# North Carolina Imported Mosquito-Borne Disease Annual Report 2025




NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

# Imported Mosquito-Borne Diseases Reported in North Carolina, 2025

Preventing and controlling mosquito-borne diseases (MBD) requires consistent and coordinated efforts of health care providers, state and county health agencies, and local mosquito control agencies. Global surveillance of human infections helps identify areas at risk of transmission, while local efforts to control mosquito populations, as well as personal protective measures such as applying EPA-registered insect repellents, are crucial for the prevention of bites from infected mosquitoes. Transmission of mosquito-borne diseases involves interactions between mosquitoes, humans, climatic and ecological conditions. Therefore, case numbers can vary significantly from year-to-year and decade-to-decade. This annual surveillance report summarizes three travel-associated MBDs – malaria, dengue (caused by dengue virus [DENV]) and chikungunya (caused by chikungunya virus [CHIKV]) – that are not normally transmitted locally in North Carolina. Detailed statistics and surveillance data for each of these diseases are presented on subsequent pages. While other MBDs may be imported into the state, such as yellow fever and Zika virus disease (ZIKV), a detailed report of these diseases is not presented here because no cases were identified in NC in 2025. No cases of yellow fever have been reported in NC over the past decade.

## 2025 Surveillance Highlights

- Reported cases of malaria, DENV, CHIKV and ZIKV in NC decreased between 2024 and 2025.
- DENV cases declined from 70 in 2024 to 18 in 2025; however, this change was not significant relative to the previous ten-year average.
- North Carolina has reported less than ten ZIKV cases annually since 2017.
- There were no reported deaths among NC residents due to imported MBDs.
- All malaria, DENV and CHIKV cases reported in NC in 2025 were linked to international travel.

**Important Mosquito Vectors of Travel-Associated MBDs Table**

| Mosquito Species | Disease(s) | Primary host(s) | Biting Time | Distribution |
|---|---|---|---|---|
| Mosquitoes of the genus *Anopheles* | Malaria | Humans and cattle | Late evening and at night | Worldwide except Antarctica |
| Asian Tiger Mosquito (*Aedes albopictus*) | DENV, CHIKV, ZIKV | Humans, Birds, mammals & other (opportunistic) | Daytime | Tropical, subtropical, and temperate climates; native to Asia |
| Yellow Fever Mosquito (*Aedes aegypti*) | DENV, CHIKV, ZIKV, YFV | Humans | Daytime | Tropical, subtropical, Florida, Texas, and isolated southern U.S. urban areas; not currently in NC; native to Africa |

# Imported Mosquito-Borne Diseases Reported in North Carolina, 2025

| Number of Cases of Imported MBDs Reported in North Carolina, 2015 - 2025 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Disease* | *2015* | *2016* | *2017* | *2018* | *2019* | *2020* | *2021* | *2022* | *2023* | *2024* | *Previous ten-year average* | *2025* | *Significant Change** |
| Malaria | 27 | 47 | 48 | 54 | 76 | 23 | 30 | 43 | 71 | 54 | 47.2 | 30 | -- |
| DENV | 9 | 13 | 3 | 12 | 27 | 6 | 2 | 10 | 28 | 70 | 18.0 | 18 | -- |
| CHIKV | 20 | 3 | 3 | 3 | 9 | 6 | 4 | 3 | 6 | 10 | 6.7 | 4 | -- |
| ZIKV | 0 | 104 | 9 | 5 | 2 | 1 | 0 | 0 | 0 | 1 | 12.2 | 0 | -- |

⇧ =significant increase *(≥ 2 standard deviations above average)* ⇩ *=significant decrease (≥ 2 standard deviations below average)* *-- = no significant change*

**Report Specifications.** Notable information about this report includes:

- Cases include those classified as confirmed or probable, per the surveillance case definitions, and are only among North Carolina residents.
- County data is based on the patient's home address at the time of reporting, not necessarily the location where they were infected.
- Cases are counted using the earliest date of illness identification, which is most frequently the symptom onset date. Therefore, case counts in this report may differ slightly from those published in national summaries or state dashboards, which can be based on other dates, such as the date of initial report or the date when cases were closed and reported to the Centers for Disease Control and Prevention (CDC).
- Cases with the earliest illness identification date in 2025 that were closed as of March 1, 2026, are included.
- Ages are based on the date the case was entered in the North Carolina Electronic Disease Surveillance System (NC EDSS).
- Incidence rates are based on data obtained from the U.S. Census Population Estimates Project. Note that estimates of rates based on a small number of cases are unstable and can fluctuate widely. Therefore, these estimates should be interpreted with caution.
- Please note that case classification criteria are subject to change and counts may fluctuate based on these changes.
- This report includes only imported mosquito-borne diseases diagnosed in individuals who were residents of North Carolina at the time of diagnosis. Data for tickborne diseases and mosquito-borne diseases transmitted in North Carolina are summarized in separate reports. Additional data can be found on the North Carolina Disease Data Dashboard (NCD3).
- Population data were obtained from the U.S. Census Bureau. For statewide population totals, annual North Carolina population estimates as of July 1, 2025, were used. For county-level and demographic-specific population totals, 2025 estimates were not available at the time of this analysis; therefore, annual North Carolina population estimates as of July 1, 2024, were used.

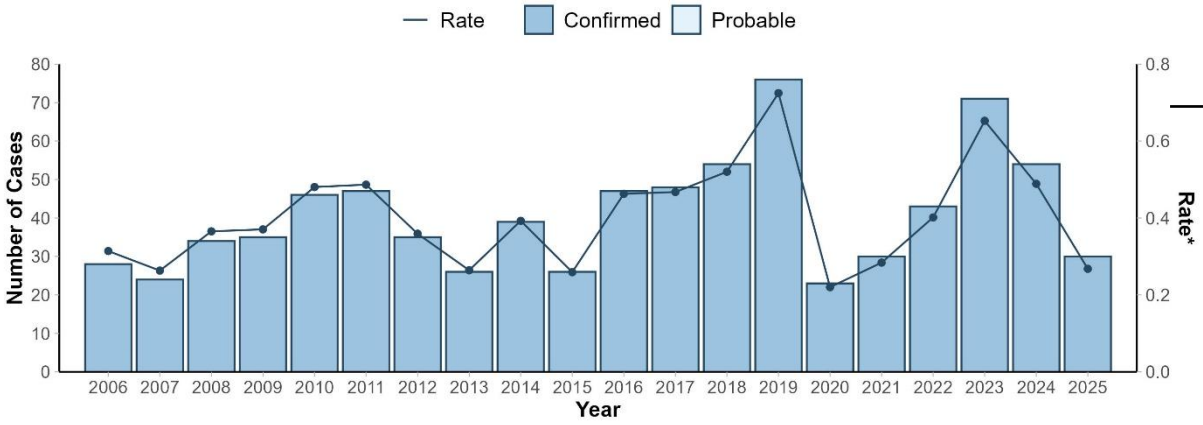
# Malaria

## 2025 Key Points

- Black/African American NC residents are disproportionately affected by malaria.
- All cases reported in NC were associated with international travel to Africa.
- At least 73% of cases reported no use of antimalarial pre-exposure prophylaxis.

