



Epi Monthly

Florida Department of Health in Miami-Dade County

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Public Health LOOK OUT!

- March 3rd is World Birth Defects Day. Worldwide, more than 10 million babies are born each year with a serious birth defect. These congenital disorders are a leading cause of death in the first year of life and affect all races and ethnicities. Babies who survive may have physical, intellectual, or developmental disabilities that can range from mild to severe. The March of Dimes and more than 100 other international organizations are teaming up for [World Birth Defects Day](#) to raise awareness of birth defects and advocate for more surveillance, prevention, care, and research to help affected babies and children.
- March 24th is [World Tuberculosis Day](#). Tuberculosis (TB) is present in much of the world today and causes the deaths of nearly 1.5 million people each year, mainly in developing countries. World TB Day commemorates the day in 1882 when Dr. Robert Koch announced his discovery of the cause of tuberculosis. World TB Day is a day to educate the public about the impact of TB around the world and raise awareness of challenges faced in eliminating this disease, such as latent infection. For more information and resources please visit: <https://www.cdc.gov/tb/worldtbdays/default.htm>.
- March is Brain Injury Awareness Month. The Change Your Mind public awareness campaign, led by the [Brain Injury Association of America](#), intends to educate the general public about the incidence of brain injury and the needs of people with brain injuries. The campaign aims to de-stigmatize brain injury through community outreach, empower those who have survived brain injury, and promote support available to people living with brain injury.

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COVID-19
CORONAVIRUS DISEASE

STOP THE SPREAD OF GERMS

Help prevent the spread of respiratory diseases like COVID-19.

Avoid close contact with people who are sick.

Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

Click the image to the left to watch the video.

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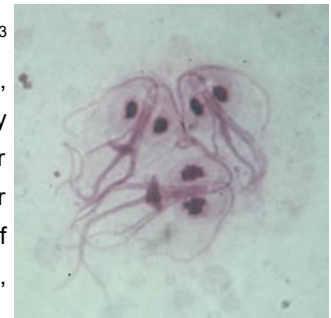


Acute Giardiasis: Transmission and Prevention

By: Patricia Perez

Background:

Acute giardiasis is the most commonly diagnosed enteric parasitic disease in the United States.³ Caused by the protozoan *Giardia lamblia*, the disease is frequently characterized by diarrhea, malaise, bloating, nausea, foul-smelling, greasy stools, and weight loss – although some people may show no symptoms at all. Even though giardiasis is not typically associated with mortality, every year thousands of people are hospitalized in the United States due to severe dehydration and other complications associated with the infection.⁶ Giardiasis prevalence can be considered an indicator of poor sanitary conditions and hygiene practices. Up to two-thirds of people infected are asymptomatic, therefore silent, inadvertent transmission of the parasite is very likely. Although giardiasis rates seem to be decreasing at the national level, in 2019 there were over 180 reported acute giardiasis cases in Miami-Dade County. Given the large number of travelers from underdeveloped countries to Miami-Dade County as well as the number of locally acquired Giardiasis cases, Miami-Dade County residents would greatly benefit from targeted education on the prevention of giardiasis.^{4,5}



Giardia lamblia trophozoites.
Image courtesy of DPDx, CDC

Transmission:

Anything contaminated with feces from *Giardia*-infected humans and animals has the potential to infect humans if ingested. This includes drinking any recreational water and uncooked food contaminated with the parasite. The median incubation period of *Giardia* is 7-10 days.⁴ It is important to note that *Giardia* may also live up to 45 minutes in chlorinated swimming pools.¹ In addition, the parasite can be transmitted through fecal-oral means which includes certain types of sexual contact.^{2,3} An infected person can excrete 1-10 billion cysts daily and since only 10-25 cysts are required for an infection to ensue, transmission within households and care facilities such as daycares is common.³ Excreted cysts are very resilient and can even survive in the environment for months.

Who is at risk?

