EPIDEMIOLOGY AND IMMUNIZATION SERVICES BRANCH

MONTHLY COMMUNICABLE DISEASE REPORT

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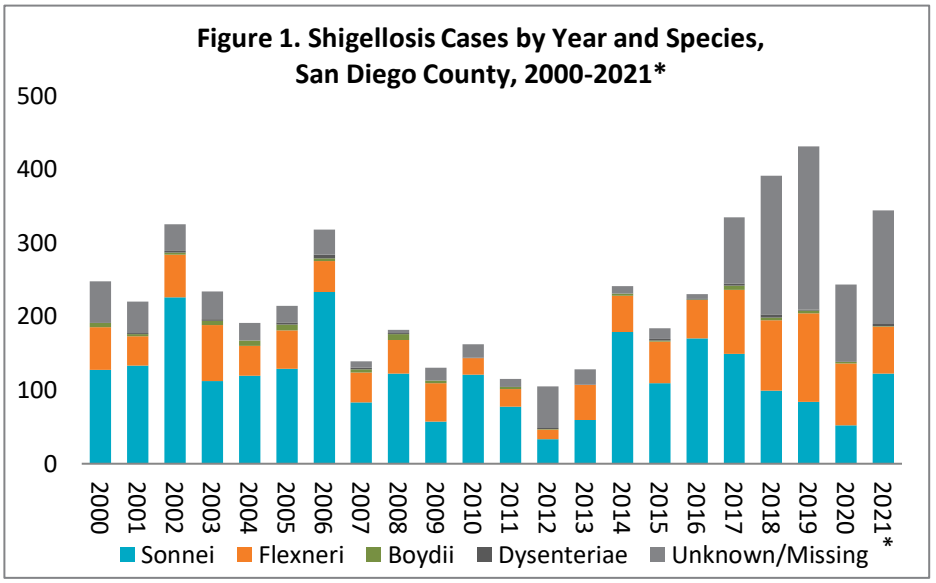
SHIGELLOSIS

Shigellosis is an acute diarrheal disease caused by four species of *Shigella* bacteria: *S. sonnei, S. flexneri, S. boydii, S. dysenteriae*. Infections with *S. boydii* and *S. dysenteriae* are uncommon in the United States, but remain an important cause of diarrhea in the developing world. Of the 52% of *Shigella* infections with species information reported in San Diego County since 2018, 47% were caused by *S. sonnei* and 50% by *S. flexneri. S. flexneri* infections have increased in proportion since 2017, and comprised an average of 26% of detected infections during 1995-2019. In 2017, the surveillance case definition changed to include cases diagnosed via culture-independent diagnostic testing (CIDT) as probable cases; the number of cases with unknown or missing species information subsequently increased. Lower case counts reported during 2020 and 2021 may be due to reduced health care seeking behaviors during the SARS-CoV-2 pandemic or may reflect a true decrease in infections in part due to reduced interpersonal interactions and restrictions on international travel.

Figure 1. Shigellosis Cases by Year and Species, San Diego County, 2000-2021*



*Year to date. 2021 includes data through 11/14/2021. Includes confirmed and probable cases following CDC/CSTE case criteria. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease year.

Shigellosis is highly contagious (as few as 10 to 100 organisms can cause infection), and transmission occurs via contaminated food and water or direct person-to-person contact. Groups at higher risk of *Shigella* infection include young children, men who have sex with men (MSM), travelers to developing countries, persons living in crowded settings or settings with inadequate sanitation, and persons who are immunocompromised. Risk factors for acquiring shigellosis include eating food prepared by an infected person, swallowing contaminated recreational water, changing the diaper of a sick child, or exposure to stool during sexual contact with someone sick or recently recovered from shigellosis.

Symptoms can include diarrhea (which may be bloody), fever, and stomach pain, starting an average of one to three days after infection. Since 2018, 35% of San Diego County shigellosis cases reported bloody diarrhea. Asymptomatic infection has been described and transmission during a carrier state is possible, although is thought to be rare.

CONFIRMED CASES IN RECENT CLUSTER

35

PORTABLE HANDWASHING STATIONS IN SAN DIEGO

99

Case counts are provisional and subject to change as additional information becomes available.

Continued on the 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.

SHIGELLOSIS, continued

Shigellosis is usually self-limited in people without immunocompromise, with most people recovering within five to seven days without treatment. Treatment with antibiotics can shorten symptom duration; 91% of San Diego cases since 2018 received antibiotics. As multi-drug resistant *Shigella* infections are increasing, antibiotic choice should be based on antimicrobial susceptibility testing and patients should be monitored for treatment failure. Nationwide, in 2017, 24% of isolates were resistant to azithromycin and 10% to ciprofloxacin.

