

MONTHLY COMMUNICABLE DISEASE REPORT

OCTOBER 2023

Volume 7, Issue 10: November 17, 2023

SALMONELLOSIS

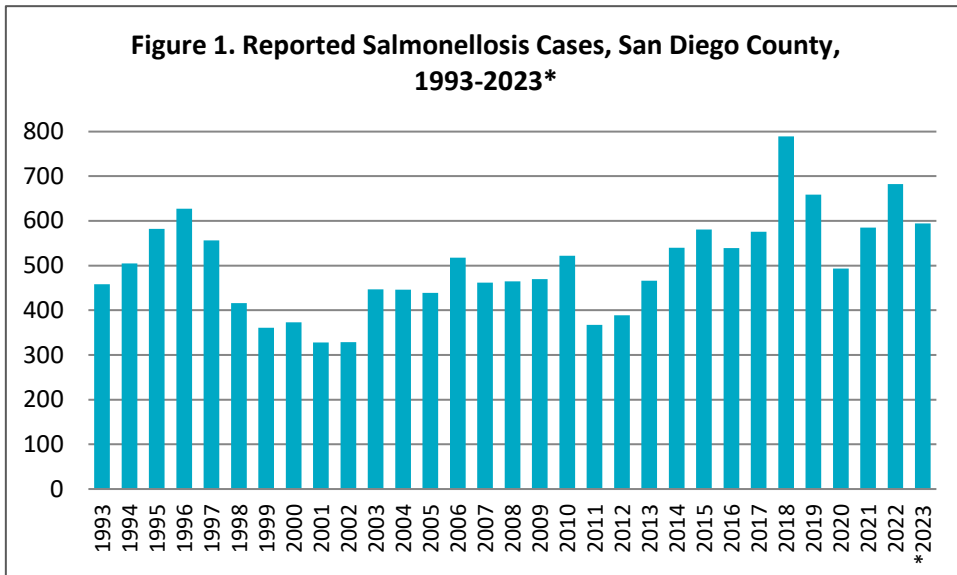
Salmonellosis is an enteric illness caused by bacteria of the species *Salmonella enterica*. The most common symptoms are diarrhea, fever, and abdominal cramps, usually starting 12-72 hours after infection. Most people recover within a week. However, extra-intestinal and invasive infections are possible, as is severe illness requiring hospitalization, particularly in infants, the elderly, and those with compromised immune systems.

In 2020, 45,442 salmonellosis cases were reported in the United States.

However, not all cases are diagnosed or reported, so the true incidence is likely higher.

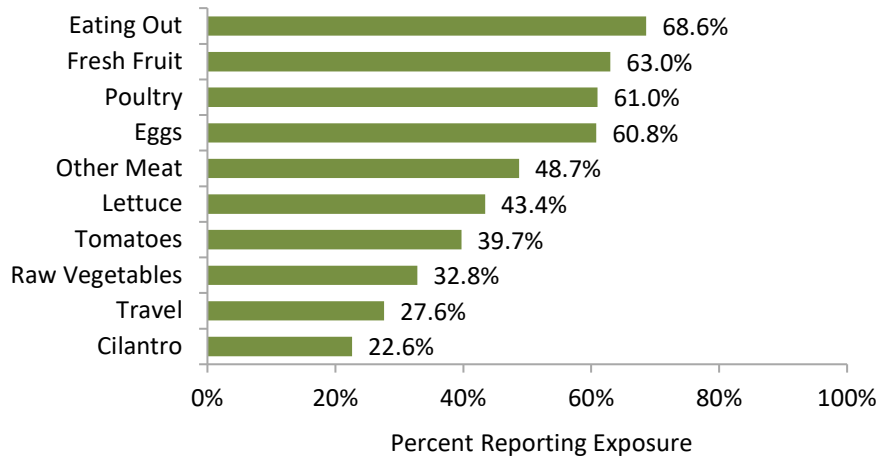
The Centers for Disease Control and Prevention (CDC) estimates that over one million illnesses and 420 deaths in the United States (U.S.) are caused by salmonellosis each year. In San Diego County, an average of 642 cases of salmonellosis have been reported annually to the Epidemiology Program over the past five years. Thirteen deaths were reported among those infected with *Salmonella* in San Diego County during this period.

