EPIDEMIOLOGY AND IMMUNIZATION SERVICES BRANCH

MONTHLY COMMUNICABLE DISEASE REPORT

AUGUST 2023

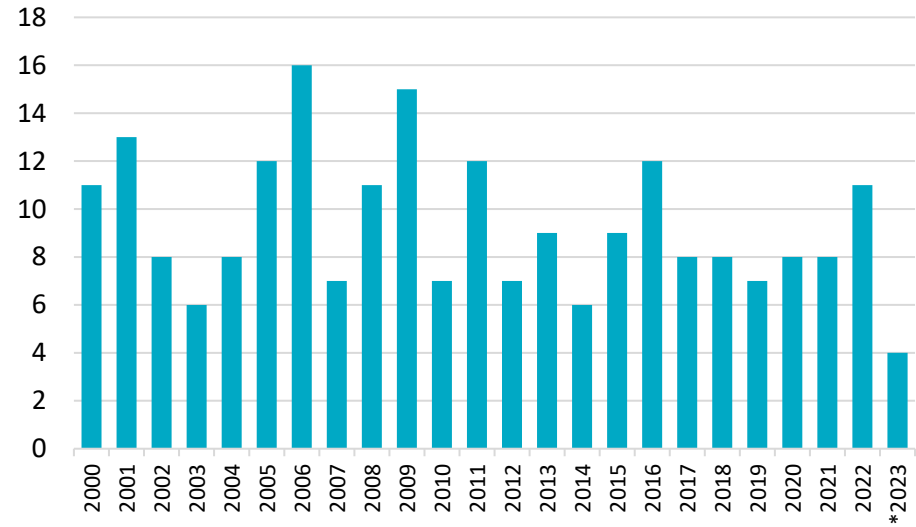
Volume 7, Issue 8: September 15, 2023

MALARIA

Background

Malaria is a life-threatening but preventable parasitic disease usually transmitted by the bite of infected *Anopheles* mosquitos and cannot be transmitted directly from person to person. Of the five *Plasmodium* parasite species known to cause malaria, *P. falciparum* is the deadliest and if left untreated can advance to severe malarial disease and even death within 24 hours.

Figure 1. Malaria Cases, San Diego County, 2000-2023*



*2023 data are year-to-date; current as of 9/14/2023. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Symptoms

Symptoms of malaria can range from mild (e.g., fever, chills, and headache) to life-threatening (e.g., fatigue, confusion, seizures, difficulty breathing, jaundice, and abnormal bleeding). Symptoms usually begin between 10-28 days after a person becomes infected.

Recommendations

Malaria can be prevented by deterring mosquito bites through the use of mosquito nets, window screens, insect repellant, and protective clothing and by taking anti-malarial medications. These medications are very effective at preventing disease, but they must be taken according to the prescribed schedule. Anti-malarial medications are recommended for travelers visiting a malaria endemic country and should be obtained before departure from the US. Vector control measures can also be used to reduce the risk of malaria by decreasing the proximity and quantity of mosquitos. These measures include removing standing water that can be used as a mosquito breeding ground and adding mosquito fish or mosquito larvicide to at-home ponds or fountains.

As a serious, and sometimes fatal disease, early diagnosis and medication initiation for malaria patients are recommended. Laboratory confirmation is performed via microscopic analysis of blood smears and rapid diagnostic testing. These results are used to inform clinicians of the appropriate treatment regimen because recommendations vary based on malaria species, severity of disease, drug susceptibility, and previous use of anti-malarial medications by the individual. If a laboratory diagnosis is not available, then early treatment initiation should not be postponed.

Current Situation

In a typical year in the Unites States (US), about 2,000 people are diagnosed with malaria, and most of these cases are diagnosed among travelers, refugees, and immigrants coming from places where malaria occurs, such as sub-

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.

