Epidemiology Monthly Surveillance Report

Florida Department of Health in Orange County

Measles: Western Hemisphere Endemic Eradication Success

On September 27, 2016, the Pan American Health Organization (PAHO) declared the western hemisphere (North and South America) free of endemic measles.[1] For measles to be considered "eradicated", an area or country has to be free of endemic disease transmission for more than 12 months. The last non-imported case of measles in this region was in 2002. Poor health communication, a large migrant population, and ongoing civil conflict were reasons officials cited for not previously declaring measles eradicated in the western hemisphere.[1] To achieve this important health milestone, health officials used a combination of vaccination campaigns and disease surveillance and epidemiologic response.

Before the introduction of the measles vaccine in 1963, the United States population saw about 3-4 million infections yearly. The infection caused approximately 400 to 500 deaths annually and thousands suffered severe complications, such as encephalitis (brain swelling).[2] Measles outbreaks continue to be reported in US as a result of internationally imported cases. These imported cases can infect the local susceptible population, including unvaccinated and under-vaccinated persons. Examples of these disease introductions are available from across the US.[3,4]

Vaccination is the best way to protect a community from imported measles. Herd immunity occurs when the majority of the population in an area has become immune to an infection, thereby providing protection to those that are unvaccinated or under-vaccinated. Vaccination not only protects the person receiving the vaccine, but contributes to population immunity.

Vaccination Recommendations

The measles-mumps-rubella vaccine (MMR) is a two-dose series vaccination. The first dose is typically given at 12-15 months of age and the second dose at 4-6 years of age. In addition, persons born after 1956 should get at least one dose of the vaccine, unless they have already received the vaccine. Additional guidance on vaccination can be found here: http://www.cdc.gov/measles/vaccination.html

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Points of Interest:

- **Measles: Western Hemisphere Endemic Eradication Success**
- **Zika Virus Detection**

Contents

Suspected Measles Clinical Workup Key Points

Physicians, after following the below clinical workup key points, if you suspect measles infection in your patient you should **immediately** contact the Florida Department of Health in Orange County at 407-858-1400.

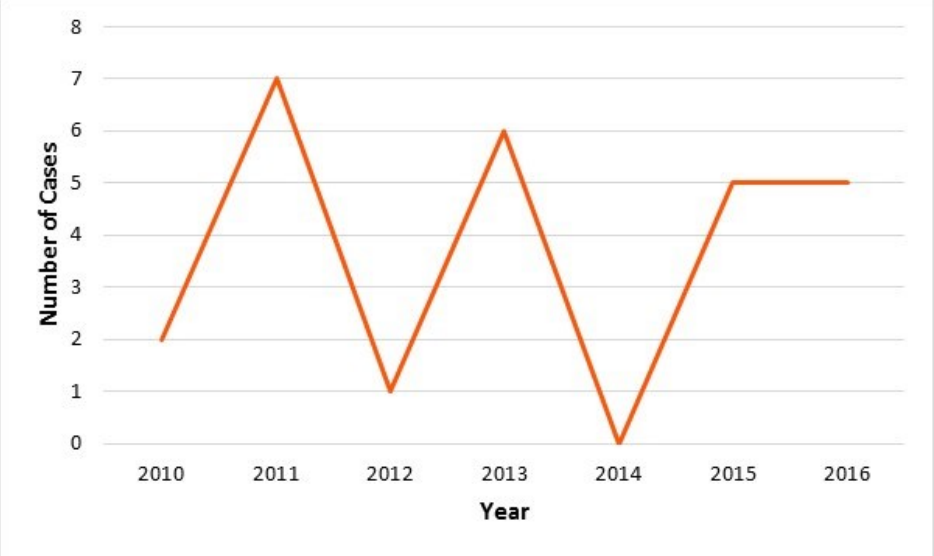
Measles is a viral illness characterized by fever, generalized maculopapular rash, and one or more of the three C's: cough, coryza, or conjunctivitis. Other symptoms of measles include photophobia, sneezing, nasal congestion and discharge, and Koplik spots (bluish-white specks on a rose-red background appearing on the buccal mucosa). Fever usually abates following rash appearance, which lasts on average one week.

