

## 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 2012. In general, local public health officials investigate reports of a communicable disease 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 sub-typing. Together, these epidemiologic and laboratory data constitute our communicable disease surveillance system; data from 2012 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 approximately 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.

For all conditions except the sexually transmitted diseases, population estimates for rate calculations were obtained from the Population Research Center 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 Oregon “frontier” counties), 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 show case counts, rather than rates, by county, or give an average rate over multiple years of data. Even with

multi-year aggregation, for some conditions the case counts remain small. In addition, the rates presented may not be adjusted for age when small numbers of cases are found in each age group. In the STD chapter, the National Center for Health Statistics (NCHS) bridged population estimates are used for rate calculations. For 2012 rates, 2011 population estimates were used because 2012 estimates were not yet available. The NCHS population estimates were used because the race and ethnicity denominators in censuses from the 1990s, 2000 and 2010 were not comparable to one another. Using the bridged population estimates allows for more reliable calculation of rates by race and ethnicity across the turn of the century.

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

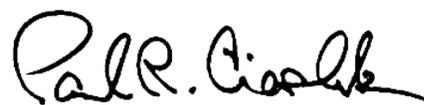
Also keep in mind that cases are assigned to the county of residence at the time of the report — not to the county in which the case received medical care, or the county where the exposure to infection occurred.

For all these limitations, surveillance data remain 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 2012 Oregon reportable communicable disease summary. We present 25 years of case counts whenever possible. For most diseases, we include the following: figures showing case counts by year for the past 25 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 15 years; and incidence by county. When appropriate, additional data on subtypes or risk factors for infection are included. At the end of this report you will find a tally of disease outbreaks reported during 2012, 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 you will find these data useful. If you have additional questions, please call our epidemiology staff at 971-673-1111 or email [ohd.acdp@state.or.us](mailto:ohd.acdp@state.or.us).



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