People usually become infected with *Salmonella* by ingesting contaminated food or water or having contact with



*2023 data are year-to-date; data current as of 11/15/2023. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Figure 2. Risk Factors Reported by Salmonellosis Case-Patients, San Diego County, 2018-2022



Data are provisional and subject to change as additional information becomes available. These are reported risk factors, not confirmed sources of infection; persons may report more than one risk factor. Denominators are cases with complete information for the question.

infected animals, most often birds, amphibians, and reptiles. Between 2018 and 2022, commonly reported risk factors among San Diego County cases include eating food prepared outside of the home (69%) and consuming fresh fruit (63%), poultry (61%), and eggs (61%).

Persons infected with *Salmonella* who work in an occupation that provides opportunity to transmit the bacteria to others are required to undergo public health clearance testing. They must be excluded from work until symptoms have resolved and stool tests done at the Public Health Laboratory show that they are no longer infected.

Continued on next page

The Monthly Communicable Disease Surveillance Report is a publication of the County of San Diego Public Health Services Epidemiology and Immunization Services Branch (EISB). EISB identifies, investigates, registers, and evaluates communicable, reportable, and emerging diseases and conditions to protect the health of the community. The purpose of this report is to present trends in communicable disease in San Diego County. To subscribe to this report, visit the [Data and Reports](#) page on the Epidemiology Program website (www.sdepi.org) and click on the subscribe link.

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SALMONELLOSIS, continued

Salmonella bacteria are grouped into serotypes based on their surface structures. Many different *Salmonella* serotypes cause disease, though most human infections are caused by fewer than 100 serotypes. Among 2018-2022 San Diego County cases, nearly 100 different serotypes were identified; the three most common, responsible for over 40% of cases, were Enteritidis, Newport, and Montevideo.

For many years, public health professionals have used serotypes to help detect outbreaks. In recent years, DNA testing methods (e.g., pulsed-field gel electrophoresis, whole genome sequencing) have been used to further characterize the bacteria, allowing for the refinement of [outbreak detection and investigation](#). Many case clusters or outbreaks detected in this way are multistate outbreaks with the investigation coordinated by CDC, but they may also be investigated at the state or local level.

From 2018 to 2022, 238 San Diego County cases were part of 65 cluster investigations, involving 10,537 cases nationwide. Although the sources of infection in these outbreaks cannot always be determined, recent outbreaks have been linked to a diverse array of sources, including [alfalfa sprouts](#), [fish](#), [pet bearded dragons](#), [backyard poultry](#), [small turtles](#), [onions](#), and [peanut butter](#).

San Diego County has contributed 19 cases to a recent [outbreak of *S. Typhimurium*](#). The outbreak was linked to unpasteurized or “raw” milk from a producer in Fresno, CA resulting in a [recall of Raw Farm milk and heavy cream](#). The County of San Diego Health and Human Services Agency continues to work closely with California Department of Public Health and the California Department of Food and Agriculture on investigating illnesses associated with raw milk and milk products.

This type of outbreak detection and the public health actions that follow rely on the availability of isolates for DNA testing. The use of culture-independent diagnostic testing (CIDT) is increasing. CIDT allows providers to quickly diagnose a patient’s illness, but does not produce the necessary bacterial isolate. While researchers are studying new methods to solve this problem, it remains important for laboratories to [attempt to isolate](#) the *Salmonella* bacteria following a positive *Salmonella* CIDT detection and [submit isolates](#) to the [Public Health Laboratory](#).

