

Epi Monthly

August 2023 Vol 24, Issue 8

Public Health LOOK OUT!

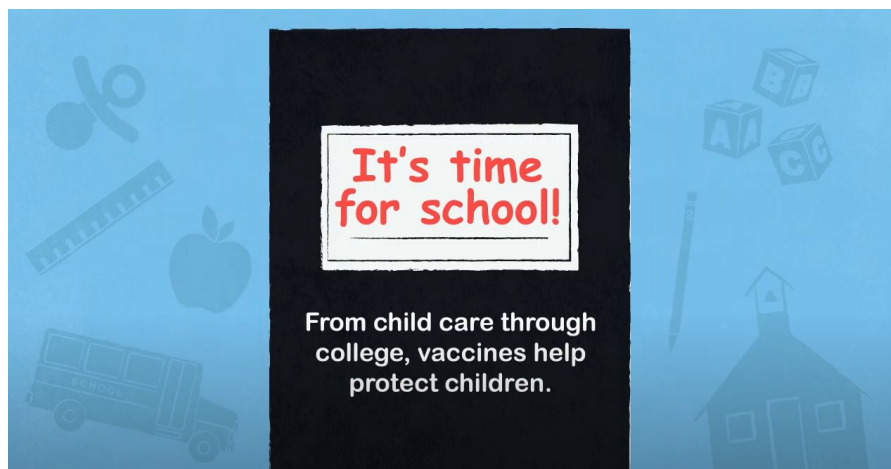
Florida Department of Health in Miami-Dade County

- Join in observing **Gynecologic Cancer Awareness Month** in **September**. Although there are more than five types of gynecologic cancers, ovarian cancer causes the most deaths per year for women. Screening tests are only available for cervical cancer, so women should consult with their healthcare providers to be aware of risk factors and symptoms of gynecologic cancers. Women should seek medical care for symptoms such as pelvic pain or pressure, feeling full too fast, or unexplained vaginal bleeding. Find resources to raise awareness of gynecologic cancers at [CDC.gov](https://www.cdc.gov).
- **September** is also **National Childhood Obesity Awareness Month!** Childhood obesity prevalence continues to rise and puts children at a higher risk of adult obesity and many other health conditions such as hypertension and type 2 diabetes. Children are recommended to eat a balanced diet and be physically active for at least 60 minutes each day. Find resources for increasing physical activity in kids, healthy recipes, and more from the [WIC Works Resource System](#).
- **World Rabies Day** is observed globally on **September 28th**. The campaign seeks to raise awareness about this deadly yet preventable disease and increase control measures. Although vaccination of domestic animals is common in the U.S., vaccination is uncommon for wildlife and animals in other countries. Travelers should be aware of their risk, with dog bites during international travel accounting for about 25% of U.S. rabies deaths. Seeking medical care after potential rabies exposures is essential to prevent disease and death. Find out more at [CDC.gov](https://www.cdc.gov).

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

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Click the image to the left to watch the video.

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Background

Dengue is a mosquito-borne illness that infects as many as 400 million people per year worldwide.¹ Dengue is endemic to many areas around the world, with about half the world's population living in areas of increased risk. The infection is transmitted through the bite of an infected mosquito and may cause severe illness and even death. Four strains of the dengue virus are in circulation: DEN-1, DEN-2, DEN-3, and DEN-4. A person can be infected with each strain of dengue and have the infection multiple times over their lifetime.

Transmission

Dengue is primarily transmitted through the bite of an infected *Aedes aegypti* or *Aedes albopictus* species mosquito.² Both species are present in Florida.³ These mosquitos lay eggs in standing water and bite humans during the day and night.² Dengue is transmitted when a mosquito bites an infected human, becomes infected, and then bites other humans. Dengue can also be transmitted via perinatal transmission, or rarely through a blood transfusion, organ transplant, or needle stick injury.

