



# Epi Monthly

Florida Department of Health in Miami-Dade County

June 2022 Vol 23, Issue 6

## Public Health LOOK OUT!

- July is **International Group B Strep Awareness Month!** Group B Streptococcus (GBS) is a bacteria that can infect babies before birth up to 6 months of age due to their underdeveloped immune systems. Babies can develop sepsis, meningitis, and pneumonia, which may lead to developmental impairments. About 1 in 4 pregnant women carry this bacteria. Testing for GBS is essential to reduce the risk of prenatal infection and further complications. View the [factsheet](#) to learn more!
- **Juvenile Arthritis Awareness Month** is observed in July to raise awareness on arthritis and the burden of this disease among adolescents. About 1 child in every 1,000 develops some form of arthritis, and approximately 300,000 children have been diagnosed with arthritis. The most common form of juvenile arthritis is Juvenile Idiopathic Arthritis, an autoimmune disease that attacks the joints and hinders the body's ability to fight back. There are many other forms of juvenile arthritis, visit [arthritis.org](#) to learn more.
- **World Hepatitis Day** is observed on **July 28<sup>th</sup>** each year to educate and raise awareness on viral hepatitis and the global burden it places on individuals, communities, and health systems. Globally, a person dies every 30 seconds from a hepatitis-related illness. This year's theme is 'HEP CAN'T WAIT' emphasizing that we cannot wait to act on viral hepatitis. Early screening, life-saving treatment, vaccination, and ending the stigma and discrimination related to viral hepatitis cannot wait any longer! Visit [worldhepatitisday.org](#) to get involved!

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

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Florida Department of Health in Miami-Dade County  
 Epidemiology, Disease Control, and Immunization Services  
 1350 NW 14th St, Annex Building  
 Miami, FL 33125  
 Phone: 305-470-5660  
 Fax: 305-470-5533  
 eFax: 786-732-8714



# Campylobacteriosis Trends in Miami-Dade County, 2017-2021.

By: Yoselin Garcia

## What is Campylobacteriosis?

Campylobacter infection, or campylobacteriosis, is an acute bacterial infection caused by the gram-negative bacteria, *Campylobacter*. These bacteria are commonly spiral-shaped, "S"-shaped, or curved, rod-shaped bacteria. The campylobacter genus is comprised of 17 species and 6 subspecies of bacteria, of which the most commonly identified among infected humans are *C. jejuni* and *C. coli*. Less frequently, disease caused by other species such as *C. lari* and *C. upsaliensis* have been reported.<sup>1</sup>

## Epidemiology of Campylobacteriosis

Campylobacteriosis is a foodborne disease that results from the ingestion of campylobacter bacteria. Symptom onset usually occurs two to five days after ingestion but may range from one to 10 days. Clinical symptoms include diarrhea (often bloody), abdominal cramping, fever, headache, nausea and/or vomiting. In most cases, disease symptoms last about one week. Death is rare but may occur in very young children, elderly patients, or immunocompromised individuals. Bacteremia (bacteria in the blood stream) has been observed in individuals with a weakened immune system, such as those with a blood disorder, AIDS, or who are receiving chemotherapy. Other complications such as hepatitis, pancreatitis, and miscarriage have also been reported. Campylobacter infections may also cause post-infection complications such as reactive arthritis, irritable bowel syndrome, and Guillain-Barre syndrome, a neurological disorder causing temporary paralysis.<sup>1</sup>

Campylobacteriosis is a zoonotic disease, transmitted to humans from animals, or animal products.<sup>1</sup> *Campylobacter* species primarily inhabit the gastrointestinal tract, liver, and other organs, of domestic and wild animals and birds, such as poultry, cattle, pigs, and sheep. The bacteria have also been observed in pets such as cats and dogs, and shellfish.<sup>3</sup> The main route of transmission is foodborne, through the ingestion of undercooked meat and meat products, raw or contaminated milk, contaminated recreational or untreated water, and other foods such as seafood and produce.<sup>1</sup> *Campylobacter* may also be transmitted by contact with infected animals, dog, or cat feces, or when raw or lightly cooked foods touch contaminated surfaces. This infection does not typically spread by person-to-person contact.<sup>3</sup>

