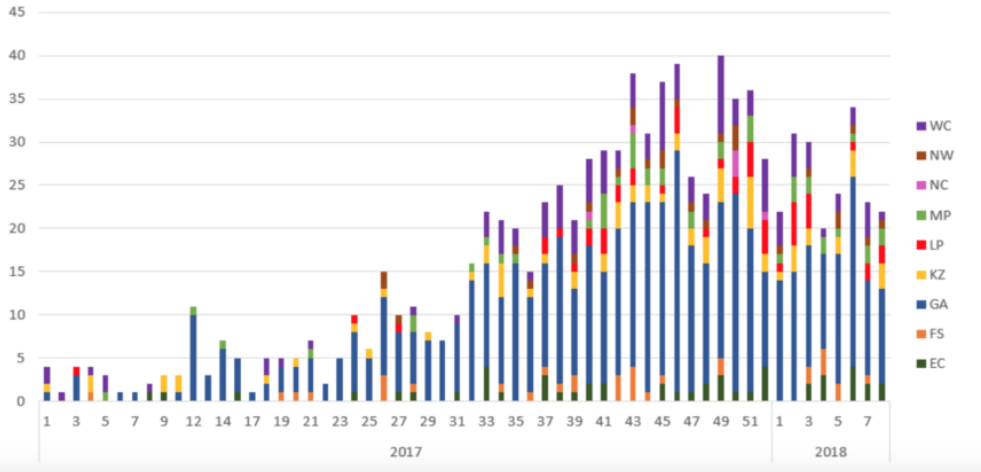
Epidemiology Monthly Surveillance Report

Florida Department of Health in Orange County

The World's Largest *Listeria* Outbreak

A staggering 948 laboratory-confirmed listeriosis cases have been reported from provinces of South Africa since January 2017. Age range of the case-patients is from birth to 92 years, with a median of 19 years; 41 percent of cases are neonates (≤28 days). The outcome is known for 659 case-patients, of whom 180 (27%) have died. The U.N. World Health Organization called the outbreak the largest ever recorded globally. South Africa's Health Ministry said the source was found after nine pre-school children fell ill and presented to a local hospital with gastroenteritis. A pediatrician suspected a foodborne disease to be the culprit. Environmental health practitioners visited the children's nursery and obtained samples of the suspected product, a bologna made from fat, salt, and a composite meat paste, called "polony," from two unrelated brands (manufactured by Enterprise and Rainbow Chicken Limited (RCL) respectively). The source of the outbreak has been traced to a Tiger Brands *Enterprise* food production factory in the northern city of Polokwane. Whole genome sequencing analysis revealed *Listeria monocytogenes* strain ST2 in the polony samples and stool from an ill child. The same ST6 strain was later isolated from 16 environmental samples taken at the *Enterprise* factory. The factory is in the process of recalling products, and the health minister has advised the public to avoid all processed meat products sold as ready-to-eat.

Epidemic Curve of *Listeria* Outbreak Linked to *Enterprise* Polony by Province, January 2017-March 2018, South Africa



February 2018

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Listeriosis is caused by the bacterium *Listeria monocytogenes,* primarily affecting pregnant women, older adults, newborns, and those with weakened immune systems. Listeriosis can cause a variety of symptoms, depending on the person and the part of the body affected. Listeria can cause fever and diarrhea similar to other foodborne germs. Pregnant women typically experience only fever and other flu-like symptoms, such as fatigue and muscle aches. However, infections during pregnancy can lead to miscarriage, stillbirth, premature delivery, or life-threatening infection of the newborn. Older adults and people with weakened immune systems may develop severe infections of the bloodstream or brain.

Listeria monocytogenes can be readily isolated in standard bacterial culture of normally sterile body sites. It is widespread in the environment and can be isolated from soil, water, and decaying vegetation. It is a hardy organism that can withstand a wide range of conditions including freezing, drying, heat, and relatively high levels of acid, salinity, and alcohol. Unlike most foodborne pathogens, it can grow at standard refrigerator temperature (40°F), which makes it a particular problem in ready-to-eat foods that are not cooked before eating. Listeria has been linked to a variety of ready-to-eat foods, including deli meats, hot dogs, smoked seafood, store-prepared deli-salads, unpasteurized milk and soft cheeses. Listeria can sometimes be found in other foods such as raw sprouts and cantaloupes. To reduce the risk of acquiring listeriosis, avoid unpasteurized milk and dairy products, avoid eating hot dogs, cold cuts, and other deli meats unless they are heated to 165°F or steaming hot before serving., avoid refrigerated smoked seafood unless it is canned or shelf-stable, or in a cooked dish. Melons should be eaten immediately once cut or refrigerated at 41°F or colder for no more than 7 days. For those at higher risk, it is also recommended to avoid consuming raw sprouts, and cook the sprouts thoroughly, as rinsing will not remove bacteria effectively.

