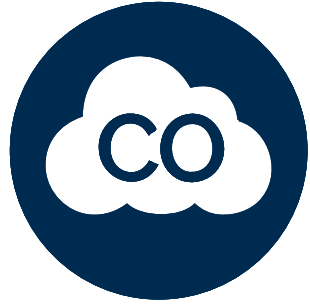


Section 1:

Data Summaries for Common Reportable Diseases/Conditions



Campylobacteriosis

Key Points

The use of culture-independent diagnostic testing for *Campylobacter* has increased dramatically in recent years. Florida changed the campylobacteriosis surveillance case definition in January and July 2011, January 2015, and January 2017, increasing the number of reported cases in each of those years.

The percentage of cases hospitalized each year rose from 23% in 2013 and 2014, to 34% in 2015 and 2016, and to 39% in 2017. Hospitalization rates are highest in children <1 year old and adults ≥80 years old.

Most outbreak-associated cases were reflective of household clusters. In 2017, Florida had 17 cases associated with a multistate outbreak of multidrug-resistant campylobacteriosis infections linked to contact with pet store puppies. Three additional 2018 cases were associated with this outbreak, one of which was determined to be a case after the close of the 2017 database and was therefore infected in 2017 but not reported until 2018. For more information, see Section 3: Notable Outbreaks and Case Investigations.

Disease Facts



Caused by *Campylobacter* bacteria



Illness is gastroenteritis (diarrhea, vomiting)

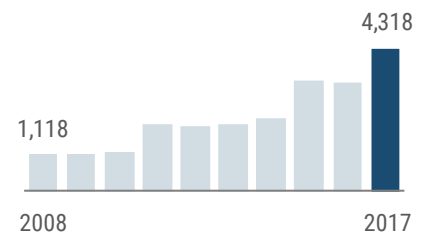


Transmitted via fecal-oral route, including person-to-person, animal-to-person, foodborne, and waterborne



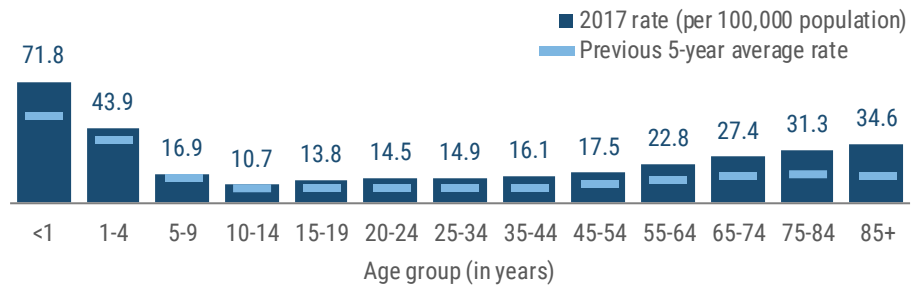
Under surveillance to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Campylobacteriosis incidence has increased over the past 10 years. The increase in 2017 was primarily due to a case definition change.

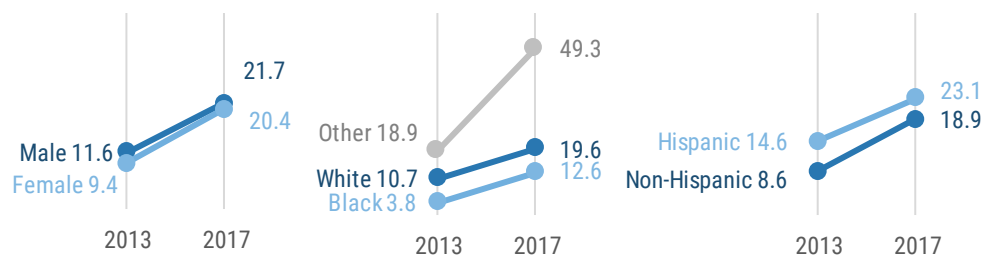


Disease Trends

The campylobacteriosis rate (per 100,000 population) is highest in infants <1 year old and children 1 to 4 years old, followed by adults 75 years and older.



The campylobacteriosis rate (per 100,000 population) increased in all demographics over the past five years, particularly other races. The rates were slightly higher in whites and Hispanics compared to blacks and non-Hispanics in 2017.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Campylobacteriosis cases were missing 5.0% of ethnicity data in 2017.

Summary

Number of cases	4,318
Rate (per 100,000 population)	21.0
Change from 5-year average rate	+61.7%

Age (in Years)

Mean	44
Median	48
Min-max	0 - 102

Gender

Gender	Number (Percent)	Rate
Female	2,141 (49.6)	20.4
Male	2,177 (50.4)	21.7
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	3,123 (75.8)	19.6
Black	436 (10.6)	12.6
Other	563 (13.7)	49.3
Unknown race	196	

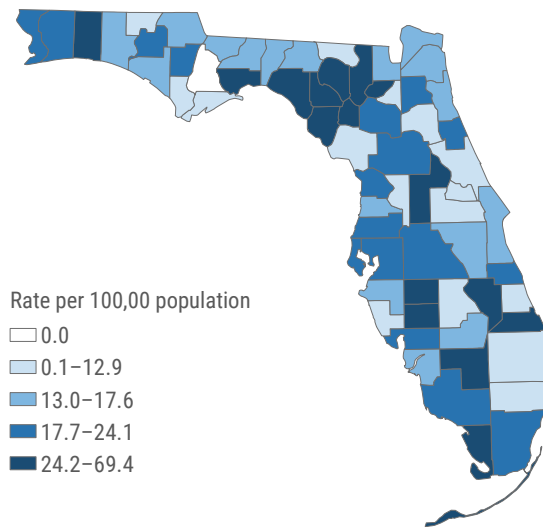
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	2,916 (71.1)	18.9
Hispanic	1,184 (28.9)	23.1
Unknown ethnicity	218	

Campylobacteriosis

Summary	Number
Number of cases	4,318
Case Classification	Number (Percent)
Confirmed	1,594 (36.9)
Probable	2,724 (63.1)
Outcome	Number (Percent)
Hospitalized	1,667 (38.6)
Died	30 (0.7)
Sensitive Situation	Number (Percent)
Daycare	120 (2.8)
Health care	83 (1.9)
Food handler	59 (1.4)
Imported Status	Number (Percent)
Acquired in Florida	3,453 (88.5)
Acquired in the U.S., not Florida	117 (3.0)
Acquired outside the U.S.	333 (8.5)
Acquired location unknown	415
Outbreak Status	Number
Sporadic	3,963 (94.6)
Outbreak-associated	227 (5.4)
Outbreak status unknown	128

Campylobacteriosis occurs throughout the state. Rates (per 100,000 population) were highest in 2017 in small counties, particularly in the north central part of the state.

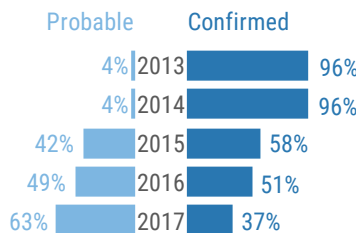


Rates are by county of residence for infections acquired in Florida (3,453 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

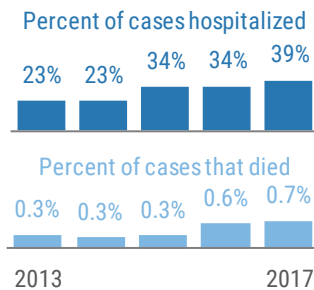


More Disease Trends

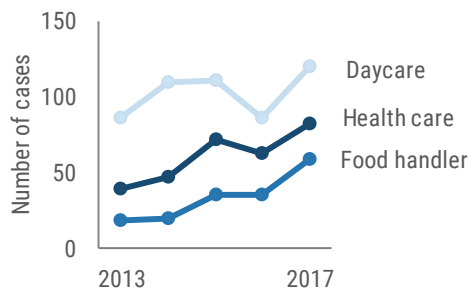
The percent of cases that are probable increased starting in 2015 due to case definition changes.



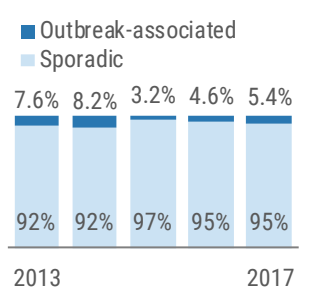
The percent of cases hospitalized has increased. Very few cases die.



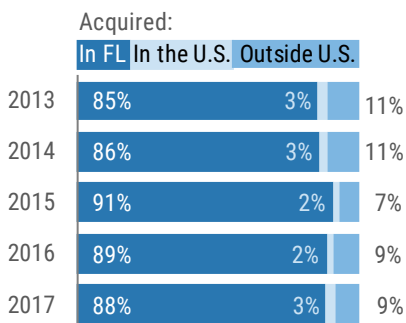
Cases in sensitive situations are monitored. No outbreaks in these situations have been identified in the past five years.



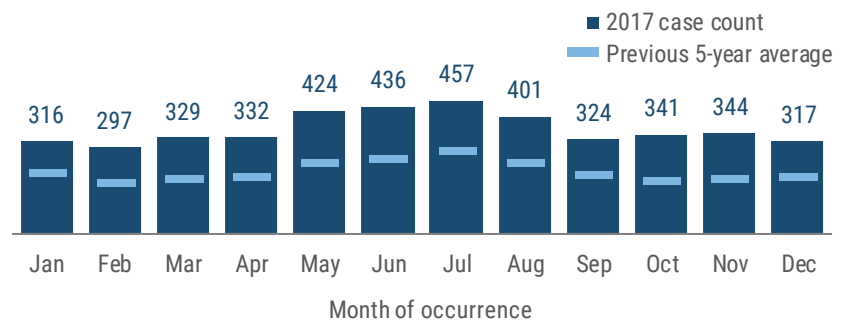
Most cases are sporadic; less than 10% are outbreak-associated.



Between 85–91% of cases are acquired in Florida.



Campylobacteriosis occurred throughout 2017, though was slightly higher in spring and summer, which is consistent with past years.



See Appendix III: Report Terminology for explanations of case classification (confirmed, probable), outcome (hospitalized, died), sensitive situation (daycare, health care, food handler), imported status (acquired in Florida, acquired in the U.S., acquired outside the U.S.), outbreak status (sporadic, outbreak-associated), and month of occurrence.

Carbon Monoxide Poisoning

Key Points

CO poisoning became a reportable condition in Florida in late 2008, therefore only cases from 2009 to 2017 are presented in this report.

In 2017, a large increase in CO poisoning cases occurred after Hurricane Irma, a category 4 storm, made landfall in Florida on September 10, causing extensive power outages and generator use throughout the state.

A total of 359 confirmed and probable hurricane-related CO poisoning cases were identified. An additional 168 suspect cases reported in 2017 and 2 confirmed cases reported in 2018 were related to the hurricane but are not included in this summary.

Most exposures were in the residential settings without a CO detector where generators were used inside the home or used outside but not at a safe distance from the home.

Most CO exposures affected more than one person; 320 hurricane-related cases (95%) were exposed at the same time as at least one other case. An additional 108 outbreak-associated cases were identified as part of 33 other clusters in 2017 (not related to Hurricane Irma).

The most commonly identified exposures for 2017 cases were generators (63%), automobiles and RVs (8%), smoking (6%), and fires (5%).

Disease Facts



Caused by Carbon monoxide (CO) gas



Illness includes headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion; high levels of CO inhalation can cause loss of consciousness and death

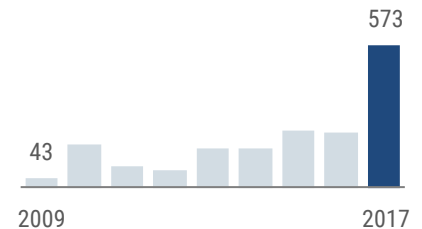


Exposure to CO gas is from combustion fumes (produced by cars and trucks, generators, stoves, lanterns, burning charcoal and wood, and gas ranges and heating systems)



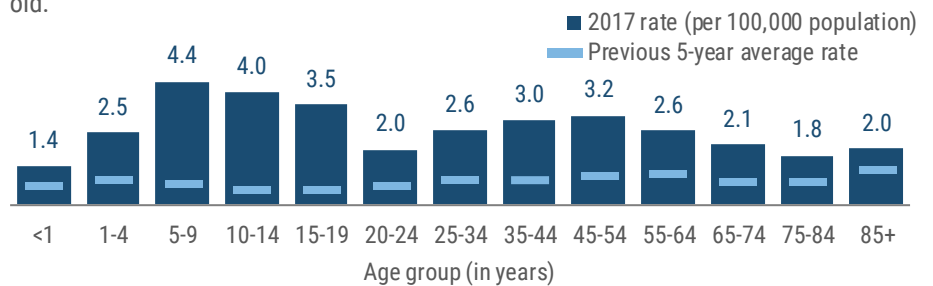
Under surveillance to identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions, measure impact of public health interventions

A large number of CO poisoning cases were identified following Hurricane Irma in 2017.

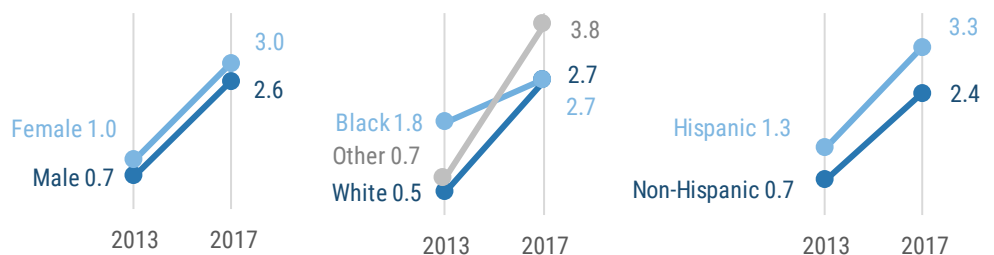


Disease Trends

The CO poisoning rate (per 100,000 population) in past years was highest in adults 25 to 45 years old. In 2017, it was highest in children and adolescents 5 to 19 years old.



In 2017, CO poisoning rates (per 100,000 population) were slightly higher in females and Hispanics and notably higher in other races. While the rate was higher in blacks than in whites in 2013, the rate was the same in 2017.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Carbon monoxide poisoning cases were missing 16.8% of race data in 2013 and 5.6% of ethnicity data in 2017.

Summary

Number of cases	573
Rate (per 100,000 population)	2.8
Change from 5-year average rate	+228.4%

Age (in Years)

Mean	38
Median	38
Min-max	0 - 95

Gender

Gender	Number (Percent)	Rate
Female	312 (54.5)	3.0
Male	261 (45.5)	2.6
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	426 (75.8)	2.7
Black	93 (16.5)	2.7
Other	43 (7.7)	3.8
Unknown race	11	

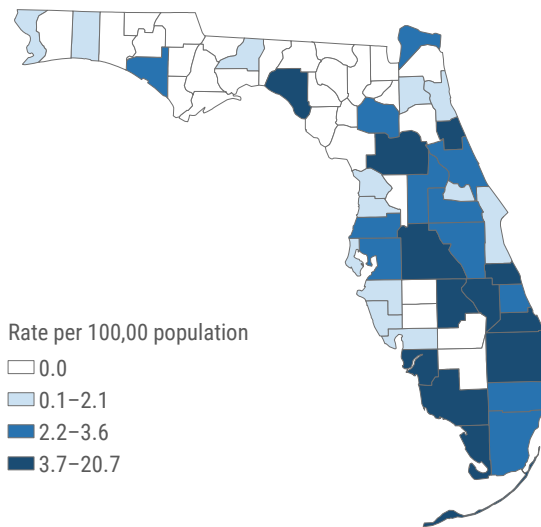
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	370 (68.4)	2.4
Hispanic	171 (31.6)	3.3
Unknown ethnicity	32	

Carbon Monoxide Poisoning

Summary	Number
Number of cases	573
Case Classification	Number (Percent)
Confirmed	474 (82.7)
Probable	99 (17.3)
Outcome	Number (Percent)
Hospitalized	161 (28.1)
Died	20 (3.5)
Imported Status	Number (Percent)
Exposed in Florida	561 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	12
Outbreak Status	Number (Percent)
Sporadic	143 (25.0)
Outbreak-associated	428 (75.0)
Outbreak status unknown	2
Top 5 Exposure Types	Number (Percent)
Generator	361 (63.0)
Automobile/RV	48 (8.4)
Smoking	33 (5.8)
Fire	29 (5.1)
Other	21 (3.7)

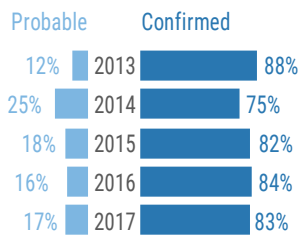
Carbon monoxide poisonings in 2017 were concentrated in areas heavily impacted by Hurricane Irma. Rates (per 100,000) were highest in central Florida.



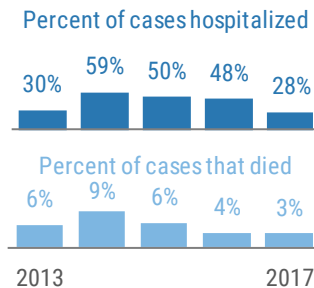
Rates are by county of residence for cases exposed in Florida (561 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

More Disease Trends

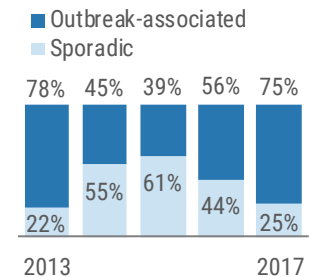
Most CO poisoning cases are confirmed. Despite the large number of cases in 2017, the same proportion were confirmed.



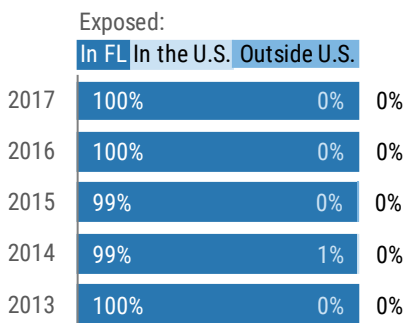
Despite the large number of CO poisoning cases in 2017, the hospitalization rate was lower than the past four years.



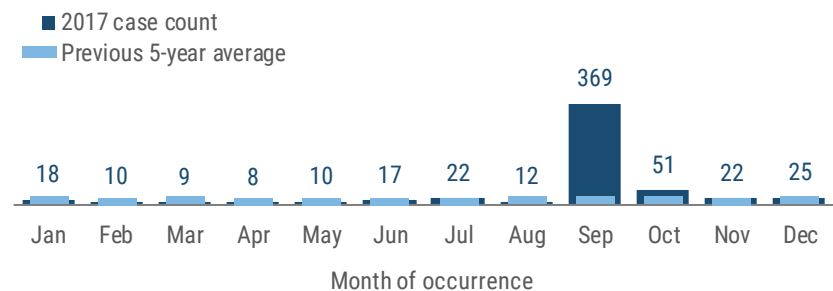
Most (75%) CO poisoning cases were linked to at least one other case in 2017.



Almost all CO poisoning cases are exposed in Florida.



CO poisoning cases peaked in September 2017 after Hurricane Irma due to widespread power outages and improper generator use. Historically, CO poisonings tend to increase during cold winter months and during large power outages.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.





Chlamydia (Excluding Neonatal Conjunctivitis)

Key Points

Chlamydia is the most commonly reported STD in Florida and the U.S.; incidence rates have been slowly increasing in the past decade. Incidence is highest among 15- to 24-year-old women and non-Hispanic blacks. If untreated, chlamydia can lead to serious reproductive complications and can make it difficult for women to conceive. Because it is frequently asymptomatic, screening is necessary to identify most infections; early detection and treatment can prevent sequelae.

The rate of chlamydia in races other than white and black has increased over the past 10 years, and particularly in the past three years. The rate has decreased in blacks, primarily driven by a decrease in infections in young black females.

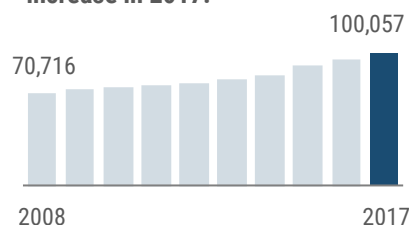
Disease Facts

-  **Caused by** *Chlamydia trachomatis* bacteria
-  **Illness** is frequently asymptomatic; abnormal discharge from vagina or penis, burning sensation when urinating; severe complications can include pelvic inflammatory disease, infertility, and ectopic pregnancies
-  **Transmitted** sexually via vaginal, anal, or oral sex and sometimes from mother to child during pregnancy or delivery
-  **Under surveillance** to implement interventions immediately for every case, monitor incidence over time, estimate burden of illness, target prevention education programs, evaluate treatment and prevention programs



Disease Trends

Chlamydia incidence continued to increase in 2017.