Campylobacteriosis is the most common bacterial cause of diarrheal disease in the United States, with an estimated 1.5 million infections occurring each year.<sup>2</sup> Globally, these bacteria are one of four leading causes of diarrheal disease.<sup>1</sup> In the U. S., approximately 20 cases per 100,000 people are diagnosed each year, suggesting a copious number of cases go undiagnosed and unreported. Outbreaks of multidrug-resistant *Campylobacter* in the United States have been associated with pet store puppies. Most cases reported in the United States occur sporadically, during the summer months.<sup>2</sup> Campylobacteriosis can affect anyone, but the infection is more common among males, children younger than five years of age, and people 65 years and older.<sup>4</sup> Because this disease is common in low-resource countries, campylobacteriosis is the most common intestinal disease diagnosed in travelers returning to the United States.<sup>3</sup> Strategies to prevent campylobacteriosis include thoroughly washing your hands with soap and water, keeping certain foods separated to avoid cross-contamination, thoroughly washing produce, cooking food to the recommended thermal temperature, consuming pasteurized milk and treated water, and properly caring for pets.<sup>5</sup>

## Diagnosis and Treatment

Campylobacter infection is diagnosed through laboratory testing of stool, body tissue, or fluid specimens. Diagnostic testing includes isolating the bacteria in clinical specimens via culture, or detection of the presence of a specific antigen or genetic sequence of the bacteria through culture-independent diagnostic tests (CIDTs).<sup>2</sup> Over the last few years, CIDTs have become increasingly common because they are rapid tests.

Treatment generally consists of drinking plenty of fluids to remain hydrated for as long as the diarrhea lasts and replacing electrolytes. Most cases recover without the use of antibiotics. In cases with increased risk for severe illness, antibiotic treatment is recommended. Antibiotic treatment may also be provided for individuals who remain asymptomatic while shedding the bacteria.<sup>1</sup>

## Campylobacteriosis Surveillance in Miami-Dade

The Foodborne Diseases Active Surveillance Network (FoodNet) has tracked trends in campylobacter infection since 1996.<sup>3</sup> Campylobacteriosis became a reportable condition in the state of Florida prior to 1992.<sup>6</sup> The Florida Department of Health in Miami-Dade conducts surveillance of campylobacteriosis to prevent transmission through public health, medical, and behavioral action, prevent outbreaks early, and improve understanding of this disease for more effective formulation of mitigation strategies. Investigations begin with the prioritization of reported cases for follow-up. This includes determining if a reported case is part of an outbreak or sensitive situation (attendee or employee of day care/childcare setting, food handler, health care setting with direct patient contact). Case interviews are conducted to obtain information on transmission, clinical symptoms, exposures, and symptomatic contacts, and provide the opportunity to educate on controlling further transmission. The purpose of this analysis is to examine campylobacter infection trends in Miami-Dade and identify populations with the highest rates of campylobacteriosis.

## Methods

Confirmed campylobacteriosis cases reported 01/01/2017–12/31/2021 in Miami-Dade were obtained from the Florida Department of Health’s surveillance system, Merlin, by event date. Population estimates obtained from Florida Health Charts were used to calculate incidence rates per 100,000 population in Miami-Dade and Florida. Statistical analysis was conducted using SAS 9.4 and graphically summarized using Microsoft Excel. Geocoding was done to identify clusters using ArcGIS.

## Results

A total of 837 confirmed campylobacteriosis cases were reported from 2017 to 2021. The number of campylobacteriosis cases reported in Miami-Dade decreased from 198 to 158 in 2017 and 2018, respectively, and continued a downward trend until 2021, during which 183 cases were reported in the county. Incidence rates of campylobacteriosis remained below the state’s rate from 2017 to 2020, but surpassed Florida in 2021, with an incidence rate of 6.4 per 100,000 population, compared to 4.9 per 100,000 Florida population.