Clinical Presentation

After the initial mosquito bite, the incubation period typically lasts from 3 to 14 days before symptoms appear.³ Dengue is asymptomatic for three out of every four people infected.⁴ For those who develop symptoms, these symptoms can include: fever, nausea, vomiting, rash, and aches (including eye, muscle, joint, or bone pain). Symptoms are generally mild, but one in every twenty people with dengue symptoms develops severe dengue. Severe dengue includes symptoms such as belly pain, vomiting more than three times within 24 hours, bleeding from the nose or gums, or blood in vomit or stool and requires immediate medical attention. At risk groups for severe dengue include children, pregnant women, and those who have previously been infected with an alternate strain of dengue. The second infection with a dengue strain carries the highest risk for severe dengue.³

Diagnosis

Dengue diagnosis is considered based on patient epidemiologic criteria and symptoms. Dengue may be suspected when a patient has traveled to an area where the virus is transmitted within the 2 weeks prior to onset of compatible symptoms.⁵ Final diagnosis occurs only through a positive laboratory test result. Nucleic acid amplification testing (NAAT) is the preferred laboratory test for patients being tested within 7 days of symptom onset. A positive NAAT or dengue virus antigen detection (NS1) test result is a confirmed dengue infection.

Treatment

No specific treatments are available for dengue.⁴ Rest, acetaminophen for fever and pain, and drinking water and electrolytes for hydration are recommended for mild symptoms. Within the first 2 days after fever subsides, patients should be monitored for the development of any severe dengue symptoms, which require immediate medical attention.

Prevention

Prevention includes avoiding travel to areas where dengue is common and following mosquito control measures. Individual mosquito control measures include using EPA-registered insect repellent, wearing clothing covering as much of the body as possible, and avoiding outdoor activities.⁶ At residences and workplaces, window and door screens, running AC, and the elimination of any standing water can decrease mosquito activity. In addition, a dengue vaccine is available for children ages 9 to 16 who live in areas where dengue is endemic and have had a previous laboratory-confirmed infection. In this way, children can be protected from the most dangerous second infection of dengue. While the vaccine is not approved for U.S. residents who are traveling to dengue endemic areas, the vaccine is approved for residents of the U.S. territories of Puerto Rico and the U.S. Virgin Islands, which are close in proximity to Florida.

Methods

Confirmed dengue cases in Miami-Dade County and Florida between 01/01/2018 and 12/31/2022 were obtained from the Florida Department of Health's electronic surveillance system, Merlin, by event date. Incidence rates were calculated per 100,000 population using population estimates from Florida Health Charts. SAS 9.4 was used to perform data analysis and examine dengue case distribution and demographics. ArcGIS Pro was used to produce maps of the case distribution in Miami-Dade.

Results

In Miami-Dade County, a total of 920 confirmed dengue cases were reported between 1/1/2018 and 12/31/2022 (Table 1), which accounted for 65% of all Florida confirmed cases (1,416) during this time. Miami-Dade County and Florida had similar proportions of total cases across age groups and genders. However, Miami-Dade County had a higher percentage of total dengue cases in Hispanic individuals than Florida, 95% to 88% respectively. Miami-Dade and Florida followed similar patterns each year, with both having peak incidence and case frequency in 2022, followed by a second peak in 2019 (Figure 1). The incidence rates of dengue were higher in Miami-Dade County for all five years. In 2022, dengue incidence rate in Miami-Dade was more than five times higher than incidence rate in Florida, with rates of 22.7 vs. 4.0 cases per 100,000 population.

