

# EPI MONTHLY REPORT

## MIAMI-DADE COUNTY HEALTH DEPARTMENT

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## *Shigellosis Trends in Miami-Dade County*

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### Background

Shigellosis is an acute infectious disease caused by a group of bacteria called Shigella. Every year, there are approximately 18,000 cases of shigellosis in the US. The actual number of infections may be twenty times greater because many milder cases are not always diagnosed or reported. There are several types of Shigella bacteria such as Shigella sonnei, which accounts for over two-thirds of shigellosis cases and Shigella flexneri which accounts for the majority of the remaining cases. The most common symptom of shigellosis is diarrhea, which often contains blood and mucus from the intestinal walls. Other symptoms may include fever, nausea, vomiting, loss of appetite, dehydration and stomach cramps. Symptoms typically occur 1 to 2 days after exposure to the bacteria. A severe infection with high fever may be associated with seizures in children less than 2 years old. Some persons who are infected may have no symptoms at all, but may still pass the bacteria to others. Shigellosis usually resolves within 5 to 7 days [1, 2].

Fecal-oral transmission is the main path of Shigella infection. Other modes of transmission include ingestion of contaminated food or water and from person to person. Infected food handlers who do not wash their hands may contaminate food with the bacteria. Water may become contaminated by sewage or feces of an infected person. Shigella infections can then be acquired by drinking, swimming in or playing with the contaminated water. Outbreaks of shigellosis are commonly seen in day care centers [1, 3, 4].

This report describes Shigellosis trends in Miami-Dade County between 2005 and 2011.

### Methods

Data was extracted from Merlin, the Florida Department of Health, Epidemiology Disease Re-

porting System, between 01/01/2005 and 12/31/2011 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. A retrospective space-time analysis was conducted to detect geographical clustering at the census tract level using the Poisson model in SaTScan™. SAS 9.3 and ArcGIS 10 were employed to analyze the data. Population data was collected from the 2010 US Census.

### Results

The number of reported Shigellosis cases in Miami-Dade County was 259 (incidence rate 10.6 per 100,000) in 2005 and decreased to 120 (incidence rate 4.8 per 100,000 population) in 2011. During the same time period, the incidence rate trends in Miami-Dade County varied when compared to Florida state (Figure 1).

Race/ Ethnicity and Age: Non-Hispanic Blacks, which make up 19% of the county's population, had the highest incidence rate consecutively from 2005 to 2011. In 2011, the incidence rate for Non-Hispanic Blacks was 9.4 per 100,000 population as compared to Non-Hispanic White (2.0) and Hispanic (4.2) respectively. Shigella incidence rates were significantly higher in children under 5 years of age between 2005 and 2011 (Figures 2, 3, 4).

Sex: There was no significant change in pattern of gender found between 2005 and 2011. Females accounted for approximately 40-58% of all reported cases.



