

Florida Department of Health in Miami-Dade County

November 2019 Vol 20, Issue 11

Public Health LOOK OUT!

• December 1st is World AIDS Day. This day has been observed since 1988 and this year's theme is "Ending the HIV/AIDS Epidemic: Community by Community". The goal of this observance is to raise awareness of AIDS, to educate communities about ways to prevent and treat HIV infections, and to commemorate the lives of those who died due to this disease. Click on the image on the right to visit the U.S. Department of Health & Human Services' webpage on HIV.



- December is National Drunk and Drugged Driving Prevention Month, a time during which public and private sector organizations raise awareness of the dangers of impaired driving with the hope of preventing accidents and fatalities. According to the National Highway Traffic Safety Administration (NHTSA), drunk-driving-related deaths claim more than 10,000 lives per year. Additionally, in about 16% of motor vehicle crashes, legal and illegal drugs (other than alcohol) are involved. To avoid impaired driving this holiday season, you can make use of the "Tow To Go" service offered by AAA and Budweiser that provides a free confidential ride from anywhere to anyone. AAA membership is not required. <u>Click here</u> for more information on Tow To Go Services. For more information on the risks of impaired driving, <u>click here</u>.
- December is also Safe Toys and Celebrations Month. According to the U.S. Consumer Product Safety Commission's (CPSC) annual report on Toy-Related Deaths and Injuries, there were an estimated 226,100 toy-related injuries treated in U.S. hospital emergency departments and 17 deaths in 2018. For tips on buying age-appropriate toys for the holidays you can visit the Toy Association's Play Safe website for an <u>age-by-age toy buying guide</u>.

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Food Safety Tips for Thanksgiving

By: Daniel Mauck

A foodborne disease outbreak is defined as two or more similar illnesses resulting from ingestion of the same food item.¹ Common symptoms of foodborne illness include vomiting, diarrhea, abdominal cramps, and flu-like symptoms.² The symptoms can start anywhere from hours to days after consuming contaminated food or drinks.² Symptoms often go away within a few hours to a few days, usually without medical treatment in healthy people.² Foodborne illness can be severe or life-threatening for older adults, infants, young children, pregnant women, and people with a suppressed or weakened immune system.²

Between 1998 and 2012, there were 1,114 reports of foodborne disease where the implicated food or ingredient could be identified; poultry was the most frequently reported food category among the outbreaks (25%).¹ Outbreaks associated with poultry accounted for more illnesses (27%) and hospitalizations (21%) than any other food category.¹ Restaurants were the most commonly reported location of food preparation of poultry-associated outbreaks (37%), followed by private homes (25%).¹ The most commonly reported factors contributing to poultry-associated outbreaks were food-handling errors (64%) and inadequate cooking (53%).¹

Practicing food safety when thawing, handling, cooking, and storing food this Thanksgiving can help prevent foodborne illness.³ It is not recommended to thaw a turkey on the counter.³ This can allow the growth of harmful bacteria.³ When thawing a turkey in the refrigerator, allow one day for every five pounds of turkey.⁴ It is also important to practice safety when handling uncooked food. Wash your hands with soap and water for 20 seconds before and after handling food.² Wash cutting boards, utensils, and countertops after preparing each food item.² Do not rinse raw meat before cooking.² This can cause bacteria to spread around the sink and countertop if water or other liquid splashes.² Turkey should be cooked to an internal temperature of 165°F.³ The temperature can be checked by inserting a food thermometer into the center of the stuffing and the thickest portions of the breast, thigh, and wing joint.³

Proper handling of leftovers can also reduce the risk of foodborne illness. Leftover food should be refrigerated as soon as possible or within two hours.³ Do not store leftover stuffing inside the turkey.⁵ Leftovers should be eaten within three to four days or can be frozen for longer storage.⁵

These few simple practices can help prevent foodborne illness:

- Handwashing is one of the most important. Hands should be washed for 20 seconds, making sure to scrub the backs of hands, between fingers, and under nails.⁶
- Do not use the same cutting boards and utensils to prepare meats and produce; use separate ones.⁶
- Food should be thawed or marinated in the refrigerator to prevent growth of harmful bacteria.⁶
- Use a food thermometer to make sure food is cooked to an internal temperature hot enough to kill germs.⁶
- Food should be refrigerated in a shallow container within two hours after preparation.⁶

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The Buzz About Dengue

By: Nicole Muse and Jenna Webb

Background

Dengue fever is a mosquito-borne illness caused by the infection of any of the four virus serotypes (DENV1-4).¹ Belonging to the genus *Flavivirus*, within the family *Flaviviridae*, these four dengue viruses are closely related to other arboviruses such as Zika, Yellow Fever, West Nile Fever, and Japanese Encephalitis viruses.

