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EPI EXAMINER

A Monthly Epidemiology Report

July, 2016

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Disease Summary:

In July, 2016, a total of 685 cases of various diseases were reported to the Florida Department of Health in Broward County (DOH-Broward). Seven cases of drug-susceptible invasive *Streptococcus pneumoniae*, three cases of acute hepatitis B, two cases of malaria, fifteen cases of possible rabies exposure, seventeen cases of Zika virus disease and infection (non-congenital), one case of Hansen’s disease (leprosy), and eight cases of varicella (chickenpox) were reported during this period. These were higher than the averages of the same month in the previous five years.

Food Recalls:

There were 11 food recalls reported in Florida for the month of July, 2016.

Brand Name	Food	Recall Date	Health Risk
Hampton Creek	Baking mixes containing Native Forest Coconut Milk Powder	07/30/2016	Salmonella
Watts Brothers Farms/ConAgra Foods	Watts Brothers Farms Organic Mixed Vegetables, Organic Super Sweet Corn (Yellow/Gold), and Organic Peas	07/29/2016	Listeria
Let’s Do Lunch, Inc., dba Integrated Food Service (IFS)	Ready-to-eat sandwiches	07/26/2016	Listeria
General Mills: Gold Medal, Gold Medal Wondra, and Signature Kitchens	Wheat flour	07/26/2016	E. coli O121
Agave Dream	Cappuccino Ice Cream	07/19/2016	Listeria
Bar-S Foods	Chicken and Pork Hot Dog and Corn Dog Products	07/19/2016	Listeria
Kerry Inc.	Golden Dipt® Jalapeño Breaders	07/12/2016	E. coli O121
General Mills	Two flavors of Betty Crocker cake mix	07/12/2016	E. coli O121
Continental Mills	Krusteaz Blueberry Pancake Mix	07/09/2016	E. coli O121
Kabob’s Acquisition, Inc.	Not Ready-To-Eat Meat and Poultry Products	07/08/2016	E. coli O121
Gold Medal, Gold Medal Wondra, and Signature Kitchens	Wheat flour	07/01/2016	E. coli O121

Zika infection is a nationally notifiable condition. Local mosquito-borne Zika virus transmission has been reported in Wynwood, a neighborhood in Miami, FL.

TRANSMISSION

Zika virus spreads to people primarily through the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*). A mosquito becomes infected when it bites a person already infected with Zika. That mosquito can then spread the virus by biting more people.

Zika virus can also spread:

- During sex with a person who has Zika to his or her sex partners.
- From a pregnant woman to her fetus during pregnancy or around the time of birth. Zika is a cause of microcephaly and other severe fetal brain defects.
- Through blood transfusion (likely but not confirmed).

SYMPTOMS

Many people infected with Zika won't have symptoms or will only have mild symptoms. The most common symptoms are fever, rash, joint pain, or conjunctivitis (red eyes). Other common symptoms include muscle pain and headache. Symptoms can last for several days to a week. People usually don't get sick enough to go to the hospital, and they very rarely die of Zika. For this reason, many people might not realize they have been infected. Symptoms of Zika are similar to other viruses spread through mosquito bites, like dengue and chikungunya. Once a person has been infected with Zika, they are likely to be protected from future infections.

DIAGNOSIS

- Diagnosis of Zika is based on a person's recent travel history, symptoms, and test results.
- A blood or urine test can confirm a Zika infection.
- Your doctor or other healthcare provider may order blood tests to look for Zika or other similar viruses like dengue or chikungunya.

SEXUAL TRANSMISSION AND TESTING

- CDC recommends Zika virus testing for people who may have been exposed to Zika through sex and who have Zika symptoms.
- A pregnant woman with possible exposure to Zika virus from sex should be tested. Possible exposure to Zika virus from sex includes sex without a barrier to protect against infection with a partner who traveled to or lives in an area with Zika.
- Testing blood, semen, or urine is not recommended to determine how likely a man is to pass Zika virus through sex. This is because there is still a lot we don't know about the virus and how to interpret test results. Available tests may not accurately identify the presence of Zika or a man's risk of passing it on.