Anyone can get giardiasis. However, individuals who have recently visited countries with underdeveloped waste-management, or spent time in the wilderness, such as near rivers or lakes are at an increased risk. Children in day care centers and their caretakers are at an increased risk as well because of their close contact with feces. Additionally having anal sex is associated with increased risk of *Giardia* infection. Persons with HIV are at risk of having prolonged *Giardia* infections.

Prevention:

The best prevention against *Giardia* is proper and consistent handwashing. As long as a person is excreting *Giardia* cysts, they are infectious. Therefore, washing one's hands after using the bathroom or changing a diaper is essential. When spending time outdoors, individuals should avoid accidentally swallowing water from a river or lake – any outdoor water ingested should be boiled or filtered. In addition, since dogs can frequently become infected with *Giardia*, one must take extra precaution when picking up waste.⁸

Note to travelers:

Miami-Dade County has a high number of travelers to countries where giardiasis is common which can increase the risk of infection.³ An epidemiological study conducted by the Florida Department of Health in Miami-Dade County, between 2011 and 2014 found that among the 19.8% travel-associated cases, 32.7% were from Cuba, 25% were from Central America, and 10.9% were from South America – the remaining 31.4% consisted of cases from the Caribbean, Asia, North America, Africa, and Europe.⁵ When visiting these endemic areas, it is important for individuals to practice proper handwashing and avoid ingesting local water or eating foods that have been washed with contaminated water.

References:

- Centers for Disease Control and Prevention (CDC) Facts about *Giardia* and Swimming Pools.
- Centers for Disease Control and Prevention (CDC) (2019). Giardiasis Summary Report -- 2017 National Notifiable Diseases Surveillance System, United States. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2019
- Centers for Disease Control and Prevention (CDC) (2015). Parasites – *Giardia*. <https://www.cdc.gov/parasites/giardia/illness.html>
- Florida Department of Health (2019). Giardiasis: Guide to Surveillance and Investigation.
- Griffin, I, Fernandez, D, Zhang, G. (2016). Refugees and Residents: The Epidemiology of Giardiasis in Miami-Dade County, Florida, 2011-2014.
- Painter, J, Gargano, J, Collier, S, Yoder, J. (2015). Giardiasis Surveillance – United States, 2011-2012. <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6403a2.htm>

Creutzfeldt-Jakob Disease: There is More to it Than Mad Cows

By: Jenna Webb and Stephanie Calle

Background:

Transmissible spongiform encephalopathies (TSEs), or prion diseases, are rare, rapidly progressive neurodegenerative disorders that are fatal. Prions are abnormally folded versions of normal proteins found in humans and animals.^{1,2} For human prion diseases, the cellular prion protein (PrP^C) is abnormally folded into the prion, scrapie prion protein (PrP^{Sc}).³ The function of PrP^C is still unclear, but it is usually located in the brain.^{1,2,3}

The most common human prion disease is Creutzfeldt-Jakob disease (CJD).³ CJD was first described by German neurologists Hans Gerhard Creutzfeldt and Alfons Maria Jakob. In 1920, six patients of Creutzfeldt were experiencing progressive dementia and spasms, while having neurodegeneration. The next year, Jakob described a patient with similar symptoms to Creutzfeldt's patients and in 1922, this syndrome was named CJD.⁴ The purpose of this report is to provide information on the different types of CJD as well as an overview of CJD in Miami-Dade County.

Types of CJD:

Classic CJD:

There are three forms of classic CJD, sporadic CJD, inherited CJD, and iatrogenic CJD (iCJD).

- Sporadic CJD is the most common form of CJD and makes up approximately 85% of CJD cases.^{1,2,5} With this form of CJD, PrP^{Sc} spontaneously folds for unknown reasons. There are no genetic mutations or exposure to CJD infected material.³
- Inherited CJD includes two forms; fatal familial insomnia and Gerstmann-Sträussler-Scheinker disease.⁵ All inherited CJD are characterized by a specific mutation occurring within PrP gene that is not seen in sporadic CJD.⁶
- iCJD is different from the previously mentioned types of CJD because it is acquired. The source for iCJD is typically tissue implants and surgical instruments contaminated with prions. According to the Centers for Disease Control and Prevention (CDC), iCJD can be another form of sporadic CJD, just with a known exposure source.⁶ For information on how hospitals can prevent iCJD transmission, please visit CDC's website (<https://www.cdc.gov/prions/cjd/infection-control.html>).