MALARIA, continued

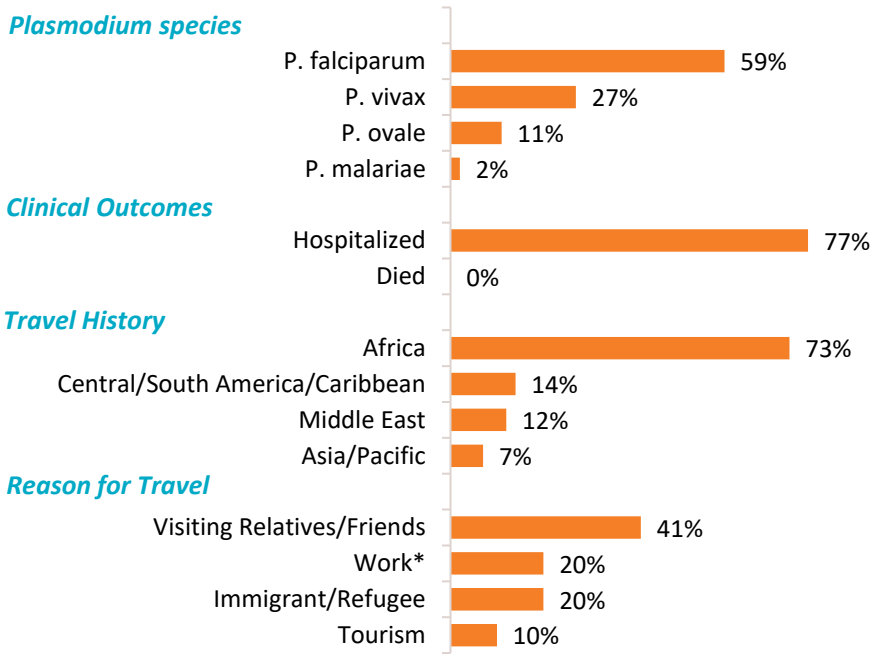
Saharan Africa or South Asia. However, in June 2023, the US Centers for Disease Control and Prevention (CDC) issued a Health Alert Network (HAN) Health Advisory on locally acquired malaria in Florida and Texas dating back to May 2023.

As of August 2023, Florida has diagnosed seven cases of malaria, and Texas has diagnosed one case. On August 18, 2023, Maryland also identified a single confirmed case. The concern arising from these malaria cases is that all 9 confirmed cases had no recent travel outside of the US, indicating all 9 acquired the disease locally. Locally acquired malaria has not been seen in the US since 2003.

Malaria can be acquired locally when an individual is infected in a country with a high prevalence of malaria-infected mosquitos and then travels to the US. This individual alone is not contagious, but once bitten by a local *Anopheles* mosquito, the mosquito then becomes a vector of malaria and can infect the next person it bites. While locally acquired malaria occurrence in the US is uncommon, Anopheles mosquitos inhabit much of the US and can transmit the disease after biting a malaria-infected individual. For this reason, clinicians should consider a malaria diagnosis when presented with a fever of unknown origin in their patients and then proceed with rapid laboratory diagnostic measures to avoid a delay in medication initiation.

In San Diego County, malaria is not endemic, but is sometimes diagnosed among individuals with recent travel or time spent outside the US. The last known cases of locally acquired malaria in San Diego County were identified in August 1989. From 2013-2022, there have been 86 malaria cases in San Diego County, an average of nine cases per year. Of these, 62% were male, and 63% were adults aged 25-64 years. Only 26% of the cases had taken anti-malarial drugs to prevent infection, the majority of whom did not take all doses as directed. Only four cases have been confirmed to date in 2023; all associated with recent travel.

Figure 2. Select Characteristics of Malaria Cases, San Diego County, 2013-2022 (N=86)



*Includes business, military, Peace Corps, missionary work
Percentages calculated based on cases with available information; denominators range from 64 to 86.

Resources

- World Health Organization (WHO) Malaria website
- Centers for Disease Control and Prevention (CDC) Malaria website
- CDC Treatment of Malaria: Guidelines for Clinicians (United States)
- CDC Algorithm for Diagnosis and Treatment of Malaria in the United States
- CDC Malaria Information and Prophylaxis by Country
- CDC Yellow Book: Health Information for International Travel – Malaria
- California Department of Public Health Malaria website
- County of San Diego Vector Control Program Mosquitoes website

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Table 1. Select Reportable Diseases