Summary

Number of cases	100,057
Rate (per 100,000 population)	486.8
Change from 5-year average rate	+12.0%

Age (in Years)

Mean	25
Median	22
Min-max	3 - 95

Gender

Gender	Number (Percent)	Rate
Female	66,205 (66.2)	629.8
Male	33,821 (33.8)	336.8
Unknown gender	31	

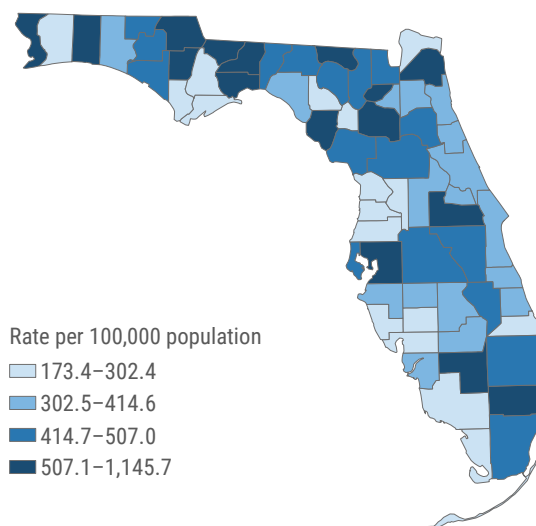
Race

Race	Number (Percent)	Rate
White	34,524 (42.0)	216.5
Black	35,127 (42.7)	1012.3
Other	12,575 (15.3)	1102.2
Unknown race	17,831	

Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	61,624 (80.2)	399.6
Hispanic	15,180 (19.8)	295.6
Unknown ethnicity	23,253	

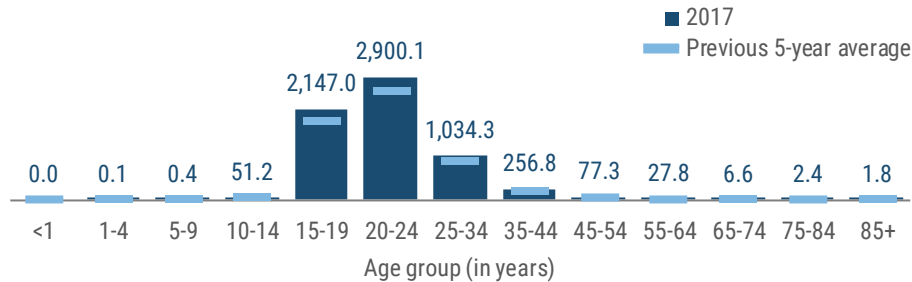
Chlamydia occurs throughout the state. The highest rates (per 100,000 population) in 2017 were in Leon (1,145.7), Alachua (845.2), Gadsden (794.8), Duval (734.8), and Orange (723.0) counties. These counties accounted for 22% of the state's cases, but only 14% of the state's population. The largest number of cases were reported in Miami-Dade (12,271 cases) and Broward (11,289 cases). These counties accounted for 24% of the state's cases and 23% of the state's population.



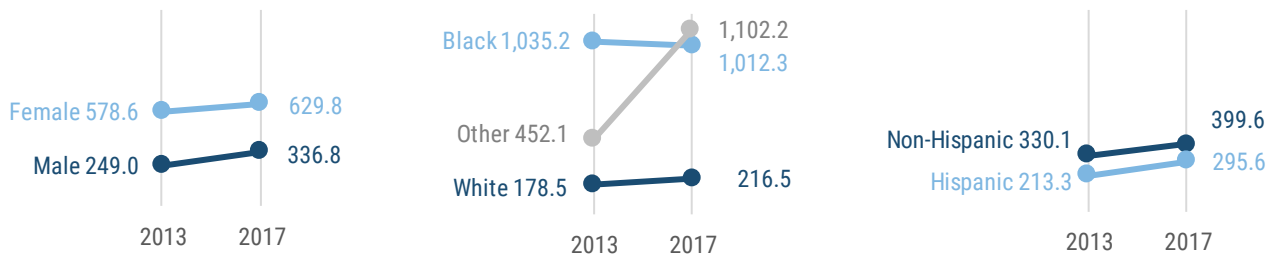
Rates are by county of residence, regardless of where infection was acquired (100,057 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

Chlamydia (Excluding Neonatal Conjunctivitis)

Chlamydia rates (per 100,000 population) are highest in adults 20 to 24 years old, followed by teens 15 to 19 years old. Rates in adults rapidly decrease with age. The rate in adults 20 to 24 years old is more than 10 times the rate in adults 35 to 44 years old and more than 35 times the rate in adults 45 to 54 years old.

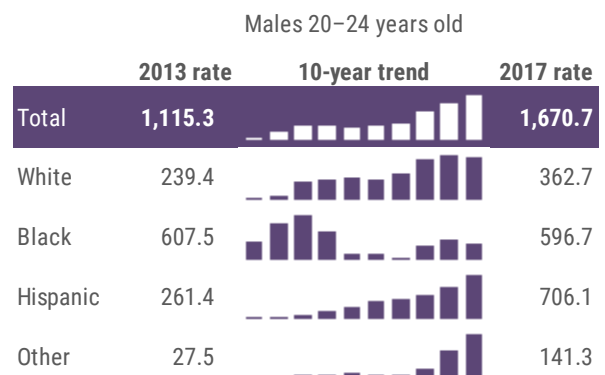
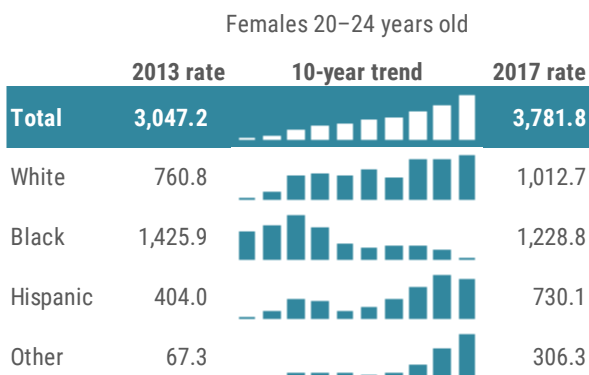
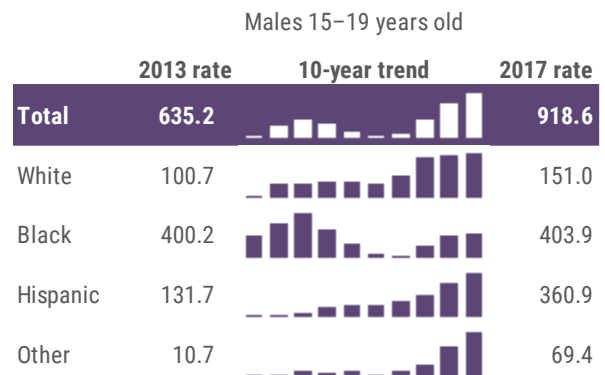
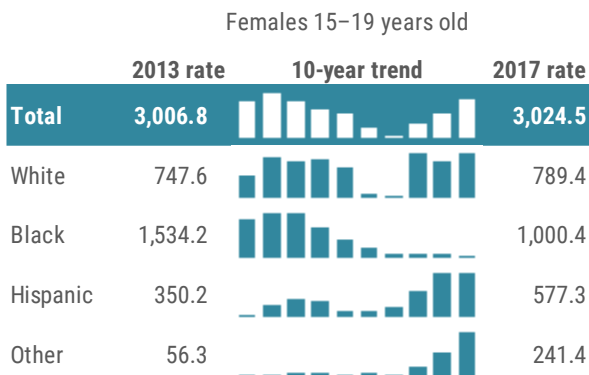


Chlamydia rates (per 100,000 population) have increased in all gender, race, and ethnic groups from 2013 to 2017 except blacks. The rate in other races more than doubled in that time, and now that group has the highest rate, followed by blacks.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chlamydia cases (excluding neonatal conjunctivitis) were missing 27.6% of ethnicity data in 2013, 19.8% of race data in 2013, 23.2% of ethnicity data in 2017, and 17.8% of race data in 2017.

Chlamydia rates (per 100,000 population) are highest in adults 20 to 24 years old, followed by teens 15 to 19 years old. Overall, rates have increased in males in both age groups, and females aged 20 to 24 years. The rate in both age groups in black females has decreased over the past 10 years. The rates in other races in both age groups and both genders have increased steadily, as have rates in Hispanic males in both age groups.



Ciguatera Fish Poisoning





Key Points

Marine dinoflagellates are typically found in tropical and subtropical waters and are eaten by herbivorous fish that are in turn eaten by larger carnivorous fish, causing the toxins to bioaccumulate in larger fish such as barracuda or grouper. Ciguatera toxin is produced by dinoflagellates in the genus *Gambierdiscus*. While case finding in Florida is thought to be more complete than in other states, under-reporting is still likely due to lack of recognition and reporting by medical practitioners.

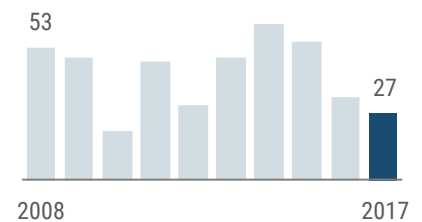
Single cases of ciguatera fish poisoning warrant a full investigation and are generally characterized as outbreaks for public health purposes. Prior to 2015, all cases were classified as outbreak-associated for this report. Starting in 2015, cases were only classified as outbreak-associated for this report when at least two or more people had a common exposure.

Sixteen investigations occurred in 2017 involving 28 cases (27 Florida residents and one non-Florida resident). Investigations involved an average of 1.75 cases with a range of one to four cases. The most common fish was barracuda. Cases were most commonly associated with recreationally harvested fish. Only one investigation occurred in August which is not consistent with previous years. In 2017, most cases occurred from January to May and October to December.

Disease Facts

-  **Caused** by ciguatoxins produced by marine dinoflagellates (associated with tropical fish)
-  **Illness** includes nausea, vomiting, and neurologic symptoms (e.g., tingling fingers or toes, temperature reversal); anecdotal evidence of long-term periodic recurring symptoms
-  **Exposed** through consuming fish containing ciguatoxins
-  **Under surveillance** to identify and control outbreaks, identify high-risk products (e.g., barracuda, grouper)

Fewer ciguatera fish poisoning cases were reported in 2017 than any year since 2010.



Disease Trends

Summary

Number of cases	27
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-44.2%

Age (in Years)

Mean	42
Median	43
Min-max	4 - 63

Gender

Gender	Number (Percent)	Rate
Female	9 (33.3)	NA
Male	18 (66.7)	NA
Unknown gender	0	

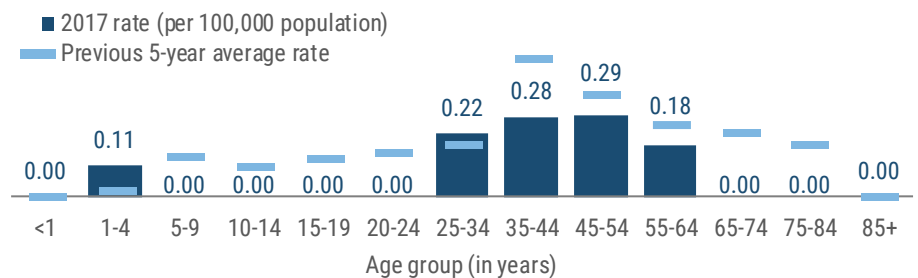
Race

Race	Number (Percent)	Rate
White	13 (52.0)	NA
Black	6 (24.0)	NA
Other	6 (24.0)	NA
Unknown race	2	

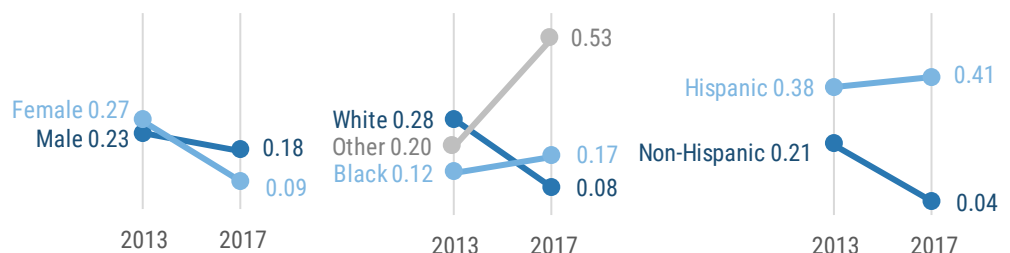
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	6 (22.2)	NA
Hispanic	21 (77.8)	0.4
Unknown ethnicity	0	

The ciguatera fish poisoning rate (per 100,000 population) is generally highest in adults aged 25 to 74 years. In 2017, 26 cases were reported in adults, and one case was reported in a 4 year old.



The ciguatera fish poisoning rate (per 100,000 population) is generally similar in males in females, though was a little higher in men in 2017. The rate was highest in other races and Hispanics in 2017.

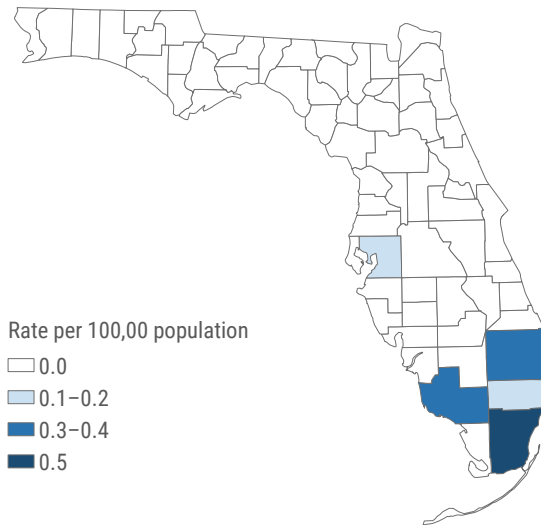


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ciguatera fish poisoning cases were missing 7.4% of race data in 2017.

Ciguatera Fish Poisoning

Summary	Number
Number of cases	27
Outcome	Number (Percent)
Hospitalized	4 (14.8)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	25 (92.6)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	2 (7.4)
Exposed location unknown	0
Outbreak Status	Number (Percent)
Sporadic	8 (29.6)
Outbreak-associated	19 (70.4)
Outbreak status unknown	0

Ciguatera fish poisoning cases tend to occur in coastal counties, particularly in south Florida. In 2017, the rate per 100,000 population was highest in Miami-Dade County where 13 cases were reported.

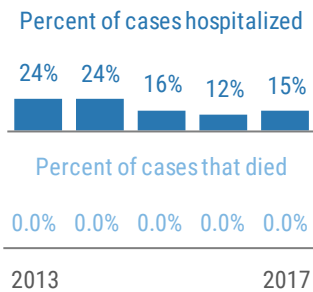


Rates are by county of residence for cases exposed in Florida (25 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

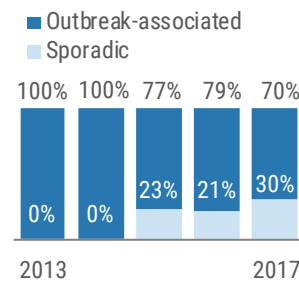


More Disease Trends

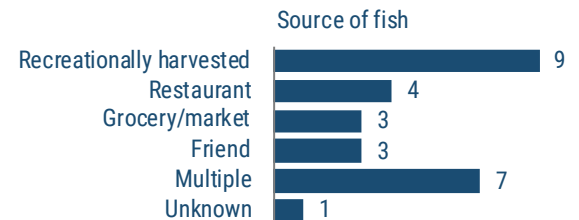
Less than 25% of cases are hospitalized. No deaths have been identified in recent years.



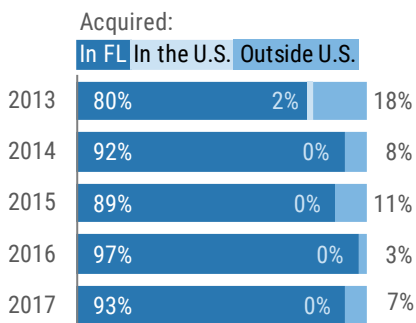
Most cases are outbreak-associated. Implicated fish are commonly shared by multiple people.



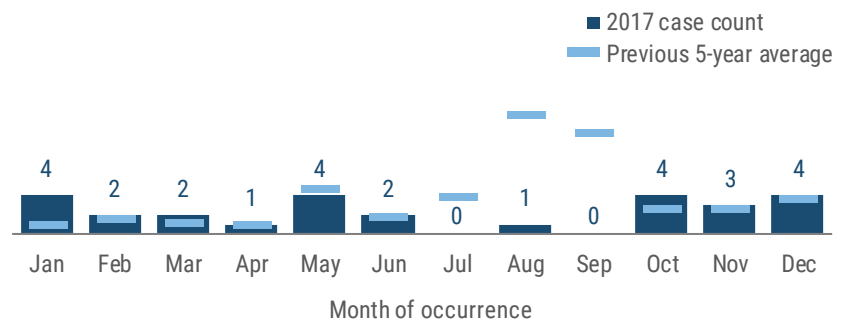
Most fish causing ciguatera fish poisoning was recreationally harvested. Frequently, multiple sources of fish are identified, and occasionally, no source can be identified.



More than 80% of cases are exposed in Florida each year.



Ciguatera fish poisoning generally peaks in August and September. However, more cases were identified in January, May, October and December in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Cryptosporidiosis





Key Points

Diagnostic capabilities have improved over the years, making it easier to identify illnesses caused by this parasite. Cryptosporidiosis in Florida and the U.S. has a seasonal and cyclical trend. Following a sharp increase in cases in 2014 in all genders, races, and ethnicities, cases decreased in 2015, 2016, and 2017. Similar to giardiasis, another parasitic intestinal infection, incidence is highest in 1- to 4-year-olds, followed by infants <1-year-old, then children 5 to 9 years old.

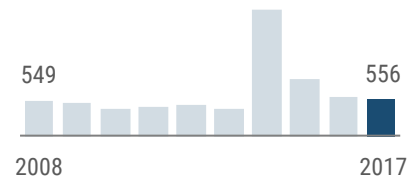
During the past two decades, *Cryptosporidium* has become recognized as one of the most common causes of waterborne disease (recreational water and drinking water) in humans in the U.S. Cryptosporidiosis incidence peaked in 2014 when there were six waterborne outbreaks investigated, including 134 cases associated with swimming pools, a recreational water park, and kiddie pools. Additional community-wide outbreaks in 2014 were associated with person-to-person transmission and daycares.

There were no food or waterborne disease outbreaks due to *Cryptosporidium* in 2017. Clusters of illness were reported and associated with person-to-person transmission, travel, and daycares.

Disease Facts

-  **Caused by** *Cryptosporidium* parasites
-  **Illness** is gastroenteritis (diarrhea, vomiting)
-  **Transmitted** via fecal-oral route, including person-to-person, animal-to-person, waterborne, and foodborne
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Cryptosporidiosis incidence increased sharply in 2014 and has declined each year since.



Disease Trends

Summary

Number of cases	556
Rate (per 100,000 population)	2.7
Change from 5-year average rate	-37.0%

Age (in Years)

Mean	39
Median	38
Min-max	0 - 93

Gender

Gender	Number (Percent)	Rate
Female	275 (49.5)	2.6
Male	281 (50.5)	2.8
Unknown gender	0	

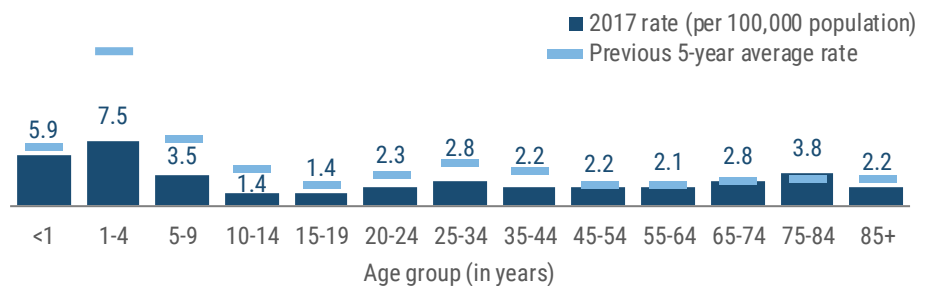
Race

Race	Number (Percent)	Rate
White	418 (78.1)	2.6
Black	64 (12.0)	1.8
Other	53 (9.9)	4.6
Unknown race	21	

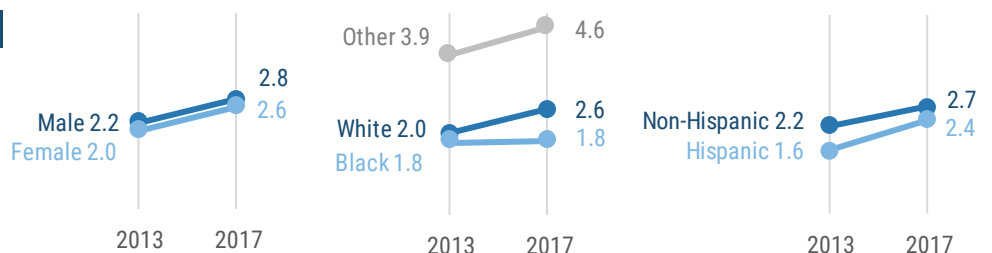
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	412 (77.3)	2.7
Hispanic	121 (22.7)	2.4
Unknown ethnicity	23	

The cryptosporidiosis rate (per 100,000 population) is consistently highest in children 1 to 4 years old, followed by <1-year-old infants, which remained true in 2017.