### Age

Campylobacteriosis incidence was highest among children less than five years of age, across all years observed. In 2021, the incidence rate for this age group peaked at 37.4 per 100,000 population. From 2017 to 2021, incidence rates among cases less than five years of age exhibited a generally increasing trend. In 2017 and 2021, incidence was 28.8 and 37.4 per 100,000, respectively. Figure 2 illustrates a decreasing trend as age group increases until about ages 55 to 64, when incidence rate begins to increase.

### Sex

Incidence occurred at a higher rate among males across all years observed. In 2017, incidence rate among males was 7.9 per 100,000, when compared to 6.5 per 100,000 among females. In 2018, incidence rates among males and females were similar, 5.7 and 5.5 per 100,000 respectively. By 2021, males had an increasingly higher incidence rate of 7.8 per 100,000, when compared to 5.1 per 100,000 among females.

### Race/Ethnicity

Among non-Hispanic Blacks, incidence rates were significantly lower when compared to non-Hispanic Whites and Hispanics, ranging from 0.2 to 2.0 per 100,000. Figure 3 indicates incidence rates among non-Hispanic Whites and Hispanics were comparable from 2017 to 2018. Despite this, Hispanics had the highest incidence of campylobacteriosis across all years observed, of which the highest was 7.7 per 100,000 in 2017. From 2017 to 2021, between 70–81% of all campylobacteriosis cases reported were of Hispanic ethnicity, accounting for the largest proportion of cases in Miami-Dade.

### Seasonality

The highest number of cases occurred in January of 2017, with 34 cases reported in Miami-Dade. Figure 4 shows case counts generally increased during the warmer months of May and June. In 2017, cases began to increase in April and then had a downward trend as the season approached fall and winter months. When comparing 2017 and 2018, there were more cases reported from January to July in 2017, whereas more cases were reported during Fall months in 2018. During 2021, the peak of the year was in June, with 30 cases reported in Miami-Dade, followed by July and January, with 24 and 23 cases, respectively.

Figure 1. Incidence Rate of Campylobacteriosis in Miami-Dade and Florida, 2017-2021.

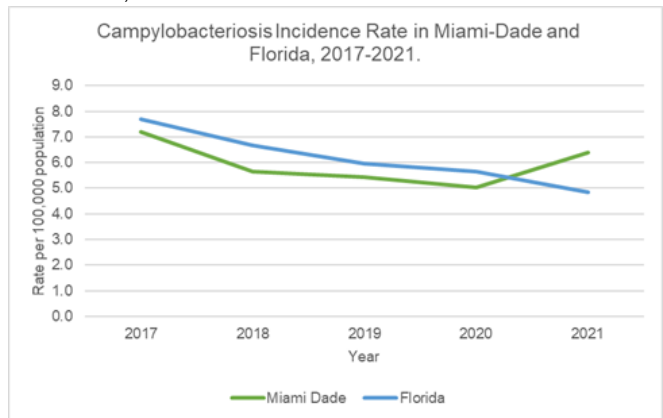


Figure 2. Campylobacteriosis Incidence Rate by Age Group in Miami-Dade, 2017-2021.

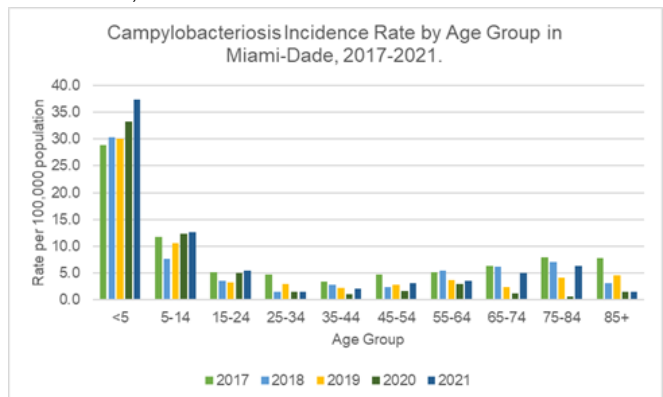


Figure 3. Campylobacteriosis Incidence Rate by Race and Ethnicity in Miami-Dade, 2017-2021.

