

Epi Monthly

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Public Health LOOK OUT!

Florida Department of Health in Miami-Dade County

- **Teen Dating Violence Awareness Month** is in February! Teen dating violence affects approximately 10% of all teenagers between the ages of 12 to 18. Teen dating violence includes stalking, harassment, and physical or sexual abuse, and may lead to suicidal thoughts, antisocial behaviors, depression, and engagement in alcohol or drug use. Throughout February, organizations and individuals nationwide are coming together to highlight the need to educate young people about dating violence, teach healthy relationship skills and prevent the devastating cycle of abuse. Visit <https://www.loveisrespect.org/get-involved/tdvam/> to learn more.
- **Sepsis Survivor Week** is observed from February 11th to February 17th. Up to 60% of sepsis survivors are left not only with physical challenges but mental and emotional challenges too. During Sepsis Survivor Week, sepsis survivors are honored by sharing their individual stories of survival and bringing awareness to the challenges many survivors face every day. If you are a healthcare professional looking for courses around sepsis survivorship, [click here](#). For more information about Sepsis Survivor Week, visit <https://www.sepsis.org/sepsis-survivor-week/>.
- Join us in observing **World Cancer Day** on February 4th. World Cancer Day is a global initiative led by the Union for International Cancer Control (UICC). UICC raises worldwide awareness, improves education, and encourages collective action towards working together to prevent cancer-related deaths. This year's World Cancer Day's theme is "Close the Care Gap", which is all about making sure our leaders know that we demand a commitment to prioritizing cancer, to creating innovative strategies designed to confront inequality and to investing resources to achieve a cancer-free world. Visit <https://www.worldcancerday.org/about-us> for more information.

For the most recent information on COVID-19 in Florida please visit: <https://floridahealthcovid19.gov/>

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February is Teen Dating Violence Awareness Month

LOVE IS RESPECT

Click the image to the left to watch the video.

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Background

Dengue is a mosquito-borne disease that infects approximately 100-400 million people worldwide each year.¹ The vector for dengue are female mosquitos from the *Aedes* genus and the incubation period after being bitten by an infected mosquito is about 3-14 days.² Due to globalization, climate change, and urbanization, dengue has increased its geographic distribution, making it the most prevalent arboviral disease globally.³ Currently, four serotypes of dengue virus (DEN-1, DEN-2, DEN-3, and DEN-4) have been identified.² The World Health Organization (WHO) reports that cases of dengue have grown exponentially over the years and the virus has become endemic in new areas. Commonly found in tropical and subtropical countries, about 50% of the world's population is now at risk of contracting dengue.¹ Though many decades ago the mosquito-borne disease was eliminated from the United States, Florida has experienced dengue within several parts of the state. In 2009, Florida observed its first locally acquired case since 1934.² The purpose of this study is to analyze demographic and geographic characteristics of confirmed dengue cases in Miami-Dade County from 2019-2023.

Transmission

Dengue virus is spread through the bite of an infected female mosquito from the *Aedes* genus.¹ Out of all the species in the *Aedes* genus, *A. aegypti* and *A. albopictus* are regarded as the best vectors.³ It is important to note that both species of mosquito are endemic in Florida.² Being well adapted to humans, *Aedes aegypti* can commonly be found inside or nearby homes, allowing them to lay eggs in containers that may collect standing water such as tires, tin cans, and buckets. With the rise of urbanization and increase in population sizes, as people are in a closer proximity, the mosquito can take multiple blood meals.³ In addition, expecting mothers can pass the virus to their fetus if they are infected during the pregnancy or around the time of birth. Though rare, one can be infected with dengue if they are exposed to contaminated blood in laboratory or healthcare settings.⁴

Symptoms and Treatment

Most people who are infected with dengue have mild to no symptoms. Dengue symptoms can last for 2-7 days and generally consist of fever accompanied by rash, nausea, vomiting, and aches and pains (i.e. eye pain, muscle, bone, or joint pain). Symptoms of severe dengue can occur once fever has resolved and can become serious in just a few hours. Signs of severe dengue include belly pain, bleeding from the nose or gums, fatigue, rapid breathing, and blood in vomit or stool.¹ All symptoms of severe dengue are warnings that require immediate attention at a hospital or clinic. Even though you can gain lifetime immunity to a particular dengue virus strain you were previously infected with, you can still be re-infected with a different strain, heightening the risk for severe dengue.⁵ There is currently no designated treatment for dengue and those with the disease are geared towards treating pain symptoms. Acetaminophen is commonly recommended as nonsteroidal anti-inflammatory drugs like ibuprofen and aspirin may increase the risk of bleeding.¹