Physicians should report all persons for suspected measles that meet the following criteria:

- Risk factors: international travel, contact with an international traveler, or link to a known outbreak or case, or no/unknown vaccine or immunity
  AND
- Febrile rash illness (≥101F; generalized descending maculopapular rash)
  AND
- At least one of the following: cough, coryza, conjunctivitis, Koplik spots (may not be present)

Infection control policies should be immediately followed for patients meeting this criteria to reduce the risk of disease transmission. Serum, nasopharyngeal or oropharyngeal swab, and urine specimens should be collected and tested through the Bureau of Public Health Laboratories for confirmation. Clinicians should also consider a differential diagnosis, which may include human parvovirus B19, influenza, enterovirus, HIV, adenovirus, arboviruses, scarlet fever, drug reaction, and rubella.

Number of Measles Cases by Year Since 2010, Florida



Resources:

PAHO Region of America's Declared Measles Free

CDC Measles History

MMWR Measles Outbreak in California

MMWR Measles Outbreak in Florida

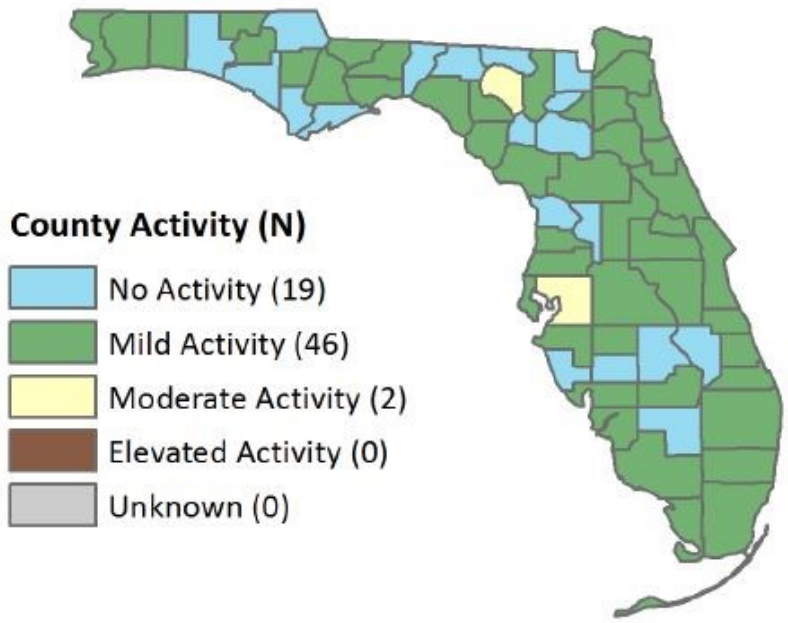
Influenza Surveillance (data from Florida Flu Review)

Florida

⇒ Influenza activity during the 15'-16' influenza season peaked between weeks 7-11. This peak in activity occurred later than in the past six seasons.

⇒ In recent weeks, emergency department and urgent care center ILI visits reported into ESSENCE-FL (Florida's syndromic surveillance system) remains at low levels across the state at this time.

