EPIDEMIOLOGY AND IMMUNIZATION SERVICES BRANCH

MONTHLY COMMUNICABLE DISEASE REPORT

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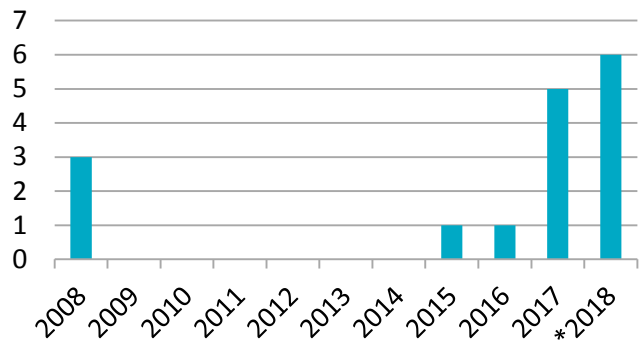
CYCLOSPORIASIS

Cyclosporiasis is an intestinal infection caused by the protozoan parasite *Cyclospora cayetanensis.* Common symptoms, which usually begin one week after exposure, include watery diarrhea, abdominal cramps, nausea, bloating, gas, weight loss, and fatigue. Untreated, symptoms may last for days to a month or more in the immunocompetent, often appearing to improve only to relapse. Those who are immunocompromised may be more susceptible to infection and may experience prolonged diarrhea. Trimethoprim-sulfamethoxazole is the only proven effective treatment.

Figure 1. Cyclosporiasis Cases, San Diego County, 2008-2018*



*2018 data are year-to-date; current as of 9/17/2018. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Cyclosporiasis is endemic in many tropical and subtropical countries. It is transmitted through ingesting infective oocysts in fecally contaminated water or food, primarily fresh produce. *Cyclospora* is resistant to routine chemical disinfection and sanitation methods such as chlorination. Oocysts are not immediately infective when shed in stool, requiring a one to two week maturation period in favorable conditions outside the human body before they are infective. Direct fecal-oral transmission from person-to-person is unlikely.

C. cayetanensis was first identified in the early 1990s and has been nationally notifiable in the United States (U.S.) since 1999. A number of outbreaks have been identified in North America since the mid-1990s, most often during the summer months, and frequently associated with imported berries, fresh herbs, and lettuce. In 2018, two unrelated outbreaks affected primarily the midwestern U.S.: one associated with salads sold at a fast food restaurant and one associated with vegetable trays sold mainly in convenience stores.

National case reports increased from 56 cases in 1999 to 1,091 cases in 2017. In California, 59 cases were reported in 2017, a new high. In San Diego County, there were three cases associated with a multijurisdictional outbreak in 2008, then no additional reported cases until 2015. There have been six cases reported so far in 2018.

The median age of all San Diego County case-patients was 33 years and 56% were female. Among the 11 of 13 cases since 2015 for whom a travel history was available, seven had traveled to Mexico, two had traveled to the Philippines, and two had not traveled outside the county.

Table 1. Cyclosporiasis Cases, California and U.S., 2012-2017

	California	U.S.
2012	2	123
2013	2	784
2014	2	398
2015	15	644
2016	22	537
2017	59	1,091

Cyclosporiasis has typically been difficult to diagnose, and likely remains underdiagnosed. *Cyclospora* testing by microscopy is usually not done unless explicitly requested, even when testing for other parasites. In addition, shedding can be intermittent and at low levels. Recent increases in cases may be attributable to increased use of culture-independent diagnostic tests (CIDT), though not all CIDT panels include a target for *Cyclospora*. The nine most recent infections reported in San Diego County were detected via CIDT.

Resources

- Centers for Disease Control and Prevention (CDC) Cyclosporiasis website
- California Department of Public Health (CDPH) Cyclosporiasis website

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, send an email to EpiDiv.HHSA@sdcounty.ca.gov.

