Epidemiology Monthly Surveillance Report

Florida Department of Health in Orange County

Why are we seeing a resurgence of measles?

In 2000, endemic measles was declared eliminated from the United States by means of a highly effective vaccination program and other control measures. From 2000 to 2016, global measles incidence and deaths decreased annually by 87% and 84% respectively and vaccination prevented an estimated 20.4 million deaths. However, despite immense achievements towards global measles reduction and elimination, measles vaccination coverage stagnated and measles outbreaks were reported in 2015, notably in several countries with low per capita incomes and weak health infrastructures. During the years 2016–and 2017, reported measles cases increased 31% globally.

With suboptimal measles vaccine coverage globally, measles remains present in many countries, including continued outbreaks in Europe, Asia, the Pacific, and Africa. Recently, endemic measles was reestablished in Venezuela in July 2018 due to sustained transmission for greater than 12 months. An increase in measles cases in the U.S. is noted amongst unvaccinated travelers with measles from abroad who continue to bring the disease into the U.S. Likewise, Americans who opt to not receive a vaccine due to religious, philosophical, and personal reasons and travel to countries where outbreaks are occurring, can directly contribute to the case increase.

In 2018, the Center for Disease Control and Prevention (CDC) documents 82 people who brought measles into the U.S. from other countries; 17 outbreaks, primarily in unvaccinated communities, and reported 372 individual cases of measles. Year-to-date in 2019, the CDC reports five outbreaks linked to travelers who brought measles back from other countries and 101 individual cases of measles occurring in 10 states. Florida has not reported any measles cases or outbreaks to the CDC in 2019.

To keep the progress towards global measles elimination, the World Health Assembly (WHA) has set milestones for measles control by 2020 to reach unvaccinated and under vaccinated children to prevent future outbreaks. The milestones include increasing routine coverage with the first dose of a measles-containing vaccine among children aged 1 year; reducing global annual measles incidence to less than 5 cases per million; and reduce global measles mortality by 95 percent.

Measles is transmitted via droplets from the nose, mouth or throat of infected persons. Initial symptoms, which usually appear 10–12 days after infection, include high fever, a runny nose, bloodshot eyes, and tiny white spots on the inside of the mouth. Several days later, a rash develops, starting on the face and upper neck and gradually spreading downwards. Period of communicability is about 4 days before to 4 days after rash onset. The virus can live for up to 2 hours in an airspace or on surfaces where the infected person coughed or sneezed.

*Measles elimination is defined as the absence of endemic measles virus transmission in a region or other defined geographic area for ≥12 months.

For vaccine information, please visit: CDC Measles Vaccination
Source: CDC MMWR Vol 67; WHO measles; CDC measles

January 2019

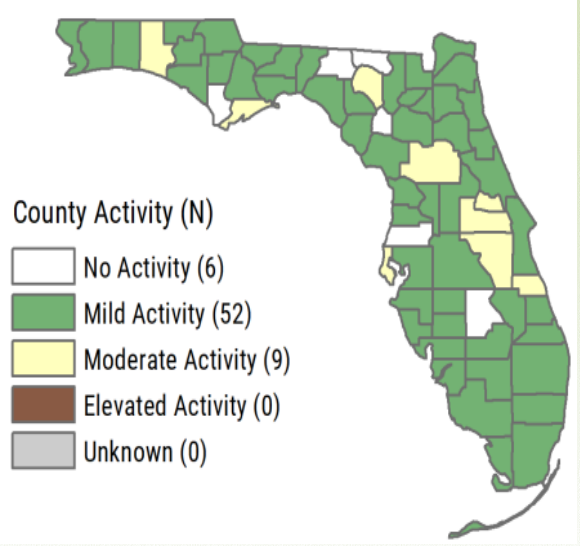
Contents:

Influenza Surveillance (data from Florida Flu Review)

Florida

- In week 4, influenza and ILI activity increased statewide but remained within levels observed at this time in the past season. It's possible that ILI activity has peaked for the season in Florida. Counties reported mild activity in week 4.
- No new influenza-associated pediatric deaths were reported in week 4. Two influenza-associated pediatric deaths have been confirmed since the start of the 2018-19 influenza season.
- People who have not yet been vaccinated for the 2018-19 season should do so as soon as possible. Influenza vaccines are safe and are the best protection from influenza and its potentially severe complications.