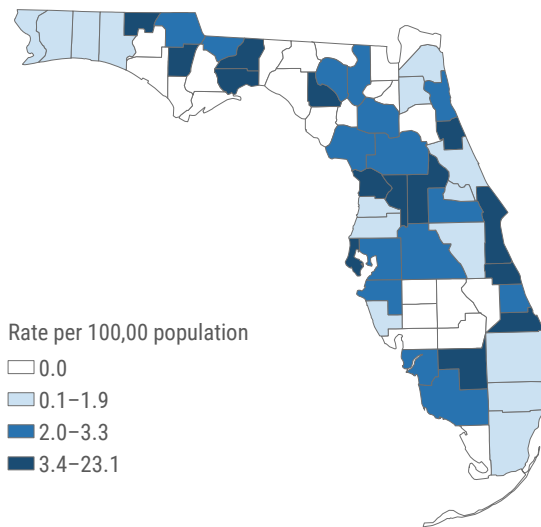
The cryptosporidiosis rate (per 100,000 population) is similar by gender, race, and ethnicity, with the exception of other races, which is higher. The rate among blacks did not increase from 2013 to 2017, while all other groups increased slightly.



Cryptosporidiosis

Summary	Number
Number of cases	556
Case Classification	Number (Percent)
Confirmed	296 (53.2)
Probable	260 (46.8)
Outcome	Number (Percent)
Hospitalized	192 (34.5)
Died	7 (1.3)
Sensitive Situation	Number (Percent)
Daycare	36 (6.5)
Health care	8 (1.4)
Food handler	8 (1.4)
Imported Status	Number (Percent)
Acquired in Florida	454 (88.3)
Acquired in the U.S., not Florida	20 (3.9)
Acquired outside the U.S.	40 (7.8)
Acquired location unknown	42
Outbreak Status	Number
Sporadic	486 (87.9)
Outbreak-associated	67 (12.1)
Outbreak status unknown	3

Cryptosporidiosis occurs throughout the state. The highest rates (per 100,000) in 2017 generally occurred in the smaller rural counties with lower rates in many of the large, metropolitan areas of the state.

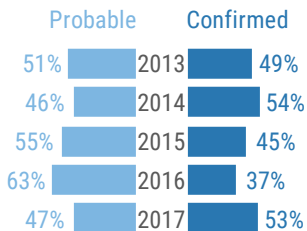


Rates are by county of residence for infections acquired in Florida (454 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

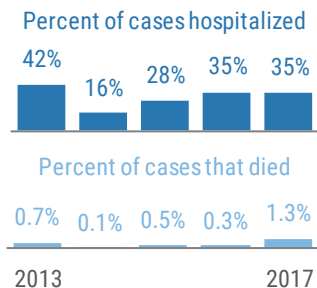


More Disease Trends

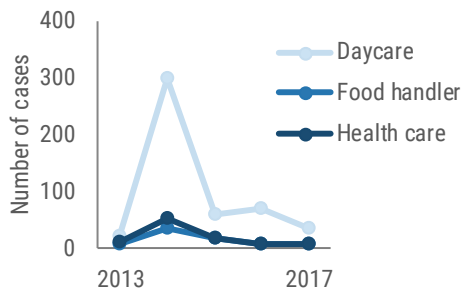
Unlike many other reportable diseases, only about half of cryptosporidiosis cases are confirmed.



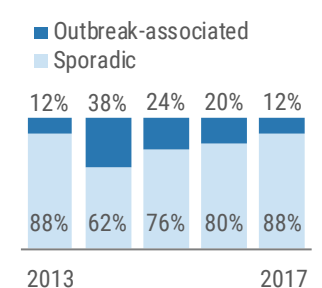
Hospitalizations and deaths are typically related to underlying conditions and comorbidities.



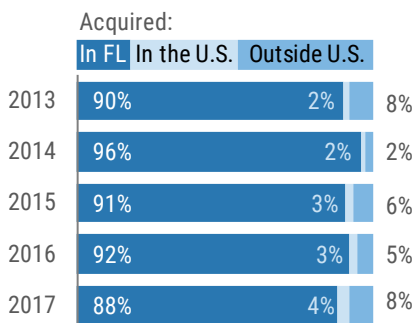
Many of the 2014 cases occurred in daycare settings. People in sensitive situations may pose a risk for transmitting infection to others.



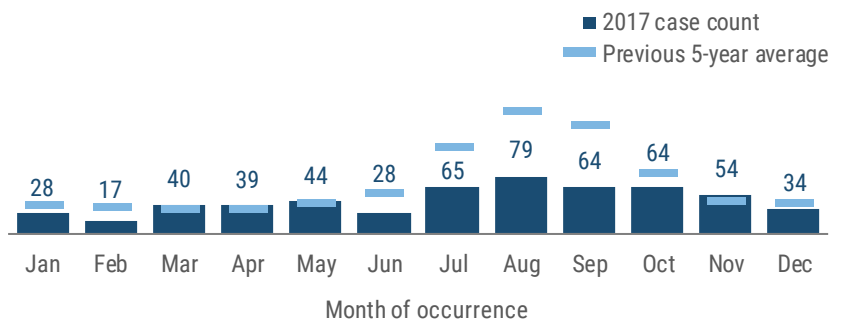
Most cryptosporidiosis case are sporadic. Only 12% were outbreak-associated in 2017.



Most cryptosporidiosis infections are acquired within Florida.



Cryptosporidiosis cases peak in the summer and early fall months, similar to other enteric diseases.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.





Cyclosporiasis

Key Points

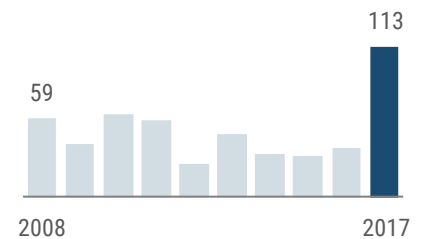
Incidence is strongly seasonal, peaking annually in June and July. Large multistate outbreaks of cyclosporiasis were identified in 2013, 2014, and 2015. In the U.S., foodborne cyclosporiasis outbreaks have been linked to various types of imported fresh produce, including raspberries, basil, cilantro, snow peas, and mesclun lettuce.

In 2017, 1,065 laboratory-confirmed cases of cyclosporiasis were reported nationally as of October 4, 2017 (the most recent date for which national data were available). Of the 1,065 cases, 597 cases from 36 different states had illness onset on or after May 1. Seventy-eight cases were reported for Florida during this time. The national increase in cases was not linked to a specific vehicle. In Florida, three separate cyclosporiasis outbreaks were investigated accounting for 20 cases. Ten of the cases were associated with travel to Honduras, six with fresh produce (likely blackberries on a fruit platter), and four cases were associated with a Mexican-style restaurant.

Disease Facts

-  **Caused by** *Cyclospora* parasites
-  **Illness** is gastroenteritis (diarrhea, vomiting)
-  **Transmitted** via fecal-oral, including foodborne and less commonly waterborne
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness

Cyclosporiasis incidence increased sharply in 2017.



Disease Trends

Summary

Number of cases	113
Rate (per 100,000 population)	0.5
Change from 5-year average rate	+210.1%

Age (in Years)

Mean	54
Median	58
Min-max	2 - 91

Gender

Gender	Number (Percent)	Rate
Female	64 (56.6)	0.6
Male	49 (43.4)	0.5
Unknown gender	0	

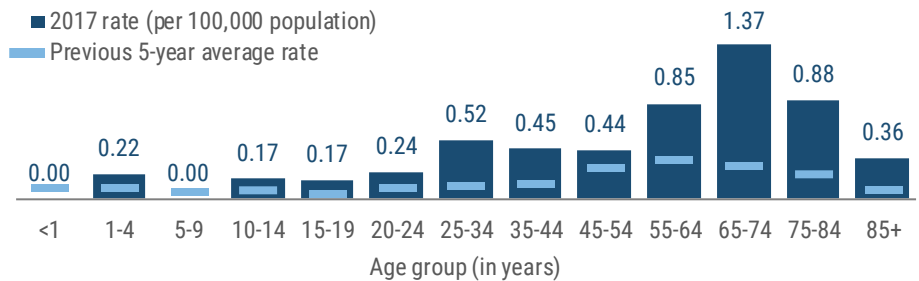
Race

Race	Number (Percent)	Rate
White	98 (89.9)	0.6
Black	4 (3.7)	NA
Other	7 (6.4)	NA
Unknown race	4	

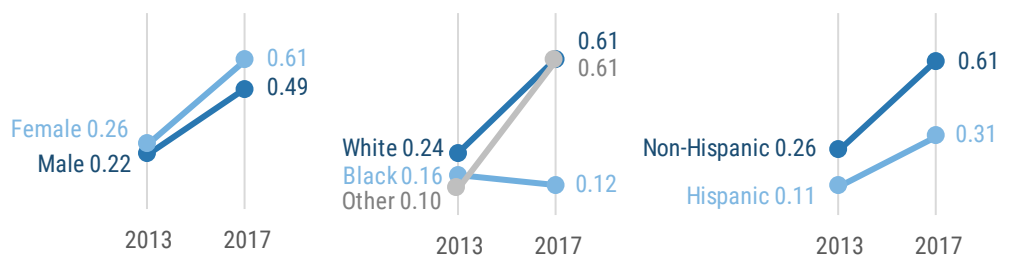
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	94 (85.5)	0.6
Hispanic	16 (14.5)	NA
Unknown ethnicity	3	

The cyclosporiasis rate (per 100,000 population) is consistently higher in adults ≥ 25 years old and was particularly high in adults 65 to 74 years old in 2017.



Consistent with the overall large increase in cyclosporiasis rate (per 100,000 population) in 2017, rates increased in all gender, race, and ethnicity groups, except blacks. The rate among blacks was lower in 2017 than it was in 2013.

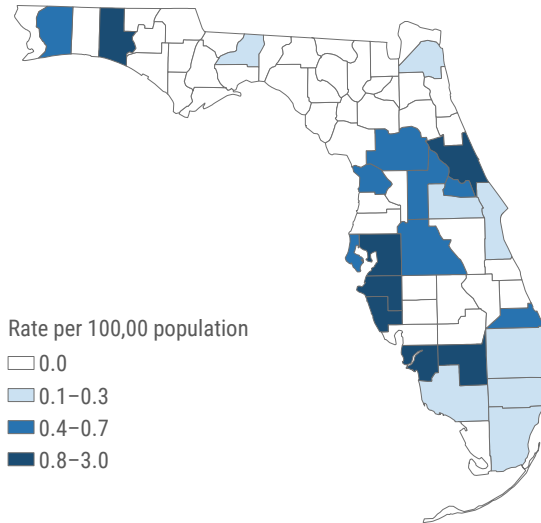


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Cyclosporiasis cases were missing 8.5% of ethnicity data in 2013 and 8.5% of race data in 2013.

Cyclosporiasis

Summary	Number
Number of cases	113
Case Classification	Number (Percent)
Confirmed	107 (94.7)
Probable	6 (5.3)
Outcome	Number (Percent)
Hospitalized	4 (3.5)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	77 (72.6)
Acquired in the U.S., not Florida	7 (6.6)
Acquired outside the U.S.	22 (20.8)
Acquired location unknown	7
Outbreak Status	Number (Percent)
Sporadic	101 (90.2)
Outbreak-associated	11 (9.8)
Outbreak status unknown	1

Cyclosporiasis cases occurred primarily in central and south Florida counties in 2017. The rate (per 100,000 population) was highest in Lee County (11 cases); Hillsborough County had the most reported cases (21).

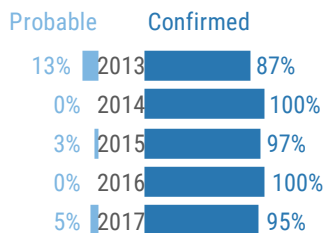


Rates are by county of residence for infections acquired in Florida (77 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

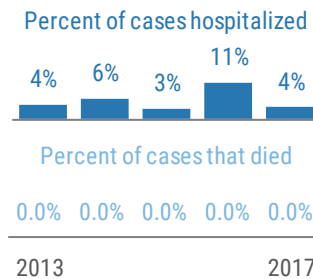


More Disease Trends

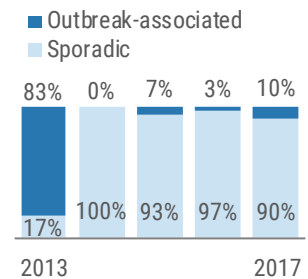
The majority of cyclosporiasis cases are confirmed. Probable cases are symptomatic people epidemiologically linked to confirmed cases.



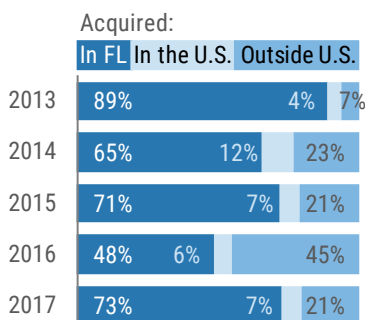
Few cyclosporiasis cases are hospitalized. No deaths have occurred in recent years.



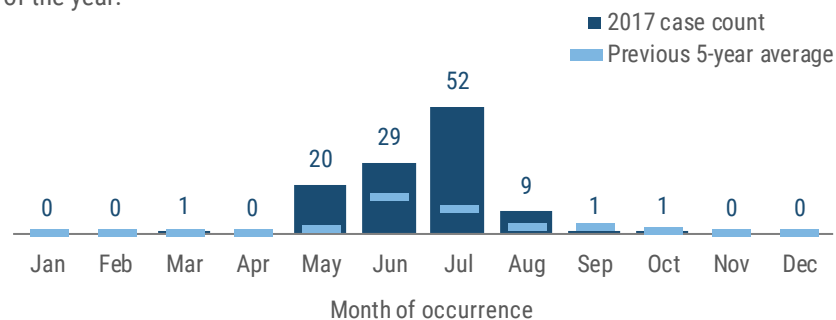
Most cyclosporiasis cases are sporadic. The percent of outbreak-associated cases increased to 10% in 2017.



Infections from outside the U.S. were most commonly from Mexico (9 cases), Cuba (5 cases), and Guatemala (4 cases).



Cyclosporiasis has a very strong seasonal pattern with cases primarily occurring May through August, peaking in June and July. Few cases occur during the rest of the year.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Dengue Fever





Key Points

An outbreak of locally acquired dengue fever occurred in Monroe County in 2009 and 2010 and in Martin County in 2013. At least one locally acquired case has been identified each year since 2009, primarily in south Florida. No dengue introductions were identified in 2017. The single locally acquired case was initially identified in 2016, but was reported in 2017. Historically the Americas, and primarily the Caribbean, have served as primary sources of dengue virus exposures in Florida residents. A significant reduction in the number of dengue cases in the Americas was reported in 2017.

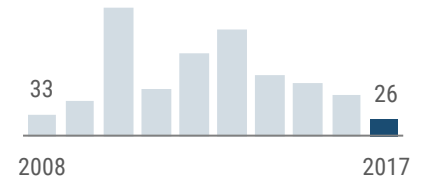
Infected residents and non-residents who are infectious and bitten by mosquitoes while in Florida could pose a potential risk for introduction of dengue fever; however, cases in non-Florida residents are not included in counts in this report. Two dengue fever cases were identified in non-Florida residents while traveling in Florida in 2017.

Ten of the 26 cases reported in 2017 were initially identified in 2016. One additional case was identified in 2017 but was not reported until 2018 and will therefore be included in the 2018 report. Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date or county of exposure instead of county of residence.

Disease Facts

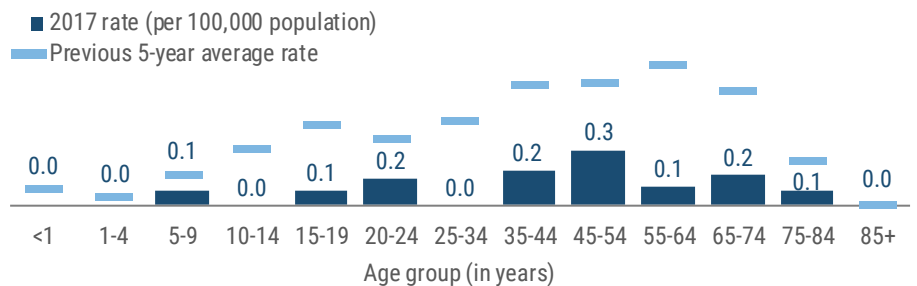
-  **Caused** by dengue viruses (DENV-1, DENV-2, DENV-3, DENV-4)
-  **Illness** is acute febrile with headache, joint and muscle pain, rash, and eye pain; dengue hemorrhagic fever or dengue shock syndrome symptoms include severe abdominal pain, vomiting, and mucosal bleeding
-  **Transmitted via** bite of infective mosquito, rarely by blood transfusion or organ transplant
-  **Under surveillance** to identify individual cases and implement control measures to prevent introduction and active transmission, monitor incidence over time, estimate burden of illness

Dengue fever incidence was the lowest in the past 10 years.

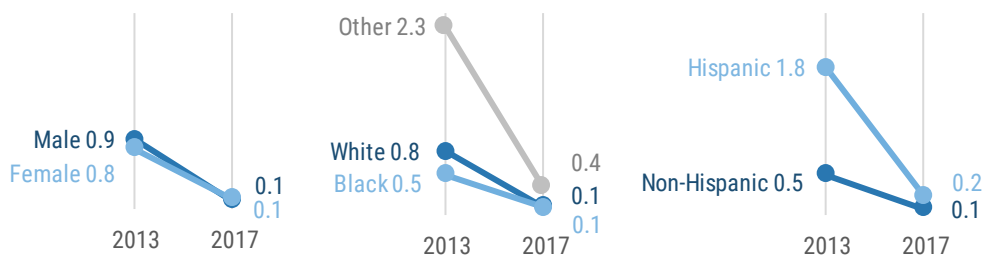


Disease Trends

The dengue fever rate (per 100,000 population) has historically been highest in adults 25 to 74 years old. In 2017, the rate was highest in 45- to 54-year-olds.



The dengue fever rate (per 100,000 population) is similar in males, females, blacks, whites, and non-Hispanics. In 2013, rates were higher in Hispanics and other races, though there was less difference between race and ethnic groups in 2017.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Dengue fever cases were missing 11.5% of ethnicity data in 2017 and 7.7% of race data in 2017.

