EPI Monthly Report

Florida Department of Health in Miami-Dade County

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Increase in Shigellosis Cases in Miami-Dade County, Florida

Alazandria Cruze, MPH, CPH

Inside the Issue

Epidemiology, Disease Control & Immunization Services

8600 NW 17th Street

Suite 200

Miami, Florida 33126

Tel: (305) 470-5660

Fax: (305) 470-5533

Overview

Shigellosis is an acute infectious disease caused by the group of bacteria *Shigella*. Each year, approximately 450,000 cases of shigellosis occur in the United States (US). Four different *Shigella* species are to blame for this infectious disease, *sonnei, flexneri, dysenteriae and boydii*, with *Shigella sonnei* causing over 70% of all shigellosis infections in the US. Shigellosis infections typically occur during the summer and early fall and are seen as both single cases and as part of an outbreak. The number of infections due to *Shigella* can vary from year to year, following a cyclical pattern of high numbers of cases every five to six years (1, 2, 3).

Symptoms of Shigellosis

The most common symptom of shigellosis is diarrhea, which is often watery and bloody. Additional symptoms may include fever, nausea, vomiting and abdominal pain. Typically, symptoms occur within 1 to 2 days after exposure to *Shigella,* and shigellosis infections usually resolve within 5-7 days. Some individuals infected with shigellosis may not experience any symptoms, but can still pass the *Shigella* bacteria to others (1, 2, 3).

Transmission

Shigellosis spreads from person to person by fecal oral transmission. Shigellosis is highly infectious and only a small amount of the *Shigella* bacteria are needed to infect a healthy individual. The *Shigella* bacteria are found in the stool of an infected individual while they are sick and can be shed for one to two weeks after symptoms resolve. S*higella* infections may occur when infected food handlers do not wash their hands properly and pass along the bacteria to food they prepare or handle. Water may become contaminated by sewage or feces of an infected person, and *Shigella* infections can then be acquired by drinking, swimming in or playing with the contaminated water. Shigellosis infections are most common among toddlers who are not fully toilet trained and their families and friends. Outbreaks are most commonly seen in daycare and child-care centers (1, 2, 3).

Preventing Shigellosis Infections

There is no vaccine to protect against shigellosis infections. The most effective way to prevent shigellosis is through frequent and proper hand washing with soap and water after using the restroom, when changing diapers or cleaning up after ill individuals, and before preparing and handling food. Some additional tips include:

- Properly dispose of soiled diapers
- Disinfect diaper changing areas after using them
- Keep children with diarrhea out of child-care settings
- Oversee handwashing of small children and toddlers after they go to the bathroom
- Do not prepare or handle food for others while ill with diarrhea
- Avoid swallowing water from ponds, lakes or untreated pools

Shigellosis in Miami-Dade County Florida

Since the beginning of 2014, Miami-Dade has been experiencing higher than average shigellosis cases. Within this short time period, the number of cases has already exceeded the average annual cases for the last three years. Miami-Dade last experienced large increases in shigellosis cases in 2003 and 2005. Shigellosis generally has a cyclic pattern characterized by periods with few cases followed by large community outbreaks, frequently associated with child care settings. This report details shigellosis trends in Miami-Dade County from 2005 through the beginning of 2014.

Methods

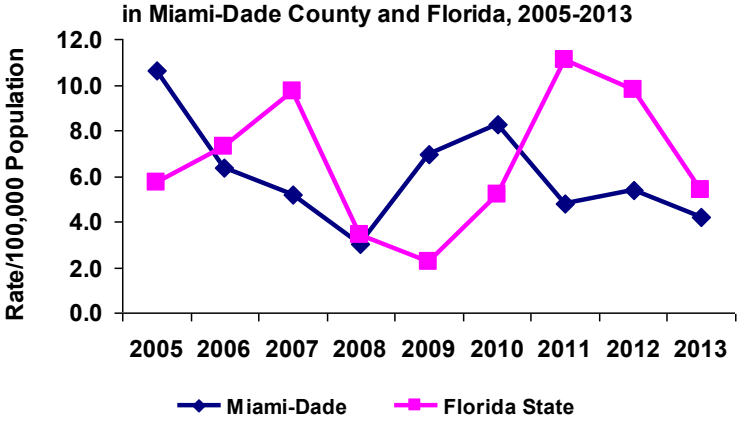
Data was extracted from Merlin, the Florida Department of Health, Epidemiology Disease Reporting System, between 01/01/2005 and 3/20/2014 and was based on case onset date. All Shigellosis cases included in this report were confirmed by laboratory culture. Age was

