Epidemiology Monthly Surveillance Report

Florida Department of Health in Orange County

August 2019

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The Epidemiology Program conducts surveillance and investigates, controls, and prevents occurrences of acute infectious diseases and outbreaks that are reported to the program.

Surveillance is conducted primarily through required reporting from health care providers, facilities, and clinical labs, and other required reporters as required by Chapter 381, Florida Statutes.

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

The Epidemiology Program conducts syndromic and influenza-like-illness surveillance activities through voluntary reporting from emergency departments and urgent care centers across Orange County. Syndromic surveillance is a method of determining activities in the community that could be early indicators of outbreaks and bioterrorism.

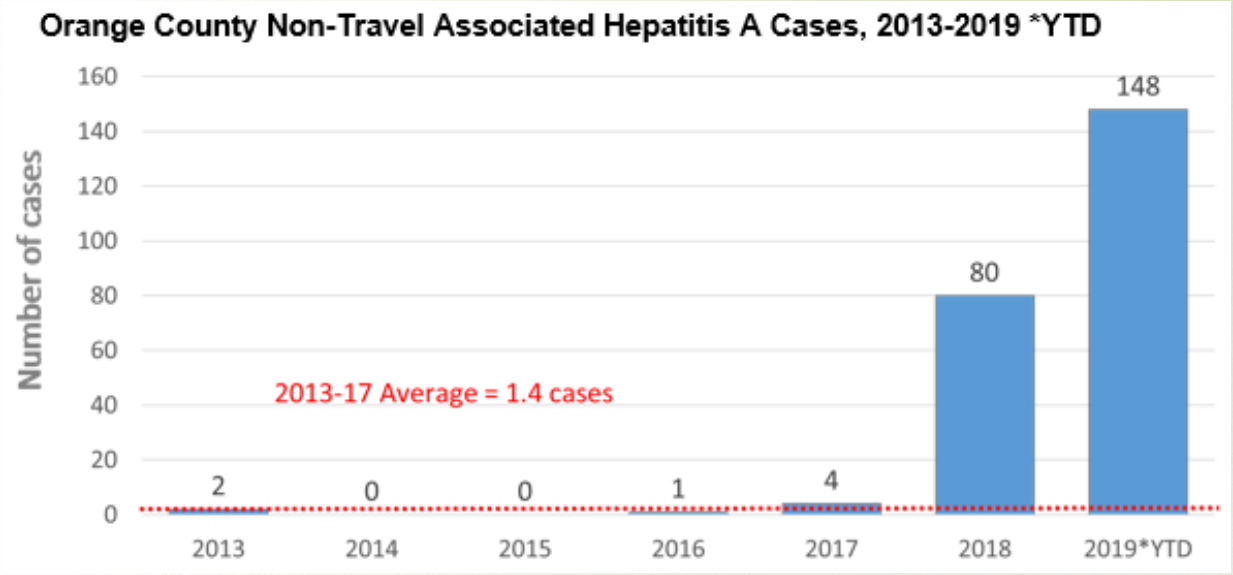
Health Advisories, News, & Alerts:

- **Florida Surgeon General Scott A. Rivkees Issues Public Health Emergency in Response to Hepatitis A Outbreak. Click here for Health Care Provider Information**
- **CDC Health Advisory: Severe Pulmonary Disease Associated with Using E-Cigarette Products (including recommendations for clinicians- MMWR appended)**
- Antibiotic Prescribing and Use in the U.S.
- Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities
- Ebola Outbreak in Eastern Democratic Republic of Congo

CDC Travel Notices: Travel notices are designed to inform travelers and clinicians about current health issues related to specific international destinations

- Ebola in Democratic Republic of the Congo (UPDATE)
- Dengue in the Americas
- Polio in Central African Republic

Orange County Hepatitis A Update



Deaths: **3 (n=227)**
Hospitalized: 83% (n=226)
Age range: 2-81 years
Median = 37 years
Sex: 68% male (n=228)
Non-Hispanic: 86% (n=228)
White: 76% (n=228)
Secondary cases (contact of previously known case) = 23

Risk factors (where data are known):
MSM = 21% (n=195)
DU (IV and non-IV) = 58% (n=209)
Homeless = 31% (n=195)
Hep B/C co-infected = 39% (n=219)
Incarcerated =18% (n=132)
Healthcare workers: n=5
Childcare/school age children: n=2
Food service workers/facilities: n=8

Florida Hepatitis A Update

Florida Department of Health Hepatitis A Surveillance Report

2018-To-Date Key Points

- 2,961 cases
- 22% cases linked to other cases
- 30-39 year olds had highest incidence
- 24% co-infected with hepatitis B or C

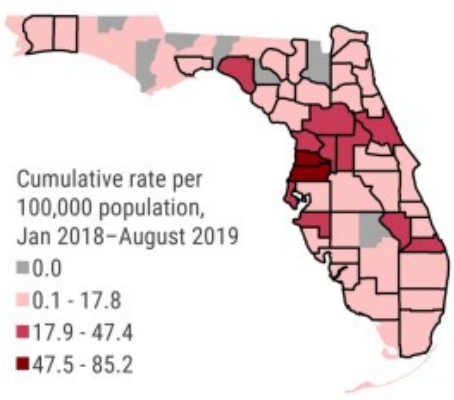
Top 5 Impacted Counties in Florida

CONFIRMED, PROBABLE, SUSPECT CASES OF HEPATITIS A WITH REPORT DATE 1/1/2018 to 9/4/2019

County	2018	2019 *YTD	TOTAL
Pinellas	113	**350**	463
Pasco	66	**384**	450
Orange	93	**157**	250
Volusia	5	**218**	223
Hillsborough	84	**131**	215
TOTAL	361	**1240**	1601

