

EPI Monthly Report

Florida Department of Health in Miami-Dade County

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Season's Greetings from Dr. Reynald Jean and the Florida Department of Health in Miami Dade County

Season's Greetings to all,

The holidays are upon us, and I wanted to take this opportunity to extend a message of gratitude and cheer to all of our outstanding providers and practitioners who have gone above and beyond in the year 2014. We here at the Florida Department of Health in Miami Dade County are looking forward to another wonderful year in 2015, and are also looking forward to continuing to work with such a devoted network of partners. Thank you for your tireless efforts this year to protect, educate and treat the citizens and visitors of Miami Dade County, and thank you also for your devotion to good public health practice and policy.

Sincerely,
Reynald Jean, MD, MPH
Director of Tuberculosis, Epidemiology,
Disease Control, and Immunization Services

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Gastrointestinal Illness Outbreaks Associated with Local Catering Company

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Background

On November 21, 2014 the Florida Department of Health in Miami-Dade County, Epidemiology, Disease Control & Immunization Services (EDC-IS) received two calls simultaneously from two separate local offices reporting several employees ill after a thanksgiving lunch. The thanksgiving lunch included turkey, mashed potatoes, gravy, stuffing, and cranberry sauce. Commonly reported symptoms included watery diarrhea and abdominal pain. Onset ranged between 6 to 16 hours after exposure.

Outbreak1: The employees had their thanksgiving lunch on 11/20/2014 along with food items brought from home. Out of the 12 employees, 6 (50% attack rate) became ill.

Outbreak2: The employees had their thanksgiving lunch on 11/20/2014. Out of 50 employees, 25 (50% attack rate) became ill, including 4 family members of two employees who brought leftovers home.

On November 21st, 2014, EDC-IS collected three stool samples from outbreak2 and leftover food from outbreak1 and outbreak2. These specimens were submitted to the Bureau of Public Health Laboratories (BPHL) Miami. EDC-IS interviewed attendees from both of the outbreaks.

On November 24th, 2014, EDC-IS and the Department of Business and Professional Regulation (DBPR) conducted a site visit and environmental assessment at the catering kitchen. On the same day, EDC-IS received an email from the catering company reporting three additional outbreaks, one of which had already been reported as outbreak2.

Outbreak3: Hospital A had their thanksgiving lunch on 11/21/14. Out of 52 employees, 50 (97% attack rate) became ill.

Outbreak4: Company A had their thanksgiving lunch on 11/21/14. Out of 11 employees, 10 (91% attack rate) became ill.

EDC-IS requested invoices from the catering company listing contact information for all the customers served between November 19th and November 26th, 2014. EDC-IS used the invoices to contact these clients who ordered either a “turkey buffet” or a “turkey and ham buffet” during this date range. Through this method EDC-IS staff identified an additional ten outbreaks.

Outbreak5: Hospital B, Department A had their thanksgiving lunch on 11/24/14. Out of 47 employees, 29 (62% attack rate) became ill.

Outbreak6: Hospital B, Department B had their thanksgiving lunch on 11/24/14. Out of 25 employees, 12 (48% attack rate) became ill.

Outbreak7: Hospital B, Department C had their thanksgiving lunch on 11/20/14. Out of 20 employees, 17 (85% attack rate) became ill. Four household members were also reported ill after eating leftovers brought home from this event.

Outbreak8: Company B had their thanksgiving lunch on 11/20/2014. Out of 14 employees, 3 (21% attack rate) became ill. *This organization declined to send an official line list but distribute the questionnaires to their employees. Submitting the questionnaires to the health department was optional. EDC-IS received 3 questionnaires from this group, all three were symptomatic.

Outbreak9: Hospital B, Department D had their thanksgiving lunch 10/20/2014. Out of 13 employees, 10 (77% attack rate) became ill.

Outbreak10: Hospital B, Department E had their thanksgiving lunch on 11/20/2014. Line list is still pending.

Outbreak11: Medical office had their thanksgiving lunch on 11/20/2014. A line list was not submitted for this outbreak.

Outbreak12: University had their thanksgiving lunch on 11/24/2014. Out of 40 employees, 2 were reported ill. *This organization also declined to send an official line

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list but did distribute questionnaires to their event attendees. We received only 4 questionnaires from this group, two were symptomatic.

Outbreak13: Company C had their thanksgiving lunch on 11/21/2014. Out of 31 employees, 8 (26% attack rate) became ill.