Methods

Confirmed cases of dengue in Miami-Dade County between 01/01/2019 and 12/31/2023 were obtained from the Florida Department of Health, Epidemiology Diseases Surveillance System, Merlin, by event date. Incidence rates were calculated per 100,000 population using population estimates from Florida Health Charts. Frequencies were calculated by age, gender, race/ethnicity, month of diagnosis, origin of infection, and use of prevention measures using SAS 9.4. ARCGIS Pro was used to geocode and identify high-density areas. ARCGIS Pro's Density-Based Clustering tool was utilized to identify clusters close both spatially and temporally. A defined distance of 300 meters was selected based on flight range of an *Aedes* mosquito. Additionally, a time interval of one month was selected based on the life span of an *Aedes* mosquito and the incubation period for dengue. For a cluster to be identified, a minimum of three cases were required including at least one locally acquired case.

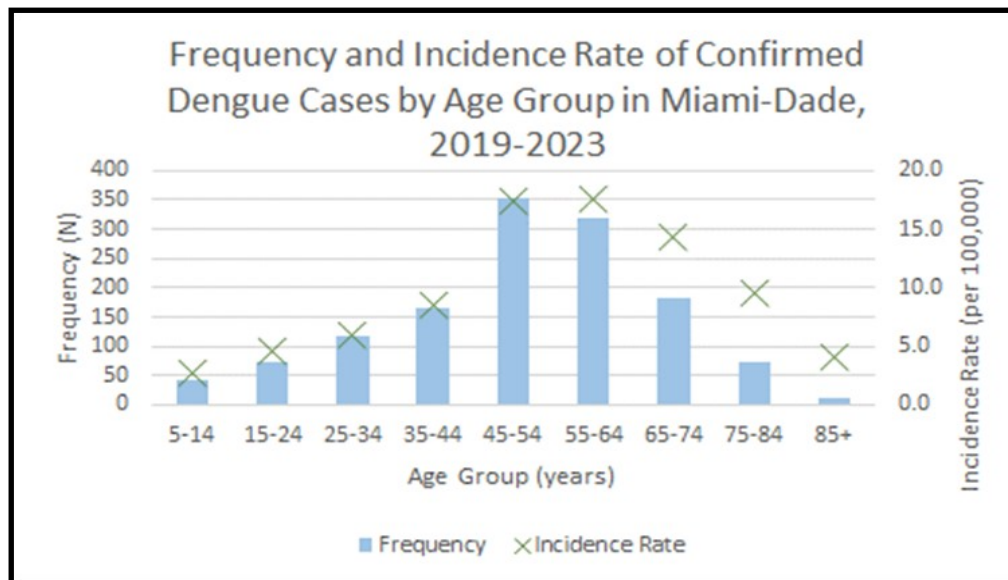
Results

There was a total of 1,341 confirmed dengue cases reported in Miami-Dade County between 01/01/2019 and 12/31/2023. Of them, 627 occurred in 2022, accounting for 47% of cases within the five-year span. The year with the lowest number of confirmed dengue cases was in 2021 with 14 cases.

Age

Most dengue infections occurred among adults aged 45-54 (Figure 1). The incidence rate for adults aged 45-54 was 17.4 per 100,000. During the five-year span, adults aged over 85 had the lowest incidence rate and case frequency, 4.0 per 100,000 and 13, respectively.