Influenza Activity Level, by county for week 42, 2016

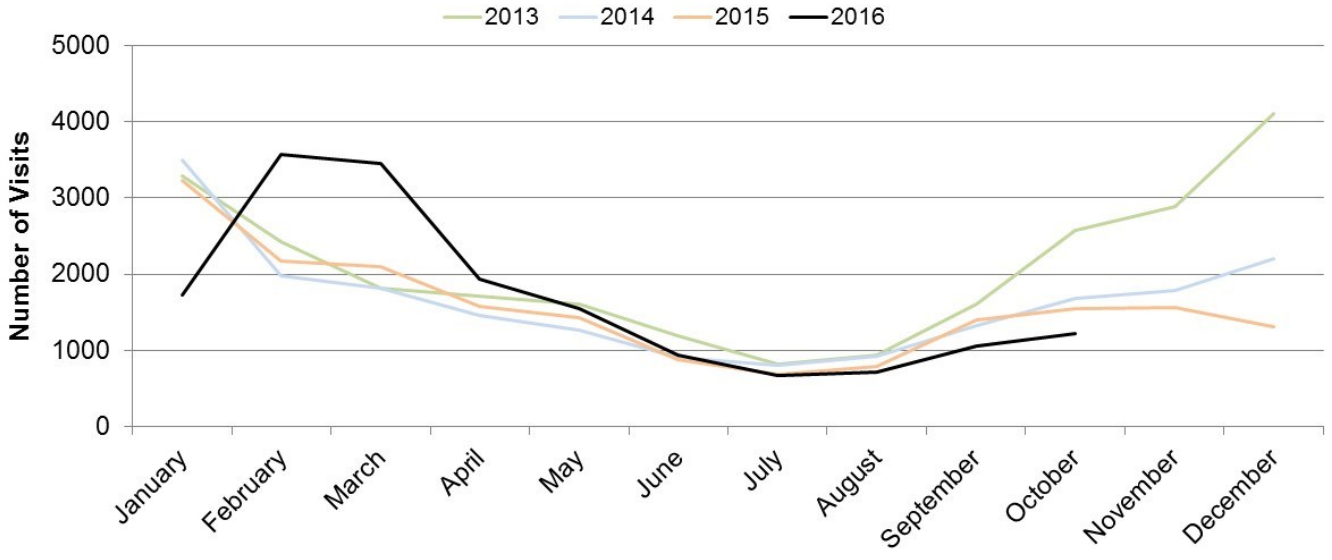


Orange County

⇒ No influenza outbreaks were reported in Orange County during October 2016.

⇒ Influenza-like illness are slightly below levels observed in previous seasons in Orange County during October 2016.

Influenza-like Illness from Emergency Department Visits in Orange County, 2013 to 2016



Influenza Resources:

Florida Department of Health Weekly Influenza Activity Report

Center for Disease Control and Prevention Weekly Influenza Activity Report

Zika Virus Surveillance

National

⇒ The CDC has issued travel recommendations concerning the Zika virus. The latest travel recommendations can be viewed here.

Florida

⇒ **At this time, the department is conducting active investigations, for non-travel related Zika infections in Miami-Dade and Palm Beach counties.**

⇒ 37 counties are currently under a declared state of emergency due to identification of Zika infections.

⇒ As of November 2, 2016:

- **A total of 932 confirmed cases have been identified in Florida**
  - 773 confirmed cases of Zika are travel-related to Zika epidemic areas.
  - 127 confirmed cases of Zika have been among pregnant women in Florida.
  - 185 confirmed cases of Zika are non-travel related.

Orange County

⇒ No local transmission has been identified in Orange County.

Clinician Guidance

Clinicians that suspect a patient has a Zika virus infection should:

1) Test for dengue and chikungunya viruses due to similar geographic spread of diseases and clinical presentation;

2) Contact their local county health department to report the disease upon suspicion. The local health department will be able to provide consultation for laboratory testing recommendations. Local health department contact information is available here.

As of a November 2, 2016:

Top 3 States	Travel-associated Cases
New York	886
Florida	847
California	309

As of November 2, 2016:

FL County	Travel-associated Cases
Alachua	10
Bay	3
Brevard	15
Broward	131
Charlotte	2
Citrus	2
Clay	6
Collier	9
Duval	9
Escambia	3
Flagler	2
Hernando	4
Highlands	1
Hillsborough	26
Lake	3
Lee	12
Leon	2
Manatee	4
Marion	3
Martin	2
Miami-Dade	250
Monroe	6
Nassau	1
Okaloosa	3
Okeechobee	1
Orange	89
Osceola	30
Palm Beach	41
Pasco	8
Pinellas	19
Polk	28
Santa Rosa	1
Sarasota	5
Seminole	22
St Johns	4
St. Lucie	7
Volusia	10