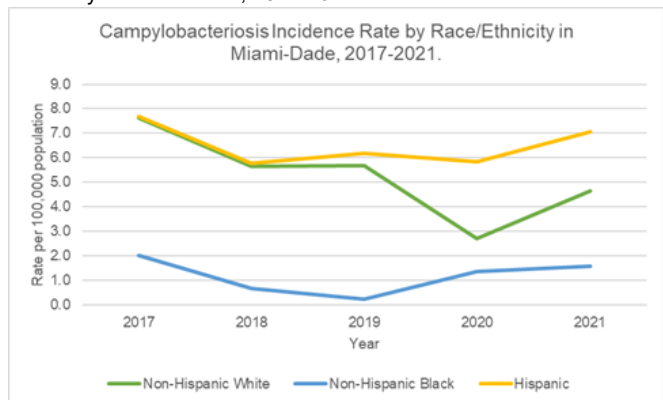
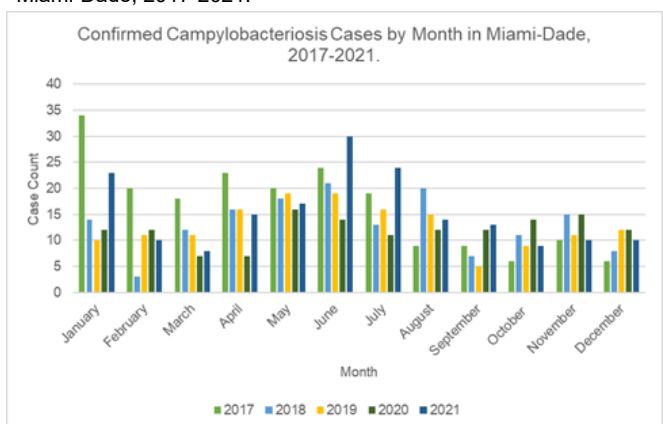


Figure 4. Case Frequency of Campylobacteriosis by Month in Miami-Dade, 2017-2021.





## Distribution of Cases

From 2017 to 2021, a total of 6 outbreak-associated cases were reported. Most cases were sporadic, making up 98-100% of cases reported from 2017-2019. Of all unknown cases, 98% were reported in 2020 and 2021.

The majority of campylobacteriosis cases reported in Miami-Dade from 2017 to 2021 were acquired in Florida. Approximately 13% of all cases reported during this period were acquired outside of Florida, of which about 95% were acquired in the United States, outside the state of Florida.

Figure 5 shows high density areas of campylobacteriosis in Miami-Dade, with a major concentration in the city of Hialeah. Additionally, zip codes with the highest frequency of cases are in the city of Hialeah and Hialeah Gardens, Homestead, and Westchester/Tamiami region, as depicted in figure 6. Thirty-five campylobacter infections were reported in zip code 33012, the highest frequency compared to all other zip codes.

## Discussion

The epidemiologic trends of Campylobacteriosis observed in Miami-Dade County are consistent with national trends and characteristics reported by the CDC. Within the last 5 years, Campylobacter infection caused the greatest burden among children less than five years of age, which were reported to have the highest incidence rates across all years. Factors such as poor hand hygiene, close contact with pets and other animals, and under-developed immune systems may contribute to this burden. Additionally, when children are ill, they are more likely to be medically evaluated by a physician and have diagnostic testing. Males were also most affected by this disease, having higher incidence rates across all years, when compared to females. Higher incidence rates among men may involve behavioral factors and require further exploration. The largest proportion of cases reported during 2017 to 2021 were Hispanics, accounting for 70-81% of all campylobacter infections. High density areas of campylobacteriosis in Figure 5 are observed in predominantly Hispanic communities. This may be explained by behaviors such as frequent barbecuing and grilling of poultry and meat.