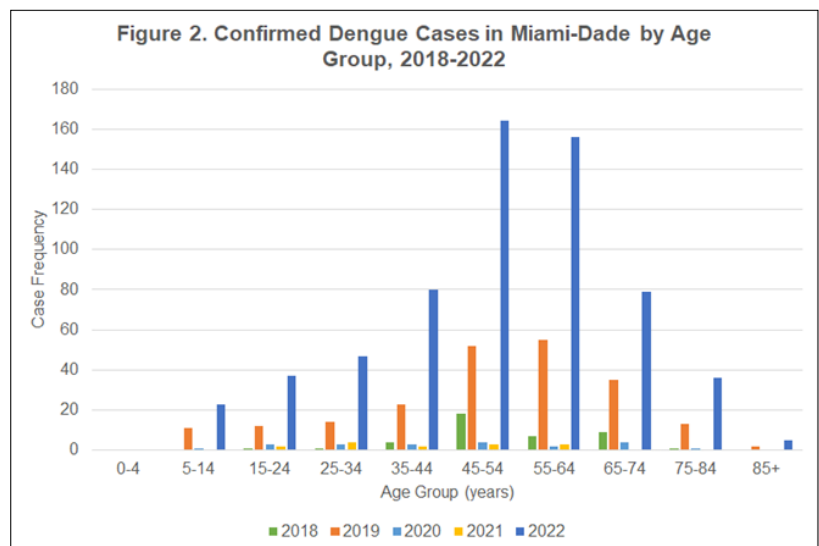
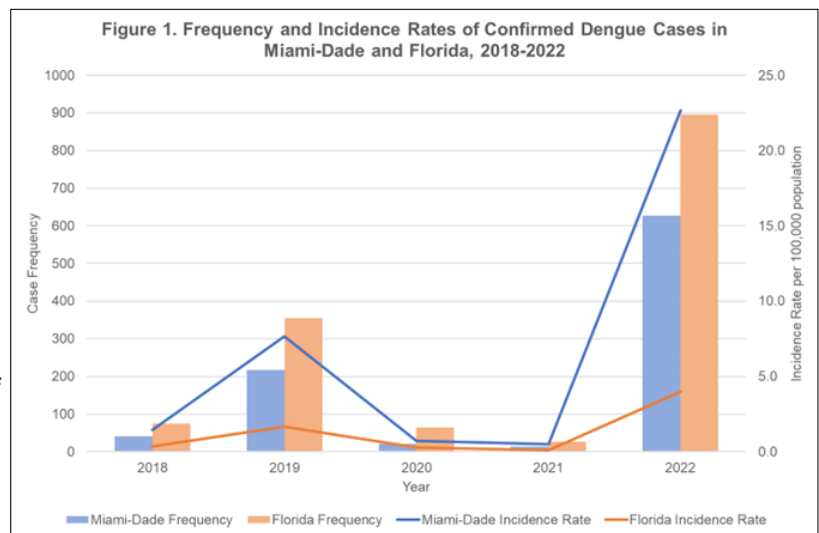
Age

Dengue incidence rates among age groups were generally highest among the age groups of 45 to 54 and 55 to 64 over all five years (Figure 3). Incidence rates for 2022 and 2019 generally rose as age group increased until the 55-64 demographic, and then decreased. Similarly, case frequency was highest between ages 45 to 64 (Figure 2). From 2018 to 2022, no cases were observed among ages 0 to 4, and very few cases were observed among ages 85+.

Race and Ethnicity

From 2018 to 2022, incidence was highest for the Hispanic population of Miami-Dade (Figure 4). Incidence rates remained below 5 cases per 100,000 population for Non-Hispanic White and Non-Hispanic Black individuals for all five years. The Hispanic population saw significantly higher incidence rates in 2019 and 2022, with 10.3 cases and 31.7 cases per 100,000 population, respectively. Sixty-nine percent of the Hispanic population accounted for 96% of total dengue cases in Miami-Dade County.

	Miami-Dade n(%)	Florida n(%)
Total # of Cases	920	1416
Age Group (years)		
0-4	0 (0)	4 (0.3)
5-14	35 (3.8)	67 (4.7)
15-24	53 (5.8)	90 (6.4)
25-34	67 (7.3)	115 (8.1)
35-44	114 (12.4)	188 (13.3)
45-54	240 (26.1)	374 (26.4)
55-64	223 (24.2)	322 (22.7)
65-74	130 (14.1)	175 (12.4)
75-84	51 (5.5)	72 (5.1)
85+	7 (0.8)	9 (0.6)
Gender		
Female	474 (51.5)	739 (52.2)
Male	446 (48.5)	677 (47.8)
Race/Ethnicity		
Non-Hispanic White	28 (3.0)	87 (6.1)
Non-Hispanic Black	8 (0.9)	49 (3.5)
Hispanic	872 (94.8)	1248 (88.1)
Other	9 (1.0)	28 (2.0)
Unknown	3 (0.3)	4 (0.3)



Gender

Dengue incidence rates were similar for females and males from 2018 to 2022. Both genders saw peak incidence of 22 cases per 100,000 population in 2022. Females accounted for 52% of total dengue cases (Figure 5).