Zika Virus Resources:

Florida Department of Health

Orange County Mosquito Control

Centers for Disease Control and Prevention

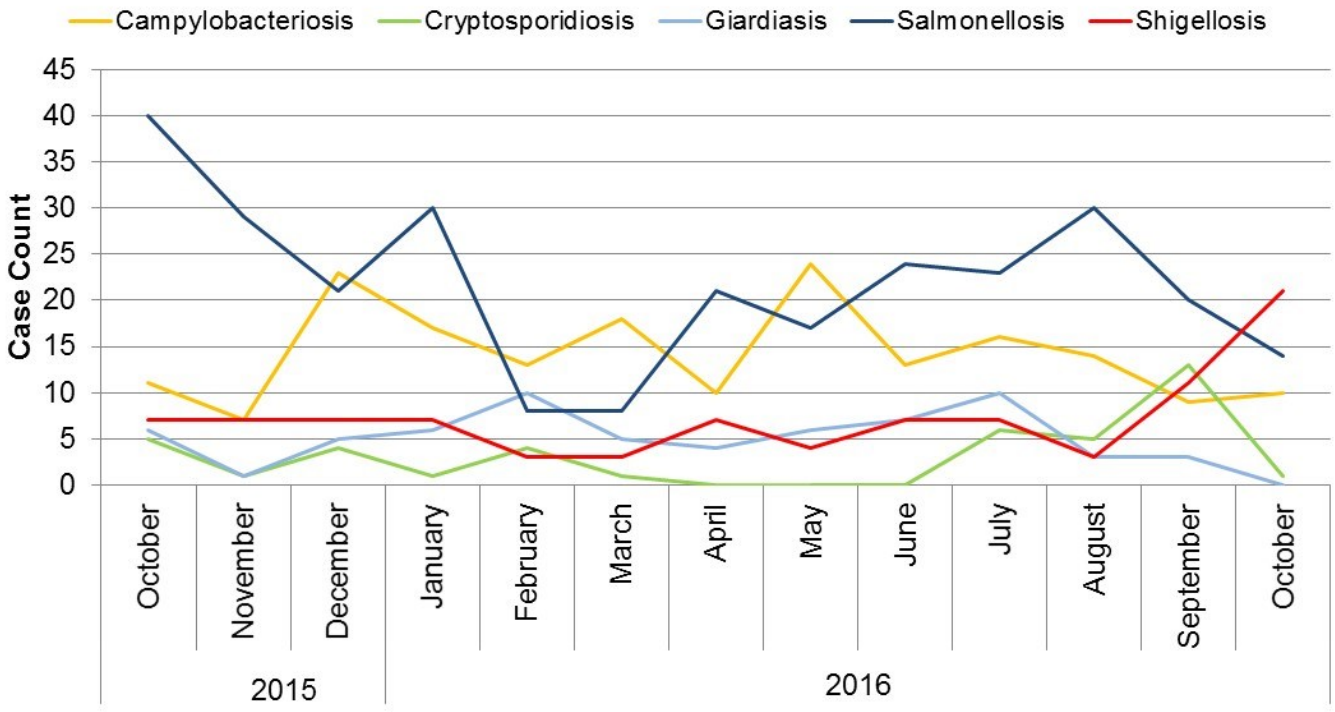
Latest Travel Notices

CDC Healthcare Guidance

Local Health Department Contact Information

Gastrointestinal Illness Surveillance

Select Reportable Enteric Diseases in Orange County, Florida, October 2015 to October 2016



Gastrointestinal Illness Points of Interest:

⇒ Enteric reportable diseases cases remain within seasonally expected levels.

⇒ One foodborne outbreak of unknown etiology was reported during October 2016.

⇒ One person-to-person Shigellosis outbreak was reported during October 2016.

⇒ No waterborne disease outbreaks were identified in October 2016.