Source: Florida Merlin

318 Hepatitis A Cases in August were reported in 41 counties, outlined in black



Source: Hepatitis A Surveillance Report

****ALL DATA ARE PRELIMINARY****

Influenza Surveillance

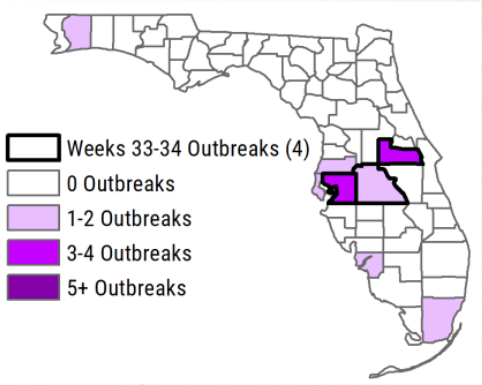
(MMWR Weeks 33-34: August 11– August 24, 2019)

Summer Season 2019

Statewide Activity

Geographic Spread:	Predominant Strain[2]:	ILI Activity Trend:
Sporadic	**Influenza A**	**Increasing**

Respiratory Outbreaks by County, Week 33-34



Source: DOH Flu Review

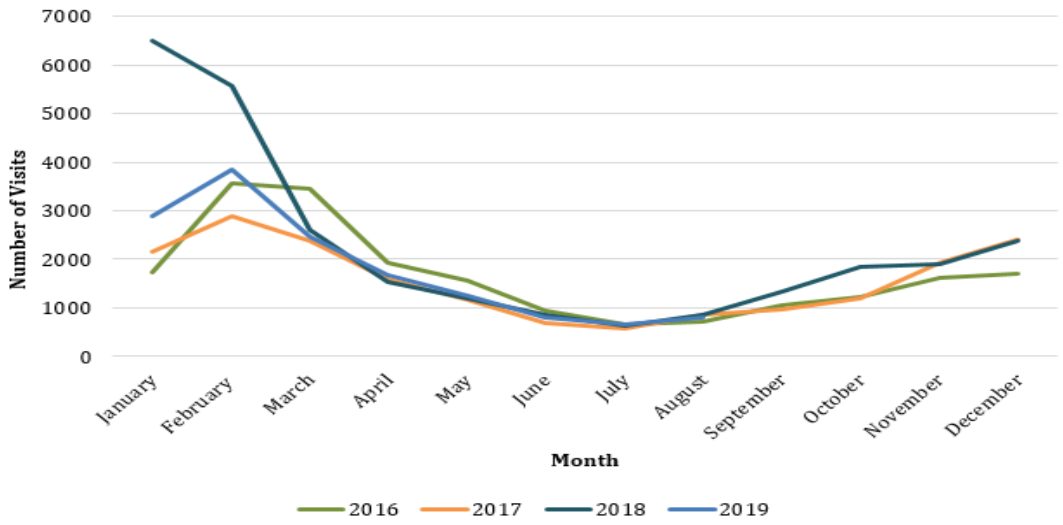
- In weeks 33-34, influenza and ILI activity remained low in Florida. Levels were similar to those observed at this time in past years.
- Four new respiratory disease outbreaks were reported in week 33-34.
- No new influenza-associated pediatric deaths were reported in week 33-34. Six influenza-associated pediatric deaths have been reported since the beginning of the 2018-19 season.

The 2018-2019 influenza season has come to a close. Florida Department of Health will distribute an abbreviated flu report on a biweekly basis.

Orange County Activity

Two influenza or influenza-like illness outbreak were reported in Orange County for the month of August.

ILI Emergency Department Visits in Orange County, 2016 to 2019



Source: ESSENCE

Flu Level: **Mild**

Flu Trend: **Stable**

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

Arboviral Surveillance

(MMWR Week 34: August 18-24, 2019)

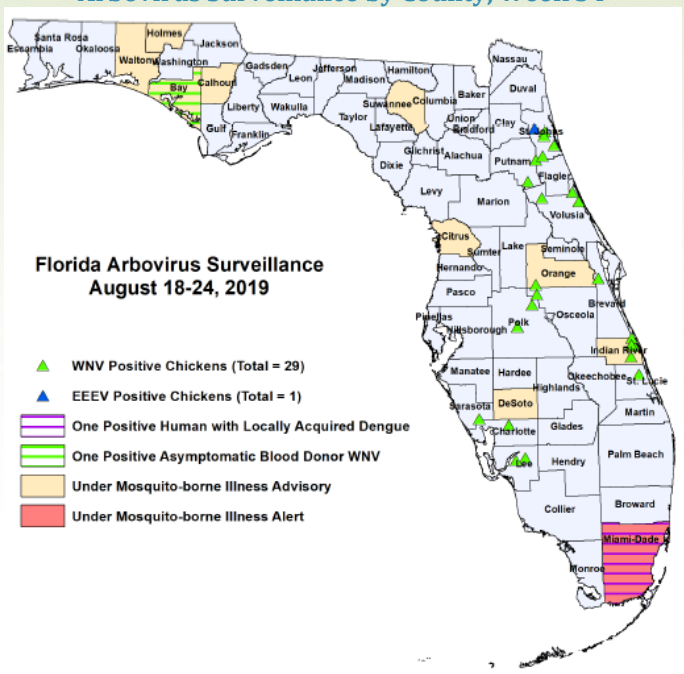
International

- There are Level 2 Travel Health Notices for Brazil and Nigeria related to the transmission of yellow fever virus. Additional information on travel health notices can be found here.