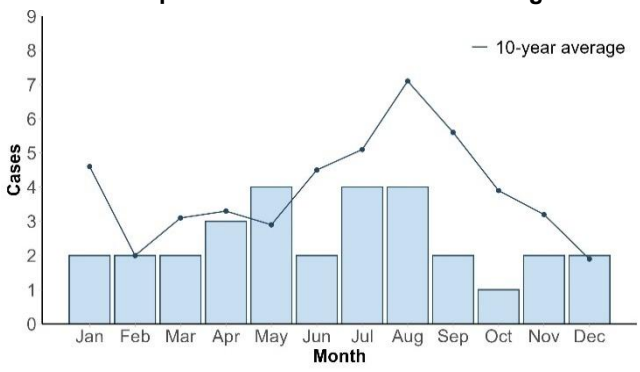
Malaria is an illness spread by the bite of infected *Anopheles* mosquitoes and is primarily caused by *Plasmodium falciparum* and *P. vivax* parasites. Malaria was a significant public health concern in North Carolina until the 1940s. Today, it is typically transmitted in tropical and subtropical regions and is no longer endemic in the United States. Most cases in the U.S. are associated with international travel, while local transmission and congenital infections are rare. Symptom onset can range from one-week post-infection to more than a year after infection. Mild cases may resemble the flu, with fever, chills, headache, fatigue, body aches or nausea. However, malaria can become severe if not treated quickly and may lead to serious problems such as kidney failure, seizures, coma or death. Preventive medications are available for travelers to areas where malaria is present, and prescription treatments can cure the disease when started promptly.

**Confirmed and Probable Malaria Cases and Rate Per 100,000 Residents, NC, 2006-2025**



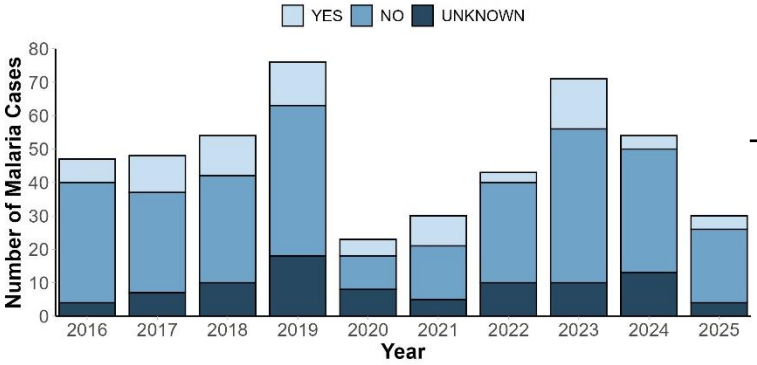

Annual NC malaria case counts have fluctuated since 2006, ranging from 23 to 76 cases. In 2025, 30 cases were reported, the lowest annual total since 2021. All reported malaria cases were confirmed.

**2025 NC Malaria Cases by Month of Illness Onset, Compared to Previous 10-Year Average**




In 2025, malaria cases peaked between May and August, occurring earlier than the peak observed over the preceding decade. Throughout most of the year, case counts were at or below the ten-year average. May was the only month in which the number of reported cases exceeded the average.

**Malaria Case Count by Chemoprophylaxis Status, NC, 2016 - 2025**

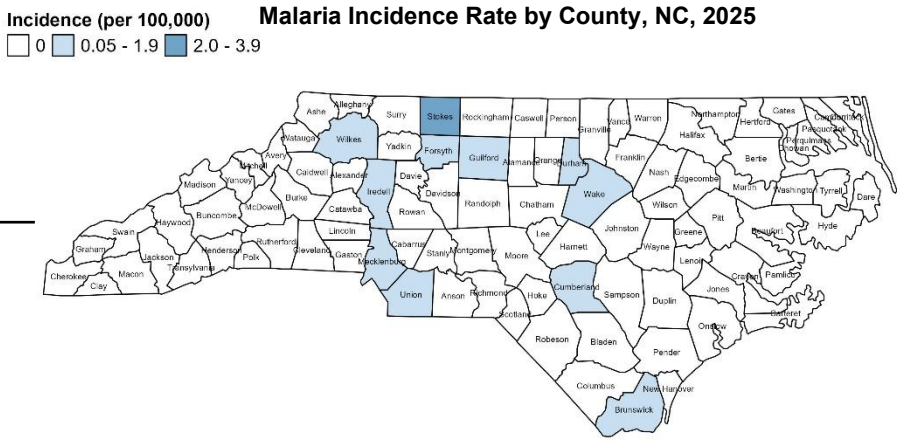



Malaria prevention for travelers to endemic countries includes the use of antimalarial prophylaxis, which should be taken as prescribed before, during and after travel. Most NC malaria cases have occurred among individuals who did not use a chemoprophylaxis. Prior malaria exposure does not eliminate risk of infection as immunity wanes with time away from endemic regions.

*Rate calculated per 100,000 residents

# Malaria

Travelers from Stokes County had the highest incidence, while travelers from Mecklenburg County reported the largest number of cases (n = 11). Incidence by county does not reflect the location of exposure, and available information shows no evidence of malaria transmission in North Carolina.




## Annual Summary Key Points

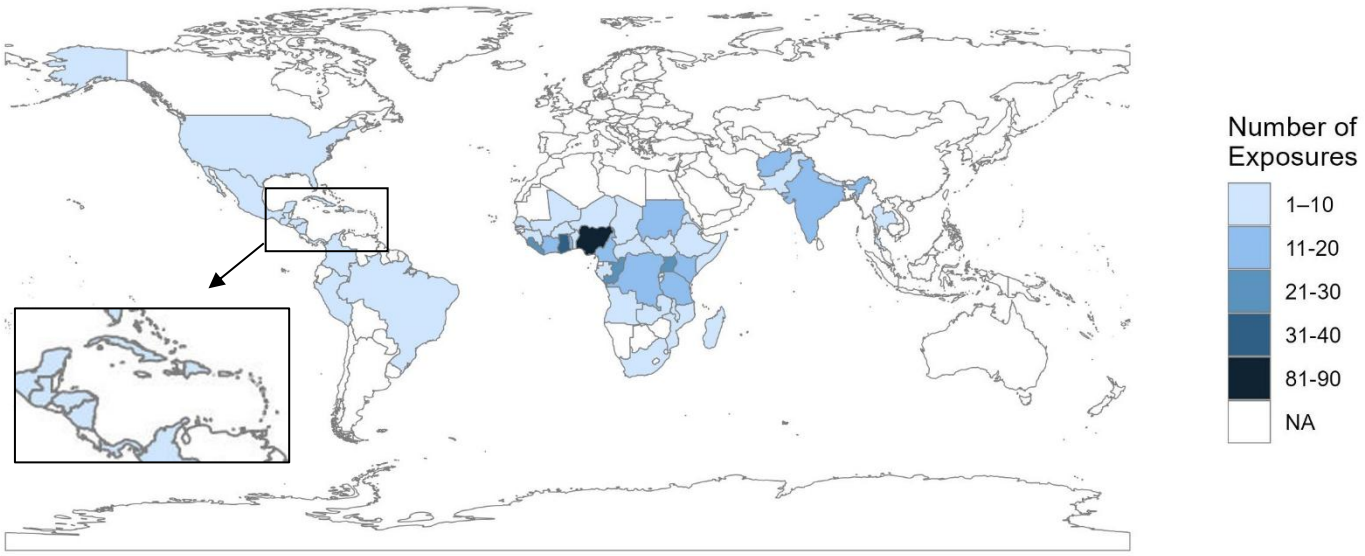
- In 2025, North Carolina recorded its lowest incidence rate since prior to 2021.
- Cases were reported equally among females and males.
- The median age of cases was 34 years with a mean age of 37 years. Adults aged 25-34 years had the highest incidence rate. Children <5 years had an incidence rate almost three times higher than children 5-17 years and adults 65-84 years.
- Black/African American NC residents comprised 80% of cases and had an incidence rate nearly 25 times that of white residents.
- Most cases (90%) were non-Hispanic and had an infection rate 3.5 times higher than Hispanic residents.
- While 80% of cases resulted in hospitalization, no fatalities were reported among NC residents highlighting the importance of antimalarial treatment.