Gastrointestinal Illness Resources:

Florida Online Foodborne Illness Complaint Form - Public Use

Florida Food and Waterborne Disease Program

Florida Food Recall Searchable Database

Florida Department of Health - Norovirus Resources

CDC: A-Z Index for Foodborne Illness CDC: Healthy Water

REPORT FOODBORNE ILLNESS ONLINE

Arboviral Surveillance

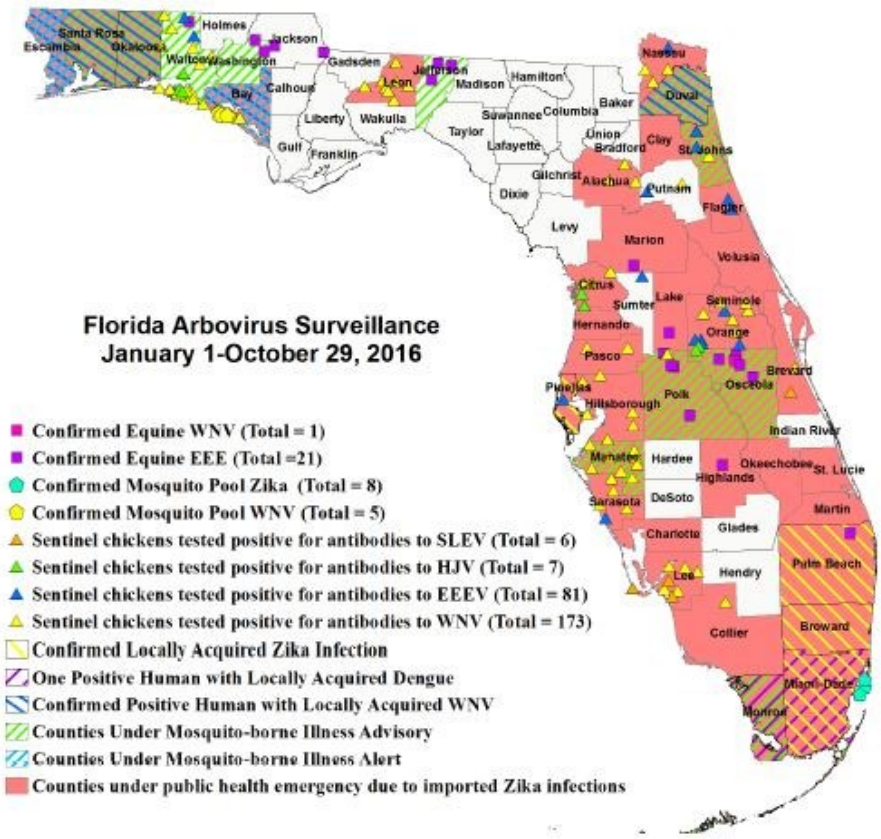
Florida

⇒ Four cases of locally acquired West Nile Virus were reported in Florida during 2016.

⇒ One case of locally acquired Dengue was reported in Florida during 2016.

⇒ Imported cases of Dengue, Malaria, and Chikungunya virus have been reported in Florida during 2016.

⇒ More details available below with link to: Weekly Florida Arboviral Activity Report.



Orange County

⇒ No locally acquired cases of Zika Virus, West Nile Virus, Dengue, Chikungunya Virus, St. Louis Encephalitis Virus, or Eastern Equine Encephalitis Virus have been identified in Orange County during 2016.

⇒ In 2016, sentinel chickens tested positive for West Nile Virus (WNV) Highlands J Virus, and Eastern Equine Encephalitis (EEE) in Orange County.