Florida

- Twenty-five cases of **dengue fever** were reported in persons with international travel and one case of locally acquired dengue in week 34. In 2019, three locally acquired cases and 132 travel-associated cases and have been reported.
- No cases of **chikungunya fever** were reported in week 34 in persons with international travel. In 2019, five travel-associated cases and no locally acquired cases have been reported.
- One asymptomatic blood donor was identified as **West Nile virus** (WNV) positive in Bay County in week 34. In 2019, positive samples from one blood donor, one horse, one eagle, and 129 sentinel chickens have been reported from 20 counties.
- No human cases of **Eastern equine encephalitis virus** (EEEV) infection were reported in week 34. In 2019, positive samples from 25 horses, one emu, one eagle, and 96 sentinel chickens have been reported from 29 counties.
- No cases of **Zika fever** were reported in week 34 in persons who had international travel. In 2019, 31 travel-associated cases and no locally acquired cases have been reported.
- Bay, Calhoun, Citrus, DeSoto, Holmes, Indian River, Orange, Suwannee, and Walton counties are currently under a **mosquito-borne illness advisory**. Miami-Dade County is currently under a **mosquito-borne illness alert**.

Arbovirus Surveillance by County, Week 34



Source: DOH Arboviral Report

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.
- No new cases of **Zika fever** were reported in July 2019. As of week 34, there have been four cases in persons with international travel.
- **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.**

Arboviral Resources:

Weekly Florida Arboviral Activity Report (Released on Mondays)

Orange County Mosquito Control

Additional Resources:

Florida Department of Health Zika

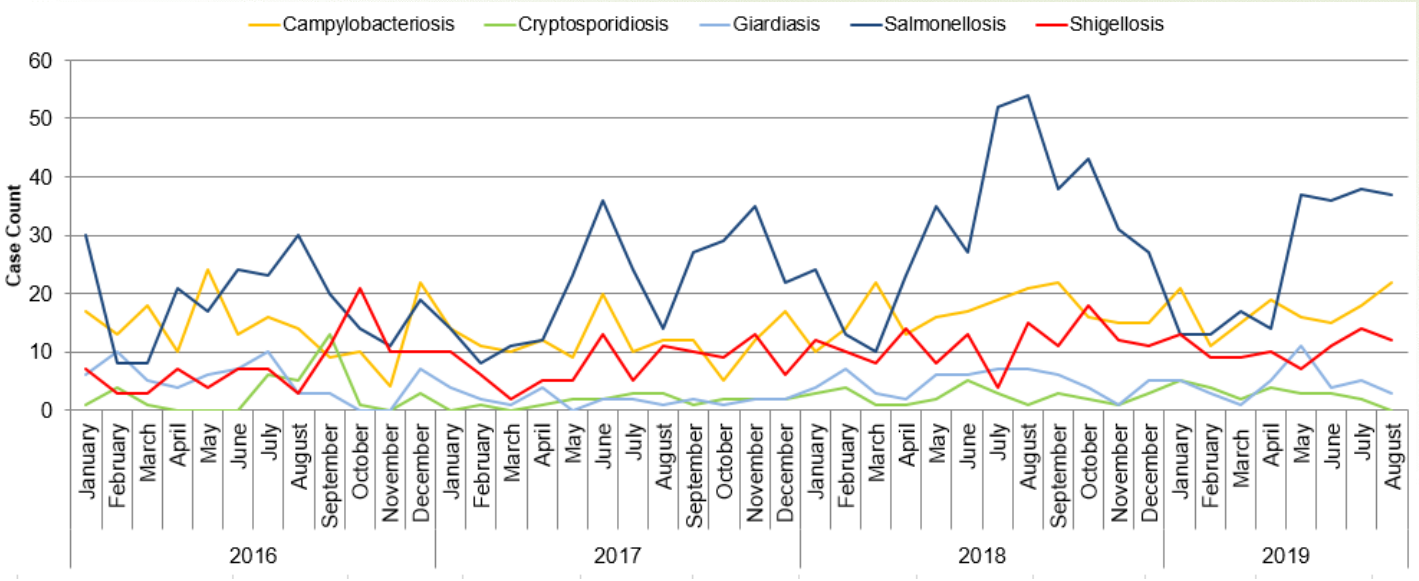
Florida Department of Health Mosquito-Borne and Other Insect-Borne Diseases Information

Florida Department of Health Mosquito-Borne Disease Education Materials

Gastrointestinal Illness Surveillance

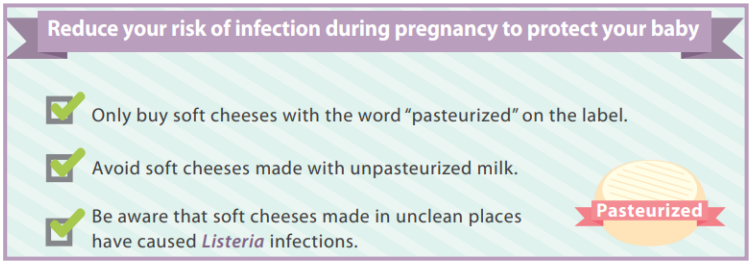
- The total count for enteric reportable disease cases were slightly lower compared to July, but was within normal seasonal trend.
- In August, 12 foodborne illness complaints were investigated by DOH-Orange from various sources such as direct reporting, online reporting, social media, Department of Health, and crowd -sourced web-based reporting.