Cases increased during the warmer months of May and June, suggesting a warmer climate may allow for better transmission of this bacteria from zoonotic reservoir to human, as well as an increase in human behaviors which may help propagate infection. Because South Florida has a generally warm climate throughout the year, this may account for the peak of cases in January during 2017. Miami-Dade incidence rates remained below the state's rate until 2021, when incidence of campylobacter infection surpassed state incidence rates. One limitation of this analysis to consider is that because most cases occur sporadically and resolve without the need for antibiotic treatment, campylobacter infections are often undiagnosed and underreported. Additional statistical analysis and research are needed to understand the socioeconomic and cultural factors that contribute to incidence of campylobacteriosis. In addition, because of the impact of the COVID-19 pandemic on health behaviors, as well as in healthcare settings and diagnostic testing methods, further studies are needed to understand the implications affecting 2020 and 2021 data.

Figure 5. High Density Areas of Confirmed Campylobacteriosis Cases in Miami-Dade County, 2017-2021.

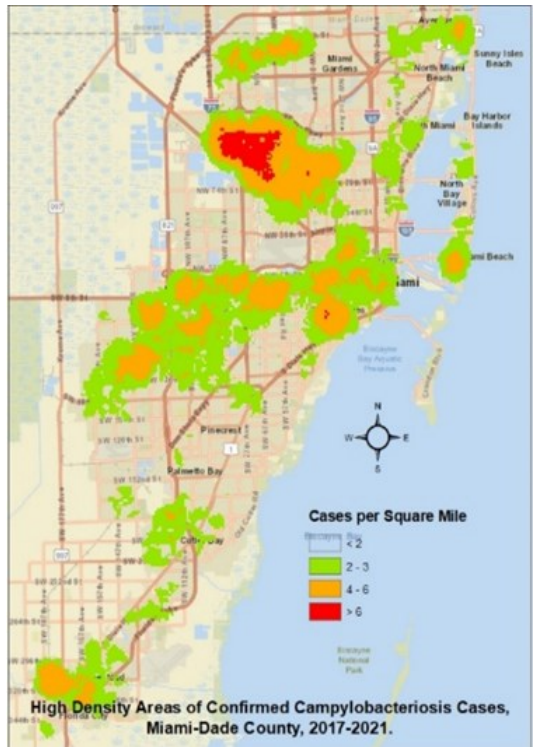


Figure 6. Case Frequency of Campylobacteriosis Cases in Miami-Dade by Zip Code, 2017-2021.



## References

1. World Health Organization (1 May 2020). Campylobacter. Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/campylobacter>
2. Centers for Disease Control and Prevention (23 December 2019). Retrieved from: <https://www.cdc.gov/campylobacter/faq.html>
3. Florida Department of Health (March 2022). Guide to Surveillance and Investigation – Campylobacteriosis.
4. Centers for Disease Control and Prevention (27 June 2022). Campylobacter – Information for Health Professionals. Retrieved from: <https://www.cdc.gov/campylobacter/technical.html>
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## Appendix