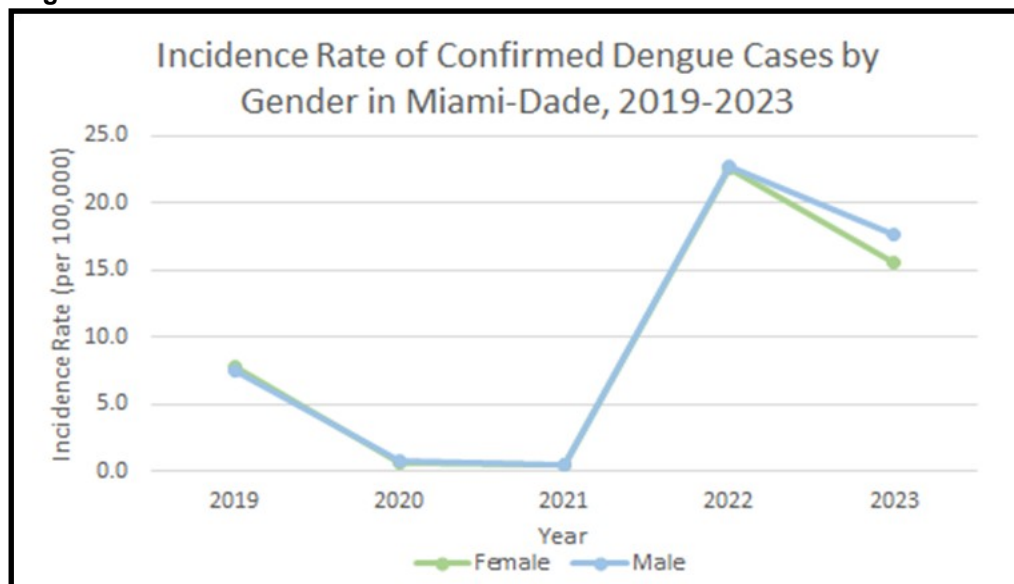
Figure 1.



Sex

Cases were equally distributed according to gender. Incidence rates for both men and women increased from 2021 to 2022. However, incidence rate for women dropped from 22.5 in 2022 to 15.5 per 100,000 population in 2023 (Figure 2).

Figure 2.



Race/Ethnicity

From 2019-2023, 1,258 cases were reported among Hispanics which accounted for 94% of the total cases. Incidence rates were lowest among Non-Hispanic Blacks with 0.51 per 100,000 population over all five years (Figure 3).

Seasonality

As shown in Figure 4, August and September had the highest total frequency of cases in Miami-Dade County with 265 cases. There is a drastic increase in cases from June to July, 62 to 205 cases respectively. Whereas from November to December there is a decrease from 146 to 66 cases.

Origin of Infection

No locally acquired dengue cases were observed in 2021 and there were only 14 imported cases that year. In 2022, there were 58 locally acquired cases but in 2023 that number increased to 153. As seen in Figure 5, the majority of imported cases were observed in 2022, accounting for about 51% of the cases over the five-year span. Most imported dengue cases report travel to Cuba, Central America, and South America.

Use of Prevention Measures

According to Figure 6, it was noted that 75% of cases did not partake in any type of measure that could avoid them being bitten by mosquitos. This can be problematic especially in Miami-Dade residents who may frequently travel to dengue endemic areas.

Figure 3.