divided into four groups: younger children aged 0-4 years old, school aged children 5-17 years old, adults 18-64 years old and elderly adults aged 65 years and older. Race/ethnicity was grouped as Non-Hispanic White, Non-Hispanic Black and Hispanic. SAS 9.3 and ArcGIS 10 were employed to analyze the data.

Results

In 2005, the number of reported cases in Miami-Dade County was 259 (incidence rate 10.6 per 100,000), and decreased to 107 in 2013 (incidence rate 4.2 per 100,000). During that time period, the incidence rate trends in Miami-Dade County differed when compared to the trends of Florida State (Figure-1). From January 2014 through March 20, 2014, 159 confirmed cases of shigellosis were reported to the Florida Department of Health in Miami-Dade County. Of them, 39 and 67 were reported in January and February respectively; 57 cases were reported up to March 20, 2014.

Figure-1. *Shigella* Incidence Rate in Miami-Dade County and Florida, 2005-2013



Race/Ethnicity and Age

Between 2005 and 2012, Hispanic and Non-Hispanic Black accounted for 51-66% and 11-36% of reported *shigella* cases respectively in Miami-Dade County. In 2013, Hispanic and Non-Hispanic Black accounted for 48% and 44% of reported cases respectively. Up till March 20, Hispanic and Non-Hispanic Black accounted for 44% and 50% of reported cases respectively.

Non-Hispanic Blacks had the highest incidence rate per 100,000 population from 2005 until 2011, and then again in 2013. In 2013, the incidence rate for Non-Hispanic Blacks was 10.9 per 100,000 as compared to Hispanic (3.04) and Non-Hispanic Whites (2.35) (Figure-2). Reported cases of *Shigella* have been primarily reported in children aged 1-4, followed by children aged 5-9, between 2005 and March 20, 2014 (Figure-3).

Figure-2. *Shigella* Incidence Rate by Race/Ethnicity in Miami-Dade County, 2005-2013

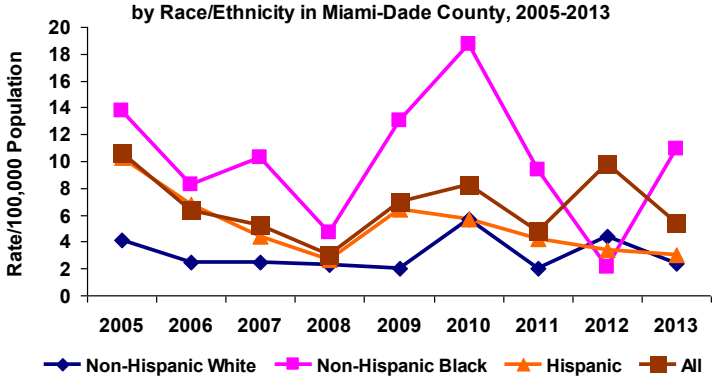
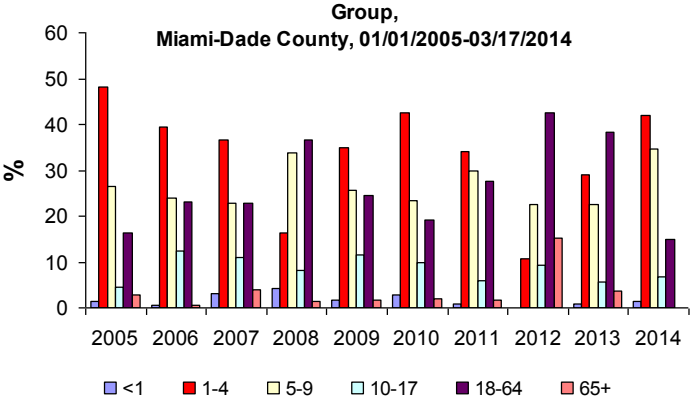


Figure-3. Reported Shigella Cases Distribution by Age Group, Miami-Dade County, 01/01/2005-03/17/2014



Seasonality and Outbreak Associated

No distinct seasonal patterns were identified for *Shigella* infections in Miami-Dade County. From 2005 through early 2014, the number of reported cases varied by both month and year (Figure-4). In Miami-Dade County, between 2 and 19% of reported cases are outbreak related (Figure-5).