Common symptoms of classic CJD are ataxia or poor coordination, rapidly progressive dementia, impaired vision, depression, akinetic mutism, and myoclonus. CJD can present like other neurological disorders, such as Parkinson's disease.⁷

Variant CJD (vCJD):

vCJD is not related to classic CJD because it is acquired by a source, meat contaminated with prions and is not a form of sporadic CJD. The clinical features and etiology of vCJD are different compared to classic CJD.⁸ In vCJD, the first symptoms are psychiatric symptoms, it affects a younger population, and it has a longer duration than classic CJD (13-14 months vs. 2 to 4 months).⁷ In 1996, the first cases of vCJD were identified in the United Kingdom due to contaminated meat from cows, affected by bovine spongiform encephalopathy or more famously known as 'mad cow disease'.³ In the United States, there have been a total of four cases of vCJD over the years, but all cases had a history of travel.⁹ In comparison, there were a little over 500 deaths due to classic CJD in 2017 alone.¹⁰

Diagnosing CJD:

The only way to confirm a CJD diagnosis is through a brain biopsy or autopsy. It is important to note that brain biopsies to diagnose CJD are not recommended because a confirmed diagnosis does not affect the disease outcome for the patient. Additionally, this type of surgery can be dangerous for the patient, but even if it is performed, there is a chance that the neurosurgeon will not biopsy the part of the brain that contains the prions.^{6,7} There are several other tests a provider can use to help diagnose CJD while a patient is alive, but these tests cannot independently confirm CJD. These tests include electroencephalography (EEG), Real Time-Quaking-Induced Conversion (RT-QuIC), 14-3-3, T-tau, and magnetic resonance imaging (MRI).⁷

The [National Prion Disease Pathology Surveillance Center \(NPDPSC\)](#) has an autopsy coordination program that offers assistance for brain-only autopsies, for more information please visit their website.

CJD in Miami-Dade County:

The FL DOH defines a confirmed CJD case as a person (2019) who had a clinically compatible illness and was diagnosed by one or more of the following:¹¹

- Standard neuropathological techniques,
- **Or** immunocytochemical testing,
- **Or** Western blot confirmed protease-resistant prion protein,
- **Or** presence of scrapie-associated fibrils conducted on brain tissue

The FL DOH defines a probable CJD case as a person (2019):¹¹

Clinical criteria:

With clinically compatible illness

OR all of the following (Presumptive):

- Progressive dementia,
- **And** a clinical duration to death <2 years,
- **And** at least 2 of the following clinical features:
 - o Myoclonus
 - o Visual or cerebellar signs
 - o Pyramidal or extrapyramidal signs
 - o Akinetic mutism,
- **And** no alternative diagnosis suggested during routine investigation.

AND

Laboratory criteria:

- Confirmatory or presumptive clinical criteria and a RT-QuIC positive

OR

- Presumptive clinical criteria
- **AND** a positive 14-3-3 test,
- **Or** typical EEG (periodic sharp wave complexes),
- **Or** high signal in caudate/putamen on an MRI or at least two cortical regions (temporal, parietal, occipital) either on diffusion-weighted imaging (DWI) or fluid attenuated inversion recovery (FLAIR).

Methods:

Data for CJD case investigations of Miami-Dade County residents were extracted from Merlin, the Florida Department of Health's (FL DOH) Epidemiology Surveillance System. Data gathered includes confirmed and probable cases that were reported to the CDC from January 1st, 2010 to December 31st, 2019. The data were analyzed using SAS Studio 3.6.

