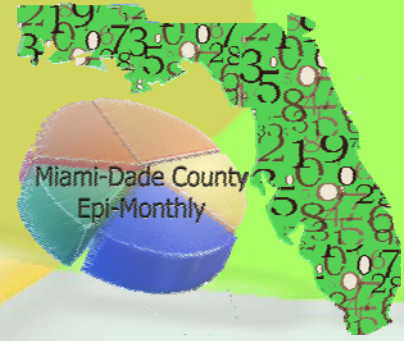


MIAMI-DADE COUNTY HEALTH DEPARTMENT

# EPI MONTHLY REPORT



## Outbreak of gastrointestinal illness among the staff of a local Elementary School in Miami-Dade, October 2009

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### Background

On Friday October 30, 2009, the Office of Epidemiology, Disease Control and Immunization Services (EDC-IS) at Miami-Dade County Health Department (MDCHD) received a phone call from the Infection Control Practitioner of a medical facility in Miami-Dade. She reported a positive culture of *Escherichia coli* O157:H7 in a woman who was admitted at this facility. The patient had bloody diarrhea, abdominal cramps, Hemolytic Uremic Syndrome and severe anemia.

The initial interview with the patient found that she was a staff member at an elementary school in Miami-Dade County. On Monday October 19, 2009, the staff had the Teachers' Planning Day. They organized a party that included a breakfast and lunch that was prepared in a private home. The patient had eaten food served during that activity. She had learned that other members of the staff were having gastrointestinal symptoms.

### Methods

A questionnaire was developed to inquire about demographic, exposure and illness information. The demographic section asked about name, age, gender, and phone number. The exposure section included questions about time of eating breakfast and/or lunch at the school, as well as a fully-itemized list of food served in both occasions. The illness sec-

tion requested information about type, onset and duration of symptoms. The staff was also asked whether they sought medical care for their symptoms and whether anyone else at home had become ill after the Teachers' Planning Day.

A total of 69 staff members attended the Teachers' Planning Day activity. A case-control study with 41 cases and 18 controls was conducted at the school. A case was defined as any person who ate breakfast and/or lunch served at the school on October 19th, 2009 as part of the Teachers' Planning Day activity and who developed diarrhea or vomiting or abdominal pain. A control was defined as any person who ate breakfast and/or lunch served on the same date and location as the cases who did not develop any of these symptoms. Ten staff members did not meet the case-control definition.

The patient admitted with *E. coli* O157:H7 was not included in the case-control study, because the incubation period and severity of symptoms did not meet the outbreak case definition. Her symptoms started 5 days after the lunch. Based on this evidence, it was concluded that the *E. coli* O157:H7 that made her ill was a different agent from the one that had caused the outbreak among the other 41 staff members. Data entry, processing and analysis were performed in EpiInfo 3.3.2.

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## Results and Discussion

The median age of patients was 40 years (range: 25 to 66 years). The majority was female (85%, 35 of 41). The frequency of symptoms is shown in Table 1.

Table 1. Frequency of symptoms among cases, Miami-Dade County, 2009

Symptom	Number of patients (N=41)	Percent (%)
Diarrhea	40	97.6
Abdominal pain	36	87.8
Nausea	22	53.7
Vomiting	8	19.5
Fever	6	14.6

The median incubation period was 14 hours (range: 4 to 23 hours) and the median duration of symptoms was 20 hours (range: 1 hour to 17 days). Only four patients sought medical care; however, there were no submitted stools for laboratory testing. By the time the investigation was conducted, there were 9 patients that still had mild symptoms, though none had bloody stools.

Table 2 shows the results of the food exposure analysis. The only two statistically significant exposures were beef with an odd ratio of 25.4 (95% CI= 2.8 – 229.5) and mushroom sauce with an odds ratio of 9 (95% CI = 2.4 – 33.6). Both of these foods were served at lunch. No breakfast item was implicated.

