

Central Oregon Public Health Quarterly

Communicable Disease Update for Crook, Deschutes, and Jefferson Counties
Fourth Quarter Report, 2023

24/7 Communicable Disease reporting lines:

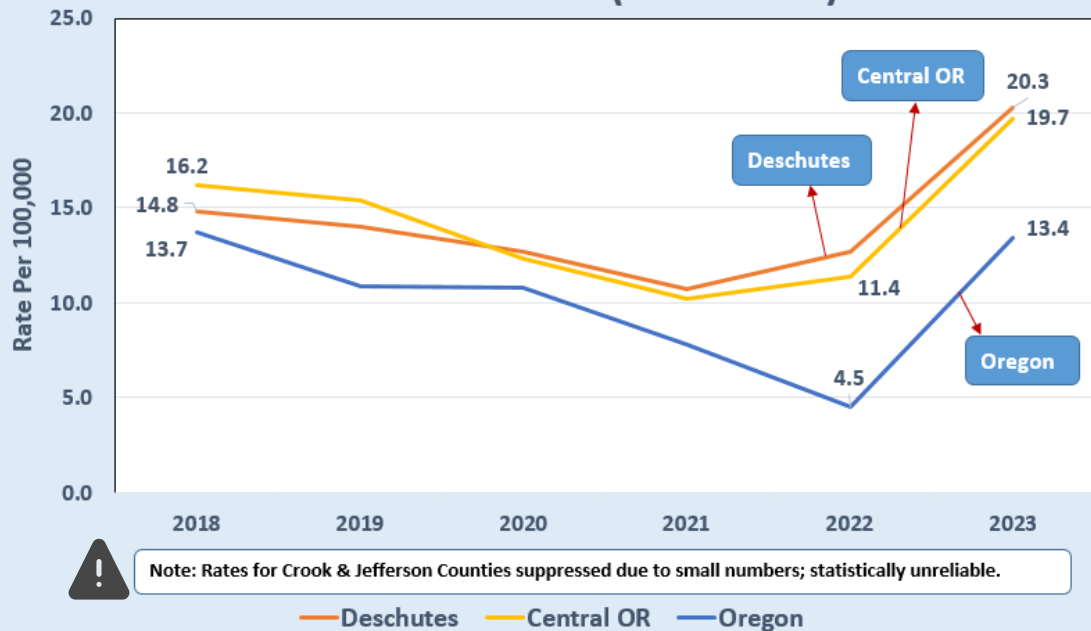
Crook County: 541-447-5165

Deschutes County: 541-322-7418

Jefferson County: 541-475-4456

Salmonellosis in Central OR & Statewide

Salmonella (nontyphoidal) Rates in Central OR & Statewide (2018-2023)



Salmonellosis is a symptomatic infection caused by the *Salmonella* (gram-negative; rod shaped) bacteria (see image above & below) that generally enters the human body through food & water ingestion

Rates in Central OR have been higher than Oregon over the past 5 years—with an increasing trend noted in 2022-23 (see graphic to right)



Seasonal Trends

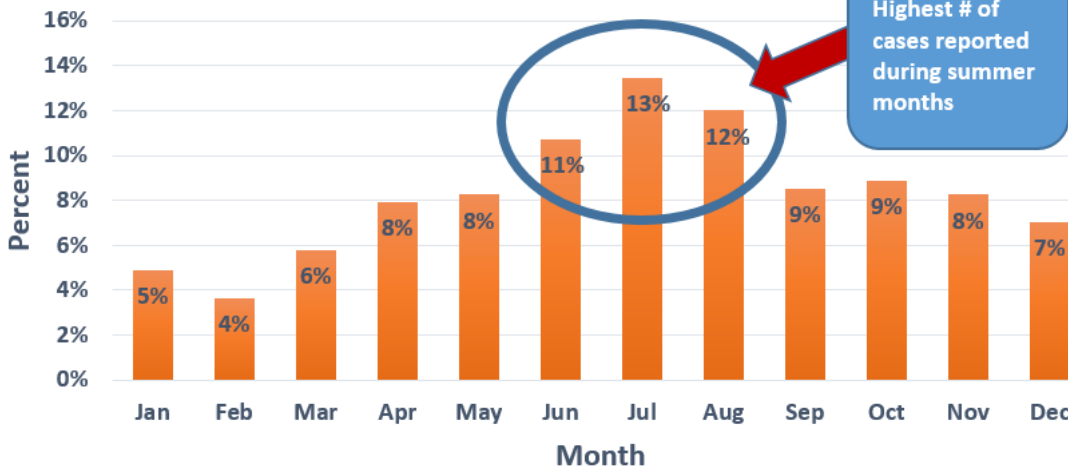
As the optimum temperature for *Salmonella* growth is between 35-37°C, the highest prevalence of *Salmonella* is during the summer months in Central OR & OR—increasing in June & tapering off in September