Disease and Case Inclusion Criteria (C,P,S)		2023 July	2023 June	2023 January – July (YTD)	Prior Years 2022 YTD	Prior Years Avg YTD, 2020-2022	Prior Years 2022 Total
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	0	1	1.0	5
Brucellosis	C,P	0	0	1	3	1.7	5
Campylobacteriosis	C,P	128	130	765	617	561.7	955
Candida auris	C	16	17	65	26	9.0	55
Chickenpox, Hospitalization or Death	C,P	2	2	7	0	1.0	1
Chikungunya	C,P	0	0	0	2	0.7	2
Coccidioidomycosis	C	12	37	284	318	307.7	426
Cryptosporidiosis	C,P	16	16	85	54	36.7	93
Dengue Virus Infection	C,P	3	3	8	9	4.0	14
Encephalitis, All	C	1	3	16	18	23.0	27
Giardiasis	C,P	13	26	140	140	116.0	191
Hepatitis A, Acute	C	3	0	35	19	13.3	30
Hepatitis B, Acute	C	0	0	7	11	9.0	12
Hepatitis B, Chronic	C,P	59	69	516	609	514.3	904
Hepatitis C, Acute	C,P	0	0	45	60	47.7	88
Hepatitis C, Chronic	C,P	284	172	1,592	2,136	2,385.3	2,943
Legionellosis	C	6	7	66	50	38.0	84
Listeriosis	C	0	2	8	15	10.3	18
Lyme Disease	C,P	3	4	10	5	6.3	7
Malaria	C	1	0	4	8	6.3	11
Measles (Rubeola)	C	0	0	0	0	0.0	0
Meningitis, Aseptic/Viral	C,P,S	3	5	36	48	44.7	75
Meningitis, Bacterial	C,P,S	5	2	25	26	19.7	33
Meningitis, Other/Unknown	C	1	3	12	17	19.7	23
Meningococcal Disease	C,P	0	1	4	1	2.0	2
Mumps	C,P	0	0	0	3	6.7	3
Pertussis	C,P	5	5	58	44	98.0	102
Rabies, Animal	C	3	0	6	3	3.7	3
Rocky Mountain Spotted Fever	C,P	0	2	2	3	2.3	3
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	68	68	390	430	366.0	680
Shiga toxin-Producing *E. coli* (including O157)	C,P	13	13	118	150	110.3	208
Shigellosis	C,P	54	31	281	290	193.0	527
Typhoid Fever	C,P	1	0	4	12	7.7	13
Vibriosis	C,P	4	7	22	22	29.3	38
West Nile Virus Infection	C,P	0	0	0	2	1.7	3
Yersiniosis	C,P	8	2	41	26	21.3	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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Figure 3. Select Enteric Infections by Month
September 2022 – August 2023

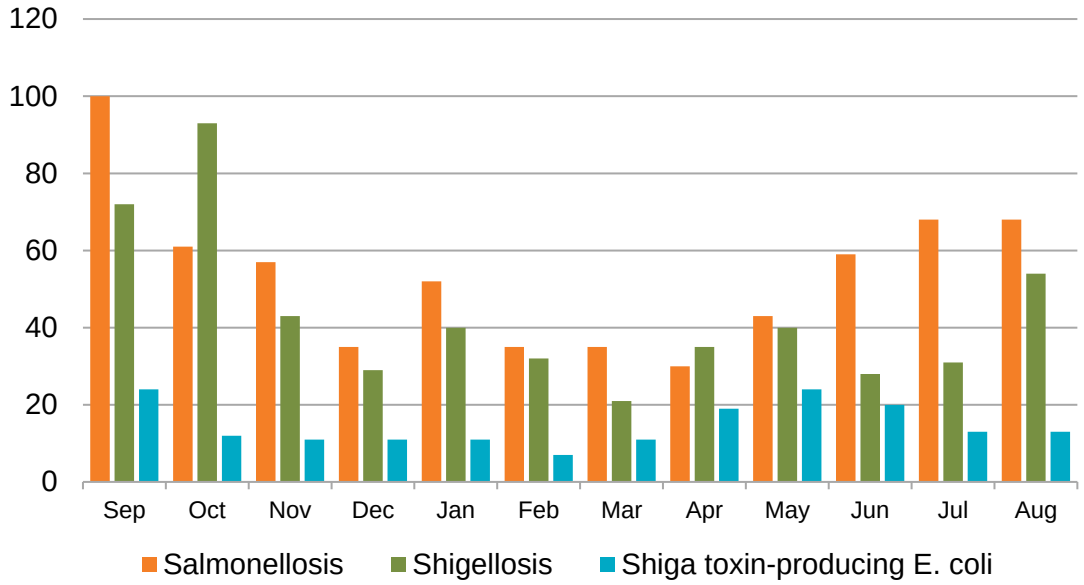

Figure 4. Select Vaccine-Preventable Infections by Month
September 2022 – August 2023

