Taking the Bite out of Zika

State public health agencies face yet another threat with the Zika virus.

BY TAHRA JOHNSON

Aly Beckman, a social worker from Springfield, Penn., knows all about the Zika virus. She cancelled her 30th birthday celebration in Mexico at the last minute because of it. Her doctor advised against going because he knew she and her husband were trying to start a family, and the risks of contracting the disease and its effects on developing babies were unknown. Although its symptoms are often mild, its consequences can be devastating. Staying home was a small price to pay, Beckman says, to avoid the possible birth defects the virus might have caused.

“There is much we do not yet know about the Zika virus and its effects during pregnancy. For example, whether pregnant women are at greater risk of infection than other women,” says Mark S. DeFrancesco, president of the American College of Obstetricians and Gynecologists. “However, because of the associated risk of microcephaly, avoiding exposure to the virus is best. That’s why pregnant women and women who are considering pregnancy should delay planned travel to areas where Zika virus outbreaks are ongoing.”

Thirty-seven countries in Latin America, Africa, and some Caribbean and Pacific islands had reported locally acquired cases of Zika, as of the end of March. The World Health Organization in February declared the rapid spread of the virus a global emergency and has convened its emergency committee twice to investigate the correlation between the virus and Guillain-Barre syndrome, a neurological disorder that causes temporary paralysis, and microcephaly, a birth defect. In severe cases of micro-

A Proactive Approach

“Virtually every state has ramped up” efforts to fight the disease, says Jeff Engel from the Council of State and Territorial Epidemiologists. Every state has set up a surveillance system, and all are “now a part of the national response.”

Florida had the most Zika-infected resi-
In February, which impelled lawmakers there to take “a very proactive approach to addressing the concerns surrounding the Zika virus,” says Speaker Pro Tem Matt Hudson (R). “We now have a citizen hotline for information, daily updates from our surgeon general, a significant number of new test kits and many other activities.”

Governor Rick Scott declared public health emergencies in the counties where infected people live, stating in a press release, “We have to ensure Florida is prepared and stays ahead of the spread of the Zika virus. … We must be prepared for the worst even as we hope for the best.”

“Funding has been reduced for public health activities at the same time that public health threats are coming more often and more vigorously and with more intensity.”

JAMES BLUMENSTOCK, ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICIALS

Zika Virus
By the Numbers

1947
Year Zika was discovered and named for the Ugandan forest where it was first isolated

1952
First human case detected

3 to 7
Days it takes before symptoms appear

4 out of 5
The number of infected people who show no symptoms

315
Travel-related Zika cases reported in states and territories, as of March 30, 2016

0
Locally acquired cases reported in the states

352
Locally acquired cases reported in the territories

0
Vaccines and medicine to treat it

Source: Center for Disease Control and Prevention, March 30, 2016
The Vector Effect

Many experts advise ramping up local vector control and mosquito abatement programs. Vector control involves limiting or eradicating disease-carrying insects, birds and other animals. To control adult mosquito populations, workers drive “fogging trucks” through residential neighborhoods, releasing a spray that quickly kills the insects in masses. To attack the larvae in wetlands, ponds or neglected pools, workers use airplanes, ATVs or hand sprayers, depending on the size of the body of water.

The programs vary drastically in size, according to the American Mosquito Control Association—from one or two people in a district working part-time on a budget of about $5,000 to Lee County, Fla., which has 15 aircraft, a sizeable staff and resources of close to $24 million.

All this may be a challenge for local communities, especially those that rely on local taxes to pay for these programs. Some regions, especially those dependent on the tourism industry, have strong programs already, but others, especially poverty-stricken communities, likely do not.

“I have heard many officials say that vector control and mosquito abatement programs could be our weakest link, nationally, in responding to Zika,” Blumenstock says.

Eradicating pests is “often a local responsibility,” he says. “But these programs have been the casualty of budget cuts at the local level. The question is, do they have the resources to ramp up now?”

State budgets have cut health agencies’ base funding for emergency preparedness and infectious disease control over the last 10 years. Median per capita funding for

Where Zika Mosquitoes Live

Zika virus is spread by the bite of the Aedes aegypti mosquito, and possibly the Aedes albopictus, found in these areas of the country.
emergency preparedness for local health agencies was $1.15 in 2013, down from $2.07 in 2010, according to the National Association of County and City Health Officials. Even though state and federal funding is available to help fight crises like Ebola and West Nile, the approval process often takes time, delaying the response to such outbreaks.

“Whether it is microcephaly or something else, we need to recognize the capacity of the state public health agencies. There will be a tipping point—someday there will be threats that exceed our capacity or multiple threats at the same time that crash the system,” says Blumenstock. “Looking at what we experienced in the last 10 years, we need to see the best way to resource the state health agencies … for preparedness, planning and response.”

Recently, the CDC approved the use of leftover funding from the public health and preparedness emergency fund—originally allocated to fight Ebola—for Zika-related activities. “States were disproportionally effected by Ebola, so it is unclear which states have funding left to reallocate,” says Engel, from the Council of State and Territorial Epidemiologists.

If they haven’t already, Engel says, “State legislators, especially in the states most likely to be affected by Zika, should be meeting with their leaders in the executive branch and public health directors and environmental health administrators, to discuss the ability of the state to respond to the threat.”

**The Education Piece**

Besides supporting a more robust vector control program, lawmakers have also focused on educating their constituents. To raise awareness about the disease, Pennsylvania Representative Florindo Fabrizio (D) proposed a resolution, enacted in March, to create a Zika awareness month. “We live in a global society, and people from the Commonwealth [Pennsylvania] are mobile. The most important thing is to educate the people traveling to areas with the virus. We need to make sure we give them all the information we can so they can take the proper precautions.

“There is a lot of misinformation out there on Zika,” he says. “People are confused about what would happen if they got it. We need to alleviate concerns and correct any misinformation.” It’s people in Aly Beckman’s situation who provide the compelling reason to educate people, he says, “because good decisions always come from good information.”