Outbreak14: Hotel had their thanksgiving lunch on 11/24/2014. Out of 23 employees, 14 (61% attack rate) became ill.

Outbreak15: Hospital B, Department F had thanksgiving lunch on 11/24/2014. Out of 12 employees, 7 (58% attack rate) became ill.

After attempting to contact 158 organizations that had catered events taking place from November 19 to November 26, 2014, EDC-IS interviewed 101 organizations and determined that a total of 15 (14.9%) events resulted in an outbreak. As of 12/17/2014, a total of 140 people had been reported ill out of 232 people who submitted questionnaires.

Methods

A case was defined as any person who reported having diarrhea or abdominal pain within 24 hours after eating a catered turkey buffet provided by the catering company from November 19th to November 26th, 2014. Variables of interest included symptoms, onset dates, food history, whether the person brought food home from the party and if there were family members also ill. Data for the outbreaks were analyzed by grouping data for outbreaks that took place on 11/20/2014 and 11/21/2014 as group-1 outbreak, and data from the outbreaks that took place on 11/24/2014 as group-2 outbreak, due to small group sizes among all the outbreaks and foods were ordered from a standard holiday menu for all of the events. Outbreaks were analyzed using an unmatched case-control study design, including those who completed the questionnaire. The data was analyzed using chi-square test or Fisher's exact test when appropriate with SAS 9.3 (1). Logistic regression analysis was employed to control potential confounding factors and determine the association between illness and foods.

Results

EDC-IS interviewed 232 out of the 350 event attendees, 135 (58%) met our case definition. There were five household

contacts that completed a questionnaire and were excluded from our analysis because foods may have remained for a long time at room temperature before they were taken home. Reported symptoms among cases included diarrhea (96%), of those who with diarrhea 81% reported watery diarrhea, abdominal pain (86%), nausea (50%), headache (29%), weakness (35%), chills (24%), dizziness (17%), vomiting (9%), sore throat (6%) and fever (3%). The average age among attendees was 40.4 ± 12.4 , ranging from 21 to 70 years old. The incubation period varied by outbreak, but ranged from 6 to 21 hours (see Figures 1-3). Duration of illness ranged from one hour to 92 hours (3.8 days), median 25.5 hours.

Univariate analysis showed turkey, mashed potatoes and gravy were statistically significantly associated with sickness in group -1 outbreak (p-value 0.007, <0.0001 and 0.007 respectively); and turkey, stuffing and gravy were statistically significantly associated with sickness in group-2 outbreak (p-value 0.03, 0.007 and 0.0005 respectively). Multivariate logistic regression analyses showed that mashed potatoes (OR 8.1, 95% CI 1.5 – 42.5) were significant associated with illness in group-1 outbreak, and stuffing (OR 3.0, 95% CI 1.1-8.3) and gravy (OR 3.7, 95% CI 1.3-10.5) were significantly associated with illness in group-2 outbreak. Three stool specimens were obtained from Outbreak 2, from one attendee and two family members who ate leftover food from the event. The specimen from the attendee was unsatisfactory for testing. The two specimens from the family members were cultured, and both results came back negative for Shigella, Salmonella, Campylobacter, E. coli O157, Vibrio, Yersenia, and Staph.

Leftover food was collected from Outbreak1 (turkey, gravy, mashed potatoes, stuffing, cranberry sauce, bread, butter) and Outbreak 2 (Turkey, Mashed Potatoes, Stuffing). There was no growth of Salmonella sp., Shigella sp., Vibrio sp., Staph aureus, and Bacillus cereus after 24 hours. Additional testing was performed using anaerobe kits from the BPHL. Anaerobe results came back as no growth.

Discussion

A limitation to this study was that we could not analyze the outbreaks individually due small sample sizes, and small numbers of controls. However, because the food from the 15

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events derived from the same catering company and the foods ordered were part of a standard menu, the outbreaks were grouped into two with consecutive days. The statistical analysis showed mashed potatoes may be associated with group-1 outbreak, and stuffing and gravy may be associated with group-2 outbreak. None of the foods that were brought in from the outside, unique for each outbreak, were statistically significant. Leftover foods were tested, no growth of *Salmonella* sp., *Shigella* sp., *Vibrio* sp., *Staph aureus*, and *Bacillus cereus* after 24 hours.