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



Source: ESSENCE

Check the cheese, avoid *Listeria*



Source: CDC Food Safety

Gastrointestinal Illness Resources:

Florida Online Foodborne Illness Complaint Form - Public Use

CDC: Healthy Water

CDC: A-Z Index for Foodborne Illness

Florida Food and Waterborne Disease Program

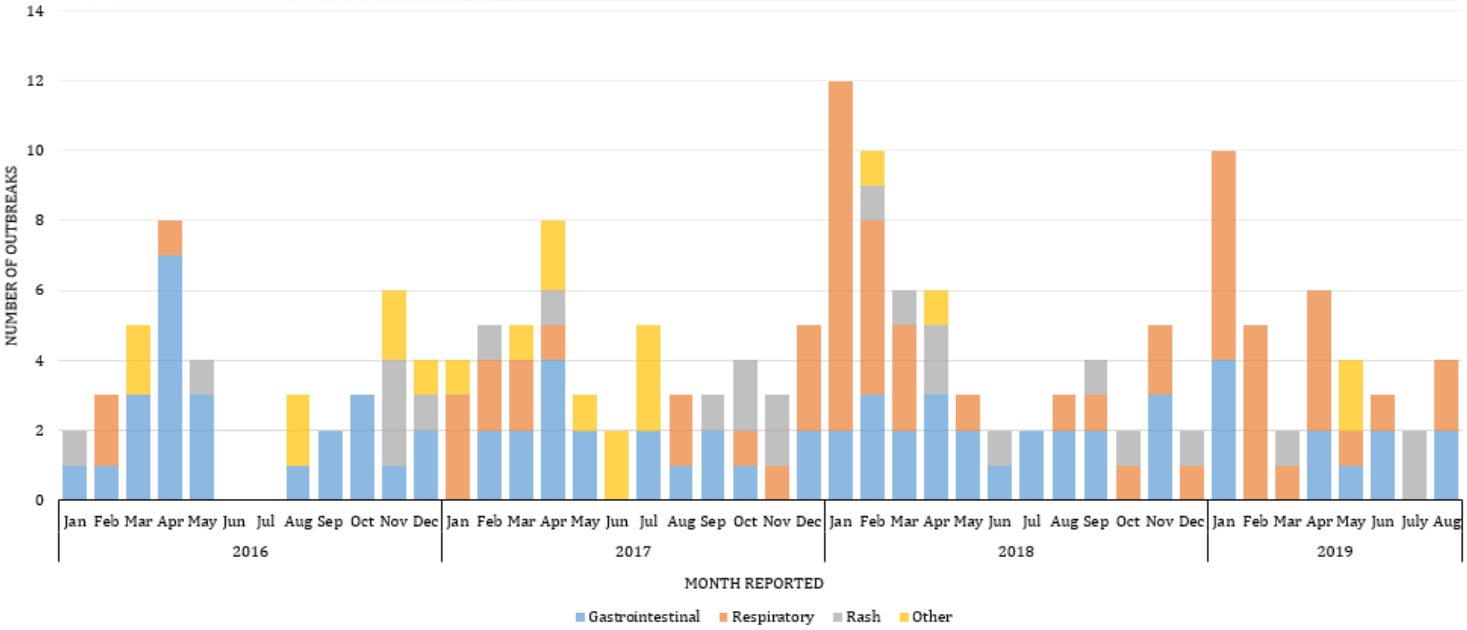
Florida Department of Health - Norovirus Resources

Outbreaks in Orange County

In August 2019, the following outbreaks were investigated:

- One respiratory illness outbreak in an office
- One respiratory illness outbreak in a school
- One gastrointestinal illness outbreak in a restaurant
- One gastrointestinal illness outbreak in a correctional facility

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



Source: DOH-Orange Epidemiology Program

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 of urgent public health significance should be reported.