Table 2. Food items served at lunch during Teachers' Planning Day party, Miami-Dade County, 2009

Food Item	Odd Ratio	95 % Confidence Interval
<b>Beef</b>	<b>25.45</b>	<b>2.82 – 229.5</b>
<b>Mushroom sauce</b>	<b>9.0</b>	<b>2.4 – 33.65</b>
Ranch salad dressing	1.76	0.57 – 5.39
White rice with corn	1.44	0.30 – 6.8
Lettuce	2.48	0.76 – 8.00
Dinner rolls	1.53	0.48 – 4.91
Apple pie	2.24	0.62 – 8.02
Pumpkin pie	1.03	0.23 – 4.53
Peach pie	0.87	0.07 – 10.28
Pecan pie	0.56	0.16 – 1.92
Cherry pie	0.54	0.10 – 2.71
Sodas	1.38	0.35 – 5.50
Water	1.93	0.36 – 10.20
Ice	2.15	0.69 – 6.69

## Environmental investigation

### • Food preparation and handling

The food served at the school was prepared at a private home. The cook was interviewed by phone. Preparation began at 4 am on Monday, October 19th, 2009. The beef was taken out of the freezer and thawed by boiling. It was cooked in its own broth. The mushrooms were washed with tap water and fried with margarine. When the mushrooms were brown, the broth of the beef and flour were added. That sauce was simmered for 25 minutes. Cooking finished at 9 am, and the beef and mushroom sauce were placed on aluminum pans and covered with aluminum foil.

The food was taken to school in aluminum pans at 10:15 am and arrived at the school by 11 am. Moreover, the food was delivered to the school kitchen director who hot-held it before serving lunch at noon.

### • Environmental inspections

The beef was purchased at a local Meat and Deli market in Miami-Dade County. An inspection conducted by the Florida Department of Agriculture and Consumer Services FDACS found no violations associated to any beef product, though a stop-sale order was issued for salami that was kept at inappropriate temperatures. Also, breaded chicken and tamales (ground corn) were found with missing ingredient labels. The overall rating of the inspection was FAIR.

FDACS also conducted a trace back for the mushrooms to identify the source. The mushrooms were bought at a major wholesaler chain in Miami-Dade. This wholesaler was supplied by a distributor from California. The manager stated that they had not received any complaints about the mushrooms.

## Conclusion

There was no isolation of organisms or toxins from food or patients were possible since the outbreak was reported a few weeks later. However, this outbreak might have been caused by a toxin, as suggested by the following reasons. The short median incubation period of 14 hours, as well as the high prevalence of diarrhea and abdominal pain as main symptoms, is typical of outbreaks caused by toxins. The food preparation and handling procedures, especially thawing directly from the freezer into the cooking pot might have caused insufficient cooking of the inside of the piece of beef. In addition, since the beef was only hot-held rather than reheated 2 hours after cooking could have favored the production of toxins.

March 2010...

National Colorectal Cancer Awareness

National Endometriosis Awareness

Save Your Vision Month

Workplace Eye Wellness Month

World TB Day, 24th



Topic of the Month: Chagas Disease

*Have you ever heard of Chagas Disease?*

Chagas disease is an illness spread by insects that is common in South and Central America. It is caused by *Trypanosoma cruzi*, a parasite related to the African trypanosome that causes sleeping sickness. It is spread by reduviid bugs (kissing bug) and is one of the major health problems in South America. Due to immigration, the disease also affects people in the United States.

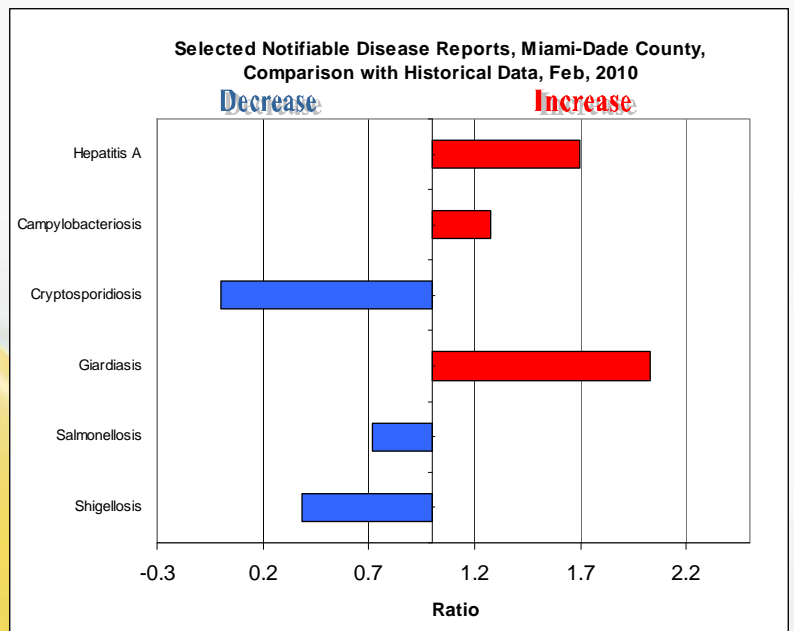
Risk factors for Chagas disease include:

Living in a hut where reduviid bugs live in the walls, living in Central or South America, poverty and receiving a blood transfusion from a person who carries the parasite but does not have active Chagas disease.

For more information visit [CDC.gov](http://CDC.gov).

**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 .....305-325-3242
- Tuberculosis Program .....305-324-2470
- Immunization Service .....305-470-5660
- To make an appointment.....786-845-0550



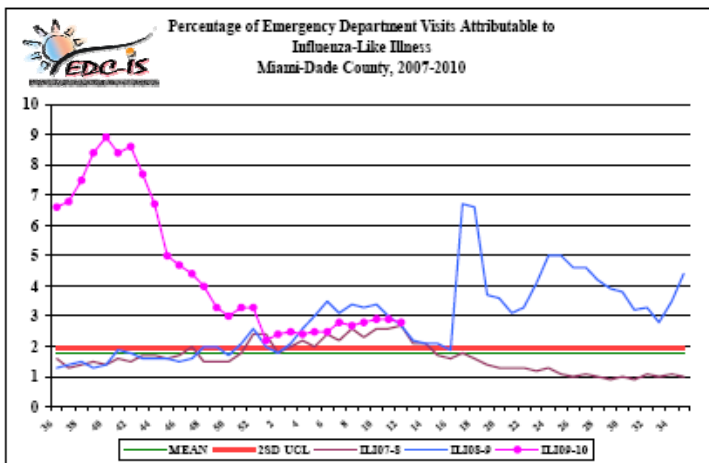
**Miami-Dade County Health Department**  
**EDC-IS Influenza/Respiratory Illness**  
**Surveillance Report**



**Week 12: 03/21/2010– 03/27/2010**

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 10 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 19,348 ED visits; among them 533 (2.8%) were ILI. At the same week of last year, 2.7% of ED visits were ILI.

For more information, please contact  
**Erin O’Connell** at 305-470-5660.

**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  
**Erin O’Connell** 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 February 2010

Diseases/Conditions	2010 Current Month	2010 Year to Date	2009 Year to Date	2008 Year to Date
<b>HIV/AIDS</b>				
AIDS*	58	104	22	209
HIV	89	127	44	295
<b>TB</b>				
Tuberculosis**	7	15	N/A	N/A
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	16	22	19	23
Ciguatera Poisoning	0	0	3	3
Cryptosporidiosis	0	0	1	2
Cyclosporiasis	0	0	0	2
Dengue Fever	1	1	2	1
E. coli, O157:H7	0	0	0	0
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	44	91	66	19
Influenza Novel Strain	3	6	0	0
Influenza, Pediatric Death	0	0	0	0
Legionellosis	9	1	1	1
Leptospirosis	0	0	0	0
Listeriosis	2	3	0	0
Lyme disease	0	0	0	0
Malaria	2	5	5	0
Meningitis (except aseptic)	0	0	0	0
Meningococcal Disease	2	2	4	0
Salmonellosis	23	36	56	40
Shigellosis	6	14	26	3
Streptococcus pneumoniae, Drug Resistant	16	25	13	15
Toxoplasmosis	0	0	0	0
Typhoid Fever	0	0	0	0
Vibriosis	0	0	0	0
West Nile Fever	0	0	0	0
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	0	0	0	1
Pertussis	3	3	2	0
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	12	15	9	1
<b>Hepatitis</b>				
Hepatitis A	7	8	8	5
Hepatitis B (Acute)	2	2	1	1
<b>Lead</b>				
Lead Poisoning	9	9	8	23

\*Data on AIDS are 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.