FLORIDA DEPARTMENT OF HEALTH NASSAU COUNTY

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EPIGRAM

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Florida
Department of Health
Nassau County
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ARBOVIRUS SENTINEL CHICKEN FLOCKS

As we enter the summer months, the Florida Department of Health in Nassau County (DOH-Nassau) begins arthropod-borne virus (arbovirus) surveillance. Arboviruses, such as West Nile Virus, Eastern Equine Encephalitis Virus and St. Louis Encephalitis Virus, pose a serious threat to the public's health, with risk of long-term sequelae and case-mortality rates as high as 30% following infection. But unlike most surveillance systems, which utilize human subjects to assess the level of disease in communities, arbovirus surveillance systems across the state are composed of chicken flocks.

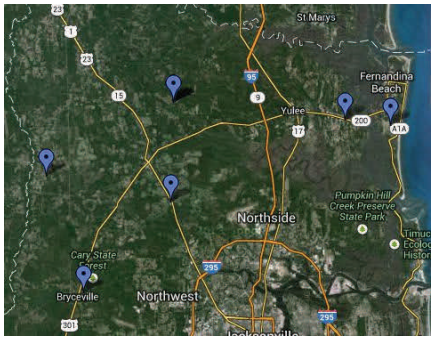

Fig 1. Location of sentinel chicken flocks for 2015.

Why chickens? Chickens are susceptible to arbovirus infection, resistant to disease, and develop a detectable and measurable immune response. Moreover, they are considered an incidental or "dead end" host, meaning they do not develop a high enough viremia to infect feeding mosquitos, halting the transmission cycle. Chicken flocks are placed strategically in areas where enzootic (naturally occurring) transmission cycles are maintained and can be monitored. Increasing levels of enzootic activity serve as an indicator of risk to nearby population centers.

Chicken flocks are monitored weekly for arbovirus activity. Flock handlers take blood samples from each chicken, and serological testing is completed at the Florida Department of Health, Bureau of Public Health Laboratories -Tampa. Results are promptly communicated to respective county health departments to assure a timely public health response.

DOH-Nassau maintains six sentinel chicken flocks throughout the county (see fig.1) to monitor circulating levels of several arboviruses of public health import. Countywide arbovirus surveillance data is collected from May to October of each year, and can be found in this and subsequent issues of the Epigram. For additional information regarding the surveillance and monitoring of arboviral diseases please visit: http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/index.html

DISEASE REPORTING

Phone: (904) 548-1800

Confidential Fax Line:
(904) 277-7286

After Hours Lines:
(866) 535-0420 (toll free)

Bureau of Epidemiology
24 Hour Reporting Line:
(850) 245-4401

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FLORIDA DEPARTMENT OF HEALTH NASSAU COUNTY CLINIC SITES

Fernandina Beach Clinic
1620 Nectarine Street
Fernandina Beach, FL 32034
(904) 548-1860

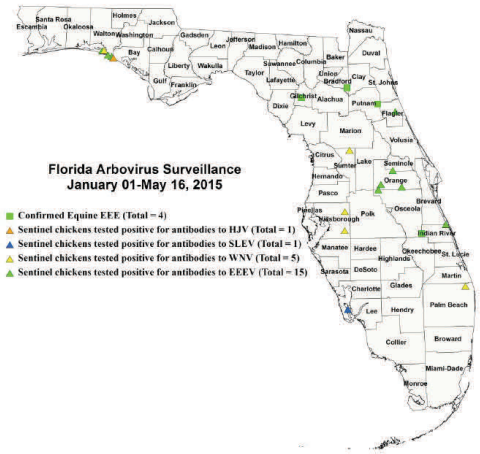
Callahan Clinic
208 Mickler Street
Callahan, FL 32011
(904) 879-2306

Yulee Clinic
528 Page's Dairy Road
Yulee, FL 32097
(904) 548-1880

Hilliard Clinic
37203 Pecan Street
Hilliard, FL 32046
(904) 845-5761

Arbovirus Surveillance Update: May 10-16, 2015

Arbovirus surveillance in Florida includes endemic mosquito-borne viruses such as West Nile virus (WNV), Eastern equine encephalitis virus (EEEV), and St. Louis encephalitis virus (SLEV), as well as exotic viruses such as dengue virus (DENV), chikungunya virus (CHIKV) and California encephalitis group viruses (CEV). Malaria, a non-viral mosquito-borne disease is also included. During the period of May 10-16, 2015 the following arboviral activity was recorded in Florida.