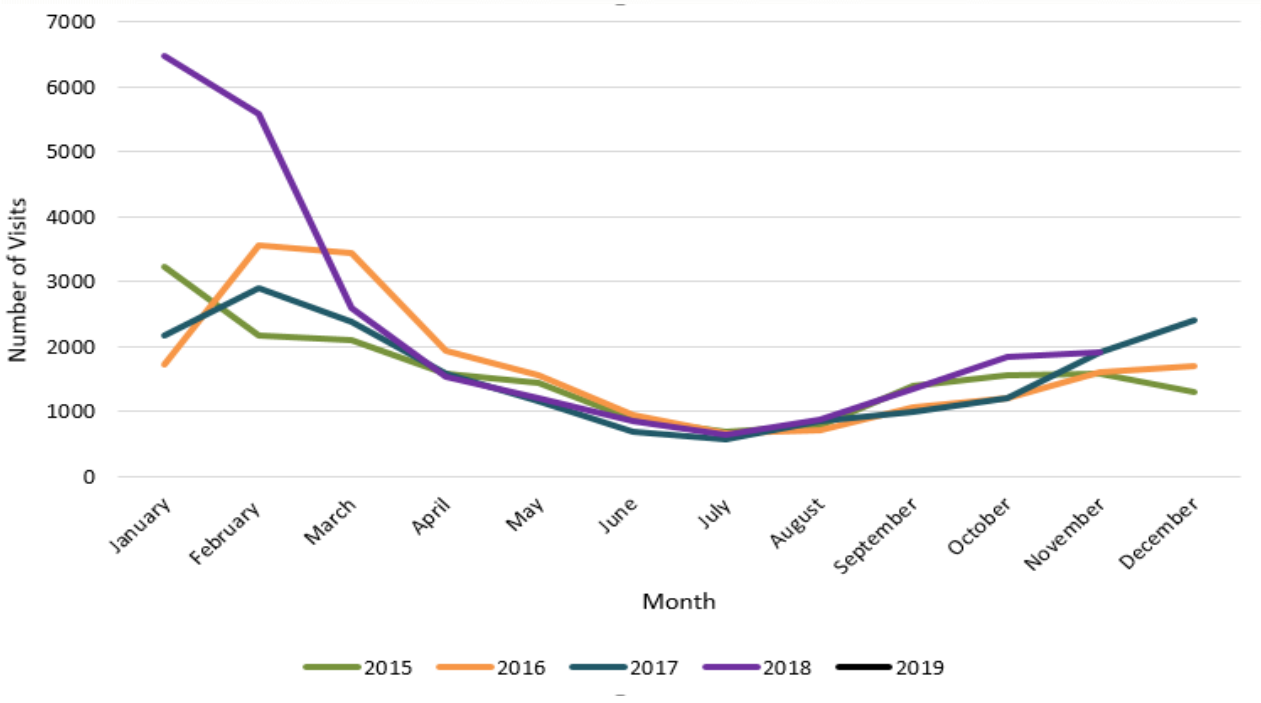
Influenza activity by County, Week 4



Orange County

- Three influenza outbreaks and one influenza-like illness outbreak was reported in Orange County for week 4.
- There was moderate influenza activity for week 4 in Orange County.