Household illness was documented while interviewing attendees. Five people from three different outbreaks submitted questionnaires reporting bringing home food to household members who also became ill after eating. Household members who completed a questionnaire reported becoming ill an average of 6 hours after eating the food from the catered event. These accounts were not analyzed in the outbreak, due to the fact that lack of refrigeration and handling of food after the event may have contributed to illness.

During the site visit on November 24th, 2014, several basic and intermediate violations were identified by DBPR. During the assessment by the Epi Field team, two possible risk factors were identified through information received from management. One possible risk factor during preparation included the use of a large cylindrical pot (2.5 x 3 ft) to prepare gravy. Certain types of bacteria thrive between 40-140°F (the “Danger Zone”). This danger zone can occur when foods are prepared in large quantities and kept warm for a long time before serving. This usage of the pot was identified as a possible hazard on 11/22/2014 by management, the same day food preparations for events scheduled on 11/24/2014 was taking place. Management stopped using the pot and switched gravy products, changing from a powered formula to pre-canned gravy on 11/22/2014. Another possible risk factor may have included the use of personal vehicles to transport food to smaller parties while larger parties were transported in one of the company’s four commercial vans, which does not always allow foods to be kept at a safe temperature. A recommendation was provided to the catering company to check the temperature prior to

leaving the facility and upon arrival at the event site.

The average incubation periods and symptoms reported by cases are consistent with a foodborne toxin exposure. Typical incubation periods for foodborne toxins, such as *Clostridium Perfringens* and *Bacillus Cereus* range between 6 and 24 hours. Typical symptoms of these foodborne toxins include watery diarrhea, abdominal cramps, and absence of fever and vomiting. Since food and stool specimens were negative, we cannot definitively ascertain the source of the outbreak.

Prevention

The best way to prevent the growth of bacteria producing toxin and spores that might be in food after cooking, is for these foods to be cooked thoroughly at recommended temperatures, and then kept at a temperature that is either warmer than 140°F or cooler than 41°F; these temperatures prevent the growth of spores that might have survived the initial cooking process. Meat dishes should be served hot right after cooking. Leftover foods should be refrigerated at 40°F or below as soon as possible and within two hours of preparation. Do not put hot foods directly into the refrigerator as this will affect the temperatures of neighboring foods as the heat disseminates. Divide large pots of food like soup or stew or large cuts of meats like roasts or whole poultry into small quantities for refrigeration. Foods should be covered to retain moisture and prevent them from picking up smells from other foods. Leftovers should be reheated to at least 165°F before serving. Foods that have dangerous bacteria in them may not taste, smell, or look different. Any food that has been left out too long may be dangerous to eat, throw it away.

Healthcare providers should report suspected clusters of gastrointestinal illness to the Florida Department of Health in Miami-Dade at 305-470-5660 (24/7, 365).



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Figure 1: GI outbreaks from catered events on November 20, 2014