Summary

Number of cases	26
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-76.1%

Age (in Years)

Mean	47
Median	46
Min-max	7 - 75

Gender

Gender	Number (Percent)	Rate
Female	15 (57.7)	NA
Male	11 (42.3)	NA
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	17 (70.8)	NA
Black	3 (12.5)	NA
Other	4 (16.7)	NA
Unknown race	2	

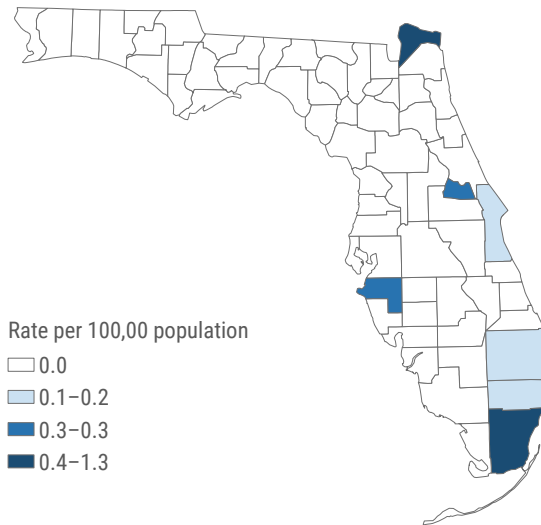
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	11 (47.8)	NA
Hispanic	12 (52.2)	NA
Unknown ethnicity	3	

Dengue Fever

Summary	Number
Number of cases	26
Case Classification	Number (Percent)
Confirmed	20 (76.9)
Probable	6 (23.1)
Outcome	Number (Percent)
Hospitalized	17 (65.4)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	1 (3.8)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	25 (96.2)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	25 (96.2)
Outbreak-associated	1 (3.8)
Outbreak status unknown	0

Dengue fever is most common in Miami-Dade residents with 17 cases reported in 2017. One infection was acquired in Miami-Dade County in 2016; all other people were infected in other countries.

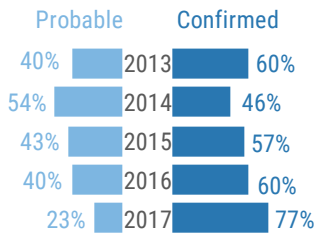


Rates are by county of residence, regardless of where infection was acquired (26 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

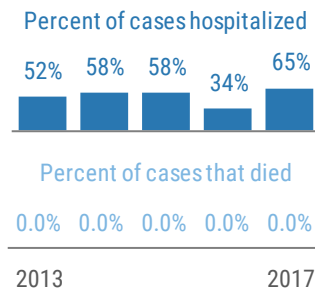


More Disease Trends

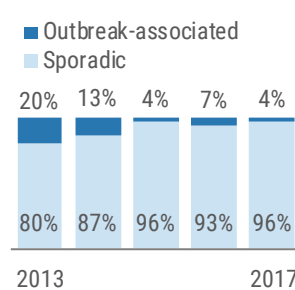
The percent of cases confirmed was higher in 2017 than in the past four years.



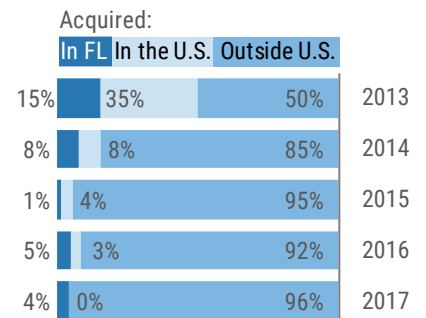
The rate of hospitalization is relatively high, but no deaths have occurred in recent years.



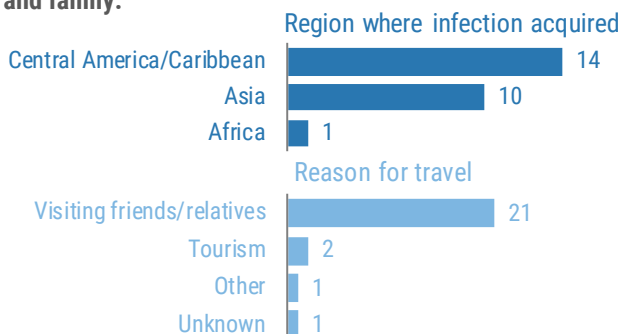
The one outbreak-associated case reported in 2017 was linked to a case in India.



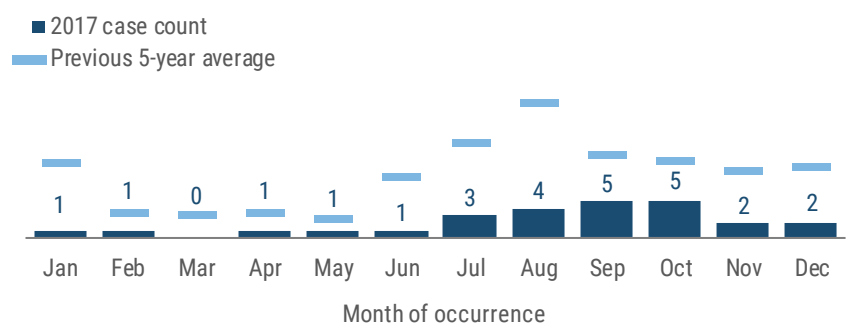
One case was acquired in Miami-Dade County in 2016; all others were imported from other countries or U.S. territories



Most dengue fever cases were acquired in Central America, the Caribbean, and Asia while visiting friends and family.



Dengue fever cases are most common in summer and fall, but can be imported any time of year. In 2017, 65% of cases occurred from July to October.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Giardiasis, Acute

Key Points

Giardia intestinalis (also known as *G. lamblia* and *G. duodenalis*) is the most common intestinal parasite of humans identified in the U.S. and a common cause of outbreaks associated with untreated surface and groundwater. Annually, an estimated 1.2 million cases occur in the U.S., and hospitalizations resulting from giardiasis cost approximately \$34 million. Case reports have associated giardiasis with the development of chronic enteric disorders, allergies, and reactive arthritis.

From August 2008 to January 2011, laboratory-confirmed cases no longer had to be symptomatic to meet the confirmed case definition, resulting in an increase in reported cases in 2009 and 2010.

Giardiasis is a common parasitic disease parasitic infection reported in Florida. Similar to cryptosporidiosis, another parasitic intestinal infection, incidence is highest in 1 to 4 year olds, followed by infants <1 year old, then children 5 to 9 years old. It occurs throughout the state year-round, though the highest rates (per 100,000 population) are in small, rural counties.

Giardia lives in the intestines of an infected person or animal and is shed through the feces. Outside of the body, *Giardia* has the potential to survive from weeks to months.

Disease Facts



Caused by *Giardia* parasites



Illness is gastroenteritis (diarrhea, vomiting)

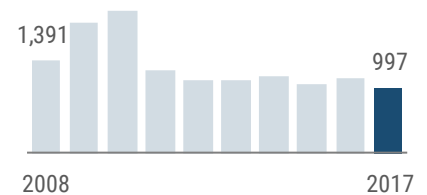


Transmitted via fecal-oral route, including person-to-person, animal-to-person, waterborne, and foodborne



Under surveillance to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Giardiasis incidence has remained relatively consistent since the last case definition change in 2011.



Disease Trends

Summary

Number of cases	997
Rate (per 100,000 population)	4.9
Change from 5-year average rate	-14.1%

Age (in Years)

Mean	34
Median	32
Min-max	0 - 93

Gender

Gender	Number (Percent)	Rate
Female	385 (38.6)	3.7
Male	612 (61.4)	6.1
Unknown gender	0	

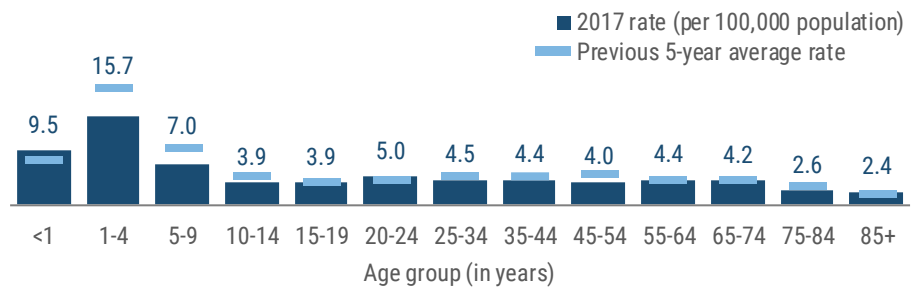
Race

Race	Number (Percent)	Rate
White	635 (77.5)	4.0
Black	97 (11.8)	2.8
Other	87 (10.6)	7.6
Unknown race	178	

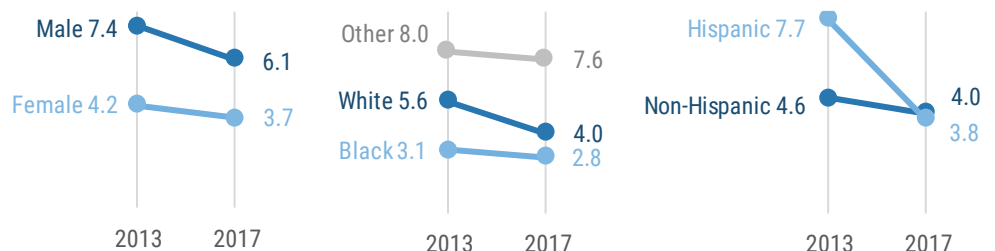
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	612 (76.0)	4.0
Hispanic	193 (24.0)	3.8
Unknown ethnicity	192	

The giardiasis rate (per 100,000 population) is consistently highest in children 1 to 4 years old, followed by <1 year old infants, which remained true in 2017.



In 2017, the giardiasis rate (per 100,000 population) was lower in all gender, race, and ethnic groups compared to 2013. The decrease was most notable in Hispanics.

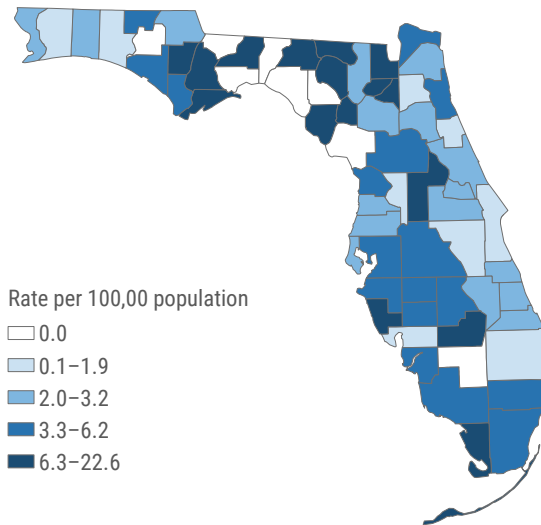


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute giardiasis cases were missing 7.9% of ethnicity data in 2013, 8.0% of race data in 2013, 19.3% of ethnicity data in 2017, and 17.9% of race data in 2017.

Giardiasis, Acute

Summary	Number
Number of cases	997
Case Classification	Number (Percent)
Confirmed	957 (96.0)
Probable	40 (4.0)
Outcome	Number (Percent)
Hospitalized	89 (8.9)
Died	0 (0.0)
Sensitive Situation	Number (Percent)
Daycare	54 (5.4)
Health care	21 (2.1)
Food handler	17 (1.7)
Imported Status	Number (Percent)
Acquired in Florida	709 (81.3)
Acquired in the U.S., not Florida	45 (5.2)
Acquired outside the U.S.	118 (13.5)
Acquired location unknown	125
Outbreak Status	Number
Sporadic	858 (89.4)
Outbreak-associated	102 (10.6)
Outbreak status unknown	37

Giardiasis occurs throughout the state, and the rates (per 100,000 population) were consistently highest in small, rural counties in 2017.

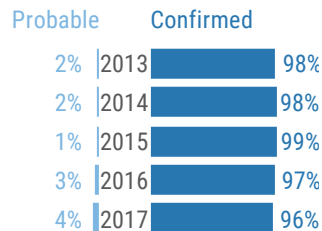


Rates are by county of residence for infections acquired in Florida (709 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

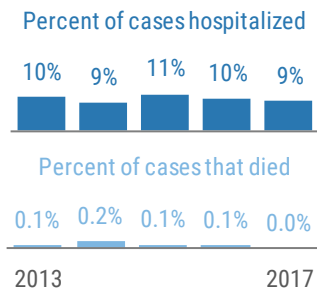


More Disease Trends

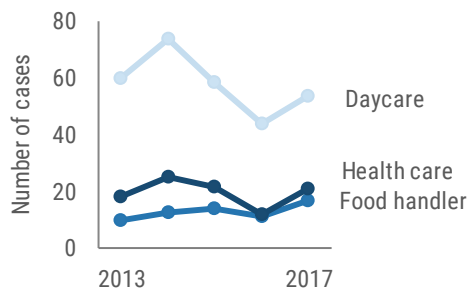
Most cases are laboratory-confirmed. Probable cases are epidemiologically linked to confirmed cases.



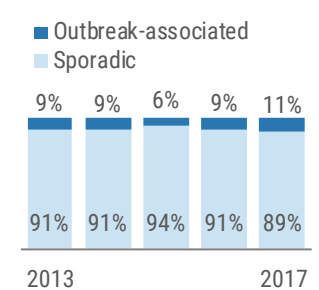
Between 9–11% of cases are hospitalized, deaths are very rare.



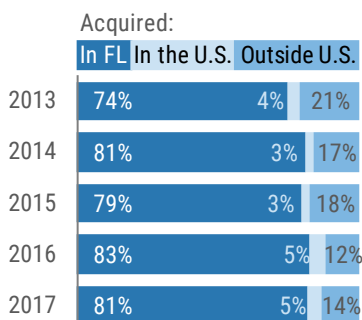
Cases in sensitive situations are monitored. People in sensitive situations may pose a risk for transmitting infection to others.



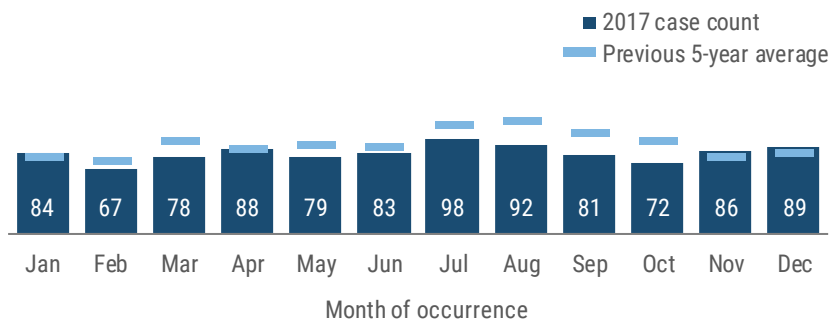
Outbreak-associated giardiasis cases typically reflect small household clusters.



Over 80% of infections are acquired in Florida but cases are imported from other states and countries every year.



Giardiasis occurs throughout the year with a small increase in the summer and fall months. In 2017, incidence was highest in July and August.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.





Gonorrhea (Excluding Neonatal Conjunctivitis)

Key Points

Over the past 10 years there has been a shift in the demographics of those less than 25 years old diagnosed with gonorrhea. Historically, the gonorrhea rate was higher in females than males for patients aged 15 to 24 years. During 2014, this shifted for patients ages 20-24; more male patients in that age group have been diagnosed. The rates in males have been increasing in most age groups since 2014.

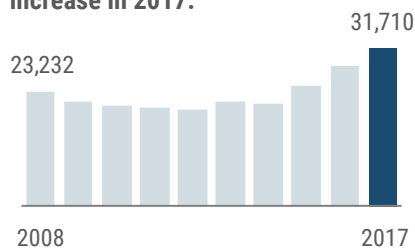
The Florida Department of Health is 1 of 10 recipients of the Centers for Disease Control and Prevention's (CDC's) STD Surveillance Grant. This grant requires awardees to randomly sample 10% of the reported gonorrhea cases across the state and conduct in-depth interviews to gather more information about potential risk factors. This includes information about their sexual behaviors and preferences, as well as self-reported demographic information. Data from this grant help Florida Health identify at-risk subpopulations and better target prevention efforts for these groups.

Disease Facts

-  **Caused** by *Neisseria gonorrhoeae* bacteria
-  **Illness** is frequently asymptomatic; sometimes abnormal discharge from vagina or penis or burning sensation when urinating
-  **Transmitted** sexually via anal, vaginal, or oral sex and sometimes from mother to child during pregnancy or delivery
-  **Under surveillance** to implement effective interventions immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Disease Trends

Gonorrhea incidence continued to increase in 2017.



Summary

Number of cases	31,710
Rate (per 100,000 population)	154.3
Change from 5-year average rate	+33.7%

Age (in Years)

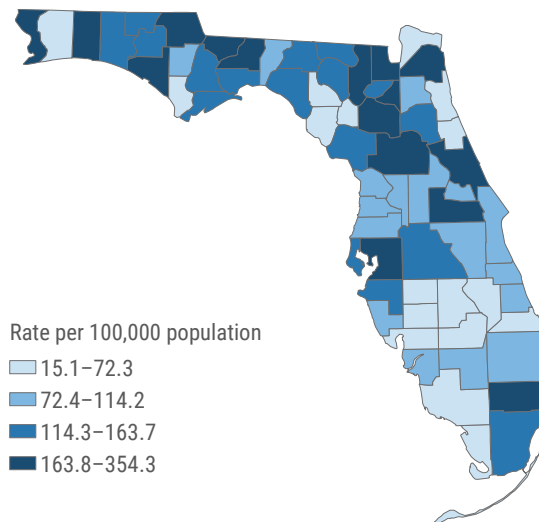
Mean	28
Median	25
Min-max	1 - 87

Gender	Number (Percent)	Rate
Female	12,781 (40.3)	121.6
Male	18,921 (59.7)	188.4
Unknown gender	8	

Race	Number (Percent)	Rate
White	10,063 (35.8)	63.1
Black	15,312 (54.5)	441.3
Other	2,702 (9.6)	236.8
Unknown race	3,633	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	22,923 (86.0)	148.7
Hispanic	3,731 (14.0)	72.6
Unknown ethnicity	5,056	

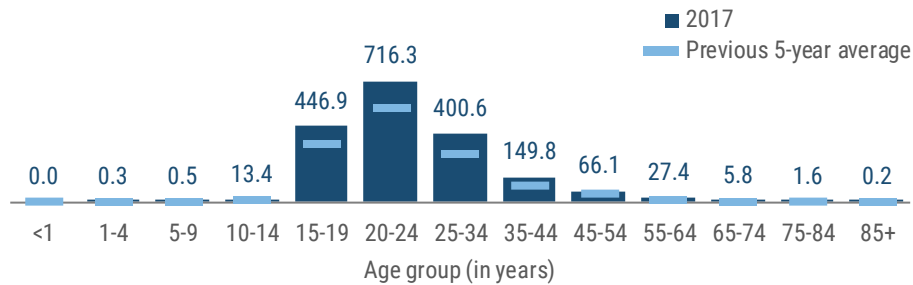
Gonorrhea occurs throughout the state. Higher rates (per 100,000 population) were clustered in the northern part of the state in 2017. The highest rates were in Leon (354.3), Duval (343.7), Gadsden (310.1), Escambia (264.4), and Alachua (238.3) counties. These counties accounted for 19% of the state's cases but only 9% of the state's population.



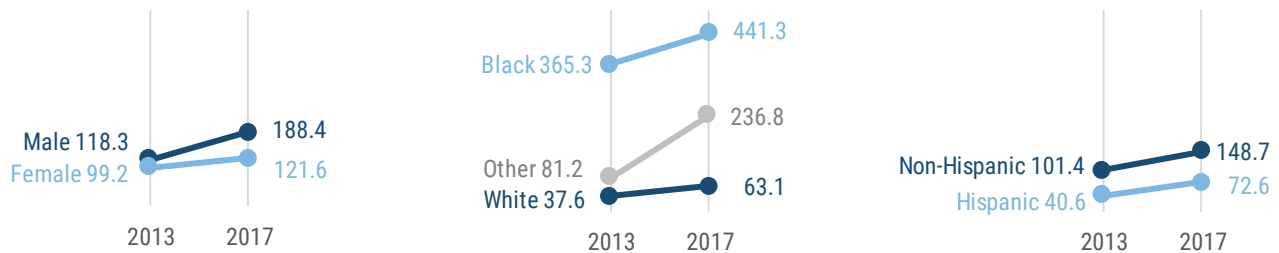
Rates are by county of residence, regardless of where infection was acquired (31,710 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

Gonorrhea (Excluding Neonatal Conjunctivitis)

Gonorrhea rates are highest in teenagers and young adults 15 to 34 years old, peaking in the 20- to 24-year-old age group.

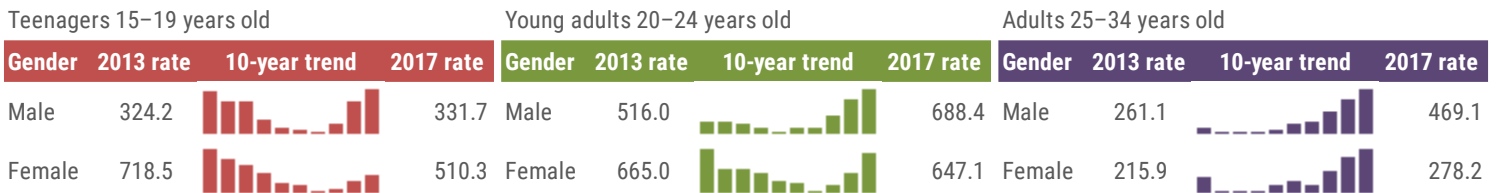


Gonorrhea rates (per 100,000 population) have increased in all gender, race, and ethnicity groups from 2013 to 2017, but the most noticeable increase was in other races. The rates were almost seven times higher in blacks than whites in 2017. Rates are higher in males than females and higher in Hispanics than non-Hispanics.