Table 2. Select Reportable Diseases		2018			Prior Years		
Disease and Case Inclusion Criteria (C,P,S)		Current Month	Prior Month	Year-to-Date (YTD)	2017 YTD	Avg YTD, Prior 3 Years	2017 Total
Amebiasis	C	1	0	7	8	11.0	10
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	10	3	2.7	8
Brucellosis	C,P	0	0	1	4	2.3	5
Campylobacteriosis	C,P	94	90	546	652	528.7	883
Chickenpox, Hospitalization or Death	C,P	0	0	0	1	1.3	3
Chikungunya	C,P	0	1	4	2	3.0	2
Coccidioidomycosis	C	23	16	189	148	115.0	313
Cryptosporidiosis	C,P	11	13	54	35	22.7	54
Dengue Virus Infection	C,P	0	2	4	9	8.7	12
Encephalitis, All	C	2	3	28	31	48.7	43
Giardiasis	C,P	12	17	158	238	218.0	317
Hepatitis A, Acute	C	1	5	29	416	148.3	576
Hepatitis B, Acute	C	0	0	6	10	7.7	13
Hepatitis B, Chronic	C,P	67	76	578	575	574.0	868
Hepatitis C, Acute	C,P	0	0	1	4	1.7	4
Hepatitis C, Chronic	C,P	366	405	2,995	1,888	1,917.3	3,113
Legionellosis	C	0	2	27	46	36.7	66
Listeriosis	C	3	4	12	12	11.7	15
Lyme Disease	C,P	0	0	6	17	12.3	21
Malaria	C	0	0	4	4	6.3	8
Measles (Rubeola)	C	0	0	0	2	3.3	2
Meningitis, Aseptic/Viral	C,P,S	23	19	91	110	116.0	187
Meningitis, Bacterial	C,P,S	3	2	30	28	26.7	39
Meningitis, Other/Unknown	C	1	1	10	24	22.3	34
Meningococcal Disease	C,P	2	1	8	1	1.0	1
Mumps	C,P	0	1	6	12	9.0	15
Pertussis	C,P,S	30	30	475	731	567.0	1,161
Rabies, Animal	C	1	1	6	12	6.7	16
Rocky Mountain Spotted Fever	C,P	0	1	1	1	1.3	3
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	104	85	489	350	359.7	576
Shiga toxin-Producing *E. coli* (including O157)	C,P	10	25	95	32	31.7	288
Shigellosis	C,P	40	29	182	176	126.0	334
Typhoid Fever	C,P	1	0	1	2	3.0	2
Vibriosis	C,P	15	13	41	37	32.3	50
West Nile Virus Infection	C,P	0	0	0	1	6.7	2
Yersiniosis	C,P	2	4	18	41	18.7	54
Zika Virus	C,P	0	0	3	13	21.0	21

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
September 2017 – August 2018

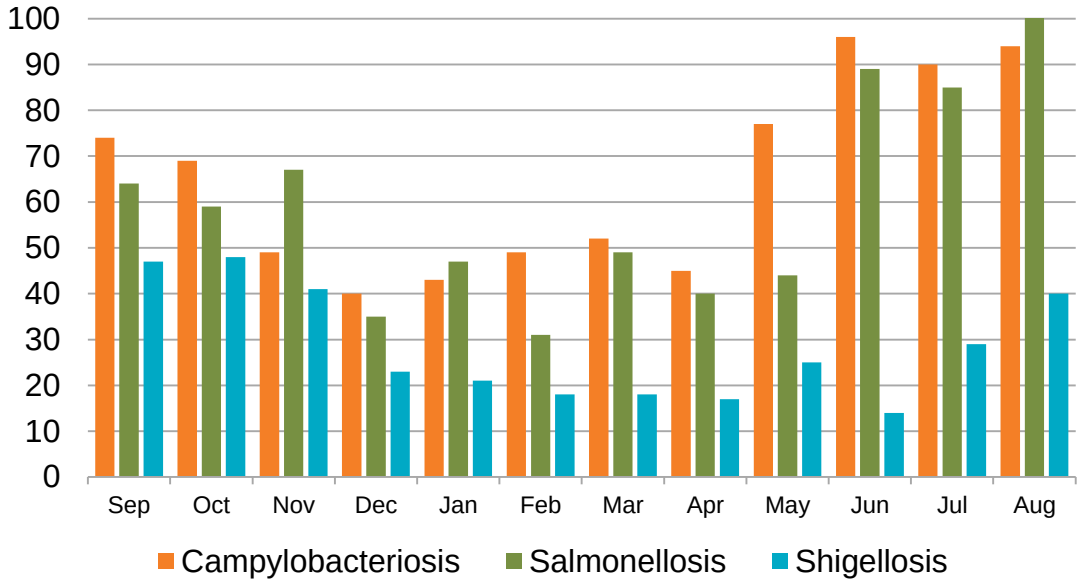


Figure 3. Select Vaccine-Preventable Infections by Month
September 2017 – August 2018