**Seasonality and outbreak association:**

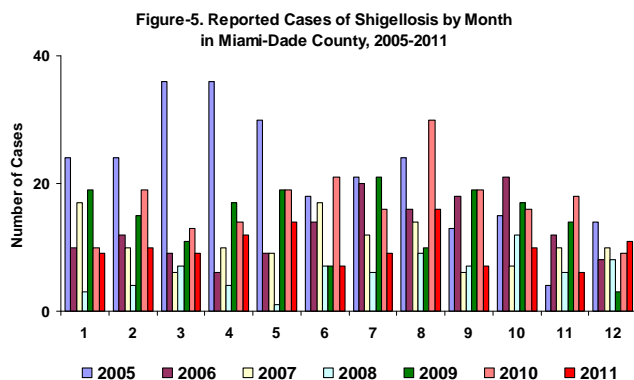
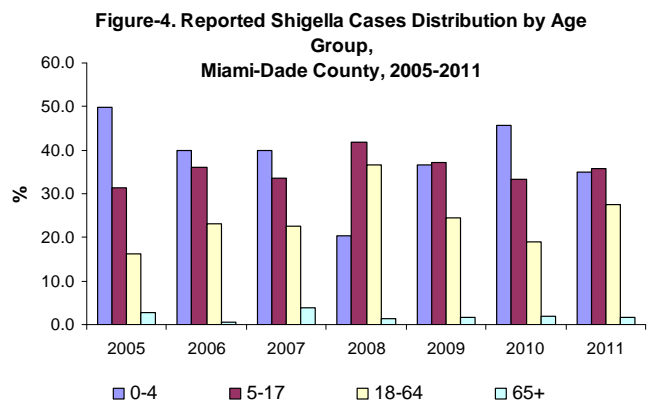
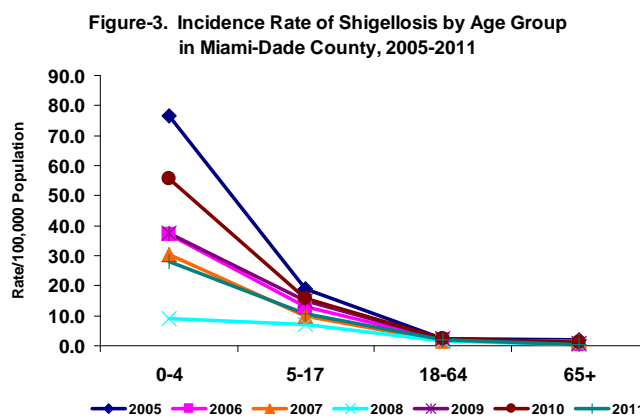
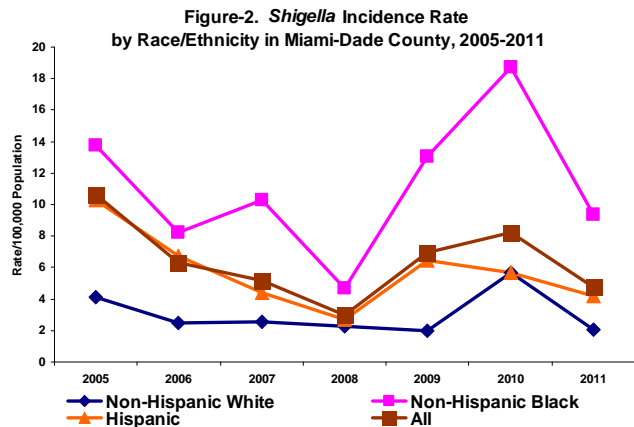
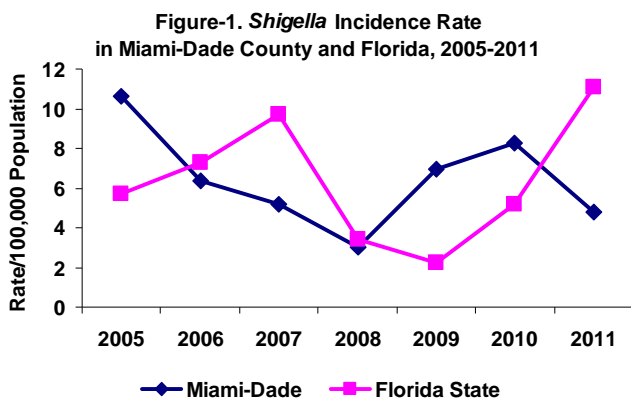
There was no distinct seasonal pattern for Shigella infection in Miami-Dade County. The number of reported cases varied by month and year. Studies show Shigella infections typically occur more often during the summer than winter. Between 2-19% of reported cases were associated with identified outbreaks. Additionally, 4-15% of the cases were acquired outside of the United States annually in Miami-Dade County between 2005 and 2011 (Figures 5 and 6).

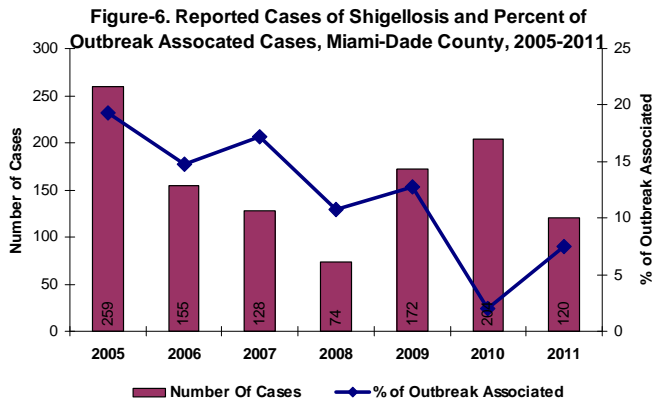
**Location:** The majority of the reported cases of Shigella infection occurred in highly dense areas of central and northern regions of Miami-Dade County between 2005 and 2011. There were two hotspots detected north-east of central Miami-Dade County (Figure 7) using 2005-2011 incidence rates data at census tract level. Within the clustering areas, the population is predominantly Non-Hispanic Black.

