Tracking the Zika Pandemic

by Lori Widmer | May 2, 2016 at 6:11 am

In early 2015, residents of the city of Natal in northeastern Brazil were getting sick. Many were complaining of flu-like symptoms, including fever, joint pain, headaches, conjunctivitis and rashes. The cause remained a mystery until May, when the Brazilian Ministry of Health confirmed an outbreak of the Zika virus.

But something else was happening as well. As more cases of the relatively mild Zika virus appeared, the number of neurological syndrome diagnoses also increased. In October, Brazil reported that 138 patients had been diagnosed with neurological disorders between March and August 2015. The World Health Organization (WHO) said that 58 of them presented with a previous history of viral infection and 32 had symptoms consistent with Zika or dengue infection.

One of the neurological disorders reported in higher numbers was Guillain-Barré syndrome, a rare disease in which the body's immune system attacks the nerves. While most people who are infected recover, some cases can result in paralysis or death.

Another disorder was also spiking: microcephaly, a rare neurological condition in which a baby's head is smaller because the brain has not developed properly. In October 2015, Brazil's Ministry of Health noted an unusual increase in the number of microcephaly cases reported as 2,700 babies were diagnosed, prompting the government to declare a state of emergency on Christmas Eve 2015. By February, that had ballooned to more than 5,000 cases, and the numbers continue to climb. By comparison, an average of 163 microcephaly cases were reported annually between 2001 and 2014.

Brazil is not alone in seeing a spike of both Zika virus cases and neurological disorders. In February, the World Health Organization (WHO) said that 44 countries and territories had reported locally transmitted cases of Zika virus. Six of them had also reported increases in microcephaly and Guillain-Barré syndrome. That same month, the WHO declared an "international emergency" because of the reach of the virus and its potential effects on humans, particularly human fetuses. While no definitive determination has yet been made on whether Zika is related to the increase in neurological diseases, the WHO's Emergency Committee strongly suspects that there is a causal relationship between women contracting Zika during pregnancy and babies born with microcephaly. "In less than a year, the status of Zika has changed from a mild medical curiosity to a disease with severe public health implications," WHO Director-General Dr. Margaret Chan said in March. "The more we know, the worse things look."

Zika's Origins

As of March 31, the Pan American Health Organization had confirmed 4,883 Zika cases, suspected another 194,618 and reported nine deaths from the virus in the Americas, the epicenter of the outbreak, since 2015. New cases have also been reported in Africa, Asia and the South Pacific. In the United States, the Centers for Disease Control and Prevention reported 312 Zika cases as of March 30. Since symptoms are frequently so mild that patients do not seek medical attention, the true number of infected could be much higher.

For the latest figures on the Zika outbreak, check out the Centers for Disease Control and Prevention's data on the virus in the United States and the Pan American Health Organization's data on those infected worldwide.

The Zika virus is primarily transmitted by mosquitos, specifically the Aedes aegypti mosquito, which is found in tropical and subtropical climates. According to the CDC, the virus can also be passed from mother to child during pregnancy, through sexual contact with an infected male and through blood transfusions. Of the U.S. cases, 27 have been found in pregnant women and six were sexually transmitted. After an incubation period of three to 12 days, Zika symptoms can last from two to seven days.

Zika is not a new virus. The first isolated case was found in a rhesus monkey in the Zika Forest region of Uganda in 1947. The first recorded human cases appeared in 1952. From that time until 2007, Zika was a negligible threat—just 14 cases were reported in humans. That changed in 2007, with a localized outbreak in the Yap islands in the Federated States of Micronesia. Researchers initially identified 185 suspected Zika cases. Ultimately, they estimated that 73% of Yap residents had been infected with the virus during the outbreak. Because of Zika's mild symptoms, the outbreak raised few red flags. None of the patients were hospitalized and all recovered.

In 2013, another outbreak struck French Polynesia. Between October 2013 and February 2014, 8,262 cases were reported, according to the European Centre for Disease Prevention and Control. Some 28,000 people—11% of the population—sought medical care. Unlike in Micronesia, however, this outbreak included 70 cases of autoimmune or neurological complications. Of those, 38 patients were diagnosed with Guillain-Barré syndrome.

Searching for a Link

With Zika cases reported in more than 40 countries in the past year alone, scientists are feeling increased pressure to determine if there is a link between the virus and neurological disorders. Epidemiologists from the CDC went to Brazil in late February to team with Brazilian health officials to study women and children at the center of the outbreak to determine the cause.

While the signs point to a causal relationship, experts say concluding more from the correlation is premature. "It could turn out that there's some unidentified pathogen that simply rides along with Zika, or there could be some new pathogen we don't know about yet and it happens to be, from a timing point of view, corresponding with the Zika virus epidemic," said Daniel Zimmerman, MD, vice president and medical director for RGA Reinsurance Company.

Thus far, efforts to identify that relationship have uncovered interesting data but no proof. According to the WHO, Brazil's health officials completed an investigation into 1,113 of the 4,783 cases of microcephaly reported between October 2015 and January 2016. In 709 cases, microcephaly was ruled out, while 387 cases exhibited signs consistent with congenital infection. In 17 cases, Zika virus was confirmed. Of those, there were 15 live births and two miscarriages.

While the evidence is still too sparse for officials to make a determination, scientists believe they are getting closer. CNN reported in February that scientists from Brazil's Federal University of Rio de Janeiro were able to sequence Zika's genome and uncovered evidence that the virus is related to the incidence of microcephaly.