Influenza-like Illness from Emergency Department Visits in Orange County, 2013 to 2019

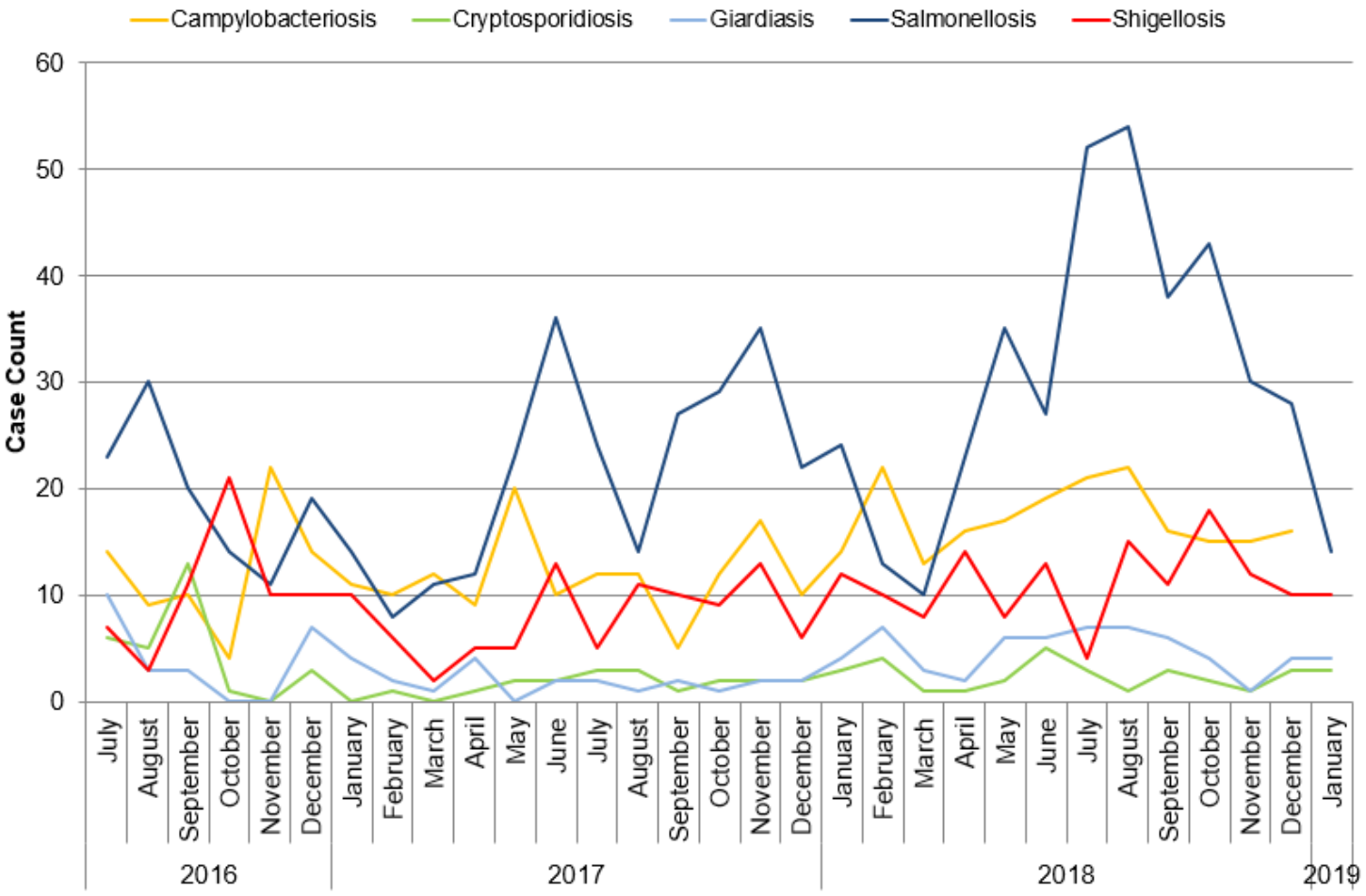


Influenza Resources:

Florida Department of Health Influenza | CDC: Influenza (Health Professionals) | CDC: Weekly US Influenza Surveillance Report | Center for Disease Control and Prevention Weekly Influenza Activity Report