The emergence of dengue as a global public health problem initiated during the Chin dynasty (265-420 A.D.) with the earliest recorded case published in a Chinese encyclopedia.² By the start of the 19th century, first reports of major dengue epidemics had been widely distributed geographically throughout Asia, Africa, and North America. In the American continents, programs were implemented to eradicate the mosquito vector and epidemic dengue was eventually found to be rare. These efforts were discontinued in the early 1970s. As a result, the vector *Aedes aegypti* reemerged gaining back the geographic distribution it once held, intensifying dengue transmission by introducing new virus serotypes, and causing many nonendemic countries to become endemic to this disease.² To date, 40% of the world's population live in areas with risk of dengue and 903 cases have been reported in the U.S. in 2019, according to the CDC.³ In the state of Florida, the last epidemic of locally transmitted dengue was in 1934 with 15,000 people reported to be infected and since then, the only reported cases in Florida were from people visiting dengue-endemic countries. However, the virus began recirculating in Florida in 2010 when 63 locally-acquired cases were reported in Monroe County, one in Broward County, and one in Miami-Dade County4. Since that year, dengue became a nationally notifiable disease.

Transmission

Dengue is transmitted primarily by the infected female *Aedes aegypti* or the *Aedes albopictus* mosquito.¹ Once a human is infected, the incubation period is on average one week with a range of 3 to 14 days. During the 1 to 2 days of viremia before symptom onset, DENV may also be transmitted by means of blood transfusions, receipt of organ donation, or as an occupational accident in a healthcare or laboratory setting.⁴ Vertical transmission may also occur when an infected pregnant woman transmits the virus to her fetus in utero or during delivery, increasing the risk for obstetric and neonatal complications.¹ Infection with one of the four dengue serotypes does not provide lifelong immunity to the other DENVs.⁵

Figure 1. Incidence Rates of Dengue Fever in Florida and Miami-Dade County, 2015-2019.



^{*}Florida and Miami-Dade County populations were derived from Florida Charts.

Clinical Manifestation and Diagnosis

Even though most dengue infections are asymptomatic, approximately one in four people infected with DENV will get sick with mild or severe symptoms including fever (104 F degrees), combined with either nausea, vomiting, rash, headache, muscle and joint pains, or pain behind the eyes. Symptoms typically last 2-7 days.⁶ Severe dengue — dengue hemorrhagic fever and dengue shock syndrome — may also occur but with the addition of hemorrhaging due to decreased platelet count, signs of shock, and even death.² According to the CDC, approximately 1 in 20 people infected with dengue who are symptomatic will develop severe dengue. DENV infections with any of the four viral serotypes will only provide long-lasting immunity with that particular DENV serotype. However, infection may occur again with the transmission of any of the other three DENV serotypes.⁷

Laboratory diagnosis of dengue is performed by testing blood serum to detect viral components or antibodies produced in response to the infection in those who present with signs and symptoms or recent possible exposure with the dengue virus.⁷ There are three primary diagnostic tests available: Reverse-transcriptase-polymerase-chain-reaction (RT-PCR) assay, serology tests (IgM and IgG antibody detection), and plaque reduction neutralization test (PRNT).

Since the Dengue and Zika virus are members of the *Flavivirus* family, it is difficult to specifically diagnose for dengue through laboratory testing due to the cross-reactivity and structural similarity between both viruses.⁸ As a result of the similar nature of these two viruses, there is a higher risk of misinterpretation of the test results, misdiagnosis, and a higher rate of false positives depending on how reliable the assay test is. In August of this year, the Florida Department of Health in Miami-Dade County (DOH-Miami Dade) sent out an updated guidance on dengue to local clinicians: "Dengue Fever – Information for Clinicians". The document is included at the end of this article.

Total Number of Cases

Disease Status

Age Group

Gender

Race/Ethnicity

Current Miami-Dade County Status

According to the World Health Organization, the number of reported dengue cases has increased approximately 6-fold between 2010 (0.5 million) to 2016 (over 3.34 million).⁸ Although in the past this disease was concentrated in only 9 countries, currently more than 100 countries, including the Americas and Europe, now consider this disease to be endemic.⁶ Brazil alone reported 1.5 million cases out of the 2.38 million cases reported in the Americas in 2016. Post Zika outbreak, a decline of dengue cases was noticed during the 2017-2018 years with a 73% reduction compared to 2016.⁸ However, during the 2019 year, a drastic increase in dengue cases has been observed, where DENV-1 and DENV-2 have been the most common serotypes to be circulating in Southeast Asian and Central American region.⁶

Miami-Dade County has become a gateway for travelassociated cases and emergence of locally-acquired dengue cases due to the vast amounts of international travelers from dengue-endemic Caribbean and Latin American countries,

and the presence of *Aedes* mosquito populations increasing as a result of suiting environmental factors. As of August 6, 2019, the Florida Department of Health in Miami-Dade County has confirmed the first locally-acquired case of dengue. Since then, 11 locally-acquired cases have been confirmed in Miami-Dade County and a mosquito-borne illness alert has been issued. In 2019, a total of 325 travel-associated cases and 12 locally-acquired cases of dengue have been reported in the state of Florida.