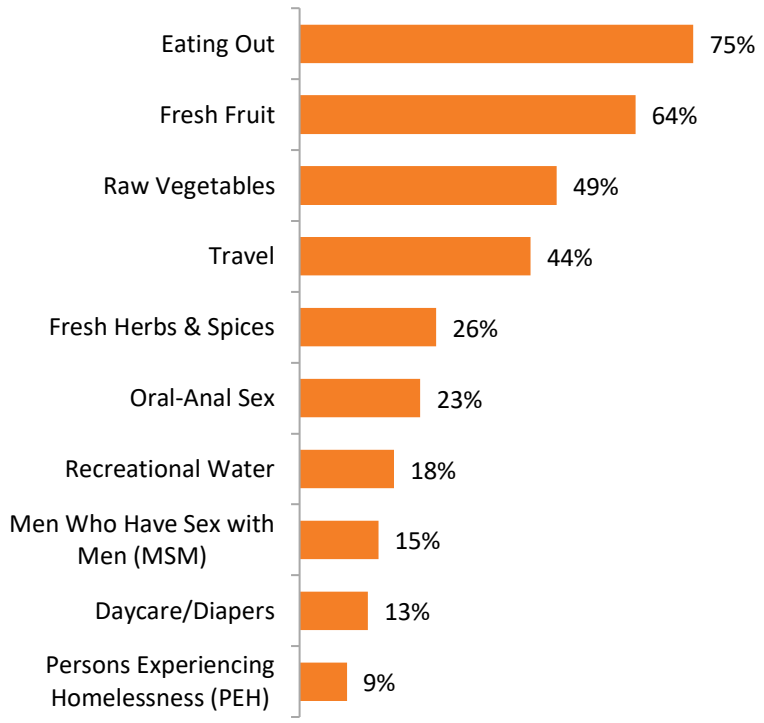
Shigellosis clusters are often detected via molecular testing. Whole genome sequencing became standard in 2019, allowing for more refined case matching. This shift in testing has increased cluster detections locally and may increase case matching to national clusters.

Currently, San Diego County has a cluster of genomically related *S. sonnei* cases in persons experiencing homelessness (PEH), including 35 confirmed cases as of November 13, 2021. Most isolates are pan-sensitive, but two have ciprofloxacin resistance. Other common risk factors in this cluster include methamphetamine use. The County is working closely with the City of San Diego and local service providers who work with PEH to do community outreach and education, allocate handwashing stations, distribute sanitation kits, and increase cleaning and disinfection of restrooms near encampments and in other public areas. Other jurisdictions have also seen shigellosis outbreaks in PEH in recent years. One occurred after a period of heavy precipitation which might have increased crowding and unsanitary conditions.

Resources

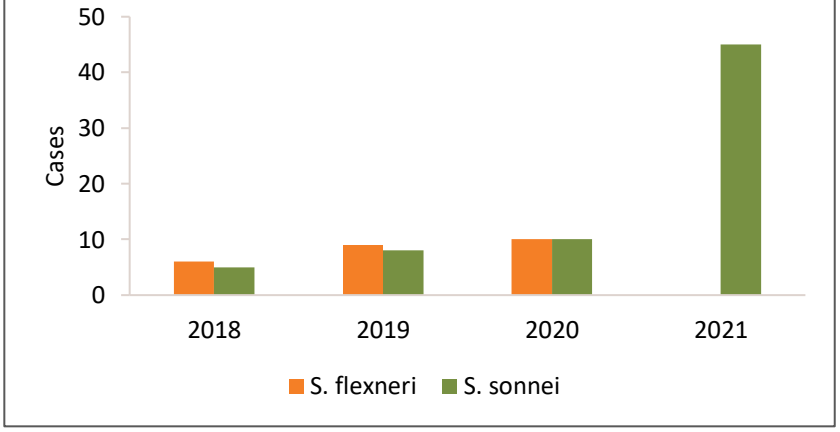
- CDC Shigellosis website
- CDC *Shigella* Prevention & Control Toolkit
- CDC Antibiotic / Antimicrobial Resistance website
- California Department of Public Health Shigellosis website
- October 11, 2021 CAHAN San Diego Alert on shigellosis in persons experiencing homelessness

Figure 2. Select Risk Factors of San Diego County Shigellosis Cases, 2018-2021* (N=1,409)



*Year to date. 2021 includes data through 11/14/2021. Data are provisional and subject to change as additional information becomes available. Denominators are cases with available information for each variable, with the exception of MSM and PEH. MSM and PEH are those known to have those risk factors as a percentage of all cases. Risk factors are potential sources as reported by case-patients, not confirmed sources of infection.

Figure 3. *Shigella sonnei* and *Shigella flexneri* Cases in Persons Experiencing Homelessness (PEH) by Year, San Diego County, 2018-2021*



*Year to date. 2021 includes data through 11/14/2021. Includes confirmed and probable cases following CDC/CSTE case criteria. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease year.