Time series

Most dengue cases in Miami-Dade County were seen between June and December (Figure 6). Case frequency rose to above 10 cases per week in week 25 (June) and remained at this level until week 50 (December). The highest case frequencies were seen between July and September, with a peak in week 33 (August) of 58 cases. The years 2022 and 2019 accounted for most cases each week from 2018 to 2022.

Origin of Infection

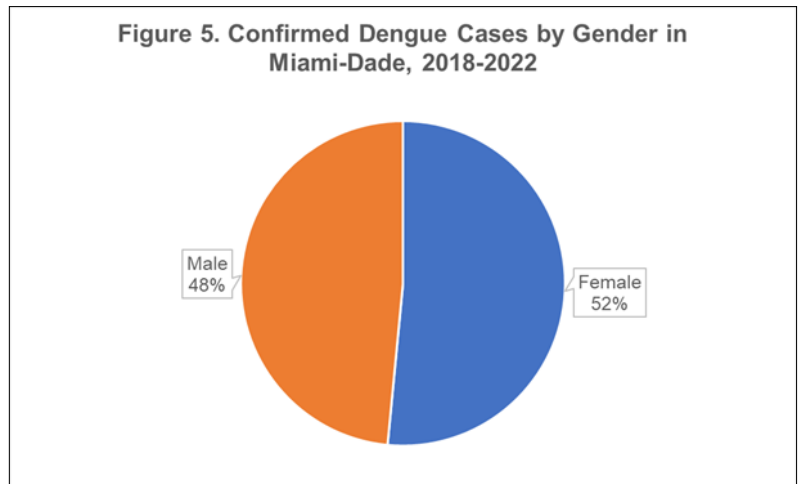
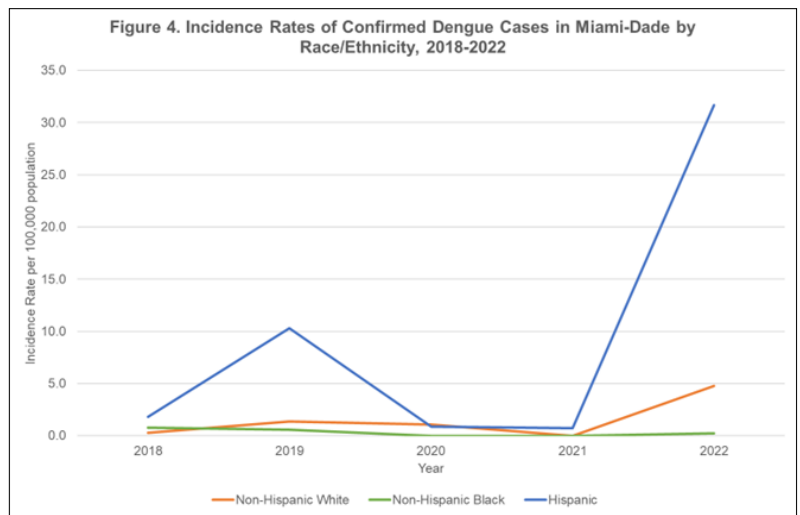
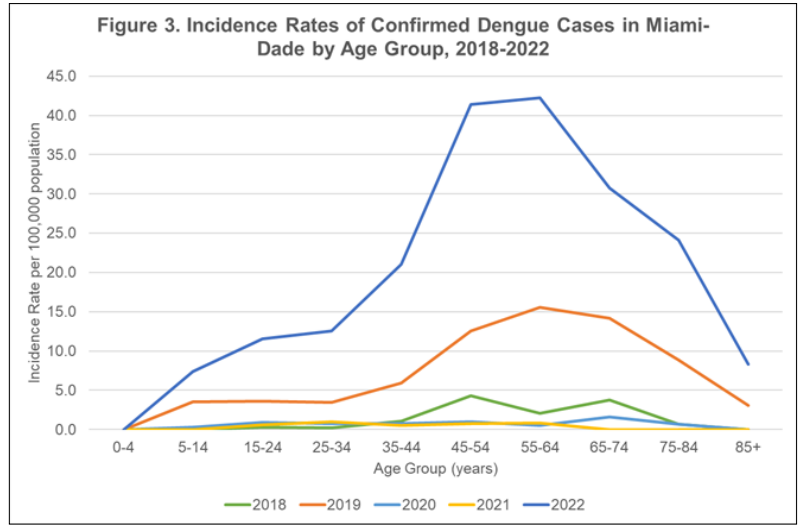
From 2018 to 2022, 92% of confirmed dengue cases in Miami-Dade County were acquired outside the United States, and 8% of total cases were acquired in Florida. In 2019, 15 cases were locally acquired compared to 58 locally acquired cases in 2022. Among the cases acquired outside the United States, 82% originated from Cuba, 2% originated from the Dominican Republic, 1% originated from Nicaragua, and all other countries made up less than 1% of cases. In total, 752 cases originated from Cuba, with 546 of these cases occurring in 2022. Travel-associated dengue cases originated from more than 30 countries.