| Annual Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** |
| Cases | 47 | 48 | 54 | 76 | 23 | 30 | 43 | 71 | 54 | 30 |
| Rate* | 0.46 | 0.47 | 0.52 | 0.72 | 0.22 | 0.28 | 0.40 | 0.65 | 0.49 | 0.27 |
| **Case Statistics, 2025** | | | | | | | | | | |
| **Sex** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | Male | | | | 15 | | 50.00% | | 0.28 | |
| | Female | | | | 15 | | 50.00% | | 0.27 | |
| | Unknown | | | | 0 | | 0.00% | | N/A | |
| **Age Group** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | <5 | | | | 2 | | 6.67% | | 0.32 | |
| | 5-17 yrs | | | | 2 | | 6.67% | | 0.11 | |
| | 18-24 yrs | | | | 4 | | 13.33% | | 0.38 | |
| | 25-34 yrs | | | | 7 | | 23.33% | | 0.47 | |
| | 35-44 yrs | | | | 5 | | 16.67% | | 0.35 | |
| | 45-64 yrs | | | | 8 | | 26.67% | | 0.29 | |
| | 65-84 yrs | | | | 2 | | 6.67% | | 0.11 | |
| | 85+ yrs | | | | 0 | | 0.00% | | 0.00 | |
| | Unknown | | | | 0 | | 0.00% | | N/A | |
| **Race** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | White | | | | 3 | | 10.00% | | 0.04 | |
| | Black or African American | | | | 24 | | 80.00% | | 0.99 | |
| | American Indian/Alaskan Native | | | | 0 | | 0.00% | | 0.00 | |
| | Asian or Pacific Islander | | | | 0 | | 0.00% | | 0.00 | |
| | Multiple Races | | | | 0 | | 0.00% | | 0.00 | |
| | Other or Unknown | | | | 3 | | 10.00% | | N/A | |
| **Hispanic Ethnicity** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | Yes | | | | 1 | | 3.33% | | 0.08 | |
| | No | | | | 27 | | 90.00% | | 0.28 | |
| | Unknown | | | | 2 | | 6.67% | | N/A | |
| **Hospitalization** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | Yes | | | | 24 | | 80.00% | | N/A | |
| | No | | | | 6 | | 20.00% | | N/A | |
| | Unknown | | | | 0 | | 0.00% | | N/A | |
| **Death** | **Category** | | | | **Cases** | | **%** | | **Rate*** | |
| | Yes | | | | 0 | | 0.00% | | N/A | |
| | No | | | | 28 | | 93.33% | | N/A | |
| | Unknown | | | | 2 | | 6.67% | | N/A | |

*Rate calculated per 100,000 residents

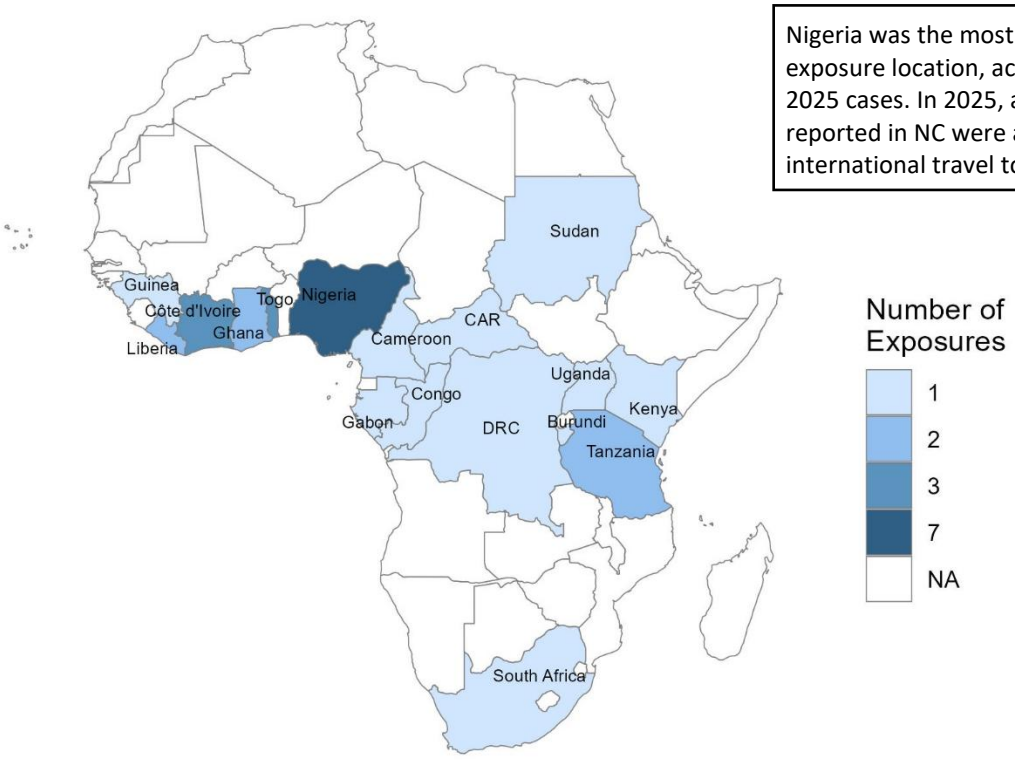
# Malaria

**Malaria Cases by Country of Exposure, NC, 2015-2024**




Between 2015 and 2024, Nigeria accounted for the largest proportion of reported exposure locations (16.5%). An unknown exposure was reported in 13.7% of cases. Overall, 75.9% of exposures occurred in African countries, while only 10.4% were associated with countries outside Africa.