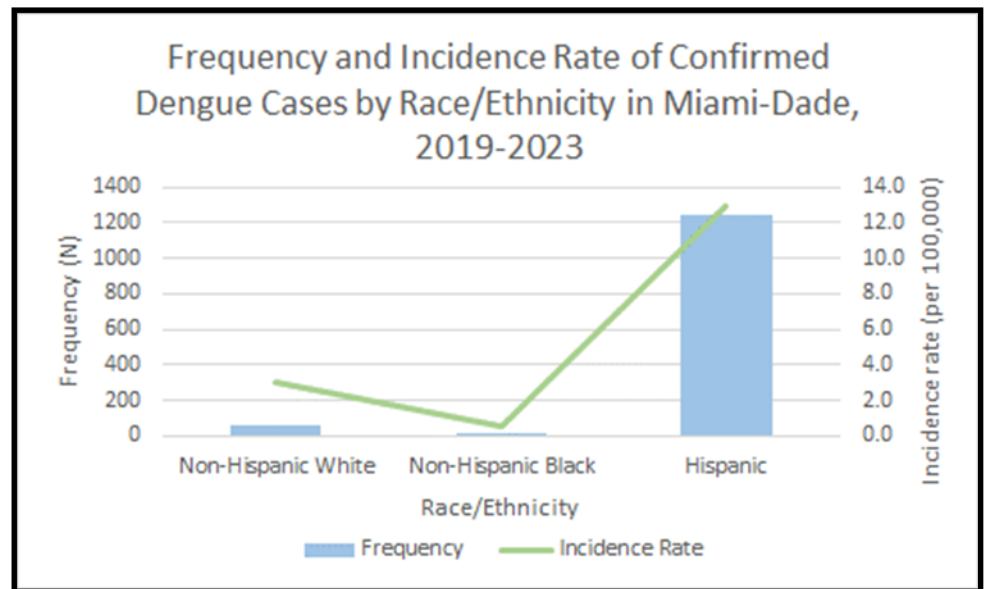


Figure 4.

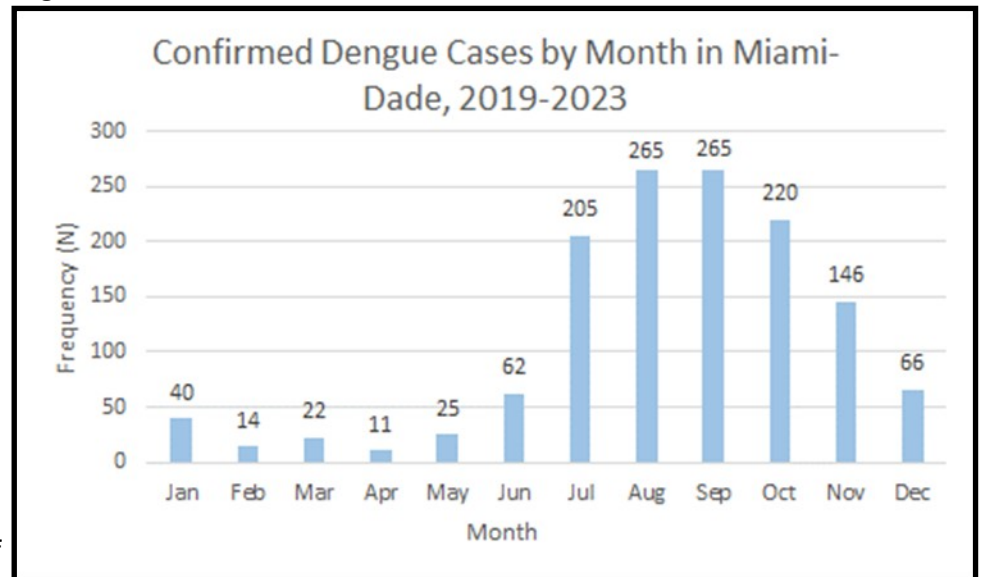
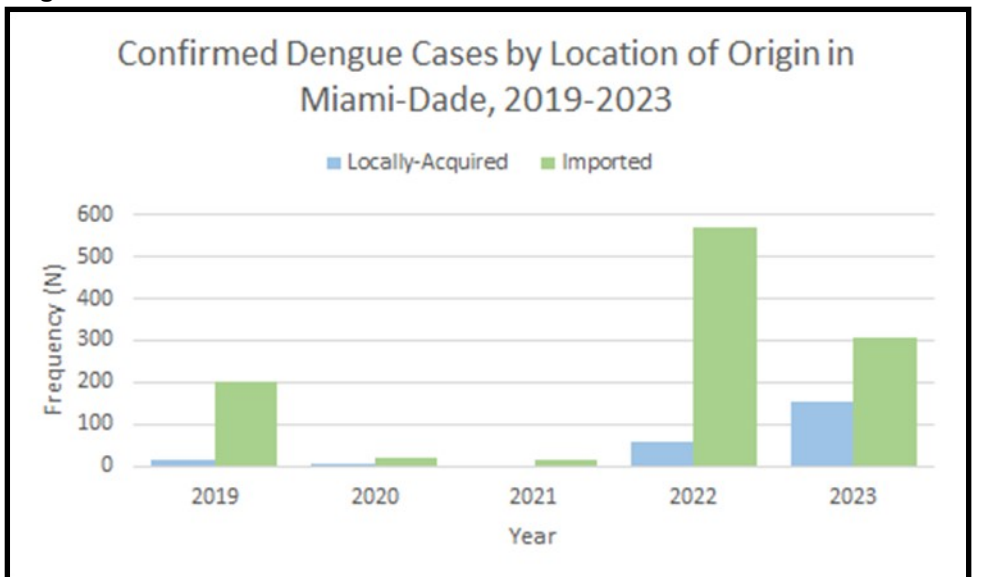


Figure 5.