Arboviral Resources:

Weekly Florida Arboviral Activity Report (Released on Mondays)

Orange County Mosquito Control

Chikungunya Resources

Florida Department of Health Chikungunya Information

CDC Chikungunya Information

CDC Chikungunya MMWR

Disease	ORANGE				All Counties			
	October		Cumulative (YTD)		October		Cumulative (YTD)	
	2016	Median 5YR	2016	Median 5YR	2016	Median 5YR	2016	Median 5YR
Campylobacteriosis	24	11	169	107	285	226	3112	2316
Carbon Monoxide Poisoning	0	0	9	8	29	15	225	144
Chikungunya Fever	0	0	0	0	0	0	15	0
Cholera (Vibrio cholerae Type O1)	0	0	1	0	0	0	1	4
Ciguatera Fish Poisoning	0	0	1	0	3	5	30	48
Creutzfeldt-Jakob Disease (CJD)	0	0	0	1	0	1	12	22
Cryptosporidiosis	2	1	36	22	69	64	501	402
Cyclosporiasis	0	0	2	1	0	1	36	33
Dengue Fever	0	1	5	6	1	11	72	92
Escherichia coli: Shiga Toxin-Producing	1	2	27	15	39	35	544	373
Giardiasis: Acute	0	7	60	60	63	107	955	935
Haemophilus influenzae Invasive Disease	0	1	10	12	9	16	260	230
Hansen's Disease (Leprosy)	0	0	1	0	2	1	21	7
Hepatitis A	0	0	7	3	6	9	108	104
Hepatitis B: Acute	1	1	20	10	51	39	562	311
Hepatitis B: Chronic	36	34	386	331	428	354	4303	3741
Hepatitis B: Perinatal	0	0	0	0	0	0	0	1
Hepatitis B: Surface Antigen in Preg. Wom-	2	4	34	56	19	35	302	418
Hepatitis C: Acute	1	0	5	6	23	16	259	166
Hepatitis C: Chronic	151	135	1441	1315	2434	2326	27001	25125
Influenza A: Novel or Pandemic Strains	0	0	0	0	0	0	0	0
Influenza-Associated Pediatric Mortality	0	0	1	0	0	0	6	2
Lead Poisoning	2	1	53	19	86	124	1017	682
Legionellosis	2	2	24	18	41	33	306	232
Leptospirosis	0	0	1	0	1	0	2	1
Listeriosis	2	0	2	2	7	5	33	37
Lyme Disease	0	0	5	4	19	16	355	147
Malaria	0	0	9	7	6	4	69	58
Measles (Rubeola)	0	0	0	0	0	0	5	9
Meningitis: Bacterial or Mycotic	0	0	1	8	7	11	99	123
Meningococcal Disease	0	0	0	1	1	4	12	44
Mumps	0	0	1	0	2	0	26	17
Pertussis	0	3	31	24	22	33	295	517
Pesticide-Related Illness and Injury: Acute	0	0	0	4	1	6	22	66
Rabies: Possible Exposure	9	6	60	76	190	220	2724	2322
Salmonellosis	28	47	250	287	821	820	5429	5320
Shigellosis	26	10	86	91	113	196	806	1810
Smallpox	0	0	0	0	0	0	0	0
Strep pneumoniae Invasive Disease: Drug-	1	1	12	22	12	31	163	381
Strep pneumoniae Invasive Disease: Drug-	2	2	15	19	24	30	363	425
Tetanus	0	0	0	0	0	0	4	3
Varicella (Chickenpox)	0	2	13	25	33	57	635	654
Vibriosis (Vibrio parahaemolyticus)	0	0	1	0	9	5	51	39
Vibriosis (Vibrio vulnificus)	0	0	2	0	7	4	41	34

New World Screwworm in Big Pine Key, Florida

On October 3, 2016, the United States Department of Agriculture (USDA) confirmed the re-existence of New World screwworm in deer from Big Pine Key, Florida. This is the first infestation of New World screwworm reported in the United States in more than 30 years. There have been six confirmed infections of screwworm infestation among key deer and nine suspected infections among dogs, cats, rabbits, pigs, and a tortoise. No human cases have been reported.

Mechanism of Disease

New World screwworm is transmitted from a female screwworm (*Cochliomyia hominivorax*) fly that lays her eggs near an open wound or in the mucous membranes of a warm-blooded animal. Within a day of being laid, the eggs hatch and feed on the animal's tissue for a period of 5 to 7 days before maturation. Human cases of New World screwworm are rare, but have occurred. Human cases infested with screwworm (myiasis) typically will have discomfort or itching at the wound site (source of entry). For more information, explore the resources below.

