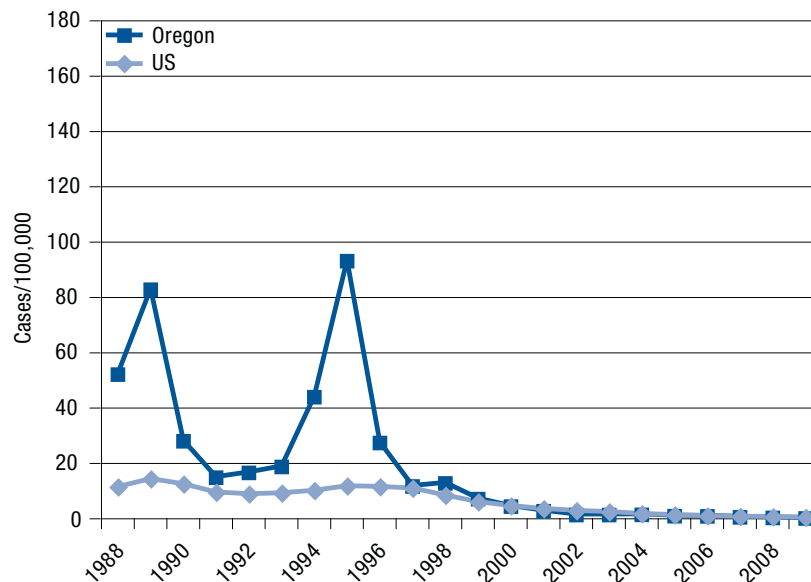
### Hepatitis A by onset month: Oregon, 2009



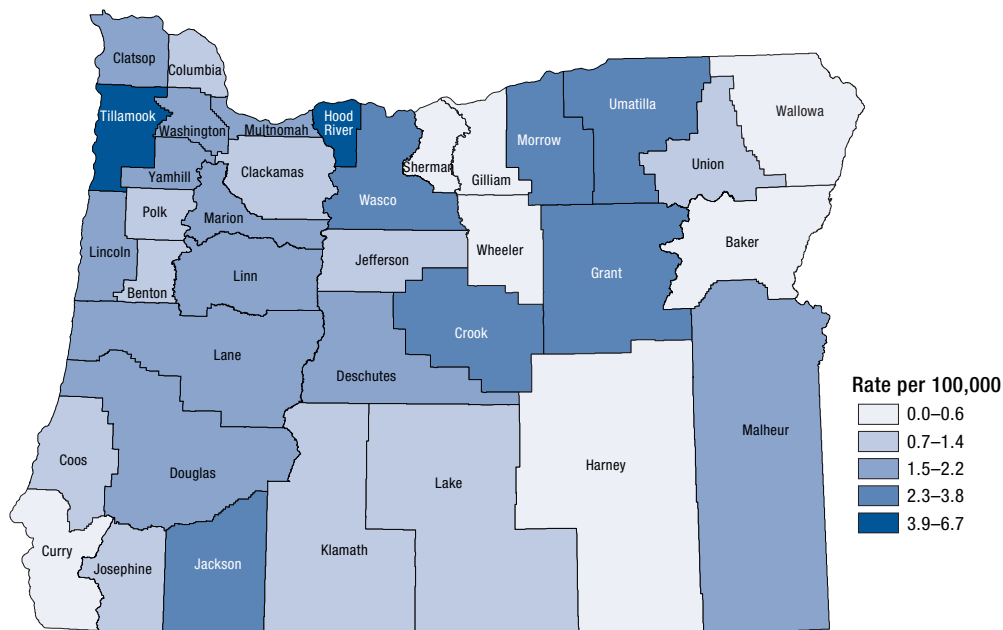
### Incidence of hepatitis A by age and sex: Oregon, 2009



### Incidence of hepatitis A: Oregon vs. nationwide, 1988–2009



### Incidence of hepatitis A by county of residence: Oregon, 2000–2009





## Acute 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.

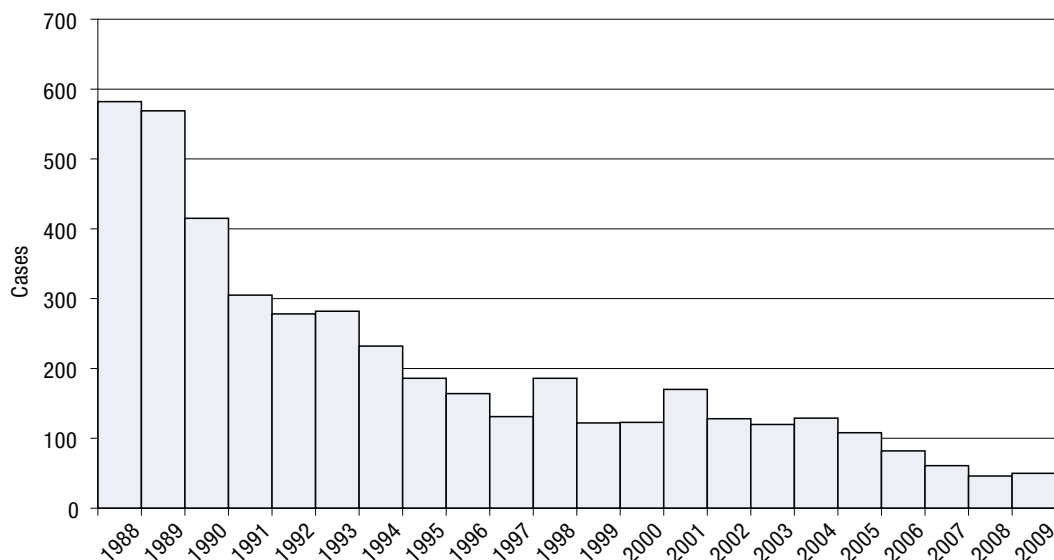
Acute hepatitis B virus infection (diagnosed by the presence in serum of IgM antibody to the hepatitis B core antigen [IgM anti-HBc]) usually, but not always, causes jaundice. Some infections are mild, even asymptomatic,

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.

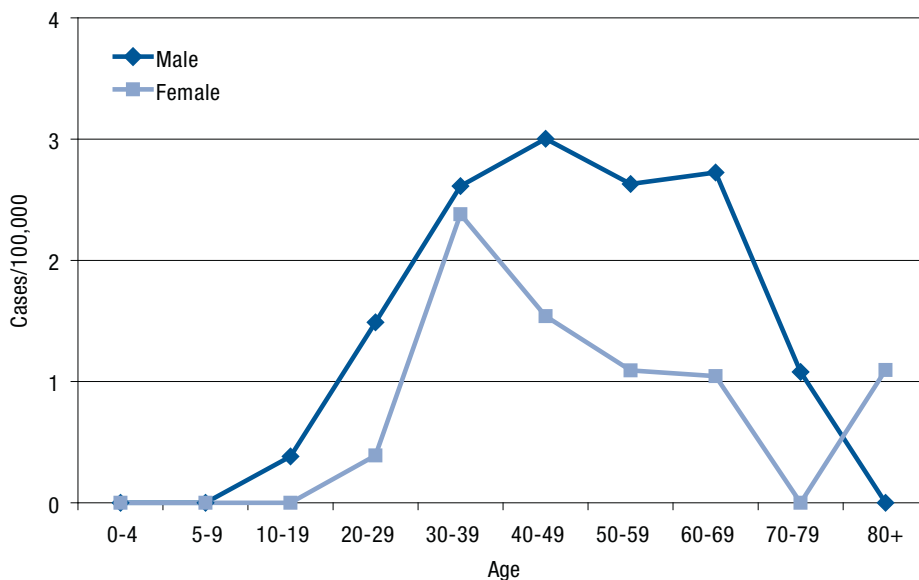
Acute hepatitis B continues to decline in Oregon — a decline that started here after the hepatitis B vaccine was licensed in 1982.

Local health departments investigated and reported 46 acute cases in 2008, 50 in 2009. Seventy-four percent of the cases were male. The number of cases reporting injection drug use continues to decrease; use was reported by 14% of cases in 2009 and 29% in 2008.

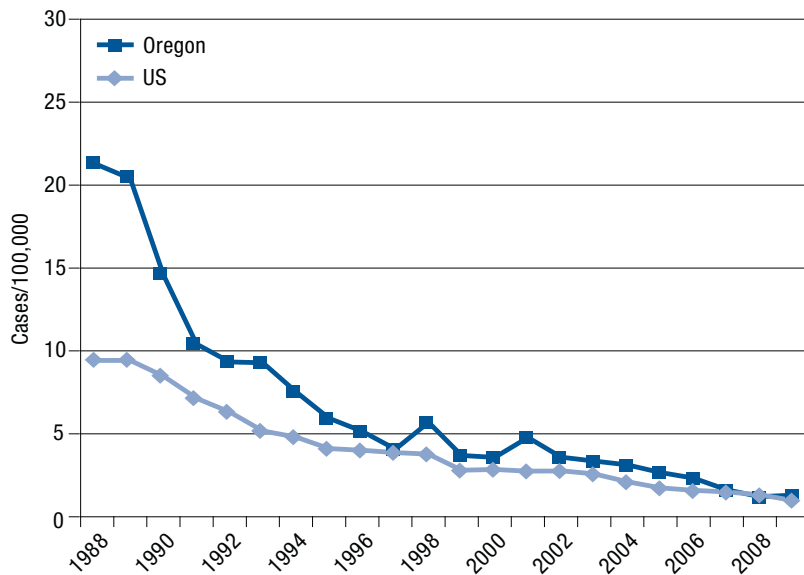
**Acute hepatitis B by year: Oregon, 1988–2009**



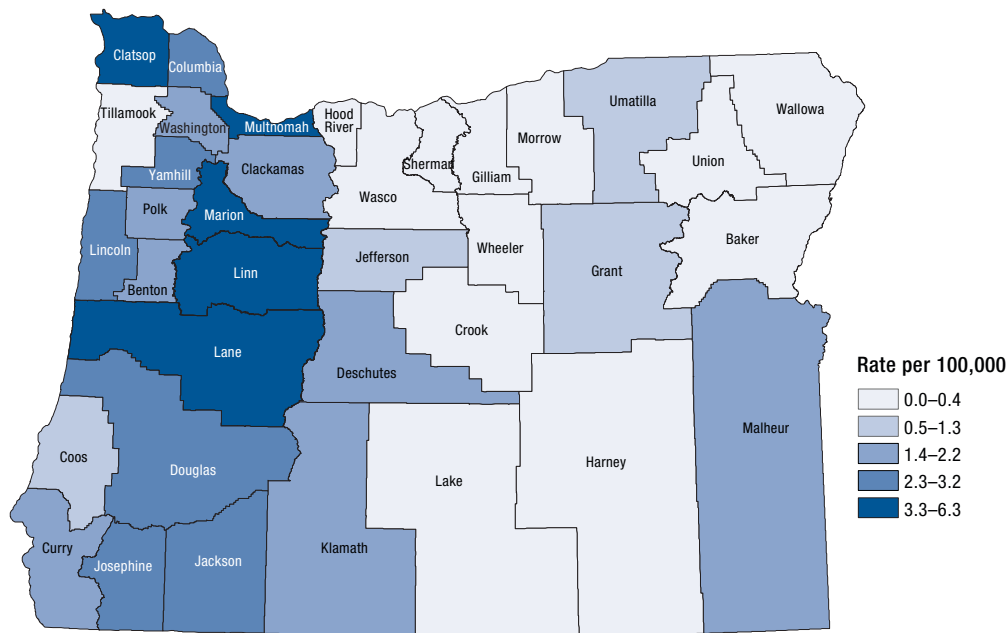
### Incidence of acute hepatitis B by age and sex: Oregon, 2009



### Incidence of acute hepatitis B: Oregon vs. nationwide, 1988-2009



## Incidence of acute hepatitis B by county of residence: Oregon, 2000–2009



## 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 to begin with. Seventy-nine percent of 2008–2009 reports were from foreign born individuals. 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.

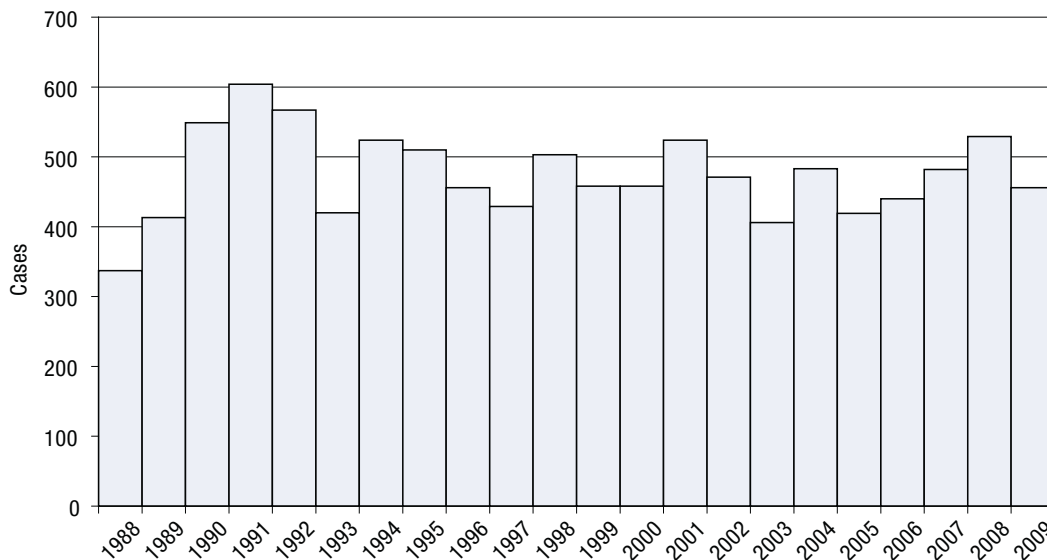
Recommendations and strategies to prevent new cases include the following: routinely vaccinating all infants at birth; screening

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.

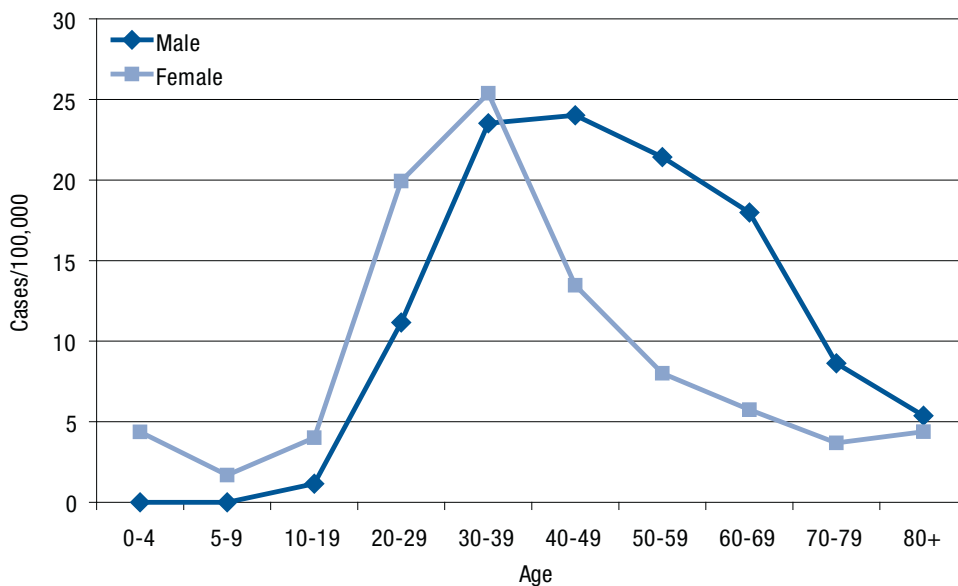
In 2008–2009, there were 985 newly reported carriers and, as in the past, they were older than acute cases and close to evenly distributed between men and women. Women,

however, are diagnosed earlier than men, perhaps due to pre-natal screening. In 2008, seven children  $\leq 2$  years old were reported as chronic carriers, six were born in countries where prevalence of chronic hepatitis B is high. In 2009, six children were reported and five were born in high prevalence countries. Chronic carriers are not reportable in many of the U.S. states, so a table comparing Oregon to the rest of the United States is not given.

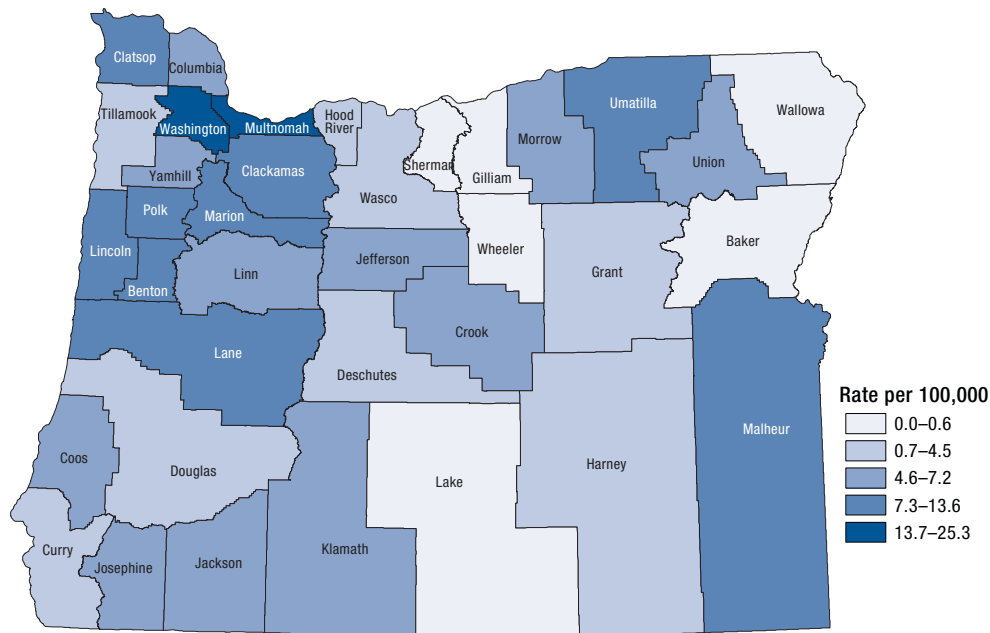
**Chronic hepatitis B by year: Oregon, 1988–2009**



**Incidence of chronic hepatitis B by age and sex: Oregon, 2009**



## Incidence of chronic hepatitis B by county of residence: Oregon 2000–2009



## 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 laboratories can not test 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.

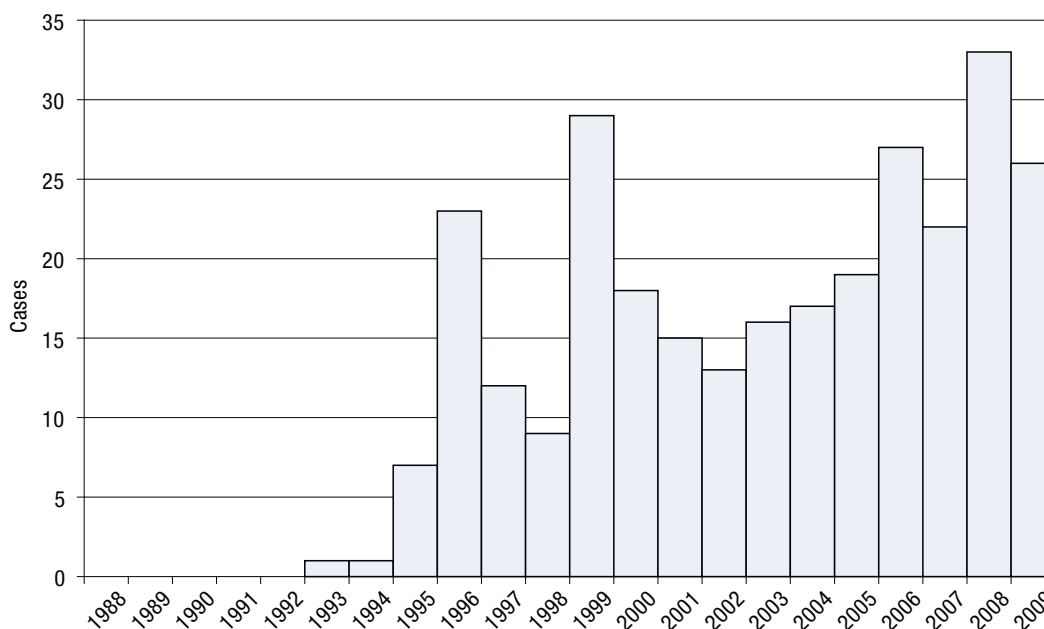
Hepatitis C is spread from one person to another primarily by direct contact with human blood. Most infections are due to illegal injection drug use. The virus can also be transmitted through sexual contact and from infected mothers to their infants at the time of birth. The risk for perinatal HCV transmission is about 4%. If the mother is coinfecting 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

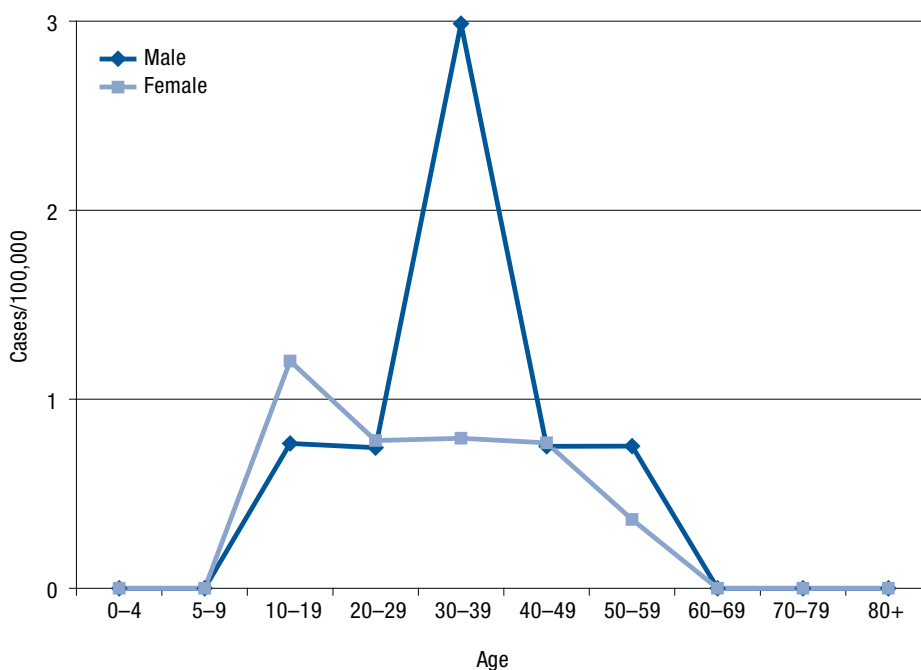
On average, from 2000–2009, there were 20 acute hepatitis C cases reported per year in Oregon. In 2008 and 2009, 33 and 26 cases

were reported, respectively. In 69% of the cases, patients were less than 40 years of age, and 42% of all cases were female.

