

**EPI Update for Friday, March 4, 2016**  
**Center for Acute Disease Epidemiology (CADE)**  
**Iowa Department of Public Health (IDPH)**

**Items for this week's EPI Update include:**

- **Locally-acquired viral diseases: Zika, dengue, Chikungunya**
- **Influenza testing of hospitalized patients**
- **History of Zika virus**
- **Reportable disease poster available from Clearinghouse**
- **Meeting announcements and training opportunities**

**Locally-acquired viral diseases: Zika, dengue, Chikungunya**

Zika, dengue, and Chikungunya viruses are typically transmitted to humans via *Aedes* mosquitos, which are ubiquitous in the tropical and sub-tropical regions of the Caribbean, and Central and South America. *Aedes* mosquitoes are also established in U.S. areas bordering the Gulf of Mexico, and in U.S. territories in the Caribbean, such as Puerto Rico and the U.S. Virgin Islands.

Once a human is infected, the virus in the bloodstream can be picked up by a biting mosquito, then transmitted to another human nearby (this is called locally-acquired disease). Although there have not been any cases of locally-acquired Zika in the continental U.S., locally-acquired dengue and Chikungunya have occurred in Florida. These situations were quickly controlled in Florida, after only a handful of locally-acquired cases, by 1) mosquito control methods, 2) the low level of interaction between people and *Aedes* mosquitos, and 3) the number of travelers returning to Florida with (time-limited) viremia being too low to sustain mosquito transmission.

In 2014, Florida reported seven cases of locally-acquired dengue and 12 cases of Chikungunya. This correlates to the 82 travel-associated cases of dengue and 475 of Chikungunya in Florida that year. In comparison, Puerto Rico reported 527 locally-acquired cases of dengue and 4,242 locally-acquired Chikungunya cases in 2014. Thus far in 2016, 42 cases of travel-associated Zika have been confirmed in Florida.

Health care providers and public health officials must stay alert to the possibility of locally-acquired infections. As more U.S. travelers return from the Caribbean, and Central and South America where transmission of these viral diseases is established, the chance of locally-acquired transmission in the continental U.S. increases.

For more information on Zika virus, visit; [www.cdc.gov/zika/index.html](http://www.cdc.gov/zika/index.html)

**Influenza testing of hospitalized patients**

Influenza in Iowa remains widespread. Please continue to submit specimens for influenza testing to the State Hygienic Laboratory for all hospitalized patients with influenza-like illness and without other apparent illness cause. Preferred specimens include a nasopharyngeal swab or a combined nasal plus throat swab (two swabs in one transport medium tube).

For more information on the Iowa Influenza Surveillance Network, visit [idph.iowa.gov/influenza](http://idph.iowa.gov/influenza).

### **History of Zika virus**

In 1947, Zika virus was first isolated in a monkey from the Zika forest of Uganda and by 1952, it was being found in asymptomatic patients in both Uganda and Tanzania. In 1964, Zika was isolated from a man with mild symptoms, including a rash. Over the next 15 or so years, Zika was found throughout equatorial Africa and Asia, and 14 more human cases were reported.

Things changed in 2007, when the first reported outbreak of Zika virus occurred on Yap Island, Micronesia, and in 2008, when sexual transmission was described. During a 2013-14 outbreak in French Polynesia, Guillain-Barré syndrome was first linked to Zika infection. By May of 2015, Zika had reached South America, with locally transmitted disease reported in Brazil as well as its association with microcephaly. For more information on the historical distribution of Zika virus from 1947 to 2016, visit [www.who.int/emergencies/zika-virus/zika-historical-distribution.pdf?ua=1](http://www.who.int/emergencies/zika-virus/zika-historical-distribution.pdf?ua=1).

Since Zika virus infection causes symptoms in only 20 percent of cases, the illness is typically mild, and because of limited testing availability, it is very likely cases have been underreported. In Africa and Asia, where Zika has been established, a large proportion of the population may be immune; however, when first introduced into immunologically-naïve populations, such as Pacific islanders, large outbreaks of Zika virus can be expected. This is comparable to the introduction of West Nile virus into the U.S. in 2002, followed by the large Iowa outbreaks in 2003-2004. For more information, visit Iowa's *Archived Surveillance Data* at [idph.iowa.gov/cade/disease-information/west-nile-virus](http://idph.iowa.gov/cade/disease-information/west-nile-virus).

For more historical information on Zika, visit [www.who.int/bulletin/online\\_first/16-171082/en/](http://www.who.int/bulletin/online_first/16-171082/en/).

### **Reportable disease poster available from Clearinghouse**

The new reportable disease poster is now available from the Clearinghouse; visit [healthclearhouse.drugfreeinfo.org/cart.php?target=product&product\\_id=17042&category\\_id=295](http://healthclearhouse.drugfreeinfo.org/cart.php?target=product&product_id=17042&category_id=295).

### **Meeting announcements and training opportunities**

The *2016 Iowa Governor's Conference on Public Health* will be held April 12 and 13 at the Holiday Inn Des Moines - Airport. To register, visit [www.iowapha.org/event-2113650](http://www.iowapha.org/event-2113650).

### **Have a healthy and happy week!**

Center for Acute Disease Epidemiology  
Iowa Department of Public Health  
800-362-2736