For additional guidance on suspected infestation of New World screwworm among humans please contact the Florida Department of Health in Orange County (DOH-Orange) at: **407-858-1420**.

Resources: CDC:Myiasis Guidelines USDA APHIS Florida Department of Agriculture and Consumer Services

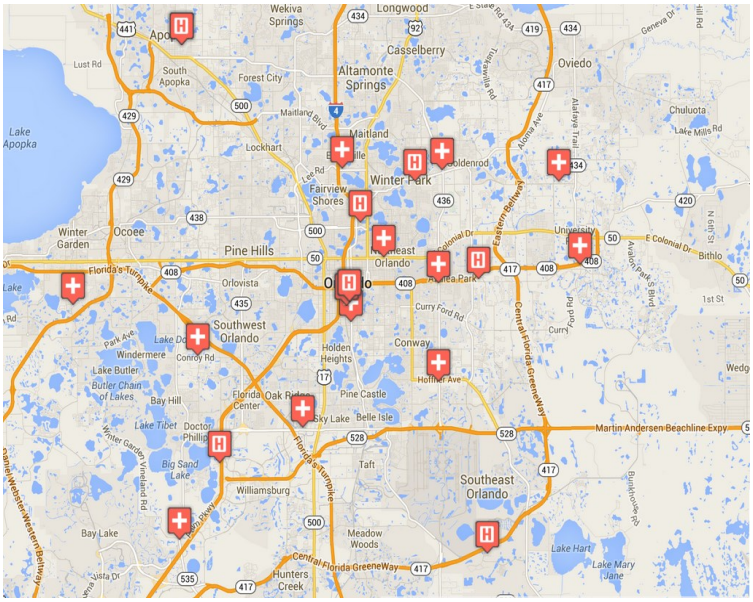
Other Disease Resources

In the structure of DOH-Orange, tuberculosis, sexually transmitted infections, and human immunodeficiency virus are housed in separate programs from the Epidemiology Program. We recognize the importance of these diseases for our community partners and for your convenience have provided links for surveillance information on these diseases in Florida and Area 7 HIV & AIDS Program (Brevard, Orange, Osceola, and Seminole Counties) .

Florida Department of Health: ESSENCE

Hospital linked to ESSENCE

Florida Hospital Centra Care Clinic linked to ESSENCE



Since 2007, the Florida Department of Health has operated the Early Notification of Community-based Epidemics (ESSENCE), a state-wide electronic bio-surveillance system. The initial scope of ESSENCE was to aid in rapidly detecting adverse health events in the community based on Emergency Department (ED) chief complaints. In the past seven years, ESSENCE capabilities have continually evolved to currently allow for rapid data analysis, mapping, and visualization across several data sources, including ED record data, Merlin reportable disease data, Florida Poison Information Network consultations, and Florida Office of Vital Statistics death records. The majority of the information presented in this report comes from ESSENCE. Florida currently has 228 emergency departments and 35 urgent care centers reporting to ESSENCE-FL for a total of 263 facilities.

Florida Department of Health in Orange County

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The Epidemiology Program conducts disease surveillance and investigates suspected occurrences of infectious diseases and conditions that are reported from physician's offices, hospitals, and laboratories.

Surveillance is primarily conducted through passive reporting from the medical community as required by Chapter 381, Florida Statutes.

Data is collected and examined to determine the existence of trends. In cooperation with the Office of Emergency Operations, the Epidemiology Program conducts syndromic and influenza-like-illness surveillance activities.

Syndromic surveillance was added to the disease reporting process as an active method of determining activities in the community that could be early indicators of outbreaks and bioterrorism.

Our staff ensures that action is taken to prevent infectious disease outbreaks from occurring in Orange County communities and area attractions. Along with many public and private health groups, we work for the prevention of chronic and long-term diseases in Central Florida.

ALL DATA IS PROVISIONAL