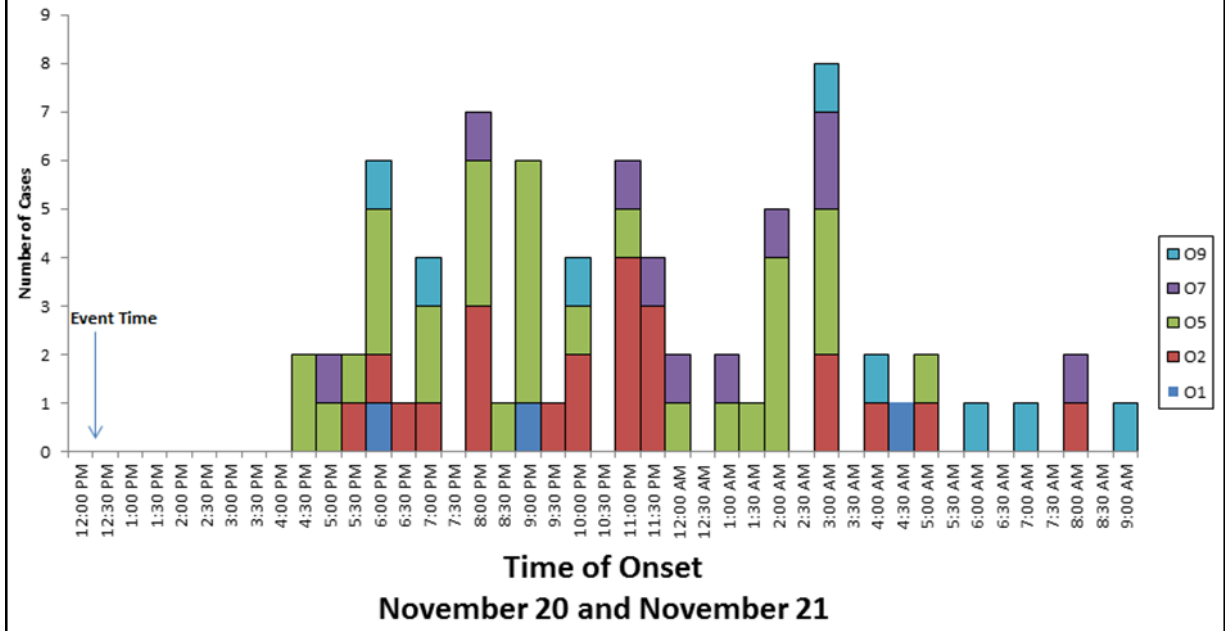
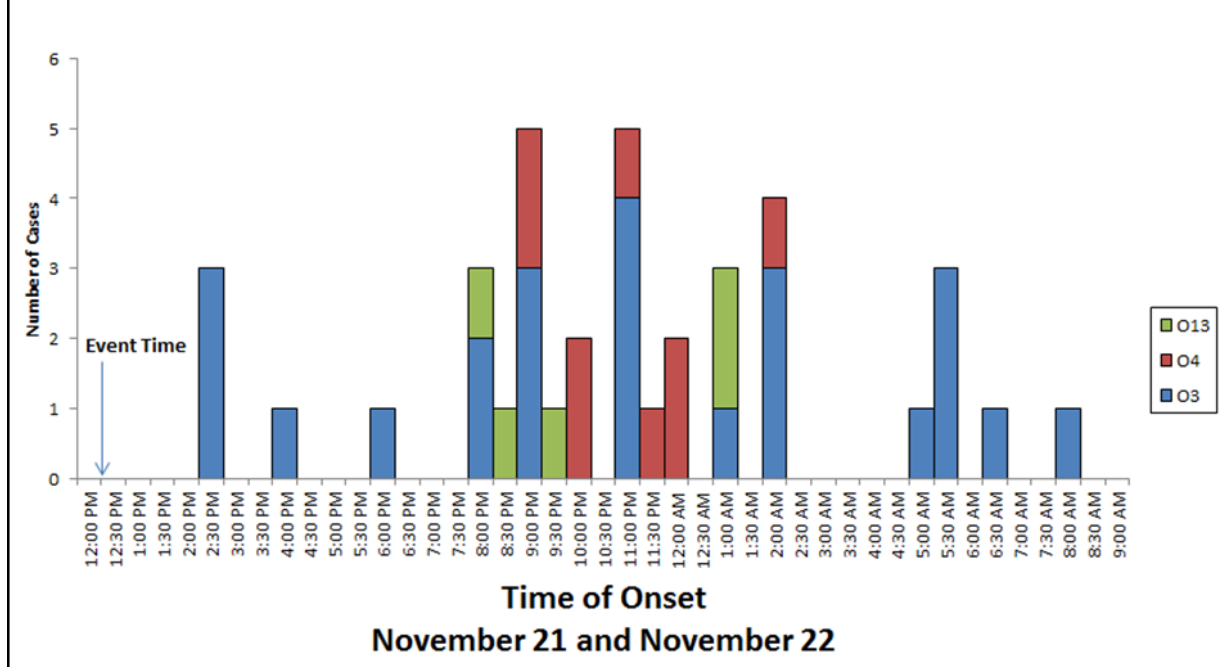


