Florida HEALTH Miami-Dade County

EPI Monthly Report

Florida Department of Health in Miami-Dade County

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Epidemiology of Animal Bites and Administration of Post-Exposure Prophylaxis (PEP) in Miami-Dade County, Florida, 2014

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Inside this Month's Issue

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BACKGROUND

It starts with flu-like symptoms, quickly progressing within days to feelings of anxiety, confusion, and agitation. Once you are symptomatic—survival is rare. Rabies is one of the few viruses in the world that can cause 100% fatal illness in humans if left untreated, but it is also preventable. The rabies virus can be transmitted through contact with infected saliva and nervous system tissue by both domestic and wild mammals. In the state of Florida, the most frequently reported rabid domestic mammals are outdoor cats, while raccoons and bats are the most common wildlife sources of rabies (1). For this reason, domesticated dogs and cats are required by law to be vaccinated against rabies in the state of Florida, this requirement also protects household animals from wildlife exposures to rabies (1).

Every year, there are approximately 2,000 animal bites/exposure cases reported to the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade). Due to the potential for transmission of rabies, DOH-Miami-Dade promptly investigates all reports of possible rabies exposure and provides recommendations regarding post-exposure prophylaxis (PEP) to animal bite clients. This study aimed to address the epidemiology of animal bites in Miami-Dade County in 2014.

METHODS

Reported animal bites/exposure cases in 2014 among Miami-Dade County residents were obtained from Merlin, the Florida Department of Health Epidemiology Surveillance System. SAS 9.3 and ArcGIS were used for data analysis and hot spot identification (2, 3).