The annual incidence of laboratory-confirmed listeriosis in the United States is 0.24 cases per 100,000 population, gathered from FoodNet sites active surveillance. Approximately 1,600 cases occur annually in the US. Almost everyone with listeriosis is hospitalized, and the case-fatality rate is about 20 percent. In 2017, there were 2 cases of listeriosis reported in Orange County, FL, and 60 cases reported in the state of Florida.

Please report any cases of listeriosis immediately to DOH-Orange at (407) 858-1420 or by confidential fax at (407) 858-5517.

Resources:

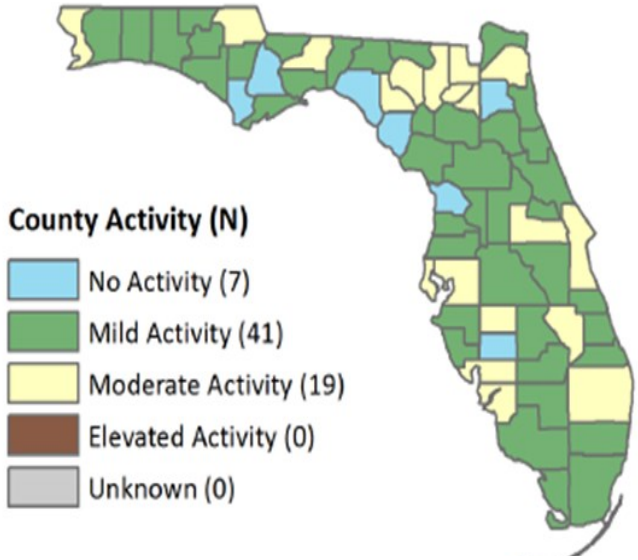
CDC *Listeria* Republic of South Africa, Department of Health

Influenza Surveillance (data from Florida Flu Review)

Florida

- In week 9, state influenza activity decreased.
- Influenza A (H3) has been the most common strain identified nationally and in Florida.
- Deaths due to pneumonia and influenza were within expected levels.
- In week 9, no new influenza-associated pediatric deaths were confirmed. Six influenza -associated pediatric deaths were confirmed so far in the 2017-18 season.

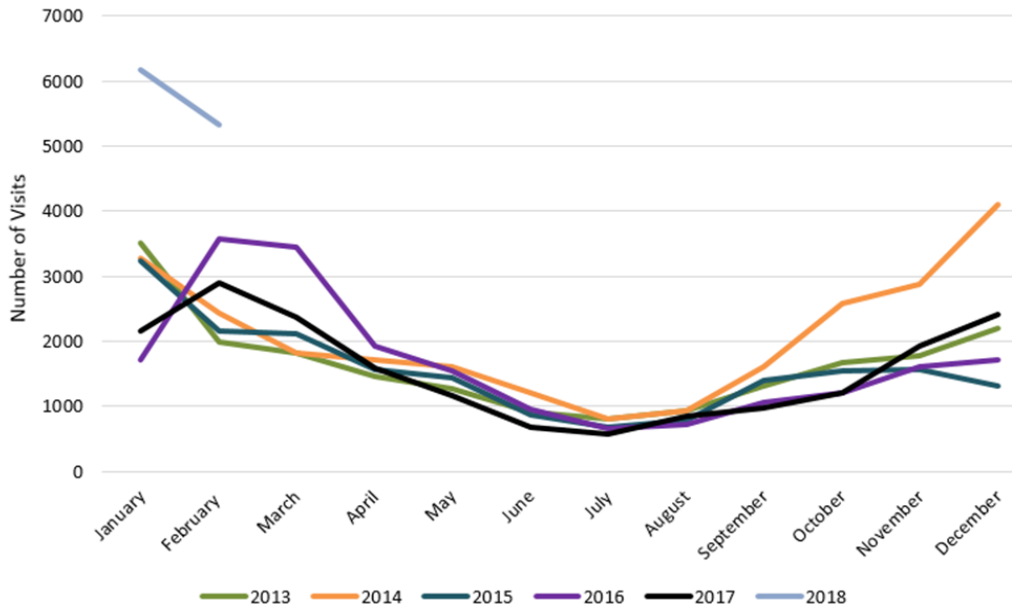
Influenza Activity Level, by County for Week 9, 2018



Orange County

- Five outbreaks of influenza were reported in Orange County in February 2018.
- Orange County influenza activity level for week 9 is decreasing.

