

OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

WHO'S COUNTING? 2014 OREGON COMMUNICABLE DISEASE SUMMARY

Thanks to microbiologists, physicians, nurses and local public health investigators, we are able to track conditions of public health importance. Reportable disease data are the cornerstone of our understanding of the epidemiology of these conditions in Oregon and the foundation of public health efforts to reduce their occurrence.

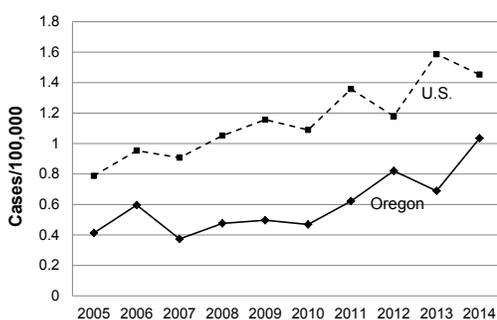
LEGIONNAIRES' DISEASE CLIMBING

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, biofilms in plumbing systems, or air conditioners. Inhalation of aerosolized water leads to Legionnaires' disease. Older persons, smokers and people with chronic lung disease, diabetes, or immune-compromising conditions are at higher risk.

Legionnaires' disease looks like pneumonia from other causes, so diagnosis can be difficult. Cough, shortness of breath, high fever, myalgias and headaches usually begin 2–14 days after exposure to the bacteria. "Pontiac fever" is a milder *Legionella* infection with similar symptoms that usually last 2–5 days. Culture requires special media. Most diagnoses are nowadays made by urine antigen testing — which, however, only finds a single species and serogroup — viz., *L. pneumophila* serogroup 1. Paired acute and convalescent sera that show a four-fold rise in antibody levels also confirm the diagnosis.

In Oregon and nationally, rates of infection from *Legionella* have been waxing (Fig-

Figure 1. Incidence of legionellosis, Oregon vs. U.S., 2005–2014



ure 1). In 2014, 41 cases of legionellosis with 3 deaths were reported among Oregon residents. Cases were 36–92 years old. One outbreak was identified in 2014, though its cases proved to have cropped up over a four-year period.

INFLUENZA INTENSIFIES

Surveillance of influenza in Oregon is limited to lab-confirmed flu hospitalizations in the Portland tri-county area (Clackamas, Multnomah, and Washington counties), and outbreaks. The 2014–2015 flu year tallied 821 influenza-related hospitalizations—774 adults and 47 children—overall, 50 cases per 100,000 Tri-County residents. This is up from 32 per 100,000 in 2012–2013, and 30.3 per 100,000 during the H1N1 pandemic in 2009–2010. Sixty-seven percent of cases were ≥65 years of age; 54% were female. Seven influenza outbreaks in long-term-care facilities were reported.

KPC BAR THE DOOR

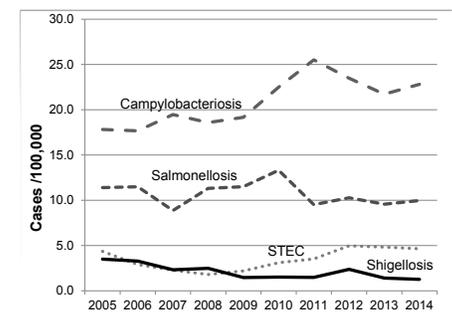
Forty-seven cases of carbapenem-resistant *Enterobacteriaceae* (CRE) infections were reported during 2014. Median case age was 71 (range, 11–96) years; 31 (66%) were female, 23 (49%) were hospitalized, and 8 (16%) died. A major reason for CRE reporting is to identify isolates that produce carbapenemases, which are encoded by transferable genes. Seven such isolates have been documented in Oregon since surveillance began in 2011, and the good news is that no spread has been identified despite extensive case and contact follow-up. Of these, five had the "*Klebsiella pneumoniae* carbapenemase" (KPC), one had the New Delhi metallo-beta-lactamase (NDM), and one had carbapenem-hydrolyzing Oxacillinase-48 (OXA-48). Facilities transferring patients with any multidrug-resistant organism (MDRO), including CRE, must inform the accepting facility so that appropriate isolation can be instituted.*

* [Oregon Administrative Rule 333-019-0052](#)

ENTERIC UPDATES

Campylobacter continues to be the most commonly reported enteric bacterial infection with 905 cases in 2014 (Figure 2). Perhaps not coincidentally, *Campy* was also the enteric pathogen most commonly found in samples of retail chicken breasts: it was cultured from 50 (38%) of 131 samples tested by our State Public Health Lab last year.