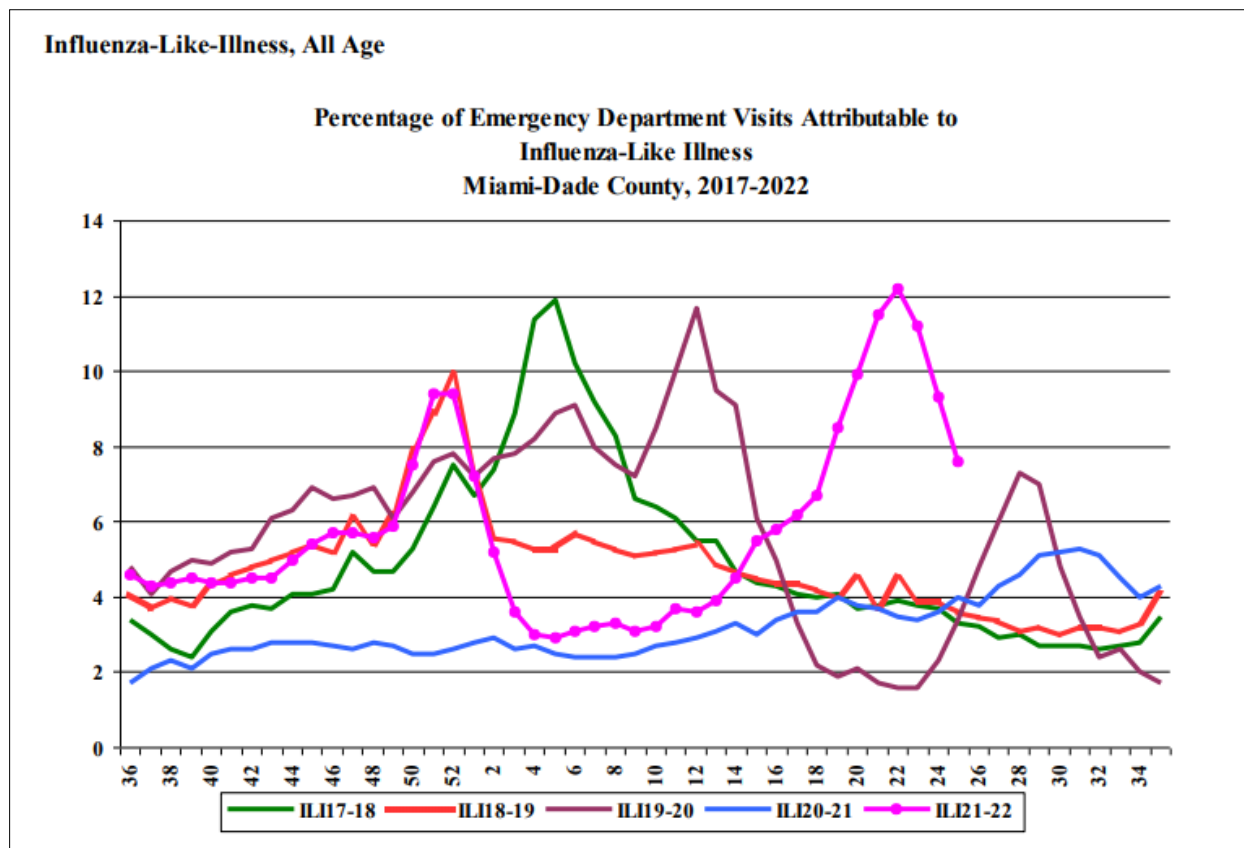
Case Frequency and Incidence Rates of Campylobacteriosis by Age, Sex, and Race/Ethnicity.

	N	Rate per 100,000	N	Rate per 100,000	N	Rate per 100,000	N	Rate per 100,000	N	Rate per 100,000
<b>Miami-Dade</b>	198	7.2	158	5.6	154	5.4	144	5.0	183	6.4
<b>Florida</b>	1580	7.7	1395	6.7	1270	6.0	1222	5.6	1069	4.9
<b>Age</b>										
<5	46	28.8	49	30.3	49	30.0	55	33.2	61	37.4
5-14	36	11.8	24	7.7	33	10.5	39	12.3	40	12.6
15-24	17	5.1	12	3.6	11	3.3	17	5.1	18	5.5
25-34	19	4.8	6	1.5	12	3.0	6	1.5	6	1.5
35-44	13	3.4	11	2.8	9	2.3	4	1.0	8	2.1
45-54	19	4.7	10	2.4	12	2.9	7	1.7	13	3.2
55-64	17	5.1	19	5.5	13	3.7	11	3.0	13	3.5
65-74	15	6.4	15	6.2	6	2.4	3	1.2	13	5.0
75-84	11	7.9	10	7.0	6	4.1	1	0.6	10	6.3
85+	5	7.7	2	3.1	3	4.6	1	1.5	1	1.5
<b>Sex</b>										
Female	92	6.5	80	5.5	68	4.7	67	4.5	75	5.1
Male	106	7.9	78	5.7	86	6.3	77	5.5	108	7.8
<b>Race/Ethnicity</b>										
Non-Hispanic White	29	7.6	21	5.7	21	5.7	10	2.7	18	4.7
Non-Hispanic Black	9	2.0	3	0.7	1	0.2	6	1.4	7	1.6
Hispanic	143	7.7	111	5.8	121	6.2	116	5.8	139	7.1