Outbreak Association

Sporadic cases of dengue accounted for more than 90% of cases each year. Outbreak-associated dengue cases were observed in 2019, 2020, and 2022. The highest percentage of outbreak-associated cases was observed in 2022, with 9% of cases being associated with an outbreak.

Distribution of Cases in Miami-Dade

High density areas of dengue cases were observed in Hialeah and City of Miami with more than 10 cases per square mile. Zip codes 33012 and 33125 contained the highest concentration of cases, with over 35 cases observed in each zip code. Other areas in Miami-Dade with increased frequency of confirmed dengue include Kendale Lakes, Westchester, Doral, and Princeton.



Discussion

Incidence of dengue has steadily increased globally, and this trend is also observed in Miami-Dade County and Florida.^{7,8} Florida is unique in the United States as one of the only states where locally transmitted dengue cases occur. Florida, and especially Miami-Dade County experience a tropical climate with mosquito activity year-round. In addition, Miami-Dade County experiences a high volume of travelers arriving and returning from dengue-endemic areas including countries in the Caribbean, Central America, and South America. More than 90% of all dengue infections in the county were acquired in another country. Dengue incidence among females and males matches global trends, with similar incidence rates for both genders, and a slightly higher incidence among females.⁷ However, incidence rates across age groups in Miami-Dade differ from global trends. Hispanics accounted for most confirmed dengue cases in Miami-Dade due to the population distribution. Dengue incidence and case frequency peaked in 2019 and 2022, which was a trend also noted across the Americas by the Pan American Health Organization.¹⁰ While 2019 had the highest total dengue cases ever recorded worldwide, increased travel in 2022 due to decreased COVID-19 travel restrictions may have contributed to increased infections in 2022 for Miami-Dade.¹¹ Climate change, urbanization and increased global travel continue to contribute to increasing dengue infections in Miami-Dade County and worldwide. Although locally transmitted dengue cases have been observed in Miami-Dade, typical lifestyle factors for residents (most time spent indoors, use of A.C., and window screens) tend to prevent large outbreaks in the area.³ Addressing standing water and promoting mosquito repellent, netting, and door and window screens can continue to decrease mosquito activity and prevent dengue outbreaks in Miami-Dade County.