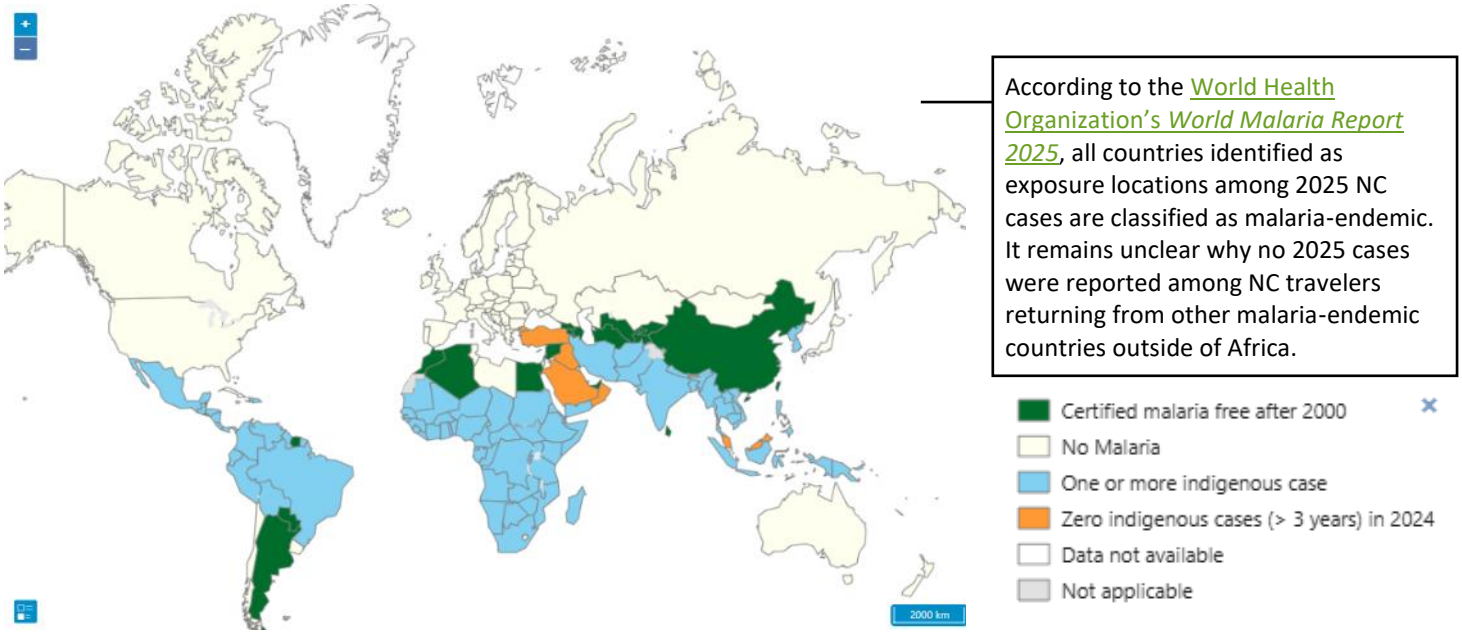
**Malaria Cases by Country of Exposure, NC, 2025**




Nigeria was the most frequently reported exposure location, accounting for 23.3% of 2025 cases. In 2025, all 30 malaria cases reported in NC were associated with international travel to Africa.

# Malaria

**WHO Malaria – Endemic Countries Worldwide**




According to the World Health Organization's *World Malaria Report 2025*, all countries identified as exposure locations among 2025 NC cases are classified as malaria-endemic. It remains unclear why no 2025 cases were reported among NC travelers returning from other malaria-endemic countries outside of Africa.

World malaria report 2025: addressing the threat of antimalarial drug resistance. Geneva: World Health Organization; 2025. Licence: CC BY-NC-SA 3.0 IGO.

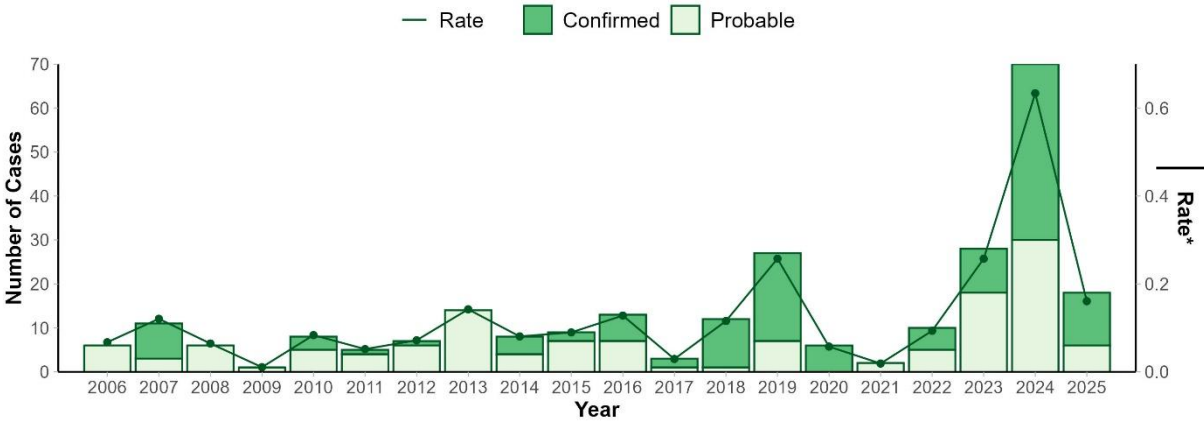
# Dengue Virus (DENV)

## 2025 Key Points

- Severe disease was observed in 11% of cases. However, no deaths were reported.
- DENV exposures for the 18 cases originated from 13 different countries.
- NC residents of Hispanic ethnicity had an infection rate more than 11 times higher than non-Hispanic residents.

Dengue (DENV) is caused by four different serotypes of dengue viruses that are spread through the bite of infected *Aedes* mosquitoes. The illness is most common in tropical and subtropical regions worldwide and local transmission is rarely reported in North Carolina. Approximately 75% of people infected with DENV will be asymptomatic. Cases with probable dengue exposure and fever alone are classified as dengue-like illness. These cases may or may not include confirmatory testing. For mild DENV cases, symptoms usually appear within two weeks of a mosquito bite and may include fever, body aches, headache, pain behind the eyes, rash, nausea or vomiting. However, about 5% of infections can become severe and require immediate medical care. Severe DENV infection is more likely in individuals who have previously been infected with a different DENV serotype. Signs of severe DENV develop after the fever subsides and may include bleeding, severe stomach pain, repeated vomiting within 24 hours, or extreme fatigue. A vaccine is available for children aged 9-16 who have previously been infected with DENV; however, there are no specific treatments for DENV infection.

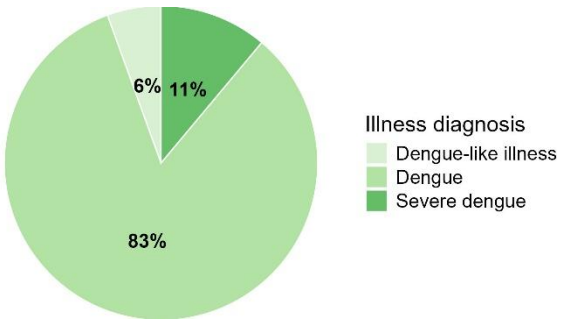
**Confirmed and Probable DENV Cases and Rate Per 100,000 Residents, NC, 2006-2025**



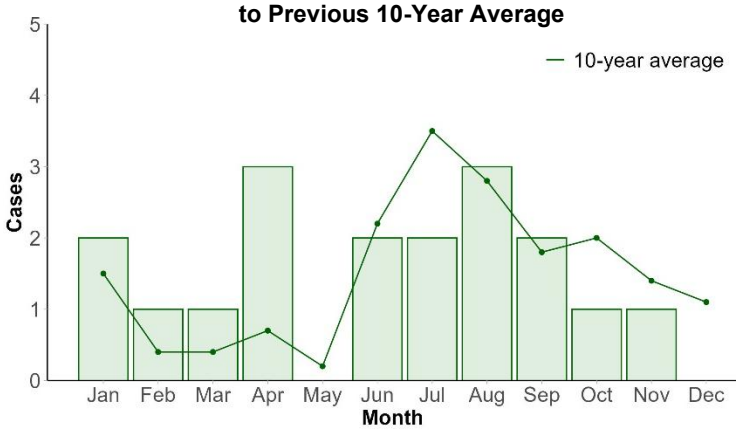

NC reported 12 confirmed and six probable DENV cases in 2025, returning to average levels following unusually high years in 2023 and 2024. 2024 was a record year, coinciding with a global dengue epidemic that was associated with increased temperatures and rainfall.