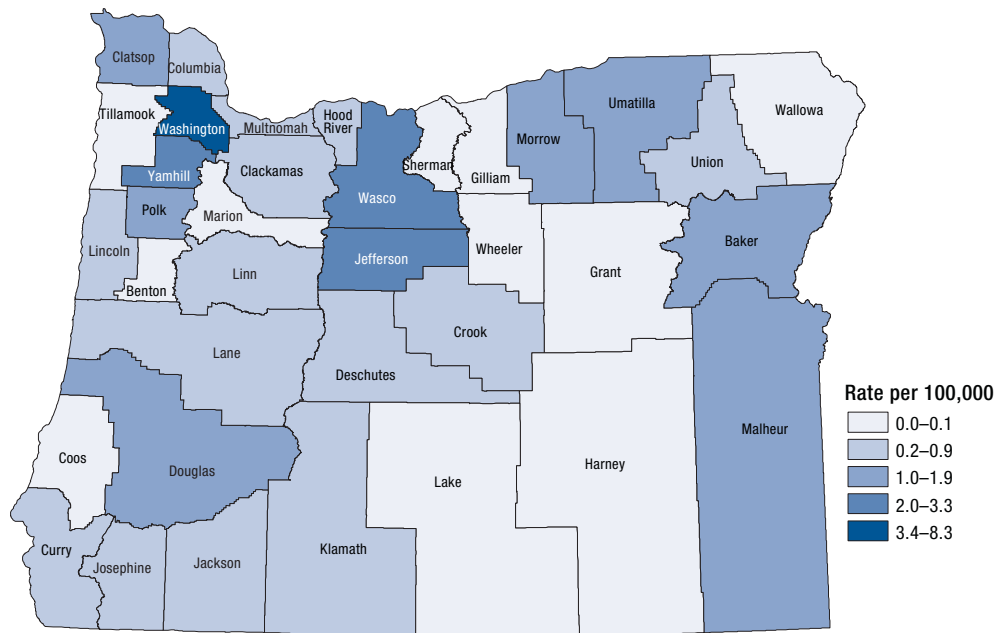
Acute hepatitis C by year: Oregon, 1988–2009



Acute hepatitis C by age and sex: Oregon, 2009



### Incidence of acute hepatitis C by county of residence: Oregon, 2000–2009

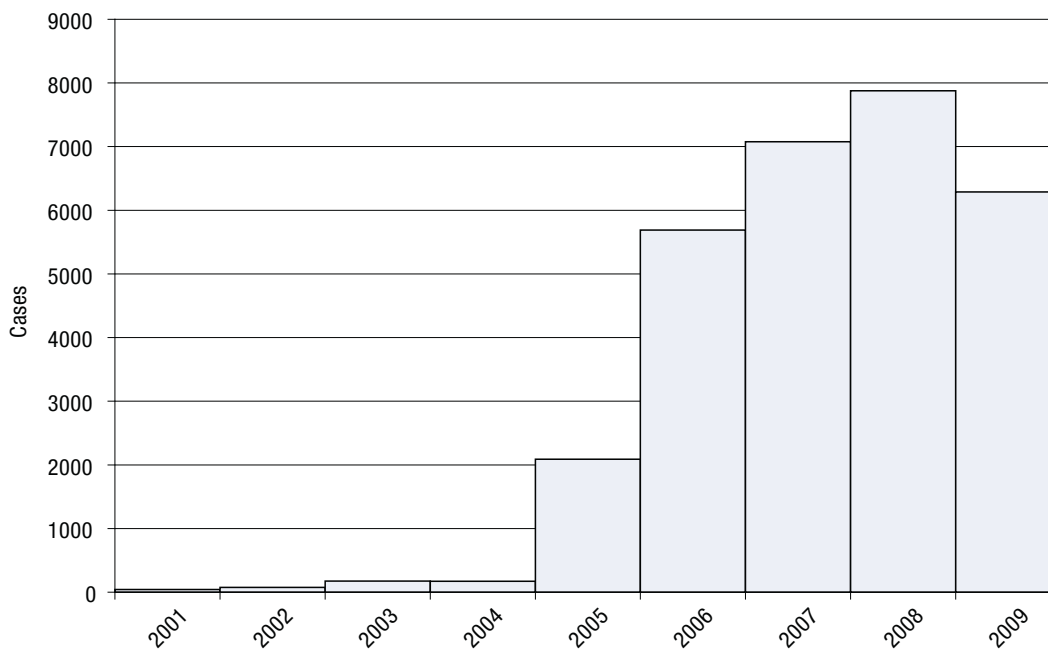


### Chronic hepatitis C

Chronic hepatitis C was reportable in Oregon as of July 1, 2005. In 2009, 6,288 chronic hepatitis C cases were reported, down from 7,877 reported in 2008. Infection in males (59%) is higher than females, and in those

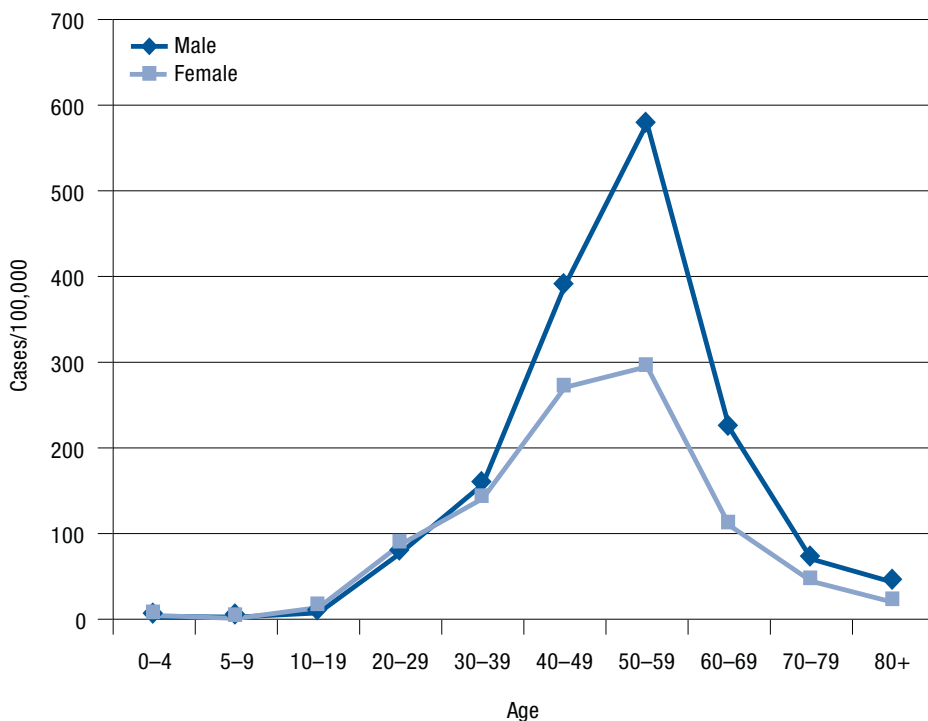
aged 40-60 years (62%). These numbers are likely an underestimate of the true incidence because most infections are asymptomatic and therefore are not diagnosed or reported to public health.

### Chronic hepatitis C by year: Oregon, 2001–2009

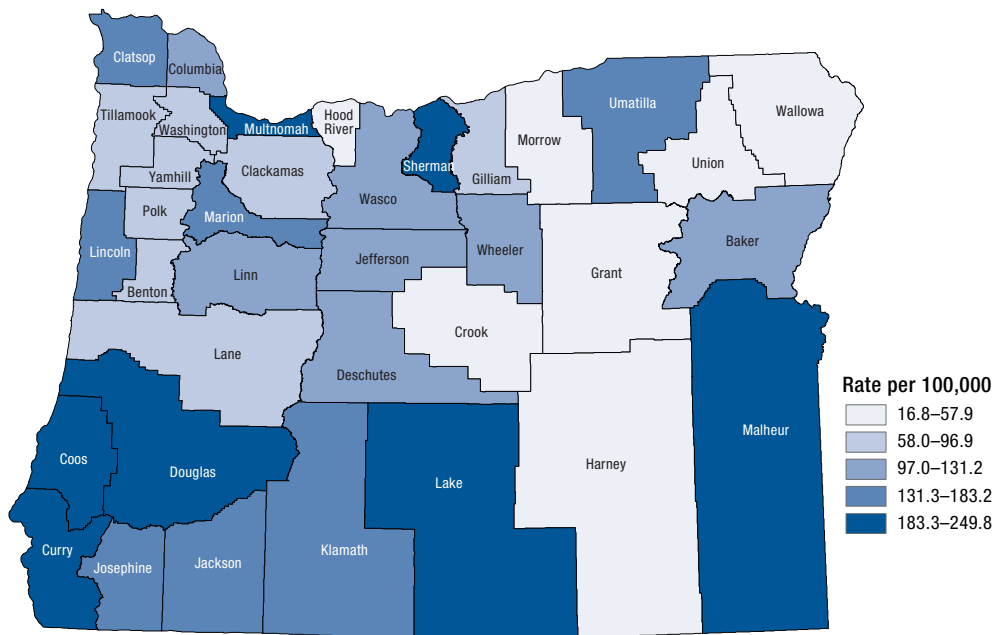


Not officially reportable until July 1, 2005.

### Chronic hepatitis C by age and sex: Oregon, 2009



### Incidence of chronic hepatitis C by county of residence: Oregon, 2000–2009





## 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.

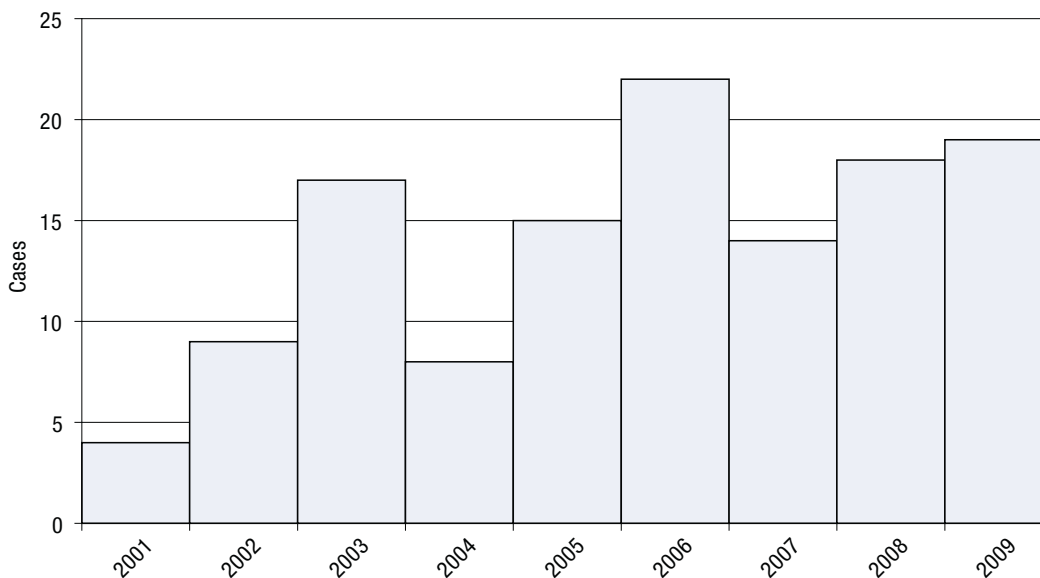
*Legionella* bacteria are found naturally in the environment, usually in water, and grow best

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.

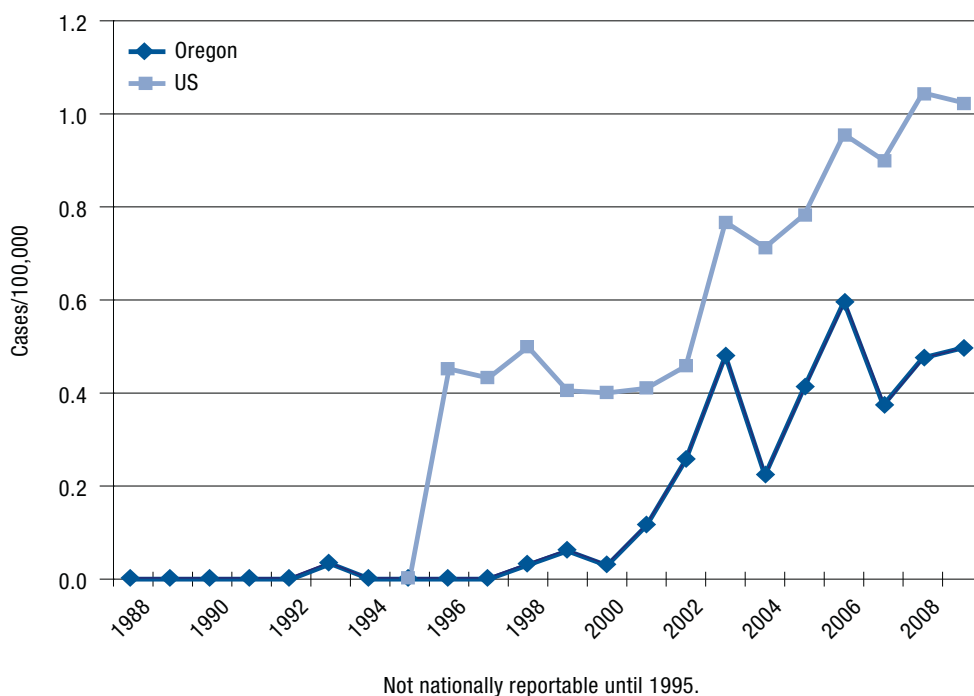
Legionellosis became officially reportable in Oregon in 2001. In 2009, 19 cases of legionellosis were reported among Oregonians, up from 18 cases reported in 2008. Thirty-six (97%) of 37 cases were hospitalized and four died.

Legionellosis by year: Oregon, 2001–2009

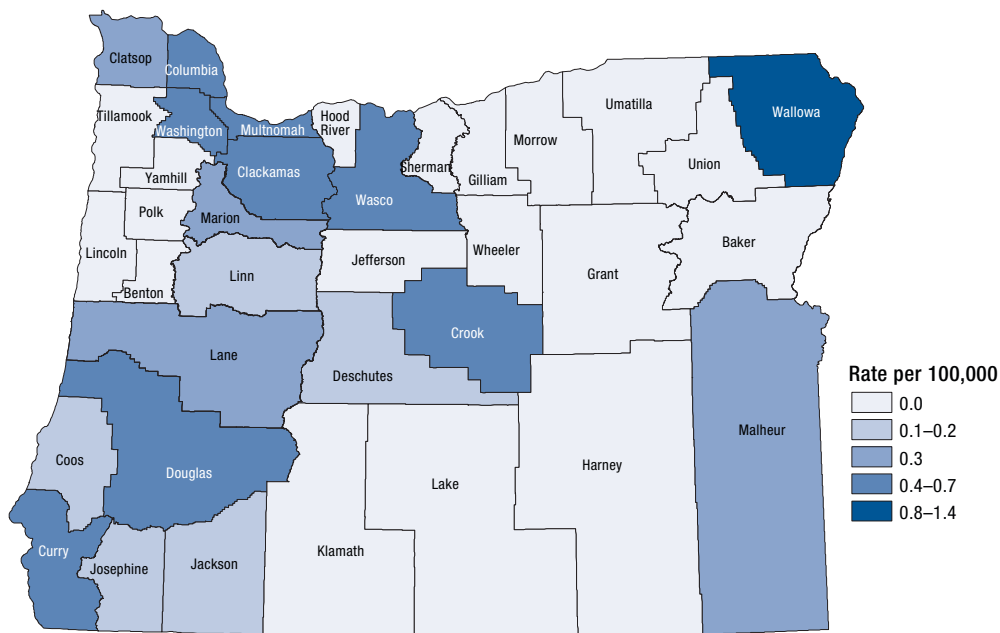


Not officially reportable in Oregon until 2001.

### Incidence of legionellosis: Oregon vs. nationwide, 2000–2009



### Incidence of legionellosis by county of residence: Oregon, 2000–2009



## Listeriosis

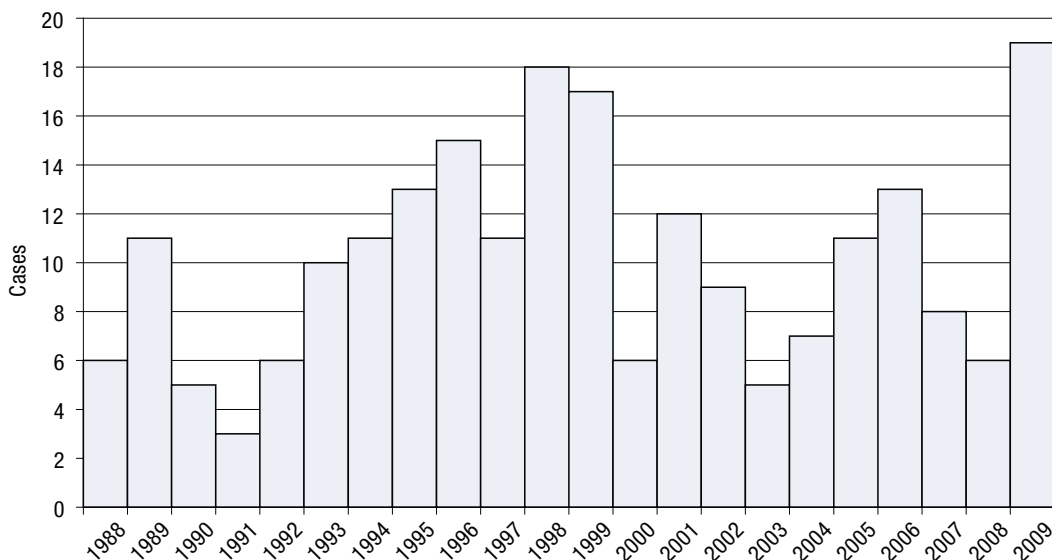
Listeriosis is a bacterial infection that may present as influenza-like illness with high fever, headache and myalgias; as a gastrointestinal illness; or as an invasive disease with sepsis or meningitis. In pregnant women, listeriosis may cause miscarriages or stillbirths. The case fatality rate of invasive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

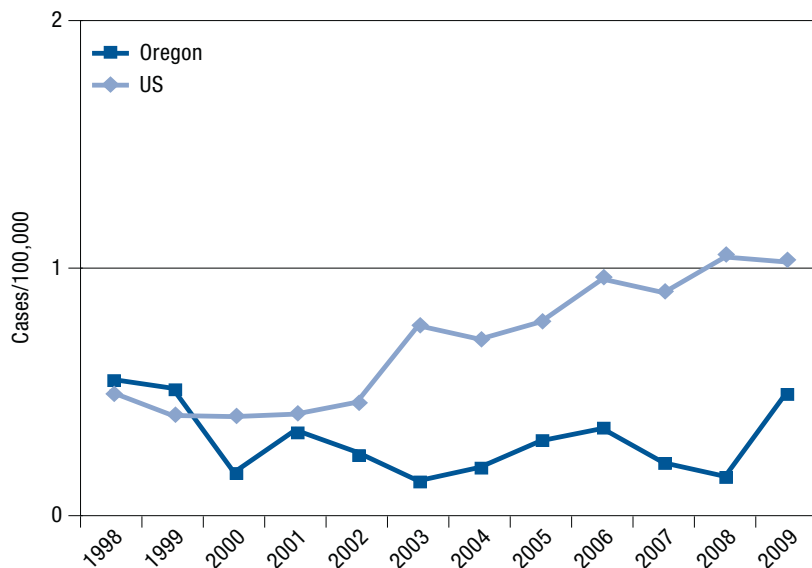
as to identify high risk groups. The rate is higher among pregnant women, newborns, the elderly and immunocompromised persons. Cooking food properly is the most important means of prevention. When listeriosis is diagnosed, treatment with antibiotics should be instituted promptly.

In 2008 there were six cases, in 2009, 19 cases were reported, a 216% increase compared to 2008 and the highest rate (0.5 per 100,000) reported in 10 years. Twenty-three cases in 2008–2009 were hospitalized and there were five deaths. Four of these cases were pregnancy-related, one infant died. No outbreak-related cases were reported.

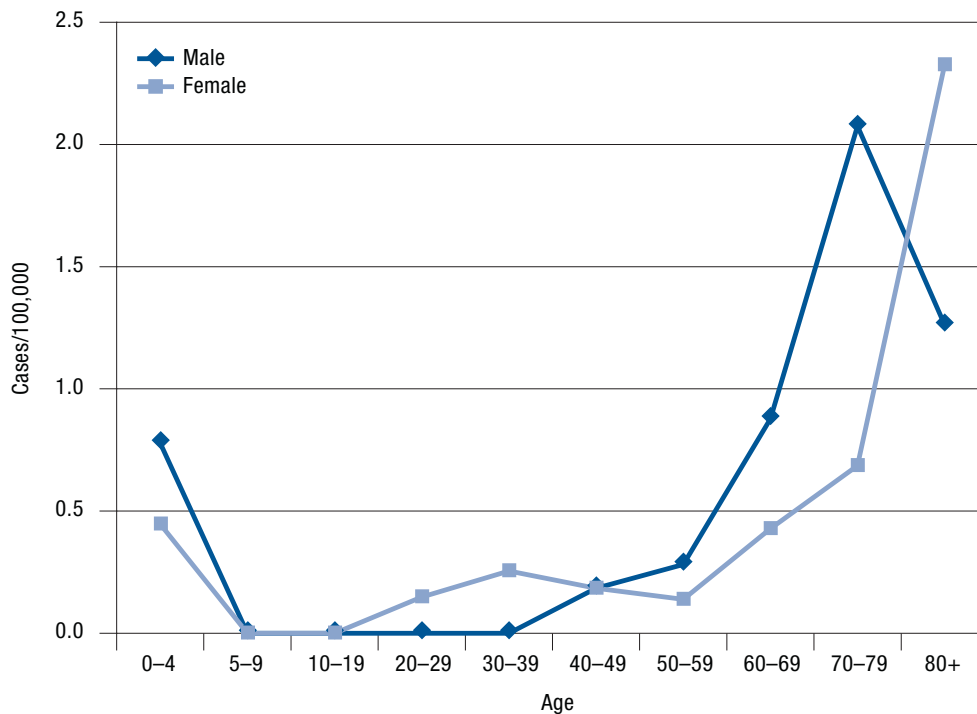
Listeriosis by year Oregon, 1988–2009



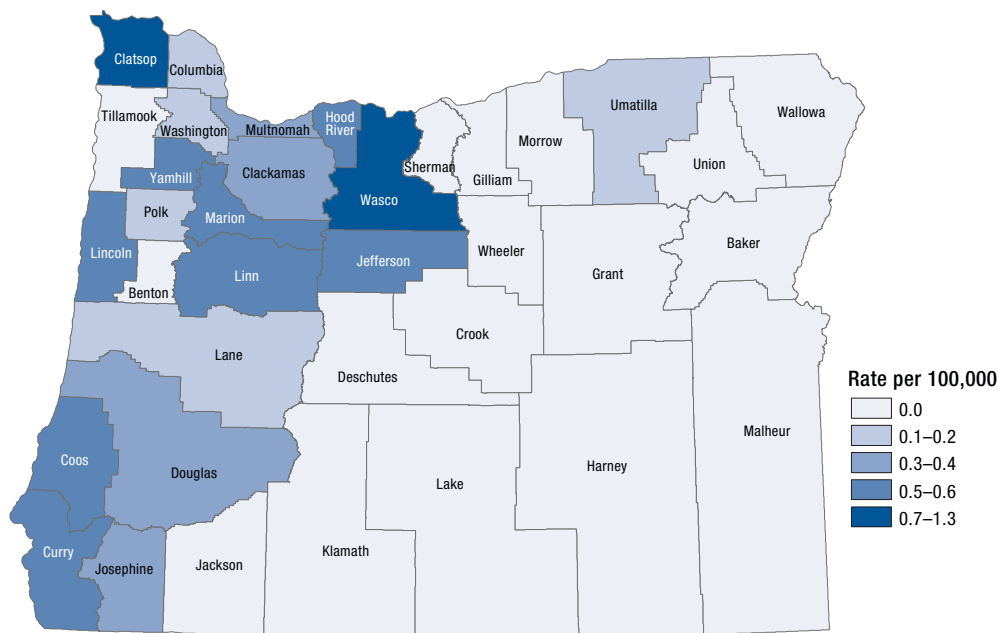
### Incidence of listeriosis: Oregon vs. nationwide, 1998–2009



### Listeriosis by age and sex: Oregon, 2000–2009



## Incidence of listeriosis by county of residence: Oregon, 2000–2009



## 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.

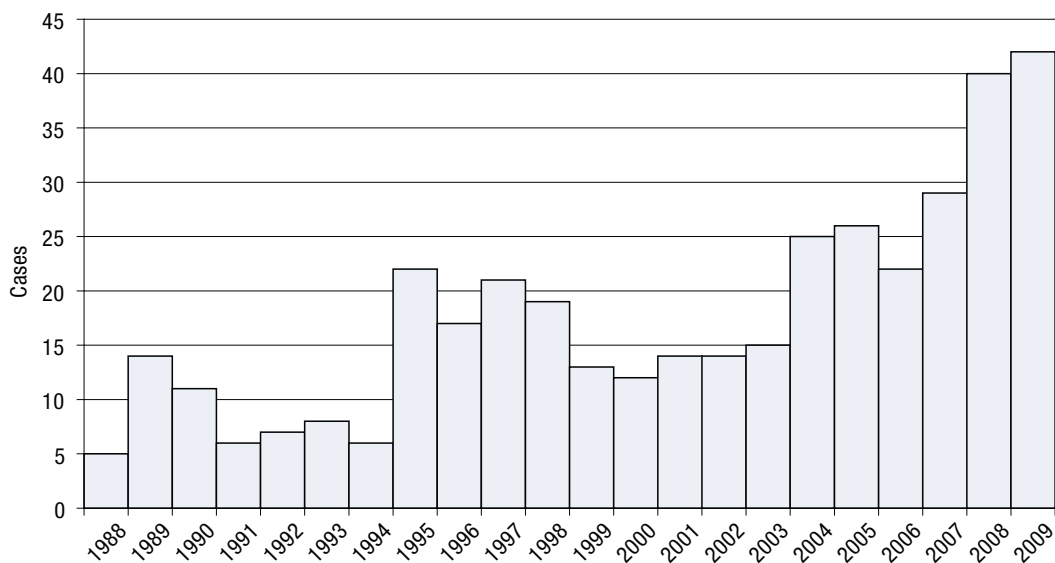
Currently, increasing recognition of the disease is redefining enzootic areas for *B. burgdorferi*; Lyme disease cases have been reported in 47 states, and in Ontario and

British Columbia, Canada. Elsewhere, related borrelioses have been found in Europe, the former Soviet Union, China and Japan.