Distribution of Cases in Miami-Dade

Figure 7 demonstrates high density areas of confirmed dengue cases. Areas of high density were observed in Hialeah and Little Havana with over 12 cases per square mile. Other areas with increased frequency of confirmed dengue cases include Sweetwater and Kendall. In 2023, clusters of locally acquired cases were identified in Little Havana, Hialeah, and Miami Gardens.

Discussion

Findings from this data analysis reflect the increase of dengue cases described by the World Health Organization. Since mosquito activity can be year-round in Florida, taking measures towards vector control is vital.⁶ During the summer 2023, Miami-Dade County experienced record-breaking high temperatures placing the county multiple times under heat advisory for the first time since 2020.⁸ Such climate provides an environment for infected *Aedes* mosquitos to thrive further increasing the risk for infection. This is demonstrated by the increase of locally acquired dengue cases that occurred in 2023. Case frequency in Miami-Dade County was highest during the warmer and wetter months like July, August, and September, which correlates with dengue's seasonal distribution. Within the last five years, dengue has caused the greatest burden among adults who are 45-54 years old, who had the highest incidence rate and case frequency across all years. Traveling to dengue endemic areas in the Caribbean, South America, and Central America could explain why Hispanics are the racial/ethnic group with the most confirmed dengue cases. Given that 83% of confirmed dengue cases are imported from travel to different countries, providing dengue-related education to those who wish to travel to dengue endemic areas would be extremely helpful. Much of the surveyed population admitted to not using prevention measures to avoid mosquito bites. Although residents of Miami-Dade County face some protection from spending much of their time indoors with air conditioning units, they should still be encouraged to practice vector control measures at home and when planning to traveling abroad. Addressing rising temperatures and mosquito activity along with prevention measures, could decrease future dengue infections in our county.

Figure 6.

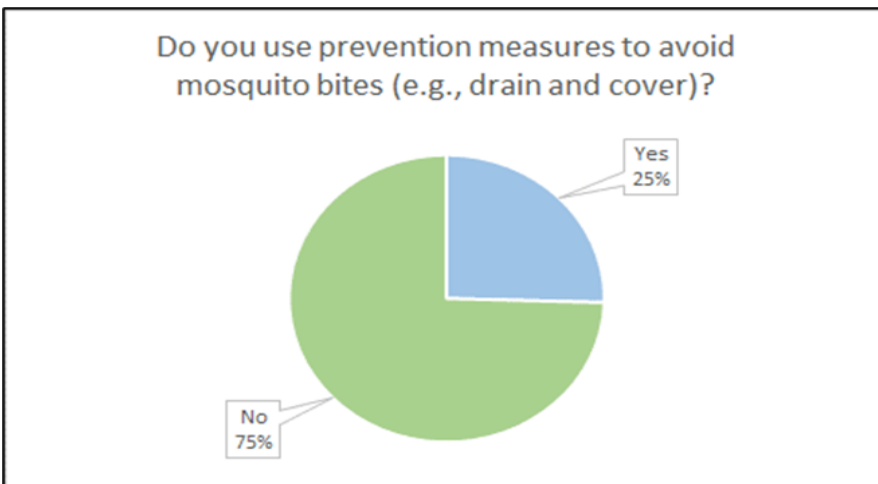
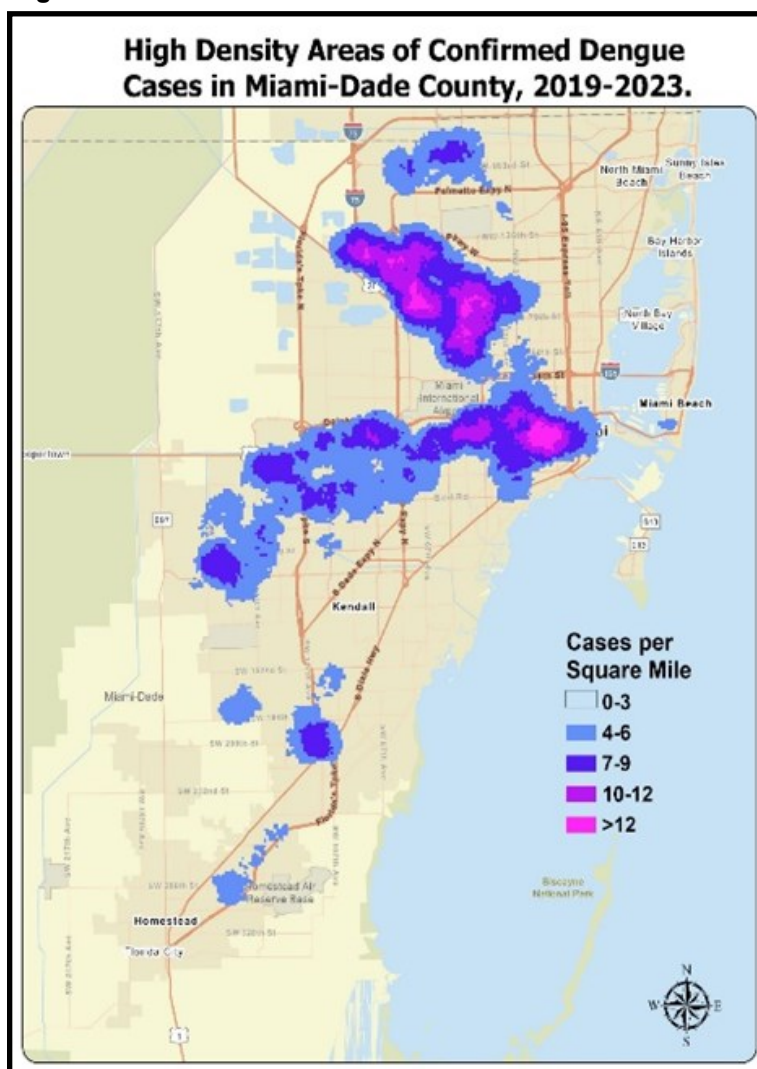