About 5% of DENV infections progress to severe disease globally, with higher risk among individuals with a second infection of a different serotype from the initial infection. In 2025, severe DENV occurred in 11% of NC cases (n = 2), both presenting with hemorrhage and shock.

**DENV Cases by Illness Diagnosis, NC, 2025**




**2025 NC DENV Cases by Month of Illness Onset, Compared to Previous 10-Year Average**



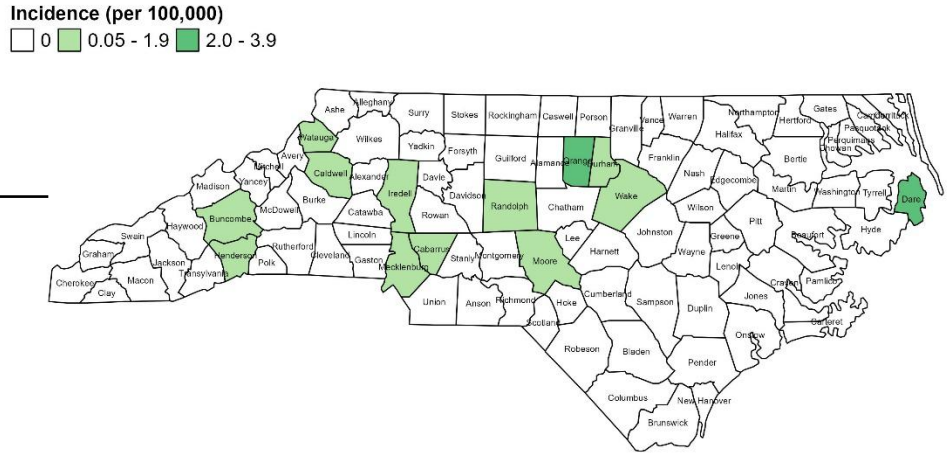

In 2025, NC DENV cases spiked unusually early in April and had a second peak in August, compared with the July peak observed over the previous ten years. The 2025 peak had fewer cases than average.

*Rate calculated per 100,000 residents

# Dengue Virus (DENV)

**DENV Incidence Rate by County, NC, 2025**

Orange County reported both the highest incidence rate and the greatest number of cases (n = 3). Available information shows no evidence of relatedness among NC cases, except for two cases from Orange County who traveled to the U.S. Virgin Islands on the same dates. Case location is classified by county of residence, not the location of exposure.




**Annual Summary Key Points**

- The number of DENV cases decreased drastically between 2024 and 2025. The 2025 case number was consistent with the prior ten-year average.
- Cases were reported equally in females and males. In contrast, international studies often find higher infection rates in males.
- The median age of NC DENV cases increased from 39 years during 2016-2024 to 46 years in 2025. Historically, DENV has affected children more than adults, but the average age of cases is increasing, likely due to greater travel to endemic regions and shifting population demographics.
- White residents accounted for 50% of cases, while race was unspecified or unknown for 27.8%. Incidence among Asian/Pacific Islander residents was over 3.5 times that of white residents and 5.5 times higher than Black/African American residents. No American Indian/Alaskan Native cases have been reported in the past 20 years.
- 50% of cases did not result in hospitalization and no deaths were reported.

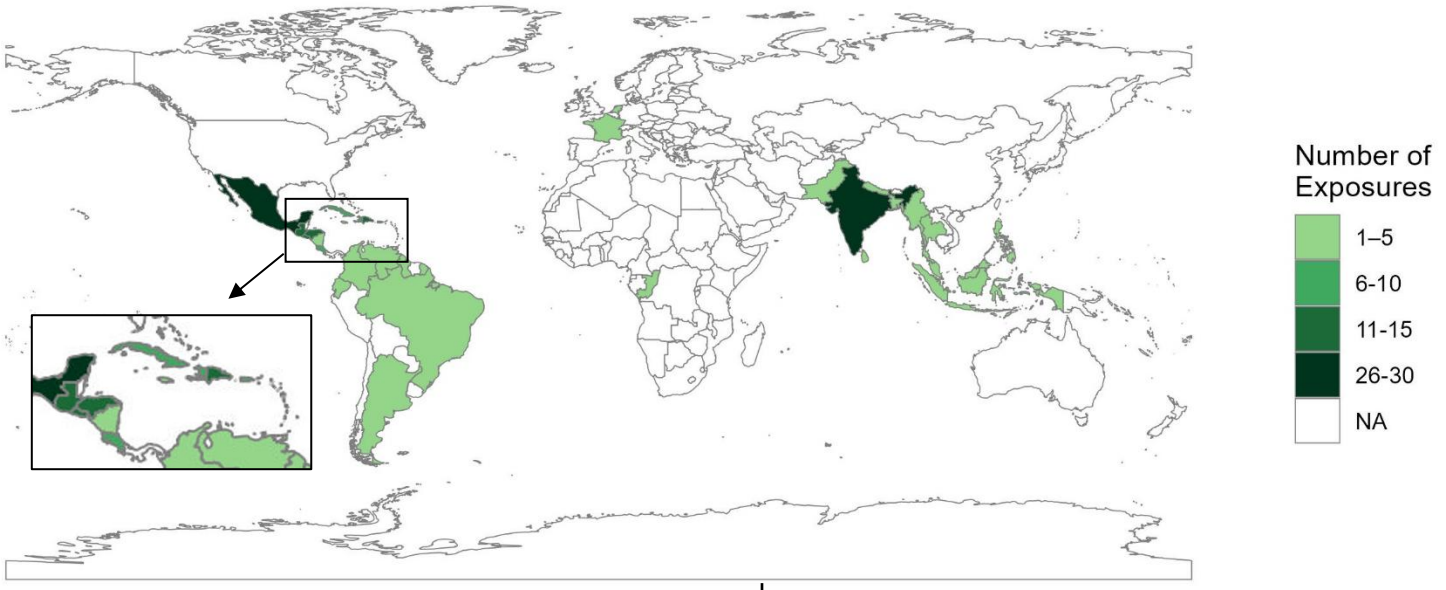
| Annual Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Cases | 13 | 3 | 12 | 27 | 6 | 2 | 10 | 28 | 70 | 18 |
| Rate* | 0.13 | 0.03 | 0.12 | 0.26 | 0.06 | 0.02 | 0.09 | 0.26 | 0.63 | 0.16 |

