Researchers find significant delays in West Nile virus reporting

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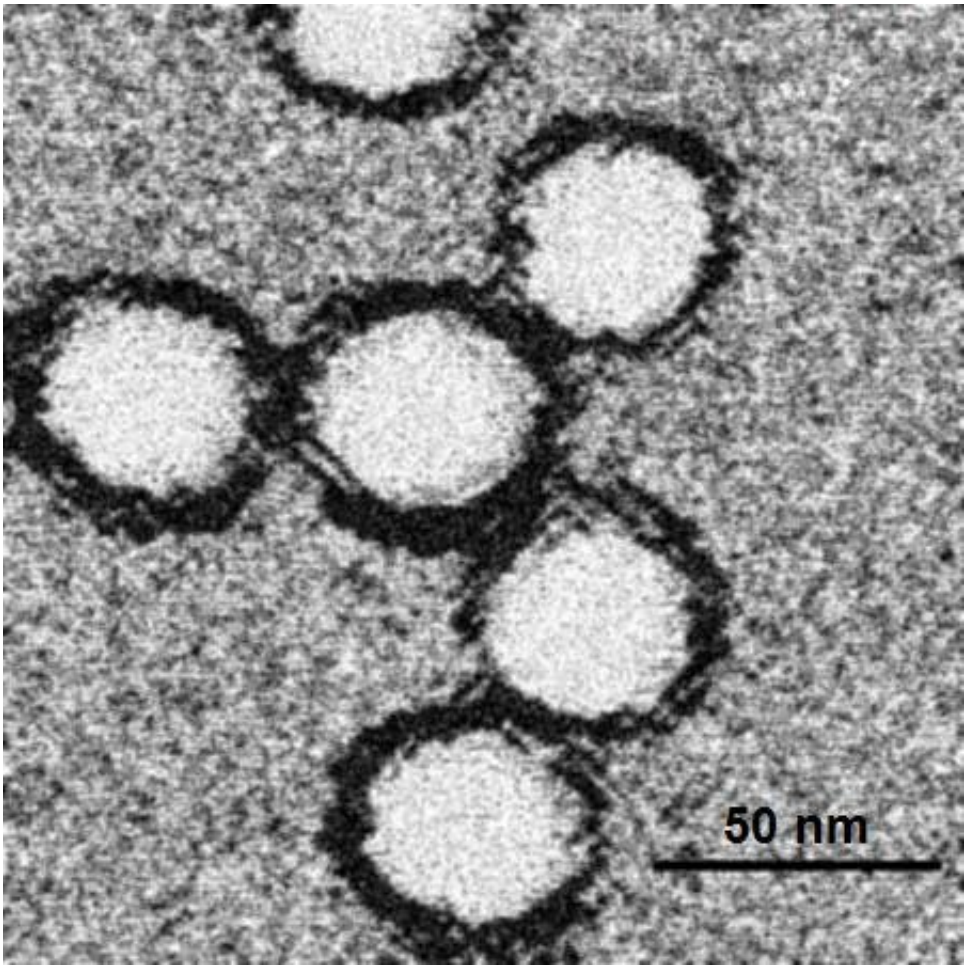

Electron microscopy of West Nile virus. Credit: PhD Dre, Wikipedia/CC BY-SA 3.0

Mount Sinai researchers found significant delays in reporting human

cases of West Nile virus, hampering real-time forecasting of the potentially deadly mosquito-borne disease, according to a study in the *JAMA Network Open* in April.

Researchers discovered that reports of human cases of West Nile virus in the United States were delayed by two to 14 weeks between illness onset and confirmation of West Nile. The lags were due to the length of time it took health departments to confirm a West Nile case or reporting delays between health care professionals and the health department.

They also found that reporting of mosquitoes testing positive for the virus were also delayed, but by a much less significant amount of time.

The study showed that accurate and reliable forecasts of West Nile outbreaks are possible using a mathematical model and real-time reports of human and mosquitoes testing positive of the disease, but it is impossible with the lags in reporting that exist. Better and more reliable forecasts would improve mosquito abatement which to tamp down the spread of the virus as well as allow public officials to issue more accurate health information to the community in real time, preventing possible illness and deaths.

"Current reporting delays impact our understanding of how an outbreak is progressing, and our research highlights areas in which disease surveillance can improve," said lead author Nicholas DeFelice, Assistant Professor of Environmental Medicine & Public Health at Icahn School of Medicine at Mount Sinai. "With improved surveillance, there is greater potential for objective infectious disease forecasts that will allow public health officials to address infectious disease threats in a proactive fashion."

West Nile virus is the most common domestically acquired mosquito-borne virus in the United States. Mild symptoms are flu-like and may

include fever, headache, body aches and sometimes a rash. Symptoms may last from a few days to a few weeks. In some cases, severe symptoms may include high fever, stiff neck or a potentially fatal central nervous system illness causing inflammation of the brain or spinal cord. One in ten people die after falling ill to the central nervous system illness caused by the virus.

Provided by The Mount Sinai Hospital