Gastrointestinal Illness Surveillance

Select Reportable Enteric Diseases in Orange County, Florida, July 2016 to January 2019



Gastrointestinal Illness Points of Interest:

- Enteric reportable disease cases were normal for the month of January.
- In January, 29 foodborne illness complaints were investigated by DOH 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

Florida Department of Health - Norovirus Resources

CDC: Healthy Water

Florida Food Recall Searchable Database

CDC: A-Z Index for Foodborne Illness

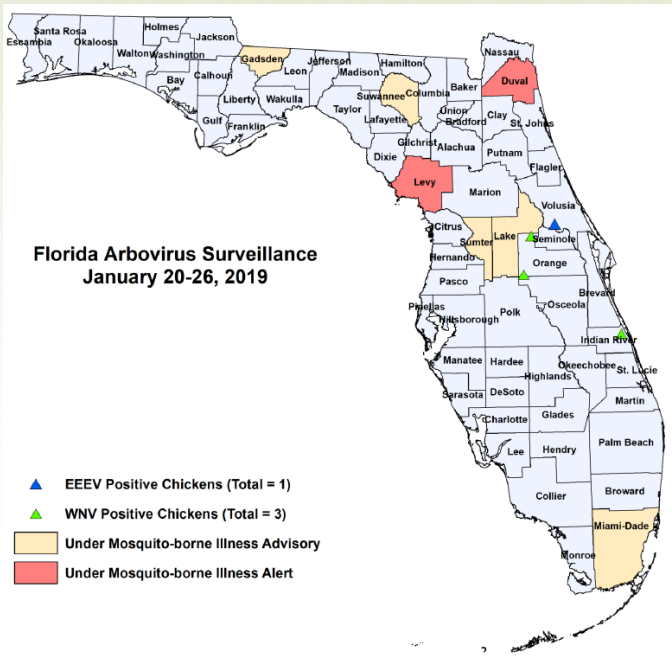
Arboviral Surveillance

International

- There is a Level 2 (Alert) Travel Health Notice from the CDC for multiple countries in Africa, the Caribbean, Central and South America, India, Southeast Asia, and Pacific Islands related to Zika virus transmission and an association with poor pregnancy outcomes. Pregnant women should consider postponing travel to these areas.
- There is a Level 1 (Watch) Travel Health Notice in Senegal related to dengue virus transmission. There is also a Level 2 Travel Health Notice for Brazil and a Level 1 Travel Health Notice in Nigeria related to the transmission of yellow fever virus.

Florida

- One case of **dengue fever** with onset in 2019 has been reported in an individual with international travel.
- One case of **chikungunya** has been reported with onset in 2019 in persons that had international travel.
- One human case of **West Nile virus** (WNV) infection was reported this week in Duval County. In 2019, four sentinel chickens have been reported from three counties: Indian River, Orange, and Citrus counties.
- No human cases of **Eastern equine encephalitis virus** (EEEV), infection were reported. In 2019, one sentinel chicken has been reported from one county- Volusia County.
- Gadsden, Lake, Miami-Dade, Sumter, Suwannee counties are currently under a **mosquito-borne illness advisory**. Duval and Levy counties are currently under a **mosquito-borne illness alert.** No other 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 2019.
- Zero cases of **Zika fever** have been reported in 2019.
- **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

