EPIDEMIOLOGY AND IMMUNIZATION SERVICES BRANCH

MONTHLY COMMUNICABLE DISEASE REPORT

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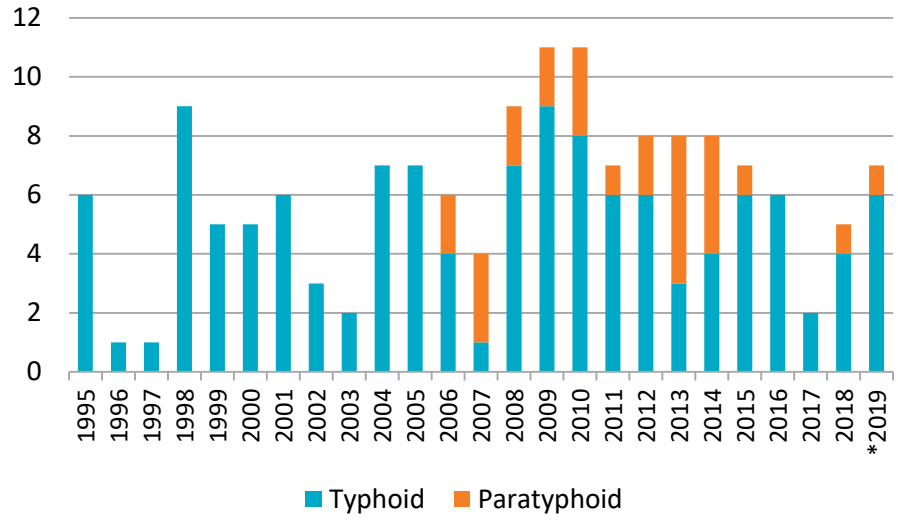
TYPHOID FEVER AND PARATYPHOID FEVER

Typhoid fever, caused by *Salmonella enterica* serotype Typhi, and paratyphoid fever, caused by *Salmonella enterica* serotype Paratyphi, are systemic bacterial infections with a similar presentation. Illness is characterized by sustained fever, sometimes as high as 103-104° F, headache, and malaise. Other symptoms that may present in some patients include constipation or diarrhea, chills, muscle pain, loss of appetite, and rose-colored spots on the trunk.

Untreated, illness may last three to four weeks, result in complications, and be fatal in 12-30% of cases. Treatment is with antibiotics; however, antibiotic resistance, including multidrug resistance, is increasingly a problem. Relapse and prolonged carriage are possible after both treated and untreated infections.

Figure 1. Typhoid and Paratyphoid Fever Cases, San Diego County, 1995-2019*



*2019 data are year-to-date; current as of 6/17/2019. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years. Paratyphoid fever data for San Diego County are not available prior to 2006.

The incubation period for typhoid fever is 3 to more than 60 days, 8-14 days on average. The incubation period for paratyphoid fever is 1-10 days. Transmission is via ingestion of contaminated food and water. Typhoid vaccines exist, but do not confer long-lasting immunity. Infection is endemic in many parts of the world where sanitation is poor, but is rare in the United States, where it is diagnosed primarily in travelers returning from endemic areas.

77% of San Diego County typhoid cases traveled internationally, 2009-2018

Worldwide, there are an estimated 22 million cases of typhoid fever and 200,000 deaths annually. In the United States, approximately 350 people are diagnosed with typhoid fever and 90 are diagnosed with paratyphoid fever each year. To date in 2019, there have been six reports of typhoid fever and one report of paratyphoid fever among San Diego County residents. Over the last 10 years, 77% of San Diego County residents diagnosed with typhoid fever had traveled internationally within the 30 days prior to onset of illness, primarily to south Asia. Others had close contacts who had traveled internationally.

Diagnosis of typhoid fever is chiefly by blood culture, though sometimes by stool or urine culture. Serology is not recommended due to the high rate of false positive results. State law dictates that all persons diagnosed with typhoid fever have their stool tested at a public health laboratory until they have three successive negative results. They are also restricted from working in food service, child care, or health care until cleared.

Resources

- Centers for Disease Control and Prevention (CDC) Typhoid Fever and Paratyphoid Fever website
- CDC Health Information for International Travel (the Yellow Book) – Typhoid and Paratyphoid Fever

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 Statistics and Reports page on the Epidemiology Program website (www.sdepi.org) and click on the subscribe link.