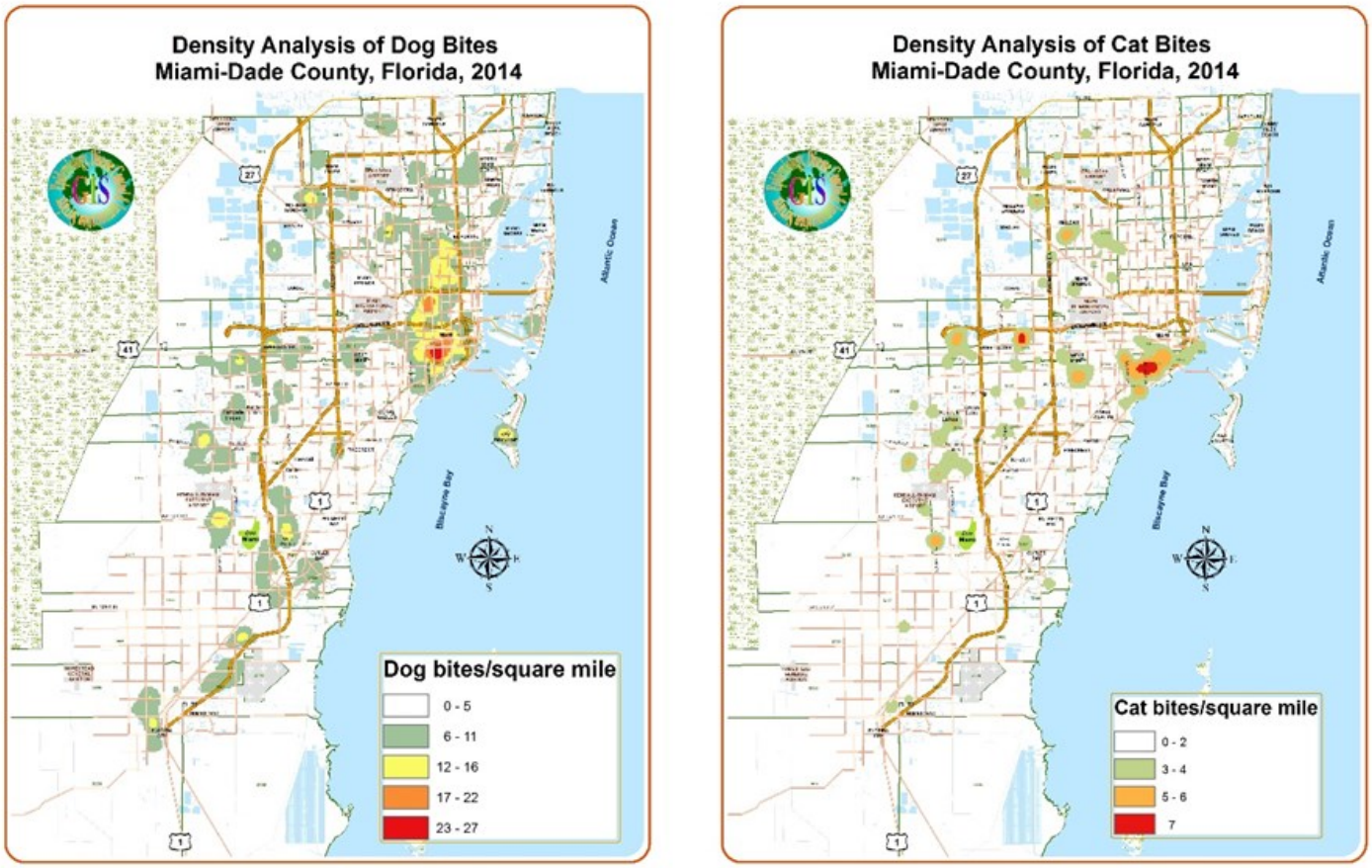
RESULTS

In 2014, DOH-Miami-Dade received reports of 2,018 animal bites/exposures. The median age of those who reported animal bites/exposures was 21.5 (range 0 to 100). Females accounted for 52.2% animal bite cases. Fifty-four percent of animal bite cases were Hispanic, 19.8% were Non-Hispanic White, and 15.1% were Non-Hispanic Black. When race/ethnicity was stratified by gender, Hispanic females, Non-Hispanic White females, and Non-Hispanic Black males reported animal bite/exposure most frequently.

Two hot spots were identified in high density population areas in the northern and central regions of the county for both reports of dog and cat bites (Figure 1). Dogs accounted for the majority of events (81.2%) followed by cats (11.8%) and other animals, such as, raccoons, monkeys, rats, and bats (1%). Bites/exposures occurred predominantly on the hand (41.9%), leg (23.1%), arm (14.0%) and head (8.5%). There were no significant differences among age group and bite location. There was no obvious pattern of seasonality found; however,

this was expected given that the climate in Miami is relatively consistent throughout the year.

Figure 1: Density Analysis of Dog and Cat Bites in Miami-Dade County, Florida, 2014



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Ninety-four percent of reported exposures visited an emergency department. Eleven percent of individuals with reported exposures were recommended PEP treatment by public health or medical practitioners. These recommendations were made based on the level of risk associated with the animal bite: location of the animal bite, whether the animal was provoked, and whether the animal had been vaccinated. Of the 222 PEP-recommended cases, 69.8% of those actually received PEP and 30.2% had unknown PEP status. Administration of PEP to individuals ranged from the same day of exposure to a maximum of 2 days post-exposure.

PREVENTION

Miami-Dade County residents can take actions to prevent animal bites by avoiding direct contact with wildlife and by vaccinating their household pets. Residents should also promptly seek medical care after being bit by an animal in order to be evaluated for post-exposure prophylaxis (4).

REFERENCES

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Zika Virus: Identifying an Emerging Threat

by Michael Delgado

Transmission:

Zika virus is a flavivirus related to Dengue and West Nile viruses that is transmitted to humans through the bite of the *Aedes* mosquito. In addition to mosquito-to-human transmission, Zika virus infections have been documented through intrauterine, intrapartum, sexual, and blood transmission. It is possible that Zika virus could be transmitted through organ transplants and breastfeeding, but neither of these pathways of infection have been reported.

Although local transmission of Zika virus has not been documented in the continental United States, Zika virus infections have been reported in returning travelers. In light of the recent outbreaks of Zika in the Americas, the Pacific Islands, Africa, and Southeast Asia, the number of Zika virus disease cases among travelers visiting or returning to the United States is likely to increase. These imported cases might result in local human-to-mosquito-to-human spread of the virus in limited areas of the continental United States that have the appropriate mosquito vectors. In January 2016, the Florida Department of Health confirmed that two people in Miami-Dade County contracted the Zika virus while visiting South America.

Pathology:

During outbreaks, humans are the primary amplifying host for Zika virus. Approximately 80% of Zika virus cases are asymptomatic. In symptomatic cases, the symptoms appear after an incubation period of 3-12 days following the infected mosquito bite. Symptoms are usually mild and the most common symptoms are fever, maculopapular rash, joint pain, and conjunctivitis (pinkeye). Symptoms last between a few days and a week. Guillain-Barré syndrome has been reported in patients during an outbreak in French Polyensia following suspected Zika virus infection. Recent research suggests that the newborns of mothers who had a Zika virus infection (asymptomatic or symptomatic) during their first trimester are at a significantly increased risk of microcephaly. The Brazilian Ministry of Health has reported a marked increase in the number of infants born with microcephaly in 2015, although it is not known how many of these cases are associated with Zika virus infection.

Diagnosis:

Zika virus infection should be considered in patients with acute onset of fever, maculopapular rash, join pain, or conjunctivitis, who traveled to areas with ongoing outbreaks in the two weeks prior to the onset of the symptoms. Fetuses and infants of women infected with Zika virus during pregnancy should be evaluated for possible congenital infection.

Reporting:

In 2016, Zika virus disease became a nationally notifiable condition. Health care providers are encouraged to report suspected cases to their state or local health departments to facilitate diagnosis and mitigate the risk of local transmission. Cases of Zika fever should be reported to the Miami-Dade County Department of Health as “arboviral diseases not otherwise listed” in the Practitioner Disease Report Form.