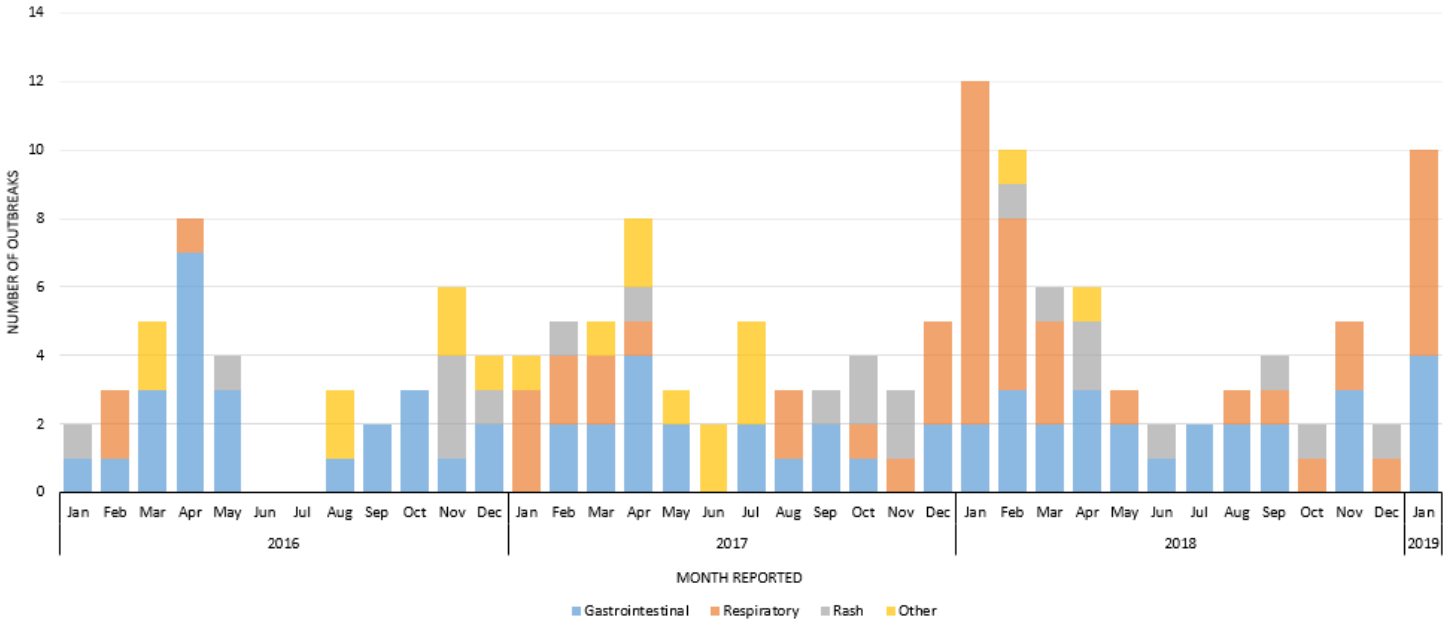
Florida Department of Health Mosquito-Borne and Other Insect-Borne Diseases Information

Florida Department of Health Mosquito-Borne Disease Education Materials

Outbreaks in Orange County

- In January 2019, the following outbreaks were investigated:
  - Three gastrointestinal outbreaks in long term care facilities
  - Three respiratory outbreaks in long term care facilities
  - Two respiratory outbreaks in hotel settings
  - One gastrointestinal outbreak in a restaurant
  - One respiratory outbreak in a daycare

Number of Outbreaks Reported in Orange County, FL, by Month from 2016-2019



*** All Data In This Surveillance Report 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 here of urgent public health significance should be reported.

For more information on reporting, please follow this link.: Reportable Disease Form