Figure 2. Incidence of selected enteric conditions, Oregon, 2005–2014



Salmonellosis incidence in Oregon has remained roughly stable over the past decade, with annual case counts hovering around 400; last year 395 were reported. Numerous clusters were identified, the largest being 25 cases of *Salmonella* serotype Oslo infection among persons from several states who ate at a restaurant on Kaua'i; 6 of the cases were Oregonians.

Shiga toxin-producing *E. coli* (STEC) infections in Oregon remained above the national rate, but the incidence of reported infections from STEC serogroup O157 has decreased while that of infection from other serogroups has increased — perhaps reflecting increased use of assays for Shiga toxin; unfortunately, if used without culture, these assays may miss an important fraction of O157 cases.

Twenty-nine *Vibrio* infections were reported, the highest tally since we started counting. Most cases reported eating raw oysters. We can't recommend it.

Listeria infection isn't typically identified as a cause of gastroenteritis

Table 1. Case counts for selected communicable diseases, by county of residence, Oregon, 2014

	Campylobacteriosis	Cryptosporidiosis	E. coli O157 infection	Giardiasis	H. influenzae infection	Hepatitis A	Hepatitis B (acute)	Hepatitis B (chronic)	Hepatitis C (acute)	Hepatitis C (chronic)	Legionellosis	Listeriosis	Lyme disease	Meningococcal disease	Pertussis	Rabies, animal	Salmonellosis	Shigellosis	Tuberculosis	West Nile virus	Total
Baker	1	0	2	0	0	0	0	0	0	21	0	0	0	0	0	0	1	0	0	4	29
Benton	16	4	1	4	2	0	0	6	1	54	0	0	1	1	22	2	5	2	3	0	124
Clackamas	85	10	23	19	5	2	2	38	4	473	5	5	6	5	60	1	41	3	11	1	799
Clatsop	5	0	0	4	1	0	1	0	0	68	1	1	0	0	0	0	6	1	0	0	88
Columbia	9	1	0	0	3	0	1	2	0	81	0	0	0	0	0	0	6	0	0	0	103
Coos	17	2	3	4	0	0	0	2	0	103	0	1	0	0	0	0	7	1	0	0	140
Crook	5	0	4	0	0	0	0	0	0	27	0	0	0	0	2	1	3	0	0	0	42
Curry	2	1	1	1	1	0	0	3	0	34	1	0	0	0	0	0	0	0	0	0	44
Deschutes	52	1	12	17	3	2	0	6	0	234	0	0	3	0	60	1	15	0	0	0	406
Douglas	29	6	10	5	1	0	0	8	0	212	0	0	5	1	4	1	8	0	2	0	292
Gilliam	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
Grant	2	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	7
Harney	1	0	2	1	1	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	17
Hood River	8	0	1	0	0	0	0	0	0	10	0	0	1	0	1	0	6	0	0	0	27
Jackson	43	13	8	15	5	0	4	10	0	306	2	0	6	2	35	0	21	0	2	0	472
Jefferson	13	1	0	2	1	0	0	0	0	68	0	0	0	0	4	0	1	0	1	0	91
Josephine	11	1	1	4	0	0	0	4	0	171	1	0	2	0	8	1	14	2	0	0	220
Klamath	12	0	4	0	2	0	0	4	0	113	1	0	1	0	1	0	6	1	0	0	145
Lake	1	0	0	0	0	0	0	0	0	20	0	0	0	0	1	1	0	0	0	0	23
Lane	86	8	17	28	13	1	3	27	2	574	3	1	5	0	42	3	30	2	4	0	849
Lincoln	13	0	3	2	1	0	0	4	0	108	0	1	0	0	1	0	7	1	0	0	141
Linn	32	10	9	4	1	0	5	6	0	170	0	1	0	0	15	0	9	0	0	1	263
Malheur	15	0	3	1	0	0	0	0	0	25	0	0	0	0	3	0	3	0	1	2	53
Marion	63	6	18	15	8	0	3	31	0	422	2	0	0	4	22	0	37	6	6	0	643
Morrow	1	0	0	3	1	0	0	0	0	8	0	0	0	0	0	0	2	0	0	0	15
Multnomah	216	18	18	153	22	4	11	255	7	1,289	14	3	8	2	56	1	75	20	27	0	2,199
Polk	7	1	7	6	1	0	0	6	0	64	0	1	0	1	14	0	8	0	1	0	117
Sherman	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
Tillamook	9	5	5	0	0	1	0	2	0	37	0	1	0	0	1	0	3	0	0	0	64
Umatilla	12	0	6	9	1	1	0	4	0	121	3	0	0	0	1	0	5	0	2	0	165
Union	8	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	1	0	0	0	31
Wallowa	0	1	0	1	0	0	0	0	0	9	0	0	0	0	0	0	1	0	0	0	12
Wasco	2	0	0	0	0	0	0	1	0	28	0	0	2	1	1	0	3	0	0	0	38
Washington	104	21	14	49	10	3	5	116	0	541	6	1	3	1	37	0	52	8	17	0	988
Wheeler	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Yamhill	23	2	7	3	0	0	0	3	0	99	1	0	1	0	16	1	19	3	0	0	178
Total	905	112	184	350	83	14	35	538	14	5,526	41	16	44	18	408	13	395	50	77	8	