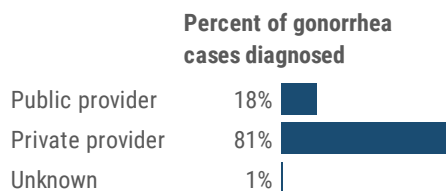
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Gonorrhea cases (excluding neonatal conjunctivitis) were missing 19.7% of ethnicity data in 2013, 13.2% of race data in 2013, 15.9% of ethnicity data in 2017, and 11.5% of race data in 2017.

The gonorrhea rate (per 100,000 population) in males has increased in all age groups primarily affected by gonorrhea over the past 10 years. However, the increase is most pronounced in adults 25 to 34 years old, particularly in the last four years. In females, the rate has decreased from 10 years ago in people 15 to 24 years old, but has increased in adults 25 to 34 years old.



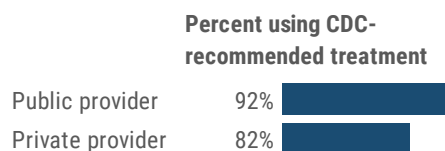
With the looming threat of antibiotic-resistant *Neisseria gonorrhoeae*, it is important that patients diagnosed with gonorrhea are treated with CDC-recommended antibiotics. Currently, ceftriaxone paired with azithromycin is the recommended treatment. Ceftriaxone is the last available antibiotic to treat *N. gonorrhoeae*; the bacteria have not developed a resistance to ceftriaxone yet.

Over 80% of diagnosed gonorrhea cases in Florida are diagnosed at private providers' offices, while 18% are diagnosed in public providers' offices.



Public providers use CDC-recommended treatment more often than private providers.

Common reasons for not receiving CDC-recommended treatment are drug allergies and medication cost.



Haemophilus influenzae Invasive Disease in Children <5 Years Old

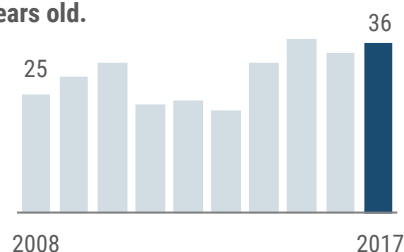
Key Points

There are six identifiable serotypes of *H. influenzae*, named a through f. Only *H. influenzae* serotype b (Hib) is vaccine-preventable. Meningitis and septicemia due to invasive Hib in children <5 years old have almost been eliminated since the introduction of effective Hib conjugate vaccines in the late 1980s. Two invasive Hib cases were reported in 2017, which were the first invasive Hib cases identified since 2014. *H. influenzae* invasive disease can sometimes result in serious complications and even death. There were seven deaths among cases in 2017, six with disease caused by a nontypeable strain and one by an unknown strain. Of the seven deaths, four (57%) had *H. influenzae*, meningitis, or bacteremia listed as a cause of death on the death certificate.

Disease Facts

- Caused by** *Haemophilus influenzae* bacteria
- Illness** can present as pneumonia, bacteremia, septicemia, meningitis, epiglottitis, septic arthritis, cellulitis, or purulent pericarditis; less frequently endocarditis and osteomyelitis
- Transmitted** person-to-person by inhalation of infective respiratory tract droplets or direct contact with infective respiratory tract secretions
- Under surveillance** to identify and control outbreaks, monitor incidence over time, monitor effectiveness of immunization programs and vaccines

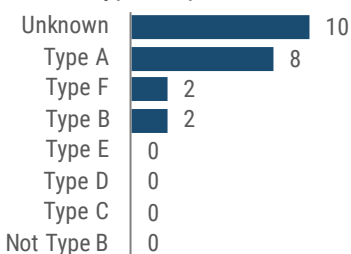
Between 20 and 40 invasive *H. influenzae* cases are reported each year in children <5 years old.



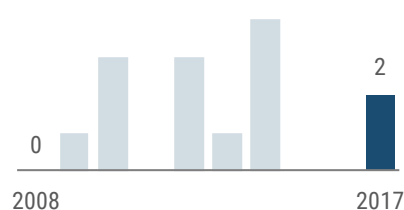
Disease Trends

No invasive Hib cases in children <5 years old were reported in 2015 or 2016, but two cases were identified in 2017. Many (39%) cases had nontypeable strains (39%), followed by serotype a (22%); samples from 10 cases (28%) were not available for serotype testing.

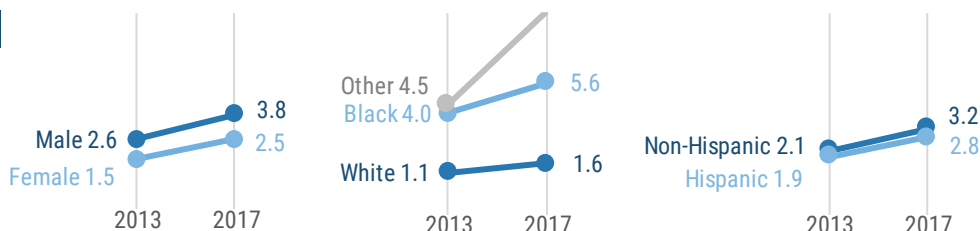
Serotypes reported in 2017



Number of Hib cases



The rate (per 100,000 population) of invasive *H. influenzae* in children <5 years old is slightly higher in males than females and higher in blacks than whites. The rate is similar in Hispanics and non-Hispanics. The rates in blacks and other races had the largest increase from 2013 to 2017.



Summary

Number of cases	36
Rate (per 100,000 population)	3.2
Change from 5-year average rate	+16.7%

Age (in Years)

Mean	1
Median	1
Min-max	0 - 4

Gender

Gender	Number (Percent)	Rate
Female	14 (38.9)	NA
Male	22 (61.1)	3.8
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	12 (34.3)	NA
Black	14 (40.0)	NA
Other	9 (25.7)	NA
Unknown race	1	

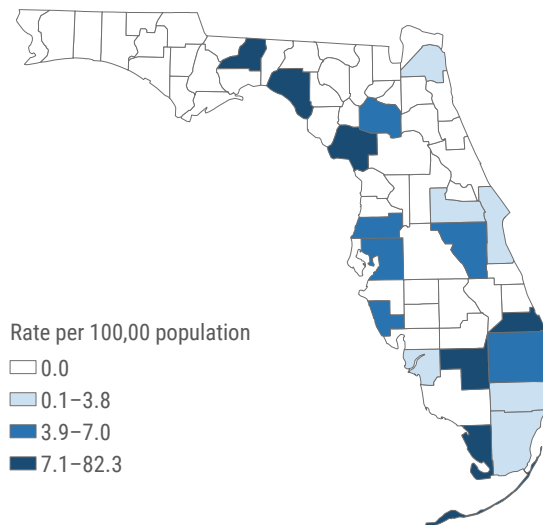
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	25 (71.4)	3.2
Hispanic	10 (28.6)	NA
Unknown ethnicity	1	

Haemophilus influenzae Invasive Disease in Children <5 Years Old

Summary	Number
Number of cases	36
Case Classification	Number (Percent)
Confirmed	36 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	32 (88.9)
Died	7 (19.4)
Imported Status	Number (Percent)
Acquired in Florida	33 (97.1)
Acquired in the U.S., not Florida	1 (2.9)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	2
Outbreak Status	Number (Percent)
Sporadic	36 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Invasive *H. influenzae* cases in children <5 years old were identified in most areas of the state in 2017, excluding the Panhandle. The highest rates (per 100,000 population) were in small, rural counties.



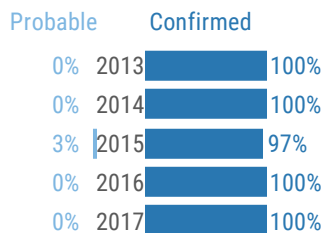
Rates are by county of residence for infections acquired in Florida (33 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



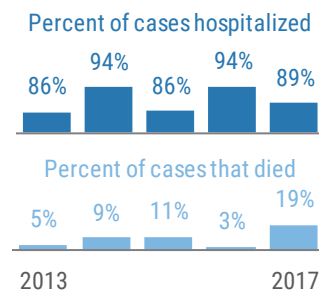
More Disease Trends

All cases were confirmed by culture or PCR in 2017, which is consistent with past years.

Probable cases are based on Hib antigen detection in cerebrospinal fluid, which is rare.

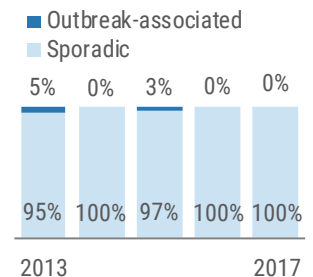


A large percent of invasive *H. influenzae* cases in children <5 years old are hospitalized. Seven children died in 2017.

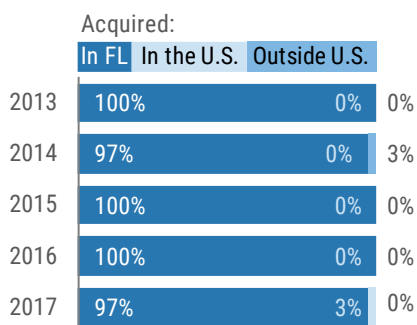


Almost all cases are sporadic.

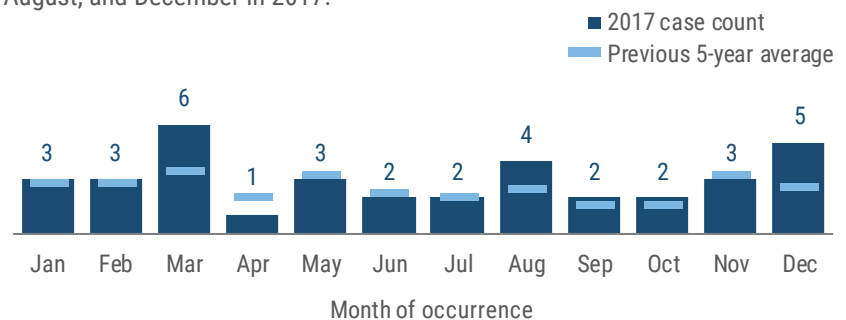
Outbreak-associated cases are usually vertical transmission from mother to infant.



Most infections are acquired in Florida. In 2017, one case was imported from Nevada.



There is not a distinct seasonality to invasive *H. influenzae* in children <5 years old. It occurs in low numbers year-round. More cases were reported in March, August, and December in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Hepatitis A

Key Points

The best way to prevent hepatitis A infection is through vaccination. Vaccination is recommended for all children at age 1 year, travelers to countries where hepatitis A is common, families and caregivers of adoptees from countries where hepatitis A is common, men who have sex with men, persons who use recreational drugs (injection or non-injection), persons experiencing homelessness, persons with chronic liver disease or clotting-factor disorders, persons with direct contact with others who have hepatitis A, and anyone who wishes to obtain immunity.

Incidence increased dramatically in 2017, with more than twice as many cases reported in a single year since 2010.

Cases acquired in Florida increased substantially compared to previous years. Most the cases occurred in south Florida and almost half (132 cases) were reported in Miami-Dade County. Most cases were in adults (median of 38 years old), males, whites, and a non-Hispanics.

The most commonly reported risk factor was men who have sex with men in 21% of cases. Other person-to-person risk factors included non-injection drug use in 9% of cases and injection drug use in 5% of cases.

Disease Facts



Caused by hepatitis A virus (HAV)



Illness includes inflammation of the liver, fever, malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice (can be asymptomatic)

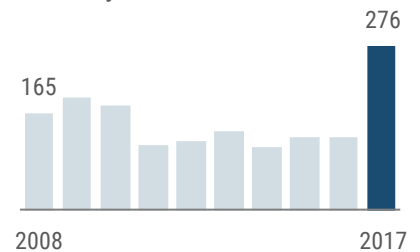


Transmitted via fecal-oral route, including person-to-person, foodborne, and waterborne



Under surveillance to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor effectiveness of immunization programs

Hepatitis A incidence increased dramatically in 2017.



Disease Trends

Summary

Number of cases	276
Rate (per 100,000 population)	1.3
Change from 5-year average rate	+118.8%

Age (in Years)

Mean	42
Median	38
Min-max	3 - 97

Gender

Gender	Number (Percent)	Rate
Female	78 (28.3)	0.7
Male	198 (71.7)	2.0
Unknown gender	0	

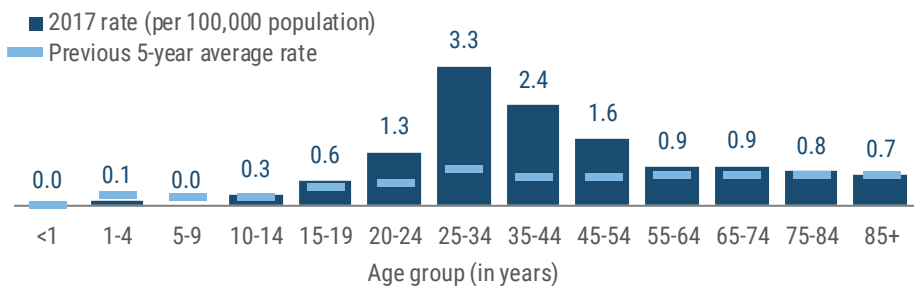
Race

Race	Number (Percent)	Rate
White	201 (74.2)	1.3
Black	38 (14.0)	1.1
Other	32 (11.8)	2.8
Unknown race	5	

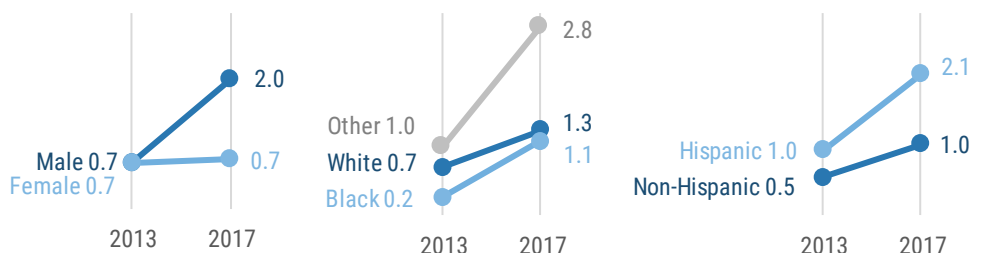
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	161 (60.1)	1.0
Hispanic	107 (39.9)	2.1
Unknown ethnicity	8	

The hepatitis A rate (per 100,000 population) is consistently highest in adults 25 to 34 years old. The increase in 2017 was most noticeable in this age group, but noticeable increases also occurred in the 20- to 24-year-olds and 35- to 54-year-olds.



The increased incidence in 2017 was evident in rates (per 100,000 population) for all race and ethnic groups and men. The rate did not increase in females in 2017 compared to 2013.

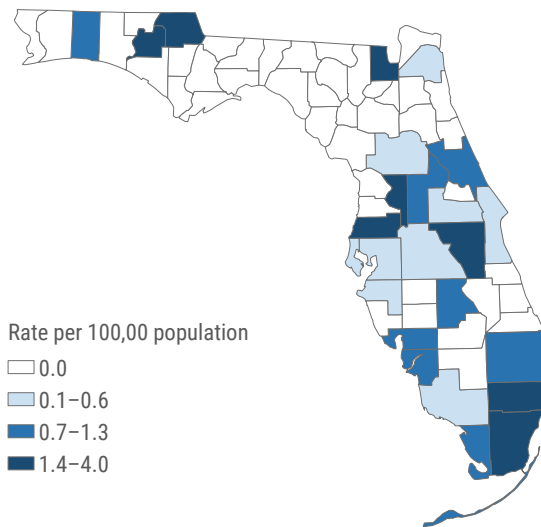


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis A cases were missing 6.8% of ethnicity data in 2013 and 6.0% of race data in 2013.

Hepatitis A

Summary	Number
Number of cases	276
Case Classification	Number (Percent)
Confirmed	261 (94.6)
Probable	15 (5.4)
Outcome	Number (Percent)
Hospitalized	188 (68.1)
Died	0 (0.0)
Sensitive Situation	Number (Percent)
Daycare	2 (0.7)
Health care	5 (1.8)
Food handler	19 (6.9)
Imported Status	Number (Percent)
Acquired in Florida	172 (69.9)
Acquired in the U.S., not Florida	13 (5.3)
Acquired outside the U.S.	61 (24.8)
Acquired location unknown	30
Outbreak Status	Number
Sporadic	240 (89.2)
Outbreak-associated	29 (10.8)
Outbreak status unknown	7

Hepatitis A cases occurred primarily in central and south Florida in 2017, though the rate (per 100,000 population) was high in some small, rural counties in north Florida.

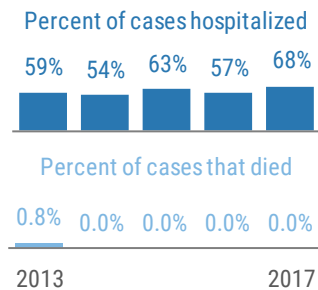


Rates are by county of residence for infections acquired in Florida (172 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

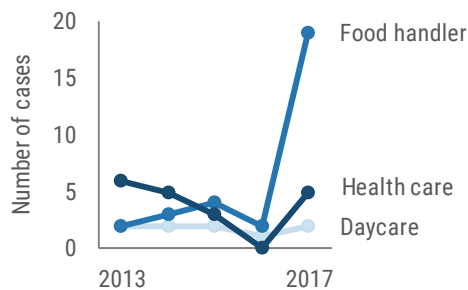


More Disease Trends

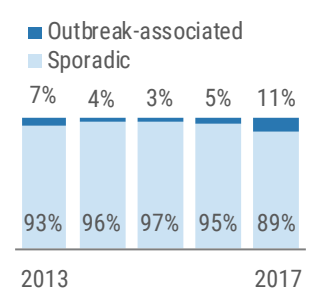
Each year, 50–70% of hepatitis A cases are hospitalized, though deaths are rare.



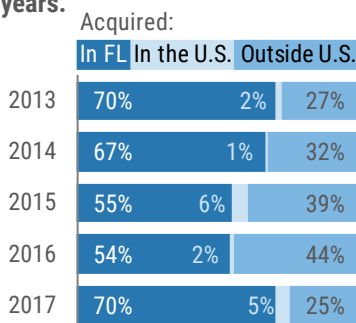
There was a disproportionate increase in food handlers in 2017. Food handlers risk transmitting infection to others if they work while infectious. No foodborne outbreaks of hepatitis A were identified in 2017.



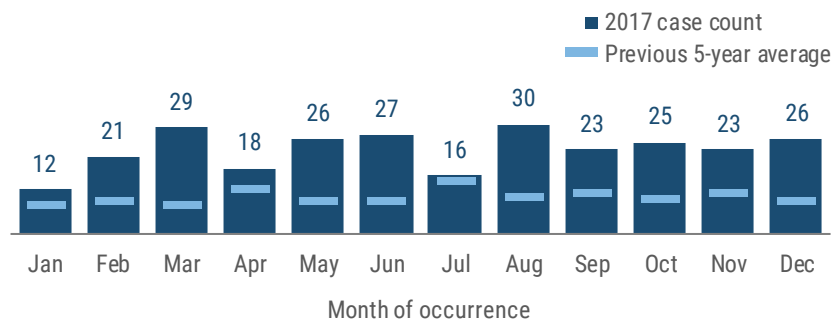
More outbreak-associated cases were identified in 2017 than previous years.



A larger proportion of infections were acquired in Florida compared to past years.



