Watching Brief on Re-Emerging Diseases

West Nile Virus (WNV)

March 13, 2026

Introduction

West Nile virus (WNV) is a mosquito-borne infection that is mainly spread by the *Culex* species of mosquitoes. The Caribbean Public Health Agency (CARPHA) noted that on March 11th, one CARPHA Member State (CMS), Anguilla, reported a single laboratory confirmed case of WNV with no travel history:

- Timeline and occurrence:
  - Reports from Anguilla indicate that the patient developed symptoms on March 7th and was confirmed positive for WNV through PCR testing on March 10th.
  - Currently, no additional cases have been detected in Anguilla or reported by any other CMS.
- Presence of WNV in the Region
  - The distribution of WNV is well documented in North America beginning in 1999 and then spreading across Central and South America. The United States remains an epicenter and reports thousands of cases annually.
  - Historically, over the past two decades there have been very few confirmed human cases of WNV detected in the Caribbean. However, circulation has been noted in birds, horses, and mosquitoes. Over the period 2020-2026, the CARPHA Medical Microbiology Laboratory (CMML) tested 3 samples from 2 CMS, which were all found to be negative for WNV.

Signs and Symptoms of West Nile Virus

Most persons infected with West Nile virus (WNV) are usually mildly symptomatic or asymptomatic and therefore represent sub-clinical disease from a surveillance perspective. Those that develop symptoms, which are approximately 1 in 5 persons, exhibit symptoms that more closely resemble common arboviral infections (E.g. Dengue Virus). These symptoms may include fever and rash, headache, joint pain, generalized myalgia, headaches, nausea, and fatigue. In approximately 1% of cases, patients may experience severe or life-threatening neurological disease such as encephalitis or meningitis. The average incubation period is usually 2-6 days, however, in some cases it may extend up to 15 days. This makes it very similar to other endemic arboviral diseases, for example Dengue fever and Zika. Even to a trained clinician it is oftentimes difficult to distinguish between them without definitive serological testing. The elderly, children, persons with co-morbidities, as well as immuno-compromised individuals are more at risk of severe illness.

Transmission

WNV is most commonly spread through the bite of an infected mosquito of the *Culex* species. In the Caribbean, *Culex* species are extremely common and not generally associated with disease transmission but considered more of a “pest species”. However, it is important to note that human to human transmission is rare except in via blood transfusion, organ transplant or via vertical transmission from mother to child. The main life cycle is between mosquitoes and birds. As such, humans and horses are incidental and dead-end hosts.

Regional Status

With regards to the Regional Status for 2026, there are currently no reports of WNV from other CMS.

Overall Risk

Although there is a high degree of exposure to *Culex* mosquitoes, due to the lack of human-to-human transmission, the relative risk of a West Nile Virus outbreak in CARPHA Member States is currently "**Very Low"**.

Prevention and Treatment

There is no specific treatment for West Nile Virus. Additionally, there is currently no approved vaccine for WNV. Recommended treatment for symptomatic patients with mild illness include supportive care, such as rest, fluids, and over-the-counter medications to relieve symptoms. For severe cases, early detection and hospitalization are critical to ensure improved clinical outcomes. Therefore, health promotion strategies should include enhanced public awareness of signs, symptoms, and warning signs of severe disease, especially neurological sequelae.

How can we protect ourselves and our countries?

If you are infected, you should follow the guidelines as recommended by your health care provider. Staying under a bed net or remaining in a place with closed windows/door screens is recommended as there may also be other arboviruses in circulation. The peak *Culex* biting times are at dusk and dawn. Therefore, it may be best to use appropriate personal protective measures during these times. You can protect against bites by using insect repellents and wearing long sleeved clothing and long trousers when possible.

For vector control, source reduction, and environmental manipulation, inclusive of solid waste management are the primary control strategies along with community engagement and public education. Application of adulticidal and larviciding agents will be a necessary intervention in areas that are highly infested with mosquitoes and when responding to cases. CARPHA's Insectary provides Insecticide Resistance Testing (IRT) services which can be used to inform chemical vector control interventions where necessary. CARPHA also recommends that CMS establish a complaints hotline for reports of suspected cases and mosquito infestations. See CARPHA's webpage at https://missionmosquito.carpha.org/ for more information and resources.

CARPHA Recommendations

CARPHA recommends enhanced clinical, epidemiological, entomological, and laboratory surveillance. Given the linkage with animal health and veterinary services, it is important to adopt a One Health approach in the surveillance of WNV. Therefore, CMS are encouraged to formalize or strengthen relationships between public health, veterinary medicine, environmental officers, and agricultural personnel. This will allow for enhanced surveillance and therefore timely public health action to be taken to minimize risk.

Furthermore, it is prudent that a rapid assessment of vector control capacity is carried out **ensuring sufficient stocks of adulticiding and larviciding chemicals and equipment,** and action taken to remedy any programmatic gaps. CARPHA's Vector Borne Disease Department is available to assist with technical support as required.

CMS are encouraged to prioritise the training/retraining of clinical staff in all aspects of clinical management if these activities have not been recently undertaken. Health promotion strategies should include enhanced public awareness of signs, symptoms, and warning signs of severe disease, especially neurological sequelae. This will allow for early detection of cases and therefore optimum clinical management to be achieved, ultimately reducing morbidity and mortality.

CARPHA wishes to remind CMS that the CARPHA Medical Microbiology Laboratory (CMML) provides essential diagnostic support to Member States by offering laboratory testing for key arboviral pathogens, including West Nile Virus (WNV), Chikungunya virus (CHIKV), Dengue virus (DENV), and Zika virus (ZIKV).

Specific to WNV, CMML conducts molecular testing (RT-PCR) for samples (CSF/Serum) collected up to 7 days after the onset of symptoms. This enables countries to confirm suspected cases that are clinically indistinguishable, supporting accurate case management and timely public health decision-making. CARPHA also maintains technical support to laboratories and vector control personnel in our Member States.

Overall, CMS are reminded to utilize an Integrated Vector Management multisectoral approach that focuses on community involvement for source reduction, health promotion, and personal protective measures. Heightened surveillance measures and a strong relationship between epidemiological surveillance and vector control response are important in mitigating any potential outbreaks in CMS.

CARPHA will continue to actively monitor the changing situation and provide period updates as needed.