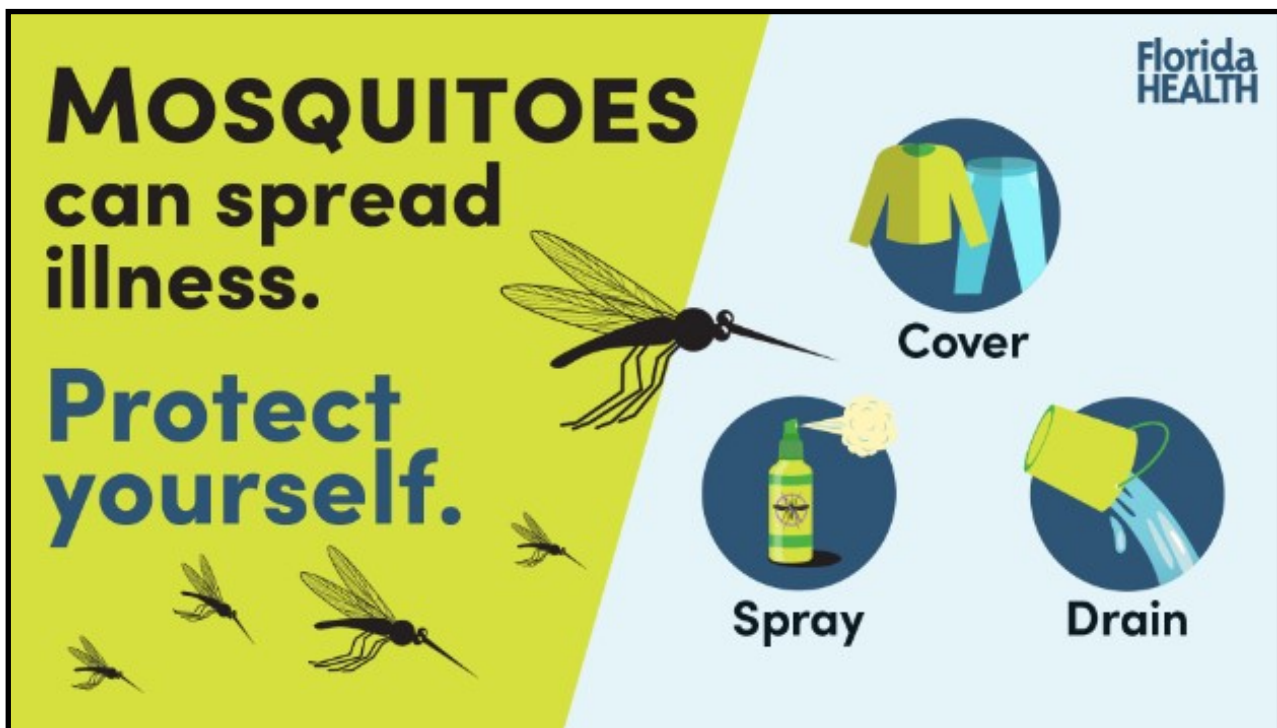
Figure 7.