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

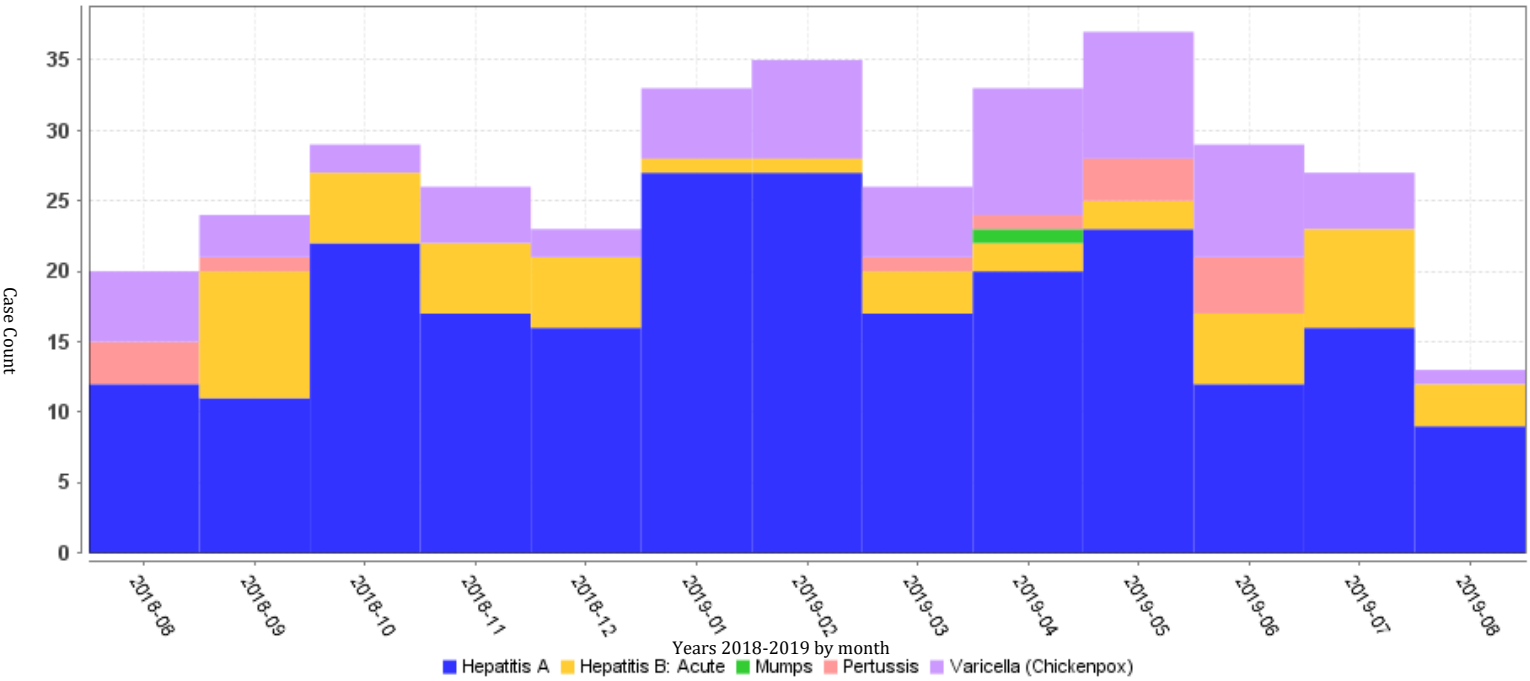
Food Recalls

Brand Name	Food/Food Product	Date of Recall	Health Risk	
Balquis	Spice	29-Aug-2019	Excessive levels of lead	Details
The Milk Lady's, Peaceful Baby, and Diges-Tea	Tea	29-Aug-19	*Salmonella*	Details
AWERS	Grained Salmon Caviar	21-Aug-19	*Clostridium botulinum*	Details
Chef Toby	Pig Ears	16-Aug-19	*Salmonella*	Details
Texas Tripe	Raw Frozen Pet Food	15-Aug-19	*Salmonella and Listeria monocytogenes*	Details
Dole	Baby Spinach	9-Aug-19	*Salmonella*	Details

Source: U.S. Food & Drug Administration

Vaccine Preventable Disease Surveillance

Orange County top 5 vaccine preventable disease cases by illness to include confirmed, probable and suspect cases, counted monthly, August 2018-2019



Source: ESSENCE

Resources:

U.S. Food and Drug Administration Recalls

Florida Department of Health- Vaccine Preventable Diseases

Disease	Orange:	Orange: January-August		All Counties:	All Counties: January-August	
	2019	2019	2018	2019	2019	2018
Amebic Infections (Acanthamoeba)	0	0	0	0	0	1
Amebic Infections (Balamuthia mandrillaris)	0	0	0	0	0	3
Anaplasmosis - HGA (Anaplasma phagocytophilum)	0	1	1	3	14	16
Arsenic Poisoning	0	0	0	1	9	11
Botulism: Foodborne	0	0	0	0	1	0
Botulism: Infant	0	0	0	0	0	1
Brucellosis	0	0	0	1	5	11
California Serogroup Virus Neuroinvasive Disease	0	0	0	0	0	3
Campylobacteriosis	22	149	146	344	3299	3426
Carbon Monoxide Poisoning	1	24	5	18	160	146
Chikungunya Fever	0	1	1	1	8	2
Ciguatera Fish Poisoning	0	1	3	11	60	54
Creutzfeldt-Jakob Disease (CJD)	0	0	0	2	12	17
Cryptosporidiosis	2	24	19	68	446	401
Cyclosporiasis	6	13	8	117	534	77
Dengue Fever	1	9	1	65	181	20
Dengue Fever: Severe	0	0	0	3	4	2
Eastern Equine Encephalitis Neuroinvasive Disease	0	0	0	0	0	3
Ehrlichiosis - HME (Ehrlichia chaffeensis)	0	0	1	1	27	33
Ehrlichiosis/Anaplasmosis: Undetermined	0	0	0	0	0	1
Escherichia coli: Shiga Toxin-Producing (STEC) Infection	10	64	44	89	606	653
Flavivirus Disease and Infection	0	0	0	2	4	2
Giardiasis: Acute	3	37	41	109	768	768
Haemophilus influenzae Invasive Disease	1	11	17	20	285	237
Hansen's Disease (Leprosy)	0	0	0	0	16	14
Hemolytic Uremic Syndrome (HUS)	0	0	0	0	2	9
Hepatitis A	12	162	33	308	2486	208
Hepatitis B: Acute	5	25	16	86	647	539
Hepatitis B: Chronic	38	243	297	450	3384	3228
Hepatitis B: Perinatal	0	0	0	0	1	1
Hepatitis B: Surface Antigen in Pregnant Women	6	44	23	36	270	280
Hepatitis C: Acute	7	25	19	98	714	402
Hepatitis C: Chronic	125	1088	1141	1878	14044	14809
Hepatitis C: Perinatal	0	0	1	0	21	34
Hepatitis D	0	0	0	0	2	3
Hepatitis E	0	0	0	1	4	2
Herpes B Virus: Possible Exposure	0	0	0	1	9	12
Influenza-Associated Pediatric Mortality	0	0	0	0	4	7
Lead Poisoning	7	62	97	214	1387	3138
Legionellosis	3	31	33	74	519	442
Leptospirosis	2	3	0	3	6	6
Listeriosis	0	1	2	1	23	39
Lyme Disease	4	6	3	40	119	133
Malaria	2	6	3	13	53	46
Measles (Rubeola)	0	1	0	1	4	14
Meningitis: Bacterial or Mycotic	0	0	3	11	68	72
Meningococcal Disease	0	1	2	0	16	17
Mercury Poisoning	0	0	0	0	12	36
Mumps	0	1	9	13	172	136
Neurotoxic Shellfish Poisoning	0	0	0	0	0	1
Paratyphoid Fever (Salmonella Serotypes Paratyphi A B C)	0	3	0	0	16	1
Pertussis	0	10	8	44	285	228
Pesticide-Related Illness and Injury: Acute	0	1	3	3	22	36
Q Fever: Acute (Coxiella burnetii)	0	2	0	0	3	1
Q Fever: Chronic (Coxiella burnetii)	0	0	0	1	1	0
Rabies: Possible Exposure	6	79	53	295	2946	2893
Ricin Toxin Poisoning	0	0	0	1	2	4
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis	0	1	0	5	25	19
Salmonellosis	42	226	244	895	4575	4337
Saxitoxin Poisoning (Paralytic Shellfish Poisoning)	0	0	0	0	0	3
Scombroid Poisoning	0	1	0	2	46	13
Shigellosis	16	96	84	139	1062	1048
St. Louis Encephalitis Non-Neuroinvasive Disease	0	0	0	2	2	0
Staphylococcus aureus Infection: Intermediate Resistance to Vancomycin (VISA)	0	0	0	0	0	2
Strep pneumoniae Invasive Disease: Drug-Resistant	1	16	16	25	234	193
Strep pneumoniae Invasive Disease: Drug-Susceptible	1	23	16	23	371	294
Tetanus	0	0	0	1	4	0
Tularemia (Francisella tularensis)	0	0	0	0	0	3
Typhoid Fever (Salmonella Serotype Typhi)	1	9	11	16	123	109
Varicella (Chickenpox)	2	61	33	63	713	570
Vibriosis (Grimontia hollisae)	0	0	0	0	2	5
Vibriosis (Other Vibrio Species)	1	1	1	11	67	37
Vibriosis (Vibrio alginolyticus)	1	2	3	10	58	57
Vibriosis (Vibrio cholerae Type Non-O1)	0	1	0	2	12	3
Vibriosis (Vibrio fluvialis)	0	0	0	2	8	10
Vibriosis (Vibrio mimicus)	0	0	0	0	3	0
Vibriosis (Vibrio parahaemolyticus)	0	2	1	9	37	41
Vibriosis (Vibrio vulnificus)	0	0	0	4	19	31
West Nile Virus Neuroinvasive Disease	0	0	0	1	2	7
West Nile Virus Non-Neuroinvasive Disease	0	0	0	2	2	4
Zika Virus Disease and Infection- Congenital	0	0	1	0	1	3
Zika Virus Disease and Infection- Non-Congenital	0	3	40	11	67	166
Total	328	2570	2483	5650	41114	39634

Source: ESSENCE

****ALL DATA ARE PRELIMINARY****

Florida Department of Health in Orange County

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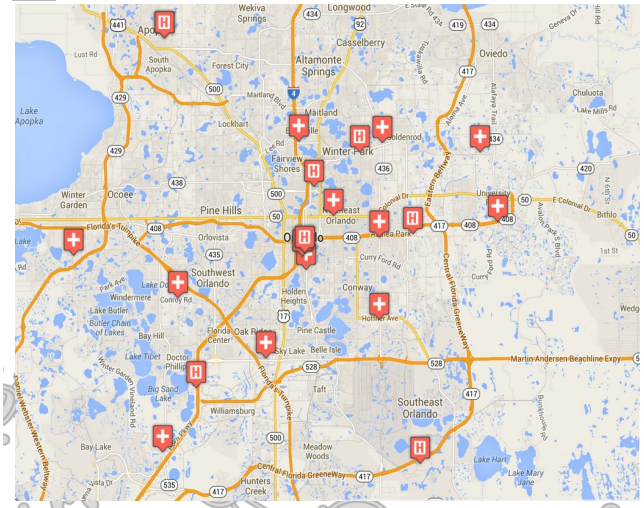

Florida Department of Health: ESSENCE

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.