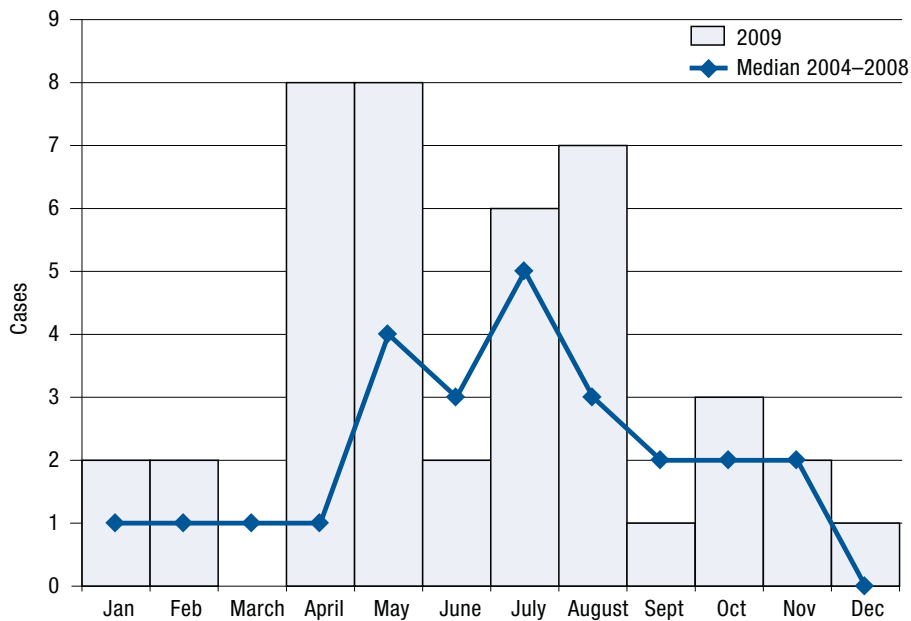
In 1997–1998, a tick identification and *Borrelia* isolation study was conducted by the CDC and the Oregon Department of Human Services in Deschutes, Josephine and Jackson counties. No ticks from Deschutes County were identified as carrying *Borrelia* in this study. The organism was isolated in 3.5%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

During 2008–2009, 31 confirmed cases and 52 presumptive cases were reported in Oregon. The median age was 42 years. Fifty-one (60%) cases were female. Of the cases, 25% were reported in Deschutes, Jackson and Josephine counties.

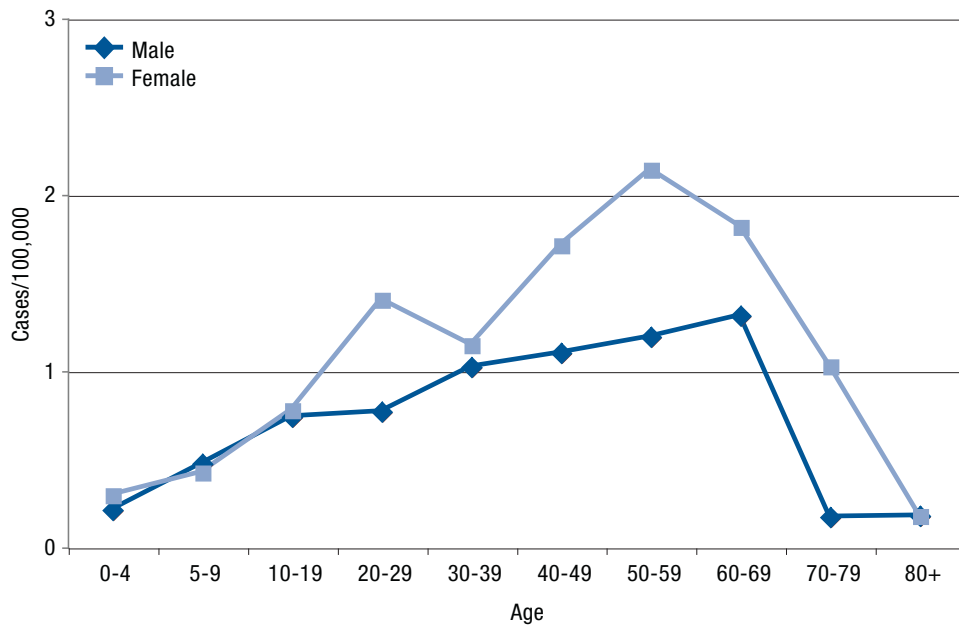
Lyme disease by year: Oregon, 1988–2009



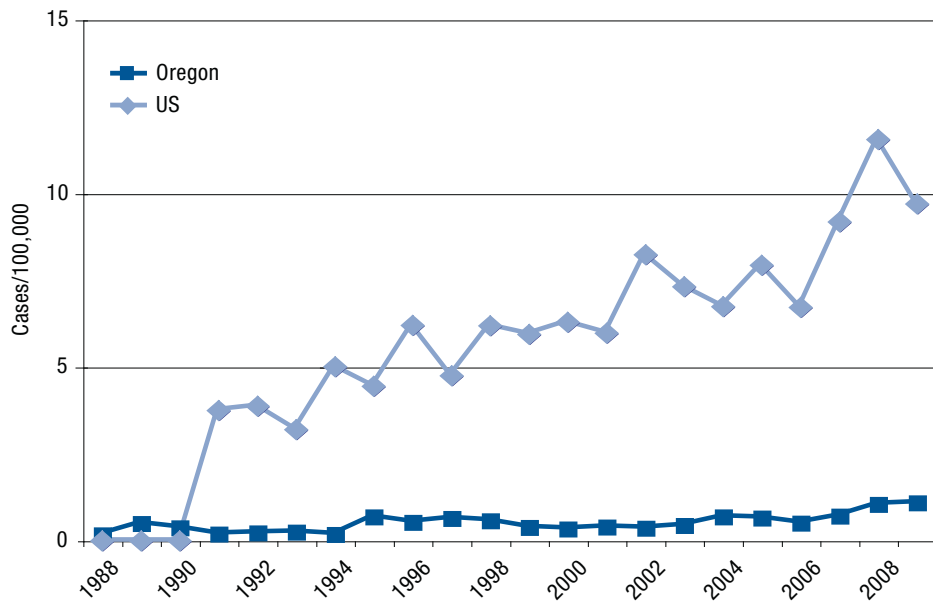
Lyme disease by onset month: Oregon, 2009



### Incidence of Lyme disease by age and sex: Oregon, 2000–2009

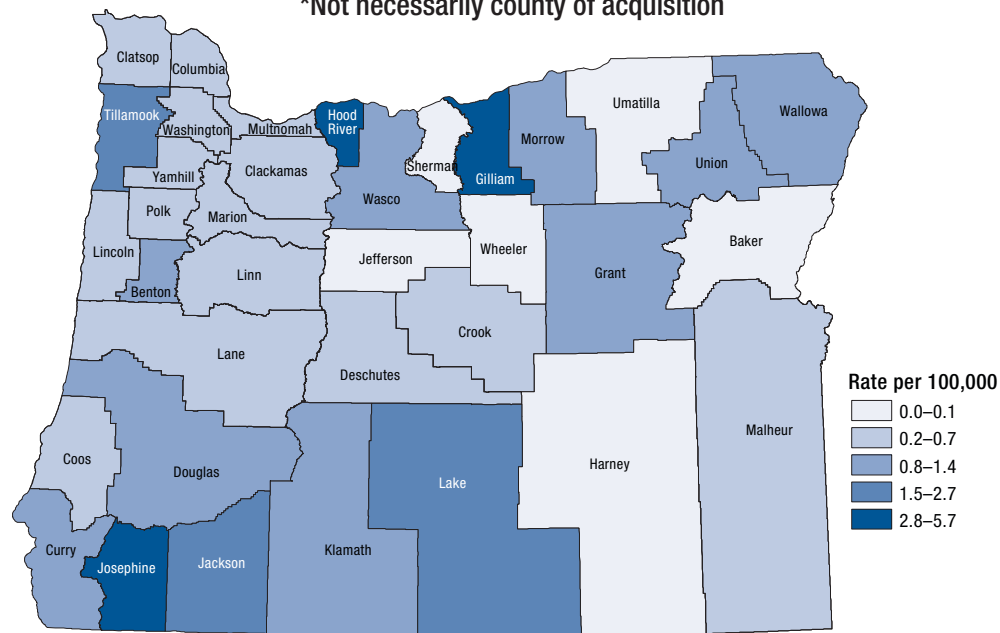


### Incidence of Lyme disease: Oregon vs. nationwide, 1988–2009



## Incidence of Lyme disease by county of residence\*: Oregon, 2000–2009

\*Not necessarily county of acquisition



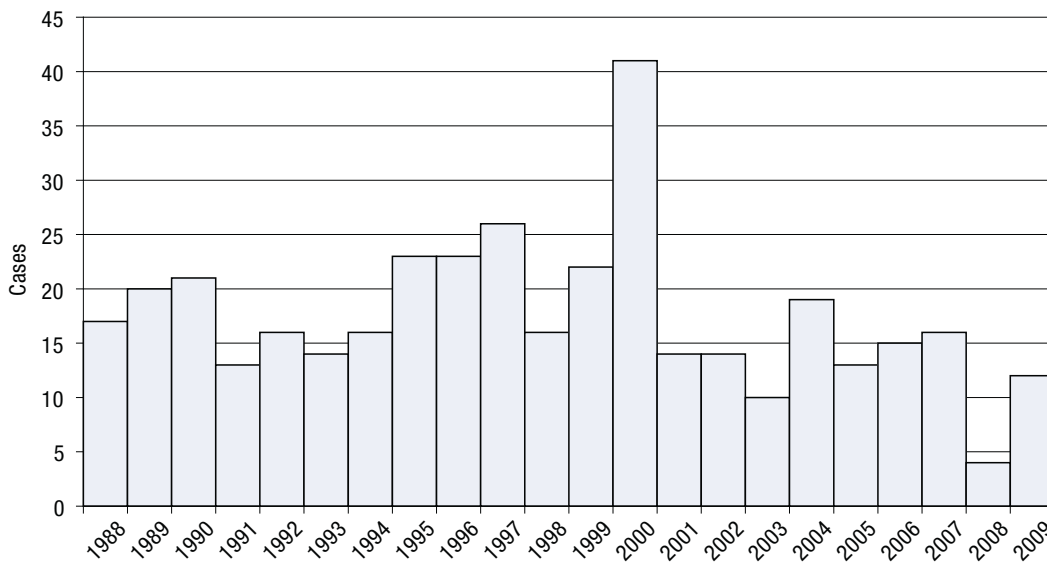
## Malaria

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 in our state; all cases have resulted from exposures outside the United States. Competent anopheline mosquitoes are resident in Oregon, so limited local

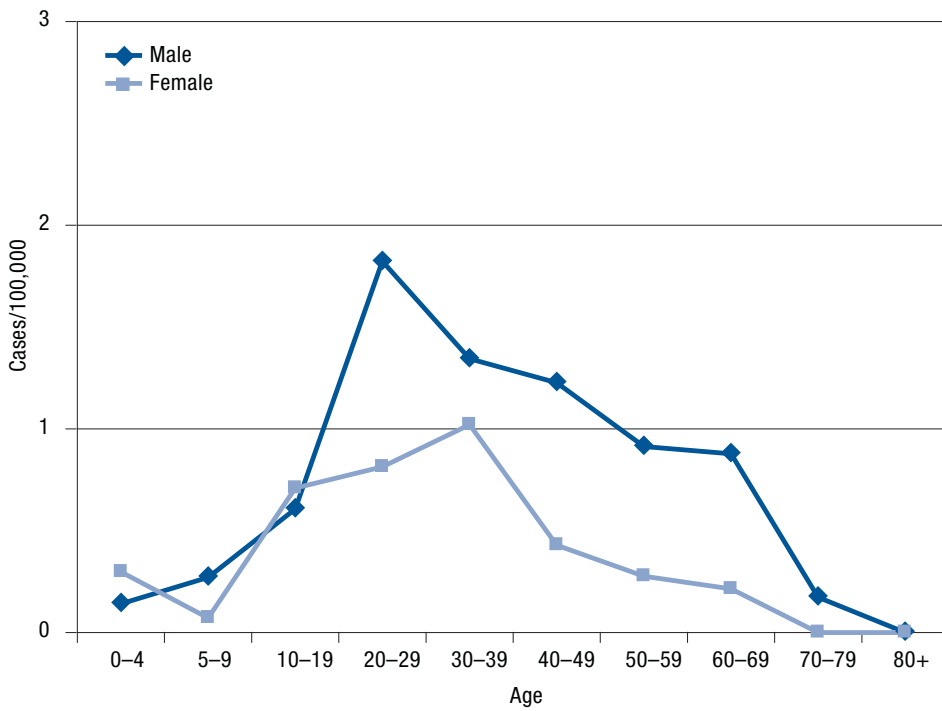
transmission remains a theoretical possibility. Oregon rates are similar to the national average. Oregon surveillance data contribute to the national database, which is used to tailor recommendations for prophylaxis and treatment. In 2008, four cases were reported, three of which were *Plasmodium falciparum* (the most severe of the four human parasite species). In 2009, *Plasmodium vivax* (four cases) was most commonly reported.



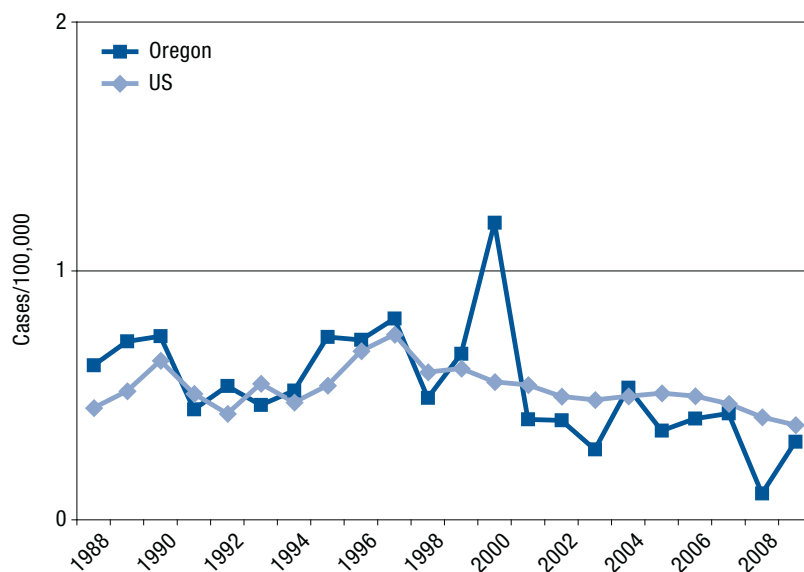
Malaria by year: Oregon, 1988–2009



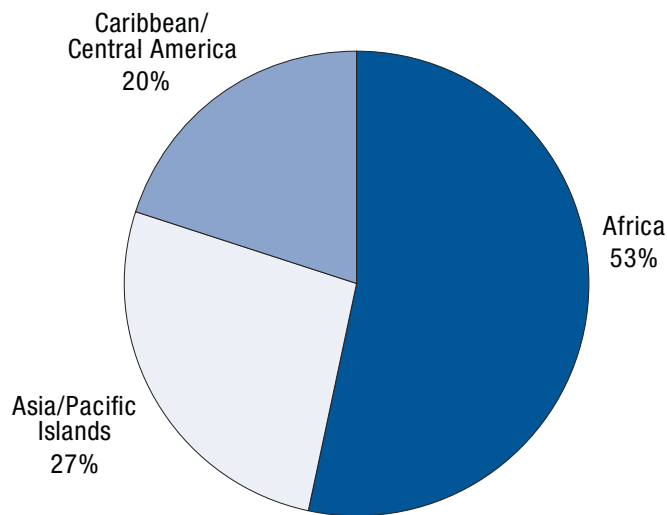
Incidence of malaria by age and sex: Oregon, 2000-2009



### Incidence of malaria: Oregon vs. nationwide, 1988–2009



### Malaria cases by continent of acquisition: Oregon, 2008–2009



## Measles

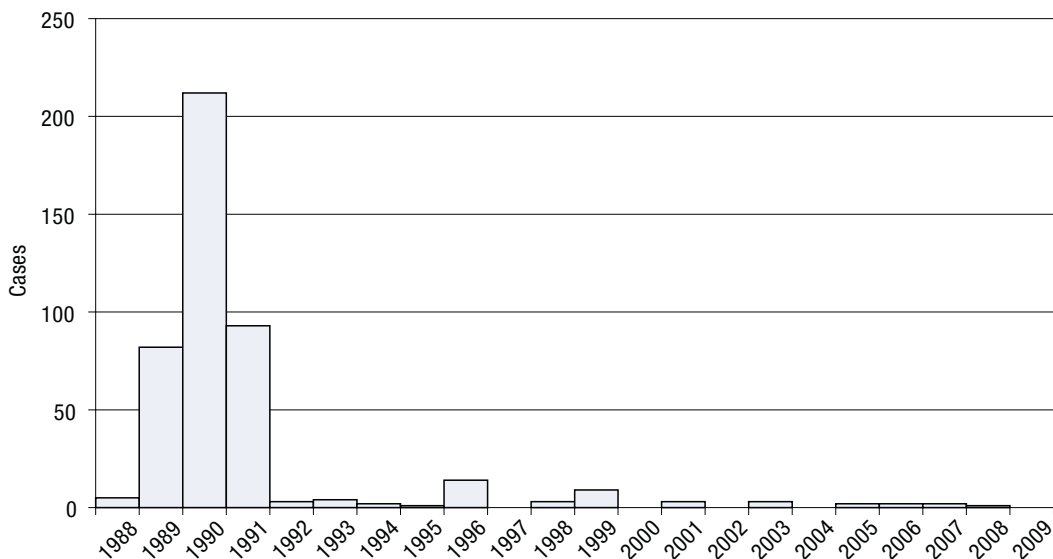
Measles is an acute, highly communicable viral illness known for its red, blotchy rash that starts on the face and then becomes generalized. The rash is preceded by a febrile prodrome that includes cough, coryza and conjunctivitis, and sometimes photophobia and Koplik spots. Diagnosis is confirmed by 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, with more than 55,000 cases and 120 deaths 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. Endemic measles has been eliminated from the United States, but cases are occasionally imported.

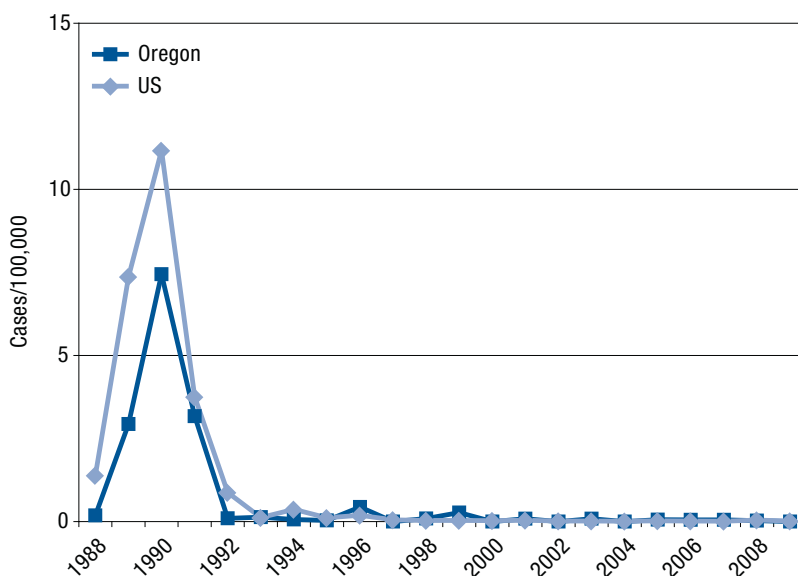
In Oregon, two doses of measles vaccination have been required since 1998. In 2009, >94% of school-aged children had received two doses of measles-containing vaccine. Since 2002, 10 cases have been reported in Oregon; eight of these were imported, and two were linked to imported cases. Most imported cases originated in Asia and Europe and occurred both among Oregon citizens traveling abroad and persons visiting Oregon from other countries. The median age of cases has been 29 (range, 19–49) years. Cases were either unvaccinated (9) or had undocumented vaccination status (1).

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.

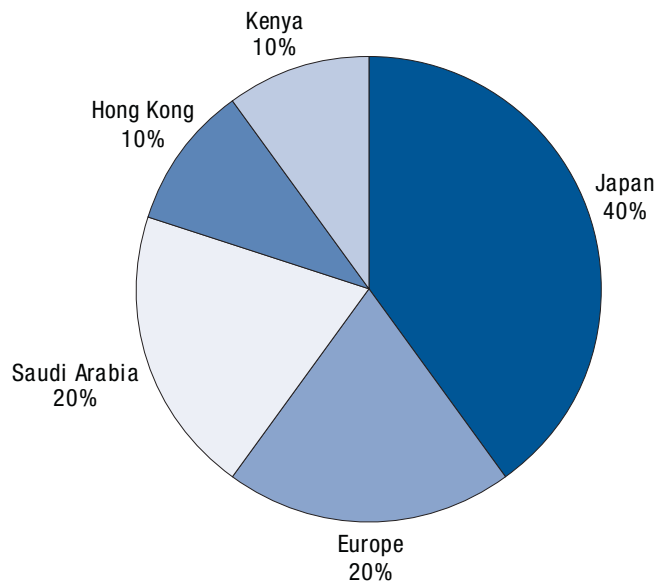
**Measles by year: Oregon, 1988–2009**



### Incidence of measles: Oregon vs. nationwide, 1988–2009



### Measles by country of importation: 1997–2009



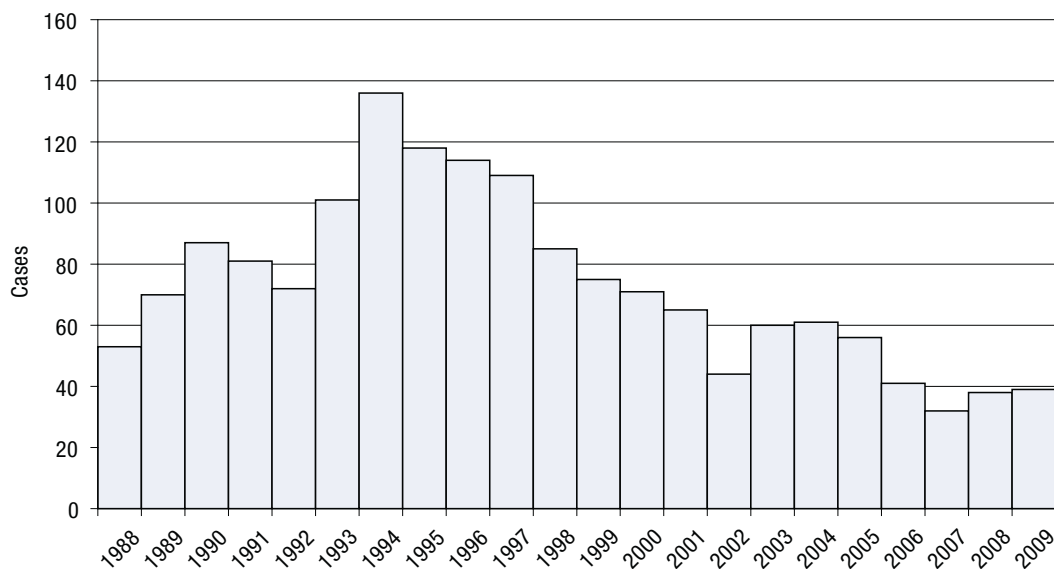
## Meningococcal disease

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.