| Case Statistics, 2025 | | | | |
|---|---|---|---|---|
| **Sex** | **Category** | **Cases** | **%** | **Rate*** |
| | Male | 9 | 50.00% | 0.17 |
| | Female | 9 | 50.00% | 0.16 |
| | Unknown | 0 | 0.00% | N/A |
| **Age Group** | **Category** | **Cases** | **%** | **Rate*** |
| | <5 | 0 | 0.00% | 0.00 |
| | 5-17 yrs | 3 | 16.67% | 0.17 |
| | 18-24 yrs | 4 | 22.22% | 0.38 |
| | 25-34 yrs | 0 | 0.00% | 0.00 |
| | 35-44 yrs | 1 | 5.56% | 0.07 |
| | 45-64 yrs | 8 | 44.44% | 0.29 |
| | 65-84 yrs | 2 | 11.11% | 0.11 |
| | 85+ yrs | 0 | 0.00% | 0.00 |
| | Unknown | 0 | 0.00% | N/A |
| **Race** | **Category** | **Cases** | **%** | **Rate*** |
| | White | 9 | 50.00% | 0.12 |
| | Black or African American | 2 | 11.11% | 0.08 |
| | American Indian/Alaskan Native | 0 | 0.00% | 0.00 |
| | Asian or Pacific Islander | 2 | 11.11% | 0.44 |
| | Multiple Races | 0 | 0.00% | 0.00 |
| | Other or Unknown | 5 | 27.78% | N/A |
| **Hispanic Ethnicity** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 6 | 33.33% | 0.45 |
| | No | 4 | 22.22% | 0.04 |
| | Unknown | 8 | 44.45% | N/A |
| **Hospitalization** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 8 | 44.44% | N/A |
| | No | 9 | 50.00% | N/A |
| | Unknown | 1 | 5.56% | N/A |
| **Death** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 0 | 0.00% | N/A |
| | No | 17 | 94.44% | N/A |
| | Unknown | 1 | 5.56% | N/A |

*Rate calculated per 100,000 residents

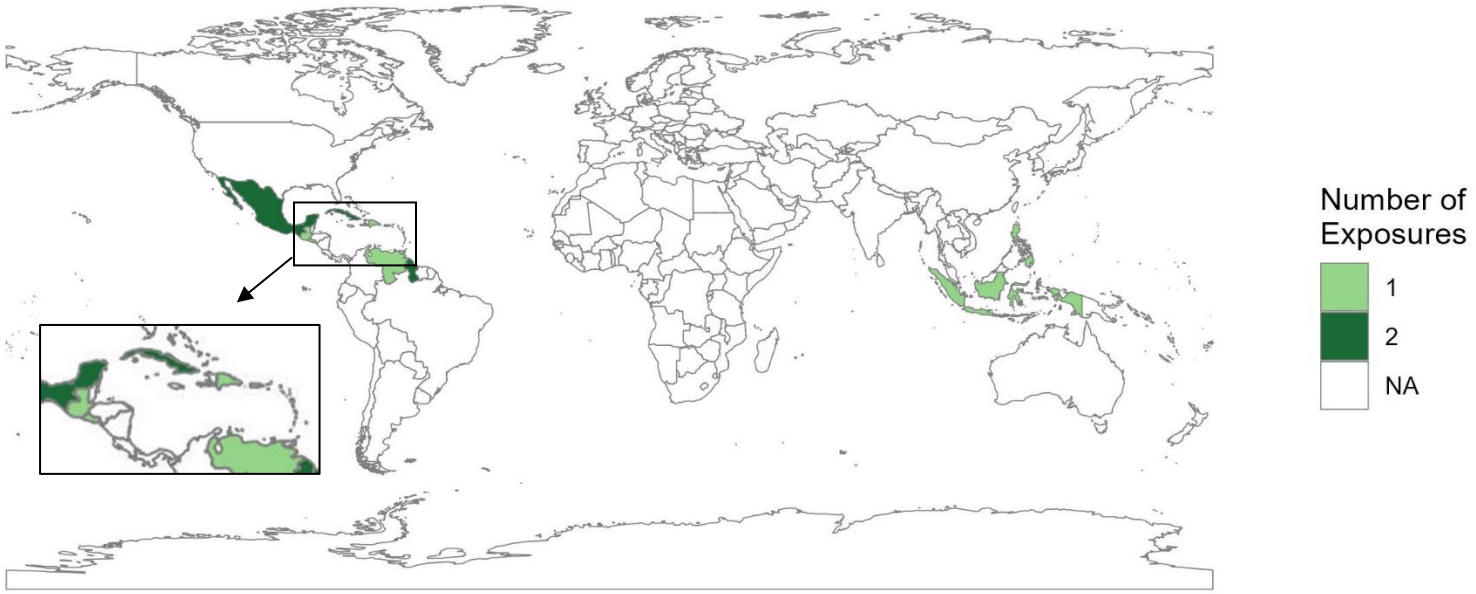
# Dengue Virus (DENV)

**DENV Cases by Country of Exposure, NC, 2015-2024**




During 2015-2024, India accounted for the largest proportion of reported exposure locations (14.1%). Country of exposure was unknown in 7.6% of cases. Overall, 68.7% of exposures occurred in Central or South America while 23.7% of exposures occurred in other regions.

**DENV Cases by Country of Exposure, NC, 2025**




In 2025, the U.S. Virgin Islands, Mexico, Guyana and Cuba were the most frequently reported exposure locations, accounting for 44.4% of cases. All 18 cases reported in NC were linked to international travel to countries reporting frequent or continuous risk. DENV outbreaks were declared in the U.S. Virgin Islands and Puerto Rico in 2024, likely contributing to the observed increase in case counts relative to prior years. These outbreaks continued into 2025 with additional outbreaks reported across multiple Pacific Islands. Cuba and Guyana were also reporting higher-than-usual DENV case counts in 2025.

*Rate calculated per 100,000 residents

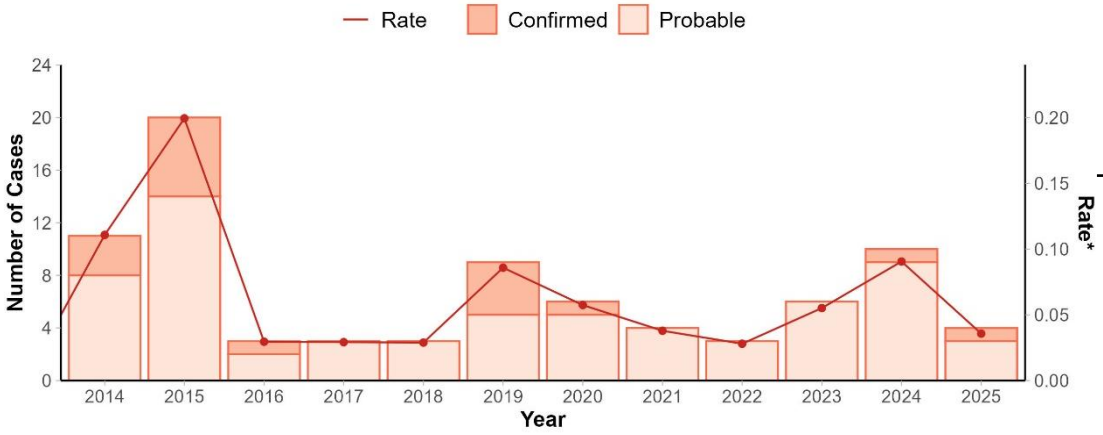
# Chikungunya Virus (CHIKV)

## 2025 Key Points

- Two of the four NC CHIKV cases reported exposure in countries with an active outbreak (Cuba and Sri Lanka).
- The 2025 cases have the highest average age recorded since 2016.