Influenza-like Illness from Emergency Department Visits in Orange County, 2013 to 2018



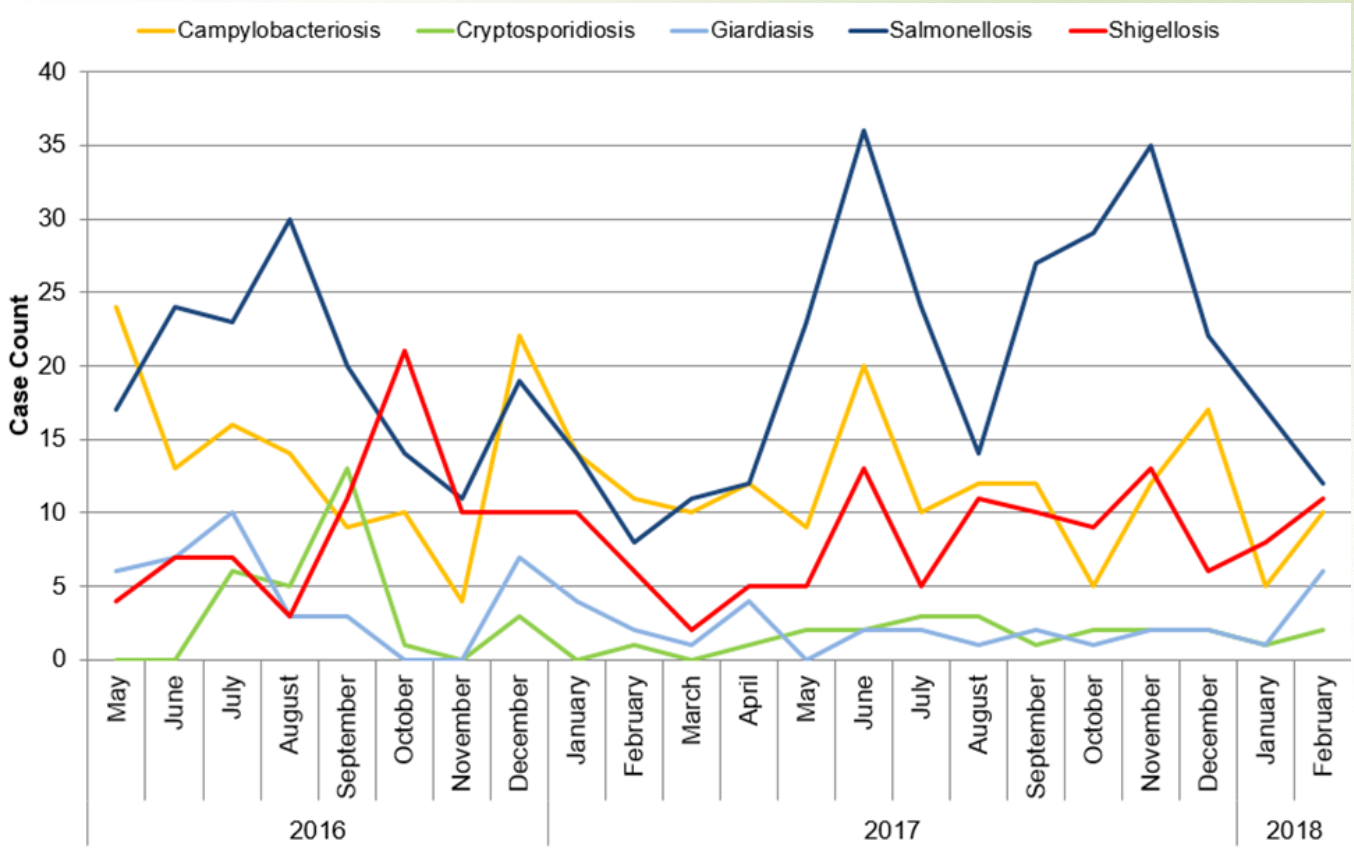
Influenza Resources:

Florida Department of Health Influenza

Center for Disease Control and Prevention Weekly Influenza Activity Report

Gastrointestinal Illness Surveillance

Select Reportable Enteric Diseases in Orange County, Florida, May 2016 to February 2018



Gastrointestinal Illness Points of Interest:

REPORT FOODBORNE ILLNESS ONLINE

- Enteric reportable disease cases were low for the month of February.
- In February, 22 foodborne illness complaints were investigated by Orange County from various sources such as direct reporting, online reporting, social media, Department of Health, and crowd-sourced web-based reporting.

Gastrointestinal Illness Resources:

Florida Online Foodborne Illness Complaint Form - Public Use

Florida Food and Waterborne Disease Program

CDC: Healthy Water

CDC: A-Z Index for Foodborne Illness

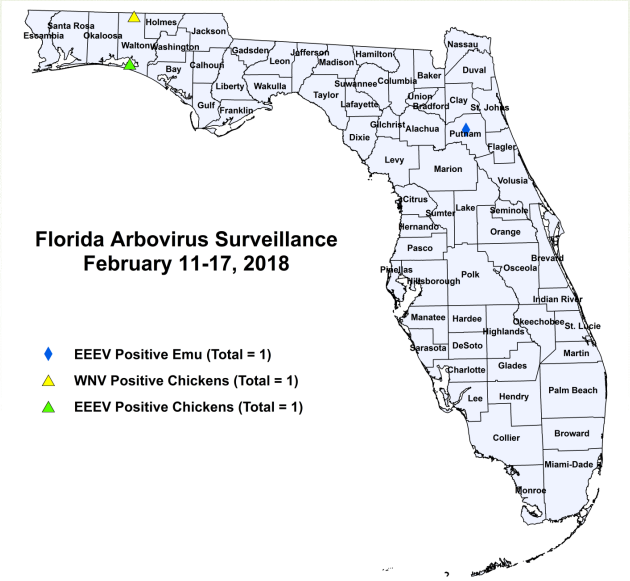
Arboviral Surveillance

International

- There is a CDC Level 2 (Alert) Travel Health Notice for multiple countries in the Caribbean, Central and South America, and for Mexico, Cape Verde, Southeast Asia, and Pacific Islands related to Zika and poor pregnancy outcomes.
- There is a CDC Level 2 Travel Health Notice for Brazil and a Level 1 Travel Health Notice in Nigeria related to the transmission of yellow fever virus.
- There is a CDC Level 1 Travel Health Notice for Sri Lanka related to the transmission of dengue virus.

Florida

- One travel-associated case of dengue has been reported in 2018.
- One case of chikungunya has been reported in a person that had international travel.
- No human cases of West Nile virus were reported this week. Positive samples from twelve sentinel chickens have been reported in 2018.
- **No counties are currently under mosquito-borne illness advisory or alert.**



Orange County

- **No locally acquired** cases of Zika virus, West Nile virus, dengue virus, chikungunya virus, St. Louis encephalitis virus, or Eastern equine encephalitis virus have been identified in Orange County in 2018.
- Eleven cases of Zika fever have been reported in individuals with travel history to a country or area experiencing Zika virus activity.
- **We are no longer offering free Zika testing at DOH-Orange for insured pregnant women. Testing for Zika may be ordered through commercial labs. Please notify DOH-Orange of symptomatic patients with a history of travel. Please refer to the following letter regarding updates on Zika virus testing at BPHL.**

Arboviral Resources:

Weekly Florida Arboviral Activity Report (Released on Mondays)

Orange County Mosquito Control

Additional Resources:

Florida Department of Health Zika

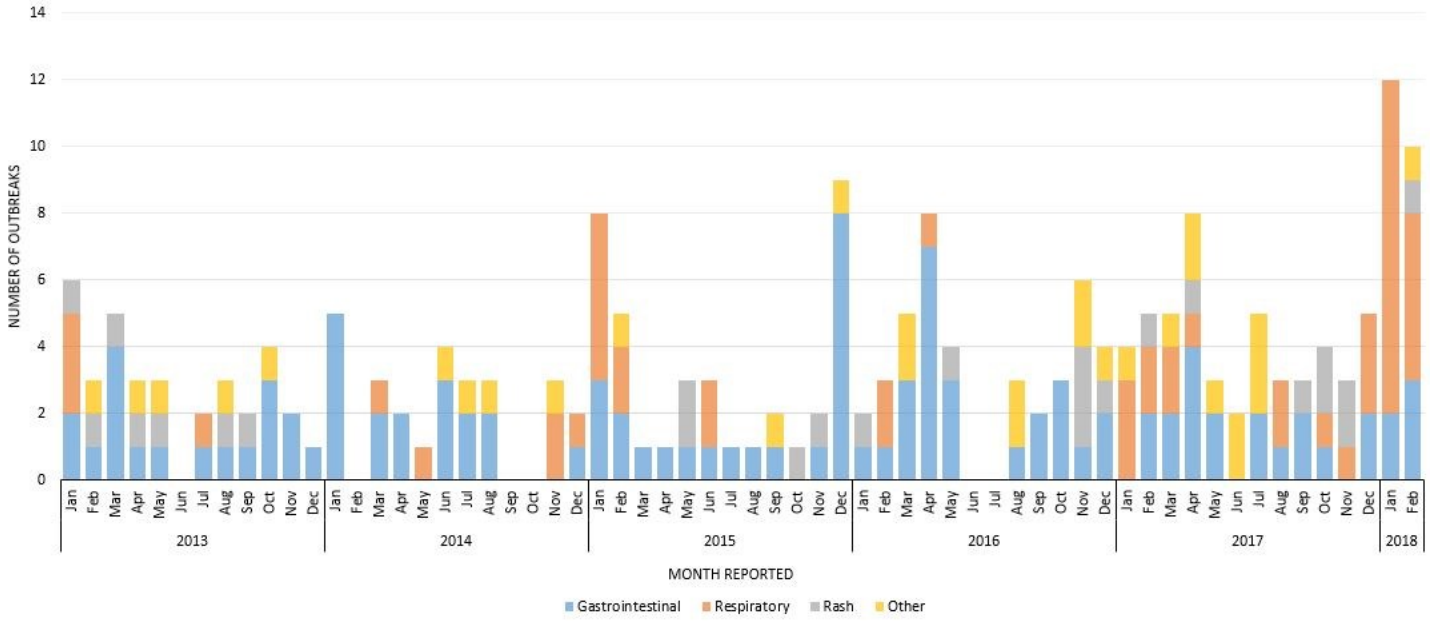
Florida Department of Health Mosquito-Borne and Other Insect-Borne Diseases Information

Florida Department of Health Mosquito-Borne Disease Education Materials

Outbreaks in Orange County

- In February 2018, the following outbreaks were investigated:
  - Four influenza A outbreaks, two in long-term care facilities, one in a memory care unit, and one in a daycare.
  - An influenza B outbreak in a rehab center.
  - A gastrointestinal illness outbreak associated with a conference at a resort.
  - A gastrointestinal illness outbreak associated with an office luncheon.
  - A salmonellosis outbreak associated with a restaurant.
  - A hand, foot, and mouth disease outbreak at a daycare.
  - A Legionellosis outbreak in a skilled nursing facility.

Number of Outbreaks Reported in Orange County, FL, by Month from 2013-2018



*** All Data are Preliminary ***

Reminder: Outbreaks of any disease, any case, cluster of cases, or exposure to an infectious or non-infectious disease, condition, or agent found in the general community or any defined setting (e.g., hospital, school, or other institution) not listed that is of urgent public health significance should be reported.