Centers for Disease Control and Prevention
MMWR
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Severe Pulmonary Disease Associated with Electronic-Cigarette–Product Use — Interim Guidance

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As of August 27, 2019, 215 possible cases of severe pulmonary disease associated with the use of electronic cigarette (e-cigarette) products (e.g., devices, liquids, refill pods, and cartridges) had been reported to CDC by 25 state health departments. E-cigarettes are devices that produce an aerosol by heating a liquid containing various chemicals, including nicotine, flavorings, and other additives (e.g., propellants, solvents, and oils). Users inhale the aerosol, including any additives, into their lungs. Aerosols produced by e-cigarettes can contain harmful or potentially harmful substances, including heavy metals such as lead, volatile organic compounds, ultrafine particles, cancer-causing chemicals, or other agents such as chemicals used for cleaning the device (*1*). E-cigarettes also can be used to deliver tetrahydrocannabinol (THC), the principal psychoactive component of cannabis, or other drugs; for example, "dabbing" involves superheating substances that contain high concentrations of THC and other plant compounds (e.g., cannabidiol) with the intent of inhaling the aerosol. E-cigarette users could potentially add other substances to the devices. This report summarizes available information and provides interim case definitions and guidance for reporting possible cases of severe pulmonary disease. The guidance in this report reflects data available as of September 6, 2019; guidance will be updated as additional information becomes available.

Preliminary reports from state health department investigations, a published case series of patients in Illinois and Wisconsin (*2*), and three other published case series (*3*–*5*), describe clinical features of pulmonary illness associated with e-cigarette product use. According to these reports, the onset of respiratory findings, which might include a nonproductive cough, pleuritic chest pain, or shortness of breath, appears to occur over several days to several weeks before hospitalization. Systemic findings might include tachycardia, fever, chills, or fatigue; reported gastrointestinal findings, which have preceded respiratory findings in some cases, have included nausea, vomiting, abdominal pain, and diarrhea. Most identified patients have been hospitalized with hypoxemia, which, in some cases, has progressed to acute or subacute respiratory failure. Patients have required respiratory support therapies ranging from supplemental oxygen to endotracheal intubation and mechanical ventilation. Many patients initially received a diagnosis of infection and were treated empirically with antibiotics without improvement. In the largest cohort, 53 patients from Illinois and Wisconsin (*2*), the six-patient case series in Utah (*4*), and in the five North Carolina patients described in a report in this issue of *MMWR* (*3*), many patients who were treated with corticosteroids improved. All patients in these reports described to date have had abnormal radiographic findings, including infiltrates on chest radiograph and ground glass opacities on chest computed tomography scan.

All patients have a reported history of e-cigarette product use, and no consistent evidence of an infectious etiology has been discovered. Therefore, the suspected cause is a chemical exposure. The type, extent, and severity of any chemical-related illness might depend on multiple factors including the chemical to which the user was exposed; chemical changes associated with heating, dose, frequency, and duration of exposure; product delivery methods; and behaviors and medical conditions of the user. The specific behaviors and exposures of identified patients have varied. Most have reported a history of using e-cigarette products containing cannabinoids such as THC, some have reported the use of e-cigarette products containing only nicotine, and others have reported using both.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Summary

What is already known about this topic?

Twenty-five states have reported more than 200 possible cases of severe pulmonary disease associated with the use of electronic cigarettes (e-cigarettes).

What is added by this report?

Based on available information, the disease is likely caused by an unknown chemical exposure; no single product or substance is conclusively linked to the disease.

What are the implications for public health practice?

Until a definitive cause is known, persons should consider not using e-cigarettes. Those who use e-cigarettes should seek medical attention for any health concerns. Clinicians should report possible cases to their local or state health department.

No consistent e-cigarette product, substance, or additive has been identified in all cases, nor has any one product or substance been conclusively linked to pulmonary disease in patients.

Health care providers who cared for the five North Carolina patients diagnosed acute exogenous lipoid pneumonia in all patients based on history of e-cigarette use and clinical, radiographic, laboratory, and bronchoscopy findings. Specifically, the authors identified lipids within alveolar macrophages from the three bronchoalveolar lavage (BAL) specimens stained with oil red O. All five patients reported using marijuana oils or concentrates in e-cigarettes, and three also reported using nicotine (*3*). In a report describing the clinical course and outcomes of six patients from Utah, health care providers described the potential diagnostic utility of identification of lipid-laden macrophages from BAL specimens (*4*). Among the 53 cases from Illinois and Wisconsin, however, the pathologic findings were heterogeneous. Whereas almost half (24/53) of these patients underwent BAL, seven reports described the use of oil red O stain that identified lipid-laden macrophages (*2*). Additional pathologic analyses are in progress on specimens from some of these patients (*2*). The clinical significance of lipid-laden macrophages is currently unclear. It is not known whether the lipid is exogenous (from inhaled material) or endogenous (from altered lipid metabolism). In addition, it is not known whether lipid-laden macrophages are a marker of exposure to e-cigarette aerosol or they are central to the disease process.

CDC is currently coordinating a multistate investigation. Investigations in affected states are focused on describing exposures and the epidemiologic, clinical, laboratory, and behavioral characteristics of cases. In conjunction with a task force from the Council for State and Territorial Epidemiologists and affected states, interim outbreak surveillance case definitions* (Table), data collection tools, and a database to collect relevant patient data have been developed and released. The interim outbreak case definitions will be updated as necessary as additional information becomes available.

