

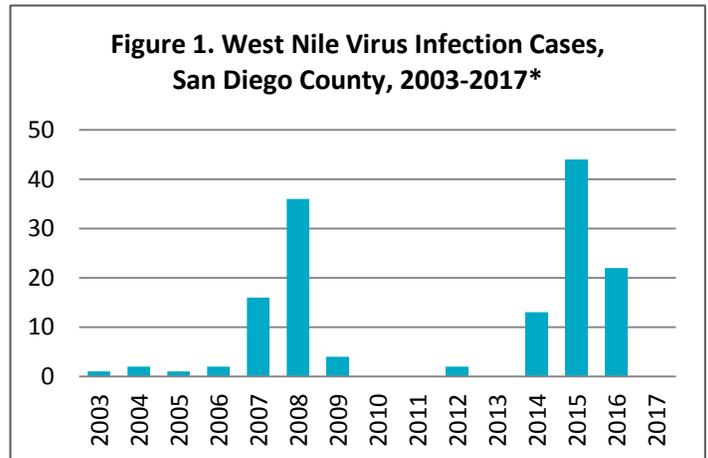
WEST NILE VIRUS

West Nile virus (WNV) is a flavivirus primarily spread via the bite of infected *Culex* mosquitos, which are widespread in California. The main reservoir of the virus is birds; mosquitos become infected after feeding on infected birds, then transmit the virus to humans and other mammals when feeding on them.

Originally discovered in Africa, WNV can now be found throughout much of the world. It was first detected in North America in 1999 in New York City, and has since spread across the continent, becoming a frequent cause of arboviral (arthropod-borne virus) disease in the United States. California recorded its first WNV detections in 2003.

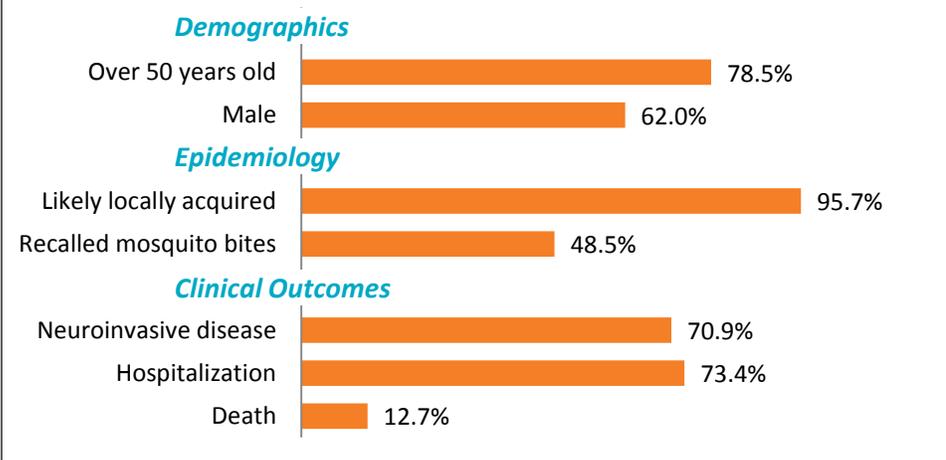
In 2016, there were 2,313 cases of WNV infection reported nationally; in California, there were 483 cases, and in San Diego, 22 cases (counts for all jurisdictions include asymptomatic infections). Seasonal outbreaks of WNV infection occur each year, but vary by location, related to factors such as the weather, mosquito populations, and numbers of birds harboring the virus. The [nationwide numbers](#) were highest in 2003 and 2012. In contrast, [California numbers](#) peaked with over 800 human cases in 2005 and 2014, and San Diego County had peak years for both human cases and [detections in birds and mosquito pools](#) in 2008 and 2015.

It is estimated that 70-80% of those infected with WNV are asymptomatic. Public health authorities usually learn about these infections due to [screening of blood donors](#), which was instituted in 2003, to reduce the risk of



*There have been no cases in 2017 as of 8/15/2017. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Figure 2. Select Characteristics of San Diego County West Nile Virus Infection Cases, 2014-2016



Proportions among those with available data. If an interview was not completed or if there was potential exposure both in San Diego County and elsewhere, a determination on where the infection was acquired may not have been made. Data are provisional and subject to change.

transfusion-associated WNV infection. Between 2014-2016, six cases of asymptomatic WNV infection were detected in San Diego County blood donors (8% of the 79 total cases).