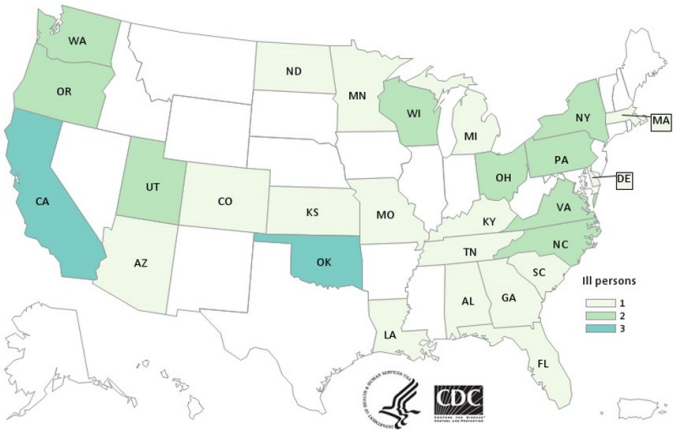
Disease	ORANGE				All Counties			
	February		Cumulative (YTD)		February		Cumulative (YTD)	
	2018	Median (2013 - 2017)	2018	Median (2013 - 2017)	2018	Median (2013 - 2017)	2018	Median (2013 - 2017)
Anaplasmosis - HGA (Anaplasma phagocytophilum)	0	0	0	0	0	0	1	1
Arsenic Poisoning	0	0	0	0	0	0	2	0
Brucellosis	0	0	0	0	1	0	2	1
Campylobacteriosis	10	10	25	25	276	259	635	538
Carbon Monoxide Poisoning	0	0	0	0	11	18	43	36
Chikungunya Fever	1	0	1	0	2	1	2	1
Ciguatera Fish Poisoning	0	0	0	0	9	2	12	5
Creutzfeldt-Jakob Disease (CJD)	0	0	0	0	2	3	3	3
Cryptosporidiosis	2	2	3	5	41	42	77	89
Dengue Fever	0	0	0	0	0	6	1	24
Ehrlichiosis - HME (Ehrlichia chaffeensis)	0	0	0	0	0	0	2	0
Escherichia coli: Shiga Toxin-Producing (STEC) Infection	2	2	9	4	61	41	137	70
Giardiasis: Acute	6	4	7	11	93	73	172	159
Haemophilus influenzae Invasive Disease	3	1	7	3	30	23	76	48
Hepatitis A	1	0	2	1	19	7	36	17
Hepatitis B: Acute	3	1	7	3	107	41	201	71
Hepatitis B: Chronic	38	33	71	63	416	387	791	739
Hepatitis B: Perinatal	0	0	0	0	1	0	1	0
Hepatitis B: Surface Antigen in Pregnant Women	4	5	7	9	34	38	74	79
Hepatitis C: Acute	5	0	7	1	46	12	108	35
Hepatitis C: Chronic	175	131	314	233	2256	2487	4547	4620
Hepatitis C: Perinatal	0	0	0	0	1	0	1	0
Hepatitis D	0	0	0	0	0	0	1	0
Hepatitis E	0	0	0	0	0	0	1	1
Herpes B Virus: Possible Exposure	0	0	0	0	0	0	1	1
Influenza-Associated Pediatric Mortality	0	0	0	0	1	0	5	2
Lead Poisoning	8	2	16	4	44	70	113	119
Legionellosis	1	2	3	4	56	23	109	52
Leptospirosis	0	0	0	0	0	0	2	0
Listeriosis	0	0	0	0	7	1	11	5
Lyme Disease	0	0	1	0	11	8	26	16
Malaria	0	0	0	1	4	3	9	9
Meningitis: Bacterial or Mycotic	0	0	0	0	13	8	25	21
Meningococcal Disease	0	0	0	0	5	4	8	8
Mercury Poisoning	0	0	0	0	1	2	6	4
Mumps	3	0	4	0	19	1	68	4
Pertussis	1	1	2	4	27	33	49	67
Pesticide-Related Illness and Injury: Acute	0	0	0	0	0	0	1	1
Q Fever: Acute (Coxiella burnetii)	0	0	0	0	1	0	1	0
Rabies: Possible Exposure	10	6	15	14	287	240	630	461
Ricin Toxin Poisoning	0	0	0	0	3	0	4	0
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis	0	0	0	0	0	0	2	1
Salmonellosis	16	9	42	32	264	251	626	602
Shigellosis	11	3	20	11	103	61	187	138
Strep pneumoniae Invasive Disease: Drug-Resistant	2	1	9	6	31	31	92	53
Strep pneumoniae Invasive Disease: Drug-Susceptible	3	3	5	7	56	46	119	93
Typhoid Fever (Salmonella Serotype Typhi)	0	0	0	0	6	0	13	2
Varicella (Chickenpox)	2	2	5	4	48	68	97	130
Vibriosis (Grimontia hollisae)	0	0	0	0	2	0	2	1
Vibriosis (Other Vibrio Species)	0	0	0	0	1	1	3	2
Vibriosis (Vibrio alginolyticus)	0	0	1	0	6	3	9	5
Vibriosis (Vibrio cholerae Type Non-O1)	0	0	0	0	3	0	3	1
Vibriosis (Vibrio fluvialis)	0	0	0	0	0	0	1	1
Vibriosis (Vibrio parahaemolyticus)	0	0	0	0	1	0	6	4
Vibriosis (Vibrio vulnificus)	0	0	0	0	0	1	0	2
Zika Virus Disease and Infection- Non-Congenital	5	0	7	0	30	0	54	0
Total	**312**	**218**	**590**	**445**	**4436**	**4295**	**9208**	**8352**