CDC has provided technical assistance to states, has issued a Clinical Action alert through its Clinician Outreach and Communication Activity network on August 16, 2019 (*6*), and has initiated data collection from states. CDC staff members have deployed to Illinois and Wisconsin, the first states that identified patients, as part of an epidemiologic assistance investigation to assist with their state investigations and continue to work closely with affected states to characterize the exposures and the extent and progression of this illness. CDC is working closely with the Food and Drug Administration (FDA) to facilitate collection of information regarding recent e-cigarette product use among patients and to provide technical assistance related to product samples associated with patients for chemical analysis of remaining substances or chemicals within the e-cigarettes. FDA is focused on processing targeted product samples associated with clinical illness and will analyze samples if there is enough material to test. Those with questions regarding the collection of e-cigarette products for possible testing by FDA should use the following e-mail address: FDAVapingSampleInquiries@fda.hhs.gov.

On August 30, 2019, CDC published recommendations for clinicians, public health officials, and the public based on preliminary information obtained from states and treating clinicians as a Health Advisory (*7*). CDC has created a website (https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html) (*8*) to disseminate up-to-date information and has created a dedicated e-mail address for clinicians and health officials to use to communicate about this public health emergency response (VapingAssocIllness@cdc.gov).

Clinicians are encouraged to consider e-cigarette-associated pulmonary disease as one possible etiology in the broad differential diagnosis of patients with pulmonary disease and a history of e-cigarette product use. Clinicians should evaluate and treat for other possible cases of illness (e.g., infectious, rheumatologic, neoplastic, or other) as clinically indicated. They should report possible cases† to their local or state health department for further investigation.

If e-cigarette product use is suspected as a possible etiology for a patient's pulmonary disease, a detailed history of the substances used, the sources, and the devices used should be obtained, as outlined in the Health Advisory (*7*), and efforts should be made to determine if any remaining product, devices, or liquids are available for testing. Additional recommendations for clinicians, public health officials, and the public are available and will be updated as needed (*6*–*8*). Clinicians should contact their local or state health departments for further guidance as needed.

* Outbreak surveillance case definitions are intended for public health data collection purposes and should not be used as a clinical diagnostic tool or replace individual clinical judgment.

† Clinical illness compatible with the case definition that has not yet been classified.

TABLE. CDC surveillance case definitions* for severe pulmonary disease associated with e-cigarette use — August 30, 2019

Case classification	Criteria
Confirmed	Using an e-cigarette ("vaping") or dabbing† during the 90 days before symptom onset
	AND
	Pulmonary infiltrate, such as opacities on plain film chest radiograph or ground-glass opacities on chest computed tomography
	AND
	Absence of pulmonary infection on initial work-up: Minimum criteria include negative respiratory viral panel, influenza polymerase chain reaction or rapid test if local epidemiology supports testing. All other clinically indicated respiratory infectious disease testing (e.g., urine antigen for *Streptococcus pneumoniae* and *Legionella*, sputum culture if productive cough, bronchoalveolar lavage culture if done, blood culture, human immunodeficiency virus–related opportunistic respiratory infections if appropriate) must be negative
	AND
	No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).
Probable	Using an e-cigarette ("vaping") or dabbing† in 90 days before symptom onset
	AND
	Pulmonary infiltrate, such as opacities on plain film chest radiograph or ground-glass opacities on chest computed tomography
	AND
	Infection identified via culture or polymerase chain reaction, but clinical team§ believes this is not the sole cause of the underlying respiratory disease process **OR** minimum criteria to rule out pulmonary infection not met (testing not performed) and clinical team§ believes this is not the sole cause of the underlying respiratory disease process
	AND
	No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).

* These surveillance case definitions are meant for surveillance and not clinical diagnosis; they are subject to change and will be updated as additional information becomes available if needed.
† Using an electronic device (e.g., electronic nicotine delivery system (ENDS), electronic cigarette (e-cigarette), vaporizer, vape(s), vape pen, dab pen, or other device) or dabbing to inhale substances (e.g., nicotine, marijuana, tetrahydrocannabinol, tetrahydrocannabinol concentrates, cannabinoids, synthetic cannabinoids, flavorings, or other substances).
§ Clinical team caring for the patient.

State public health officials should promptly notify CDC about possible cases and refer to CDC for the most recent versions of the surveillance case definitions, reporting guidelines, and case investigation forms. Public health officials seeking these documents should e-mail CDC at eocevent101@cdc.gov. CDC will revise these tools as new information becomes available and disseminate them to state health departments. General questions regarding this outbreak can be answered by contacting CDC-INFO (https://www.cdc.gov/cdc-info/index.html).

While this investigation is ongoing and the definitive cause of reported illnesses remains uncertain, persons should consider not using e-cigarette products. Those who do use e-cigarette products should monitor themselves for symptoms (e.g., cough, shortness of breath, chest pain, nausea, vomiting, or other symptoms) and seek medical attention for any health concerns. Regardless of the ongoing investigation, persons who use e-cigarette products should not buy these products off the street and should not modify e-cigarette products or add any substances that are not intended by the manufacturer.

E-cigarette products should never be used by youths, young adults, pregnant women, or by adults who do not currently use tobacco products. Adult smokers who are attempting to quit should use evidence-based smoking cessation treatments, including counseling and FDA-approved medications; those who need help quitting tobacco products, including e-cigarettes, should contact their medical provider. Persons who are concerned about harmful effects from e-cigarette products may call their local poison control center at: 1-800-222-1222. CDC will continue to advise and alert the public as more information becomes available.

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