Disease	Orange				All Counties			
	January		Cumulative (YTD)		January		Cumulative (YTD)	
	2019	Median (2014 - 2018)	2019	Median (2014 - 2018)	2019	Median (2014 - 2018)	2019	Median (2014 - 2018)
Anaplasmosis - HGA (Anaplasma phagocytophilum)	0	0	0	0	0	1	0	1
Arsenic Poisoning	0	0	0	0	1	0	1	0
Campylobacteriosis	24	15	24	15	426	285	426	285
Carbon Monoxide Poisoning	0	0	0	0	30	21	30	21
Chikungunya Fever	0	0	0	0	1	1	1	1
Ciguatera Fish Poisoning	0	0	0	0	12	3	12	3
Creutzfeldt-Jakob Disease (CJD)	0	0	0	0	0	1	0	1
Cryptosporidiosis	5	1	5	1	60	40	60	40
Cyclosporiasis	1	0	1	0	1	0	1	0
Dengue Fever	0	0	0	0	16	5	16	5
Escherichia coli: Shiga Toxin-Producing (STEC) Infection	6	2	6	2	59	47	59	47
Flavivirus Disease and Infection	0	0	0	0	1	0	1	0
Giardiasis: Acute	5	4	5	4	91	81	91	81
Haemophilus influenzae Invasive Disease	1	2	1	2	33	25	33	25
Hansen's Disease (Leprosy)	0	0	0	0	1	1	1	1
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	1	1	1	1
Hepatitis A	29	1	29	1	214	13	214	13
Hepatitis B: Acute	0	1	0	1	56	53	56	53
Hepatitis B: Chronic	27	28	27	28	379	355	379	355
Hepatitis B: Surface Antigen in Pregnant Women	1	3	1	3	24	39	24	39
Hepatitis C: Acute	0	1	0	1	9	28	9	28
Hepatitis C: Chronic	121	97	121	97	1778	1932	1778	1932
Hepatitis C: Perinatal	0	0	0	0	5	0	5	0
Hepatitis E	0	0	0	0	1	0	1	0
Influenza A: Novel or Pandemic Strains	0	0	0	0	0	0	0	0
Influenza-Associated Pediatric Mortality	0	0	0	0	1	1	1	1
Lead Poisoning	4	1	4	1	132	47	132	47
Legionellosis	4	2	4	2	86	29	86	29
Leptospirosis	1	0	1	0	2	0	2	0
Listeriosis	0	0	0	0	2	5	2	5
Lyme Disease	0	0	0	0	10	10	10	10
Malaria	0	1	0	1	4	5	4	5
Meningitis: Bacterial or Mycotic	0	0	0	0	3	11	3	11
Meningococcal Disease	0	0	0	0	1	4	1	4
Mercury Poisoning	0	0	0	0	1	2	1	2
Mumps	1	0	1	0	10	3	10	3
Pertussis	1	2	1	2	34	24	34	24
Pesticide-Related Illness and Injury: Acute	1	0	1	0	1	1	1	1
Q Fever: Chronic (Coxiella burnetii)	0	0	0	0	1	0	1	0
Rabies: Possible Exposure	13	6	13	6	369	232	369	232
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis	0	0	0	0	2	1	2	1
Salmonellosis	14	24	14	24	383	360	383	360
Scombroid Poisoning	0	0	0	0	4	0	4	0
Shigellosis	14	8	14	8	144	78	144	78
Strep pneumoniae Invasive Disease: Drug-Resistant	5	3	5	3	28	25	28	25
Strep pneumoniae Invasive Disease: Drug-Susceptible	3	2	3	2	43	47	43	47
Tetanus	0	0	0	0	1	1	1	1
Typhoid Fever (Salmonella Serotype Typhi)	1	0	1	0	8	2	8	2
Varicella (Chickenpox)	6	2	6	2	96	63	96	63
Vibriosis (Other Vibrio Species)	0	0	0	0	11	2	11	2
Vibriosis (Vibrio alginolyticus)	0	0	0	0	0	3	0	3
Vibriosis (Vibrio cholerae Type Non-O1)	0	0	0	0	2	1	2	1
Vibriosis (Vibrio fluvialis)	0	0	0	0	0	1	0	1
Vibriosis (Vibrio parahaemolyticus)	0	0	0	0	3	4	3	4
Vibriosis (Vibrio vulnificus)	0	0	0	0	1	0	1	0
West Nile Virus Neuroinvasive Disease	0	0	0	0	1	0	1	0
Zika Virus Disease and Infection- Non-Congenital	1	0	1	0	15	14	15	14
Total	289	206	289	206	4598	3908	4598	3908

Death by Spaghetti

An article that was posted in the Journal of Clinical Microbiology in 2011, has been recently brought to light by social media outlets regarding a food poisoning death associated with *Bacillus cereus*. This organism can cause two types of food poisoning, diarrheal and emetic, with the emetic type being caused by a heat-stable cereulide toxin. Four fatal cases attributed to cereulide had been reported, per Naranjo, et.al.