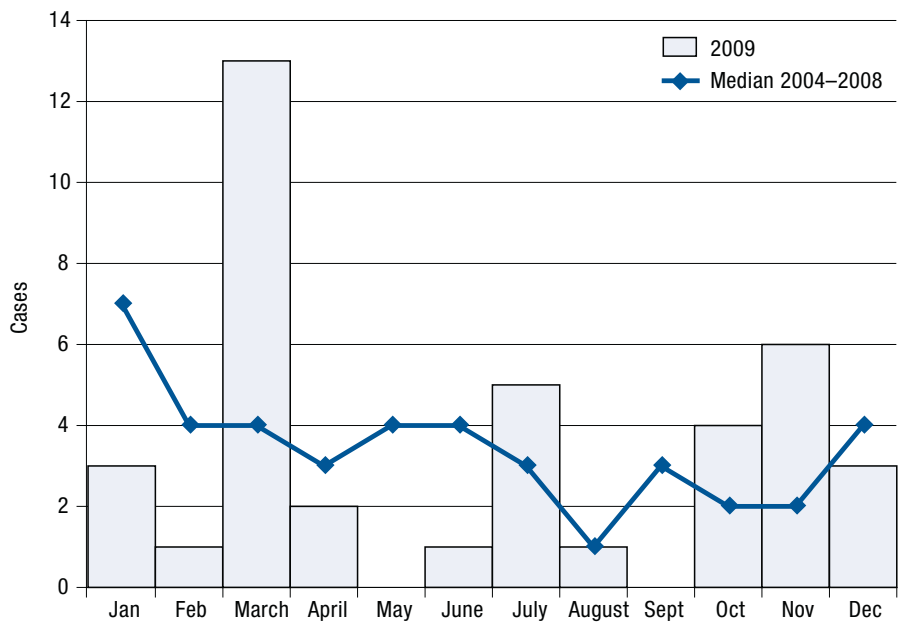
Meningococcal disease reports remained stable in 2008 and 2009, with 38 and 39 cases respectively. This is up from the 32 cases reported in 2007, at least a 20-year low. Though Oregon's trend is one of decline, we do continue to have higher rates than the

nation. In 2008–2009, the highest majority (52%) of illness in Oregon was once again caused by serogroup B organisms. However, in 2009, serogroup Y was a close second with 14 cases compared to 17 group B. 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 over 70 years of age. Though a new conjugate vaccine (Menactra) for adolescents and young adults was licensed in 2006, this vaccine does not protect against serogroup B disease.

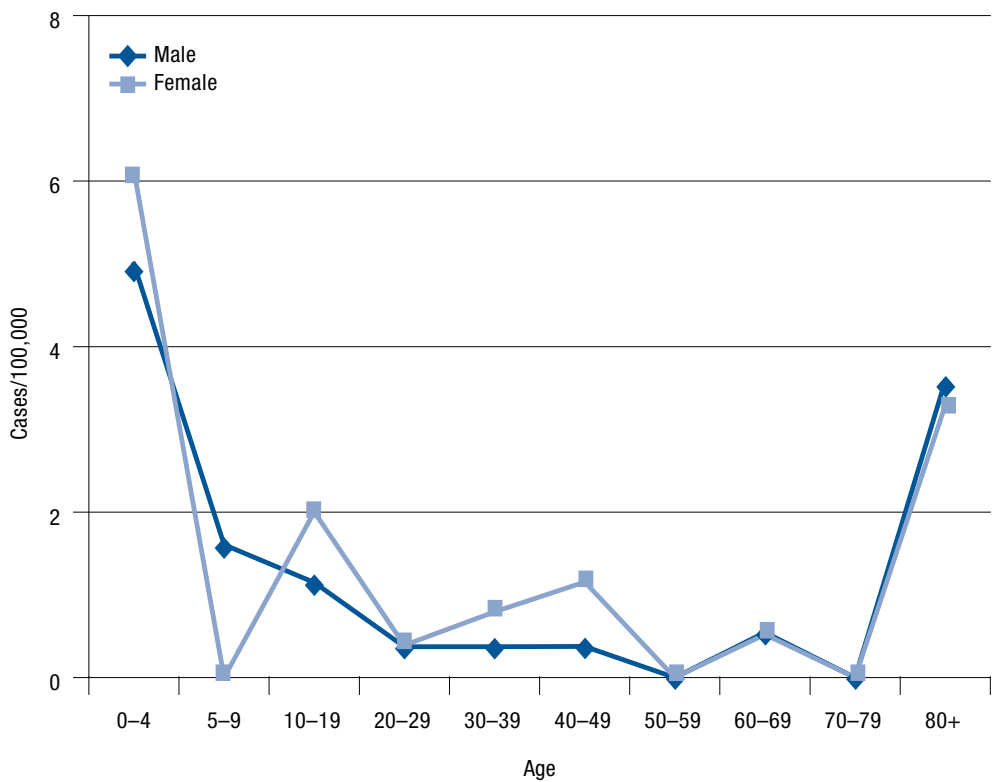
**Meningococcal disease by year: Oregon, 1988–2009**



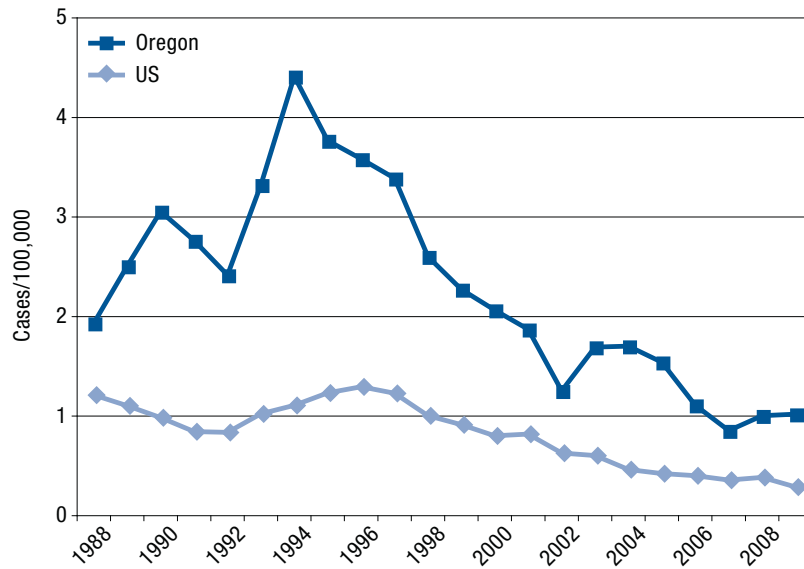
### Meningococcal disease by onset month: Oregon, 2009



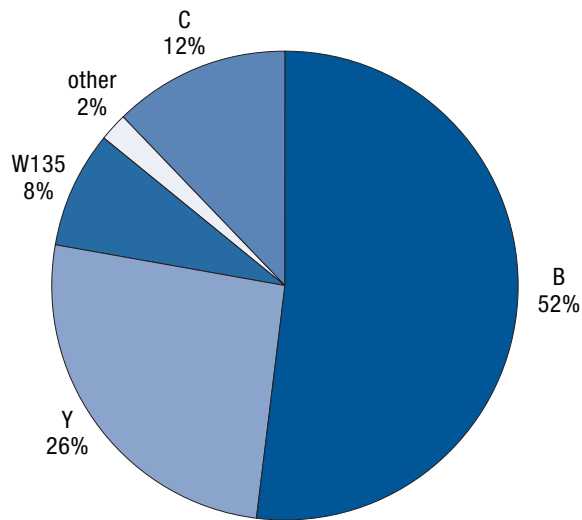
### Incidence of meningococcal disease by age and sex: Oregon, 2009



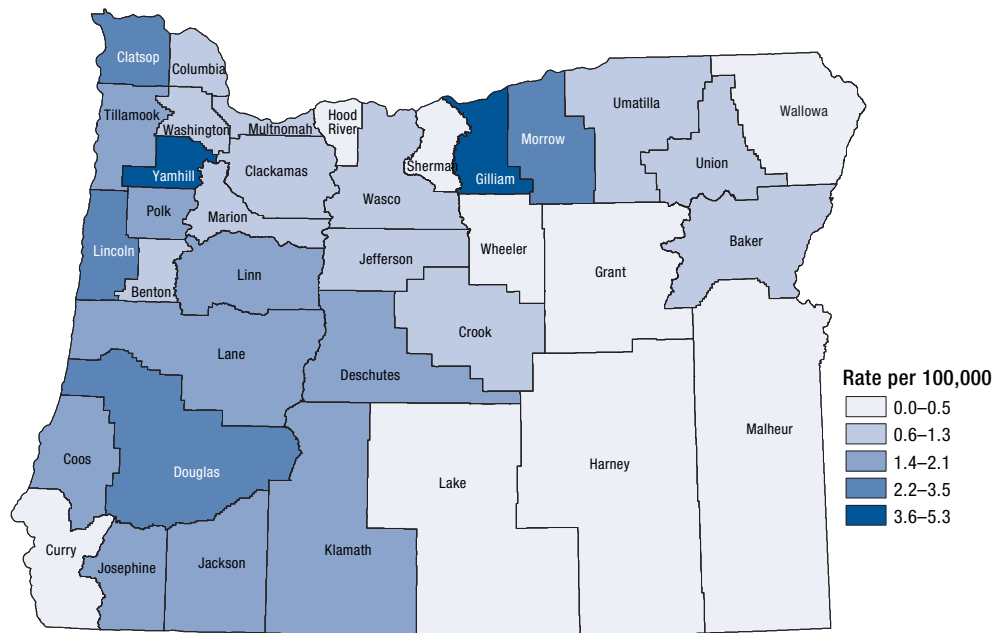
### Incidence of meningococcal disease: Oregon vs. nationwide, 1988–2009



### Meningococcal disease by serogroup: Oregon, 2008–2009



## Incidence of meningococcal disease by county of residence: Oregon, 2000–2009



## 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. No mumps cases were reported in 2008, three cases were reported in 2009.

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). The disease is most severe in infants and young children, many of whom suffer the intense paroxysmal coughing that usually terminates in an inspiratory “whoop.” Although the disease may be milder in older persons, those who are infected may transmit the disease to other susceptible persons, including unimmunized or incompletely immunized infants.

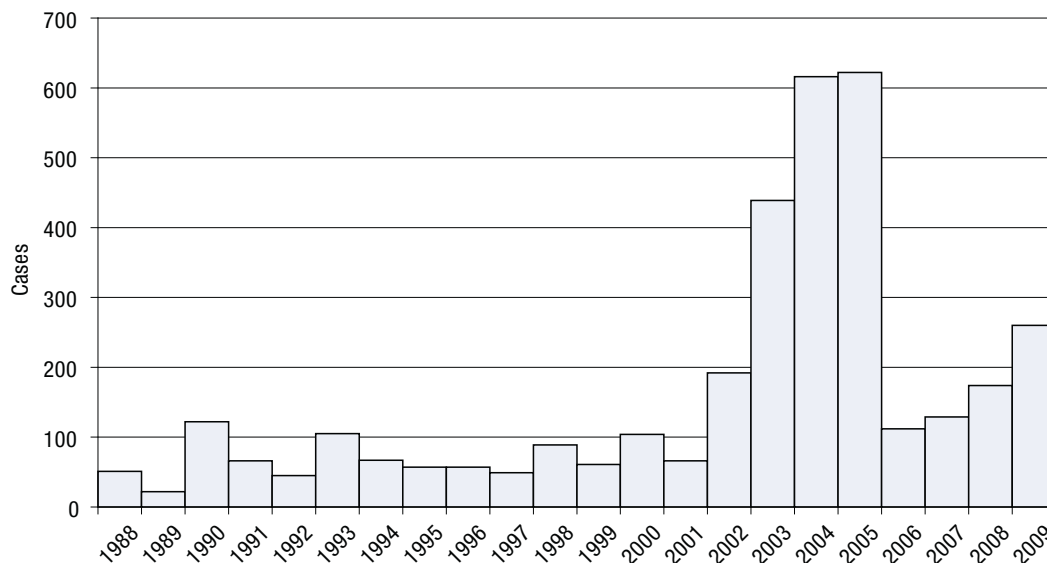
In 2009, the case definitions on pertussis were modified slightly to be more consistent with those recommended by the Council of State and Territorial Epidemiologists. For cases that lack a positive culture, a cough of at least two weeks’ duration is now required to meet the definition of either a confirmed or presumptive case. (Patients with a positive culture must have a cough, though not necessarily of two weeks’ duration.)

Although down from a major incidence peak in 2004 and 2005, rates of pertussis have increased in Oregon since 2007 and have been above the national rate in 2008 and 2009. Pertussis rates have tended to peak every three to five years. Because pertussis often goes undiagnosed in adolescents and adults, it is likely that the actual number of cases greatly exceeds the number reported.

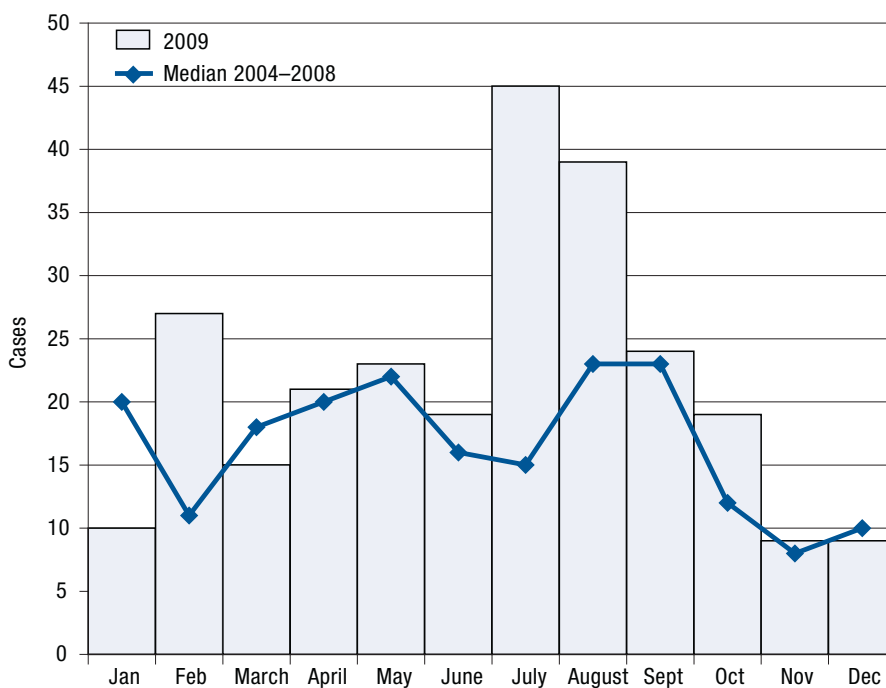
Infants have the highest risk of pertussis-related complications and death and have had the highest reported incidence rate in Oregon. Since 2000, 205 (46.5%) of the 441 infants diagnosed with pertussis in Oregon have been hospitalized, and four have died.

The greatest increase in incidence in recent years has been in adolescents and adults. Since 2000, more than 60% of the pertussis cases have been >10 years of age. Tdap vaccine should provide some immunity to the disease for all of us older kids. Health care workers in particular are encouraged to get a dose.

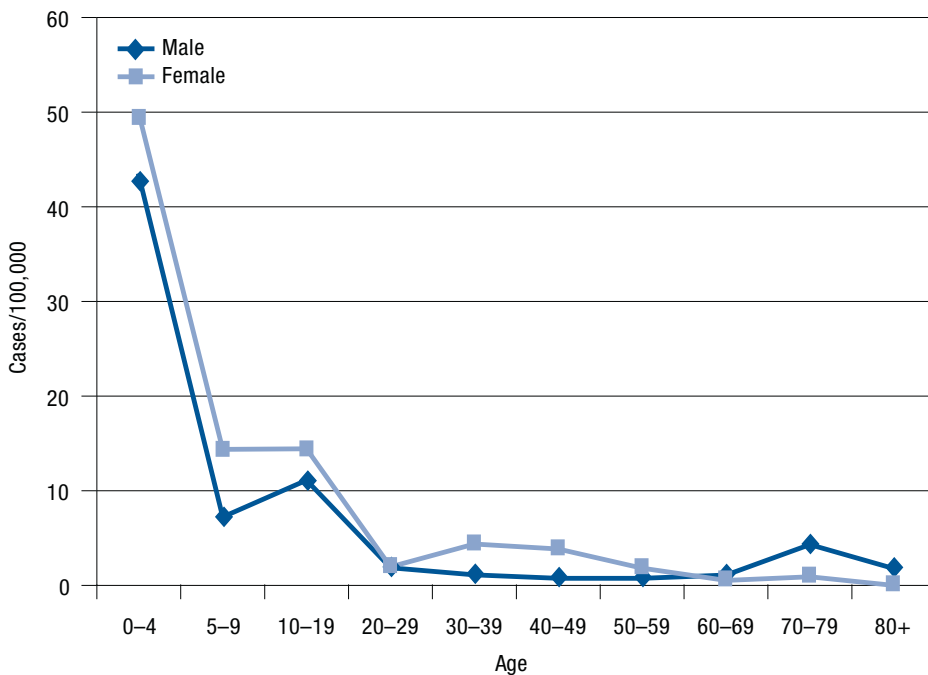
**Pertussis by year: Oregon, 1988–2009**



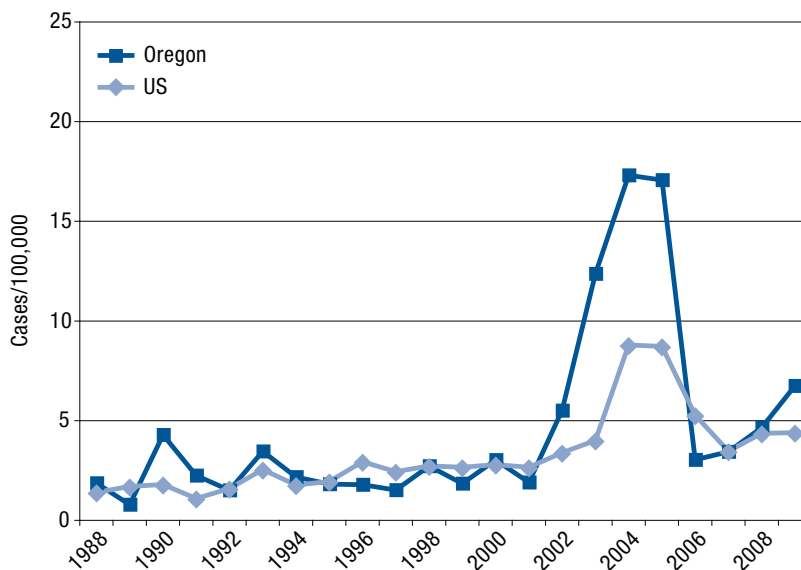
### Pertussis by onset month: Oregon, 2009



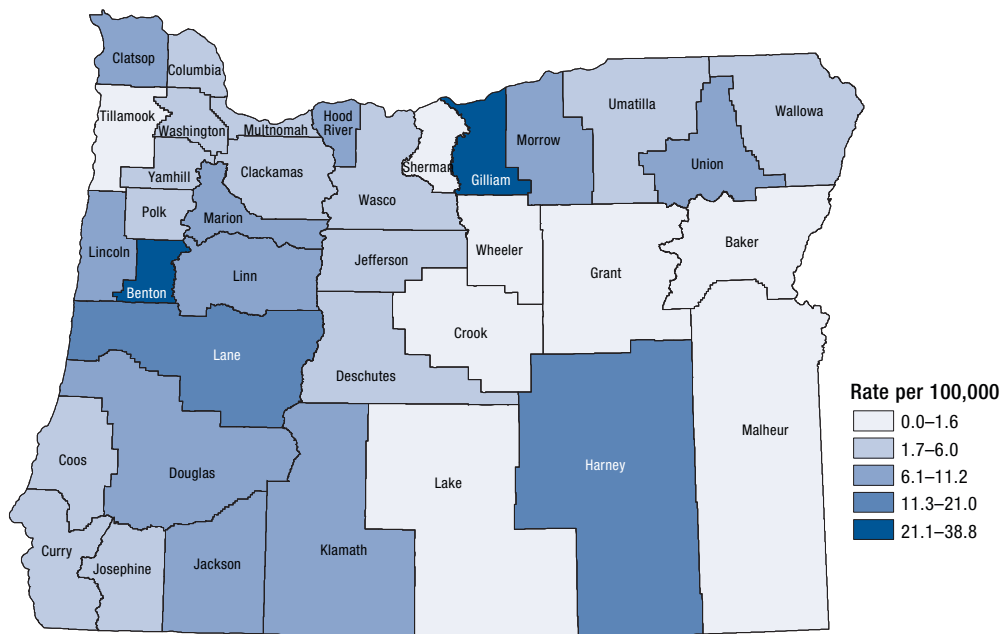
### Incidence of pertussis by age and sex: Oregon, 2009



### Incidence of pertussis: Oregon vs. nationwide, 1988–2009



### Incidence of pertussis by county of residence: Oregon, 2000–2009



## 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. Eleven bats tested positive in 2009, 12 in 2008, 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 four doses of rabies vaccine, one each on days 0, 3, 7, 14. Prior to 2008, a five-dose regimen was recommended, however, studies indicated that four doses of vaccination in combination with HRIG elicited an immune response and an additional dose was not associated with more favorable outcomes.

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

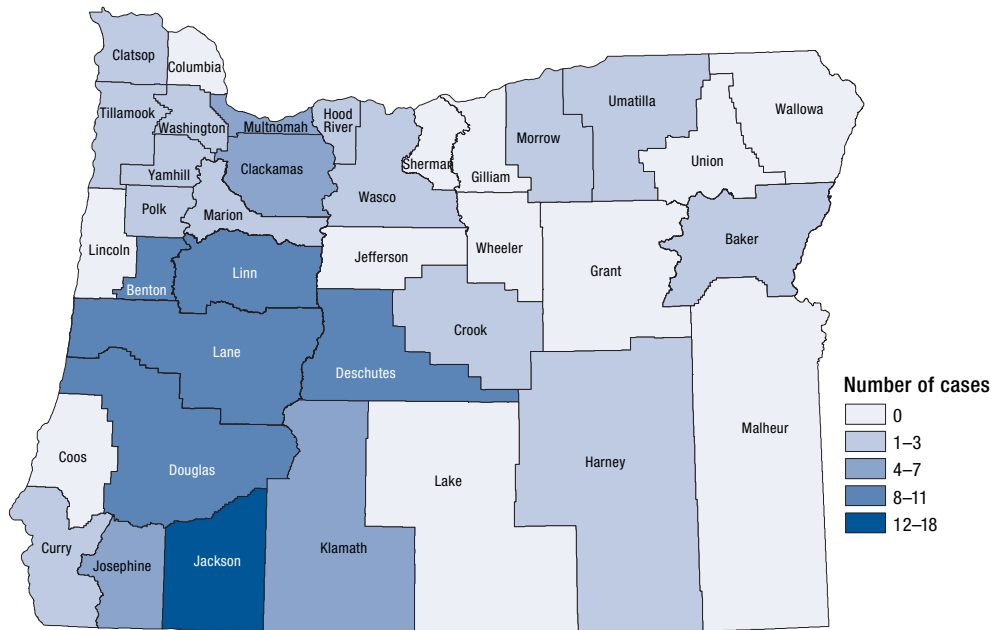
Additional information and an algorithm to follow for assessment of rabies risk are provided here. For a larger copy of this algorithm visit: [www.oregon.gov/DHS/ph/acd/diseases/rabies/Visio-RabiesAlgorithm6\\_09.pdf](http://www.oregon.gov/DHS/ph/acd/diseases/rabies/Visio-RabiesAlgorithm6_09.pdf).