PREVENTION

There is no vaccine to prevent Zika. The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites. Here's how:

- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
- Take steps to control mosquitoes inside and outside your home.
- Treat your clothing and gear with permethrin or buy pre-treated items.
- Use Environmental Protection Agency (EPA)-registered insect repellents. Always follow the product label instructions.
- When used as directed, these insect repellents are proven safe and effective even for pregnant and breastfeeding women.
- Do not use insect repellents on babies younger than 2 months old.
- Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
- Mosquito netting can be used to cover babies younger than 2 months old in carriers, strollers, or cribs to protect them from mosquito bites.
- Sleep under a mosquito bed net if air conditioned or screened rooms are not available or if sleeping outdoors.
- Prevent sexual transmission of Zika by using condoms or not having sex.

TREATMENT

There is no specific medicine for Zika infection.

- Treat the symptoms.
 - Get plenty of rest.
 - Drink fluids to prevent dehydration.
 - Take medicine such as acetaminophen (Tylenol®) or paracetamol to reduce fever and pain.
 - Do not take aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs).
 - If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.
- To help prevent others from getting sick, strictly follow steps to prevent mosquito bites during the first week of illness.



Source: <http://miami.cbslocal.com/2016/07/29/florida-gov-4-people-likely-have-zika-as-a-result-of-mosquito-bite/>



Source: <http://www.bbc.com/news/health-35427491>

Table 1 . Provisional Cases* of Selected Notifiable Disease, Broward County, Florida, July, 2016

	BROWARD COUNTY					FLORIDA				
	July			Cumulative (YTD)		July			Cumulative (YTD)	
	2016	2015	Mean†	2016	2015	2016	2015	Mean†	2016	2015
A. Enteric Infections										
Campylobacteriosis	17	23	24.8	88	119	337	356	300	2069	2170
Cryptosporidiosis	0	3	3.8	9	16	48	73	70.8	257	371
Cyclosporiasis	1	1	1	1	1	23	12	15.6	27	13
E.Coli, Shiga-Toxin Producing Infection**	2	9	6.3	33	25	58	53	46	357	254
Giardiasis, Acute	7	8	6.8	49	41	85	89	97.4	661	559
Salmonellosis	47	51	55.2	243	244	579	731	676.8	2792	2918
Shigellosis	17	10	12.2	80	54	75	220	191.4	492	1348
B. CNS Diseases & Bacteremias										
Haemophilus Influenzae Invasive Disease	0	3	2.5	18	23	15	13	15.6	222	102
Streptococcus Pneumoniae Invasive Disease:										
Drug Resistant	1	1	2.6	22	23	6	9	19.4	137	101
Drug Susceptible	7	2	2.6	46	21	27	10	21	308	169
C. Viral Hepatitis										
Hepatitis B, Acute	2	0	2	23	17	53	58	31.4	348	289
Hepatitis B, Surface Antigen In Pregnant Women	7	10	6.8	38	26	44	55	47.8	257	267
Hepatitis C, Acute	3	0	2	14	4	33	15	15.4	162	95
D. Vector Borne, Zoonoses										
Chikungunya Fever	1	0	26	3	22	3	9	63	9	88
Dengue Fever	1	3	2	9	5	2	8	10	40	24
Lyme Disease	6	4	2.5	13	4	61	28	19.2	197	66
Malaria	2	1	1	6	6	13	5	6.4	33	21
Rabies, Possible Exposure	15	1	1	58	4	268	284	255	1869	1957
Zika Virus Disease and Infection, Non-Congenital	17	0	0	53	0	117	0	0	334	0
E. Others										
Hansen's Disease (Leprosy)	1	0	0	1	0	2	5	2.3	15	15
Lead Poisoning	1	6	4	20	32	80	81	66	468	457
Legionellosis	1	2	4	10	16	31	21	23.6	156	159
Mumps	1	0	1	3	1	4	1	1	17	14
Pertussis	1	0	4	8	12	28	38	69.4	202	198
Varicella (Chickenpox)	8	4	2	38	22	42	43	33.6	482	449

* Confirmed, Probable, Suspect and Unknown Cases based on date of report as reported in Merlin.