Suggested citation: Ohlsen E, Morgan KA, Nelson JA. Shigellosis. County of San Diego Monthly Communicable Disease Report 2021; 5(10):1-2.

Table 2. Select Reportable Diseases		2021			Prior Years		
Disease and Case Inclusion Criteria (C,P,S)		Current Month	Prior Month	Year-to-Date (YTD)	2020 YTD	Avg YTD, Prior 3 Years	2020 Total
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	1	2	0	3.7	2
Brucellosis	C,P	1	0	3	0	1.0	0
Campylobacteriosis	C,P	74	68	753	582	728.7	646
Chickenpox, Hospitalization or Death	C,P	0	0	3	0	1.3	0
Chikungunya	C,P	1	0	1	1	3.0	1
Coccidioidomycosis	C	15	37	362	445	345.7	540
Cryptosporidiosis	C,P	5	8	43	29	64.0	29
Dengue Virus Infection	C,P	0	0	1	5	12.7	5
Encephalitis, All	C	0	0	21	30	39.7	35
Giardiasis	C,P	16	16	129	126	176.7	146
Hepatitis A, Acute	C	0	1	9	14	19.3	15
Hepatitis B, Acute	C	0	3	14	6	6.7	8
Hepatitis B, Chronic	C,P	91	92	737	553	685.7	656
Hepatitis C, Acute	C,P	0	4	51	25	32.3	25
Hepatitis C, Chronic	C,P	310	332	2,938	3,221	3,483.0	3,826
Legionellosis	C	3	5	42	36	43.3	49
Listeriosis	C	1	1	6	17	13.3	21
Lyme Disease	C,P	0	0	3	6	8.0	6
Malaria	C	2	0	7	6	6.0	7
Measles (Rubeola)	C	0	0	0	0	0.7	0
Meningitis, Aseptic/Viral	C,P,S	4	1	35	62	117.3	73
Meningitis, Bacterial	C,P,S	2	2	16	20	27.3	20
Meningitis, Other/Unknown	C	0	2	14	28	23.0	28
Meningococcal Disease	C,P	0	0	1	4	7.0	4
Mumps	C,P	0	0	1	16	25.7	16
Pertussis	C,P,S	4	5	45	215	470.7	220
Rabies, Animal	C	0	0	4	7	7.0	8
Rocky Mountain Spotted Fever	C,P	1	0	3	3	2.0	3
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	60	63	481	421	564.7	489
Shiga toxin-Producing *E. coli* (including O157)	C,P	6	15	99	99	155.3	108
Shigellosis	C,P	98	64	320	192	290.7	240
Typhoid Fever	C,P	0	0	9	4	4.0	4
Vibriosis	C,P	2	5	47	34	46.7	39
West Nile Virus Infection	C,P	0	1	2	1	1.7	1
Yersiniosis	C,P	1	1	18	25	29.7	29
Zika Virus	C,P	0	0	0	0	5.0	0

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.

Figure 4. Select Enteric Infections by Month
November 2020 – October 2021

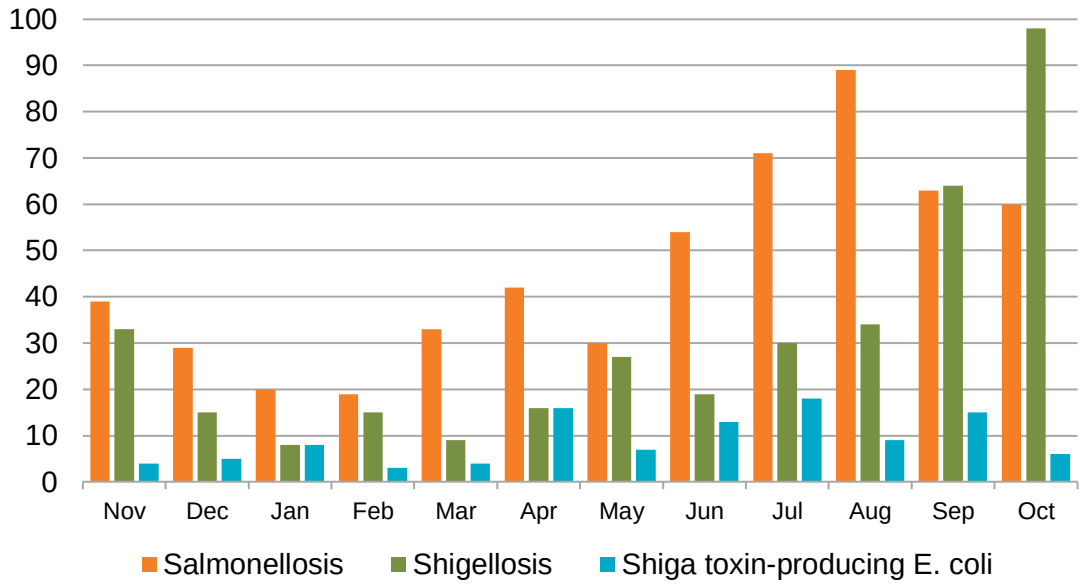


Figure 5. Select Vaccine-Preventable Infections by Month
November 2020 – October 2021