Table 1. Select Reportable Diseases		2019			Prior Years		
Disease and Case Inclusion Criteria (C,P,S)		Current Month	Prior Month	Year-to-Date (YTD)	2018 YTD	Avg YTD, Prior 3 Years	2018 Total
Amebiasis	C	0	1	6	5	3.7	10
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	0	9	4.7	11
Brucellosis	C,P	0	0	1	2	2.3	2
Campylobacteriosis	C,P	89	82	368	268	301.0	828
Chickenpox, Hospitalization or Death	C,P	0	0	0	0	0.7	4
Chikungunya	C,P	0	0	0	2	1.0	5
Coccidioidomycosis	C	18	15	127	131	86.3	276
Cryptosporidiosis	C,P	3	5	17	23	15.3	90
Dengue Virus Infection	C,P	2	2	4	2	5.0	9
Encephalitis, All	C	1	4	13	23	24.3	66
Giardiasis	C,P	11	19	87	111	130.7	229
Hepatitis A, Acute	C	3	6	11	21	67.3	35
Hepatitis B, Acute	C	0	0	2	5	4.7	9
Hepatitis B, Chronic	C,P	4	39	270	356	372.0	865
Hepatitis C, Acute	C,P	1	7	16	1	0.7	2
Hepatitis C, Chronic	C,P	312	272	1,536	1,825	1,371.0	4,162
Legionellosis	C	7	4	24	25	25.3	54
Listeriosis	C	0	1	2	3	5.0	13
Lyme Disease	C,P	4	0	4	6	4.0	14
Malaria	C	0	0	2	4	3.3	8
Measles (Rubeola)	C	0	0	0	0	0.7	0
Meningitis, Aseptic/Viral	C,P,S	9	8	44	41	45.3	140
Meningitis, Bacterial	C,P,S	0	2	11	25	19.0	37
Meningitis, Other/Unknown	C	0	2	5	8	13.3	17
Meningococcal Disease	C,P	0	2	6	3	1.0	11
Mumps	C,P	3	0	11	3	7.3	9
Pertussis	C,P,S	40	42	243	366	326.7	656
Rabies, Animal	C	0	0	0	4	4.3	7
Rocky Mountain Spotted Fever	C,P	0	0	0	0	0.3	1
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	53	41	201	211	172.3	783
Shiga toxin-Producing *E. coli* (including O157)	C,P	22	14	69	46	24.3	174
Shigellosis	C,P	23	28	138	101	85.0	391
Typhoid Fever	C,P	0	1	6	0	1.3	4
Vibriosis	C,P	1	2	11	9	10.0	58
West Nile Virus Infection	C,P	0	0	0	0	0.0	2
Yersiniosis	C,P	7	7	24	11	13.3	26
Zika Virus	C,P	0	2	3	3	8.0	7

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 2. Select Enteric Infections by Month
June 2018 – May 2019