Yet Zimmerman urged caution as both microcephaly and Guillain-Barré have a number of potential causes. "That's why epidemiologists don't want to jump to the conclusion that the Zika virus is the cause," he said. "This truly is a dynamic situation at this point."

*[**Editor's Note:** After publication, the CDC officially concluded that Zika is a cause of microencephaly and other severe fetal brain defects. Public health officials have also found stronger evidence for a correlation between Zika and Guillian-Barre syndrome, as well as a connection between Zika and acute disseminated encephalomyelitis, a rare autoimmune disease that causes lesions in the brain and spinal cord that produce symptoms similar to multiple sclerosis. The National Institutes of Health have deemed local transmission in the United States "likely," but maintain there is no cause for alarm.]*

Business Travel Concerns

Regardless of what further research reveals, Zika is an active threat for many companies. Three major airlines—American, Delta and United—have offered refunds to passengers with travel booked to Zika-affected areas. Likewise, Delta and United announced in January that they were providing opt-out options for pilots and flight attendants traveling to these regions. The U.S. Department of Defense has offered to relocate pregnant military personnel, active-duty civilian employees and family members assigned to affected regions.

Chloe Demrovsky, executive director of the Disaster Recovery Institute, said employers have a responsibility to their employees and to other stakeholders who could be affected by the virus. Employers need to recognize that requiring an employee to travel to an area where Zika is present is "an irresponsible choice for the company," she said.

Demrovsky has already seen an impact within the travel and tourism industry. Hotels offering "baby-moon" getaways —a honeymoon of sorts for expecting couples—are noticing more cancellations from concerned customers, and she said both hotels and airlines have, for the most part, offered refunds. That has caused some of her clients to file claims against their business interruption policies.

"The big impact will be the Olympics," she said. "Tourism companies have seen a small impact from people cancelling travel plans, but they're going to see a much greater impact in terms of people deciding they're not traveling to see the Olympics."

Natalie Young, associate with the law firm Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, said travel is just one way the virus can pose a risk in the workplace. Besides the health risks to employees—particularly pregnant employees or those with pregnant partners—there are also legal risks for employers that are implementing new policies in response to these health risks.

Young has not seen any legal cases involving Zika or travel-related issues, and suspects any that arise would not make it to court as they would be a clear violation of employment discrimination laws since companies cannot require medical tests for infected employees or employees who have recently traveled to affected regions. "Medical tests can only be required if there's an objective basis or belief that an employee's medical condition is a direct threat to the workplace," she said. "At this point, particularly for the Zika virus, that threat has not been established."

Understandably, employers want to eliminate exposure to infection among employees, but there are specific steps employers can and cannot take, Young said. For example, if an employee is displaying symptoms, employers can ask them to go home until they are feeling better. That is not discrimination or a violation of any state or federal laws. Employers cannot, however, assume an employee has been exposed to any particular virus and require them to go home as that would be similar to a quarantine. Likewise, ordering employees who return from an affected area to stay home for any period of time would be considered legally impermissible. “Companies cannot act in a paternalistic way, even if their policies are created in the best interests of their employees,” Young explained. “Businesses should act in a common-sense way.”

Mitigating Zika Risk

The risk any company faces depends on a number of other factors, but from an employment perspective, the threat is largely workplace-specific. “There’s not a one-size-fits-all risk analysis approach,” Young said. “It depends on if they’re sending employees to affected regions for travel or business. It depends on if they staff employees in those regions. Such organizations will be responding differently than an organization located in a city that isn’t affected.”

She recommends companies establish an opt-out policy regarding travel, specifically one that does not require employees to disclose why they are opting out.

Because there are any number of ways in which companies can increase their risks by implementing a poorly-crafted policy, Zimmerman suggests a multi-pronged approach. Organizations, he said, should consult multiple internal experts, including medical and legal, as well as any external resources a company might have, such as their travel services.

He also recommends that companies review travel recommendations set forth by the CDC or other health organizations and use this information to update their policies. “A company should take a holistic view of this and take a look at what various organizations are recommending,” he said.

The main thing for businesses is to learn as much as possible about Zika and its potential impact on their operations. Demrovsky suggests educating the entire organization about the risks to all employees, not just those who are expecting a child, and encouraging an open dialogue on the subject. “It’s the most responsible thing they can do, and they can do it through the business continuity programs, by saying, ‘This is the risk if you’re traveling to this area, be particularly aware if you’re around someone who is pregnant, and if you’re pregnant, be more vigilant,’” she said.

Demrovsky primarily recommends a cautious approach. “With regard to the United States, we’re in the very early stages at this point,” she said. “It is important not to overreact, but to look at certain segments of your employee base who are traveling to, or are located in, these areas and focus on them rather than trying to mandate company-wide policies or screenings.”

Employers also need to be flexible. “Accommodate employees’ decisions to either delay trips, hold virtual meetings, or send someone else,” Demrovsky said.

It is important to remember that the outbreak is still evolving. “Several months ago, this wasn’t even on our radar,” Zimmerman said. “Now it has become a mainstay of conversation and risk assessment. We make our best estimate and judgment of risk based on the information we currently have. We must stay open-minded, keep our radar open to the new data as it comes out, and realize that, because of the dynamic nature of this, our recommendation or assessment may change over time.”

About the Author

Lori Widmer is a Philadelphia-based freelance writer and editor who specializes in risk management and insurance.

More articles by Lori Widmer »