Data as of 7 July 2015.

Table 2. Cases of selected reportable diseases by year, Oregon 2005–2014

Disease / Cases	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Campylobacteriosis	651	652	729	701	732	863	984	913	853	905
Cryptosporidiosis	69	85	164	65	224	220	219	219	276	112
Cryptococcus	3	1	3	8	15	19	27	39	53	54
Carbapenamen-resistant <i>Enterobacteriaceae</i> infection	0	0	0	0	0	0	4	32	112	47
<i>E. coli</i> O157 (STEC) infection	158	107	85	68	84	119	136	193	189	184
Giardiasis	419	426	463	451	430	487	441	387	363	350
<i>H. influenzae</i> infection	52	55	68	55	57	69	75	67	84	83
Hepatitis A	47	46	35	27	19	17	12	9	29	14
Acute hepatitis B	105	80	61	47	50	44	33	28	33	35
Acute hepatitis C	20	27	22	32	24	22	23	38	14	14
Legionellosis	15	22	14	18	19	18	24	32	27	41
Listeriosis	11	13	8	6	19	17	10	15	7	16
Lyme	27	28	34	48	44	44	40	49	44	44
Malaria	13	15	17	4	12	16	23	12	14	18
Measles	2	2	2	1	0	0	3	1	6	5
Meningococcal disease	57	41	32	38	41	32	31	26	12	18
Pertussis	622	112	131	174	255	285	329	910	486	408
Rabies, animal	8	25	12	14	11	17	17	17	10	13
Salmonellosis	414	424	332	429	440	511	367	399	375	395
Shigellosis	127	121	87	93	56	57	58	92	55	50
Tuberculosis	103	81	94	75	89	87	74	61	73	77
Vibriosis	9	19	8	12	19	25	7	19	27	29
West Nile virus infection	9	73	27	16	13	0	0	13	17	8
Yersiniosis	17	16	18	17	19	16	21	20	33	19

Data as of 7 July 2015.

Table 3. Hospitalizations and deaths from reportable diseases, Oregon, 2014

Condition	Hospitalizations	Deaths	Condition	Hospitalizations	Deaths
Botulism	1	0	Malaria	0	0
Campylobacteriosis	102	0	Measles	0	0
Carbapenamen-resistant <i>Enterobacteriaceae</i> infection	25	3	Meningococcal disease	18	2
Cryptococcosis	29	2	Non-TB mycobacterial infection	16	2
Cryptosporidiosis	7	0	Pertussis	11	0
<i>E. coli</i> (STEC) infection	41	2	Salmonellosis	80	1
Giardiasis	5	0	Shigellosis	8	0
<i>Haemophilus influenzae</i> infection	71	5	West Nile virus infection	5	0
Hepatitis A	6	0	Yersiniosis	1	0
Hepatitis B, acute	17	1			
Hepatitis B, chronic	20	2			
Hepatitis C, acute	8	0			
Legionellosis	41	3			
Listeriosis	15	3			
Lyme disease	2	0			

Data as of 7 July 2015.