Hepatitis A cases occur throughout the year with little seasonality. The number of cases occurring each month ranged from 12 in January to 30 in August.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Hepatitis B, Acute

Key Points

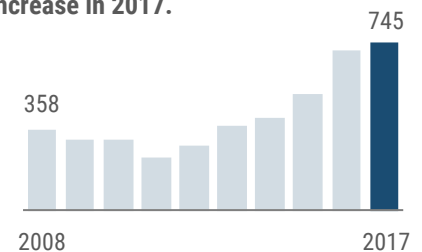
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis B from chronic diagnoses, making surveillance challenging. Incidence has increased over the last decade despite increased vaccination. The identified increase is likely due to several factors, including an enhanced surveillance project focusing on hepatitis infections in young adults aged 18 to 25 years implemented from 2012 to 2016 and changes in risk behaviors among young adults. Updated laboratory reporting guidance from June 2014 requiring laboratories participating in electronic laboratory reporting to submit all negative hepatitis results in addition to positive results has also helped identify more acute cases. In 2017, 118 cases (15%) were classified as acute based on negative results preceding positive results. Routine vaccination against hepatitis B is recommended for all children at birth (since 1994), all unvaccinated children and adolescents less than 19 years old, adults at risk for hepatitis B, and adults 19 to 59 years old with diabetes.

Acute viral hepatitis B infections were frequently associated with drug use and sharing injection equipment.

Disease Facts

- Caused** by hepatitis B virus (HBV)
- Illness** includes inflammation of the liver, fever, malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice (can be asymptomatic)
- Transmitted** via blood exposure, anal or vaginal sex, percutaneous exposure (e.g., tattooing, needle sticks), or from mother to child during pregnancy or delivery
- Under surveillance** to prevent HBV transmission, identify and prevent outbreaks, improve allocation of resources for treatment services, assist in evaluating the impact of public health interventions, monitor effectiveness of immunization programs

Acute hepatitis B incidence continued to increase in 2017.



Disease Trends

Summary

Number of cases	745
Rate (per 100,000 population)	3.6
Change from 5-year average rate	+55.3%

Age (in Years)

Mean	48
Median	47
Min-max	16 - 96

Gender

Gender	Number (Percent)	Rate
Female	299 (40.1)	2.8
Male	446 (59.9)	4.4
Unknown gender	0	

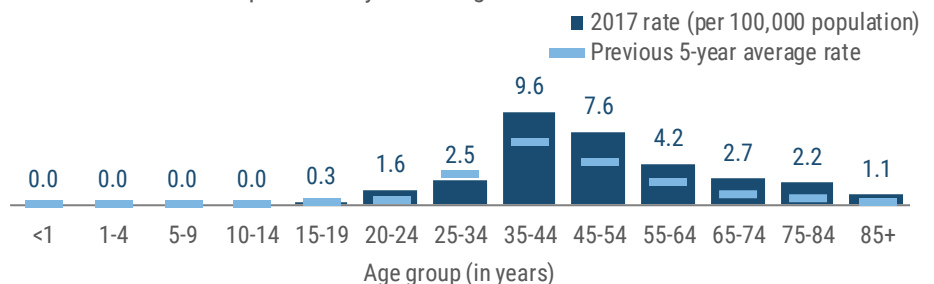
Race

Race	Number (Percent)	Rate
White	511 (78.1)	3.2
Black	95 (14.5)	2.7
Other	48 (7.3)	4.2
Unknown race	91	

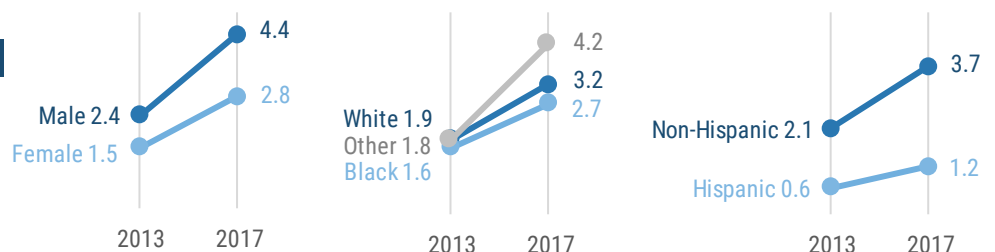
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	565 (90.4)	3.7
Hispanic	60 (9.6)	1.2
Unknown ethnicity	120	

The acute hepatitis B rate (per 100,000 population) is consistently highest in adults aged 35 to 44 years then decreases with age. The rate in 25- to 34-year-olds was lower in 2017 than the previous 5-year average.



The acute hepatitis B rate (per 100,000 population) is higher in males than females and higher in non-Hispanics than Hispanics. In 2017, rates were similar in blacks and whites but were higher in other races.

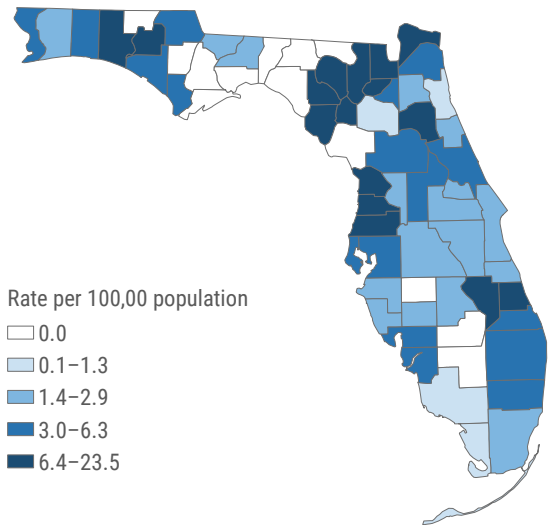


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis B cases were missing 9.1% of ethnicity data in 2013, 6.4% of race data in 2013, 16.1% of ethnicity data in 2017, and 12.2% of race data in 2017.

Hepatitis B, Acute

Summary	Number
Number of cases	745
Case Classification	Number (Percent)
Confirmed	588 (78.9)
Probable	157 (21.1)
Outcome	Number (Percent)
Hospitalized	428 (57.4)
Died	11 (1.5)
Imported Status	Number (Percent)
Acquired in Florida	538 (96.6)
Acquired in the U.S., not Florida	6 (1.1)
Acquired outside the U.S.	13 (2.3)
Acquired location unknown	188
Outbreak Status	Number (Percent)
Sporadic	611 (96.1)
Outbreak-associated	25 (3.9)
Outbreak status unknown	109

Acute hepatitis B cases occurred throughout the state in 2017. The rates (per 100,000 population) were highest in small rural counties, particularly in the northern part of the Florida peninsula.



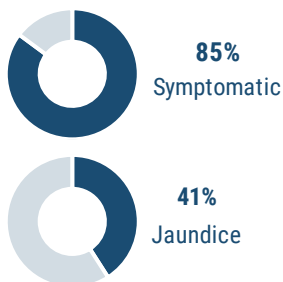
Rates are by county of residence, regardless of where infection was acquired (745 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

Twenty-five outbreak-associated cases were identified, including 16 separate epidemiologically linked groups of acute cases (seven cases were linked to chronic hepatitis B cases). Most epidemiological linkages were sexual contacts (76%); others were household contacts (12%) and personal contacts (12%).



More Disease Trends

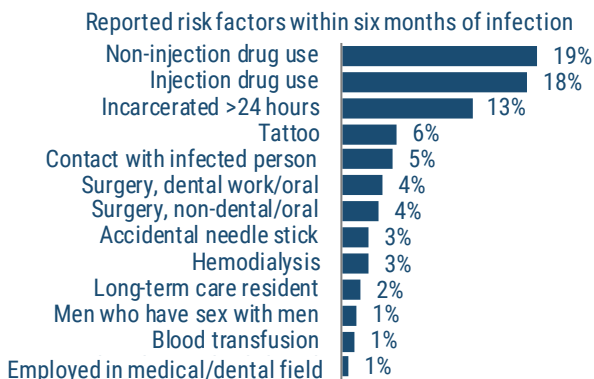
Most acute hepatitis B cases reported in 2017 were symptomatic, but fewer than half had jaundice.



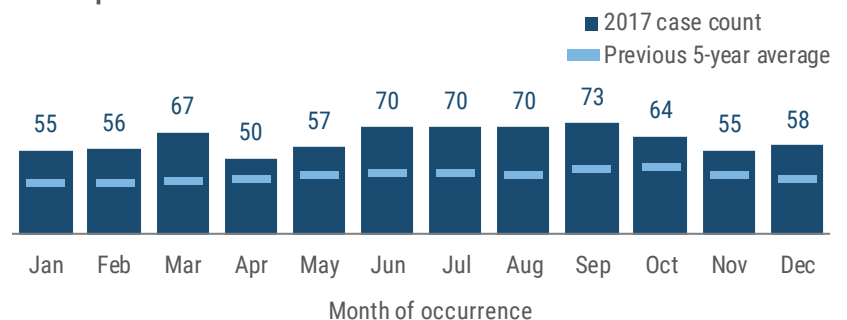
Most acute hepatitis B cases tested positive for hepatitis B surface antigen and IgM antibody to hepatitis B core antigen. The IgM antibody is an indicator of acute infection.

Test type	Percent of cases	Test interpretation
Hepatitis B surface antigen	88%	Acute or chronic HBV infection
Hepatitis B core antibody, IgM	82%	Acute HBV infection
Hepatitis B DNA	38%	Amount of HBV in blood
Hepatitis B e antigen	23%	HBV is multiplying
Hepatitis B core antibody, total	23%	Acute or chronic HBV infection, no immunity developed
Hepatitis B e antibody	12%	HBV has stopped multiplying
Hepatitis B surface antibody	6%	Immunity to HBV

Similar to past years, the top three risk factors reported in 2017 by people with hepatitis B included non-injection drug use, injection drug use, and incarceration.



Acute hepatitis B cases occur throughout the year with between 50 and 75 cases reported each month.



Hepatitis B, Chronic

Key Points

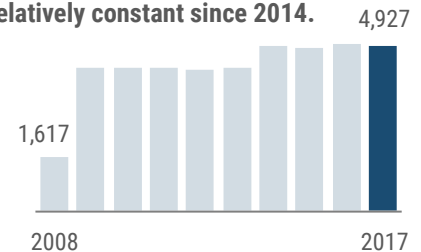
Given the large burden of chronic hepatitis and limited county resources, there have been concerns regarding data completeness and case ascertainment in the past. Earlier data are less reliable, particularly prior to 2009. Since 2009, improvements in electronic laboratory reporting (ELR) and increased focus on disease surveillance have improved case ascertainment. Automated case classification and reporting logic in the surveillance application have improved data quality. In 2014, reporting requirements were updated to include mandatory reporting of all positive and negative hepatitis results, as well as all liver function tests, to support the identification of acute hepatitis B cases. ELR has continued to expand. Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis B from chronic. Cases that do not meet the clinical criteria for acute hepatitis B or do not have prior negative laboratory results to indicate acute infection are reported as chronic.

Given the large volume of laboratory results received electronically that are not investigated and for which no clinical information is available, it is likely that acute hepatitis B infections are misclassified as chronic.

Disease Facts

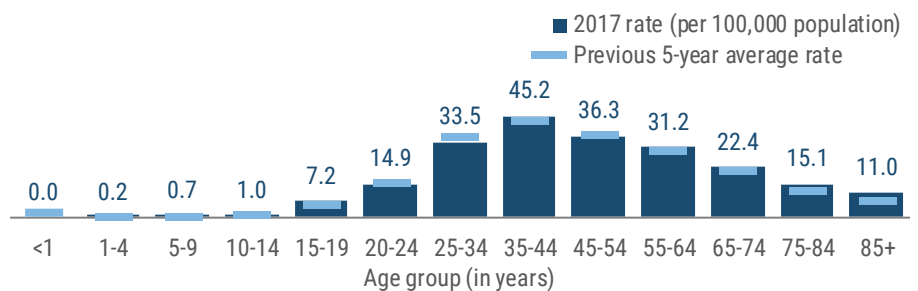
- Caused** by hepatitis B virus (HBV)
- Illness** can include chronic liver disease (e.g., cirrhosis and liver cancer), though it is often asymptomatic; two to six percent of acute infections in adults become chronic
- Transmitted** via blood exposure, anal or vaginal sex, percutaneous exposure (e.g., tattooing, needle sticks), or from mother to child during pregnancy or delivery
- Under surveillance** to prevent HBV transmission, identify acute infections and prevent outbreaks, assist in evaluating the impact of public health interventions, monitor effectiveness of immunization programs

Chronic hepatitis B incidence has remained relatively constant since 2014.

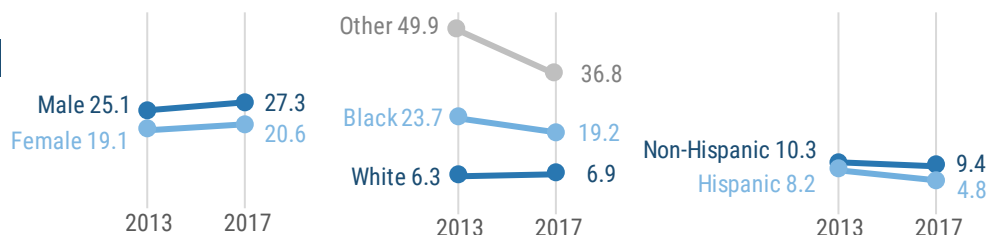


Disease Trends

Similar to acute hepatitis B, the rate (per 100,000 population) of chronic hepatitis B is highest in adults 35 to 44 years old. The rate in 25- to 34-year-olds was lower in 2017 than the previous 5-year average.



The chronic hepatitis B rates (per 100,000 population) are similar by gender and ethnicity groups, though rates vary by race. Because few chronic cases are investigated, race and ethnicity data are missing for many cases.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis B cases were missing 55.6% of ethnicity data in 2013, 48.2% of race data in 2013, 65.6% of ethnicity data in 2017, and 55.6% of race data in 2017.

Summary

Number of cases	4,927
Rate (per 100,000 population)	24.0
Change from 5-year average rate	+1.6%

Age (in Years)

Mean	47
Median	46
Min-max	3 - 95

Gender

Gender	Number (Percent)	Rate
Female	2,168 (44.1)	20.6
Male	2,746 (55.9)	27.3
Unknown gender	13	

Race

Race	Number (Percent)	Rate
White	1,100 (50.3)	6.9
Black	667 (30.5)	19.2
Other	420 (19.2)	36.8
Unknown race	2,740	

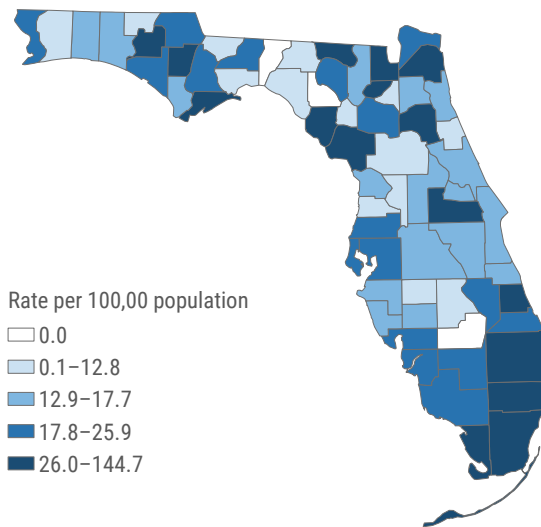
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	1,452 (85.6)	9.4
Hispanic	245 (14.4)	4.8
Unknown ethnicity	3,230	

Hepatitis B, Chronic

Summary	Number
Number of cases	4,927
Case Classification	Number (Percent)
Confirmed	2,118 (43.0)
Probable	2,809 (57.0)
Outcome	Number (Percent)
Hospitalized	177 (3.6)
Died	14 (0.3)
Imported Status	Number (Percent)
Acquired in Florida	628 (93.2)
Acquired in the U.S., not Florida	8 (1.2)
Acquired outside the U.S.	38 (5.6)
Acquired location unknown	4,253
Outbreak Status	Number (Percent)
Sporadic	892 (99.3)
Outbreak-associated	6 (0.7)
Outbreak status unknown	4,029

Chronic hepatitis B occurs throughout the state in 2017, with the highest rates (per 100,000 population) in small, rural counties across the state and in large counties in southeast Florida.

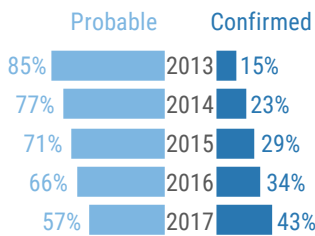


Rates are by county of residence, regardless of where infection was acquired (4,927 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



More Disease Trends

Less than half of chronic hepatitis B infections are confirmed. Very few cases are investigated.



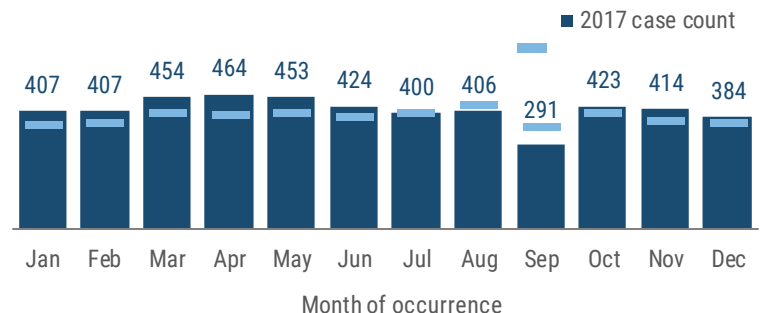
Most chronic hepatitis B cases tested positive for hepatitis B surface antigen. A small number of cases had IgM antibody to hepatitis B core antigen, but did not meet the case definition for acute hepatitis B.

Test type	Percent of cases	Test interpretation
Hepatitis B surface antigen	89%	Acute or chronic HBV infection
Hepatitis B DNA	36%	Amount of HBV in blood
Hepatitis B core antibody, total	26%	Acute or chronic HBV infection, no immunity developed
Hepatitis B e antibody	16%	HBV has stopped multiplying
Hepatitis B e antigen	11%	HBV is multiplying
Hepatitis B core antibody, IgM	4%	Acute HBV infection
Hepatitis B surface antibody	4%	Immunity to HBV

In 2017, 293 chronic hepatitis B cases (6%) were co-infected with HIV. The majority of people with co-infections were male, black, and 45 to 54 years old.

Gender	Gender	Age group	Percent of cases
Male	81%	15-19	1%
Female	19%	20-24	1%
		25-34	14%
		35-44	23%
		45-54	33%
		55-64	22%
		65-74	4%
		75-84	1%
		85+	0.3%
White	39%		
Black	57%		
Other	3%		

Chronic hepatitis B cases occur throughout the year with between 290-465 cases occurring each month.



Order of infection can not be determined from these charts. Race and ethnicity data are from the enhanced HIV/AIDS Reporting System as demographic data were more complete for these cases. Race was missing for two people who were co-infected.

See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Hepatitis B, Pregnant Women





Key Points

Hepatitis B is a vaccine-preventable disease. Identification of HBV in pregnant women allows for appropriate treatment of their infants, significantly reducing the infants' risk of contracting HBV. Rates for HBV infections in pregnant women are per 100,000 women aged 15 to 44 years old.

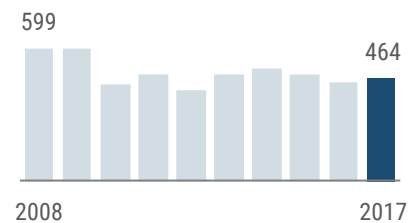
The 2016 National Immunization Survey estimates that HBV vaccination coverage for a birth dose administered from birth through 3 days of age was 71.1% in the U.S. and 59.0% in Florida. Birthing hospitals have a standing order to administer the birth of the HBV vaccine; however, pediatricians sometimes choose to wait to give the first dose in their private offices. With lower-than-expected vaccination rates, Florida is currently working with the Florida Chapter of the American Academy of Pediatrics to provide education reminding health care providers that the recommendation is to provide the birth dose within 24 hours to help decrease HBV infections in newborns.

Incidence of hepatitis in pregnant women has generally decreased over the past 10 years, possibly due to increased vaccination of women of childbearing age or changes in case ascertainment and protocol. In the U.S., Asians have a high HBV carrier rate (7–16%) and account for most HBV diagnoses in the other race category.

Disease Facts

-  **Caused** by hepatitis B virus (HBV)
-  **Illness** is acute or chronic; infection is identified when a woman tests positive for HBV during pregnancy, regardless of symptoms; up to 90% of perinatal infections become chronic
-  **Transmitted** via blood exposure, anal or vaginal sex, percutaneous exposure (e.g., tattooing, needle sticks), or from mother to child during pregnancy or delivery
-  **Under surveillance** to identify individual cases and implement control measures to prevent HBV transmission from mother to baby; monitor and evaluate effectiveness of screening programs

HBV infections in pregnant women have declined over the past 10 years, but have remained relatively consistent since 2010.