Table 2. Top *Salmonella* Serotypes by Year, San Diego County, 2018-2022

2018		2019		2020		2021		2022	
<i>S. Enteritidis</i>	126	<i>S. Enteritidis</i>	86	<i>S. Enteritidis</i>	77	<i>S. Enteritidis</i>	90	<i>S. Enteritidis</i>	94
<i>S. Newport</i>	64	<i>S. Newport</i>	70	<i>S. Newport</i>	63	<i>S. Newport</i>	58	<i>S. Newport</i>	76
<i>S. Infantis</i>	49	<i>S. Montevideo</i>	42	<i>S. Montevideo</i>	27	<i>S. Montevideo</i>	38	<i>S. Montevideo</i>	29

Among cases with known serotype. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Federal Resources

- [Centers for Disease Control and Prevention \(CDC\) Salmonella website](#)
- [CDC Salmonella Surveillance website](#)
- [CDC List of Selected Multistate Foodborne Outbreak Investigations](#)
- [CDC: An Atlas of Salmonella in the United States, 1968-2011](#)
- [United States Department of Agriculture Food Safety and Inspection Service Salmonella website](#)

State and Local Resources

- [California Department of Public Health \(CDPH\) Salmonellosis website](#)
- [CDPH Food and Drug Branch Food Safety Program website](#)
- [County of San Diego Department of Environmental Health Food Program website](#)

Suggested citation: Guzman M, Richardson M, Nelson JA. Salmonellosis. County of San Diego Monthly Communicable Disease Report 2023; 7(10):1-2.

Table 1. Most Frequently Reported *Salmonella* Serotypes, San Diego County, 2018-2022

	Serotype	N	%
1	<i>S. Enteritidis</i>	473	21.4
2	<i>S. Newport</i>	331	15.0
3	<i>S. Montevideo</i>	182	8.2
4	<i>S. Typhimurium</i>	113	5.1
5	<i>S. Muenchen</i>	112	5.1

Among cases with known serotype. Data are provisional and subject to change. Grouped by CDC disease years.



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Table 3. Select Reportable Diseases		2023			Prior Years		
		October	Sept.	January – October (YTD)	2022 YTD	Avg YTD, 2020-2022	2022 Total
Disease and Case Inclusion Criteria (C,P,S)							
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	0	5	2.7	6
Brucellosis	C,P	0	2	3	4	2.3	7
Campylobacteriosis	C,P	87	114	971	800	716.0	959
<i>Candida auris</i>	C	7	9	83	38	14.7	57
Chickenpox, Hospitalization or Death	C,P	0	0	7	1	1.3	2
Chikungunya	C,P	0	0	0	2	1.0	2
Coccidioidomycosis	C	9	30	360	388	380.3	461
Cryptosporidiosis	C,P	7	11	105	77	51.3	95
Dengue Virus Infection	C,P	4	4	19	13	6.7	15
Encephalitis, All	C	1	3	21	21	28.0	28
Giardiasis	C,P	18	19	189	166	148.0	193
Hepatitis A, Acute	C	1	0	36	24	16.0	30
Hepatitis B, Acute	C	1	2	10	12	11.3	12
Hepatitis B, Chronic	C,P	54	59	637	763	651.3	900
Hepatitis C, Acute	C,P	0	0	61	74	55.7	95
Hepatitis C, Chronic	C,P	215	259	2,051	2,613	2,946.7	2,998
Legionellosis	C	11	2	79	71	51.3	84
Listeriosis	C	0	2	12	18	13.7	19
Lyme Disease	C,P	0	2	12	7	8.3	8
Malaria	C	3	4	11	11	8.3	11
Measles (Rubeola)	C	0	0	0	0	0.0	0
Meningitis, Aseptic/Viral	C,P,S	3	3	44	64	56.0	75
Meningitis, Bacterial	C,P,S	0	2	28	30	23.3	35
Meningitis, Other/Unknown	C	1	1	16	20	24.0	26
Meningococcal Disease	C,P	0	0	4	2	2.3	2
Mumps	C,P	0	0	0	3	6.7	3
Pertussis	C,P	49	12	124	72	113.7	102
Rabies, Animal	C	1	1	8	3	4.7	3
Rocky Mountain Spotted Fever	C,P	1	0	3	2	2.0	2
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	104	72	568	591	500.0	683
Shiga toxin-Producing <i>E. coli</i> (including O157)	C,P	55	25	202	186	140.3	208
Shigellosis	C,P	65	57	414	456	328.0	528
Typhoid Fever	C,P	0	0	5	12	8.3	13
Vibriosis	C,P	4	10	36	35	39.0	38
West Nile Virus Infection	C,P	0	0	0	3	2.3	3
Yersiniosis	C,P	3	11	59	42	28.7	46
Zika Virus	C,P	0	0	0	1	0.3	1

Case counts are provisional and subject to change as additional information becomes available. Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria. Includes San Diego County resident cases only.