Figure-4. Reported Cases of Shigellosis by Month in Miami-Dade County, 01/01/2005-03/20/20014

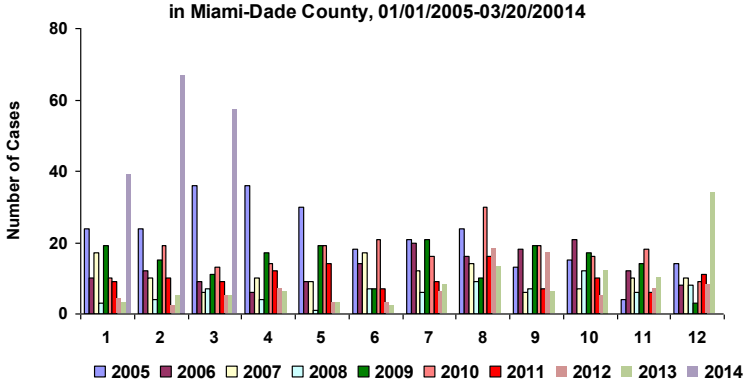
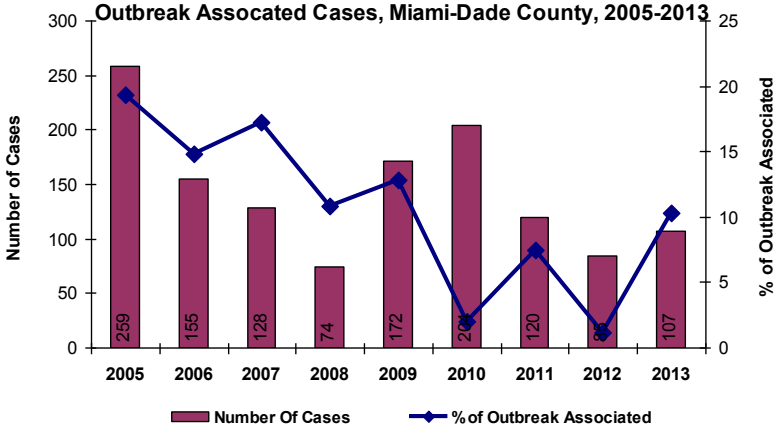


Figure-5. Reported Cases of Shigellosis and Percent of Outbreak Assocated Cases, Miami-Dade County, 2005-2013