**Discussion**

Over the last 7 years, the incidence rate of Shigella in Miami-Dade County has varied and remained higher among Non-Hispanic Blacks as compared to Non-Hispanic Whites and Hispanics. Children 5 years old and younger had the highest rate of Shigella infection among all age groups. This data is consistent with national trends which show children are more likely to get Shigellosis. Two clusters were detected north-east of central Miami-Dade County.

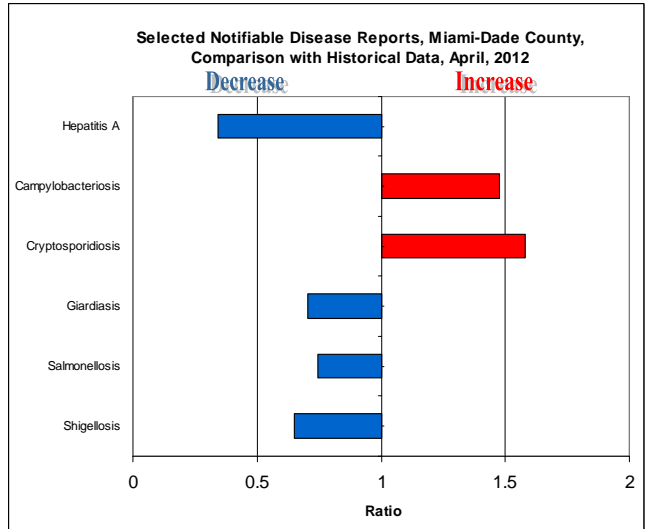
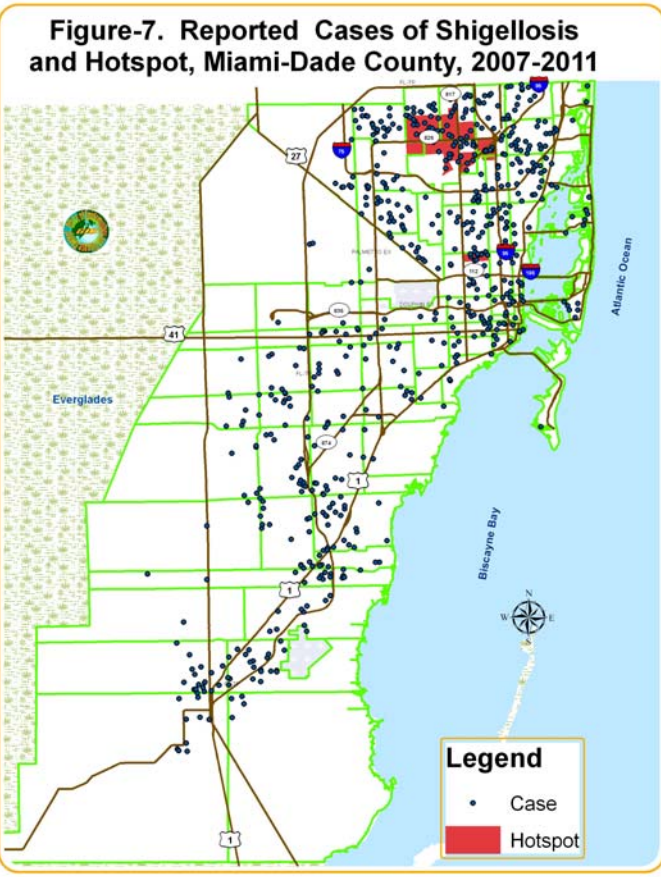
Person to person spread of Shigella from an infected person can be stopped by frequent and careful hand washing with soap. Hand washing among children should be frequent and supervised by an adult. Basic food safety precautions and disinfection of drinking water prevents shigellosis from food and water. Individuals with shigellosis should not prepare food or drinks for others until they no longer carry the Shigella bacterium. When traveling to developing countries, individuals should drink only treated or boiled water, and eat only cooked hot foods [1].