### Rabies Tests in Oregon, 2000-2009

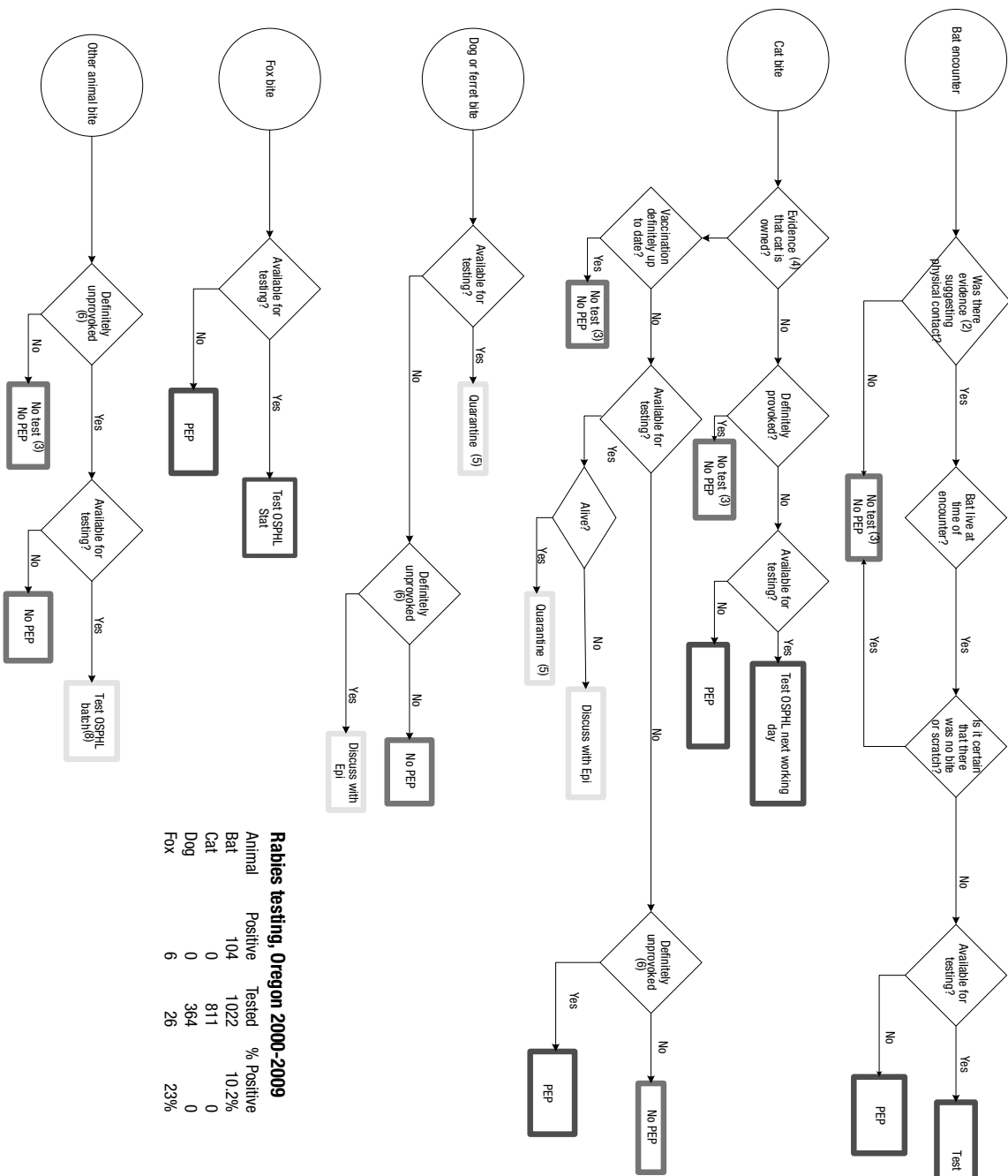
(Number of positive/total tested)

Year	Bat	Cat	Dog	Fox	Other
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
2008	13/128	0/58	0/23	0/3	0/53
2009	11/117	0/73	0/27	0/1	0/42
<b>Totals</b>					
2000-2009	104/1022 10.2%	0/811	0/364	6/26 23%	0/325

### Animal rabies cases by county: Oregon, 2000–2009



Algorithm for prevention of rabies after animal encounters in Oregon<sup>®</sup>



**Rabies testing, Oregon 2000-2009**

Animal	Positive	Tested	% Positive
Bat	104	1022	10.2%
Cat	0	811	0
Dog	0	364	0
Fox	6	26	23%

Notes:  
 1. Oregon law mandates reporting of any bite of a human being by any other mammal (Oregon Administrative Rule 333-01-8-0015(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 logger run past your yard; or crowding animal's space, etc.  
 7. For purposes of determining need for rabies PEP, wolf-dog 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: Epidemiologist and Oregon Department of Human Services  
 weekdays, nights and weekends, 971-673-1111



## 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.

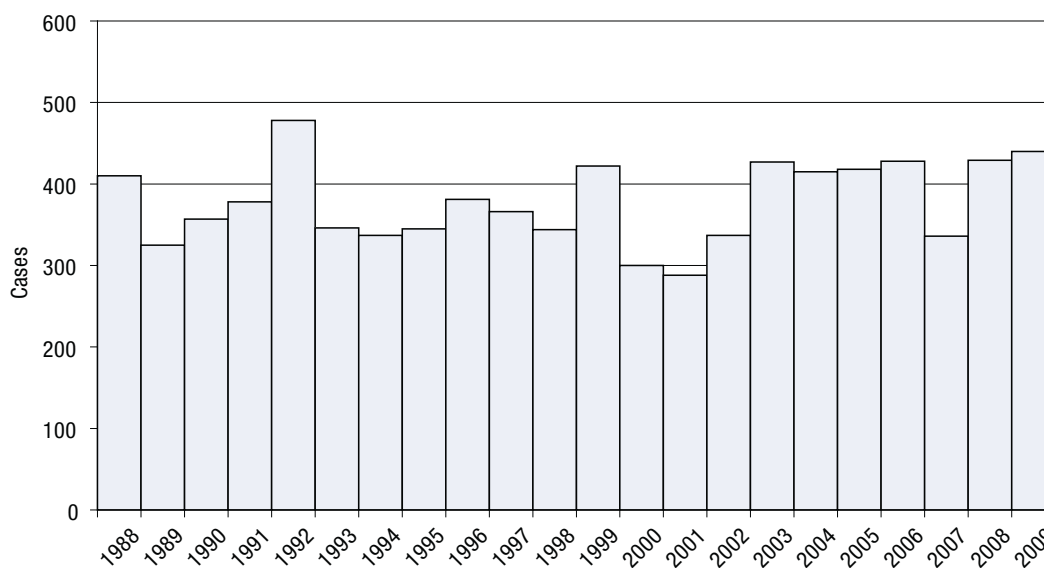
A wide range of domestic and wild animals are carriers of *Salmonella*, including poultry, swine, cattle, rodents, iguanas, tortoises, turtles, young poultry, dogs and cats. The majority of human infections are thought to result from the ingestion of fecally contaminated food or water. Raw or undercooked 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.

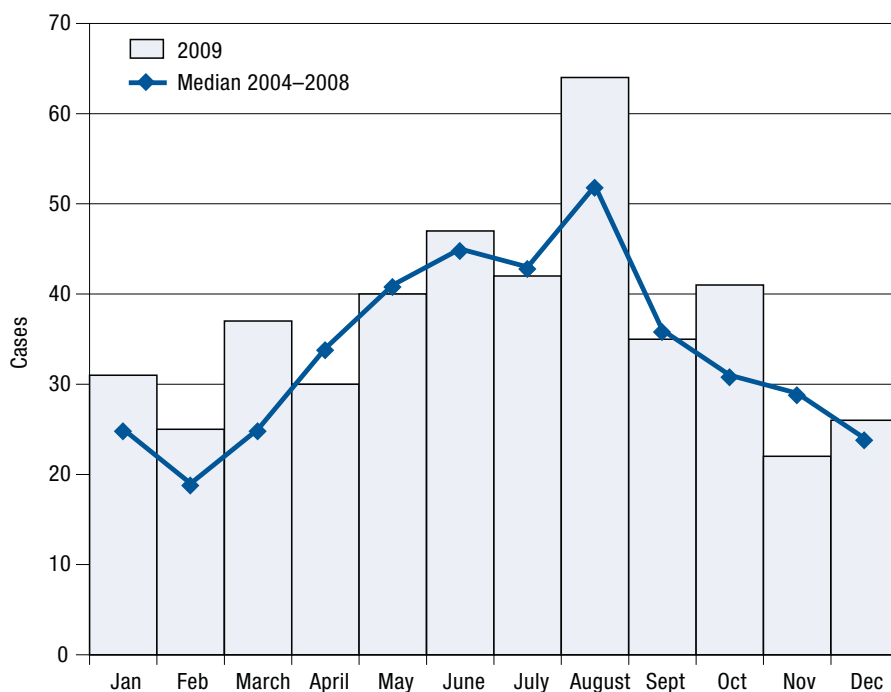
Of approximately 2,500 known serotypes, only about 200 are detected in the United States in any given year. In Oregon, *S. Typhimurium* and *S. Enteritidis* are the two most commonly reported serotypes.

In 2008, 396 cases of *Salmonella* were confirmed and 33 cases were identified as presumptive. Twelve outbreaks of salmonellosis with > 70 people affected were investigated in Oregon. Of those, nine were foodborne, and in three the source of *Salmonella* could not be determined. In 2009, 416 cases of *Salmonella* were confirmed, 25 cases were identified as presumptive. During the same year, 18 outbreaks of *Salmonella* were investigated with 160 people reported ill. In six (33%) the source of the outbreak could not be determined.

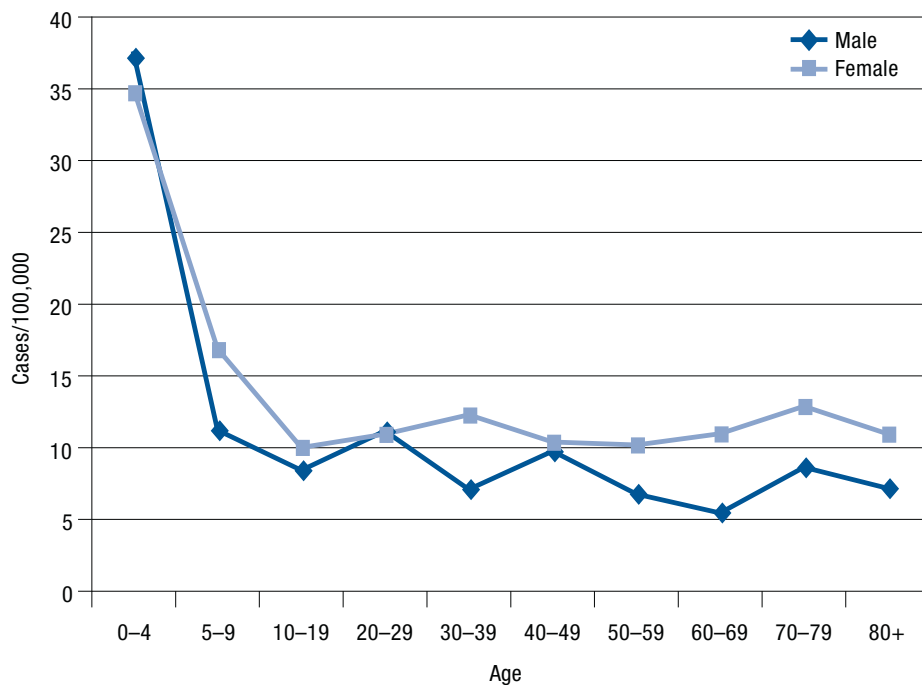
**Salmonellosis by year: Oregon, 1988–2009**



### Salmonellosis by onset month: Oregon, 2009

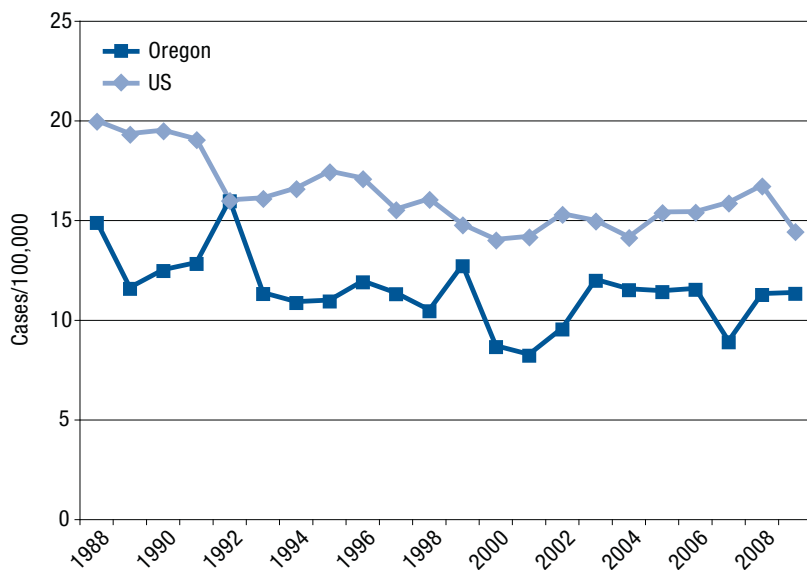


### Incidence of salmonellosis by age and sex: Oregon, 2009

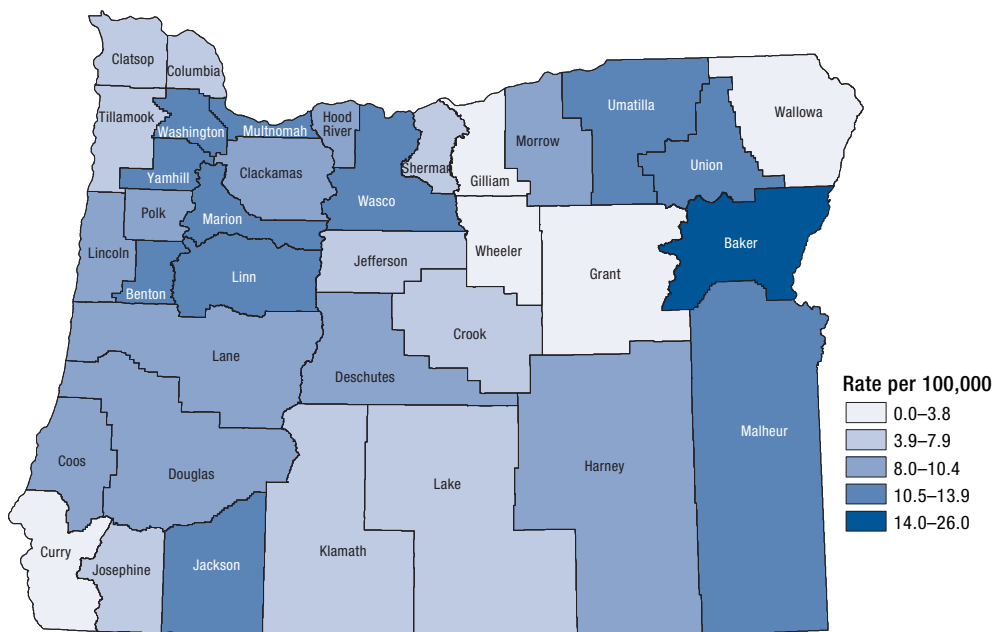




### Incidence of salmonellosis: Oregon vs. nationwide, 1988–2009



### Incidence of salmonellosis by county of residence: Oregon, 2000–2009



Selected\* *Salmonella* by serotype, Oregon, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Enteritidis	45	34	43	78	64	86	74	54	76	61
Heidelberg	10	26	27	12	42	51	19	26	23	44
Montevideo	20	13	17	16	15	15	13	12	15	22
Muenchen	6	8	10	5	7	8	8	9	9	10
Newport	9	16	31	38	14	17	16	17	15	15
Oranienburg	7	10	12	13	6	8	5	8	8	6
Paratyphi B var. Java	6	9	8	7	17	20	7	11	7	3
Saintpaul	12	4	18	36	16	7	10	3	23	10
Typhimurium	72	86	67	83	86	84	90	52	65	81

\*Selected because at least one case was reported in 2009 and it is a more common serotype.

## Shigellosis

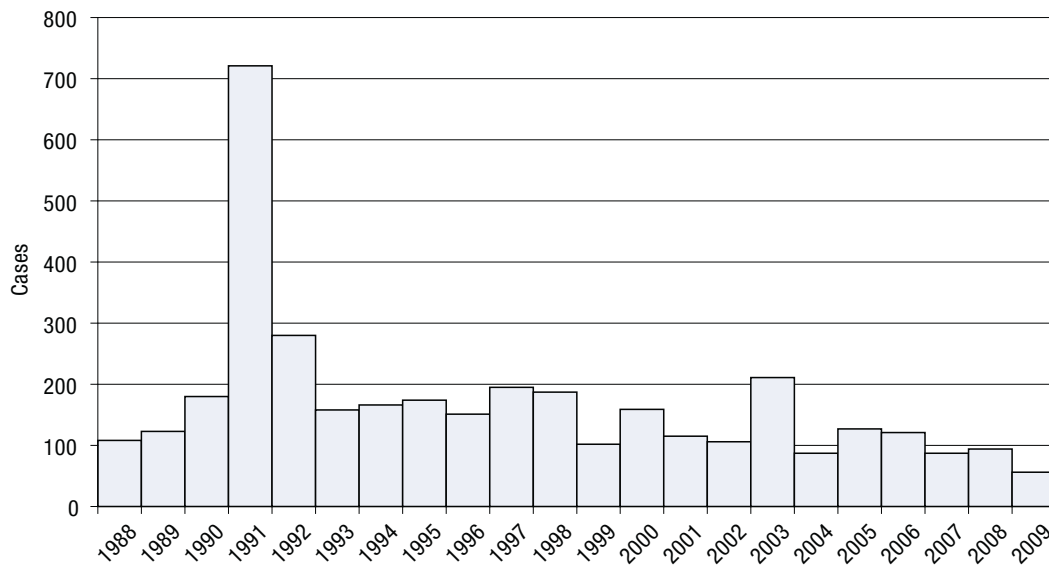
Shigellosis is an acute bacterial infection characterized by (sometimes bloody) diarrhea, vomiting, abdominal cramps and, often, fever. Humans are the only known reservoir. Shigellosis is transmitted from person to person, and just a few organisms can cause illness.

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 dual pathogen outbreak (*E. coli* and *Shigella*) at Blue Lake Park in Fairview.

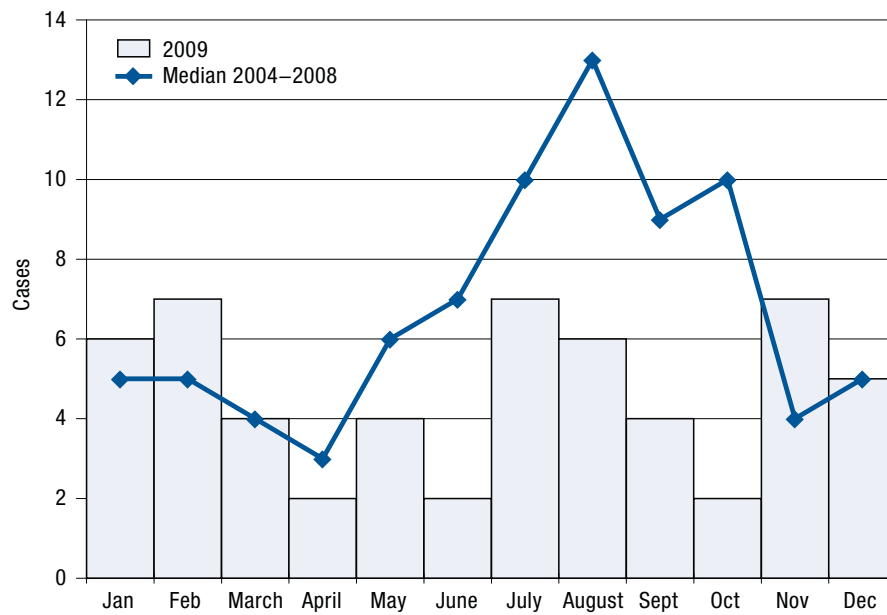
Outbreaks in daycare centers are common, mainly due to the poor hygienic practices of small children. Hand washing is the most important means of prevention. Treatment reduces duration of illness, but the organism has become resistant to many antibiotics used for empiric therapy. Testing for antibiotic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

In 2008 there were 94 cases, five which were outbreak-related and 34 household transmissions. The number of cases in 2009 decreased to 56, a historic all-time low for Oregon. There were no outbreaks, 39 cases were reported as sporadic and 17 household transmission.