† Mean of the number of cases of the same month in the previous five years

** Includes E. coli O157:H7; shiga-toxin positive, serogroup non-O157; and shiga-toxin positive, not serogrouped

Highlighted diseases/conditions are higher than expected for the current month in Broward

The Merlin system is Florida's state repository of reportable disease case reports, including automated notification of staff about individual cases of high priority diseases. Data is extracted using event date which is usually the date of onset of illness, and when that is unknown, event date may be date of lab report, or date of diagnosis.

The Electronic Surveillance System for the Early Notification of Community Based Epidemics (ESSENCE) was developed by Johns Hopkins University and Walter Reed Army Institute of Research. It is a syndromic surveillance tool used to monitor potential bio-terrorism threats and reportable diseases. Chief complaint data is transmitted daily to the ESSENCE system from participating hospital emergency rooms. DOH-Broward monitors a total of 17 reporting hospitals in Broward County. ESSENCE groups the chief compliant data into twelve syndrome groups, including: botulism-like, exposure, fever, gastrointestinal (GI), hemorrhagic, influenza-like-illness (ILI), neurological, rash, respiratory, shock/coma, injury, and other. ESSENCE creates automatic warnings or alerts for the monitoring of the twelve syndrome groups by comparing statistical differences in observed and predicted disease based on a 28-day average. Specialized queries have also been developed to monitor Florida state reportable diseases in Broward County. When an observed value is statistically higher at the $p < .05$ level, a yellow warning flag is generated.

Figure 1. ESSENCE Daily Emergency Department Visits, Broward, July 2016

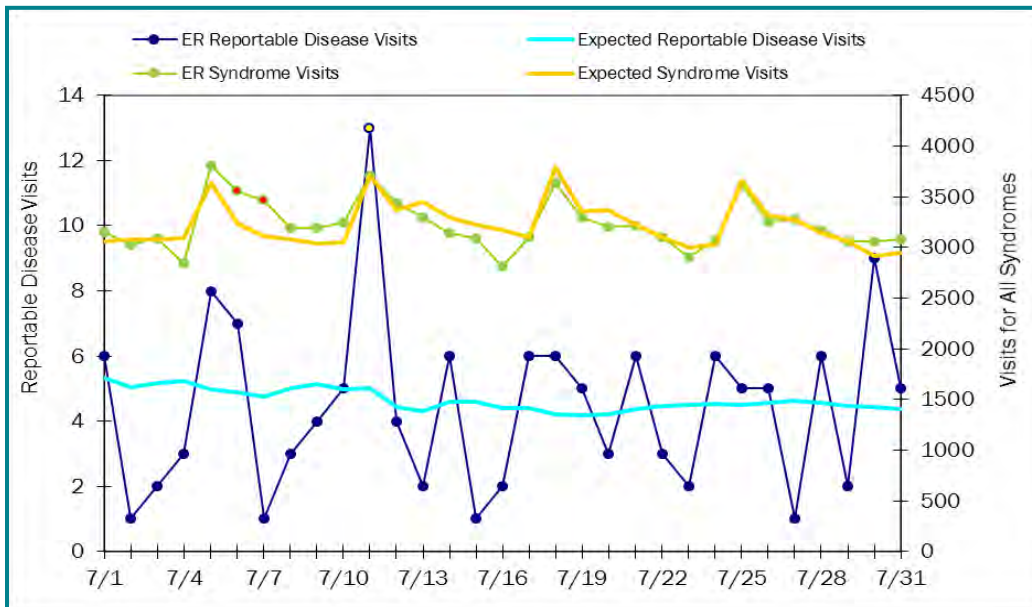


Figure 1. There is one warning and zero alerts for E.R reportable disease visits; and zero warnings and two alerts for E.R syndromic visits.
Warning - Yellow data point
Alert - Red data point

Table 2. ESSENCE Chief Complaint Alerts and Warnings for Reportable Disease and Chief Complaint Syndromes, July 2016