Figure 2: GI outbreaks from catered events on November 21, 2014



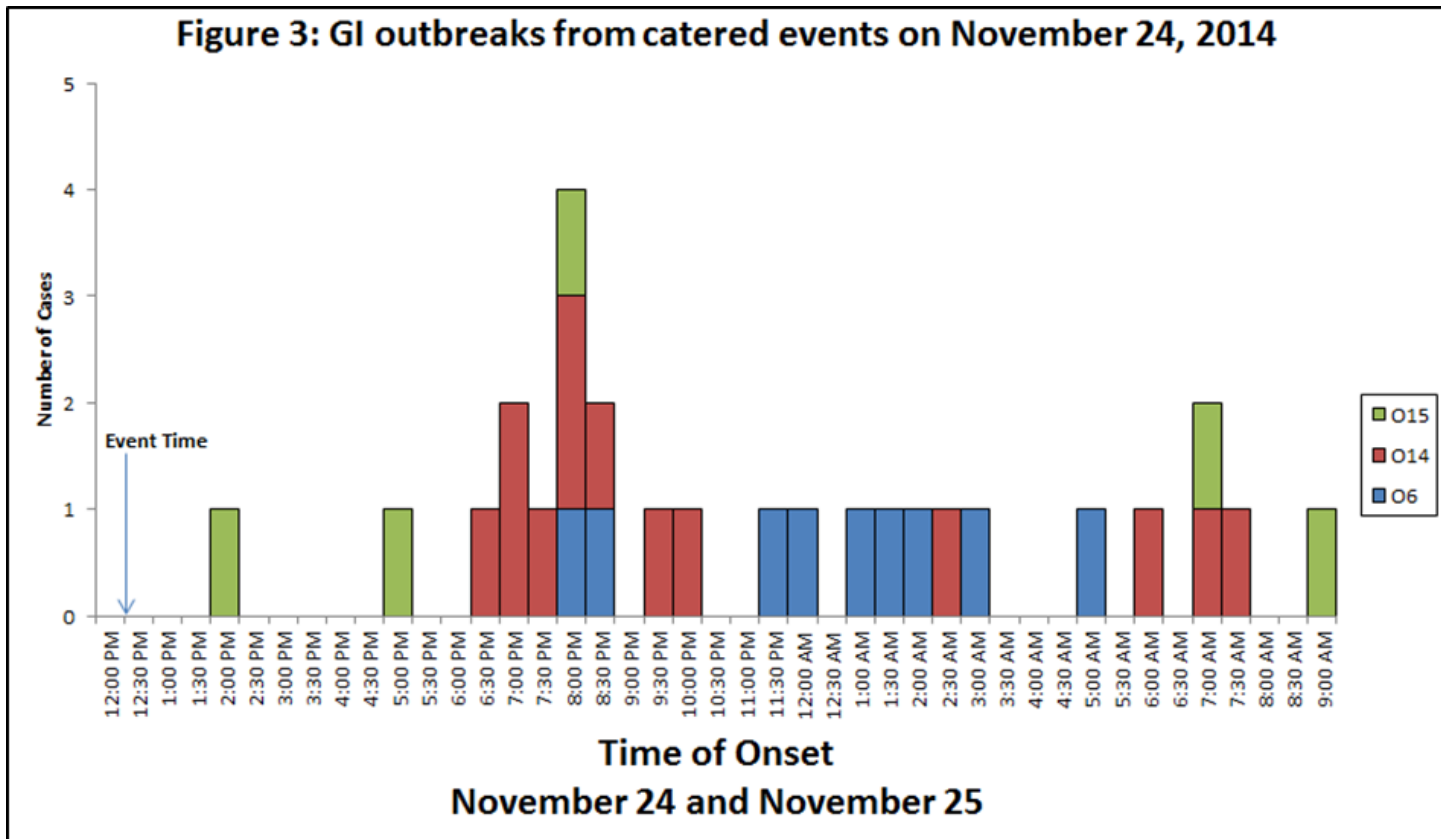
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Figure 3: GI outbreaks from catered events on November 24, 2014