Methods

Case investigation data for cases of DENV that were reported to DOH-Miami-Dade between January 1, 2015 and November 3, 2019 were obtained from Merlin, the Florida Department of Health Epidemiology Electronic Surveillance System. The data obtained consisted of laboratory report date and travel history for confirmed, probable, and suspect cases. The data were analyzed using version 3.6 of SAS Studio.

Results

Between 2015 and 2019, the case counts for dengue have been on the rise. In 2019, Florida has reported 346 dengue cases with an incidence rate of 1.63 per 100,000. Of all the

Florida cases, Miami-Dade County contributed to 206 (~60%) of dengue cases reported with the highest incidence rate (7.18 per 100,000) in the last 5 years (Figure 1). A drop in the incidence rate was noted in 2017. A few investigators proposed that a possible explanation for this may be that in those infected with Zika during the outbreak a Zika immunity was induced, thereby creating a cross-protection against dengue.⁹ Over 88% (n=180) of dengue reported cases in Miami-Dade County were classified as confirmed cases.



Confirmed

Probable

Suspect

0-14

15-44

45-

Female

Hispanio

Non-Hispanic White

Non-Hispanic Other

Other/Unknown

Male

Florida n(%)

346

292(84.4)

38(11)

16(4.6)

28(8.1)

109(31.5)

209(60.4)

190(54.9)

156(45.1)

17(4.9)

5(1.5)

290(83.8)

34(9.8)

Miami-Dade

County n(%)

206

180(88.24)

16(7.84)

8(3.92)

12(5.9)

59(28.9)

133(65.2)

110(53.9)

94(46.1)

4(2.0)

2(1.0)

192(94.1)

6(2.9)

Figure 2. Reported Confirmed and Probable Dengue Fever Cases by
Origin and Disease Status – Miami-Dade County, 2019.



Among all cases, dengue infection occurred more commonly in females (55%, 54%) than in males (45%, 46%) and the greatest number of cases predominated in the Hispanic ethnic group (84%, 94%) for both Florida and Miami-Dade County as seen on Table 1. Cases reporting a "Country of Origin" located in Central America or the Caribbean represented the majority of DENV infections acquired outside of Florida, with the highest number of cases coming from Cuba (n=130, 72%), as shown in Figure 2. However, due to the 10 (5.52%) confirmed locally-acquired dengue cases reported in Miami-Dade County, the state of Florida has the second highest number of

Figure 3. Reported Dengue Fever Cases by Epi Week in Miami-Dade County and All Other Counties in Florida, 2019.



reported cases by place of origin. A weekly analysis of the distribution of dengue cases in 2019 for Miami-Dade County has shown an increase after week 23 (n=5) with a peak observed in week 37 (n=19), followed by a noteworthy decrease. Dengue cases reported for all other counties in Florida reached its peak in week 34 (n=13). Although dengue is known to be a seasonal disease, cases can occur at any time of the year as seen on Figure 3.

Prevention and Control

Increased travel, urbanization, expanding geographic population distribution, and climate change are just a few factors that have contributed to an increase in dengue incidence.⁵ These raise awareness for the need and urgency of developing prevention and control measures for dengue. With no vaccine currently available to prevent this disease, it is important to have an efficient active surveillance system in county health departments and hospitals, provide education to the medical and public community, and implement an effective mosquito control program to eliminate the vector.¹⁰

The DOH-Miami-Dade County monitors dengue by investigating reports of clinical and laboratory evidence. Epidemiologists in the DOH also perform a syndromic surveillance through ESSENCE FL by querying key words related to the symptoms of the disease and investigating possible cases of interest. In addition, as of August 2019, the Florida Department of Health in Miami-Dade County has initiated an enhanced surveillance system by partnering with select health care facilities in Miami-Dade County and offering free arboviral testing through the Bureau of Public Health Laboratory (BPHL) through December 31, 2019.

In order to prevent the bite and spread of mosquito-borne diseases, it is important to "Drain and Cover." Mosquitos only need a small amount of water the size of a bottle cap to breed. Any standing water that may accumulate in containers such as flower pots, garbage cans, pool covers, birdbaths, or others should be drained. Cover windows, sliding doors, and patios with screens to prevent the entrance of any mosquitos to your home area. Always spray on repellent containing 20-30% DEET on bare skin or clothing, and wear clothing that covers the arms and legs when mosquitos are active.¹¹ Miami-Dade County's Mosquito Control program works closely with the Department of Health to control the mosquito population by using a variety of surveillance methods to identify and track mosquito populations that live in an area of interest. Inspectors are also sent out to locations of suspect cases upon referral by the Department of Health where possible arboviral transmission may occur or upon request by County residents who report any significant mosquito activity or breeding sites found in their home residence.