Disease Trends

Summary	
Number of cases	464
Rate (per 100,000 population)	12.3
Change from 5-year average rate	-3.3%

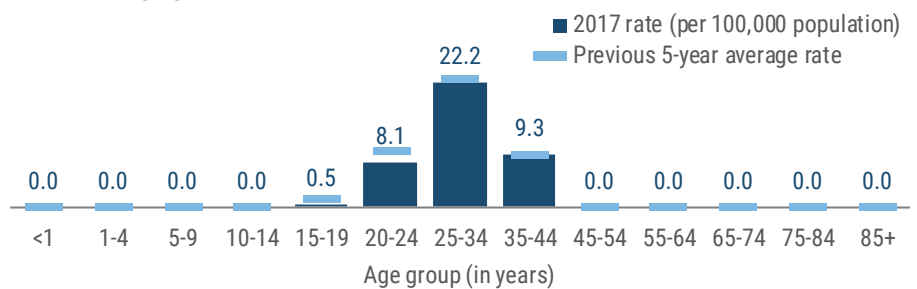
Age (in Years)	
Mean	31
Median	31
Min-max	18 - 45

Gender	Number (Percent)	Rate
Female	463 (99.8)	12.3
Male	1 (0.2)	NA
Unknown gender	0	

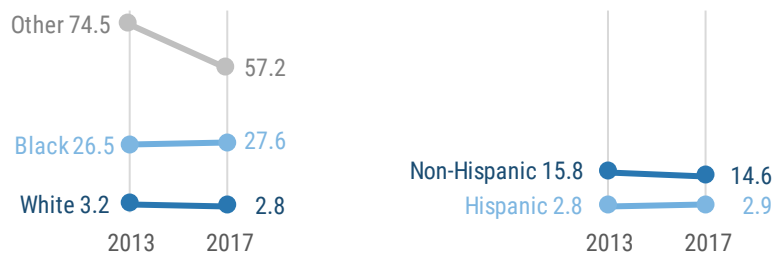
Race	Number (Percent)	Rate
White	76 (17.4)	2.8
Black	216 (49.4)	27.6
Other	145 (33.2)	57.2
Unknown race	27	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	388 (92.4)	14.6
Hispanic	32 (7.6)	2.9
Unknown ethnicity	44	

The HBV infection rate (per 100,000 population) in pregnant women is highest in women 25 to 34 years old, with much lower rates in older and younger women of child-bearing age.



The HBV infection rate (per 100,000 population) in pregnant women is higher in non-Hispanics than Hispanics, and the rates in 2017 were similar to rates in 2013. The rate is highest in other races, though the rate did decrease dramatically from 2013 to 2017 in this group. The rate in blacks is higher than the rate in whites; 2017 rates for both groups remained similar to 2013 rates.

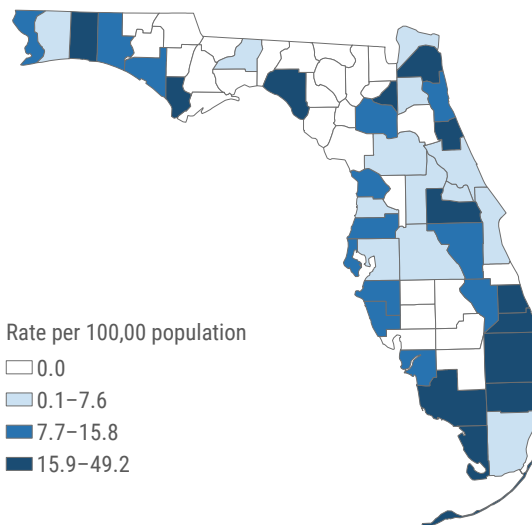


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis B surface antigen cases in pregnant women were missing 8.1% of ethnicity data in 2013, 6.6% of race data in 2013, 9.5% of ethnicity data in 2017, and 5.8% of race data in 2017.

Hepatitis B, Pregnant Women

Summary	Number
Number of cases	464
Outcome	Number (Percent)
Hospitalized	57 (12.3)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	196 (66.4)
Acquired in the U.S., not Florida	8 (2.7)
Acquired outside the U.S.	91 (30.8)
Acquired location unknown	169

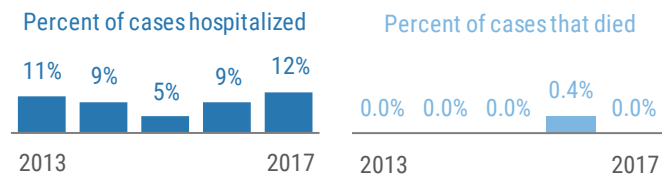
Similar to the distribution of chronic hepatitis B, the rate (per 100,000 population) of HBV infection in pregnant women is clustered in south Florida. Unlike chronic HBV infections, many counties in the Panhandle did not identify any HBV infections in pregnant women in 2017.



Rates are by county of residence, regardless of where infection was acquired (464 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

More Disease Trends

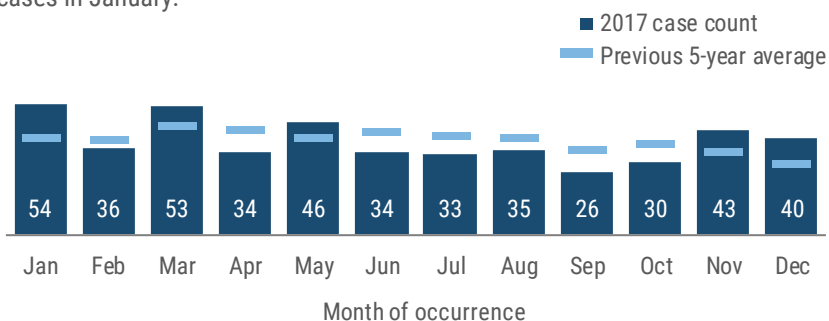
Typically around 10–12% of cases are hospitalized, and deaths are rare. Two cases died in 2016, but neither death was related to HBV infection. No deaths were identified in 2017.



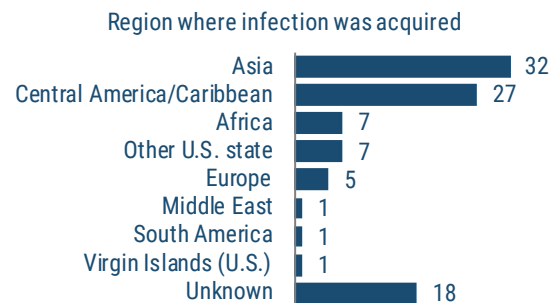
Generally, between 30–40% of infections are acquired outside Florida.

Year	Acquired:		
	In FL	In the U.S.	Outside U.S.
2013	58%	4%	38%
2014	59%	3%	39%
2015	52%	4%	43%
2016	61%	3%	37%
2017	66%	3%	31%

There is no seasonality to HBV infections in pregnant women. The number of cases that occurred in 2017 varied by month from 26 cases in September to 55 cases in January.



For infections known to be acquired outside Florida, Asia, Central America, and the Caribbean are most common.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, and month of occurrence.

Hepatitis C, Acute

Key Points

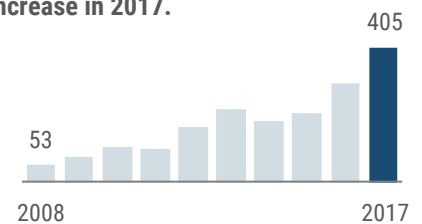
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis C from chronic diagnoses, making surveillance challenging. Incidence has increased since 2008, likely due to several factors, including a change in case definition in 2008, an enhanced surveillance project focusing on hepatitis infections in young adults initiated in 2012, and changes in risk behaviors in young adults. Additionally, updated laboratory reporting guidance in June 2014 required laboratories participating in electronic laboratory reporting to submit all negative hepatitis results in addition to all positive results. In 2017, 59% of cases were determined to be acute based on negative results preceding positive results.

New diagnoses of viral hepatitis are frequently associated with drug use and sharing of injection equipment. Most reported cases were sporadic. Nine outbreak-associated cases were identified, each of which was epidemiologically linked to a chronic hepatitis C case. Of the 9 outbreak-associated cases, 5 (56%) were linked to chronic hepatitis C cases through sexual contact, 2 (22%) through personal contact, 1 (11%) through injection drug use, and 1 (11%) had a family member with chronic hepatitis C.

Disease Facts

- Caused** by hepatitis C virus (HCV)
- Illness** includes inflammation of the liver, fever, malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice (can be asymptomatic)
- Transmitted** via blood exposure, percutaneous exposure (e.g., tattooing, needle sticks), from mother to child during pregnancy or delivery, or rarely through anal or vaginal sex.
- Under surveillance** to prevent HCV transmission, identify and prevent outbreaks, assist in evaluating the impact of public health interventions and screening programs

Acute hepatitis C incidence continued to increase in 2017.



Disease Trends

Summary	
Number of cases	405
Rate (per 100,000 population)	2.0
Change from 5-year average rate	+79.3%

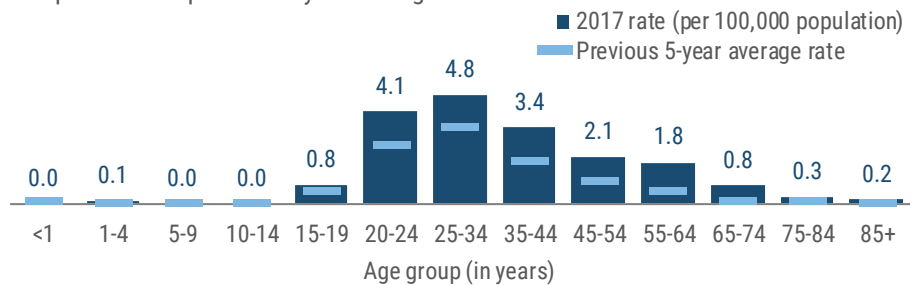
Age (in Years)	
Mean	39
Median	36
Min-max	2 - 85

Gender	Number (Percent)	Rate
Female	182 (44.9)	1.7
Male	223 (55.1)	2.2
Unknown gender	0	

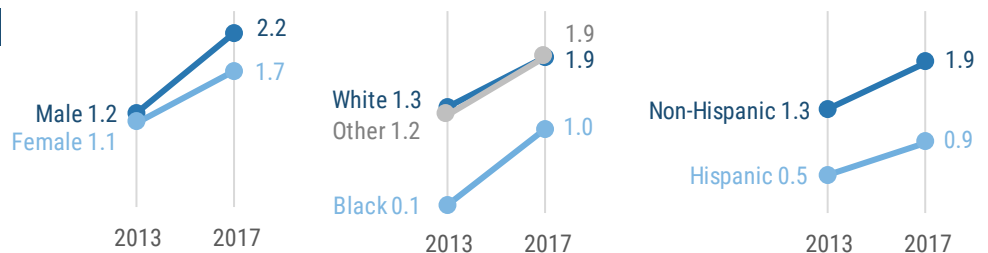
Race	Number (Percent)	Rate
White	308 (84.2)	1.9
Black	36 (9.8)	1.0
Other	22 (6.0)	1.9
Unknown race	39	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	288 (86.5)	1.9
Hispanic	45 (13.5)	0.9
Unknown ethnicity	72	

The acute hepatitis C rate (per 100,000 population) is higher in younger adults, compared to acute hepatitis B. The highest rate is in adults aged 25 to 34 years old, followed by adults 20 to 24 years old. Rates increased in all adult age groups compared to the previous 5-year average.



The acute hepatitis C rates (per 100,000 population) increased across all age, race, and ethnic groups in 2017 compared to 2013. The rate was similar between males and females, but higher in non-Hispanics compared to Hispanics, and lower in blacks compared to whites and other races.

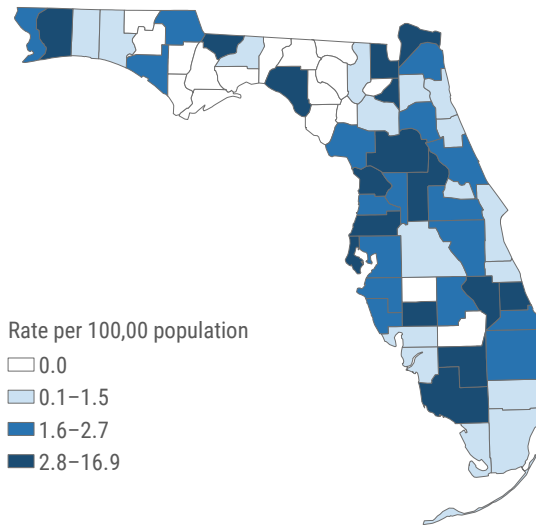


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis C cases were missing 17.8% of ethnicity data in 2017 and 9.6% of race data in 2017.

Hepatitis C, Acute

Summary	Number
Number of cases	405
Case Classification	Number (Percent)
Confirmed	338 (83.5)
Probable	67 (16.5)
Outcome	Number (Percent)
Hospitalized	170 (42.0)
Died	7 (1.7)
Imported Status	Number (Percent)
Acquired in Florida	281 (98.9)
Acquired in the U.S., not Florida	1 (0.4)
Acquired outside the U.S.	2 (0.7)
Acquired location unknown	121
Outbreak Status	Number (Percent)
Sporadic	331 (97.4)
Outbreak-associated	9 (2.6)
Outbreak status unknown	65

Acute hepatitis C cases were reported throughout the state in 2017, except for several counties in the central and eastern part of the Florida panhandle. Higher rates (per 100,000 population) occurred in central Florida counties.

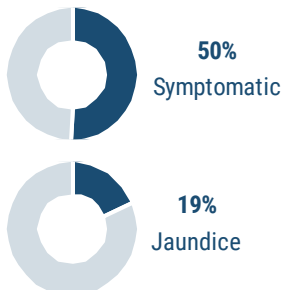


Rates are by county of residence, regardless of where infection was acquired (405 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

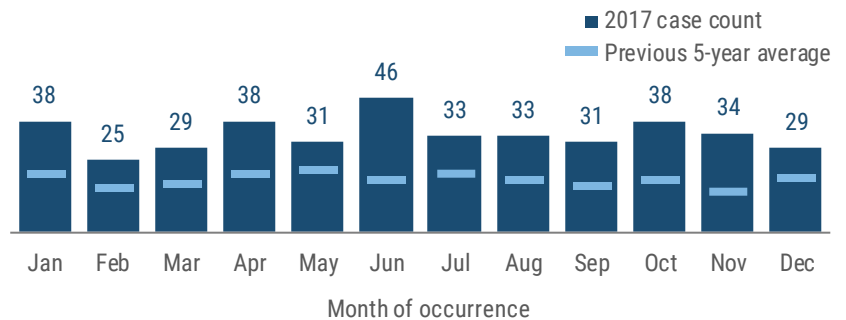


More Disease Trends

Half of acute hepatitis C cases reported in 2017 were symptomatic, but less than 20% had jaundice.



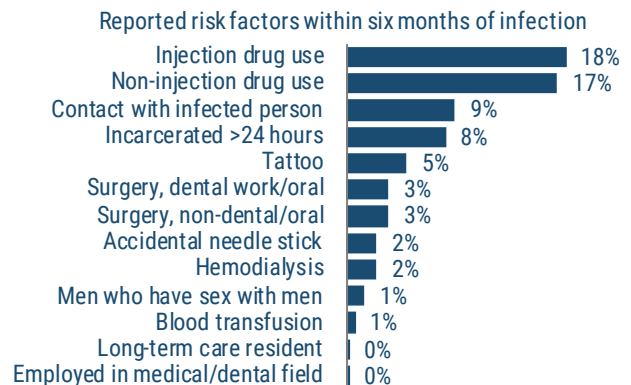
Acute hepatitis C occurs throughout the year with no particular seasonality.



Almost all confirmed cases of acute hepatitis C were positive for hepatitis C antibody and most were positive for hepatitis C RNA. Only a small portion of probable cases were positive for hepatitis C RNA.

	Percent of confirmed cases
Hepatitis C antibody	95%
Hepatitis C RNA	71%
	Percent of probable cases
Hepatitis C antibody	100%
Hepatitis C RNA	12%

Similar to past years, the top three risk factors reported in 2017 by people with acute hepatitis C included non-injection drug use, injection drug use, and incarceration.



Hepatitis C, Chronic (Including Perinatal)

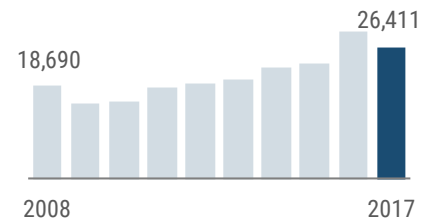
Key Points

Incidence of hepatitis C is highest among “baby boomers,” adults born between 1946 and 1965 who would be 52 to 71 years old in 2017. Most baby boomers were likely infected in the 1960s, 70s, and 80s, when transmission of hepatitis C was highest. Changes in treatment options for HCV have led to an increased focus on identifying HCV infections. Given the large burden of chronic hepatitis and limited county resources, there have been concerns regarding data completeness and case ascertainment. Earlier data are less reliable. Over the past few years, improvements in electronic laboratory reporting (ELR), logic within the surveillance application, and expansion of reporting requirements are believed to have improved case ascertainment. Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis C from chronic. Cases that do not meet the clinical criteria for acute hepatitis C or do not have prior negative laboratory results to indicate acute infection are reported as chronic. Given the volume of laboratory results received electronically for which no clinical information is available, it is likely that many acute HCV infections are misclassified as chronic. The high rate of chronic diagnoses in young adults (18 to 25 years old) for example supports the theory that acute infections are not initially identified. An enhanced surveillance project focusing on chronic infections in young adults was implemented from 2012 through 2016 to help identify risk factors and acute infections.

Disease Facts

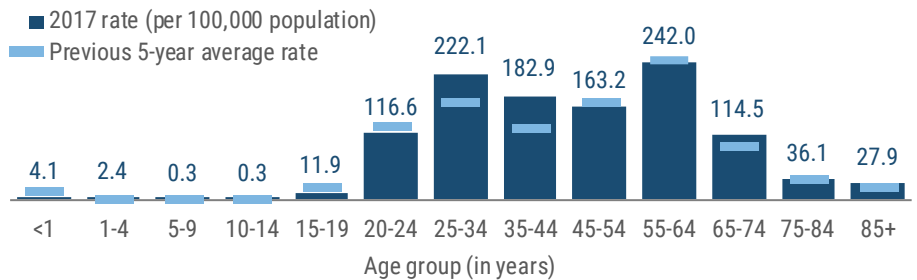
- Caused** by hepatitis C virus (HCV)
- Illness** can include chronic liver disease (e.g., cirrhosis and liver cancer), though it is often asymptomatic; 70-85% of acute infections in adults become chronic
- Transmitted** via blood exposure, percutaneous exposure (e.g., tattooing, needle sticks), from mother to child during pregnancy or delivery, or rarely through anal or vaginal sex
- Under surveillance** to prevent HCV transmission, identify acute infections and prevent outbreaks, assist in evaluating the impact of public health interventions and screening programs

Chronic hepatitis C incidence increased in 2016 due to a case definition expansion. Incidence decreased in 2017.

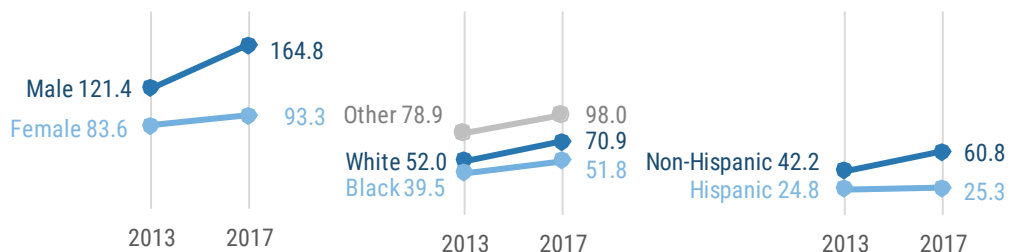


Disease Trends

The rate of chronic hepatitis C (per 100,000 population) is highest in adults 55 to 64 years old.



The chronic hepatitis C rate (per 100,000 population) is higher in males than females, and slightly higher in non-Hispanics than Hispanics. Rates are lower in blacks than in whites and other races. Because few chronic cases are investigated, race and ethnicity data are missing for many cases.