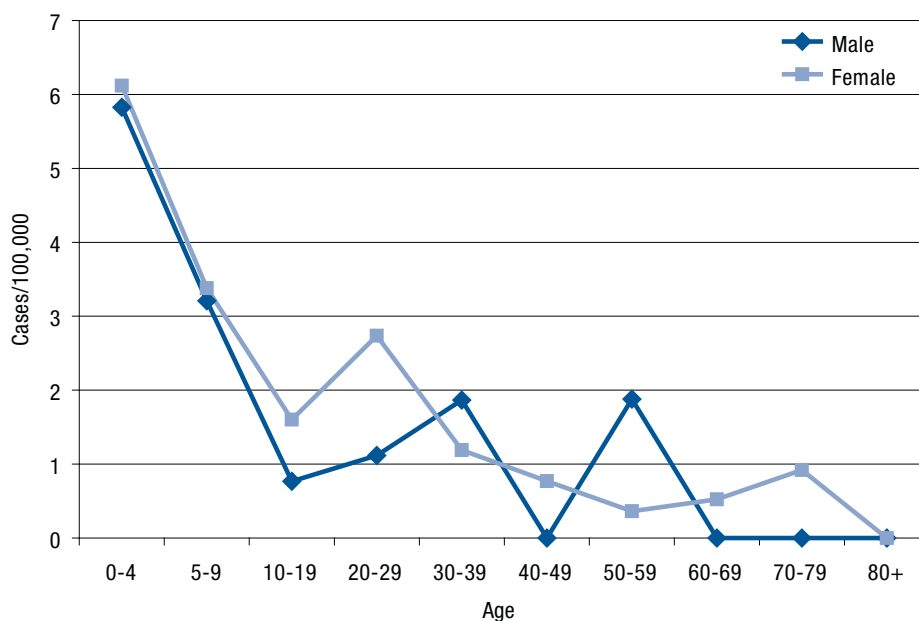
Shigellosis by year: Oregon, 1988–2009



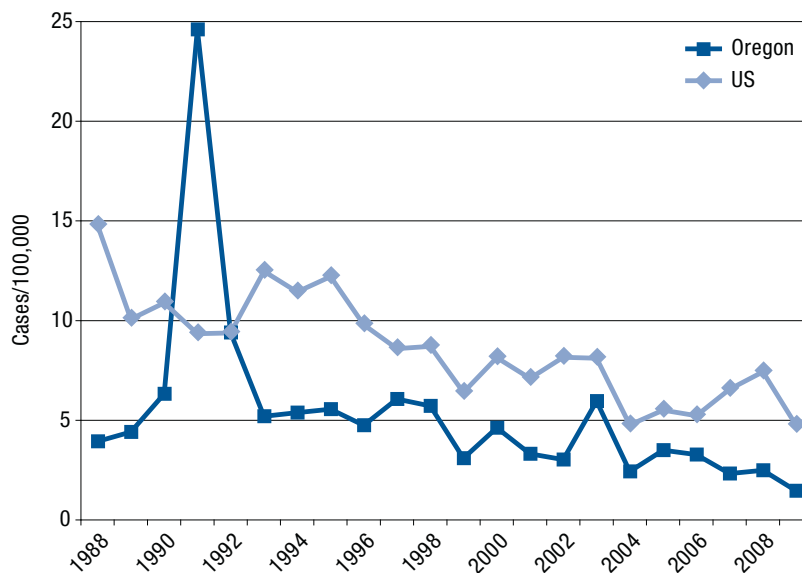
Shigellosis by onset month: Oregon, 2009



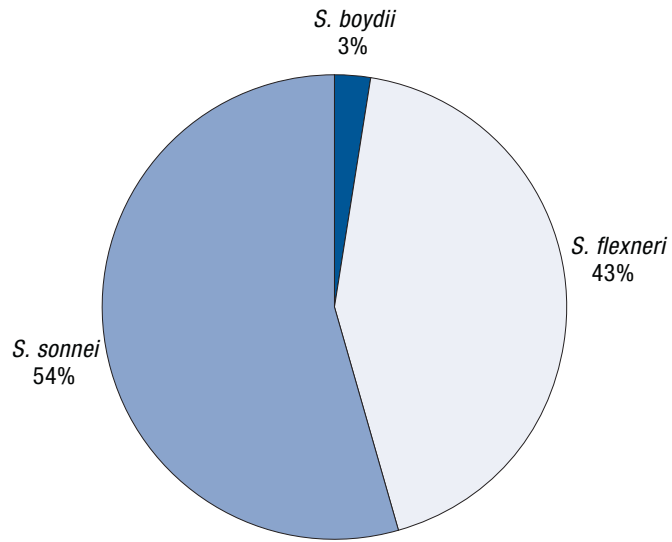
### Incidence of shigellosis by age and sex: Oregon, 2009



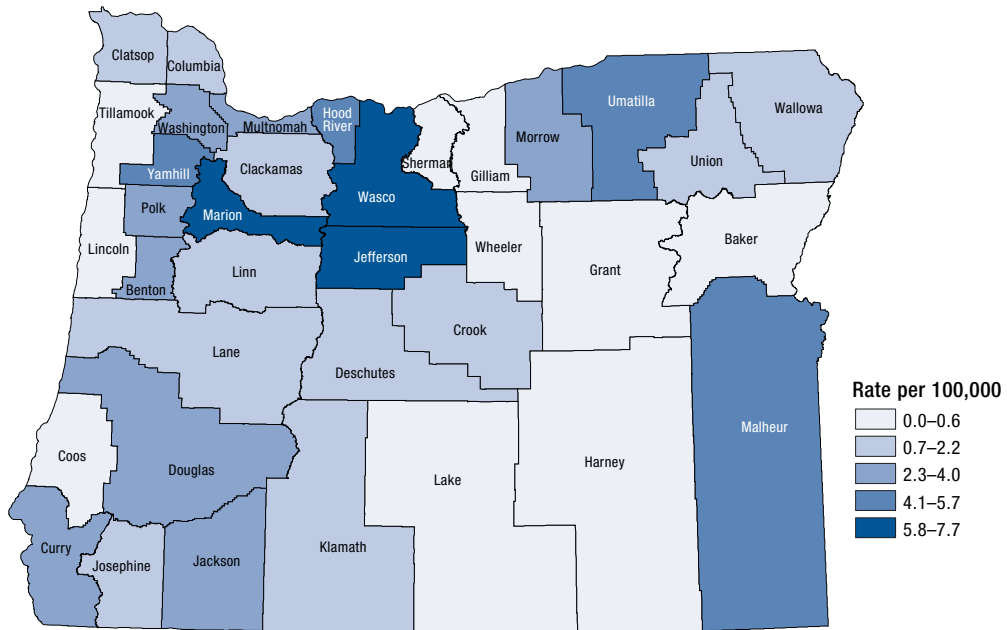
### Incidence of shigellosis: Oregon vs. nationwide, 1988–2009



### Shigellosis by species: Oregon, 2008–2009



### Incidence of shigellosis by county of residence: Oregon, 2000–2009



## Early syphilis

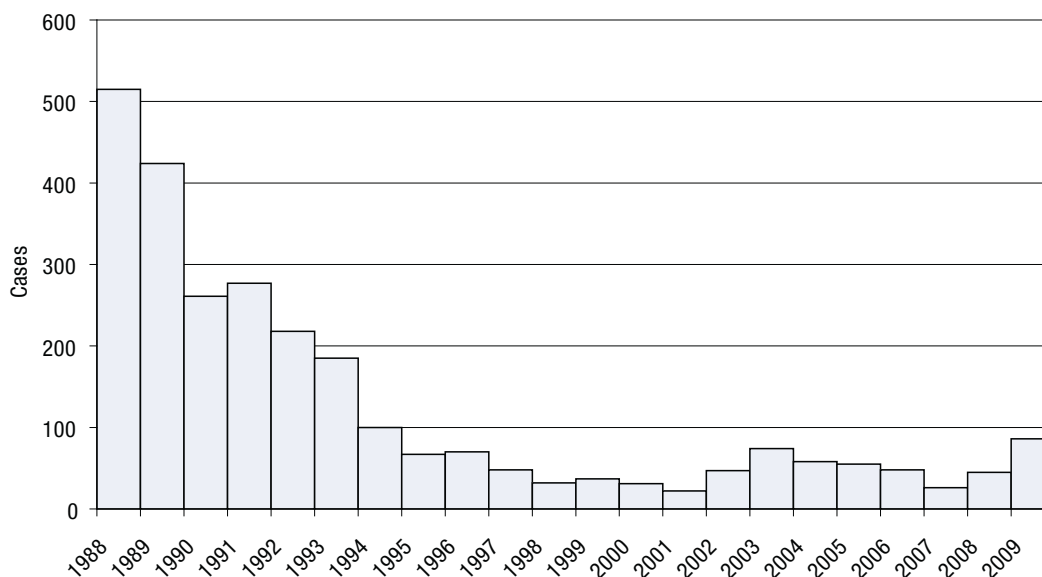
Syphilis is a sexually transmitted disease of protean manifestation caused by the spirochete *Treponema pallidum*. Early syphilis cases represent an aggregate of primary, secondary and early latent cases of less than one year's duration. The 86 early syphilis cases reported during 2009 reflect a 41 case increase (91%) compared to the 45 cases reported in 2008. The majority of the early syphilis cases reported during 2009 were among men who have sex with other men. The infection may be transmitted among sex partners during the primary and secondary stages.

Syphilis is transmitted via vaginal, rectal or oral sexual contact. Syphilis can be prevented

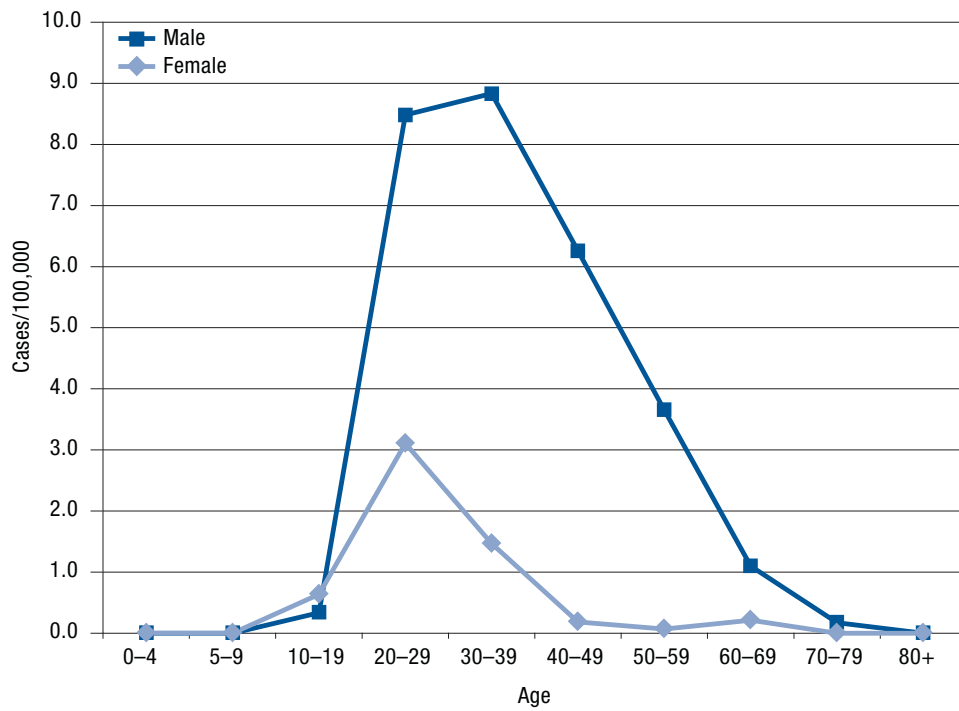
by abstaining from sex or only having sex with one uninfected sex partner. Those who are sexually active outside of a mutually monogamous relationship can lower their risks of infection by using a condom when engaging in sexual activity.

It is important to identify and treat persons with early syphilis to prevent late complications, such as brain and heart damage, and to prevent congenital 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.

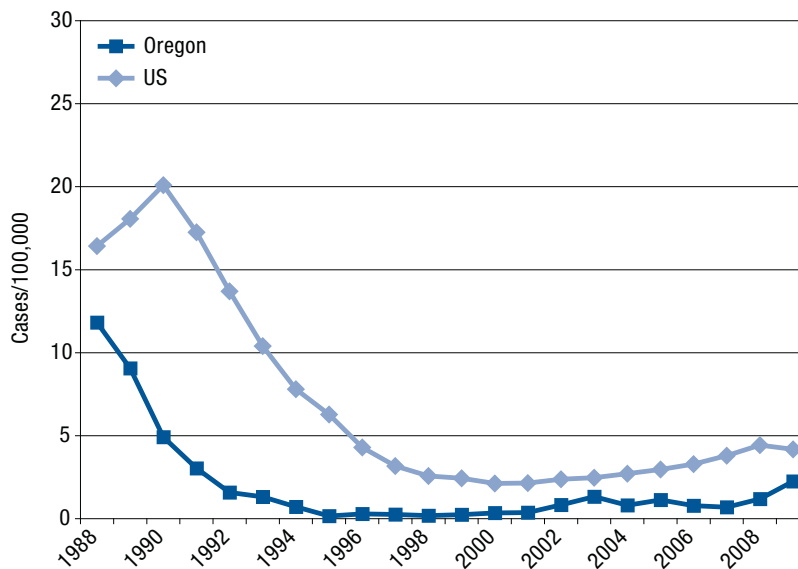
**Early syphilis by year: Oregon, 1988–2009**



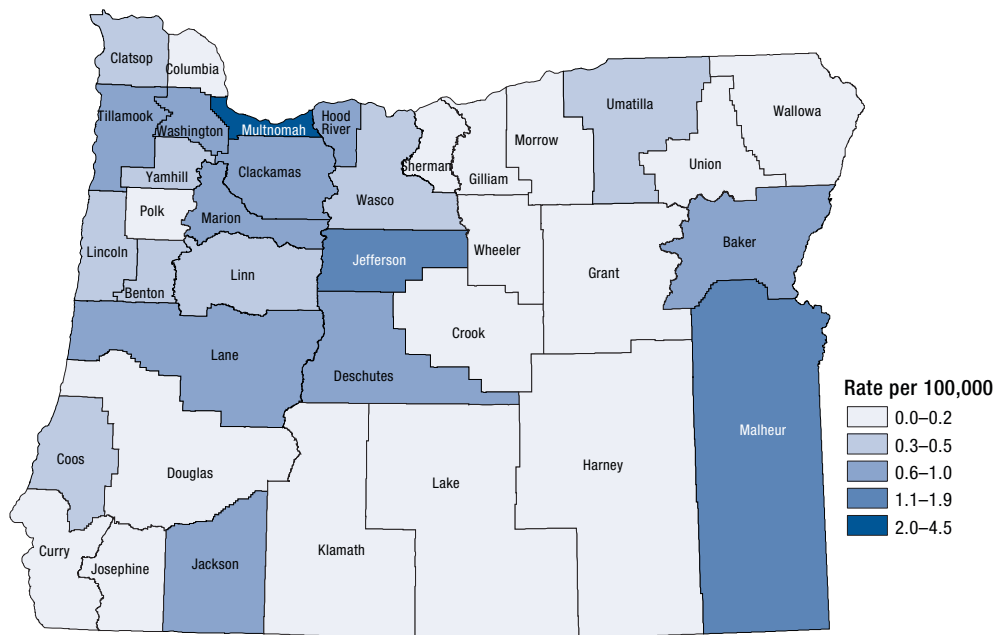
### Incidence of early syphilis by age and sex: Oregon, 2000–2009



### Incidence of primary and secondary syphilis: Oregon vs. nationwide, 1988-2009



## Incidence of early syphilis by county of residence: Oregon, 2000–2009



## 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.

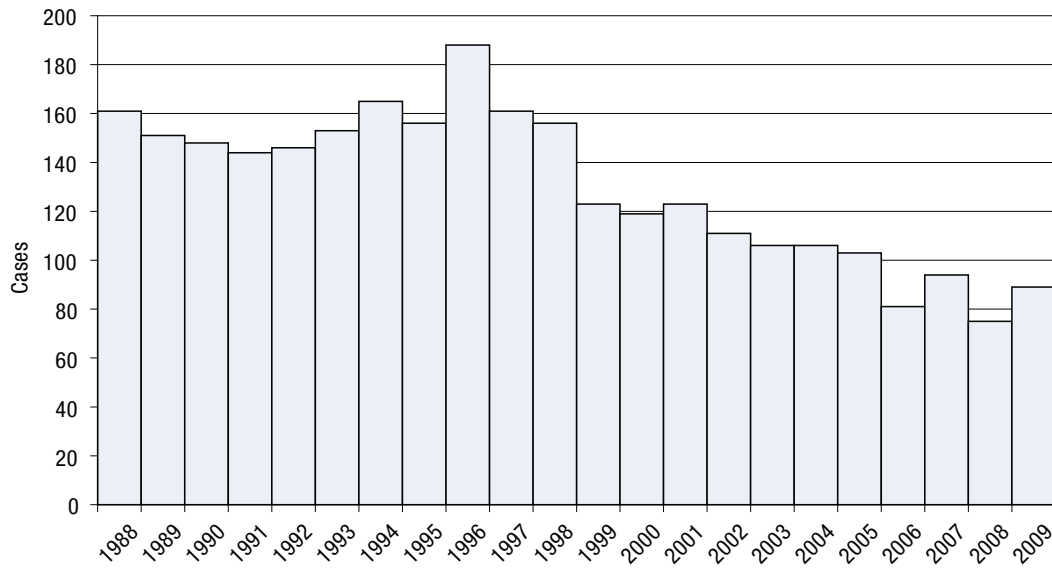
TB is preventable, treatable and curable. TB can be prevented by diagnosing and treating persons with active TB disease. It can also be prevented by identifying and treating persons with latent TB infection who, if untreated, are likely to develop active TB disease. Reporting of TB ensures that cases 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.

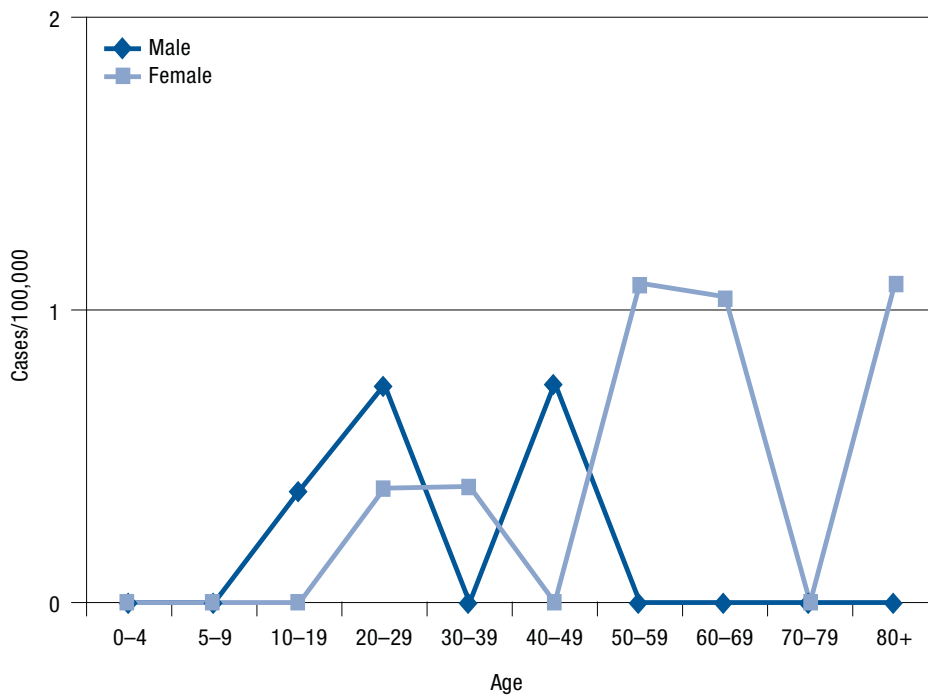
The incidence rate of TB has been declining over the past decade. In 2009, a total of 89 cases of active TB disease were verified in Oregon, for a rate of 2.3 cases per 100,000 residents. Though an increase from the rate of 2.0 per 100,000 residents in 2008, Oregon's TB rate continues to meet the Healthy People 2000 goal of less than 3.5/100,000.



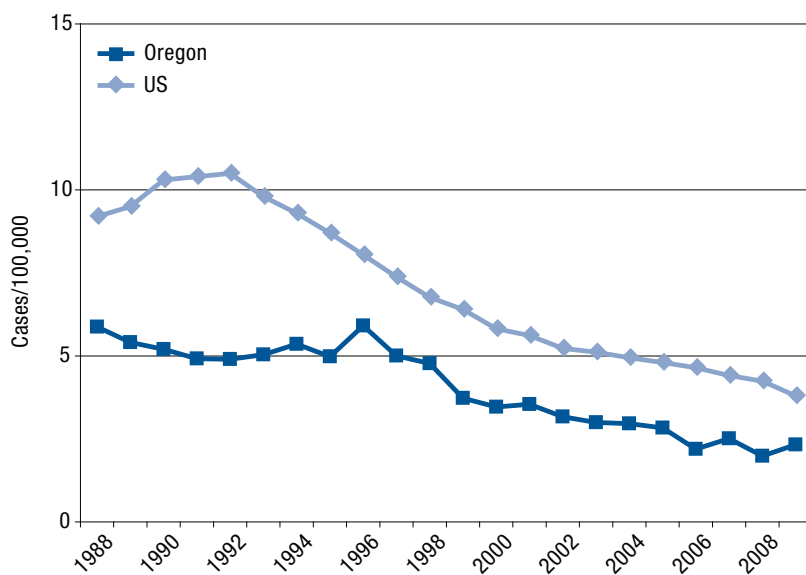
Tuberculosis by year: Oregon, 1988–2009



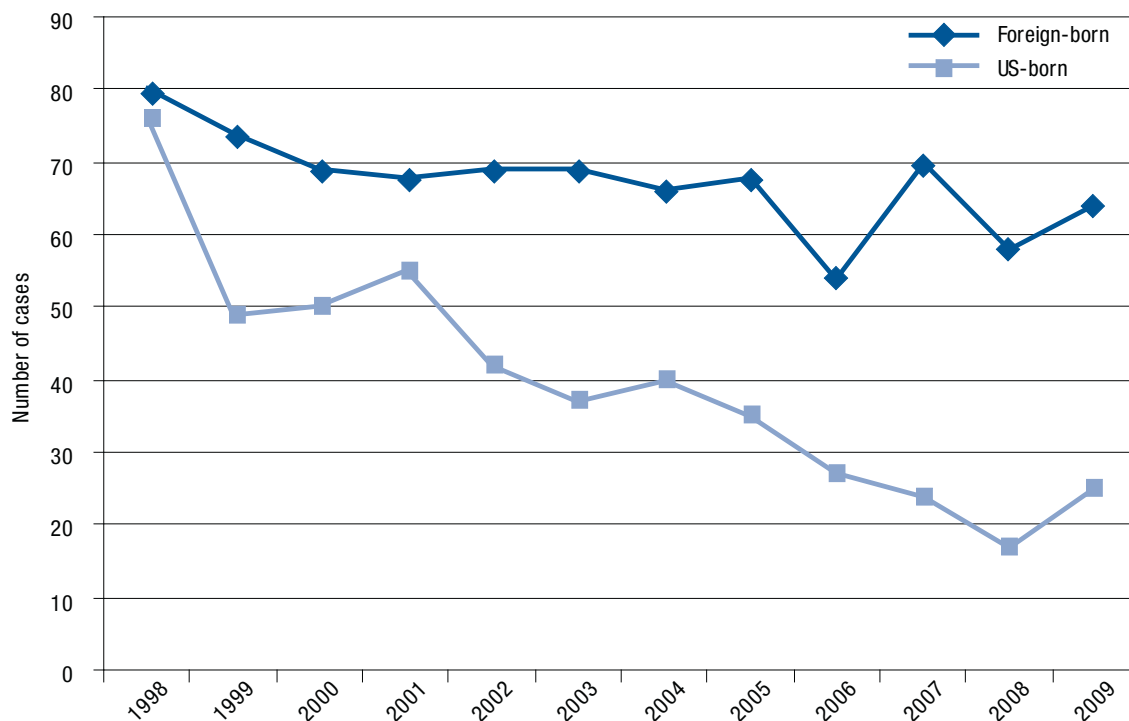
Incidence of tuberculosis by age and sex: Oregon, 2009



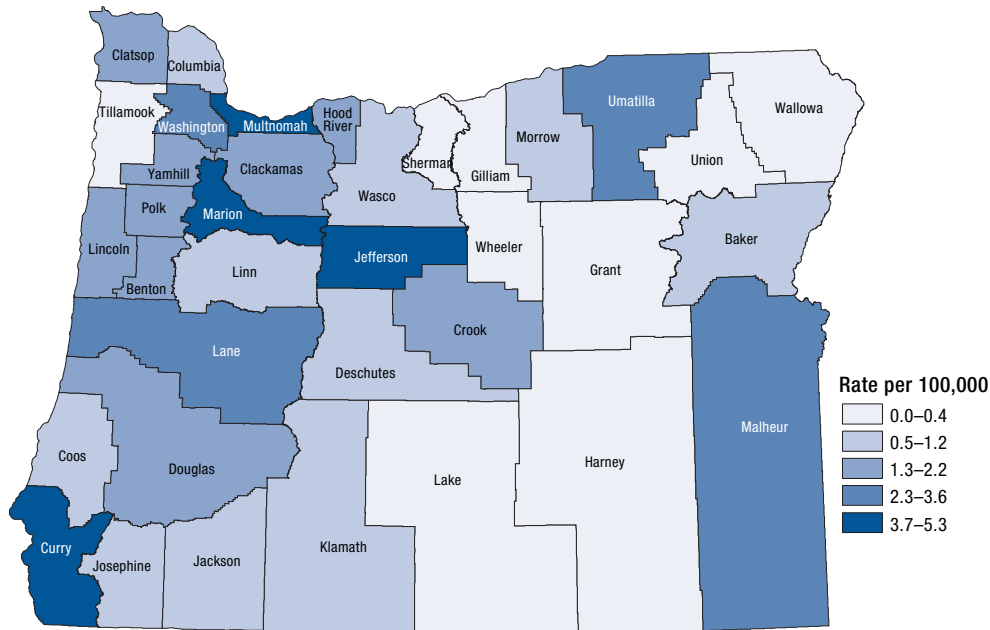
Incidence of tuberculosis: Oregon vs. nationwide, 1988–2009



Tuberculosis cases by country of birth: Foreign-born vs. U.S.-born: Oregon, 1998–2009



## Incidence of tuberculosis by county of residence: Oregon, 2000–2009



## Tularemia

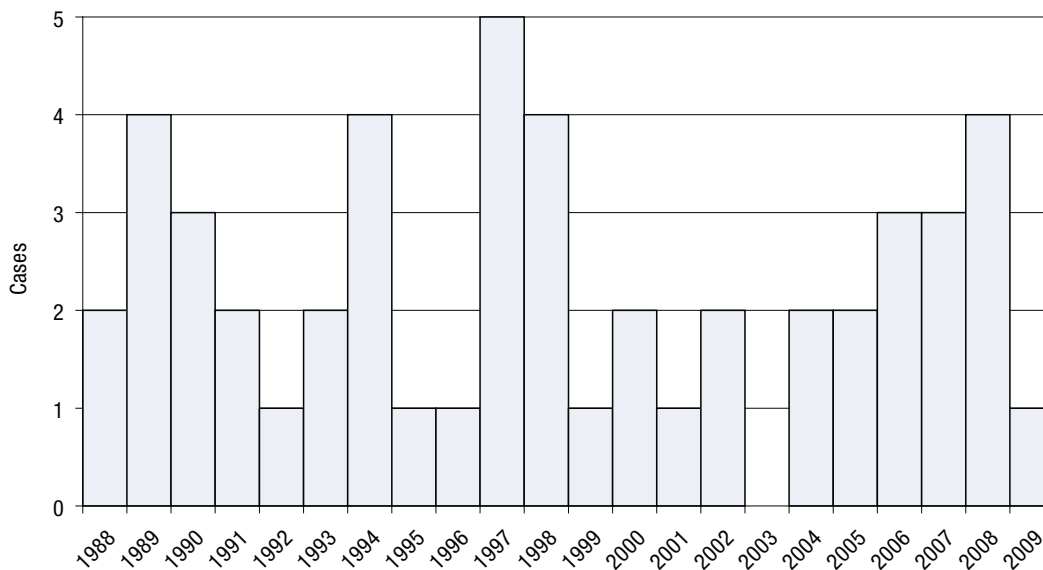
Tularemia, also known as rabbit or deer-fly fever, has recently gained notoriety as a possible “category A” agent of bioterrorism. Tularemia is caused by *Francisella tularensis*, a hardy organism found in rodents, rabbits and squirrels; in ticks, flies and mosquitoes; and in contaminated soil, water 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 2000 to 2009, 20 cases of tularemia were reported in Oregon. Cases occurred in residents of 12 counties and were evenly spread across age groups. In 2008, there were four cases, in 2009, a single case.