Results:

It is important to mention that the case definition for CJD has changed between 2010 to 2019. All cases that were included met the case definition at the time the case was reported. Since 2010, there have been six confirmed cases of CJD and five probable cases of CJD in Miami-Dade County. The average age was 70.6, with a range of 51 to 87. The majority of cases were female (72.7%) and Hispanic (81.8%) (Table 1). The most commonly reported symptoms in cases were progressive dementia, ataxia or poor coordination, myoclonus, and visual or cerebellar signs. All cases passed away within two years of symptoms onset (Figure 2).

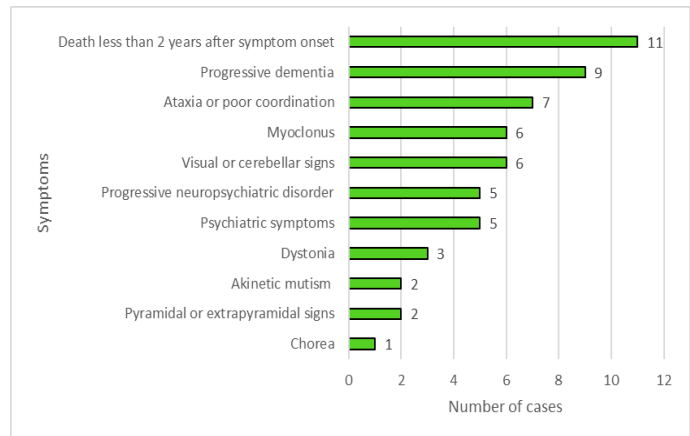
Conclusion:

Although CJD is a rare disease, it has a large impact on the patient’s quality of life and on their family. It is important to rule out other neurodegenerative disorders and educate the family on disease progression and outcomes of CJD. NPDPSC is a great resource to use, not just for providers, but for families as well.

Table 1. Demographics of confirmed and probable cases of Creutzfeldt-Jakob Disease in Miami-Dade County, 2010-2019

Disease Status	n(%)
Confirmed	6(54.6)
Probable	5(45.5)
Age (years)	
Mean	70.6
Range	51-87
Gender	
Female	8(72.7)
Male	3(27.3)
Race and Ethnicity	
White Non-Hispanic	1(9.1)
Black Non-Hispanic	1(9.1)
Hispanic	9(81.8)

Figure 1. Symptoms associated with confirmed and probable cases of Creutzfeldt-Jakob Disease in Miami-Dade County, 2010-2019



References:

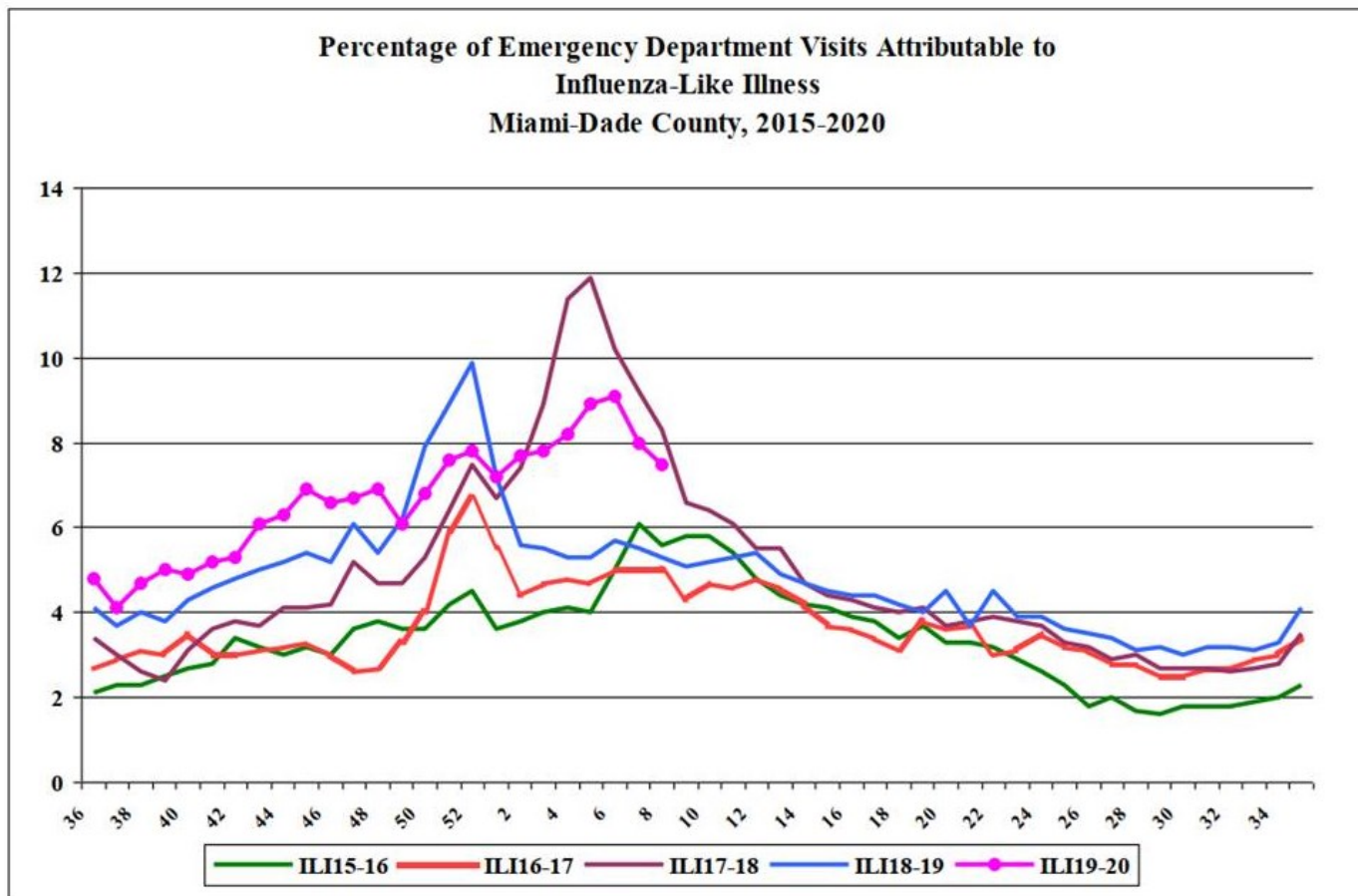
1. Encyclopaedia Britannica. (2020). Creutzfeldt-Jakob disease. Retrieved from <https://www.britannica.com/science/Creutzfeldt-Jakob-disease>
2. Centers for Disease Control and Prevention (CDC). (2018). Prion diseases. Retrieved from <https://www.cdc.gov/prions/index.html>
3. Case Western Reserve University. (2020). Human prion diseases. Retrieved from <https://case.edu/medicine/pathology/divisions/national-prion-disease-pathology-surveillance-center/human-prion-diseases>
4. Henry, R., & Murphy, F. A. (2017). Etymologia: Creutzfeldt-Jakob disease. *Emerging Infectious Diseases*, 23(6), 956. <https://dx.doi.org/10.3201/eid2306.et2306>.
5. CDC. (2018). Creutzfeldt-Jakob disease, classic (CJD): About CJD. Retrieved from <https://www.cdc.gov/prions/cjd/about.html>
6. CDC. (2019). Creutzfeldt-Jakob disease, classic (CJD): Diagnostic criteria. Retrieved from <https://www.cdc.gov/prions/cjd/diagnostic-criteria.html>
7. National Institute of Health. (2019). Creutzfeldt-Jakob disease fact sheet. Retrieved from <https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Creutzfeldt-Jakob-Disease-Fact-Sheet#2>
8. CDC. (2019). Variant Creutzfeldt-Jakob disease (vCJD): about vCJD. Retrieved from <https://www.cdc.gov/prions/vcjd/about.html>
9. CDC. (2018). Variant Creutzfeldt-Jakob disease (vCJD): Reported in the US. Retrieved from <https://www.cdc.gov/prions/vcjd/vcjd-reported.html>
10. CDC. (2019). Creutzfeldt-Jakob disease, classic (CJD): Occurrences and transmission. Retrieved <https://www.cdc.gov/prions/cjd/occurrence-transmission.html>
11. Florida Department of Health. (2020). Creutzfeldt-Jakob disease (CJD). Retrieved from http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/_documents/cd-cjd.pdf

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 2019-2020 data is compared to the previous 4 influenza seasons (2015-2016, 2016-2017, 2017-2018, 2018-2019).