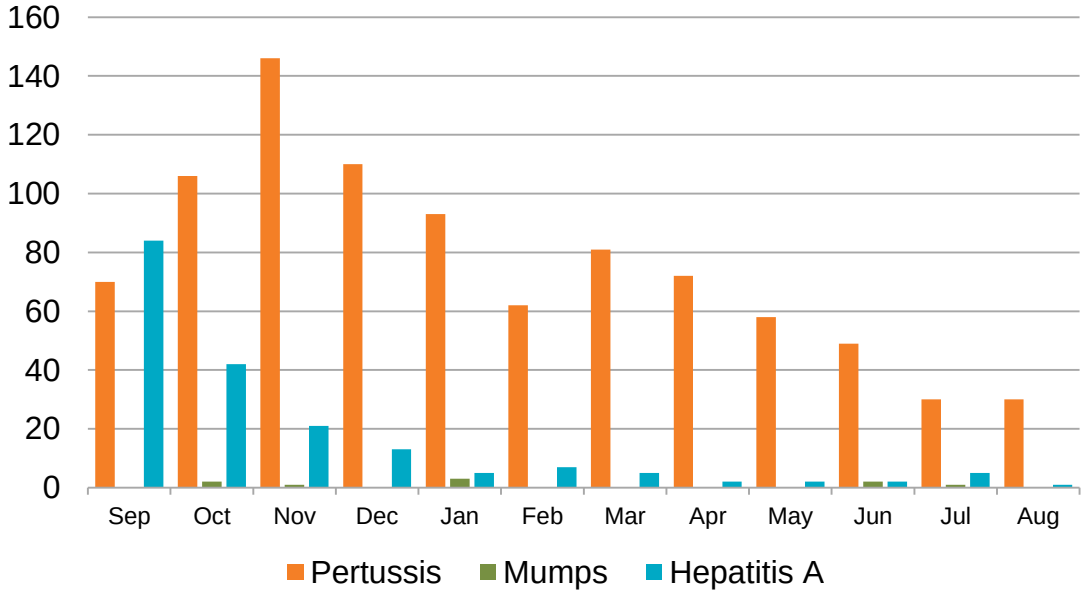


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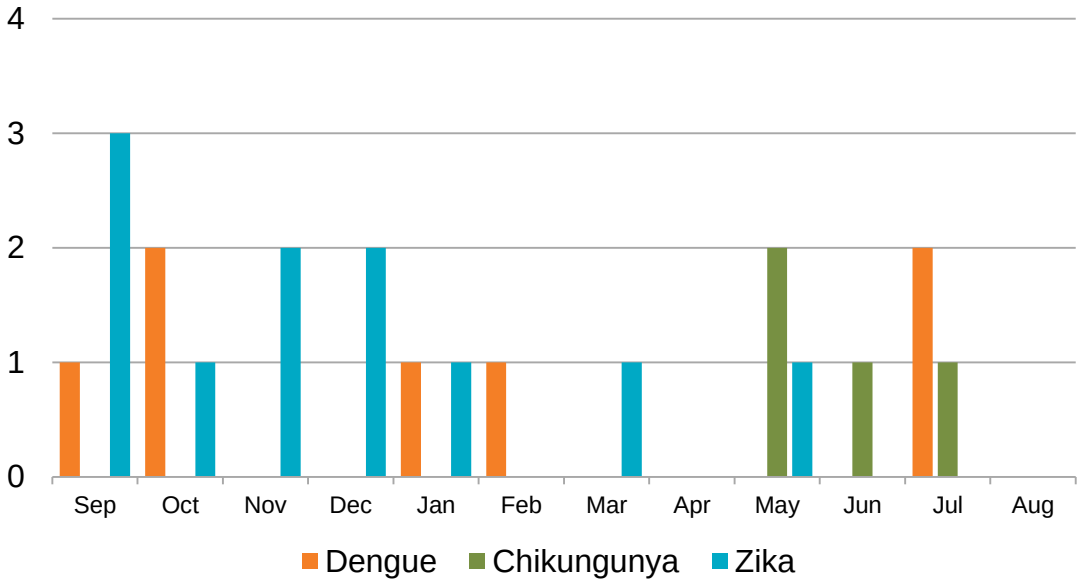
Figure 4. Select Vector-Borne Infections by Month
September 2017 – August 2018



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.