Prevention

The U.S. Food and Drug Administration approved Dengvaxia in 2019, a vaccine for those who have been previously sick with dengue or reside in an area where the disease is common. The vaccine is only approved for use in children and adolescents who are between 9-16 years old. For full protection against dengue, the vaccine is given to those eligible in three separate doses.⁷ To reduce the risk of dengue transmission, simple steps can be taken to avoid being bitten by a mosquito. Should you find yourself in an area where mosquitos are active, it is recommended to wear long sleeved shirts, pants, shoes, and socks to cover the skin. In addition, you can use EPA approved repellents that contain DEET, Picaridin, or IR3535, which are the most effective. Other measures include the use of window screens and mosquito nets. Avoiding areas where standing water is present and draining items that may hold water can reduce the presence of mosquitos.⁶

If you have any concerns regarding mosquito breeding at your home, you may contact Miami Dade's Contact Center at 311, to request an inspection from Mosquito Control.



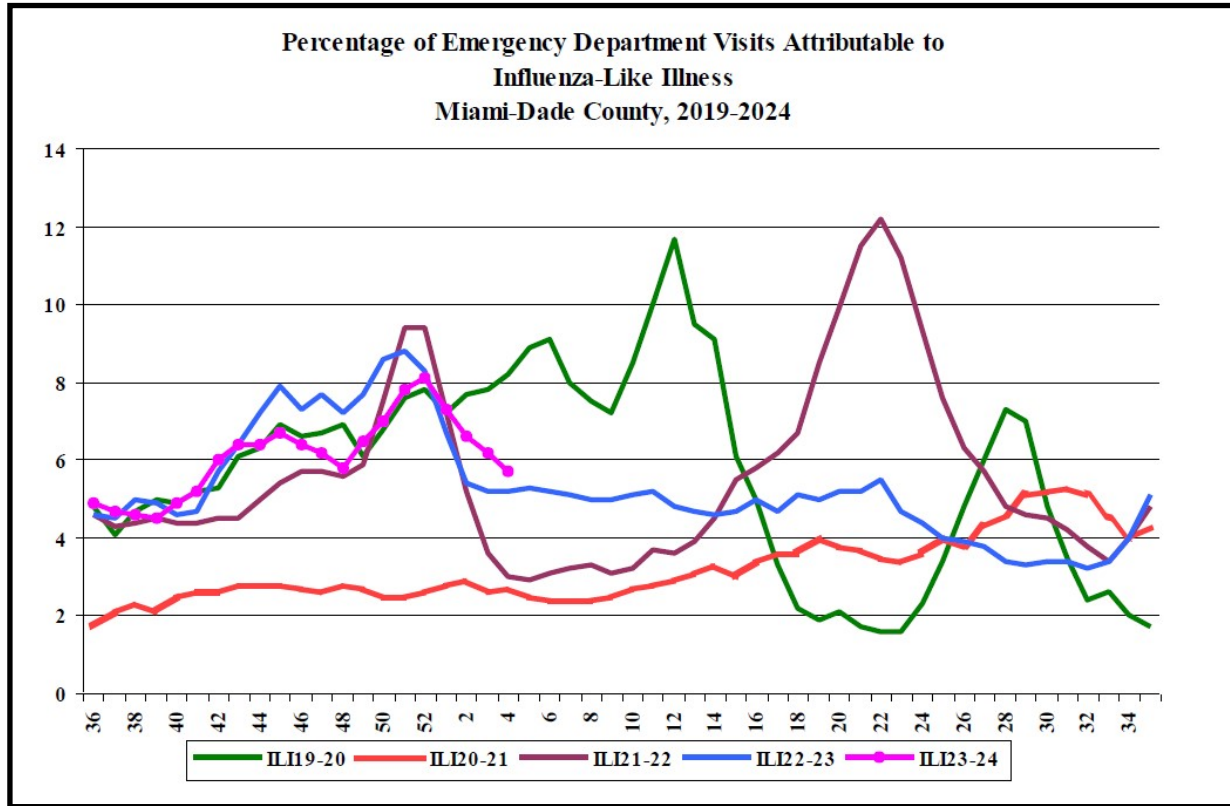
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Epidemiology, Disease Control and Immunization Services