Influenza-Like-Illness, All Age



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 Calle at 305-470-5660.



Miami-Dade County Monthly Report Select Reportable Disease/Conditions January 2020

Diseases/Conditions	2020 Current Month	2020 Year to Date	2019 Year to Date	2018 Year to Date
HIV/AIDS				
AIDS*	38	38	28	52
HIV	123	123	132	104
STD				
Infectious Syphilis*	49	49	37	31
Chlamydia*	1115	1115	1134	893
Gonorrhea*	382	382	358	289
TB				
Tuberculosis**	9	9	7	5
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	39	39	62	56
Chikungunya Fever	0	0	0	0
Ciguatera Poisoning	0	0	5	2
Cryptosporidiosis	3	3	2	0
Cyclosporiasis	1	1	0	0
Dengue Fever	1	1	9	0
Escherichia coli, Shiga Toxin-Producing	12	12	11	5
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	8	8	0	1
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	0	0	0
Legionellosis	3	3	3	4
Leptospirosis	0	0	0	0
Listeriosis	0	0	0	0
Lyme disease	1	1	0	0
Malaria	1	1	0	3
Meningitis (except aseptic)	3	3	1	0
Meningococcal Disease	0	0	0	0
Salmonella serotype Typhi (Typhoid Fever)	0	0	0	1
Salmonellosis	52	52	36	29
Shigellosis	23	23	26	18
Streptococcus Pneumoniae, invasive disease	10	10	0	0
Vibriosis	1	1	1	0
West Nile Fever	0	0	0	0
Zika Virus (non-congenital)	0	0	0	2
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	0	0	0
Pertussis	1	1	3	1
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	9	9	9	2
Hepatitis				
Hepatitis A	1	1	3	1
Hepatitis B (Acute)	5	5	0	0
Healthy Homes				
Lead Poisoning	8	8	14	15

*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.

Did You Know?



The U.S. Census Bureau conducts a nation wide count every 10 years to determine the number of people living in the country. The count determines how funding is distributed for various vital resources including schools, hospitals, and roads. The invitation to respond will be first sent out in March. Taking the census is safe and confidential. The data is only used for statistics and cannot be shared with agencies such as law enforcement, immigration, or for the determination of government benefits.

What's New DOH Miami-Dade

- Be on the look out for limited-edition condoms distributed by the Florida Department of Health in Miami-Dade! Last year a call for designers was made in partnership with AIGA Miami, and the Wolfsonian- FIU, to submit condom wrapper designs with educational material. A jury of professional designers and public health experts selected 10 designs that will be placed on a limited-edition collection and distributed to the public free of charge by the department of health this year.
- Additionally, the Florida Department of Health in Miami-Dade County, the Miami-Dade County Office of Community Advocacy, and AIGA Miami hosted a Pop-Up Art Exhibit at HistoryMiami Museum on February 26th as part of the "Getting 2 Zero" Awareness Week Campaign focusing on HIV testing and condoms.
- On February 20th the Florida Department of Health Celebrated 131 years since its creation in 1889 as a response to yellow fever epidemics at that time in Florida.

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

GETTING 2 ZERO
MIAMI-DADE

The Miami Collection
Condoms and PosterFest Exhibition

at HistoryMiami Museum
101 W Flagler St, Miami, FL

February 26
1 p.m. - 3 p.m.

Free condoms and HIV/STD education, refreshments, raffle, and more.



OFFICE OF COMMUNITY
ADVOCACY

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 Vanessa Villamil at 305-470-5643 or vanessa.villamil@flhealth.gov.