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Florida Department of Health in Miami-Dade County Epidemiology, Disease Control and Immunization Services

Influenza Like Illness Surveillance Report

On a daily basis, all of Miami-Dade County's emergency department (ED) hospitals electronically transmit ED data to the Florida Department of Health. This data is then categorized into 11 distinct syndromes. The influenza-like illness (ILI) syndrome consists of fever with either cough or sore throat. It can also include a chief complaint of "flu" or "ILI". This season's 2019-2020 data is compared to the previous 4 influenza seasons (2015-2016, 2016-2017, 2017-2018, 2018-2019).

Influenza-Like-Illness, All Age



Across all ages, there were 35,438 ED visits; among them 2,358 (6.7%) were ILI. During the same week last year, 6.1% of ED visits were ILI.

PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

Florida Department of Health in Miami-Dade County NEEDS Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact **Stephanie Calle** at 305-470-5660.



MlamI-Dade County Monthly Report Select Reportable Disease/Conditions October 2019

Diseases/Conditions	2019 Current Month	2019 Year to Date	2018 Year to Date	2017 Year to Date
HIV/AIDS				
AIDS*	45	358	363	321
HIV STD	126	1165	1099	1044
Infectious Syphilis*	29	314	398	313
Chlamydia*	1399	12638	11272	10176
Gonorrhea*	436	3993	3545	2794
ТВ				
Tuberculosis**	4	95	100	74
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	68	732	676	572
Chikungunya Fever	2	2	1	1
Ciguatera Poisoning	2	43	34	7
Cryptosporidiosis	0	59	37	38
Cyclosporiasis	0	26	0	4
Dengue Fever	56	192	17	5
Escherichia coli, Shiga Toxin-Producing	15	124	153	28
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	21	156	154	113
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	1	1	1
Legionellosis	2	41	54	38
Leptospirosis	0	0	1	0
Listeriosis	4	5	5	7
Lyme disease	0	2	4	4
Malaria	0	3	11	5
Meningitis (except aseptic)	0	9	9	9
Meningococcal Disease	0	3	0	6
Salmonella serotype Typhy (Typhoid Fever)	0	3	4	2
Salmonellosis	117	866	699	663
Shigellosis	14	223	249	89
Streptococcus pneumoniae, Drug Resistant	2	18	14	23
Vibriosis	1	16	6	4
West Nile Fever	0	0	0	0
Zika Virus (non-congenital)	5	28	27	118
Immunization Preventable Diseases				
Measles	0	0	3	0
Mumps	4	59	7	6
Pertussis	4	32	15	32
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	16	144	66	37
Hepatitis				
Hepatitis A Hepatitis B (Acute)	4 9	34 56	15 42	106 34
Healthy Homes				
Lead Poisoning	19	112	163	339

*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level. Data on EDC-IS includes Confirmed and Probable cases.

What's New at DOH Miami-Dade

- The Miami-Dade WIC and Nutrition Program will be hosting their 6th annual Holiday Health & Resource Fair on Saturday December 7th, 2019 from 9:30am-1:30pm at the Florida City WIC Clinic at 753 West Palm Drive Florida City, FL 33034. It is free and open to the public. There were over 2,000 people in attendance last year who received health screenings, books, toys, food, and prizes.
- The Florida Department of Health in Miami-Dade is under a Mosquito Borne Illness alert. A case of dengue fever of local transmission has been confirmed in a Miami-Dade resident. Miami has twelve local cases in 2019. To protect yourself and others practice personal mosquito protection and remember to "<u>Drain and Cover.</u>"
- December 1st is World AIDS Day. The Department of Health is partnering with organizations throughout the state in observance. The theme this year is Ending the HIV Epidemic: Community by Community. Find out what events are going on near you: <u>https://knowyourhivstatus.com/calendar/</u>





The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, please contact Vanessa Villamil at 305-470-5643 or vanessa.villamil@flhealth.gov.





For more information contact (305) 242-2459 or (786) 385-8657 This institution is an equal opportunity provider

To report diseases and for information, call EDC-IS at:

Childhood Lead Poisoning Prevention Program	305-470-6877
Epidemiology and Disease Surveillance	305-470-5660
Hepatitis Program	305-470-5536
HIV/AIDS Program	305-470-6999
Immunization Services	305-470-5660
STD Program	305-575-5430
Tuberculosis Program	305-575-5415
Appointment Line	786-845-0550