Disease	Alert Dates	Warning Dates	Syndrome	Alert Dates	Warning Dates
All Reportable Disease Query	None	11	Botulism-like Illness	None	11
Vaccine Preventable Diseases ¹	24	4	Exposure	None	11, 12
Hepatitis A and B	None	None	Fever	None	None
Meningitis (may not be bacterial)	1	16, 26	Gastrointestinal Illness	7	5, 17
Varicella (chicken pox)	None	17, 25	Hemorrhagic Illness	None	None
Vector Borne Diseases	None	None	Influenza-like Illness (ILI)	None	None
Chikungunya	3	None	Injury	None	6, 7, 8, 30
Dengue	None	None	Neurological	6	3, 20
Encephalitis	None	None	Rash	6	7, 10
Malaria	None	None	Respiratory	6	7
Zika Infection	5, 15	None	Shock/Coma	11	18
Gastrointestinal Illnesses	None	9, 17	Other Illness	None	None
General Enterics ²	None	9, 17			
Vomit and Diarrhea	None	25			

¹ Varicella, Measles, Mumps, Rubella, Diphtheria, Tetanus, Pertussis, Polio

² Cryptosporidium, cyclospora, shigellosis, shigella, salmonellosis, salmonella, ciguatera, campylobacteriosis, cholera, E. coli, and vibrio

Influenza activity is decreasing nationwide. In Florida, Influenza and Influenza Like Illness (ILI) continues to decline statewide in all surveillance systems and data suggest that the season peaked in week 10. There have been no positive influenza tests detected by the Bureau of Public Health Laboratories in recent weeks. Emergency department visits for ILI is highest in children under 4 years old. Broward flu activity is sporadic.