Peak cases in Central OR have been reported in July

Other reasons for summertime increases include variations in:

- human behaviors/lifestyles during the summer (e.g. eating more BBQ (& higher likelihood for undercooked foods) & gardening—namely, fertilizing gardens with fresh uncured manure, read more [here](#))

Salmonella (non-typhoidal) Cases by Month, Central OR (2013-2023)



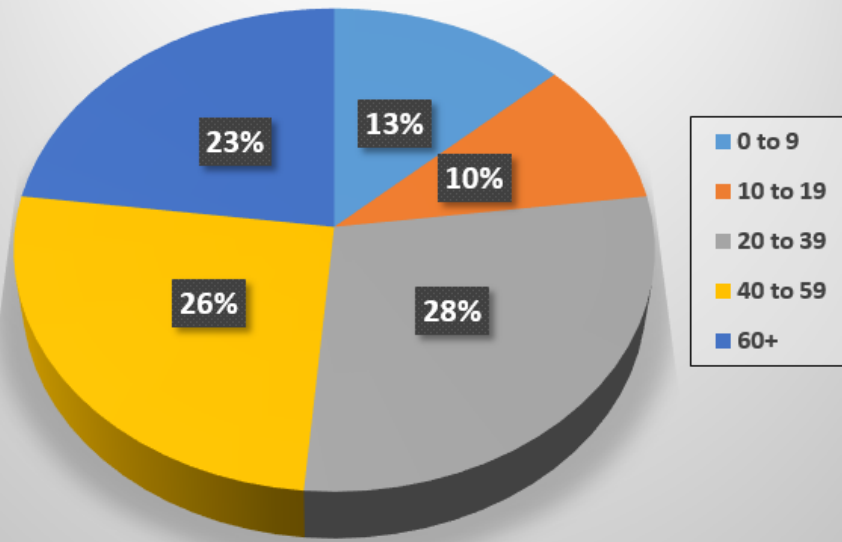
For more information, see recent updates from the [CDC](#) & [OHA](#)

*All data in report obtained from the Oregon Public Health Epidemiologists' User System

Salmonellosis (non-typhoidal): Central OR prevalence across Selected Sociodemographic Factors



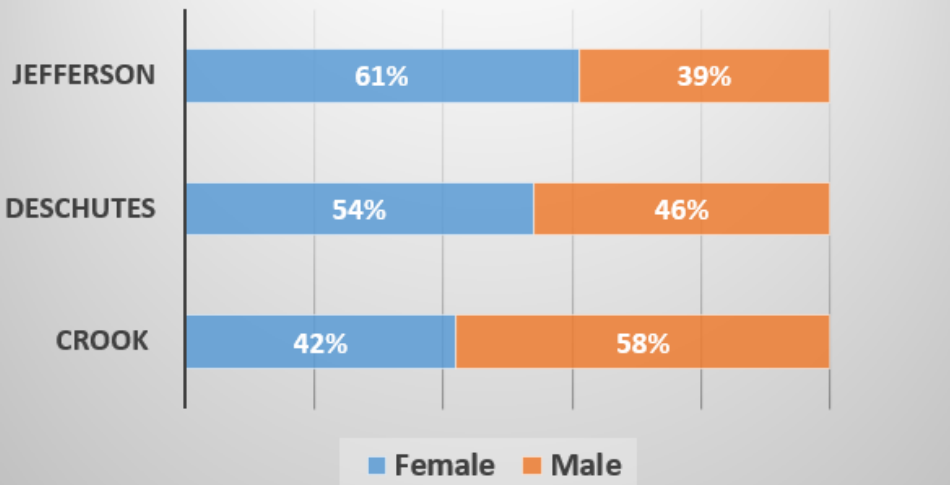
Percent of Salmonella (non-typhoidal) Cases by Age, Central OR (2013-2023)



Age

- In Central OR, there is a fairly uniform distribution of Salmonella cases reported for adults (20+) in our 3 major age groups—with slightly higher prevalence in younger adults (20-39yrs) (as captured on left)
- Among children, those ≤9yrs of age are at a higher risk vs older children (10-19yrs)
- Worldwide, Salmonella infections are most often reported in children <5yrs and among those <12 months who have not been breast fed. Adults 65+ are also at greater risk due to weakened immune systems. Read more [here](#).

