Mosquitoes have caused problems for reasons as small as disturbing outdoor leisure and as great as transmitting viruses such as West Nile. As the summer heated up in 2016, health and mosquito control professionals across the states had one more reason to pay attention to the pesky, biting insects.
Scientists discovered Zika virus in 1947. But for decades it was rare and “we just thought it was a relatively mild disease, and for most people, it is,” said Janet McAllister, a research entomologist with the Centers for Disease Control and Prevention. Most people infected never even experience symptoms bad enough to see a doctor, McAllister added. “So that’s what we thought Zika virus was until the outbreak was big enough.”

Pregnant women were warned about Zika virus after an outbreak in Brazil because it was determined that the virus could cause birth defects such as microcephaly, a condition that results in babies born with undersized heads and underdeveloped brains. In addition, Zika virus can be sexually transmitted and transmitted via blood transfusion.

In early June, as the first official day of summer approached, the virus had overwhelmed South and Central America. No locally transmitted cases had been reported in the United States although cases had been confirmed in the U.S. territories of Puerto Rico, the Virgin Islands and American Samoa.

State and local health departments with limited resources have scrambled to prepare for the virus’ arrival. Zika virus could spread locally if a mosquito bit an infected person, possibly someone who got the virus while traveling, then lived long enough to bite another person, said McAllister, who is also the contiguous U.S. vector control team lead for Zika at the CDC. The Aedes aegypti and Aedes albopictus mosquitoes can transmit Zika virus and are prevalent in the eastern and southeastern United States.

Preparing for and preventing Zika virus includes educating communities, conducting research and abating mosquitoes. “State health departments and state vector control—or county vector control—programs run on shoestring budgets, and now they’re being asked to do a lot more work,” McAllister said.

Mosquito control programs vary across jurisdictions, from programs “run by one or two employees to multimillion dollar programs with multiple aircraft,” McAllister said. Vector control, however, usually doesn’t start with spraying chemicals; rather, vector control starts with surveillance, collection and research to make the best decisions about where and how to abate mosquitoes.

“I think the general public thinks they just jump in the truck and spray everything because that’s what’s visible to the public,” McAllister said. “The public doesn’t see all of the work that goes into that decision to run that spray truck.”

The CDC has worked with states on lab training, McAllister said. The agency also has worked with blood centers to get a system in place for testing donated blood, and the CDC has developed guidelines for health care professionals who treat pregnant women infected with Zika.

“There’s a lot of guidance that we’ve actually put into place in a very short time because this was not an issue anywhere in
the world this time last year,” McAllister said.

In some areas, universities have provided research and awareness assistance.

Lee Townsend, an entomologist with the University of Kentucky College of Agriculture, Food and Environment, said the university collaborates with the state Public Health Department and the state Agriculture Department, which handles mosquito control. Townsend manages a website that consolidates pertinent Zika news and information for the community.

“We’ve been working with both groups—the Public Health department and the Department of Agriculture—to try to get together a unified effort, getting information out, training people to do some extra mosquito control if that becomes necessary and just having a number of things ready to go when the problem shows up,” Townsend said.

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