Figure 2. ESSENCE ILI Visits, Broward, 2015-2016

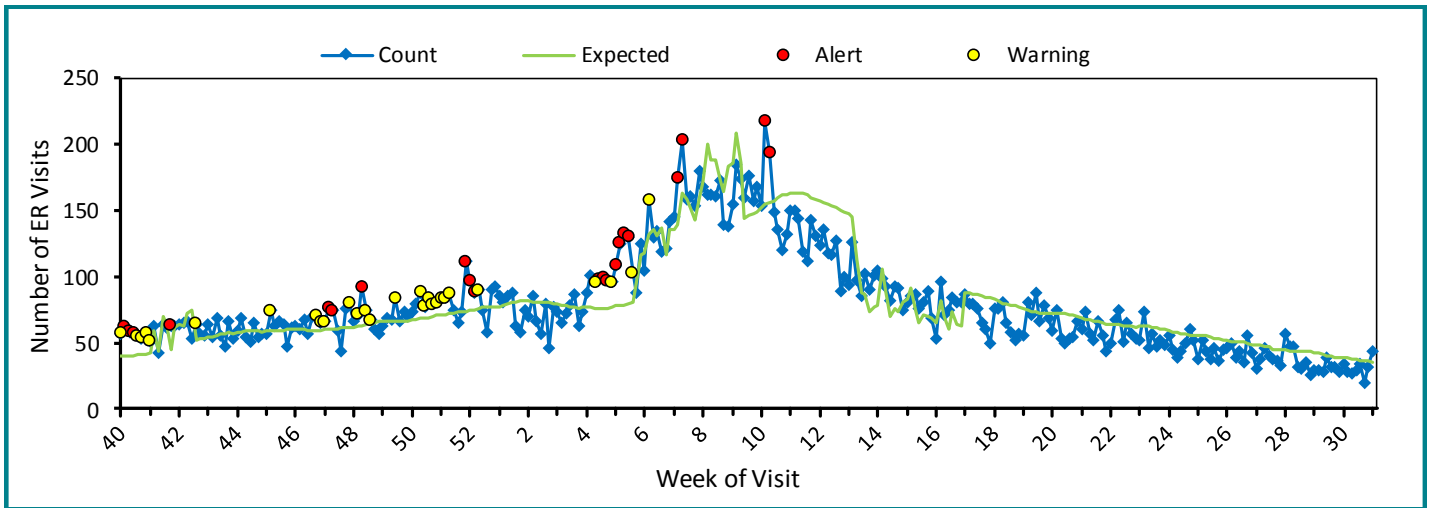


Figure 3. ESSENCE Reported ILI Visits, Broward, 2015-2016

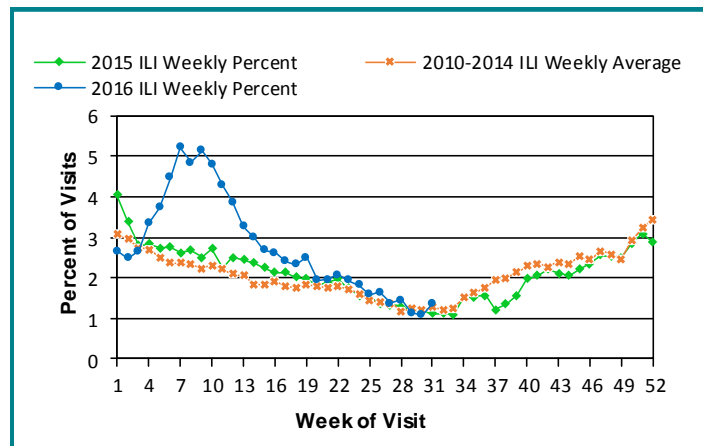
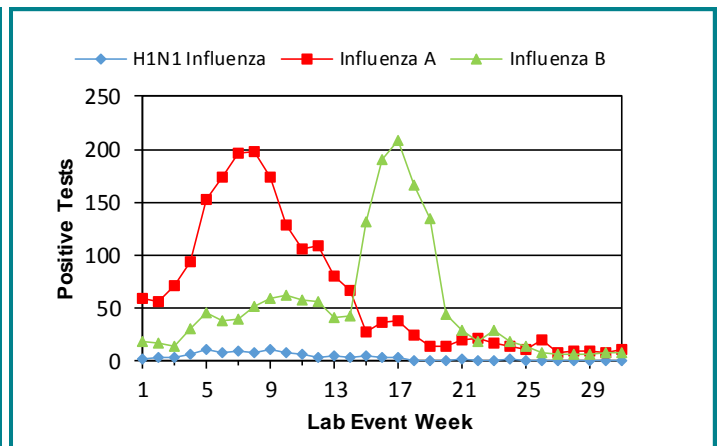


Figure 4. Merlin Reported Circulating Flu Types, Broward, 2016



Summary of Influenza and Respiratory Diseases Data

The number of visits to the emergency department for ILI was decreasing for the month of July (week 27 to week 30) with no alerts or warnings (Fig. 2). The percentage of emergency department visits due to ILI was similar to the weekly average for the last five years (Fig. 3). According to Merlin Flu Lab Reports, the number of positive tests for Influenza A was found to be slightly higher than the number of positive tests for Influenza B (Fig. 4).

Influenza Prevention Recommendations

Florida Department Health in Broward County recommends that everyone take precautions to prevent the spread of influenza. The flu is a contagious disease, caused by the influenza virus, and spreads to others when infected persons cough, sneeze or talk. Common symptoms of the flu include: fever (usually high), headache, extreme tiredness, cough, sore throat, runny or stuffy nose, muscle aches, nausea, vomiting, and diarrhea (more common among children than adults). Influenza vaccines have protected millions of people safely for decades. The CDC recommends an annual flu vaccine as the first and best way to protect against influenza. This recommendation is the same even during years when the vaccine composition (the viruses the vaccine protects against) remains unchanged from the previous season. Everyone 6 months and older is encouraged to get vaccinated against the flu even if they got vaccinated last season.

Other recommendations include:

- Wash your hands often with soap and water or an alcohol-based hand sanitizer.
- Avoid touching your eyes, nose, or mouth.
- Stay home when you are sick, keep sick children home and check with a health care provider, as needed.
- Do not share eating utensils, drinking glasses, towels or other personal items.
- Avoid close contact with people who are sick, if possible.