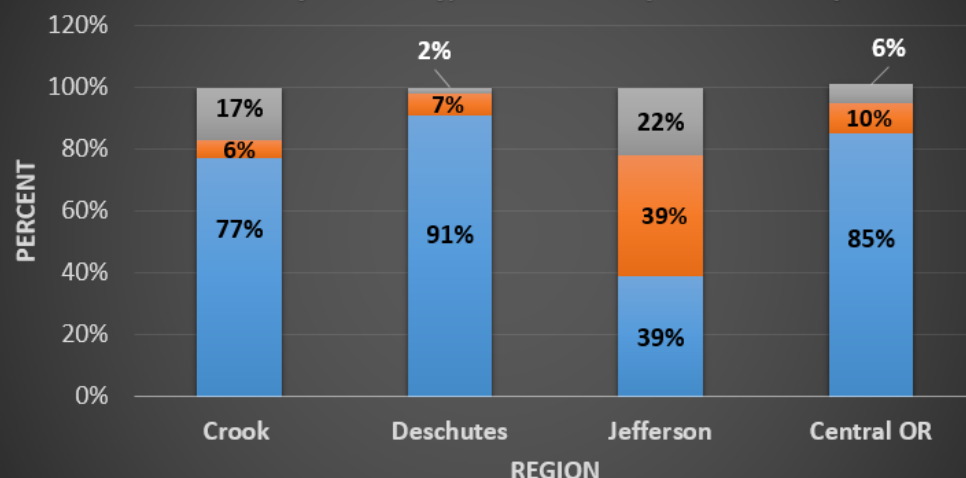
Percent of Salmonella (non-typhoidal) Cases by Sex, Central OR (2013-2023)



Sex

- The distribution of Salmonella infections across males/females varies across Central OR counties over the past 10 yrs (see left)
- While a higher percent of females have been reported with Salmonella infections in Jefferson Co, more males are affected in Crook Co
- In a recent study looking at Salmonella prevalence worldwide, females (15-44 & 45-64yrs) had higher incidence rates, while males ≤15yrs had higher incidence (possibly explained by differences in hormonal/genetic factors & gut microflora—which is regulated by estrogen) Read article [here](#).

Percent of Salmonella (non-typhoidal) Cases by Race/Ethnicity, Central OR (2013-2023*)



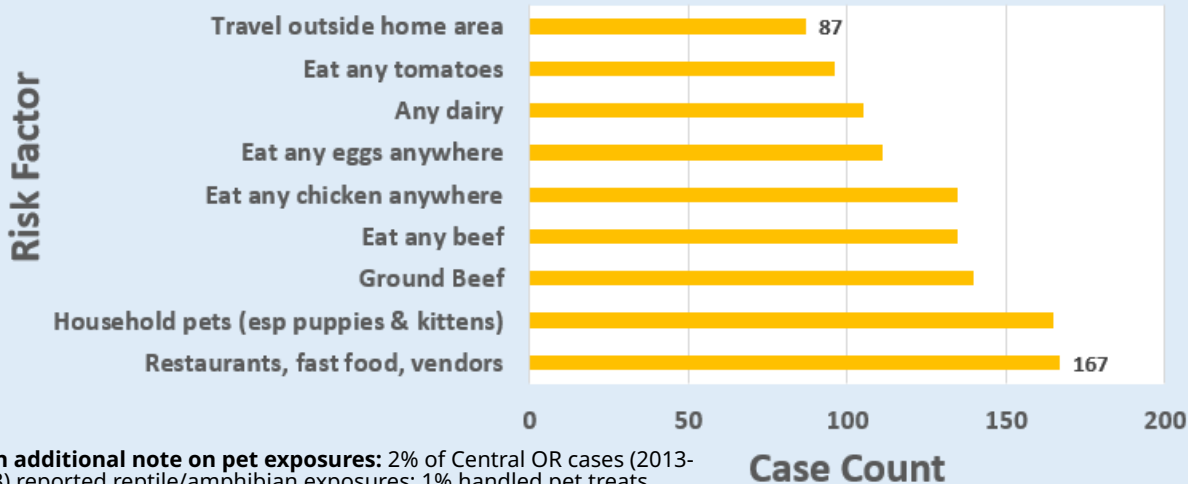
Race/Ethnicity

- The distribution of Salmonella infections across race/ethnicity groups also varied across Central OR counties (2013-23)—with a higher prevalence of Hispanics & other (non-Hispanic) race/ethnicity groups infected in Jefferson Co (see left)
- While foodborne illnesses (e.g. Salmonellosis) are not traditionally tracked by race/ethnicity, some minority groups may be at increased risk due to unique consumption patterns. Targeted safe food handling messages may be warranted. Read more [here](#).