Location

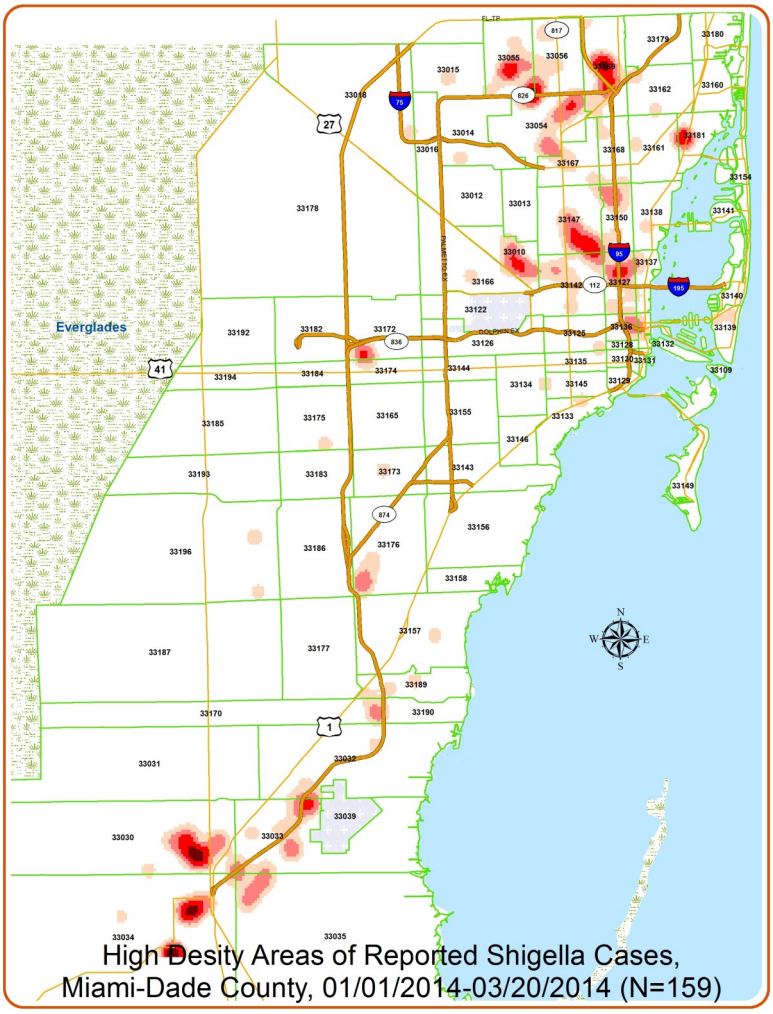
The majority of reported *Shigella* cases since the beginning of 2014 have been in the northern and southern regions of Miami-Dade County. Figure-6 represents high density areas of reported *Shigella* cases from 1/1/2014 through 3/20/2014.

Discussion

Since 2005, the incidence rate of *Shigella* cases in Miami-Dade County has varied and has remained highest among Non-Hispanic Blacks as compared to Non-Hispanic Whites and Hispanics. Children are most susceptible to shigellosis, primarily children 5 years of age and younger and those in daycare and childcare settings. The data for Miami-Dade County is consistent with national trends. High density areas of reported *Shigella* cases were seen in both the northern and southern regions of the county.

The spread of *Shigella* from one person to another can be limited by frequent and proper handwashing with soap and water. Hand washing among children supervised by an adult. Individuals who are ill or are caring for an ill person should not prepare foods or beverages for anyone to limit the possibility of transmission. It is important to remember that children experiencing diarrhea should be kept home from school and daycare, and should be taken to their primary care physician for evaluation. Individuals who work with food (handling it or preparing it) should stay home from work until symptoms subside. *Shigella* infections are highly contagious and can turn into outbreaks quickly. Implementing prevention measures proactively may decrease the transmission of shigellosis in our community.

Figure-6. High Density Areas of Reported Shigella Cases



References

1. Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, Division of Foodborne, Waterborne and Environmental Diseases. https://www.cdc.gov/nczved/divisions/dfmd/diseases/shigellosis/
2. PubMed Health, Shigella Fact Sheet. http://www.ncbi.nlm.nig.gov/pbumedhealth/PMH001340/
3. Heymann, D. Control of Communicable Diseases Manual, 19th Edition. American Public Health Association. 2008.

March is Colorectal Cancer Awareness Month

Colorectal cancer is the third most common cancer in the United States and the second leading cause of death from cancer. Colorectal cancer affects all racial and ethnic groups and is most often found in people ages 50 and older.

The best way to prevent colorectal cancer is to get screened regularly starting at age 50. There are often no signs or symptoms of colorectal cancer – that's why it's so important to get screened.

People over age 50 have the highest risk of colorectal cancer. You may also be at higher risk if you are African American, smoke, or have a family history of colorectal cancer.

Everyone can take these healthy steps to help prevent colorectal cancer:

- Get screened starting at age 50.
- Quit smoking and stay away from secondhand smoke.
- Get active and eat healthy.

For more information, please contact the National Cancer Institute at www.nci.nih.gov, Centers for Disease Control and Prevention at www.cdc.gov or the American Cancer Society at www.cancer.org .

