

# New Threats From West Nile Virus

by Linda Everett

From the early 1700s in what became the United States, settlers waged vigorous battles to prevent or cure both endemic diseases (those which are always present) and epidemic diseases (those which strike from time to time with great intensity), in addition to the scourges that came from fouled water and environmental sources. It took more than two centuries of efforts by community leaders, cities, counties, federal officials, and individual researchers armed with scientific breakthroughs, public health programs, and vigilance to bring these threats to life under control—only to have that capacity slip away in the past decades because the country largely relinquished its commitment to public health infrastructure.

Consider the rapid proliferation of West Nile virus from coast to coast since it was discovered in New York in 1999. Some 36 mosquito species carry West Nile. When an infected mosquito obtains its blood meal by biting its prey, it transmits the virus to the victim. So far, West Nile virus has killed at least 240 Americans and infected hundreds of thousands more.

Now, *EIR* has learned that young, previously healthy individuals infected with West Nile virus may face life-long polio-like paralysis. According to Dr. Jim Sejvar with the the Atlanta-based U.S. Centers for Disease Control and Prevention (CDC), although paralysis is not a new manifestation of the disease, “The truth of the matter is, we have absolutely no idea just how frequently this manifestation is part of West Nile virus.”

There is a frightening nonchalance about West Nile. Some researchers say it is here to stay, that it kills far fewer people than the annual flu epidemic, and that there is nothing much to be done about it. That pessimism is not the stuff of science, but of decades of a withering lack of Federal commitment to public health research and dollars—which has to be reversed to get this epidemic under control. What is also needed is a military-style mosquito eradication program, the likes of which we saw in the South during World War II.

Over the last year, it has been discovered that West Nile can be transmitted by blood, blood products, and donated organs. Since West Nile is a flavivirus, it can remain quite stable in whole blood or in packed red blood cells, surviving a long time in refrigerated bags of donor blood. Approximately 4.5 million people in the United States receive blood products each year.

It was also found that West Nile virus can be transmitted

in humans through breast milk. And on Dec. 20, CDC reported the first known case of intrauterine transmission of West Nile virus. When the mother who was infected gave birth, both the infant's umbilical cord blood and other blood samples tested positive for West Nile virus—establishing the first documented case of transplacental transmission in humans. No other cause was given for the severe neurological damage to the newborn.

At the same time, the CDC also reported that two microbiologists who, while working with the brains of a West Nile-infected blue jay and mouse, sustained a needle prick and laceration, respectively. In each case, although the wounds were immediately cleansed and bandaged, the microbiologists became ill with West Nile virus within days.

### Polio-Like Paralysis

Far more alarming news followed. West Nile virus can cause severe, potentially fatal neurological illnesses, including encephalitis and meningitis, but it also can cause severe weakness or polio-like paralysis in the limbs. While nearly two dozen people are known to have these symptoms, it is likely that hundreds of others who had West Nile virus are also affected. As the CDC reports, many patients with the polio-like paralysis associated with West Nile virus were misdiagnosed, and physicians and clinicians are still misdiagnosing these patients as having Guillain-Barré syndrome. In the case of West Nile, clinical and electrophysiologic findings suggest a pathological process involving anterior horn cells and motor nerve axons similar to that seen in acute poliomyelitis. Perhaps most devastating is that, of all the cases reported with West Nile virus-associated paralysis over eight months ago, only one patient has been able to regain full strength in her limbs. Previous cases of West Nile-associated paralysis in Africa lack documentation on the duration or breadth of paralysis involved.

In 2002, West Nile virus activity was reported in 2,289 counties in 44 states and the District of Columbia, compared to 359 counties in 27 states and the District in 2001. West Nile virus was detected for the first time in 1,929 U.S. counties and 16 states in 2002.

West Nile virus has infected more than 200 species of birds, reptiles, and mammals—killing thousands of animals. Many animals, including crows, owls, alligators, dogs, and pet birds, have been affected. More than 14,000 horses became ill this past Summer alone. The mosquito-borne West Nile virus can also be transmitted from bird to bird directly. Birds can acquire the virus by eating infected prey, and birds can spread it through their droppings. It is known that crows can acquire it orally through fecal contamination of food. Caged birds can transmit it to their mates. Birds can pass the virus on to their chicks while they are still inside the egg.

### Wide Variances in Impact

We are seeing shocking differences about the impact of West Nile virus in the United States compared with the experi-

ence in Africa. As Dr. Mike Benning of the CDC told *EIR*, “If we used Africa as an example, we wouldn’t have crows [blue jays] falling out of the sky.” That is, crows and blue jays in the United States are very highly susceptible to West Nile and have a very high mortality rate from it. It takes very little virus to infect crows, but the virus proliferates very quickly, to the point that a victim’s system is teeming with it. Yet, crows are not affected at all in Africa.

The situation is, for now, very different for upland game birds—domesticated poultry such as chickens and turkeys. According to the CDC’s Dr. David Swayne, domesticated chickens and turkeys are far less susceptible to the disease. Sentinel flocks of chickens set out around the United States to monitor the progression of diseases, may become infected with West Nile virus, but they don’t get sick. Their systems very quickly build up antibodies, destroying the virus. *EIR* asked whether we should be concerned about human consumption of chickens that were slaughtered after they were infected but prior to antibody build-up. Apparently not. The country has a huge surveillance system that would pick up outbreaks of illness, focal points of illness connected to chicken flocks. But, that has not occurred. So, that mechanism of infection is not occurring. There is a higher mortality rate among wild and domestic geese and ducks that are becoming infected with the disease, and there may be some economic implications for producers. But, researchers have told *EIR* that there just isn’t enough money to fund the necessary research in these areas.

What is clear is that no one could predict the explosive impact of this virus, which some researchers suspect is capable of interacting with related viruses, such as that which causes the St. Louis encephalitis. Once diseases proliferate, rarely do they progress linearly. We have already lost part of our workforce to sickness, paralysis, and death—we can’t afford another season of unabated devastation to human life.

West Nile can be transmitted directly from adult mosquitoes to their eggs, so newly hatched aquatic larvae are born infected. Its spread in 2003 can be catastrophic, if we do not plan now to undertake a top-down Federal war of aggressive mosquito and larval eradication with all the appropriate tools—including the judicious use of DDT when and where necessary.<sup>1</sup> It cannot be left to individual counties and cash-strapped states to decide how the war will be fought based on what little resources they have at hand. Right now, a political solution—overturning the ban on DDT and rebuilding public health infrastructure—is needed while the scientific solution to this virus is forthcoming. Forget those who dither. As Democratic Presidential pre-candidate Lyndon LaRouche states, “Health care for a society is a matter of national security interest.”

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1. For more on that political battle, see “Bring back DDT!” *21st Century Science & Technology* magazine, Fall 2002.