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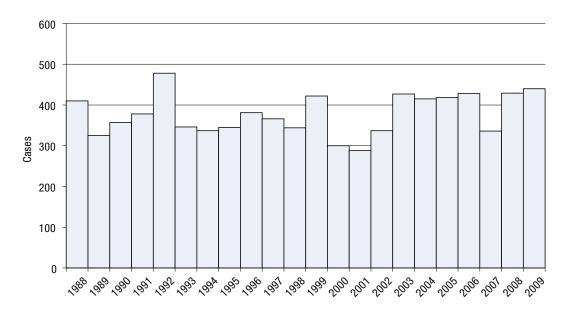
A wide range of domestic and wild animals are carriers of *Salmonella,* including poultry, swine, cattle, rodents, iguanas, tortoises, turtles, young poultry, dogs and cats. The majority of human infections are thought to result from the ingestion of fecally contaminated food or water. Raw or undercooked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

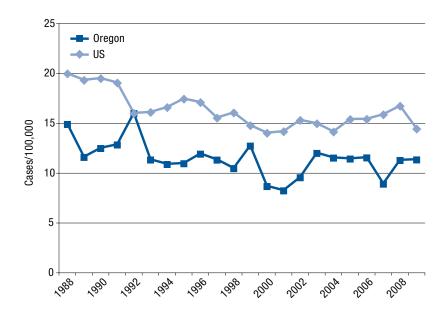cases. The incidence of infection is highest in infants and young children.

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.
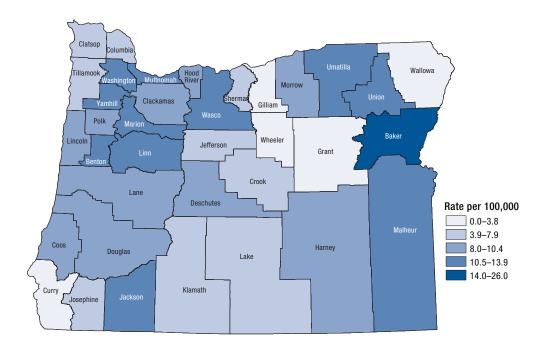
## Salmonellosis by year: Oregon, 1988–2009

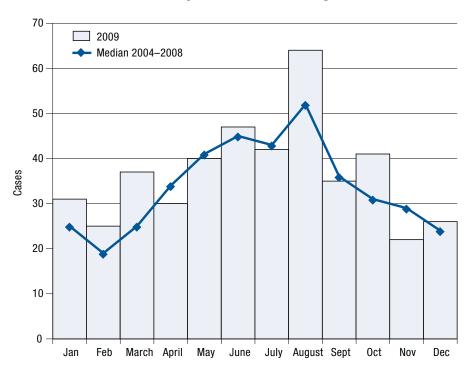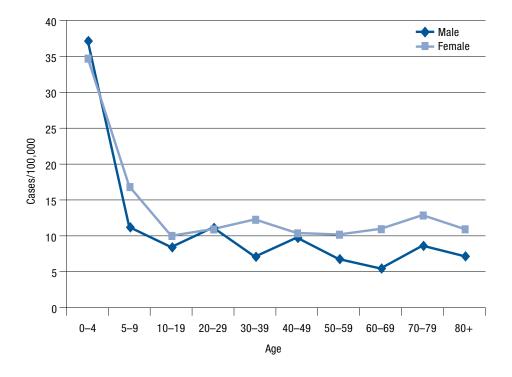## Incidence of salmonellosis: Oregon vs. nationwide, 1988–2009



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

## Salmonellosis by onset month: Oregon, 2009



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