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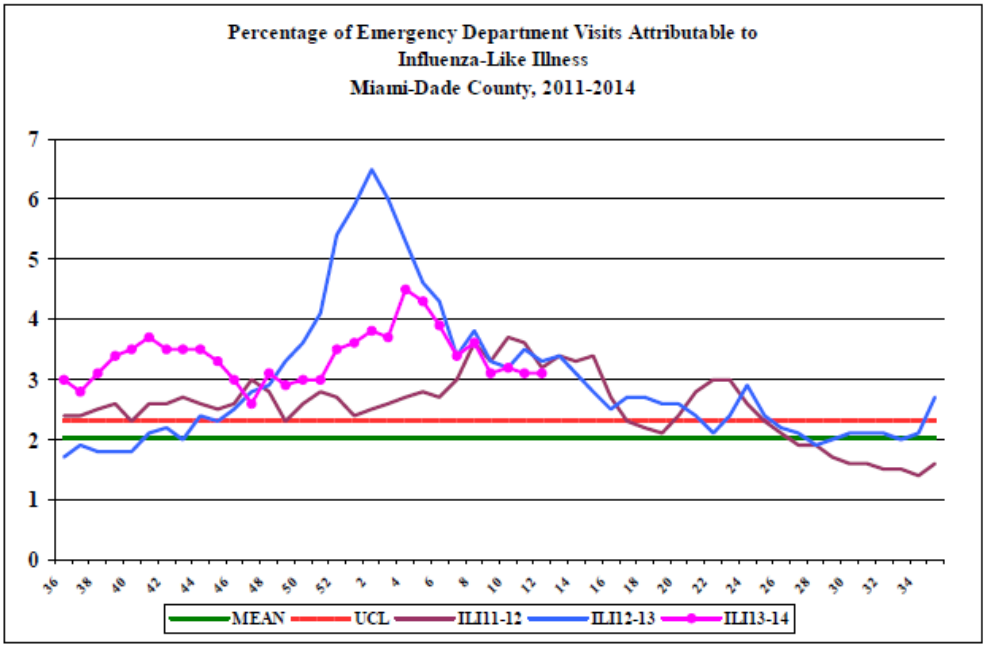
Influenza-Like-Illness, All Age



During this period, there were 24,692 ED visits; among them 757 (3.1%) were ILI. At the same week of last year, 3.3% of ED visits were ILI.

TO REPORT ANY DISEASE AND FOR INFORMATION CALL:
Epidemiology, Disease Control & Immunization Services

Childhood Lead Poisoning Prevention Program 305-470-6877
Hepatitis 305-470-5536
Immunizations or outbreaks 305-470-5660
HIV/AIDS Program 305-470-6999

STD Program 305-575-5430
Tuberculosis Program 305- 575-5415

Immunization Service 305-470-5660

To make an appointment.....786-845-0550

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

Lakisha Thomas at 305-470-5660.

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, contact Kathleen Ochipa at (305) 470-6918.

Miami-Dade County Monthly Report
Select Reportable Disease/Conditions
February 2014

Diseases/Conditions	2014 Current Month	2014 Year to Date	2013 Year to Date	2012 Year to Date
HIV/AIDS				
AIDS*	47	85	129	112
HIV	114	224	242	194
STD				
Infectious Syphilis*	14	43	46	57
Chlamydia*	842	1511	1574	1517
Gonorrhea*	163	316	388	411
TB				
Tuberculosis**	8	15	9	9
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	21	41	37	55
Ciguatera Poisoning	0	0	0	0
Cryptosporidiosis	3	6	3	2
Cyclosporiasis	0	0	1	0
Dengue Fever	3	3	5	1
E. coli, O157:H7	0	0	0	3
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	19	31	32	21
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	1	0	0
Legionellosis	1	2	7	1
Leptospirosis	0	0	0	0
Listeriosis	0	0	0	0
Lyme disease	1	1	0	0
Malaria	1	1	5	1
Meningitis (except aseptic)	3	5	4	4
Meningococcal Disease	1	1	4	5
Salmonellosis	36	69	54	55
Shigellosis	55	75	4	4
Streptococcus pneumoniae, Drug Resistant	10	13	21	21
Toxoplasmosis	0	0	0	0
Typhoid Fever	0	0	0	1
Vibriosis	1	2	0	0
West Nile Fever	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	0	0
Pertussis	1	2	1	6
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	7	10	9	9
Hepatitis				
Hepatitis A	1	2	5	2
Hepatitis B (Acute)	3	3	3	2
Lead				
Lead Poisoning	3	11	16	11

*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.