Approximately 20% of WNV infections result in relatively mild illness, with symptoms including fever, headaches, and body aches. Because people may not seek medical care or get tested for these infections, they are usually not identified. Although fewer than one percent of people infected with WNV develop neuroinvasive disease, these are the cases most frequently identified and reported. Neuroinvasive disease

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 works to identify, investigate, register, and evaluate 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.

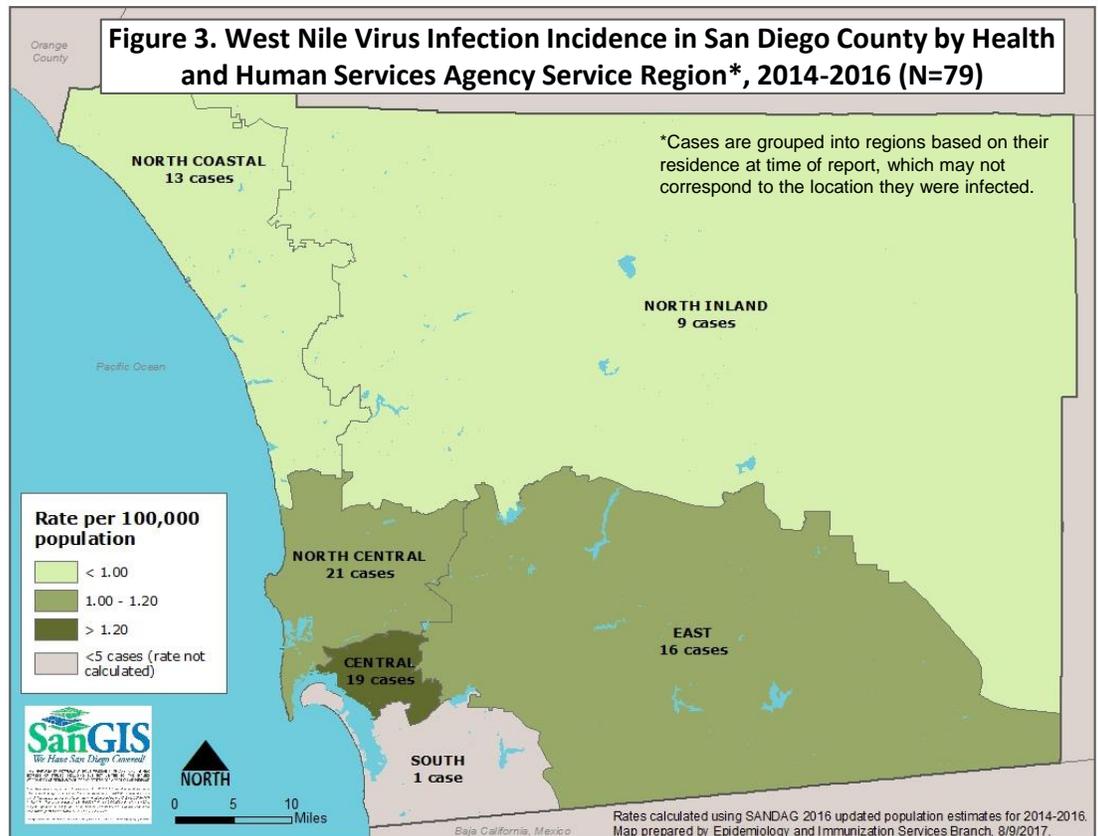


WEST NILE VIRUS, continued

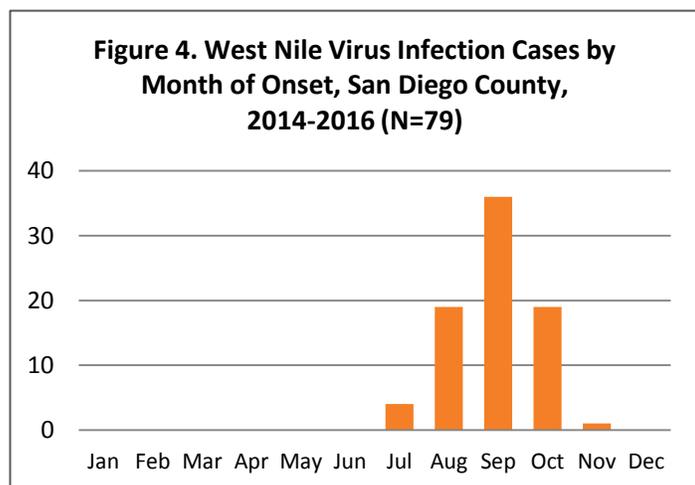
includes encephalitis (inflammation of the brain), meningitis (inflammation of the membranes surrounding the brain and spinal cord), and acute flaccid paralysis. Among the 79 cases reported in San Diego County between 2014-2016, 71% had neuroinvasive disease.