Tularemia by year: Oregon, 1988–2009



## Vibriosis

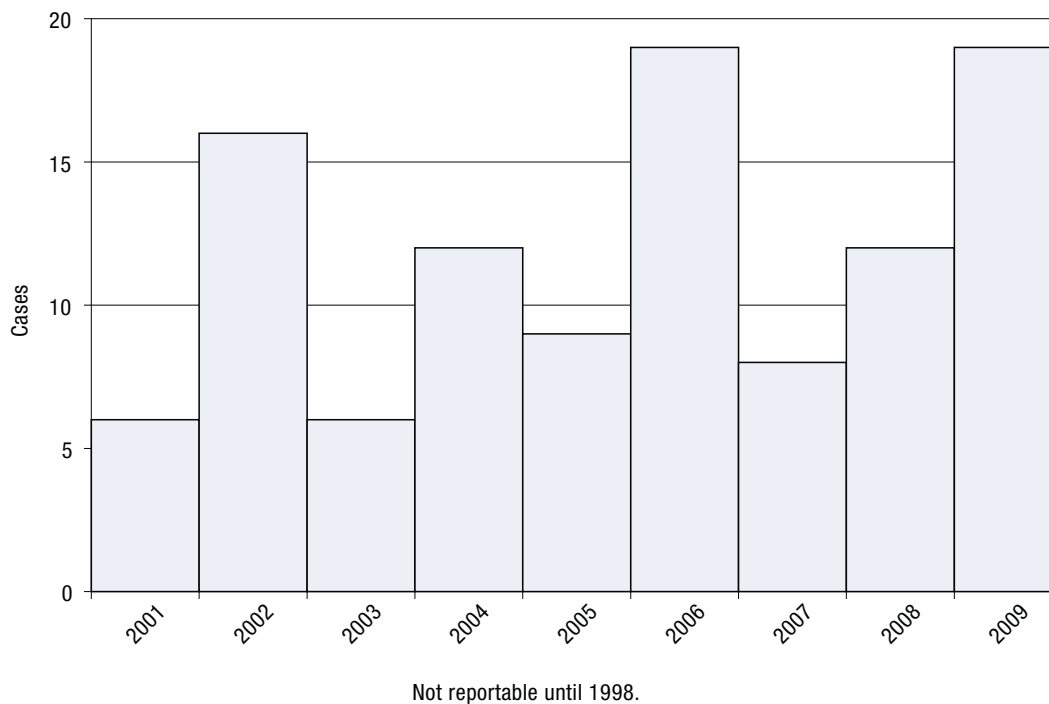
Vibriosis is caused by infection with *Vibrio* bacteria. *Vibrio* is a species of bacteria that causes watery diarrhea, abdominal cramps, and fever. They are commonly found in coastal marine waters and, therefore, in filter-feeding shellfish, such as oysters (which, for this reason, should be eaten only when fully cooked). Some *Vibrio* species are more likely to cause wound infections (e.g., *V. alginolyticus*) after the skin is lacerated (for example, after shucking an oyster).

Non-cholera *Vibrio* infections were not nationally reportable until 2007 and not reportable in Oregon until 1998. Today, all *Vibrio* infections are nationally notifiable. *V. parahaemolyticus*, which occurs naturally in Pacific coastal waters, especially during warmer months, is by far the most common species diagnosed in Oregon. Case reporting is

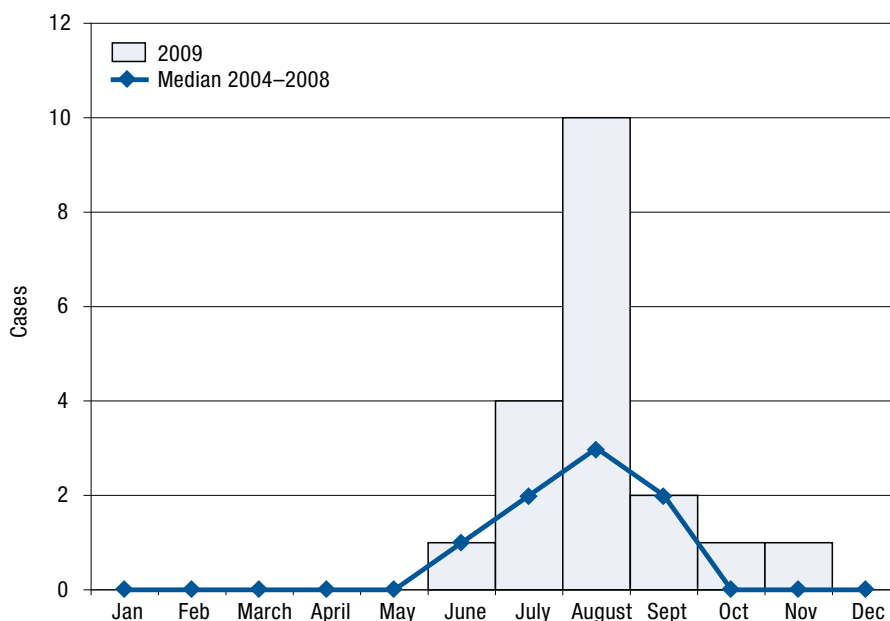
essential to the identification of contaminated shellfish beds and removal of these shellfish from the raw seafood market.

In the past several years, *Vibrio* infections have increased across the nation, and Oregon is following the same trend. It could be that we're getting better at surveilling for it, and it could be that with warmer temperatures there are just more opportunities for exposure. Oregon saw 12, then 18 laboratory confirmed cases, in 2008 and 2009, respectively. While the majority of cases in Oregon are attributed to *V. parahaemolyticus*, in 2008 there was an imported case of *V. cholerae* and a single case of *V. alginolyticus*. In 2009 there were two cases *V. alginolyticus*. The majority (80%) of cases occurred in males and most (83%) were 21-59 years old.

*Vibrio parahaemolyticus* infections: Oregon, 2001–2009



Vibriosis by onset month: Oregon, 2009



## 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.

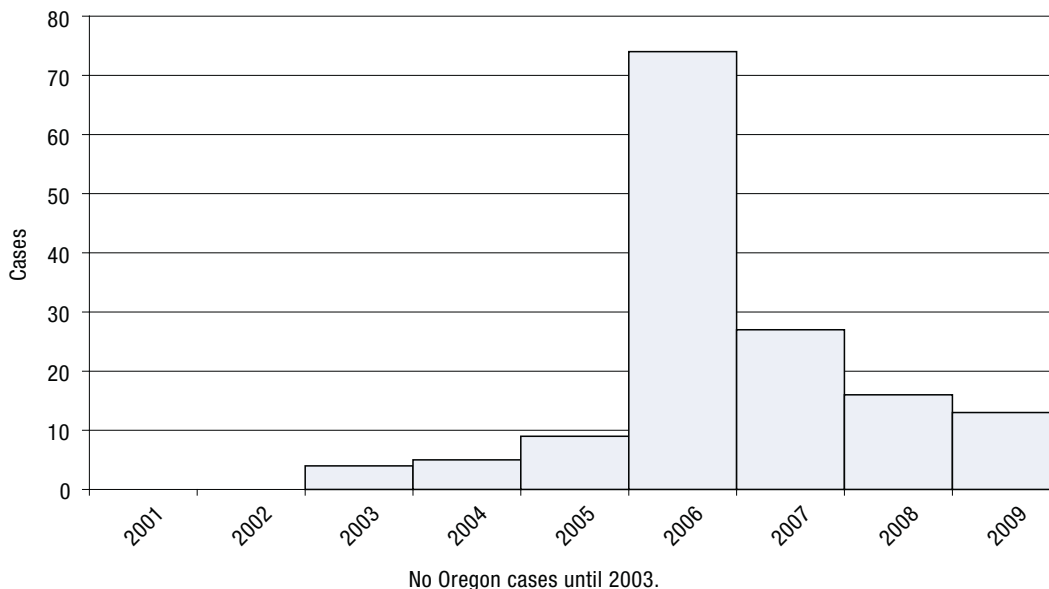
Of those infected, one in five will have mild symptoms such as fever, headache and muscle aches; fewer people, about one in 150, will have more severe symptoms that may include neck stiffness, stupor, disorientation, tremors, convulsions, muscle weakness, paralysis and coma.

The risk of getting WNV 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 2008, 16 cases of WNV were

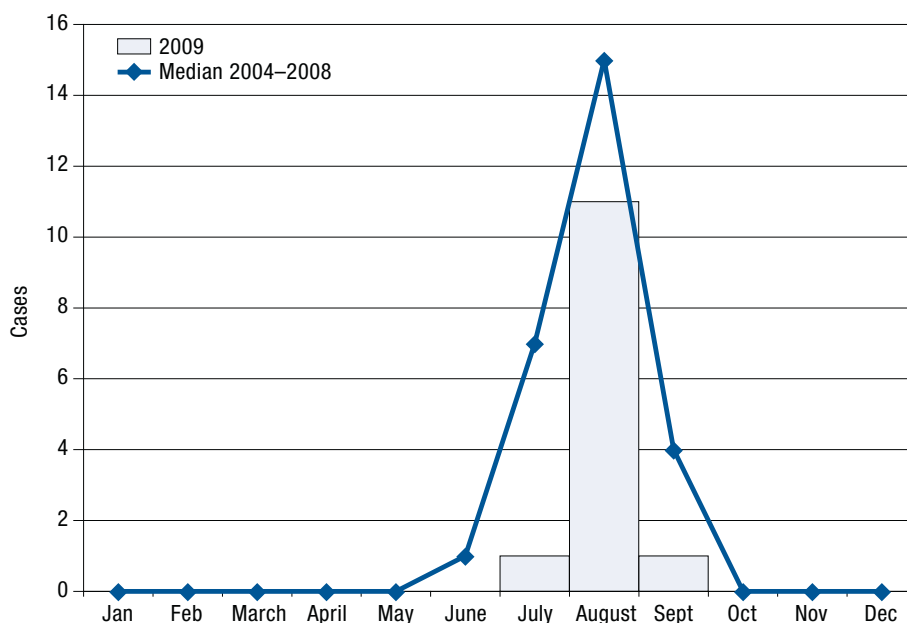
diagnosed in humans. Fourteen (88%) of the 16 cases identified lived in Malheur County. The median age was 52 (range 19-70) and 50 % were female. The first onset of illness was the first day of June and the last was in mid-September with 11 (69%) cases reporting onset in the month of August.

In 2009, 12 cases were diagnosed in Oregon. Ten of 12 cases (83%) were in Malheur County and two other cases were identified in Umatilla and Morrow counties. The median age was 46 years and 67% were female. Onset of illness in all cases except one occurred in August. Though human cases have been declining, 266 mosquito pools (50 mosquitoes of the same species) tested positive for WNV in Baker, Malheur, Morrow and Umatilla counties at Oregon State University, Veterinary Diagnostics Laboratory. This is the largest number of positive mosquitoes tested since the arrival of West Nile to Oregon in 2004.

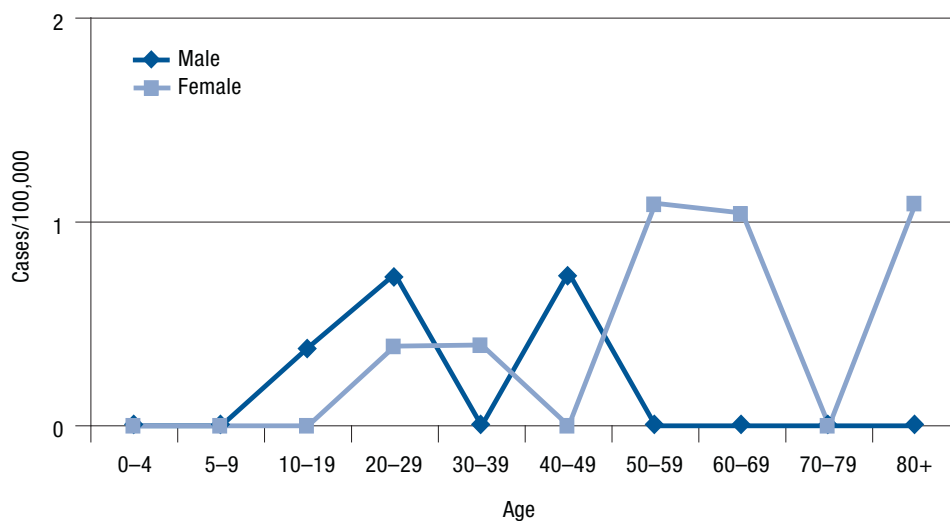
West Nile virus by year: Oregon, 2001–2009



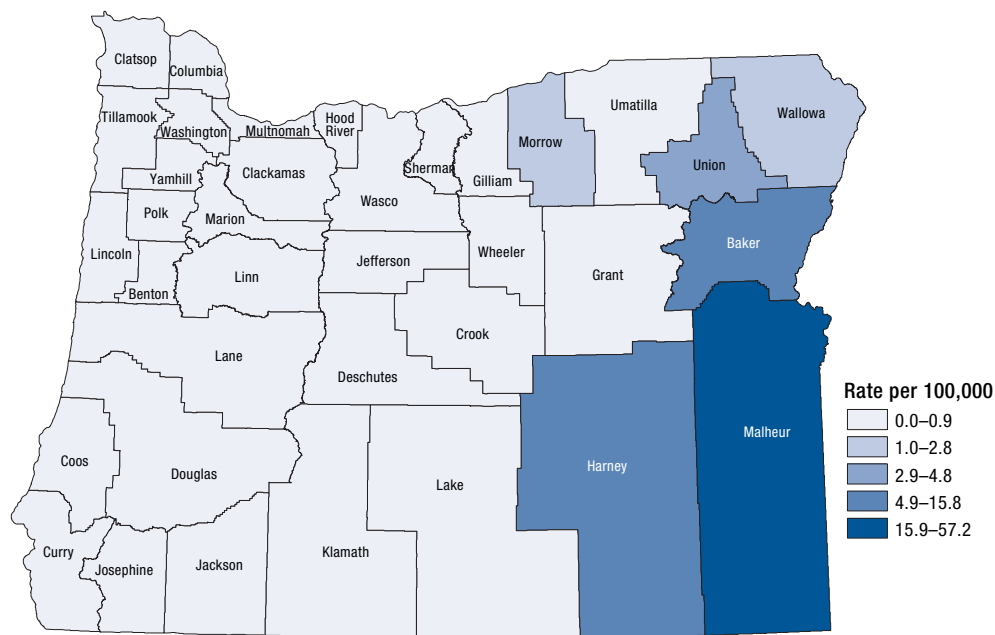
### West Nile virus by month of onset: Oregon, 2009



### West Nile virus by age and sex: Oregon, 2009



## Incidence of West Nile virus by county of residence: Oregon, 2005–2009



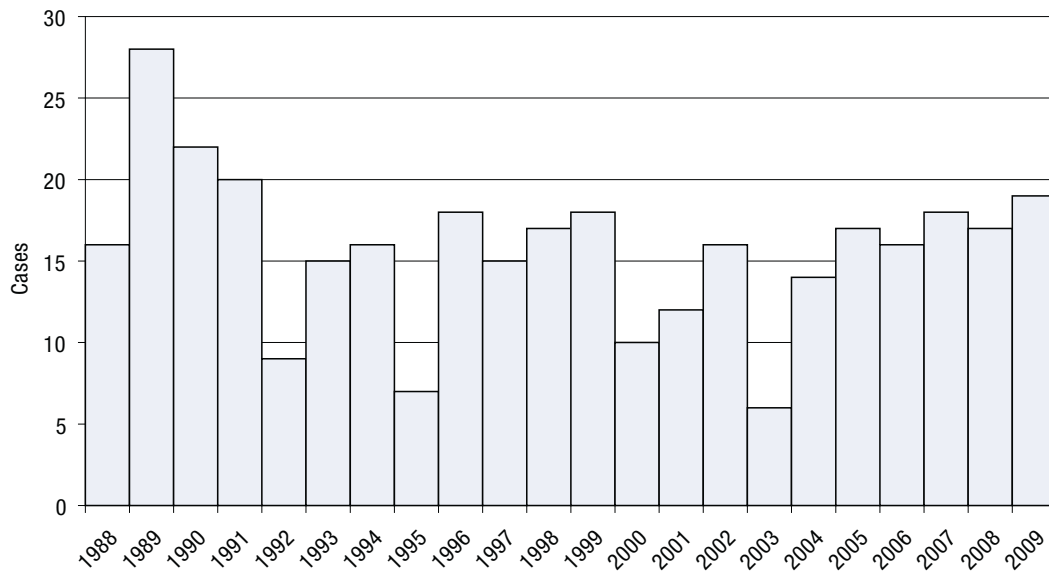
## Yersiniosis

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.

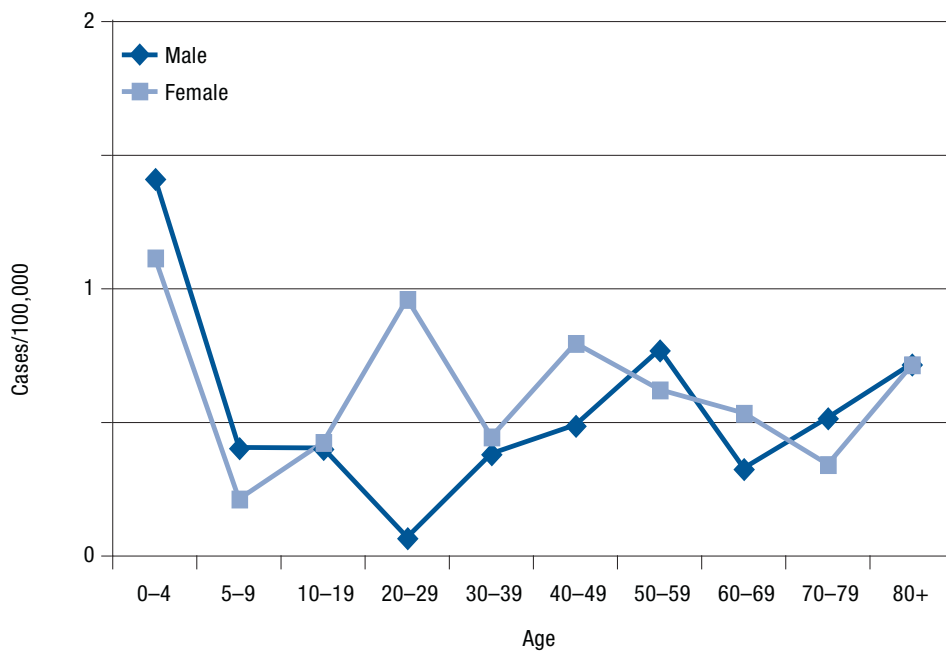
The incidence of yersiniosis in Oregon has been fairly stable over the years. In 2003, the number of cases dropped to six, the lowest reported incidence since 1995. The 19 cases reported in 2009, and 17 in 2008, are slightly above the mean of 14 cases reported each year since the new millennium. Yersiniosis occurs throughout the year with no seasonality. The most common species is *Y. enterocolitica*.



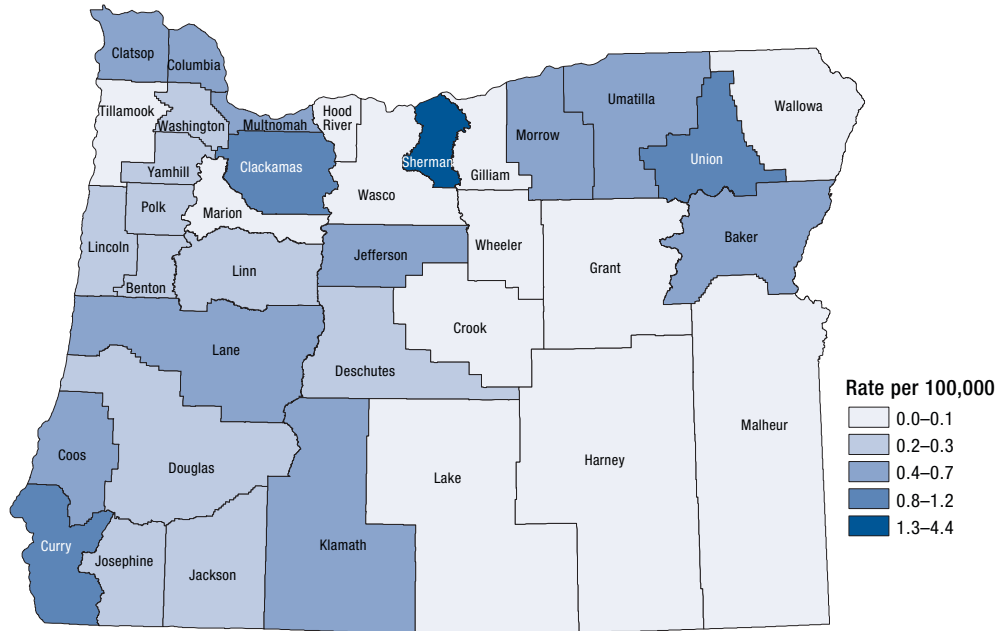
Yersiniosis by year: Oregon, 1988–2009



Yersiniosis virus by age and sex: Oregon, 2000–2009



### Incidence of yersiniosis by county of residence: Oregon, 2000–2009



## Disease outbreaks

Oregon state and local health departments investigated 212 reports of communicable disease outbreaks in 2008 and 184 in 2009. The majority 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. Fifty-six were foodborne, 33 respiratory, four due to animal contact, and one waterborne. In many (52) outbreak

investigations the mode of transmission remained undetermined. Sharing of respiratory secretions caused clusters of influenza (27), pertussis (9), meningococcal disease (3), and adenovirus (1).

Fifty-six 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.”