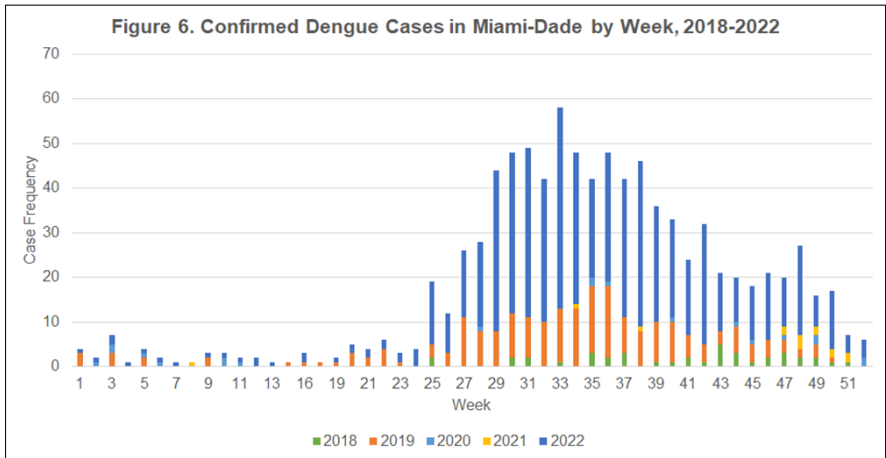
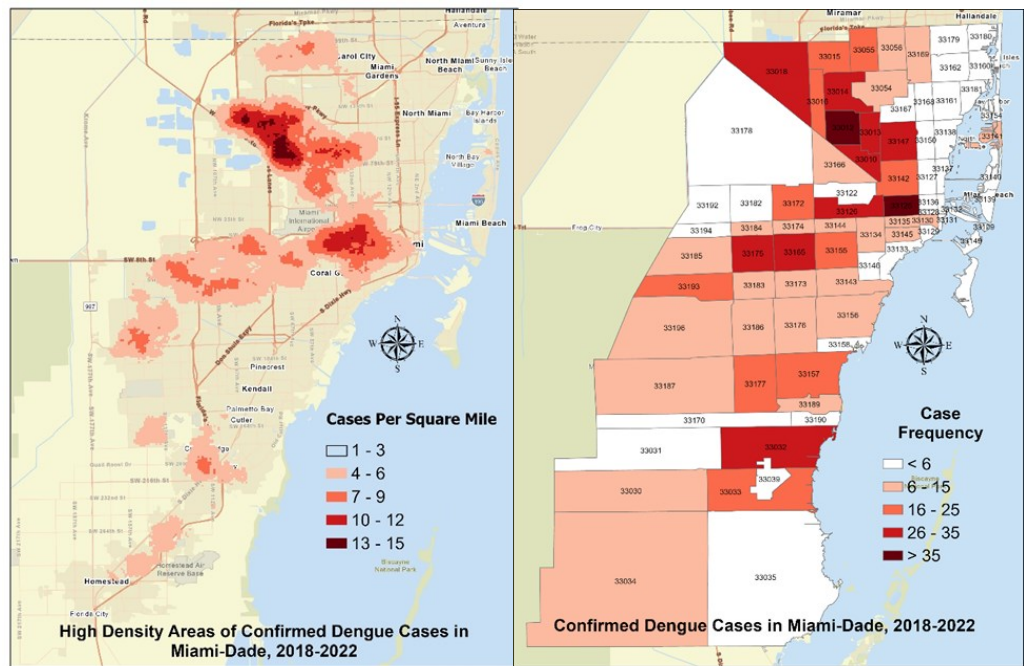


Figure 7. High Density Areas and Zip Code Frequency of Confirmed Dengue Cases in Miami-Dade County, 2018-2022.



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MOSQUITOES CAN SPREAD ILLNESS

Protect Yourself with Repellent



Always read label directions carefully for the approved usage before you apply a repellent.



Apply insect repellent to exposed skin or clothing, but not under clothing.



Treat clothing and gear with products containing 0.5% permethrin. Do not apply permethrin directly to skin.



Some repellents are not suitable for children. Ensure repellent is safe for children and age appropriate.



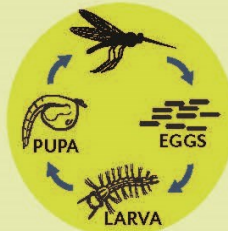
Around Buildings

At least once a week, empty or cover anything that could hold water, such as:

- Buckets
- Toys
- Child Pools and Pool Covers
- Birdbaths
- Trash, Containers, and Recycling Bins
- Boat or Car Covers
- Roof Gutters
- Coolers
- Pet Dishes
- Tires

Stop Mosquitoes from Breeding

Mosquitoes can live indoors and will bite at any time, day or night.



Mosquitoes breed by laying eggs in and near standing water.