FOR MORE INFORMATION

- Oregon Health Authority. Annual Summaries of Selected Reportable Communicable Diseases. Available at <http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/AnnualReports/arpt2013/Pages/index.aspx>.
- Oregon Health Authority, 2015. Viral Hepatitis in Oregon. Available at <http://public.health.oregon.gov/DiseasesConditions/HIVSTDViralHepatitis/AdultViralHepatitis/Pages/index.aspx>.



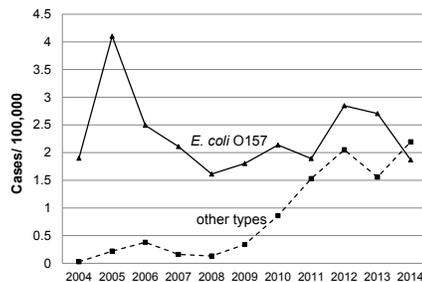
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Figure 3. Incidence of *E. coli* O157 and other types, Oregon, 2004–2014



but as sepsis or meningitis in immunocompromised persons; it may also present as influenza-like illness with fever, headache, and myalgia. Infection in pregnant women can cause miscarriage or stillbirth. Though less common than other reportable enteric pathogens, listeriosis case fatality is considerably higher: 3 of the 16 cases reported in Oregon during 2014 were fatal.

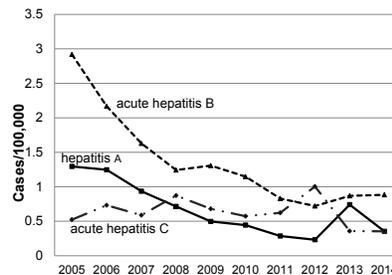
CHOPPED LIVERS

Rates of acute hepatitis in Oregon are comparable to national rates and have leveled off after a steady decline in the late 1990's (Figure 4). Vaccinations of Oregon school children against hepatitis A and B are having the intended effect. Only 14 cases of hepatitis A were reported during 2014, 12 of which were adults and one an infant (too young to be vaccinated). All 35 cases of acute hepatitis B reported last year were adults; 25 (71%) were men.

Challenges remain with hepatitis C, however, against which we have

no vaccine. Several thousand Oregonians have a positive hepatitis C test each year. Most presumably represent chronic infection, because only about 20% of persons suffer an acute illness around the time of viral acquisition. Nor can laboratory testing distinguish recent from remote infection, so "acute" cases counts must be gross underestimates; nonetheless, last year's count was 14.

Figure 4. Acute hepatitises, Oregon, 2005–2014



For our first in-depth look at hepatitis C morbidity, mortality, and epidemiology in Oregon, see our just-released [report \(pdf\)](#).

MYCOBACTERIAL MONITORING

Extrapulmonary infection by nontuberculous mycobacteria (NTM) became reportable in Oregon in January 2014. (Respiratory NTM infection is more common and not reportable.) Forty-one cases were logged in 2014; 21 (51%) were female, 16 (39%) were hospitalized, and two died. Cases were a median of 50 (range, 1–75) years of age. Fourteen cases were *M. avium* and eleven were of the *M. fortuitum* complex. The most common culture-positive specimen types were

tissues (11 [27%]), wounds (8 [19%]), and blood (6 [15%]). An outbreak of 7 cases investigated in 2014 proved to be associated with joint replacement surgery. (The earliest case onsets were actually in 2013, before NTM was officially reportable.)

Consider mycobacterial culture when you see skin or soft-tissue infections that persist despite antibiotics, especially with a patient history of surgery, trauma or tattoos.

VECTOR-BORNE

Forty-four cases of Lyme disease, 18 cases of malaria (all imported), 7 cases of Chikungunya (ditto), 4 cases of relapsing fever, and 4 cases of tularemia were reported in 2014.

OTHER NOTABLES

Eighty-three cases of invasive *Haemophilus influenzae* disease (i.e., isolation of the organism from a normally sterile specimen type) were reported in 2014, only 4 of which were the vaccine-preventable serotype b — and those were all in adults ≥30 years of age.

Notwithstanding the January–March 2015 outbreak at the University of Oregon, meningococcal disease has been at or near historic lows for several years: 18 cases were reported in 2014, well below the previous 10-year average of 31 per year. In 2014, eight cases were serogroup C, and only 4 were serogroup B.

Nine cases of Q fever (most ever), 5 cases of measles (1 infant and 4 kids, all unvaccinated) and 2 cases of leptospirosis were also reported last year.