Prevention:

One way to prevent infection with Zika virus is to avoid travelling to areas in which there are currently ongoing outbreaks. The CDC has issued a Level 2 travel alert for regions and certain countries where Zika virus transmission remains ongoing. Pregnant women (in any trimester) should consider cancelling travel plans to areas where Zika virus transmission is currently happening. Women who are trying to become pregnant should consult their health care provider before travelling to these areas. Another way to prevent infection with Zika virus is to avoid mosquito bites. Recommendations on how to avoid mosquito bites can be found at http://www.cdc.gov/ncezid/dvbd/

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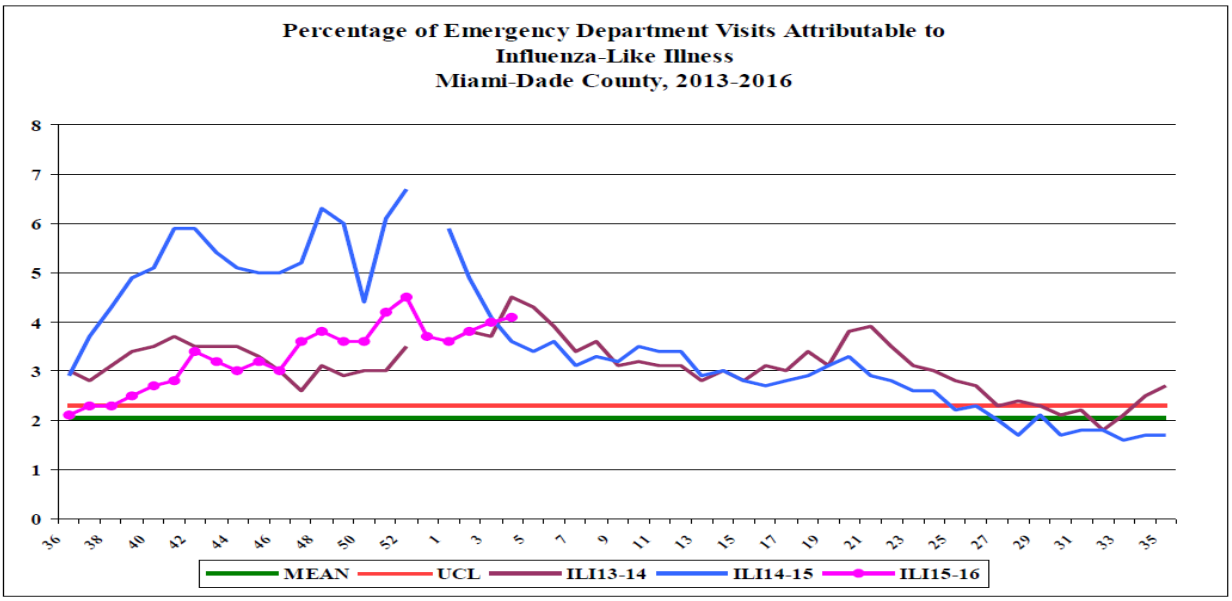
Influenza-Like-Illness, All Age



During this period, there were 26,932 ED visits; among them 1,113 (4.1%) were ILI. At the same week of last year, 3.6% 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, please contact Emily Moore at (305) 470-6918.

Miami-Dade County Monthly Report
Select Reportable Disease/Conditions
December 2015

Diseases/Conditions	2015 Current Month	2015 Year to Date	2014 Year to Date	2013 Year to Date
HIV/AIDS				
AIDS*	46	482	523	671
HIV	120	1426	1217	1264
STD				
Infectious Syphilis*	22	325	329	364
Chlamydia*	1062	10768	9655	9753
Gonorrhea*	246	2221	2137	2285
TB				
Tuberculosis**	16	125	128	135
Epidemiology, Disease Control & Immunization Services				
Epidemiology				
Campylobacteriosis	19	353	348	353
Chikungunya Fever	2	28	82	0
Ciguatera Poisoning	0	15	24	27
Cryptosporidiosis	4	49	38	20
Cyclosporiasis	1	4	4	3
Dengue Fever	8	35	40	45
Escherichia coli, Shiga Toxin-Producing	2	8	27	11
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	17	200	220	268
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	2	2	1	1
Legionellosis	7	32	19	26
Leptospirosis	0	1	0	0
Listeriosis	0	6	5	3
Lyme disease	1	11	14	6
Malaria	1	8	7	9
Meningitis (except aseptic)	3	10	29	33
Meningococcal Disease	0	6	12	16
Salmonella serotype Typhy (Typhoid Fever)	0	2	1	3
Salmonellosis	89	729	651	591
Shigellosis	6	144	647	93
Streptococcus pneumoniae, Drug Resistant	1	2	45	85
Vibriosis	3	20	16	15
West Nile Fever	0	0	0	0
Immunization Preventable Diseases				
Measles	0	0	0	0
Mumps	0	3	0	0
Pertussis	6	35	36	42
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	7	0	0	0
Hepatitis				
Hepatitis A	4	37	35	32
Hepatitis B (Acute)	2	13	11	20
Lead				
Lead Poisoning	6	86	79	91

*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.