### Disease outbreaks by etiology: 2008–2009

210 - Norwalk-like virus	1 - <i>Cryptosporidium</i>
30 - <i>Salmonella</i>	1 - adenovirus
27 - influenza	1 - <i>Campylobacter</i>
9 - pertussis	1 - <i>Giardia</i>
7 - <i>E. coli</i> O157	1 - respiratory synovial virus
4 - <i>staphylococcus</i>	1 - <i>Mycobacterium</i>
3 - <i>Clostridium perfringens</i>	1 - <i>Mycoplasma</i>
3 - <i>Neisseria meningitidis</i>	1 - rotavirus
3 - sapovirus	1 - scabies
2 - hepatitis C	1 - <i>Shigella</i>
2 - <i>pseudomonas</i>	

In 2002, a dramatic increase in the number of outbreaks of gastroenteritis in institutions, long-term care facilities, cruise ships and other similar settings resulted in beefed-up

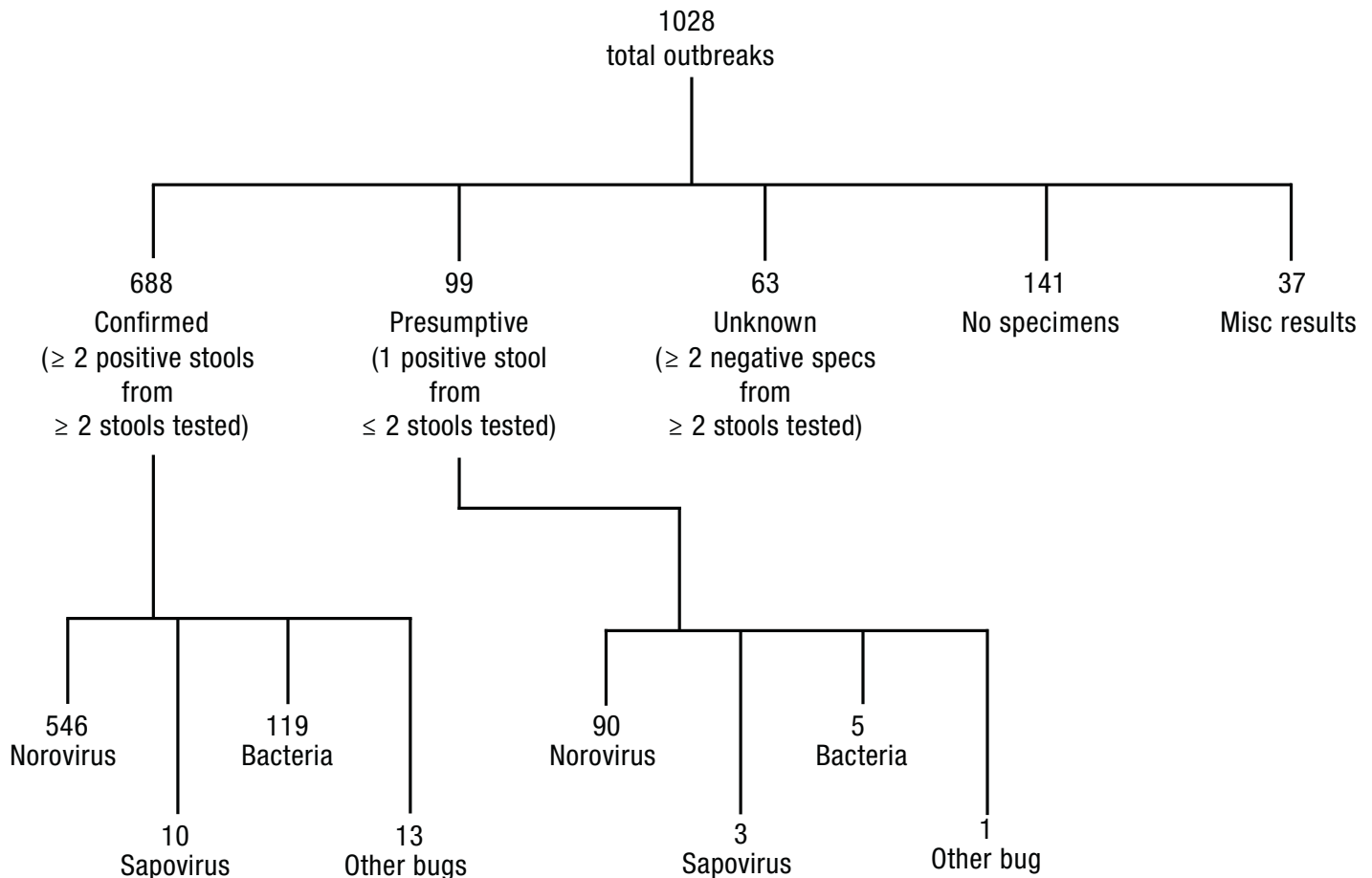
investigation and reporting of such outbreaks in Oregon. A summary of Oregon’s enhanced data collection follows.

## Gastroenteritis outbreaks, 2003–2009

Outbreaks of vomiting, diarrhea or both (gastroenteritis) accounted for 1,028 (73%) of 1,311 outbreaks investigated by Oregon state and local health departments from 2003–2009. Although state and local health departments were unable to collect stool specimens from 141 (14%) of 1,028 gastroenteritis outbreaks, rigorous collection

of at least two stool specimens resulted in confirming the etiology of 688 (67%) of 1,028 gastroenteritis outbreaks and finding no agent to explain 63 (6%) of 1,028 of gastroenteritis outbreaks. Norovirus caused 546 (79%) of 688 gastroenteritis outbreaks with confirmed etiologies.

Gastroenteritis outbreaks, Oregon, 2003–2009

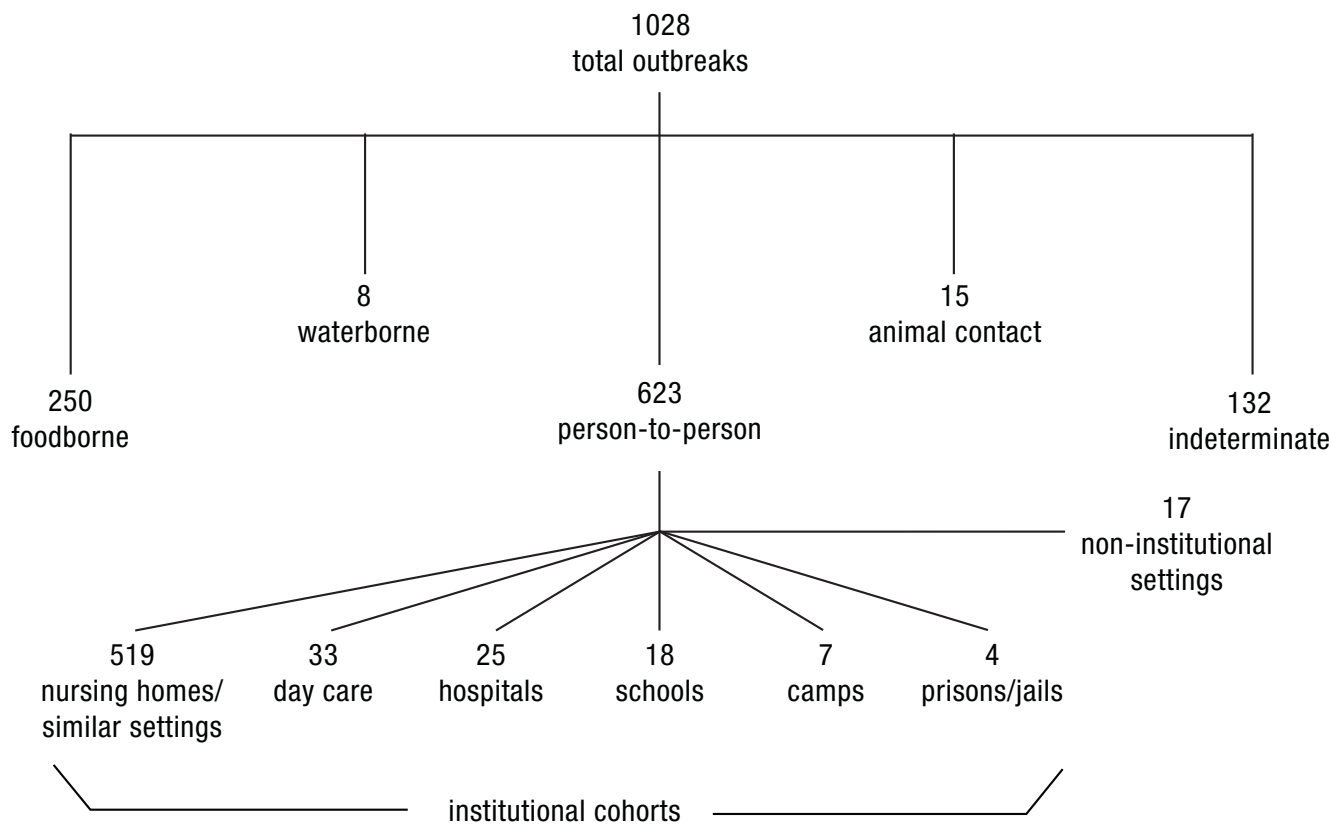


## Gastroenteritis outbreaks, 2003–2009, by mode of transmission and setting

Foodborne outbreaks accounted for 24% of reported gastroenteritis outbreaks and 63% of reported gastroenteritis outbreaks

occurred by person-to-person transmission. Fifty percent occurred in nursing homes and similar settings.

Gastroenteritis outbreaks, transmission mode and settings, Oregon, 2003–2009

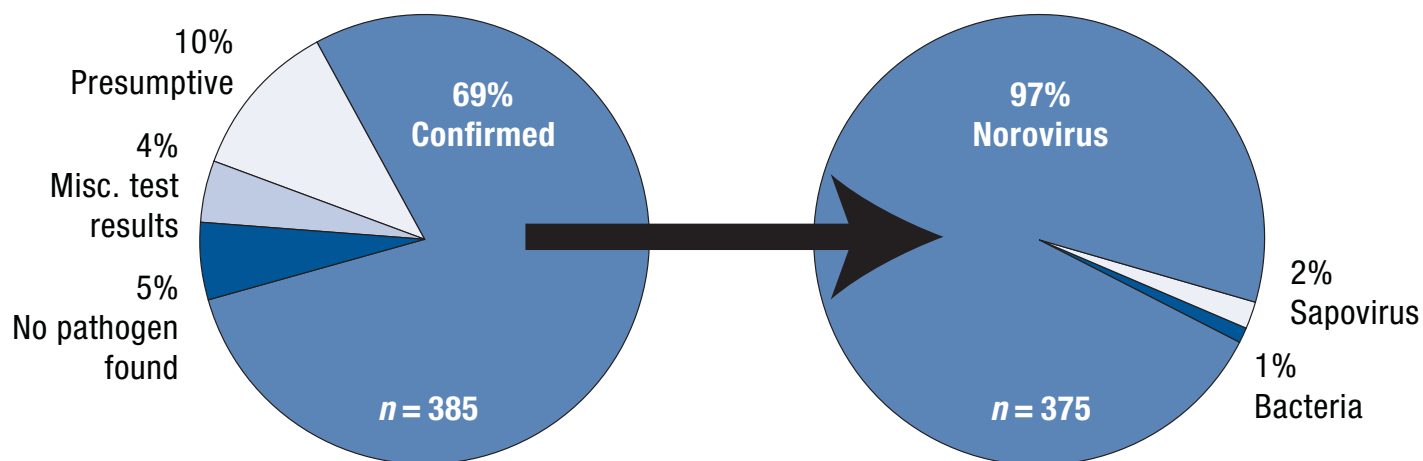


## Gastroenteritis outbreaks in nursing homes and similar settings, 2003–2009

State and local health departments confirmed 69% of gastroenteritis outbreaks. Norovirus accounted for 97% while sapovirus, an

emerging cause of vomiting and diarrheal illness, accounted for 2%. Only 1 percent of these outbreaks were bacterial infections.

Classification and etiologic agents, long-term care facilities and institutions, Oregon, 2003–2009



Gastroenteritis outbreaks in nursing homes and similar settings, 2003–2009,  
by county of occurrence and year of investigation

	Year							Total
	2003	2004	2005	2006	2007	2008	2009	
Baker	0	0	1	2	0	0	0	3
Benton	1	1	2	1	2	3	1	11
Clackamas	2	3	5	13	12	11	4	50
Clatsop	1	2	0	1	4	1	2	11
Columbia	1	0	0	0	1	0	1	3
Coos	1	0	1	1	2	2	1	8
Crook	0	0	0	0	0	1	0	1
Curry	0	0	0	1	0	0	0	1
Deschutes	2	0	1	7	4	7	5	26
Douglas	0	3	1	3	4	4	0	15
Grant	0	0	0	2	0	1	0	3
Harney	0	0	0	0	1	1	0	2
Hood River	4	0	0	2	1	1	2	10
Jackson	6	8	5	7	7	5	7	45
Jefferson	0	0	0	1	0	0	0	1
Josephine	0	1	1	5	2	1	0	10
Klamath	0	1	0	3	2	2	0	8
Lake	1	0	1	0	0	0	0	2
Lane	6	8	5	9	13	9	7	57
Lincoln	0	0	3	0	0	0	1	4
Linn	0	1	1	4	2	7	0	15
Malheur	0	1	0	0	0	1	0	2
Marion	4	6	7	14	18	20	6	75
Morrow	0	0	0	0	1	0	0	1
Multnomah	1	5	1	6	13	11	17	54
Polk	1	1	1	3	3	3	5	17
Tillamook	0	0	0	0	0	1	1	2
Umatilla	0	1	0	2	2	1	0	6
Union	0	0	0	0	2	1	0	3
Wasco	2	0	1	3	0	1	2	9
Washington	1	0	0	12	10	8	8	39
Yamhill	3	3	0	5	6	6	2	25
<b>Total</b>	<b>37</b>	<b>45</b>	<b>37</b>	<b>107</b>	<b>112</b>	<b>109</b>	<b>72</b>	<b>519</b>

## Public health reporting for clinicians

By law<sup>1</sup>, 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<sup>2</sup> 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<sup>3</sup>  
 Plague  
 SARS-coronavirus  
 Any outbreak of disease<sup>4</sup>  
 Any uncommon illness of potential public health significance<sup>5</sup>

### REPORT WITHIN 24 HOURS

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



**REPORT WITHIN ONE WORKING DAY**

Animal bites	Listeriosis
Any arthropod-borne infection <sup>6</sup>	Lyme disease
Brucellosis	Lymphogranuloma venereum (LGV)
Campylobacteriosis	Malaria
Chancroid	Mumps
<i>Chlamydia</i> infection <sup>7</sup>	Pelvic inflammatory disease (acute, non-gonococcal)
Cruetzfeld-Jakob disease (CJD) and other prion diseases	Pertussis
Cryptosporidiosis	Psittacosis
<i>Cyclospora</i> infection	Q fever
<i>Escherichia coli</i> (Shiga-toxigenic) <sup>8</sup>	Rocky Mountain spotted fever
Giardiasis	Salmonellosis (including typhoid)
Gonorrhea	Shigellosis
Hantavirus infection	Syphilis
Hepatitis A	<i>Taenia solium</i> infection/Cysticercosis
Hepatitis B	Tetanus
Hepatitis C	Trichinosis
Hepatitis D (delta)	Tuberculosis
HIV infection and AIDS	Tularemia
Hemolytic-uremic syndrome (HUS)	West Nile virus
Legionellosis	Yersiniosis
Leptospirosis	

**REPORT WITHIN ONE WEEK**

Lead poisoning  
Diabetes in person  $\leq$  18 years old<sup>9</sup>

**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](http://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  $\geq$  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, melioidosis, 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 *Chlamydoiphila*.
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](http://www.healthoregon.org/diabetes).)

## Public health reporting for laboratories

By law<sup>1</sup>, 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<sup>2</sup> 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<sup>3,4</sup>

*Francisella tularensis*

*Haemophilus influenzae*<sup>3,5</sup>

*Haemophilus ducreyi*

*Legionella*

*Leptospira*

*Listeria monocytogenes*<sup>3</sup>

*Mycobacterium tuberculosis*<sup>3</sup>

*Mycobacterium bovis*

*Neisseria gonorrhoeae*

*Neisseria meningitidis*<sup>3,5</sup>

*Rickettsia*

*Salmonella*<sup>3</sup>

*Shigella*<sup>3</sup>

*Treponema pallidum*

*Vibrio*<sup>3</sup>

*Yersinia*<sup>3</sup>

### PARASITES

*Cryptosporidium*

*Cyclospora*

*Giardia*

*Plasmodium*

*Taenia solium*<sup>6</sup>

*Trichinella*

## VIRUSES

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

## OTHER IMPORTANT REPORTABLES

Any “uncommon illness of potential public health significance” <sup>2</sup>	All blood lead testing results
Any outbreak of disease <sup>2</sup>	All CD4 cell counts and HIV viral loads
Any other typically arthropod vector-borne infection <sup>2</sup>	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](http://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 1990–2009

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Campylobacteriosis</b>	951	966	850	712	656	626	702	736	698	599	568	598	575	597	656	647	652	729	703	733
<b>Chlamydiaosis*</b>	7387	7327	5885	5539	5494	5468	5442	5254	5857	6131	7110	7504	7200	7498	8690	9018	9578	9867	10861	11497
<b>E. coli O157 Infection</b>	56	114	154	253	111	94	102	92	107	68	134	91	204	101	68	158	107	85	68	83
<b>Giardiasis</b>	1359	1301	1178	1000	937	897	899	879	892	792	673	535	431	406	445	419	428	463	452	429
<b>Gonorrhea*</b>	2549	2172	1768	1191	977	854	886	773	880	905	1039	1145	929	982	1302	1562	1459	1238	1258	1113
<b>H. influenzae infection</b>	67	28	24	11	25	27	32	36	41	49	30	38	57	42	49	54	55	68	55	57
<b>Hepatitis A</b>	809	446	506	581	1366	2929	883	387	430	248	164	109	61	62	69	48	47	34	27	19
<b>Acute hepatitis B</b>	415	305	278	282	232	186	164	131	186	122	123	170	128	120	129	108	82	61	46	50
<b>Acute hepatitis C</b>	0	0	0	1	1	7	23	12	9	29	18	15	13	16	17	19	27	22	33	26
<b>Legionellosis</b>	0	0	0	1	0	0	0	0	1	2	1	4	9	17	8	15	22	14	18	19
<b>Listeria</b>	5	3	6	10	11	13	15	11	18	17	6	12	9	5	7	11	13	8	6	19
<b>Malaria</b>	21	13	16	14	16	23	23	26	16	22	41	14	14	10	19	13	15	16	4	12
<b>Measles</b>	212	93	3	4	2	1	14	0	3	9	0	3	0	3	0	2	2	2	1	0
<b>Meningococcal disease</b>	87	81	72	101	136	118	114	109	85	75	71	65	44	60	61	56	41	32	38	39
<b>Pertussis</b>	122	66	45	105	67	57	57	49	89	61	104	66	192	439	616	622	112	129	174	260
<b>Rubella</b>	75	5	2	0	4	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0
<b>Salmonellosis</b>	357	378	478	346	337	345	381	366	344	422	300	288	337	427	415	418	428	336	429	440
<b>Shigellosis</b>	180	721	280	158	166	174	151	195	187	102	159	115	106	211	87	127	121	87	94	56
<b>Early Syphilis*</b>	261	277	218	185	100	67	70	48	32	37	31	22	47	74	58	55	48	26	45	86
<b>Tuberculosis*</b>	148	144	146	153	165	156	188	161	156	123	119	123	111	106	106	103	81	94	75	89
<b>Tularemia</b>	3	2	1	2	4	1	1	5	4	1	2	1	2	0	2	2	2	3	3	4
<b>Typhoid fever</b>	5	6	2	3	5	3	4	3	1	7	4	8	2	3	1	4	4	0	0	1
<b>Vibrio parahaemolyticus</b>	0	0	0	0	0	0	0	7	7	3	7	6	16	6	12	9	19	8	12	19
<b>Yersiniosis</b>	22	20	9	15	16	7	18	15	17	18	10	12	16	6	14	17	16	18	17	19

\* Case counts by onset year except for where noted with \* indicating counts by date of report

Blank cells = not reportable

Data as of 8/18/2010

Oregon communicable disease case counts by county of residence, 2009

County	AIDS/HIV**	Campylo- bacteriosis	Chlamydia- spirochitis	Crypto- sporidiosis	STEC ( <i>E. coli</i> 0157)	Giardiasis	Gonorrhea	<i>Haemophilus</i>	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 Syphilis	Tuberculosis	West Nile	Yersiniosis
Baker	3	3	21	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
Benton	38	21	202	2	3	8	17	2	2	1	1	6	0	0	0	0	0	0	0	12	0	11	3	1	1	0	0
Clackamas	292	55	788	40	16	27	62	2	2	0	4	47	3	1	6	3	0	1	4	35	0	41	2	8	5	0	3
Clatsop	24	3	95	3	0	0	2	1	0	0	1	3	1	0	0	1	0	0	1	1	0	1	1	0	1	0	0
Columbia	25	4	137	8	0	4	2	1	0	0	2	0	0	0	0	0	0	0	0	1	0	2	0	0	1	0	0
Coos	37	14	130	1	1	20	11	1	0	0	3	0	1	0	0	1	0	0	0	11	0	7	0	0	1	0	0
Crook	6	7	59	0	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Curry	9	7	12	2	0	2	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	4	0	0	1	0	1
Deschutes	76	30	387	4	3	20	6	1	2	4	6	0	0	0	0	0	1	1	3	4	0	11	0	2	2	0	1
Douglas	67	12	186	8	7	10	4	1	0	2	7	2	0	0	1	0	2	0	2	21	1	8	0	0	3	0	0
Gilliam	0	2	7	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	7	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Harney	1	5	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Hood River	16	2	45	2	0	2	3	0	0	0	2	0	0	0	0	0	2	0	0	1	0	1	4	0	2	0	0
Jackson	145	38	493	31	3	22	36	2	2	3	9	2	0	0	1	0	7	0	2	18	4	31	1	0	1	0	0
Jefferson	12	10	79	0	0	4	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	1	0	0	0
Josephine	55	6	165	4	0	7	8	4	0	0	4	0	0	0	0	0	2	1	1	9	3	4	0	0	2	0	0
Klamath	21	12	119	0	1	6	2	0	1	1	2	4	0	0	0	0	2	0	1	1	0	6	0	0	0	0	0
Lake	2	4	4	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0
Lane	276	75	1268	18	16	41	137	10	3	4	24	5	0	1	1	6	1	6	6	28	0	30	4	5	1	0	3
Lincoln	35	6	78	1	0	4	12	3	0	0	5	0	1	0	2	0	0	0	0	0	0	5	0	0	1	0	0
Linn	58	36	316	1	1	8	29	0	0	0	10	0	0	0	1	0	0	0	0	12	1	16	2	0	1	0	0
Malheur	17	4	80	0	1	3	3	1	0	1	3	0	0	0	0	0	0	0	0	0	0	2	0	1	0	10	0
Marion	342	53	1277	13	10	27	106	4	1	4	29	1	0	1	2	0	0	0	1	15	0	43	9	4	13	0	0
Morrow	6	5	18	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0
Multnomah	2,797	172	3442	39	4	128	538	14	4	14	201	2	1	4	8	9	5	5	8	49	0	102	13	52	30	1	7
Polk	32	10	183	0	3	12	23	1	0	0	3	1	0	0	0	0	0	0	0	2	0	6	0	0	0	0	0
Sherman	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tillamook	13	9	40	3	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Umatilla	40	4	213	0	1	4	9	1	0	0	5	2	0	0	0	1	0	0	0	9	0	9	0	1	2	1	1
Union	10	1	60	1	0	3	0	0	0	0	2	0	0	0	0	0	1	0	0	4	0	3	1	0	0	0	0
Wallowa	2	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wasco	13	5	68	0	1	2	1	1	0	0	4	0	0	0	0	1	0	0	1	2	0	4	0	0	0	0	0
Washington	481	99	1266	23	8	36	88	5	5	11	95	0	0	0	3	1	2	3	4	21	0	71	10	10	19	0	3
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	45	15	243	2	3	17	10	1	0	0	3	0	0	0	0	0	3	0	4	4	0	13	0	0	1	0	0
Total	5000	733	11493	220	83	429	1112	57	19	50	483	24	4	19	19	42	12	12	39	260	11	440	56	86	89	13	19

Data as of 8/18/2010

\*\*Number of persons living HIV/AIDS





# Oregon Health Authority

PUBLIC HEALTH DIVISION

Office of Disease Prevention and Epidemiology

Acute and Communicable Disease Prevention

800 N.E. Oregon Street, Suite 772

Portland, OR 97232

Phone: 971-673-1111

E-mail: [ohd.acdp@state.or.us](mailto:ohd.acdp@state.or.us)

Website: <http://oregon.gov/DHS/ph/acd>