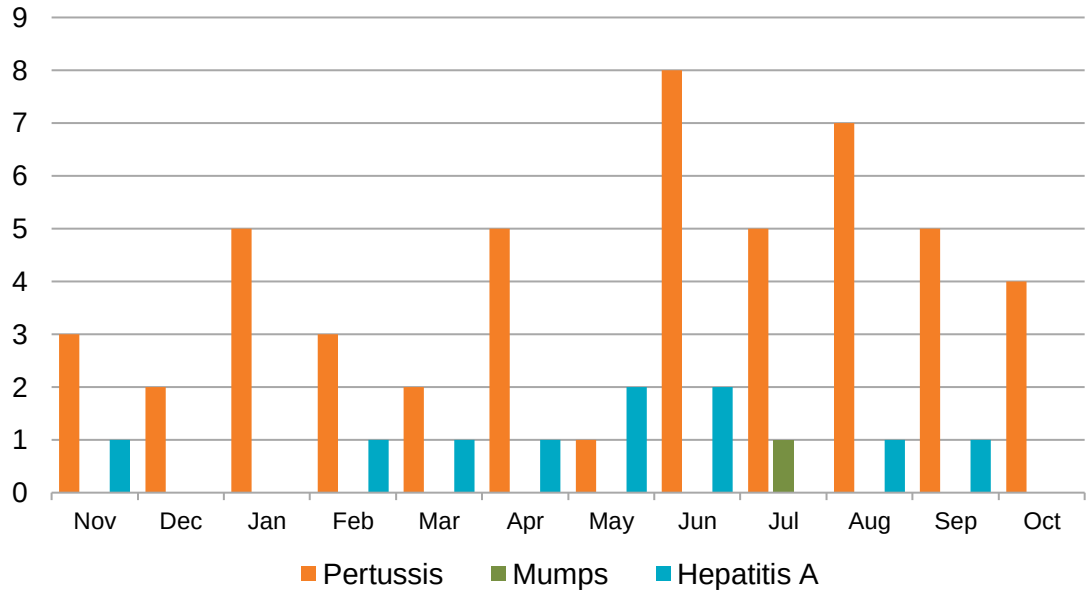


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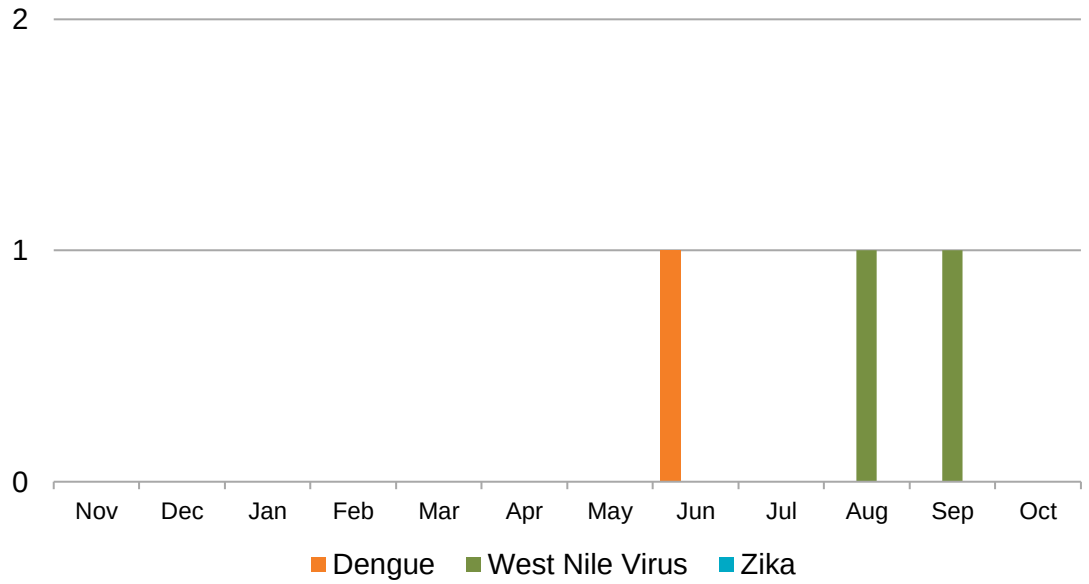
Figure 6. Select Vector-Borne Infections by Month
November 2020 – October 2021



All of the dengue and Zika virus cases are travel-associated. For additional information on Zika cases, see the HHSA Zika Virus webpage. 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.