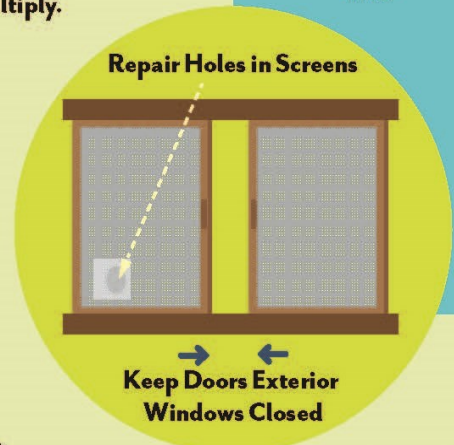
As little as one teaspoon or bottle cap of water standing for more than one week is enough for mosquitoes to breed and multiply.



Keep them Outside

Use Air Conditioning

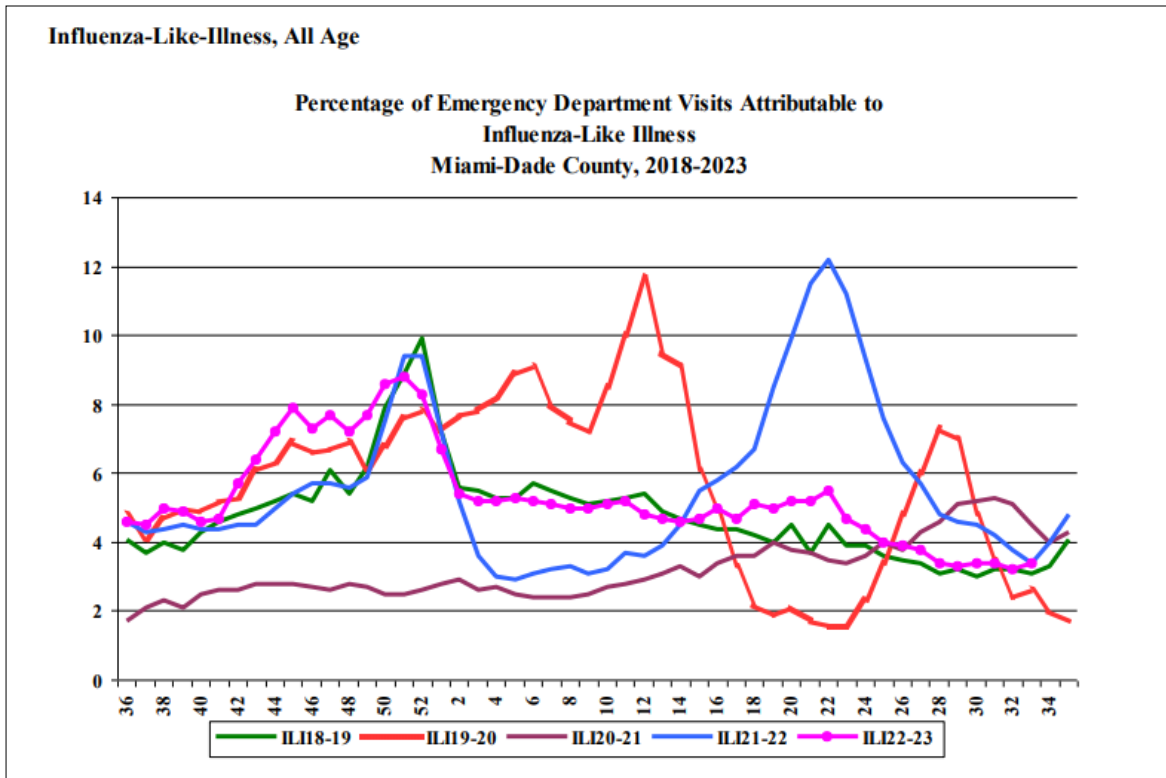
Keep Screens on All Windows



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 2020-2021 data is compared to the previous 4 influenza seasons (2016-2017, 2017-2018, 2018-2019, 2019-2020).



Across all ages, there were 34,941 ED visits; among them 1,176 (3.4%) were ILI. During the same week last year, 3.4% 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 Ramirez at 305-470-5660.