WNV activity: No human cases of WNV were reported this week. No horses with WNV infection were reported this week. Two sentinel chickens tested positive for antibodies to WNV this week in Hillsborough and Palm Beach Counties. In 2015, positive samples from five sentinel chickens have been received from four counties.

SLEV activity: No human cases of SLEV were reported this week. No sentinel chickens tested positive for antibodies to SLEV this week. In 2015, a positive sample from one sentinel chicken has been received from one county.

EEEV activity: No human cases of EEEV were reported this week. No horses with EEEV infection were reported this week. One sentinel chicken tested positive for antibodies to EEEV this week in Indian River County. In 2015, positive samples from 15 sentinel chickens and four horses have been received from eight counties.

International Travel-Associated Dengue Fever Cases: No cases of dengue fever were reported this week in persons that had international travel. In 2015, 10 travel-associated cases have been reported.

Dengue Fever Cases Acquired in Florida: No cases of locally acquired dengue fever were reported this week. In 2015, no cases of locally acquired dengue fever have been reported.

International Travel-Associated Chikungunya Fever Cases: No cases of chikungunya fever were reported this week in persons that had international travel. In 2015, 23 travel-associated cases have been reported.

Chikungunya Fever Cases Acquired in Florida: No cases of locally acquired chikungunya fever were reported this week. In 2015, no cases of locally acquired chikungunya fever have been reported.

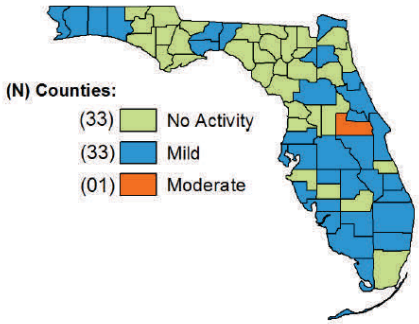
2015 Arbovirus Activity by County	
County	**Arbovirus Activity**
Bradford	EEEV: 1 horse (4/23)
Flagler	EEEV: 1 sentinel (4/27)
Gilchrist	EEEV: 1 horse (4/18)
Hillsborough	WNV: 2 sentinels (3/10, 4/22)
Indian River	EEEV: 1 sentinel (4/30)
Lee	SLEV: 1 sentinel (1/12)
Orange	EEEV: 7 sentinels (1/20, 1/29, 2/16, 2/23, 3/16, 4/20, 4/23)
Osceola	EEEV: 1 horse (5/3)
Palm Beach	WNV: 1 sentinel (4/27)
Putnam	EEEV: 1 horse (3/16)
Sumter	WNV: 1 sentinel (1/20)
Walton	EEEV: 6 sentinels (1/5, 1/13, 3/23) HJV: 1 sentinel (1/13) WNV: 1 sentinel (2/9)

Advisories/Alerts: No counties are currently under mosquito-borne illness advisory or alert. A CDC Health Alert Network (HAN) health advisory was issued in December 2013 for the Caribbean region announcing the first locally acquired cases of chikungunya fever in the Americas. There is a Level 1 (Watch) Travel Health Notice from the CDC for multiple countries in the Caribbean, Mexico, Central and South America, as well as the Pacific Islands related to the transmission of chikungunya. There are also similar CDC Travel Health Notices for dengue transmission in Brazil, China, and Malaysia. Additional information on travel health notices can be found at the following link: http://wwwnc.cdc.gov/travel/notices.

INFLUENZA SURVEILLANCE UPDATE

National influenza activity:

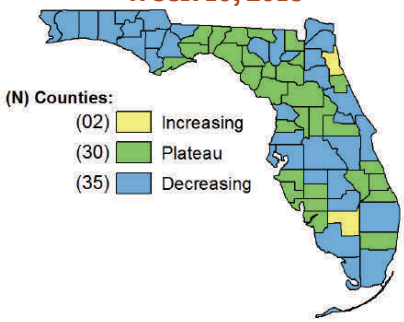
Map 1: County Influenza Activity Week 19, 2015



- Influenza activity continues to decrease nationally.
- The Centers for Disease Control and Prevention (CDC) has identified an antigenically drifted influenza A (H3N2) strain circulating nationally and in Florida that is different from the strain of influenza A (H3N2) contained in the current 2014-15 influenza vaccine formulations.
- The CDC indicates this season's vaccine offers reduced protection. Individuals at high risk of complications from influenza infection with suspected influenza should be treated with antivirals as early as possible, even prior to laboratory confirmation. More information can be found here: http://www.floridahealth.gov/diseases-and-conditions/influenza/_documents/Other/influenza-letter-for-health-care-providers.pdf.
- The CDC indicates that antiviral medications are underutilized; one study estimates antivirals were only used one out of five times where antivirals use would be recommended.
- The overall hospitalization rate for the season (Between October 1, 2014 and April 30, 2015) was 65.4 per 100,000 population. The highest rate of hospitalization was among adults aged ≥65 years (322.2 per 100,000 population), this is the hospitalization rate recorded since data collection on laboratory-confirmed influenza-associated hospitalization in adults began during the 2005-2006 season. Higher morbidity and mortality is expected in years where H3N2 is the predominately circulating strain.