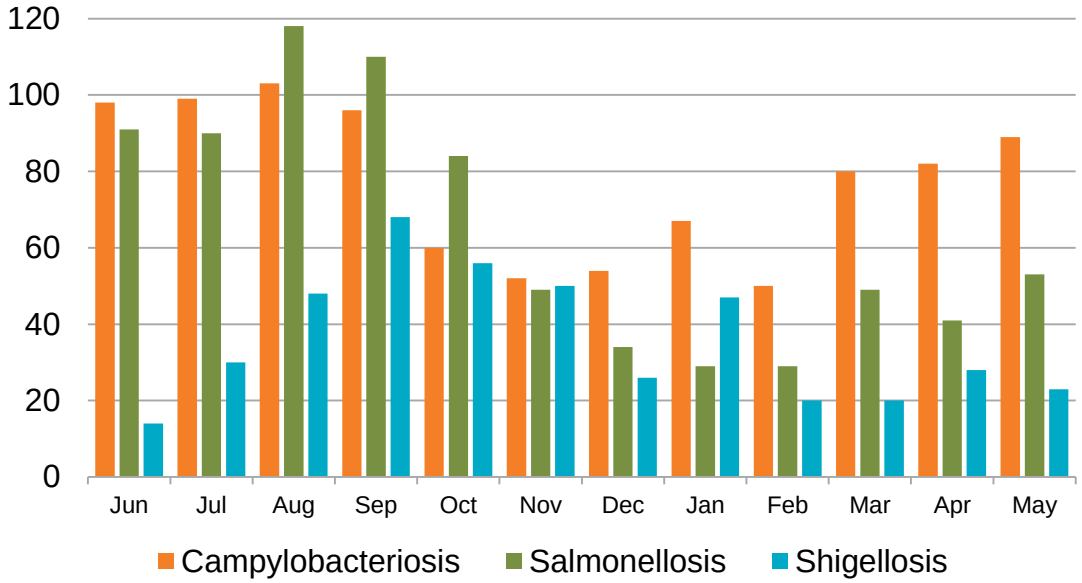


Figure 3. Select Vaccine-Preventable Infections by Month
June 2018 – May 2019

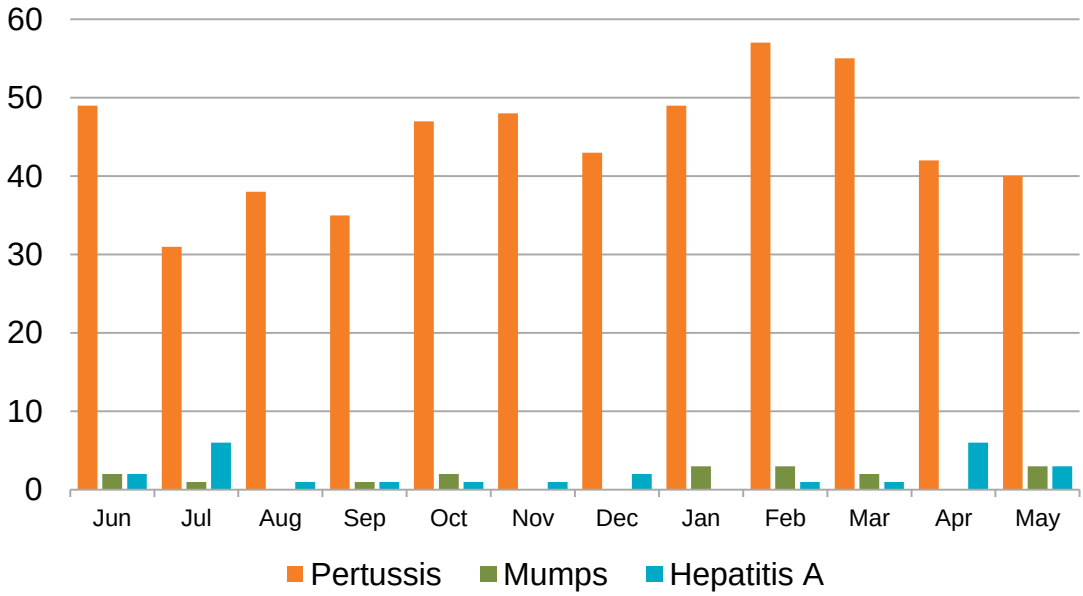


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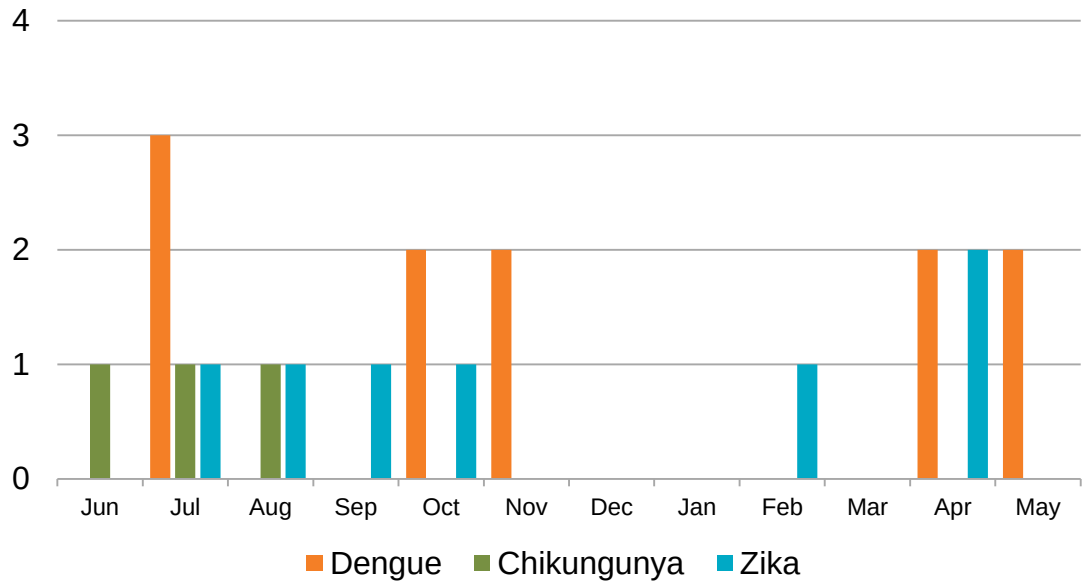
Figure 4. Select Vector-Borne Infections by Month
June 2018 – May 2019



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