**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



**References**

- Centers for Disease Control and Prevention (CDC), National Center for Emerging and Zoonotic Infectious Diseases, Division of Foodborne, Waterborne and Environmental Diseases. <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/shigellosis/#catch>
- PubMed Health, Shigella Fact Sheet. <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001340/>
- Safe Drinking Water Foundation, Shigella Fact Sheet. [http://www.safewater.org/PDFS/resourcesknowthefacts/Shigella\\_short.pdf](http://www.safewater.org/PDFS/resourcesknowthefacts/Shigella_short.pdf)
- Heymann, D. Control of Communicable Diseases Manual, 19th Edition. American Public Health Association. 2008.



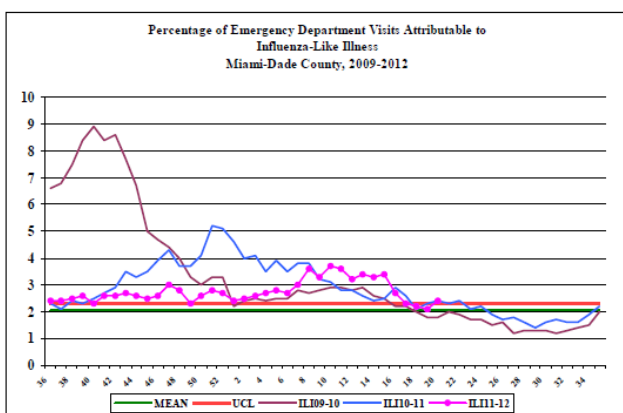
**Miami-Dade County Health Department**  
**EDC-IS Influenza/Respiratory Illness**  
**Surveillance Report**

**Week 20: 05/20/2012–**  
**05/26/2012**



Miami Dade County Health Department EDC-IS collects and analyzes weekly information on influenza activity in Miami-Dade County. On a daily basis, selected Miami-Dade County hospitals electronically transmit hospital emergency department data to the Miami-Dade County Health Department.

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”. Each week, staff will determine the percentage of all emergency department visits that fall into the ILI category.



During this period, there were 22,749 ED visits; among them 542 (2.4%) were ILI. At the same week of last year, 2.4% of ED visits were ILI.

**PARTICIPATE IN INFLUENZA**  
**SENTINEL**  
**PROVIDER SURVEILLANCE**

**The Miami-Dade County Health Department 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 Miami-Dade County Health Department, 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 Lizbeth Londoño at 305-470-6918.



# Miami-Dade County Monthly Report Select Reportable Disease/Conditions April 2012

Diseases/Conditions	2012 Current Month	2012 Year to Date	2011 Year to Date	2010 Year to Date
<b>HIV/AIDS</b>				
AIDS*	55	200	199	246
HIV	93	407	476	417
<b>STD</b>				
Infectious Syphilis*	21	106	114	122
Chlamydia*	789	3135	2840	2794
Gonorrhea*	178	817	721	744
<b>TB</b>				
Tuberculosis**	8	22	35	53
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	19	88	128	47
Ciguatera Poisoning	0	1	6	0
Cryptosporidiosis	2	6	6	2
Cyclosporiasis	0	0	0	0
Dengue Fever	2	3	3	2
E. coli, O157:H7	0	2	7	2
E. coli, Non-O157	0	0	0	0
Encephalitis (except WNV)	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	16	54	107	200
Influenza Novel Strain	0	0	0	17
Influenza, Pediatric Death	0	2	0	0
Legionellosis	0	3	8	2
Leptospirosis	0	0	0	0
Listeriosis	0	1	0	3
Lyme disease	0	0	0	0
Malaria	0	2	7	9
Meningitis (except aseptic)	2	8	10	9
Meningococcal Disease	1	6	4	9
Salmonellosis	30	113	90	86
Shigellosis	9	18	37	48
Streptococcus pneumoniae, Drug Resistant	5	33	36	81
Toxoplasmosis	2	2	0	1
Typhoid Fever	0	0	1	1
Vibriosis	0	1	1	0
West Nile Fever	0	0	0	0
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	0	1	0	1
Pertussis	5	15	4	10
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	5	18	14	30
<b>Hepatitis</b>				
Hepatitis A	1	7	11	15
Hepatitis B (Acute)	6	9	2	9
<b>Lead</b>				
Lead Poisoning	9	23	42	77

\*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.