Chikungunya virus disease (CHIKV) is caused by a virus spread by the bite of infected *Aedes* mosquitoes. CHIKV transmission primarily occurs in tropical and subtropical regions and is rarely transmitted in the United States. In rare cases, CHIKV can spread from mother to baby at birth, through blood transfusions or by contact with infected blood. Most CHIKV infections are mild with symptoms starting 3-7 days after infection. Symptoms may include fever, joint pain or swelling, headache, or rash. CHIKV can cause more serious illness involving the nervous system, which is more likely to occur in newborns and adults over 65 years of age, though deaths are rare. A vaccine is available for travelers to areas experiencing a CHIKV outbreak and for laboratory workers who routinely handle infectious materials. In North Carolina, both mild and neuroinvasive CHIKV infections are reportable diseases.

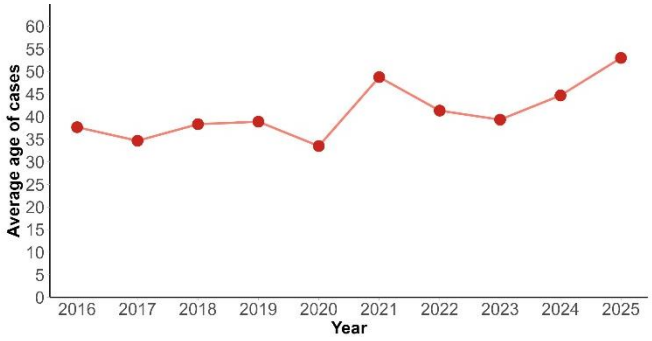
**Confirmed and Probable CHIKV Cases and Rate Per 100,000 Residents, NC, 2006-2025**



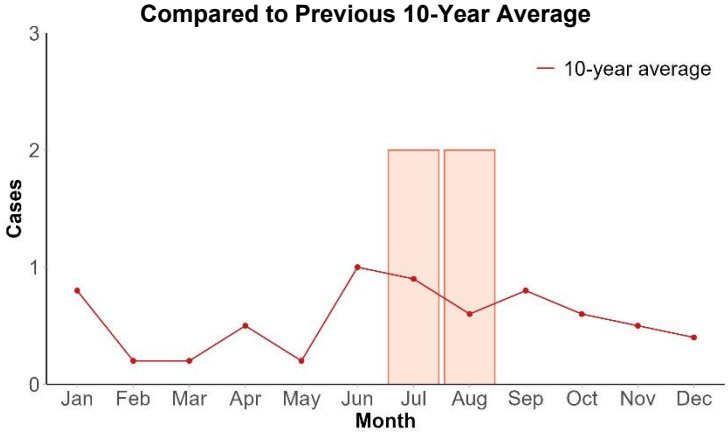

There were three probable and one confirmed CHIKV cases in 2025. CHIKV became a reportable disease in North Carolina in 2014; NC case data from prior years are unavailable. Consistent with previous years, most reported 2025 CHIKV cases are not confirmed.

**CHIKV Cases by Average Age, NC, 2016-2025**

The average age of CHIKV cases in North Carolina has increased over the past decade, rising from 40 years during 2016-2024 to 53 years in 2025. The reason for this shift is unclear; however, adults over 40 are at increased risk for severe disease.




**2025 NC CHIKV Cases by Month of Illness Onset, Compared to Previous 10-Year Average**




2025 CHIKV cases in July and August totaled two per month, higher than the 10-year average of one case per month. No cases were recorded in any other month of 2025.

*Rate calculated per 100,000 residents

# Chikungunya Virus (CHIKV)

| Annual Summary | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Cases | 3 | 3 | 3 | 9 | 6 | 4 | 3 | 6 | 10 | 4 |
| Rate* | 0.03 | 0.03 | 0.03 | 0.09 | 0.06 | 0.04 | 0.03 | 0.06 | 0.09 | 0.04 |

| Case Statistics, 2025 | | | | |
|---|---|---|---|---|
| **Sex** | **Category** | **Cases** | **%** | **Rate*** |
| | Male | 2 | 50.00% | 0.04 |
| | Female | 2 | 50.00% | 0.04 |
| | Unknown | 0 | 0.00% | N/A |
| **Age Group** | **Category** | **Cases** | **%** | **Rate*** |
| | <5 | 0 | 0.00% | 0.00 |
| | 5-17 yrs | 1 | 25.00% | 0.06 |
| | 18-24 yrs | 0 | 0.00% | 0.00 |
| | 25-34 yrs | 0 | 0.00% | 0.00 |
| | 35-44 yrs | 0 | 0.00% | 0.00 |
| | 45-64 yrs | 1 | 25.00% | 0.04 |
| | 65-84 yrs | 2 | 50.00% | 0.11 |
| | 85+ yrs | 0 | 0.00% | 0.00 |
| | Unknown | 0 | 0.00% | N/A |
| **Race** | **Category** | **Cases** | **%** | **Rate*** |
| | White | 1 | 25.00% | 0.01 |
| | Black or African American | 0 | 0.00% | 0.00 |
| | American Indian/Alaskan Native | 0 | 0.00% | 0.00 |
| | Asian or Pacific Islander | 2 | 50.00% | 0.44 |
| | Multiple Races | 0 | 0.00% | 0.00 |
| | Other or Unknown | 1 | 25.00% | N/A |
| **Hispanic Ethnicity** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 1 | 25.00% | 0.08 |
| | No | 3 | 75.00% | 0.03 |
| | Unknown | 0 | 0.00% | N/A |
| **Hospitalization** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 1 | 25.00% | N/A |
| | No | 3 | 75.00% | N/A |
| | Unknown | 0 | 0.00% | N/A |
| **Death** | **Category** | **Cases** | **%** | **Rate*** |
| | Yes | 0 | 0.00% | N/A |
| | No | 4 | 100.00% | N/A |
| | Unknown | 0 | 0.00% | N/A |