During the same period, 73% of cases in San Diego County were hospitalized and there were 10 fatalities. Severe illness is a greater risk for the older population, which is reflected in the fact that 79% of San Diego County cases were over the age of 50 years.

WNV is well-established in San Diego County and transmission has occurred throughout the region. Almost all WNV is transmitted via mosquito bites. It is unsurprising, then, that WNV infections in San Diego County occur almost exclusively during the warmer months of July-October, corresponding to peak mosquito season. However, only about half of San Diego County cases during 2014-2016 could recall a mosquito bite. Patients with compatible symptoms should be evaluated for WNV infection even if they do not report a history of mosquito bites.



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If case was asymptomatic or onset date was unavailable, specimen collection date was used. Data are provisional and subject to change.

Federal Resources

- [Centers for Disease Control and Prevention \(CDC\) West Nile Virus website](#)
- [CDC West Nile Virus Statistics and Maps website](#)
- [CDC: West Nile Virus in the United States: Guidelines for Surveillance, Prevention, and Control](#)
- [CDC-United States Geological Survey Disease Maps](#)

State and Local Resources

- [California West Nile Virus website](#)
- [California Department of Public Health \(CDPH\) Vector-Borne Disease Section website](#)
- [County of San Diego Epidemiology Program West Nile Virus website](#)
- [County of San Diego Department of Environmental Health Fight the Bite website](#)

