Happy New Year to all of our NEHA family and friends! It is the start of a new year and hopefully a short winter. I hope you had a safe and happy holiday season with family and friends. Winter makes us think of snow skiing, sledding, and ice skating, but it also makes us yearn for spring and warm weather. Winter seems to last forever when you wish for sunshine and warm breezes. Many of you will be vacationing in warmer climates during the winter and early spring. As an environmental health professional, I would like to advise you of a new mosquito-borne viral disease that has been prevalent in the Caribbean islands since late 2013 and has since migrated to the U.S.

Chikungunya is a viral disease that is transmitted to humans by the bites of infected Aedes aegypti and Aedes albopictus mosquitoes. The virus has an extrinsic incubation period of approximately 10 days in the mosquito vector. Symptoms usually begin 3–7 days after being bitten by an infected mosquito but onset can take up to 12 days. Distinguishing symptoms for this disease are fever and severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue, and rash. The joint pain is often very debilitating and usually lasts for a few days or may be prolonged to a period of weeks or months. The name “chikungunya” is derived from a word in the Kimakonde language meaning “to become contorted” and describes the stooped appearance of sufferers with joint pain (arthralgia).

The disease shares some clinical signs with dengue and can be misdiagnosed in areas where dengue is common. Treatment is focused on relieving the symptoms as no cure exists for the disease. Doctors advise patients to get plenty of rest, drink sufficient fluids to prevent dehydration, and to take medicinal products such as ibuprofen, naproxen, acetaminophen, or paracetamol to relieve fever and pain.

Jamaica Association of Public Health Inspectors
In October I represented NEHA at the Jamaica Association of Public Health Inspectors’ (JAPHI) annual educational conference in Runaway Bay, Jamaica. JAPHI is a long-standing NEHA affiliate. The JAPHI conference theme was “Environmental Health Officers: Resolute in Mitigating the Public Health Impacts of Climate Change.” The conference also discussed the new appearance of chikungunya, which is climate sensitive. Dr. Henroy Scarlett of the University of the West Indies (UWI) at Mona presented a very compelling case for implementing climate change control processes to reduce the potential occurrence of mosquito-borne and other climate-sensitive diseases. Dr. Scarlett serves as the chairman of a subcommittee on public education and outreach on chikungunya at UWI. This committee educates staff and students as well as residents in communities close to the university about chikungunya.

Chikungunya has greatly impacted the health and well-being of the people of Jamaica. The first confirmed case of chikungunya in Jamaica occurred in July 2014 and since that time the entire country has been affected. The Pan American Health Organization (PAHO) reported in its November 7, 2014, epidemiological update that 70 confirmed cases and 896 suspected cases of the disease had occurred in Jamaica but no deaths. Anecdotal evidence suggests that the number of chikungunya cases on the island could be well in excess of what was officially reported. The Jamaican media has also reported some cases of suspected chikungunya-related deaths. Mr. Steve Morris, president of JAPHI, and I conducted a radio program interview to discuss the problems occurring in Jamaica from this disease and the precautions citizens needed to implement to reduce their exposure.
Occurrence
The disease occurs in Africa, Asia, and the Indian subcontinent. In recent decades, mosquito vectors of chikungunya have spread to Europe and the Americas. Chikungunya was reported for the first time in the Americas on the Caribbean island of St. Martin in December 2013. According to PAHO and the World Health Organization (WHO), as of November 7, 2014, 874,103 suspected cases, 14,703 confirmed cases, 1,966 imported cases, and 153 deaths had been associated with chikungunya in the Americas. Martinique (74) and Guadeloupe (65) account for most of the deaths. For the same period, 11 confirmed and 1,616 suspected cases of the disease were reported in the U.S. Cases of death from chikungunya are very rare and are almost always related to preexisting health problems. Older adults and people with chronic illnesses (such as diabetes, heart disease, hypertension, chronic kidney failure, tuberculosis, and HIV) should undergo medical evaluation and monitoring when they contract the disease.

Protection and Precautions
The proximity of mosquito breeding sites to human habitation is a significant risk factor for chikungunya. Prevention and control relies heavily on reducing the number of natural and artificial water-filled container habitats that support breeding of the mosquitoes. For protection during outbreaks of chikungunya, clothing that minimizes skin exposure to these day-biting vectors is advised. Repellents can be applied to exposed skin or to clothing in strict accordance with product label instructions. Repellents should contain DEET (N, N-diethyl-3-methylbenzamide), IR3535 (3-[N-acetyl-N-butyl]-aminopropionic acid ethyl ester), or icaridin (1-piperidinecarboxylic acid, 2-[2-hydroxyethyl]-1-methylpropylester). For those who sleep during the daytime, particularly young children, the sick, or the elderly, insecticide-treated mosquito nets afford good protection. Mosquito coils or other insecticide vaporizers may also reduce indoor biting.

Basic precautions should be taken by people traveling to risk areas and these include use of repellents, wearing long sleeves and pants, and ensuring rooms are fitted with screens to prevent mosquitoes from entering. This map (www.cdc.gov/chikungunya/geo/index.html) will give you an indication of where in the U.S., the Caribbean, and other countries you could be bitten by mosquitoes carrying the virus.

As environmental health practitioners and advocates of caution whenever we encounter potential vectors, local health and vector control agencies will be working diligently to eradicate these mosquito species and to inform the public about how they may help in this endeavor. We can alleviate potential habitats for mosquitoes by removing contain-

ers that may have standing water and by supporting the local vector control programs. If you are sick with chikungunya, you can help prevent further spread of the virus by avoiding mosquito bites. NEHA will be posting information on the Web site as the late spring and summer mosquito season gets under way. NEHA’s board of directors is working on a position paper, which should be on the NEHA Web site after our spring board meeting (April 10–11, 2015).

Additional Resources
The Centers for Disease Control and Prevention are an excellent resource for information and current information can be found on their dedicated Web site: www.cdc.gov/chikungunya.
WHO also has an exceptional site: www.who.int/mediacentre/factsheets/fs327/en/.

I hope this information is helpful to you as environmental health professionals. With the New Year arriving, it is important for us to stay abreast of the varying environmental health diseases and challenges affecting our regions and the health of our communities. If you have any personal experience managing this disease in your community and would like to share your thoughts and expertise, feel free to contact me.

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