***** All Data are Preliminary *****

Multistate Salmonellosis Outbreak Linked to Kratom Products

Mitragyna speciosa (Kratom), a plant that grows naturally in Thailand, Malaysia, Indonesia, and Papua New Guinea, and used for its opioid properties and stimulant effects, has been linked to a multistate outbreak of salmonellosis caused by a rare *Salmonella* strain. As of February 28, 2017, the CDC reports 40 persons infected with the strain of *Salmonella* I 4, [5],12:b:-, from 27 states, one of which occurred in Florida (see figure). Illness onset dates ranged from October 10, 2017 to February 13, 2018.

People infected with the outbreak strain of *Salmonella* I 4,[5],12:b:-, by state of residence, as of February 28, 2018 (n=40)



Those at risk for severe illness include children younger than 5 years, adults older than 65 years, and people with weakened immune systems. A single brand or supplier of kratom associated with the outbreak has not been identified. To prevent illness, consumers should avoid kratom in any form.

Resources: CDC *Salmonella* Outbreak FDA Outbreaks

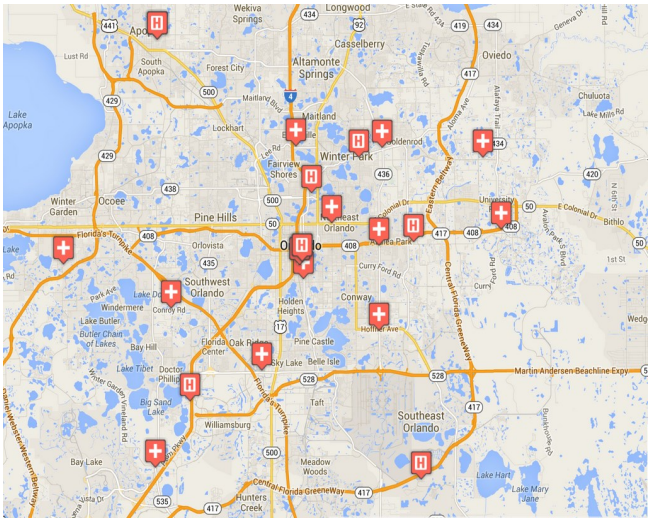
Other Disease Resources

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).

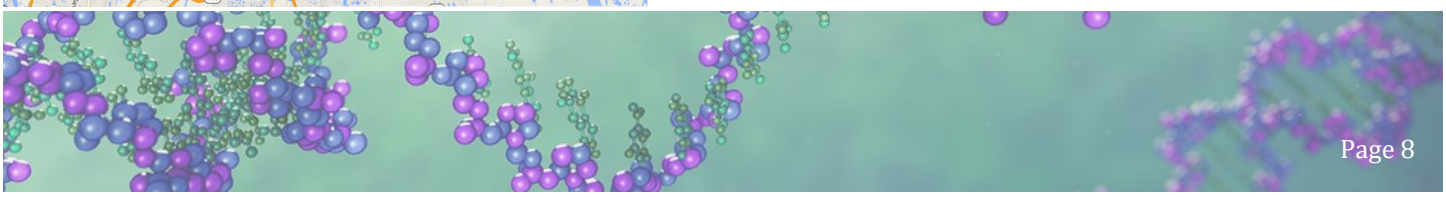
Florida Department of Health: ESSENCE

Hospital linked to ESSENCE

Florida Hospital Centra Care Clinic linked to ESSENCE



Since 2007, the Florida Department of Health has operated the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE-FL), 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 following 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 via 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, controls, and prevents infectious diseases and conditions that are reported to DOH-Orange.

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

Data are collected and analyzed to track disease trend, and identify outbreaks and unusual occurrences for response and mitigation, to identify targets for prevention and reduction efforts.

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 ensure 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 ARE PROVISIONAL