[San Diego County Sexually Transmitted Infection Data](#) | [San Diego County Tuberculosis Data](#)

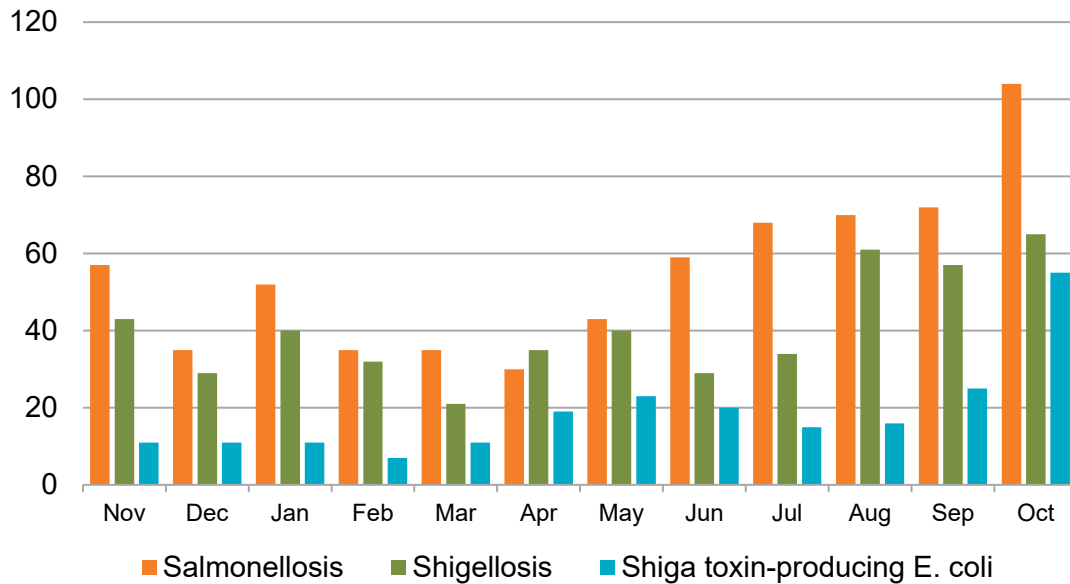


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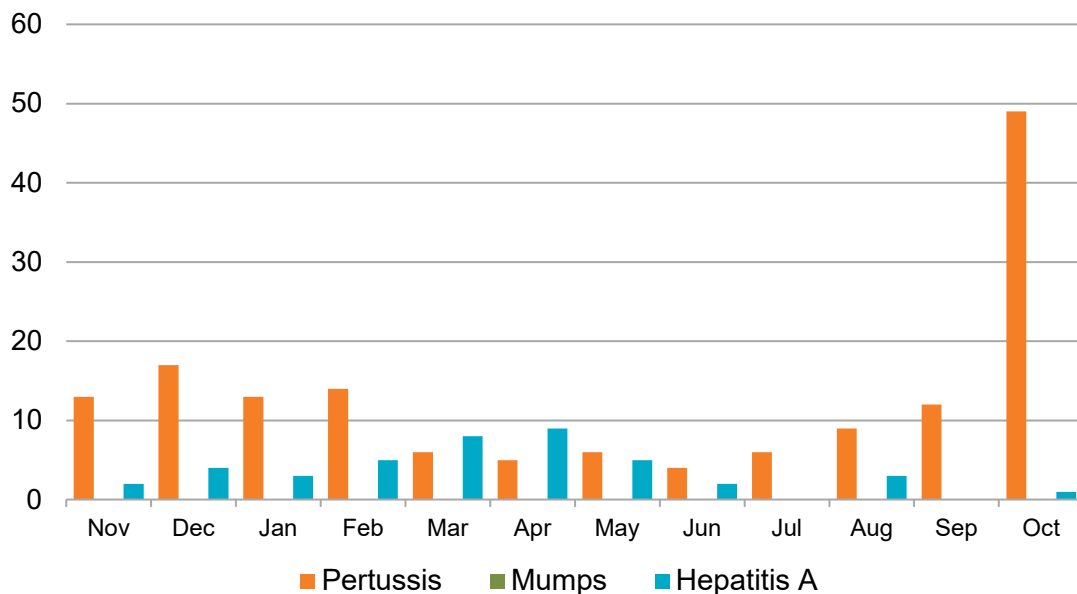
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**Figure 3. Select Enteric Infections by Month
November 2022 – October 2023**