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



Across all ages, there were 38,721 ED visits; among them 2,944 (7.6%) were ILI. During the same week last year, 4.0% 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

### May 2022

Diseases/Conditions	2022 Current Month	2022 Year to Date	2021 Year to Date	2020 Year to Date
<b>HIV/AIDS</b>				
AIDS*	46	178	165	140
HIV	159	789	508	462
<b>STD</b>				
Infectious Syphilis*	65	269	239	N/A
Chlamydia*	1298	5939	5810	N/A
Gonorrhea*	639	2571	2535	N/A
<b>TB</b>				
Tuberculosis**	11	60	39	31
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	62	265	220	218
Chikungunya Fever	0	0	0	0
Ciguatera Poisoning	3	3	1	4
Cryptosporidiosis	5	24	18	11
Cyclosporiasis	1	1	3	1
Dengue Fever	4	16	1	10
Escherichia coli, Shiga Toxin-Producing	15	64	26	29
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	24	110	43	45
Influenza, Pediatric Death	0	0	0	0
Legionellosis	3	15	20	12
Leptospirosis	0	0	1	0
Listeriosis	0	1	3	3
Lyme disease	1	4	0	3
Malaria	0	0	1	2
Meningitis (except aseptic)	2	3	7	4
Meningococcal Disease	0	3	3	2
Salmonella serotype Typhi (Typhoid Fever)	0	0	0	0
Salmonellosis	101	369	238	216
Shigellosis	13	52	24	68
Pneumoniae, invasive disease	5	31	12	32
Vibriosis	4	9	2	2
West Nile Fever	0	0	0	0
Zika Virus (non-congenital)	0	0	0	0
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	1	3	2	1
Pertussis	0	4	0	7
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	4	10	4	24
<b>Hepatitis</b>				
Hepatitis A	7	12	4	8
Hepatitis B (Acute)	9	37	10	22
<b>Healthy Homes</b>				
Lead Poisoning	28	120	38	30

\*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:

- Hurricane season began June 1<sup>st</sup>, 2022. Visit [miamidade.gov](http://miamidade.gov) for important information on hurricane preparedness!
- COVID-19 testing sites in Miami-Dade will continue to offer free testing to patients without health insurance through July. Free At-Home COVID-19 tests also remain available. Visit <https://special.usps.com/testkits> to order a set of 8 tests.
- DOH Miami-Dade offers COVID-19 vaccines, vaccine boosters, pediatric vaccines, and flu shots. Visit [miamidade.floridahealth.gov](http://miamidade.floridahealth.gov) for clinic locations and appointments!
- Visit [HHS.gov](http://HHS.gov) for recommendations and guidance information provided for families during the Baby formula shortage.
- The **Test to Treat Initiative** provides individuals with rapidly accessible, free, lifesaving oral COVID-19 antiviral pills. Visit the [HHS.gov](http://HHS.gov) to locate a COVID-19 Test to Treat site near you!

## KNOW YOUR STATUS

Knowing your HIV status helps you make **decisions to prevent** getting or transmitting HIV.



Find an HIV testing site near you:  
[Locator.HIV.gov](http://Locator.HIV.gov)



## MEN'S HEALTH

Take charge of your health!  
Don't put off recommended health screenings.



PRODUCED BY THE DEFENSE HEALTH AGENCY

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

### About the Epi Monthly Report

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 Yoselin Garcia at (786) 582-2266 or [Yoselin.Garcia@flhealth.gov](mailto:Yoselin.Garcia@flhealth.gov).

