Children's Hospital of Philadelphia
PolicyLab

The Zika Virus Explained

Population Health Sciences

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On February 1, the World Health Organization (WHO) declared the Zika virus an international public health emergency after seeing a substantial spike in cases in more than 25 countries and regions in North and South America. The Zika virus is strongly suspected to be linked to microcephaly, a birth defect where a baby's head is abnormally small.

Susan Coffin, MD, MPH, who is the Clinical Director of the Division of Infectious Diseases at The Children's Hospital of Philadelphia (CHOP), answered questions about the Zika virus.

Q: What is the Zika virus? What are the symptoms of Zika virus infection?

A: Zika virus is a Flavivirus, a group of viruses that includes other mosquito-spread diseases such as West Nile and Dengue Fever. Although we still have much to learn about the Zika virus infection, it appears that most people who get infected do not get any obvious symptoms. However, approximately one in five infected people develop a flu-like illness with fever, muscle aches and a rash. Some people also have conjunctivitis. Typically, the illness resolves within a week.

Q: How is the Zika virus usually spread?

A: Zika virus is mainly spread by the Aedes mosquito, a type of mosquito that typically bites people during the daytime. The disease is spread when a mosquito bites an infected person and acquires the virus. The virus can then be passed when the infected mosquito bites an uninfected person.

Q: Are there other ways Zika can spread?

A: At present, we don't fully understand all the possible ways that the Zika virus can spread. There is some new evidence that suggests the Zika virus can be spread through sexual contact although we don't know if this is a common way the virus is spread. There are concerns that the virus might be spread through blood transfusions, but this has not yet been proven.

Q: Why is Zika spreading so rapidly now?

A: The Zika virus has been around for over 50 years. In the past, it mainly caused small, localized outbreaks in rural or secluded areas. We are unsure why the Zika virus is now spreading more rapidly, but it may be related to poor mosquito control in urban settings and increased international travel.

Q: What is microcephaly and how is it connected to the Zika virus?

A: Microcephaly is a term used to refer to babies who are born with abnormally small heads. It is unclear how the Zika virus causes microcephaly, but it appears to inhibit in utero brain growth, which then leads to impaired head growth.

Q: How does microcephaly impact a child's development?

A: Because microcephaly is usually associated with impaired brain growth, it is commonly associated with developmental delay and other disabilities. Some children who are thought to have Zika virus-related microcephaly have had vision and hearing impairments as well as moderate-to-severe learning disabilities.

Q: What is the significance of the World Health Organization (WHO) declaring the Zika virus an international public health emergency?

A: When an international public health emergency is declared, it provides the attention and resources needed to implement a coordinated global response to control the disease in countries currently affected and limit spread to other countries. It often prompts action and funding from governments and nonprofit organizations across the globe. This is only the fourth time the WHO has declared a public health emergency since 2007, when it first established the procedure. The first time was in 2009 for the influenza pandemic. The second was in May 2014 when polio seemed to be resurging, and the third was in August 2014 for the Ebola outbreak in West Africa.

Q: What are public health officials doing to combat the spread of the virus?

A: Public health officials are taking a multi-pronged attack to control the Zika virus. First, they are working to control mosquitos in areas where there is already the Zika virus by draining standing water to prevent mosquitos from breeding and interrupting contact between humans and mosquitos by use of barriers, repellants and insecticides. Second, public health officials are educating people who may have the Zika virus to protect themselves from being bitten by mosquitos, which will limit the future spread of the virus. Lastly, they are conducting detailed surveillance so they can detect if the Zika virus has spread to a new area.

Q: What precautions should pregnant women take?

A: As of now, the U.S. Centers for Disease Control and Prevention (CDC) recommends that women who are pregnant avoid traveling to countries where the Zika virus has been detected and to use a condom if having sex with someone who has been to a Zika-affected country.

Q: Florida recently declared a state of emergency after nine people were diagnosed with the Zika virus after traveling outside the U.S. What is the likelihood that the virus could start to spread from mosquito to person in Florida and throughout the U.S.?

A: Because international travel is so common, it is likely that the Zika virus will continue to be diagnosed in returning travelers. It is also possible that there may be some small clusters of the Zika virus that is spread to people who have not traveled to a Zika-affected country. This could happen if a person with an active Zika virus infection is bit by a mosquito that then bites another person.

Q: How long will it take before a vaccine or treatment is made available?

A: It is unknown how long it will take scientists to develop a vaccine to prevent or a medicine to treat Zika virus infection. For people who live in or travel to countries where there is Zika virus, the best strategy to prevent infection is to avoid mosquito bites. Simple strategies such as wearing long pants and long-sleeved shirts and using mosquito repellants will provide some protection.

Susan Coffin, MD, MPH