MONTHLY COMMUNICABLE DISEASE REPORT

JULY 2017

Volume 1, Issue 7: August 15, 2017

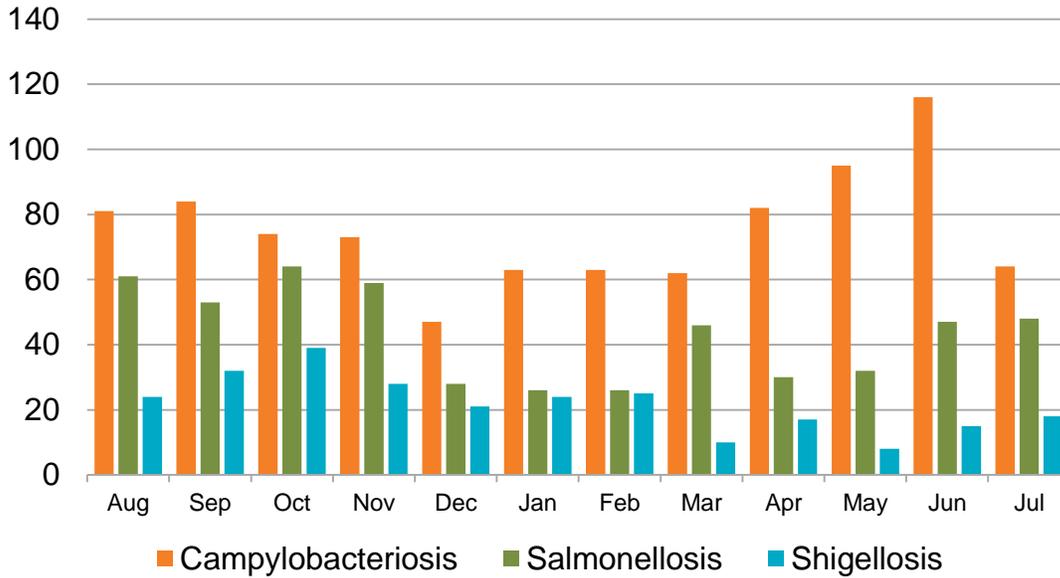


| Table 1. Select Reportable Diseases | | 2017 | | | Prior Years | | |
|---|-------|---------------|-------------|--------------------|-------------|--------------------|------------|
| | | Current Month | Prior Month | Year-to-Date (YTD) | 2016 YTD | Avg YTD, 2014-2016 | 2016 Total |
| Disease and Case Inclusion Criteria (C,P,S) | | | | | | | |
| Amebiasis | C | 4 | 1 | 8 | 3 | 20.3 | 5 |
| Botulism (Foodborne, Infant, Wound) | C | 0 | 0 | 2 | 4 | 1.7 | 5 |
| Brucellosis | C | 0 | 0 | 3 | 2 | 1.0 | 4 |
| Campylobacteriosis | C | 64 | 116 | 545 | 429 | 406.0 | 787 |
| Chickenpox, Hospitalization or Death | C,P | 0 | 0 | 1 | 2 | 1.7 | 3 |
| Chikungunya | C,P | 0 | 0 | 1 | 0 | 2.3 | 6 |
| Coccidioidomycosis | C,P | 5 | 15 | 72 | 73 | 80.0 | 158 |
| Cryptosporidiosis | C,P | 9 | 4 | 23 | 13 | 13.7 | 35 |
| Dengue Virus Infection | C | 2 | 0 | 8 | 8 | 4.7 | 23 |
| Encephalitis, All | C,P | 2 | 2 | 19 | 39 | 39.7 | 71 |
| Giardiasis | C,P | 15 | 30 | 191 | 192 | 158.0 | 398 |
| Hepatitis A, Acute | C | 76 | 81 | 325 | 17 | 11.0 | 26 |
| Hepatitis B, Acute | C,P | 1 | 0 | 9 | 3 | 5.3 | 3 |
| Hepatitis B, Chronic | C | 46 | 60 | 491 | 488 | 513.3 | 865 |
| Hepatitis C, Acute | C,P | 0 | 1 | 3 | 0 | 0.3 | 1 |
| Hepatitis C, Chronic | C,P | 299 | 229 | 1507 | 1623 | 1697.3 | 2581 |
| Legionellosis | C | 1 | 3 | 29 | 29 | 28.0 | 53 |
| Listeriosis | C,P | 4 | 2 | 10 | 12 | 8.3 | 22 |
| Lyme Disease | C | 0 | 0 | 4 | 4 | 5.0 | 10 |
| Malaria | C | 0 | 1 | 2 | 5 | 5.0 | 12 |
| Measles (Rubeola) | C,P | 0 | 0 | 2 | 0 | 4.0 | 0 |
| Meningitis, Aseptic/Viral | C | 8 | 5 | 50 | 75 | 109.0 | 140 |
| Meningitis, Bacterial | C | 0 | 2 | 9 | 34 | 22.0 | 54 |
| Meningitis, Other/Unknown | C,P,S | 1 | 1 | 8 | 19 | 22.0 | 29 |
| Meningococcal Infection | C,P | 0 | 0 | 1 | 0 | 2.3 | 2 |
| Mumps | C,P | 0 | 2 | 8 | 14 | 5.3 | 23 |
| Pertussis | C,P,S | 81 | 91 | 642 | 215 | 723.7 | 412 |
| Rabies, Animal | C | 1 | 2 | 11 | 3 | 3.3 | 7 |
| Rocky Mountain Spotted Fever | C,P | 0 | 0 | 1 | 0 | 1.0 | 2 |
| Salmonellosis (Non-Typhoid/Non-Paratyphoid) | C,P | 51 | 48 | 259 | 274 | 279.3 | 535 |
| Shiga toxin-Positive Feces (without culture confirmation) | C,P | 3 | 1 | 7 | 9 | 4.3 | 15 |
| Shiga toxin-Producing E. coli (including O157) | C,P | 1 | 3 | 10 | 26 | 24.3 | 60 |
| Shigellosis | C,P | 19 | 16 | 122 | 99 | 70.0 | 243 |
| Typhoid Fever | C,P | 0 | 0 | 2 | 2 | 2.3 | 6 |
| Vibriosis | C,P | 3 | 2 | 11 | 18 | 16.7 | 30 |
| West Nile Virus Infection | C,P | 0 | 0 | 0 | 2 | 1.3 | 22 |
| Yersiniosis | C,P | 1 | 8 | 33 | 6 | 7.0 | 15 |
| Zika Virus | C,P | 1 | 1 | 9 | 32 | 11.3 | 83 |