One notable case studied was a 20-year-old male from Brussels, Belgium in 2008. The young man ingested pasta contaminated with *Bacillus cereus*. Per the case report, the young man became ill after consuming microwaved leftovers of spaghetti with tomato sauce that had been prepared 5 days before consumption and left in the kitchen at room temperature. He presented with symptoms of headache, abdominal pain, nausea, and profuse vomiting. The next morning his parents went to his room and found him dead.

Five fecal swabs and two feces specimens were taken postmortem where two of the five swabs identified *Bacillus cereus*. The pasta and tomato samples were sent for analysis and significant counts (9.5 × 107 CFU/g) of *Bacillus cereus* were found in the pasta. Clinical data and the rapid onset of symptoms, together with microbiological and molecular study, point to *Bacillus cereus* as the most likely cause for this fatal outcome.

This case shows the severity of the syndromes and the importance of adequate refrigeration of prepared food. Because the toxin is not inactivated by heat treatment, it is important to prevent *Bacillus cereus* growth and its cereulide production during storage. In this case, the spaghetti had been kept at room temperature for several days: this allowed *Bacillus cereus* and toxin to proliferate to very high concentrations in the pasta.

Source: Journal of Clinical Microbiology Case Report

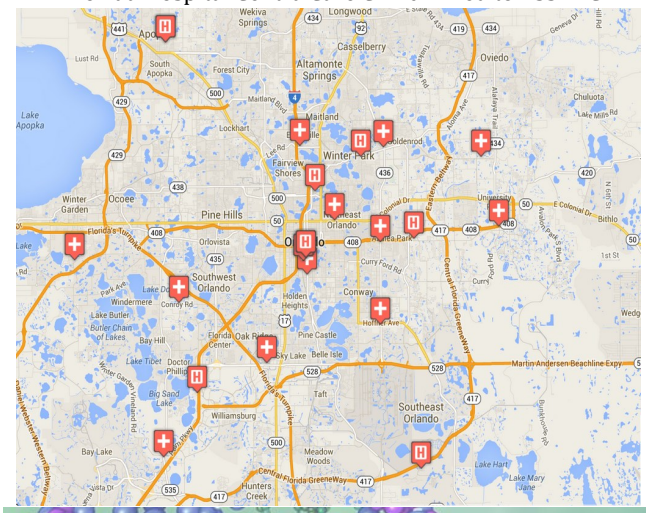
Other Disease Resources

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 a link for surveillance information on these diseases in Florida and Area 7 HIV & AIDS Program.

Resource: http://orange.floridahealth.gov/programs-and-services/index.html

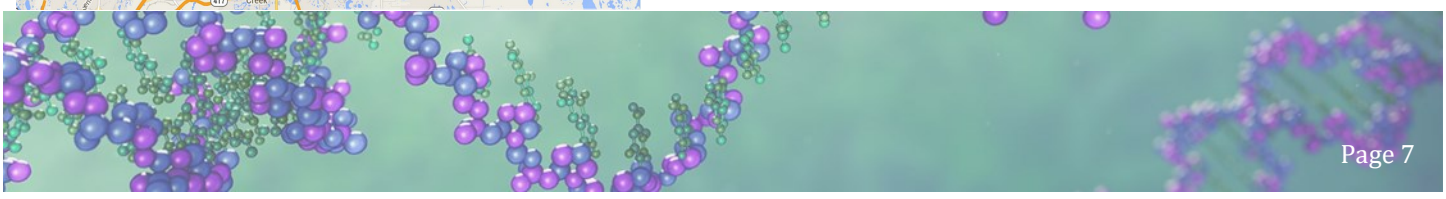
Hospital linked to ESSENCE

Florida Hospital Centra Care Clinic linked to ESSENCE



Florida Department of Health: 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.



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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 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 ARE PROVISIONAL