*NH=Non-Hispanic ■ White (NH) ■ Hispanic ■ Other (NH)

Top Risk Factors Associated with Salmonella in Central OR

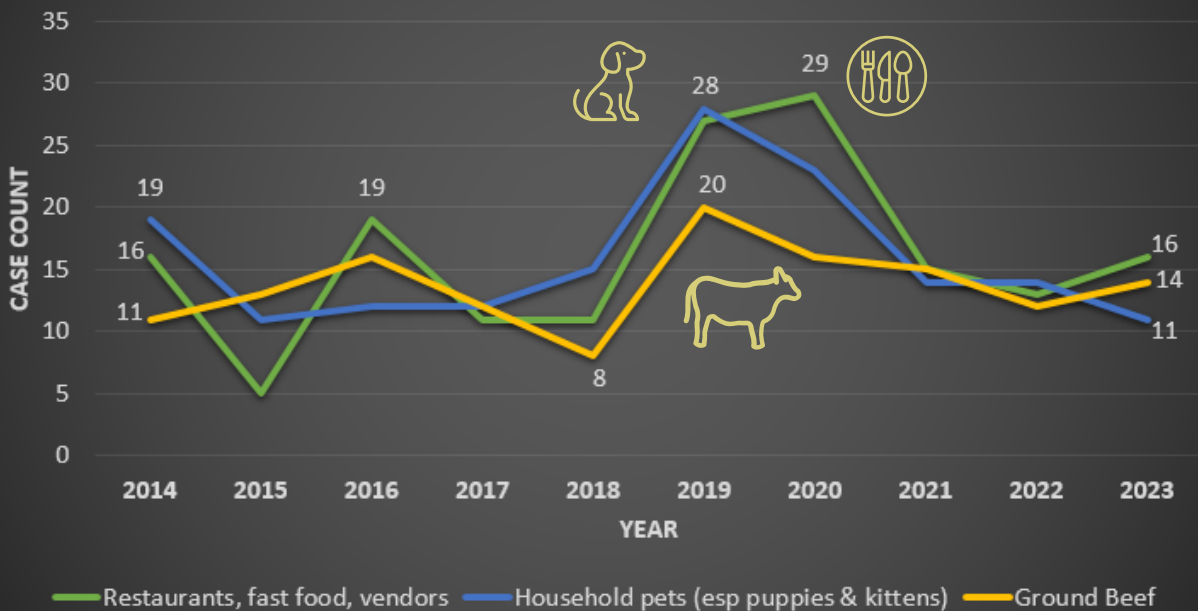
Top 10 Risk Factors Associated with Salmonella (nontyphoidal) in Central OR (2013-2023)



An additional note on pet exposures: 2% of Central OR cases (2013-23) reported reptile/amphibian exposures; 1% handled pet treats

- An array of exposures were associated with Salmonella (nontyphoidal) over the past 10 years (~60 factors)—including various food products (e.g. tomatoes; dairy; eggs). The top 10 factors are included in graphic on left.
- Top 2 risk factors were close (167 & 165) for restaurant & household pet exposures, respectively.

Top 3 Risk Factors Associated with Salmonella (nontyphoidal) in Central OR (2014-2023)



- Among the top 3 exposures, a few noted peaks are apparent (2014-23) in Central OR (see left):
 - Restaurants: 2016 & 2020
 - Household pets: 2019
 - Ground beef: 2016 & 2019
- Tips on preventing Salmonella during food prep [\[here\]](#) & household pet interactions [\[here\]](#)
- Concerning trends in Salmonella ground beef exposure [\[here\]](#)

What to know about Salmonella



Types

- Approximately 2,500 Salmonella serotypes have been described. While the most common serotypes in the US fall into the nontyphoidal classification (focus in this report), typhoidal serotypes (producing typhoid fever) are more common in developing countries



Source: [NIH](#)

Spread

- Salmonella can live in the intestinal tracts of humans & animals & are spread through feces—commonly through contaminated food or water contact

Symptoms



Source: [CDC](#)

High Risk Groups

- Those at higher risk for Salmonellosis include:
 - children <5yrs
 - individuals 65+yrs
 - those with compromised immunity (e.g. AIDS; sickle cell disease; malaria; corticosteroids; anti-rejection meds)
 - those taking antacids, antibiotics, or who have inflammatory bowel disease



*[Food safety tips for those with weakened immunity.](#)

Source: [CDC](#)

Diagnosis & Tx

- Salmonella is diagnosed in lab tests that detect the bacteria in stool, body tissue, or fluids
- Most affected people recover without treatment & are recommended to drink extra fluids (as long as diarrhea lasts)
- For severe cases, antibiotics may be prescribed
- Note: In extreme/rare circumstances, salmonella may leave the intestine & enter the bloodstream—causing sepsis & death unless promptly treated with antibiotics

Source: [CDC](#)



OREGON CASE REPORTING; Health care providers & clinical laboratories are required by law to report cases & suspected cases of salmonellosis to local health departments within **one** working day of identification. Cases are subject to restriction on school & day-care attendance, food handling, & patient care for duration of any diarrhea &/or vomiting. Investigative guidelines can be found [here](#).