State Influenza and influenza-like illness (ILI) activity:

Map 2: County Influenza Activity Trend Week 19, 2015



- Influenza activity continues to decline overall or remain at low levels across the state.. This season, influenza and ILI activity started early and peaked in week 52.
- Most Florida counties are reporting mild influenza activity. In week 19, 33 counties reported decreasing influenza activity; 33 counties indicated activity is at a plateau.
- Emergency department (ED) and urgent care center (UCC) ILI visits have decreased in recent weeks and are slightly below levels typical for this time of year. The number of pneumonia and influenza (P&I) associated deaths have declined overall in recent weeks and are above levels seen in previous years at this time.
- In Florida, the most common influenza subtype detected at the Bureau of Public Health Laboratories (BPHL) in recent weeks has been influenza B although influenza A (H3) has been the predominantly circulating strain for the majority of the season. The increase in influenza B late in the season follows previous yearly trends.
- In the past week, three (23.1%) of 13 specimens submitted to BPHL for influenza testing were PCR positive for seasonal strains of influenza B (1 Yamagata, 2 not yet typed).
- No outbreaks or pediatric deaths due to influenza were reported in week 19.

FDOH-Nassau Health Bulletins, Advisories and Alerts Issued

- No Health Bulletins, Advisories, or Alerts Issued

For additional information regarding bulletins, advisories and alerts visit our website or the Department of Health's Online Newsroom at: http://www.nassau.floridahealth.gov *and* http://newsroom.doh.state.fl.us.

April 2015: Reported Cases in Nassau County

Confirmed, Probable, Suspect, Unkown Cases of Multiple Diseases with Report Date 04/01/2015 to 04/30/2015 with Three-Year Period Comparison for Nassau County

	Selection Date 04/01/15 - 04/30/15		Comparison Date 1 04/01/14 - 04/30/14		Comparison Date 2 04/01/13 - 04/30/13		Comparison Date 3 04/01/12 - 04/30/12	
Disease Name	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
County: NASSAU								
Campylobacteriosis	0	0.00	2	28.57	1	7.14	1	12.50
Haemophilus influenzae Invasive Disease	0	0.00	0	0.00	1	7.14	0	0.00
Hepatitis B, Chronic	0	0.00	0	0.00	2	14.29	0	0.00
Hepatitis C, Chronic	5	55.56	5	71.43	5	35.71	1	12.50
Lead Poisoning	1	11.11	0	8.33	0	0.00	0	0.00
Rabies, Animal	0	0.00	0	0.00	0	0.00	1	12.50
Rabies, Possible Exposure	2	22.22	0	0.00	1	7.14	2	25.00
Salmonellosis	1	11.11	0	0.00	1	7.14	2	25.00
Strep pneumoniae Invasive Disease, Drug-Resistant	0	0.00	0	0.00	2	14.29	0	0.00
Varicella (Chickenpox)	0	0.00	0	0.00	1	7.14	1	12.50
TOTAL:	**9**	100.00	**7**	100.00	**14**	100.00	**8**	100.00
STATEWIDE TOTAL								
Campylobacteriosis	314	7.71	243	7.52	226	7.61	161	6.21
Haemophilus influenzae Invasive Disease	20	0.49	30	0.93	28	0.94	20	0.77
Hepatitis B, Chronic	550	13.50	417	12.91	338	11.38	240	9.26
Hepatitis C, Chronic	2357	57.84	1818	56.27	1635	55.03	1464	56.50
Lead Poisoning	115	2.82	35	1.08	45	1.51	41	1.58
Rabies, Animal	4	0.10	9	0.28	10	0.34	11	0.42
Rabies, Possible Exposure	290	7.12	251	7.77	256	8.62	175	6.75
Salmonellosis	349	8.56	308	9.53	310	10.43	324	12.50
Strep pneumoniae Invasive Disease, Drug-Resistant	10	0.25	56	1.73	50	1.68	38	1.47
Varicella (Chickenpox)	66	1.62	64	1.98	73	2.46	117	4.52
TOTAL:	**4075**	100.00	**3231**	100.00	**2971**	100.00	**2591**	100.00