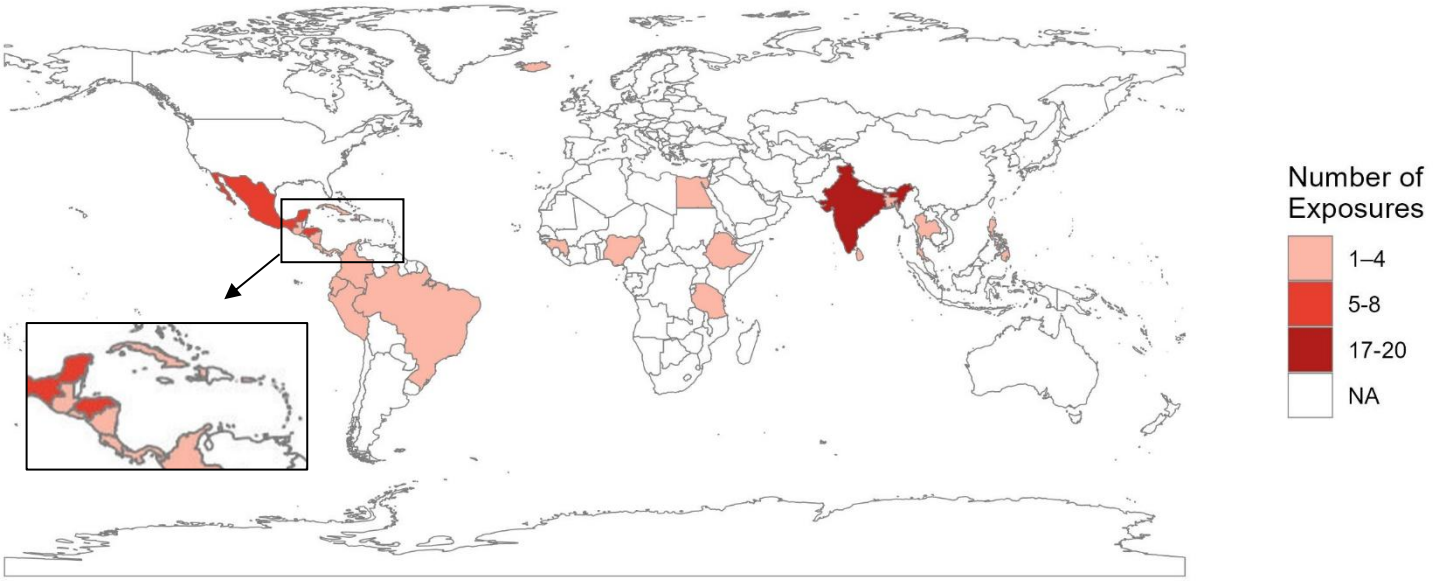
**Annual Summary Key Points**

- CHIKV is an infrequently reported mosquito-borne disease in NC, with a five-year average incidence rate of 0.05 cases/ 100,000 population.
- The number of CHIKV cases in 2025 (n = 4) were below the ten-year average of 6.7 cases.
- Cases are equally reported in females and males.
- The median age of cases was 63 years and the mean age was 53 years. In 2025, adults aged 65-84 years had an incidence rate nearly twice that of children aged 5-17 years and almost three times higher than adults aged 45-64 years.
- Although most cases (n=3) occurred among non-Hispanic residents, Hispanic residents had an infection rate nearly three times higher than non-Hispanic residents.
- Only one CHIKV case in 2025 required hospitalization. All four reported cases recovered and no deaths were observed.

*Rate calculated per 100,000 residents

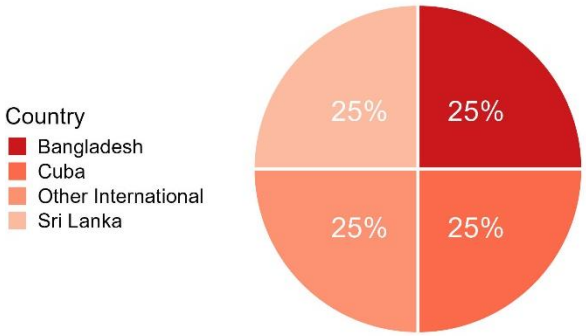
# Chikungunya Virus (CHIKV)

**CHIKV Cases by Country of Exposure, NC, 2015-2024**




During 2015-2024, India accounted for the largest proportion of reported exposure locations (14.1%). The country of exposure was unknown in 7.6% of cases. Overall, 68.7% of exposures occurred in Central or South America while 23.7% of exposures occurred in other regions.

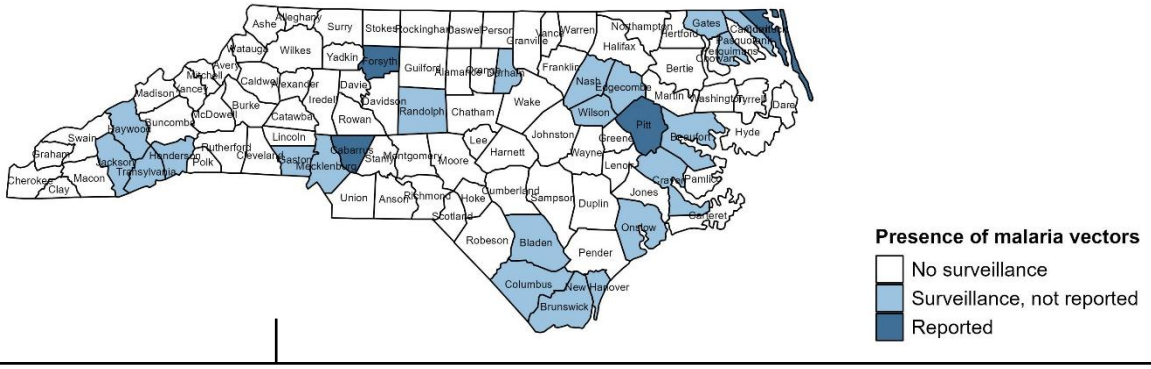
**CHIKV Cases by Exposure Country, NC, 2025**




All four 2025 CHIKV cases were associated with international travel with exposures occurring in four different countries and no indication of local transmission within NC. In 2025, CHIKV outbreaks were reported in Cuba and Sri Lanka and accounted for 50% of NC CHIKV cases. All four cases occurred in residents of four different NC counties.

# Disease Vector Distribution in NC

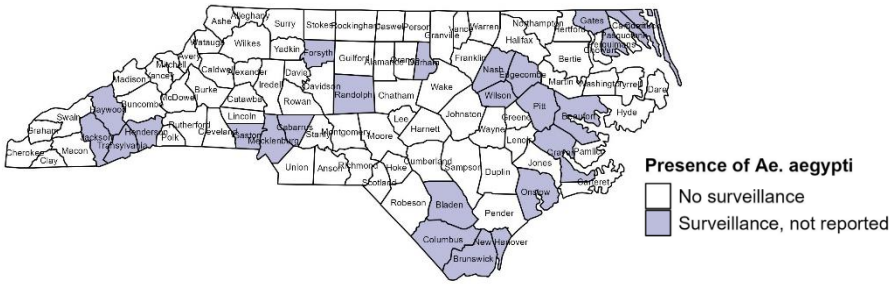
**Distribution of Malaria Mosquito Vectors, NC, 2017-2025**




Mosquito species in NC capable of transmitting malaria locally if the parasite were introduced—*Anopheles quadrimaculatus* and *An. crucians* —have historically been documented across all regions of the state. Recent surveillance indicates their presence in only four counties that routinely conduct active monitoring. Although malaria vectors are present in North Carolina, local transmission remains highly unlikely due to unfavorable environmental conditions.

**Distribution of DENV and CHIKV Mosquito Vectors, NC, 2017-2025**

*Aedes aegypti* is the primary DENV mosquito vector worldwide. However, *Ae. aegypti* has not been officially confirmed in NC since 2004.




*Ae. albopictus* has been implicated in DENV transmission in densely populated tropical regions but does not have high transmission capacity in NC. *Ae. albopictus* is widely distributed in the state and is potentially capable of supporting local transmission if the virus is introduced. However, *Ae. albopictus* is the primary CHIKV mosquito vector and can transmit isolated cases, but local conditions greatly limit the likelihood of sustained transmission or outbreaks.