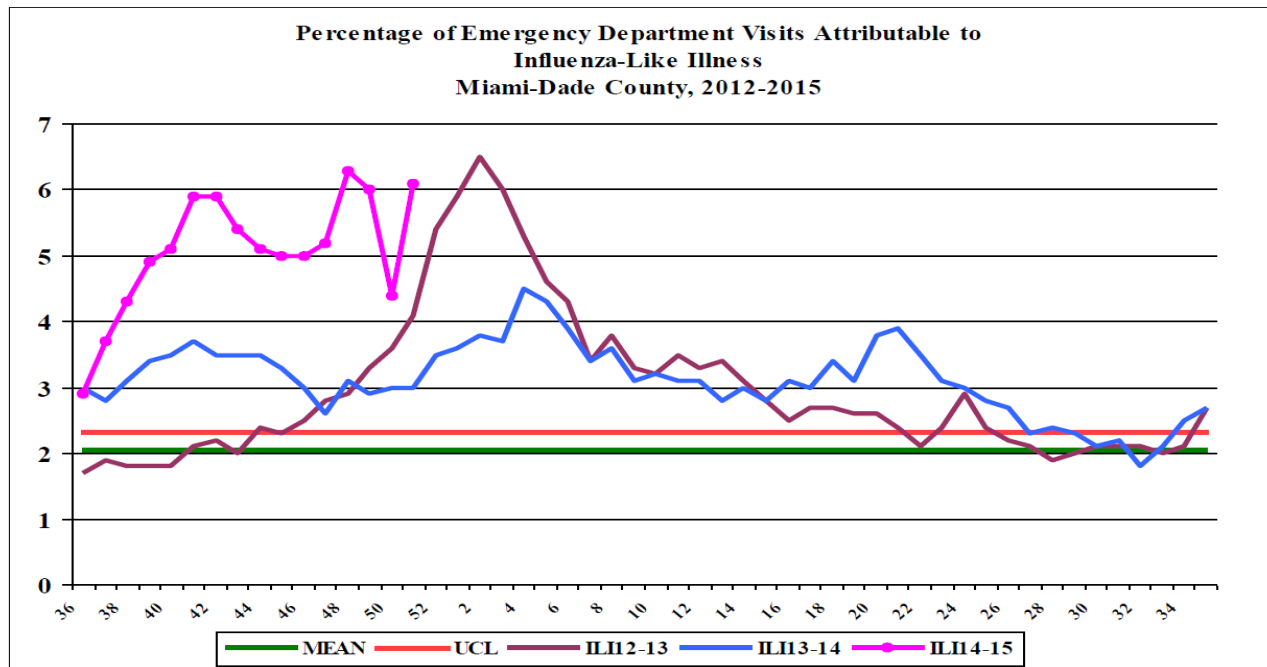


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Influenza-Like-Illness, All Age



During this period, there were 23,437 ED visits; among them 1,423 (6.1%) were ILI. At the same week of last year, 3.0% 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**.

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

- Childhood Lead Poisoning
- Prevention Program305-470-6877
- Hepatitis305-470-5536
- Immunizations or outbreaks305-470-5660
- HIV/AIDS Program305-470-6999
- STD Program305-575-5430
- Tuberculosis Program305-575-5415
- Immunization Service305-470-5660
- To make an appointment.....786-845-0550

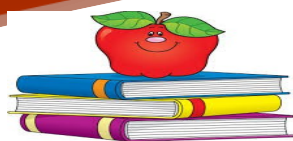
About the Epi Monthly Report

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, contact Emily Moore at (305) 470-6918.

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

Diseases/Conditions	2014 Current Month	2014 Year to Date	2013 Year to Date	2012 Year to Date
HIV/AIDS				
AIDS*	24	483	643	531
HIV	85	1298	1281	940
STD				
Infectious Syphilis*	11	304	333	282
Chlamydia*	711	8891	9087	8632
Gonorrhea*	145	1944	2126	2117
TB				
Tuberculosis**	3	110	110	98
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	22	327	328	320
Chikungunya Fever	9	72	0	0
Ciguatera Poisoning	0	22	25	19
Cryptosporidiosis	2	37	20	21
Cyclosporiasis	0	1	3	1
Dengue Fever	3	37	41	39
Escherichia coli, Shiga Toxin-Producing	0	21	10	7
E. coli, Non-O157	0	0	0	0
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	12	205	249	212
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	0	0	0
Legionellosis	4	18	21	18
Leptospirosis	0	0	0	0
Listeriosis	1	5	2	1
Lyme disease	2	8	5	8
Malaria	0	6	8	6
Meningitis (except aseptic)	9	26	30	21
Meningococcal Disease	1	11	15	16
Salmonella serotype Typhi (Typhoid Fever)	0	1	2	3
Salmonellosis	62	599	554	550
Shigellosis	4	642	66	74
Streptococcus pneumoniae, Drug Resistant	3	34	79	64
Toxoplasmosis	0	0	0	0
Vibriosis	0	6	10	3
West Nile Fever	1	1	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	0	1
Pertussis	1	31	41	62
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	1	41	62	42
Hepatitis				
Hepatitis A	0	31	31	23
Hepatitis B (Acute)	0	11	19	17
Lead				
Lead Poisoning	8	67	78	93

*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.