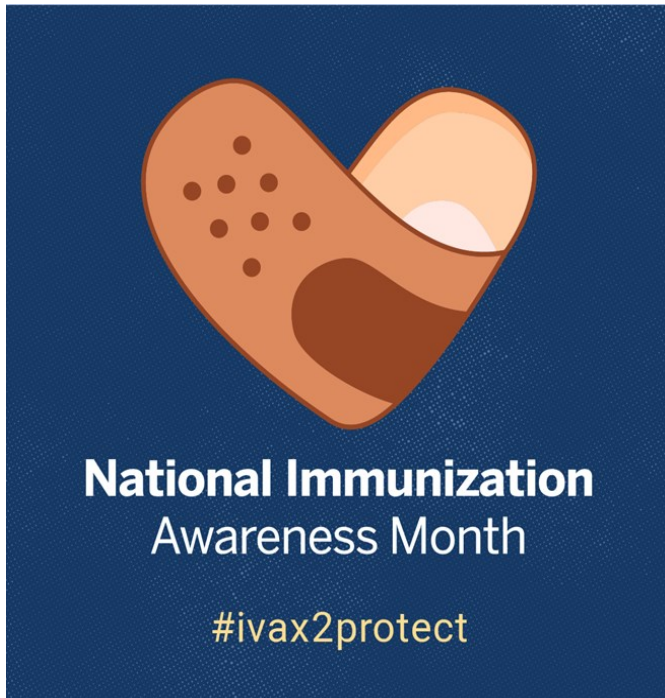
Miami-Dade County Monthly Report Select Reportable Disease/Conditions July 2023

Diseases/Conditions	2023 Current Month	2023 Year to Date	2022 Year to Date	2021 Year to Date
HIV/AIDS				
AIDS*	27	229	261	246
HIV	99	923	1110	752
STD				
Infectious Syphilis*	50	442	380	351
Chlamydia*	1412	9282	8364	8215
Gonorrhea*	681	4060	3781	3642
TB				
Tuberculosis**	11	78	83	59
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	80	442	368	306
Chikungunya Fever	0	0	0	0
Ciguatera Poisoning	3	11	3	6
Cryptosporidiosis	11	56	39	26
Cyclosporiasis	9	22	40	8
Dengue Fever	48	119	78	1
Escherichia coli, Shiga Toxin-Producing	27	153	99	56
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	48	177	162	49
Influenza, Pediatric Death	1	2	0	0
Legionellosis	7	27	23	30
Leptospirosis	0	0	0	1
Listeriosis	1	2	3	4
Lyme disease	6	8	6	4
Malaria	1	5	0	2
Meningitis (except aseptic)	1	4	4	8
Meningococcal Disease	1	1	4	3
Salmonella serotype Typhi (Typhoid Fever)	1	1	0	0
Salmonellosis	150	683	608	452
Shigellosis	25	143	88	39
S. Pneumoniae, invasive disease	4	63	44	28
Vibriosis	5	22	20	12
West Nile Fever	0	0	0	0
Zika Virus (non-congenital)	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	3	2
Pertussis	0	3	4	0
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	3	21	20	9
Hepatitis				
Hepatitis A	1	39	20	8
Hepatitis B (Acute)	9	57	58	14
Healthy Homes				
Lead Poisoning	31	264	178	66

*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!

- Colgate-Palmolive and Publix announce **recall** of kids' toothpaste. Recall includes outer cartons labeled 'Hello Wild Strawberry Fluoride Vegan Toothpaste' which include mislabeled tubes of 'Hello Fresh Watermelon Fluoride-Free Toothpaste'. For more information visit [Publix.com](https://publix.com).
- School is in session! Please make sure your children are up-to-date with scheduled vaccines! Visit [CDC.gov](https://www.cdc.gov) for immunization schedule.
- Miami-Dade remains under a mosquito-borne illness alert! Currently, there are cases of confirmed Malaria in Sarasota County. Continue to follow protection efforts by remembering to **DRAIN and COVER**. [Visit](#) to learn more.
- DOH Miami-Dade offers COVID-19 vaccines, vaccine boosters, pediatric vaccines, and flu shots. Visit miami-dade.floridahealth.gov for clinic locations and appointments!

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



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 Katerina Lopez at (305) 470-5649 or Katerina.Lopez@flhealth.gov.