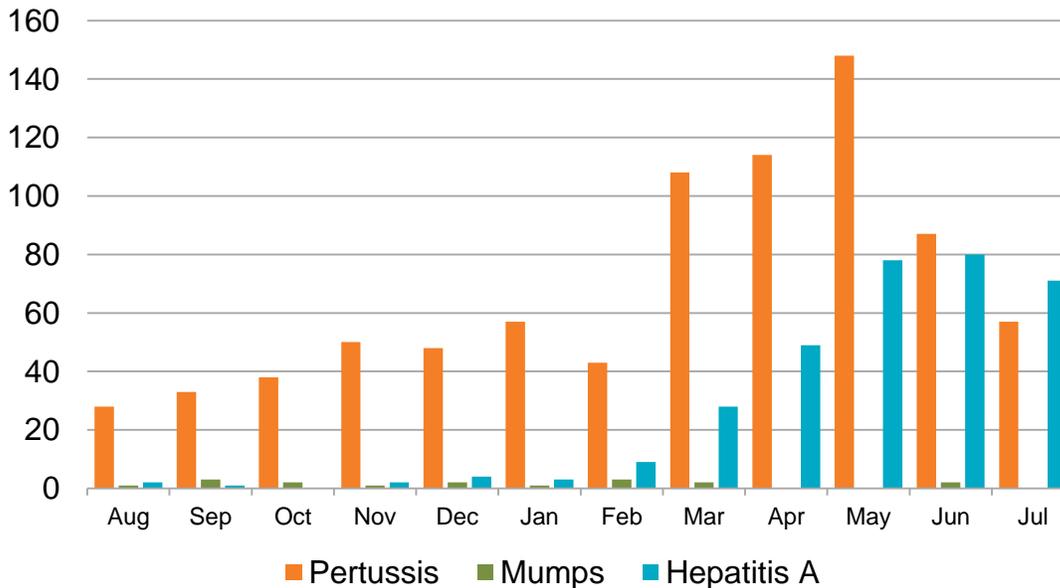
Case counts are provisional and subject to change as additional information becomes available. Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously 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 5. Select Enteric Infections by Month
August 2016 – July 2017**

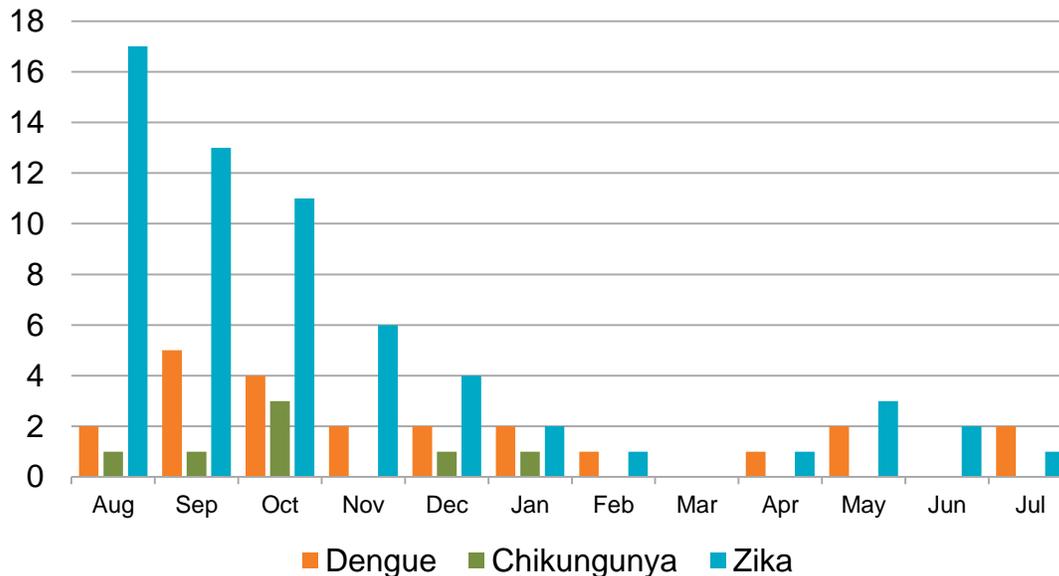


**Figure 6. Select Vaccine-Preventable Infections by Month
August 2016 – July 2017**



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**Figure 7. Select Vector-Borne Infections by Month
August 2016 – July 2017**



All of these dengue, chikungunya, and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHS Agency 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 those efforts.

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>.