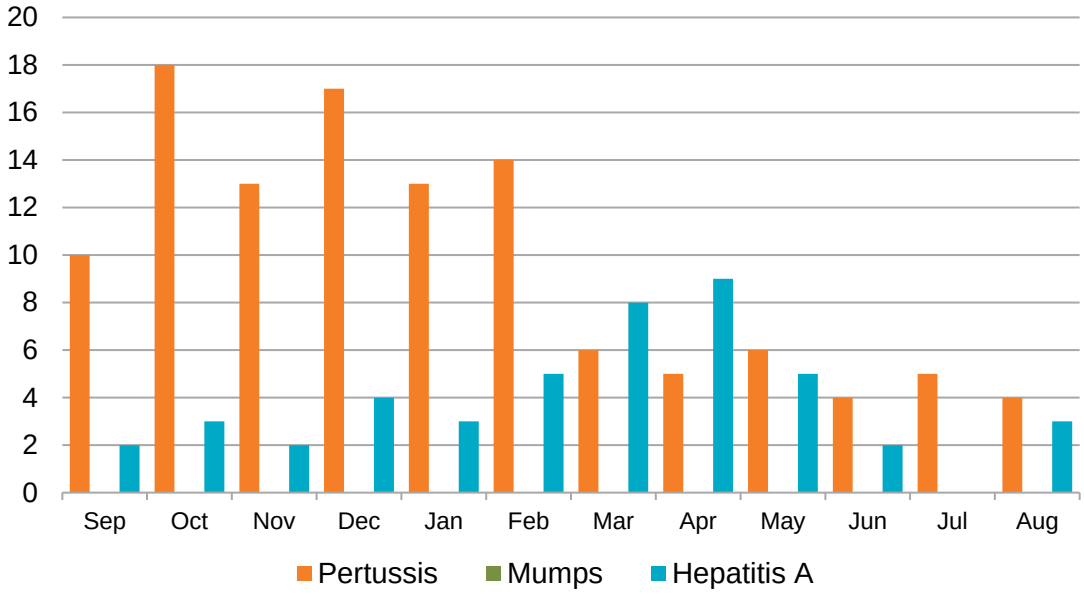

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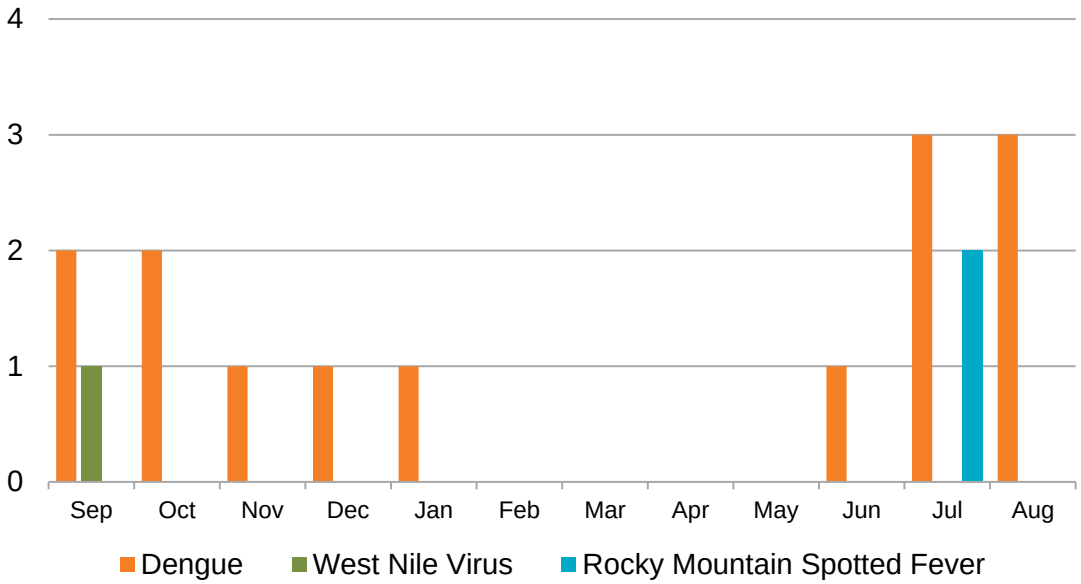
Figure 5. Select Vector-Borne Infections by Month
September 2022 – August 2023



All of the dengue cases are travel-associated. For more information on West Nile virus, see the County West Nile virus webpage.
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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.