**Figure 4. Select Vaccine-Preventable Infections by Month
November 2022 – October 2023**



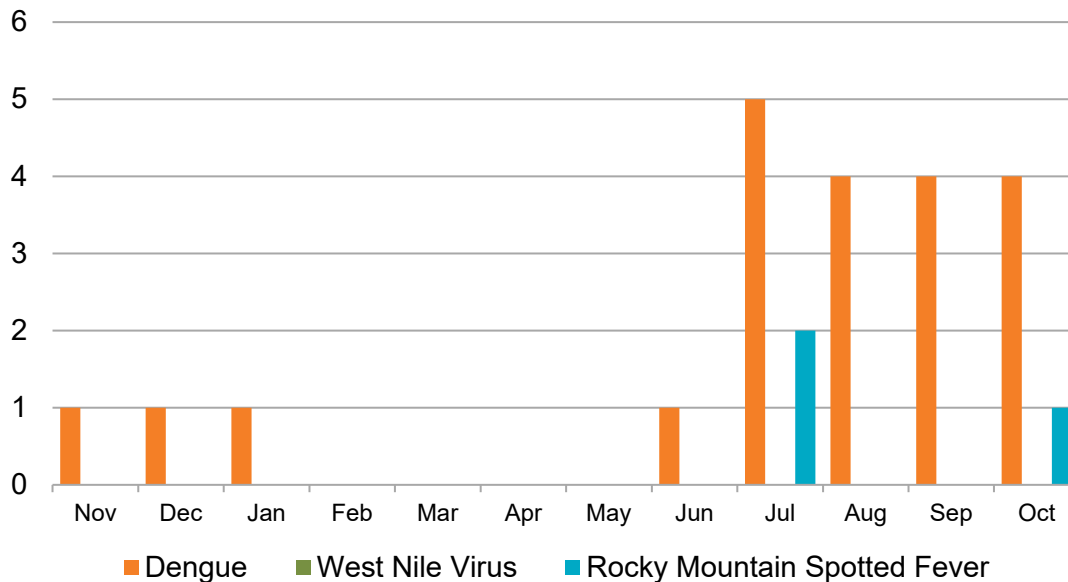
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**Figure 5. Select Vector-Borne Infections by Month
November 2022 – October 2023**



All of the dengue cases are travel-associated. For more information on West Nile virus, see the [County West Nile virus webpage](#). **Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

Disease Reporting in San Diego County

San Diego County communicable disease surveillance is a collaborative effort among Public Health Services, hospitals, medical providers, laboratories, and the [San Diego Health Connect](#) Health Information Exchange (HIE). The data presented in this report are the result of this effort.

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Sections [2500](#), [2505](#), and [2508](#)), public health professionals, medical providers, laboratories, schools, and others are mandated to report more than 80 diseases or conditions to San Diego County Health and Human Services Agency.

To report a communicable disease, contact the Epidemiology Program by phone at (619) 692-8499 or download and print a Confidential Morbidity Report form and fax it to (858) 715-6458. For urgent matters on evenings, weekends or holidays, dial (858) 565-5255 and ask for the Epidemiology Program duty officer. For more information, including a complete list of reportable diseases and conditions in California, visit the Epidemiology Program website, www.sdepi.org.

Tuberculosis, sexually transmitted infections, and HIV disease are covered by other programs within Public Health Services. For information about reporting and data related to these conditions, search for the relevant program on the Public Health Services website, <http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs.html>.