Florida Department of Health in Miami-Dade County

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 2023-2024 data is compared to the previous 4 influenza seasons (2019-2020, 2020-2021, 2021-2022, 2022-2023).



There were 37,622 ED visits; among them 2,150 (5.7%) were due to ILI. During the same week last

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

Yoselin Rodriguez at 305-470-5660.



Miami-Dade County Monthly Report Select Reportable Disease/Conditions December 2023

Diseases/Conditions	2023 Current Month	2023 Year to Date	2022 Year to Date	2021 Year to Date
HIV/AIDS				
AIDS*	26	374	283	277
HIV	101	1190	1239	865
STD				
Infectious Syphilis*	46	309	654	631
Chlamydia*	1381	16246	14361	14269
Gonorrhea*	667	7426	6290	6213
TB				
Tuberculosis**	7	138	128	102
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	57	794	704	657
Chikungunya Fever	0	0	1	0
Ciguatera Poisoning	4	34	11	21
Cryptosporidiosis	5	96	94	62
Cyclosporiasis	0	34	71	19
Dengue Fever	54	500	663	11
Escherichia coli, Shiga Toxin-Producing	20	272	220	119
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	22	295	317	126
Influenza, Pediatric Death	0	3	0	0
Legionellosis	2	43	48	60
Leptospirosis	0	0	1	2
Listeriosis	0	5	9	11
Lyme disease	0	14	14	6
Malaria	0	7	6	6
Meningitis (except aseptic)	0	7	9	12
Meningococcal Disease	0	2	8	6
Salmonella serotype Typhi (Typhoid Fever)	0	5	0	1
Salmonellosis	128	1443	1482	1141
Shigellosis	16	262	198	87
S. Pneumoniae, invasive disease	8	98	88	70
Vibriosis	6	44	40	27
West Nile Virus Disease	0	0	0	2
Zika Virus (non-congenital)	0	0	0	0
Immunization Preventable Diseases				
Measles	0	1	0	0
Mumps	1	1	5	5
Pertussis	0	8	6	2
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	4	45	48	22
Hepatitis				
Hepatitis A	1	21	32	9
Hepatitis B (Acute)	2	64	101	102
Healthy Homes				
Lead Poisoning	69	536	396	123

*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.

For more information access: [The Florida Department of Health in Miami-Dade County Reportable Disease Handbook](#)

What's New at DOH-Miami-Dade!

- Lieutenant Governor Jeanette Nuñez, accompanied by State Surgeon General Dr. Joseph Lapado and Department of Elder Affairs Secretary Michelle Branham, hosted a hands-on healthy cooking class for older Hispanic adults in the Miami-Dade community. This cooking lesson demonstrated simple techniques to attendees to encourage healthy eating and healthy lifestyles. The experience also showcased how to prepare food that is consistent with real-world budgets, time constraints, and nutritional practices that can be incorporated in their daily lives. For more information visit <https://www.floridahealth.gov/newsroom/2024/01/20240124-explore-healthy-recipes.pr.html>



To report disease 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

#OurHearts

National Wear Red Day®
February 2

Heart disease is the leading cause of death in the U.S. Know your risk and protect your heart.

hearttruth.gov

About the Epi Monthly

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 Kelsey Bricker at (305) 470-5643 or Kelsey.Bricker@flhealth.gov.