Summary

Number of cases	26,411
Rate (per 100,000 population)	128.5
Change from 5-year average rate	+11.3%

Age (in Years)

Mean	47
Median	47
Min-max	0 - 101

Gender

Gender	Number (Percent)	Rate
Female	9,809 (37.2)	93.3
Male	16,549 (62.8)	164.8
Unknown gender	53	

Race

Race	Number (Percent)	Rate
White	11,306 (79.5)	70.9
Black	1,796 (12.6)	51.8
Other	1,118 (7.9)	98.0
Unknown race	12,191	

Ethnicity

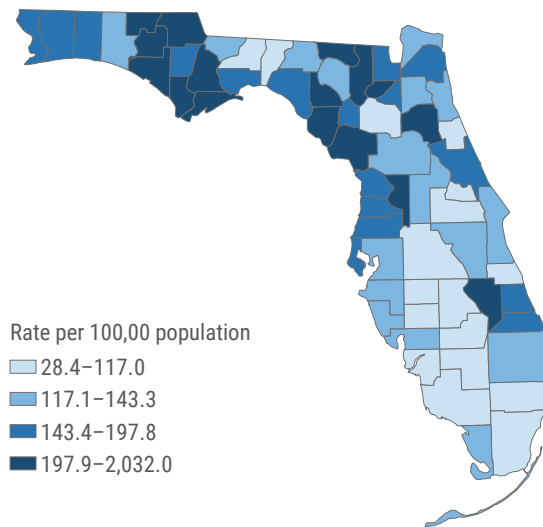
Ethnicity	Number (Percent)	Rate
Non-Hispanic	9,374 (87.8)	60.8
Hispanic	1,298 (12.2)	25.3
Unknown ethnicity	15,739	

Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis C cases (including perinatal) were missing 62.7% of ethnicity data in 2013, 49.8% of race data in 2013, 59.6% of ethnicity data in 2017, and 46.2% of race data in 2017.

Hepatitis C, Chronic (Including Perinatal)

Summary	Number
Number of cases	26,411
Case Classification	Number (Percent)
Confirmed	18,283 (69.2)
Probable	8,128 (30.8)
Outcome	Number (Percent)
Hospitalized	1,599 (6.1)
Died	34 (0.1)
Imported Status	Number (Percent)
Acquired in Florida	3,580 (98.4)
Acquired in the U.S., not Florida	31 (0.9)
Acquired outside the U.S.	29 (0.8)
Acquired location unknown	22,771
Outbreak Status	Number (Percent)
Sporadic	5,874 (98.7)
Outbreak-associated	80 (1.3)
Outbreak status unknown	20,457

Chronic hepatitis C occurred throughout the state in 2017 with the highest rates in small counties in northern Florida, particularly in the Panhandle.

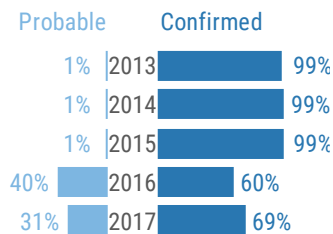


Rates are by county of residence, regardless of where infection was acquired (26,411 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

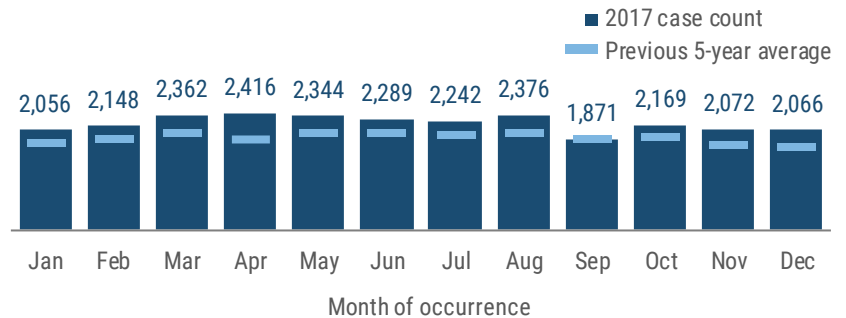


More Disease Trends

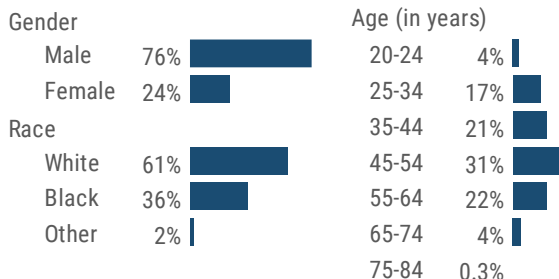
Almost 70% of chronic hepatitis C cases were confirmed in 2017. The probable case definition expanded in 2016, resulting in a large increase in probable cases.



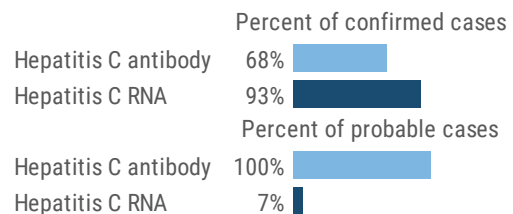
Chronic hepatitis C cases occur throughout the year with between 1,800 and 2,500 cases occurring each month.



In 2017, 693 chronic hepatitis C cases (2.6%) were co-infected with HIV. The majority of people with co-infections were male, white, and 45 to 54 years old.



Almost all confirmed cases of chronic hepatitis C were for positive hepatitis C RNA and most were positive for hepatitis C antibody. Only a small portion of probable cases were positive for hepatitis C RNA.



Order of infection can not be determined from these charts. Race and ethnicity data are from the enhanced HIV/AIDS Reporting System as demographic data were more complete for these cases. Race was missing for six people who were co-infected.

HIV/AIDS

Key Points

HIV is a life-threatening infection that attacks the body's immune system and leaves a person vulnerable to opportunistic infections. The Centers for Disease Control and Prevention estimates that 1.2 million people are living with HIV (prevalence) in the U.S., nearly half of whom live in the southern U.S. Florida is a large state in the south with a diverse population, substantial HIV morbidity, and unique challenges with respect to HIV/AIDS surveillance, prevention, and patient care.

HIV incidence (new diagnoses) has been gradually increasing since 2013. Rates are consistently highest in adults 20 to 34 years old. In 2017, male-to-male sexual contact continued to account for over 75% of new cases diagnosed in men.

Untreated, HIV can continue to weaken the immune system and develop into AIDS. Florida observed a 51% decrease in AIDS diagnoses from 2008 to 2017, indicating an increase in testing and diagnosis of individuals earlier in disease stage, along with linkage to care, retention in care, and maintaining a suppressed viral load.

Disease Facts



Caused by human immunodeficiency virus (HIV)



Illness is flu-like primary infection; AIDS is defined as HIV with CD4 count <200 cells/ μ L or occurrence of opportunistic infection

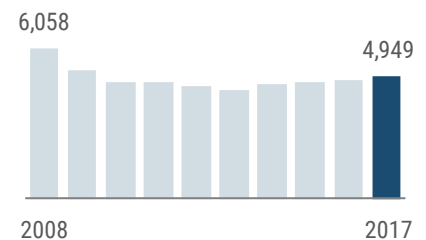


Transmitted via anal or vaginal sex, blood exposure (e.g., sharing injection drug needles, receiving infected blood transfusion [rare due to donor screening]), or vertically during pregnancy, delivery, or breastfeeding



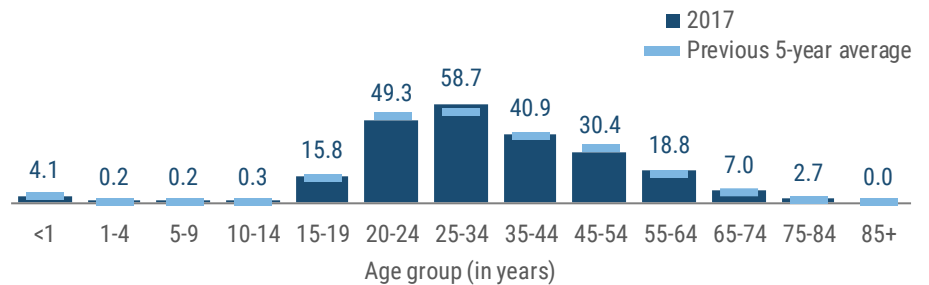
Under surveillance to enhance efforts to prevent HIV transmission, improve allocation of resources for treatment services, assist in evaluating the impact of public health interventions

HIV incidence has been gradually increasing since 2013.

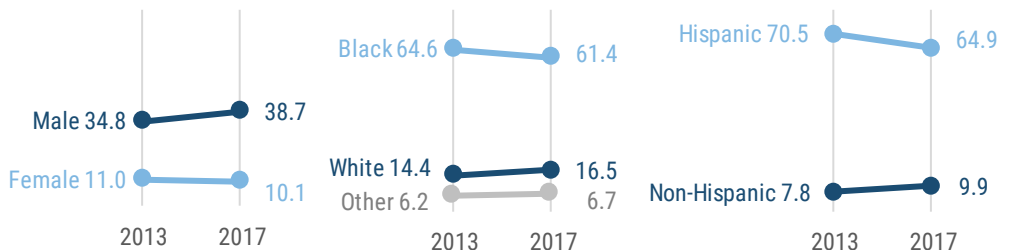


Disease Trends

HIV incidence rates (per 100,000 population) are consistently highest in adults 20 to 34 years old.



In 2017, HIV rates (per 100,000 population) were 3.8 times higher among males than females and 3.7 times higher among blacks than whites.



Summary

Number of cases	4,949
Rate (per 100,000 population)	24.1
Change from 5-year average rate	+3.0%

Age (in Years)

Mean	38
Median	35
Min-max	0 - 84

Gender

Gender	Number (Percent)	Rate
Female	1,064 (21.5)	10.1
Male	3,885 (78.5)	38.7
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	2,634 (54.4)	16.5
Black	2,130 (44.0)	61.4
Other	76 (1.6)	6.7
Unknown race	109	

Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	1,534 (31.5)	9.9
Hispanic	3,334 (68.5)	64.9
Unknown ethnicity	81	

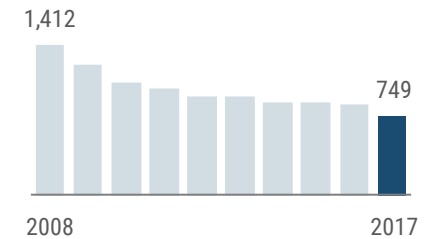
HIV/AIDS

Male-to-male sexual contact was the primary mode of exposure among men who received an HIV diagnosis in 2017 (78%) and heterosexual contact was the primary mode of exposure among women (90%) who received an HIV diagnosis in 2017.

Mode of exposure	Female		Male	
	Count	Percentage	Count	Percentage
Men who have sex with men (MSM)	NA	NA	3,038	78%
Heterosexual	960	90%	634	16%
Injection drug user (IDU)	90	8%	102	3%
MSM and IDU	NA	NA	103	3%
Other	14	1%	8	0%
Total	1,064		3,885	

HIV was the eighth leading cause of death for people aged 24 to 44 years in Florida in 2017. Following the advent of antiretroviral therapy, there has been an 80% decline in Florida resident deaths due to HIV from 1995 (4,336 deaths) to 2017 (749 deaths).

Deaths due to HIV decreased by 47% from 2008 to 2017 and by 13% since 2016 alone.

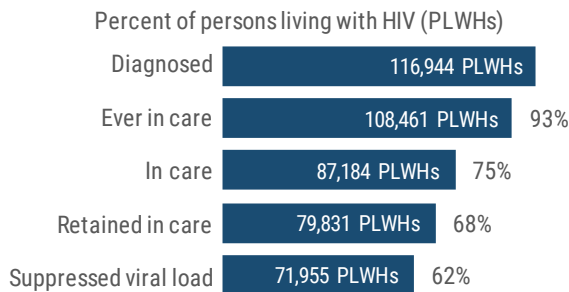


In 2017, the HIV rate (per 100,000 population) among black females was 10.9 times higher than white females. The rate among black males was 4.8 times higher than white males, while the rate in Hispanic males was 2.8 times higher than white males.

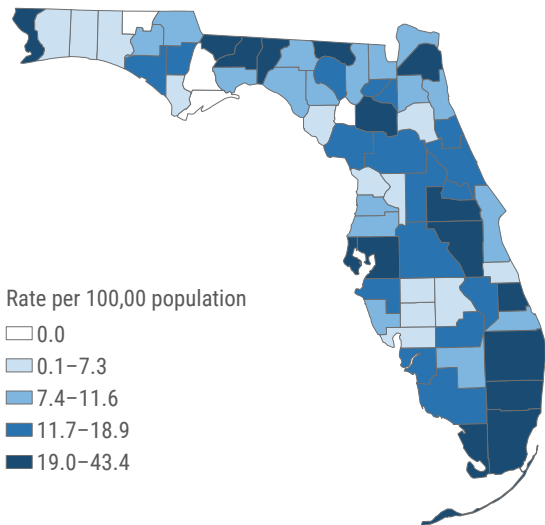
Race/ethnicity	Female	Male
White	3.6	19.1
Black	39.2	91.1
Hispanic	7.2	53.2

The HIV care continuum reflects the series of steps a person living with an HIV diagnosis takes from initial diagnosis to being retained in care and achieving a very low level of HIV in the body (viral suppression). A person living with HIV (PLWH) with a suppressed viral load (less than 200 copies/mL) is highly unlikely to transmit the virus.

There were 116,944 PLWHs in Florida in 2017, 68% of whom were retained in care and 62% of whom had a suppressed viral load.



High HIV rates (per 100,000 population) occurred in the central and southeastern parts of the state in 2017. Almost 50% of cases were in three counties: Miami-Dade (1,195 cases), Broward (715 cases), and Orange (512 cases).



Rates are by county of residence, regardless of where infection was acquired and excluding Florida Department of Corrections cases (4,881 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

HIV care continuum definitions

Ever in care: documented HIV-related care at least once from HIV diagnosis

In care: documented HIV-related care at least once in 2017

Retained in care: documented HIV-related care at least two times, at least three months apart in 2017

Suppressed viral load: less than 200 copies/mL

To access more information on HIV surveillance, visit FloridaHealth.gov/diseases-and-conditions/aids/surveillance/index.html.

To find a care provider or to learn more about the resources available to persons living with HIV, visit FloridaHealth.gov/diseases-and-conditions/aids/index.html.

Lead Poisoning in Children <6 Years Old

Key Points

Lead poisoning is most often identified in children as part of routine screening. Lead screening is required for children <6 years old who are Medicaid-enrolled or Medicaid-eligible, and recommended for children who are foreign-born or otherwise identified as high-risk. Children in this age group are more likely to put lead-contaminated hands, toys, or paint chips in their mouths, making them more vulnerable to lead poisoning than older children. The most common sources of lead exposure for children include paint dust, flakes, or chips in houses built prior to the elimination of lead in paints in 1978. Less common sources include glazed ceramic dishes, children's toys or jewelry, parental occupations or hobbies involving lead, and folk medicines or cosmetics from other countries.

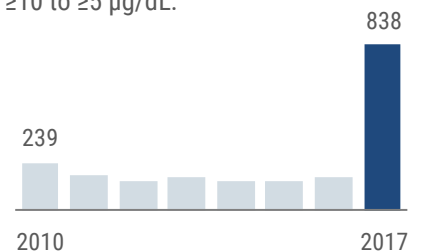
In 2017, Florida lowered the blood lead level for lead poisoning from ≥ 10 to ≥ 5 $\mu\text{g}/\text{dL}$ to align with current national guidelines based on the adverse health effects caused by blood lead levels < 10 $\mu\text{g}/\text{dL}$ in both children and adults.

The large increase in cases in 2017 was driven by cases with blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$, which accounted for 77% of 2017 cases. Prior to 2010, lead poisoning case data were primarily stored outside the state's reportable disease surveillance system; therefore, only cases from 2010 to 2017 are presented here.

Disease Facts

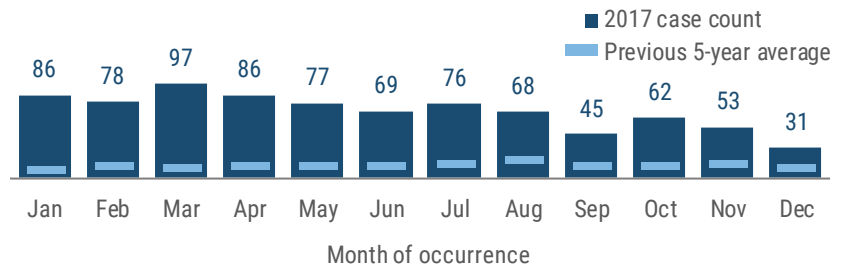
- Caused by lead**
- Illness** can be wide range of adverse health effects (e.g., difficulty learning, sluggishness, fatigue, seizures, coma, death)
- Exposure** is most commonly by ingestion of paint dust in houses built prior to elimination of lead in paints in 1978
- Under surveillance** to estimate burden among children, ensure follow-up care for identified cases, identify need for environmental remediation to prevent new cases and exacerbation of illness, help target public health interventions

Lead poisoning incidence increased dramatically in 2017 due to a change in case definition that lowered the blood lead level in the case definition from ≥ 10 to ≥ 5 $\mu\text{g}/\text{dL}$.

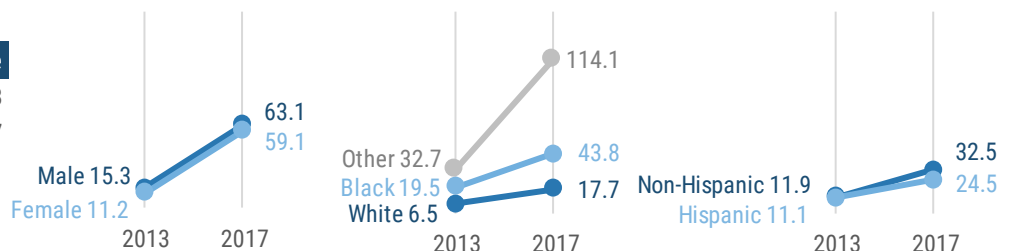


Disease Trends

Lead poisoning in children <6 years old occurs throughout the year, though fewer cases were identified from September to December.



Compared to lead poisoning in adults, where occupational exposure results in much higher incidence rates in men than women, rates (per 100,000 population) in children <6 years old are more similar in males and females. The rate is higher in blacks and other races than in whites, but similar by ethnicity. Because few cases with blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$ are investigated, race and ethnicity data are missing for many cases.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in children less than 6 years old were missing 11.6% of ethnicity data in 2013, 11.6% of race data in 2013, 50.6% of ethnicity data in 2017, and 47.2% of race data in 2017.

Summary

Number of cases	828
Rate (per 100,000 population)	61.2
Change from 5-year average rate	+407.5%

Age (in Years)

Mean	2
Median	2
Min-max	0 - 5

Gender

Gender	Number (Percent)	Rate
Female	392 (47.4)	59.3
Male	435 (52.6)	63.0
Unknown gender	1	

Race

Race	Number (Percent)	Rate
White	169 (38.7)	18.2
Black	134 (30.7)	44.1
Other	134 (30.7)	113.3
Unknown race	391	

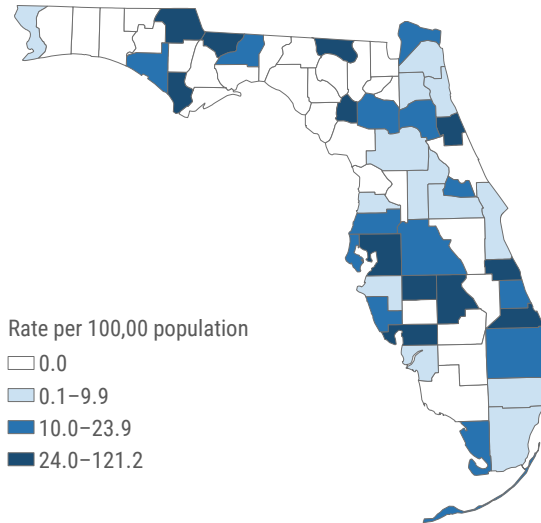
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	304 (74.3)	32.8
Hispanic	105 (25.7)	24.7
Unknown ethnicity	419	

Lead Poisoning in Children <6 Years Old

Summary	Number
Number of cases	828
Outcome	Number (Percent)
Hospitalized	2 (0.2)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	150 (86.2)
Exposed in the U.S., not Florida	1 (0.6)
Exposed outside the U.S.	23 (13.2)
Exposed location unknown	654
Outbreak Status	Number (Percent)
Sporadic	180 (87.8)
Outbreak-associated	25 (12.2)
Outbreak status unknown	623
Age group	Number (Percent)
Children (<6 years old)	828 (38.7)
Adult (>6 years old)	1,314 (61.3)

Lead poisoning in children <6 years old occurred in most parts of the state in 2017, though there are fewer counties with cases in the panhandle region. The lead poisoning rates (per 100,000 population) are higher in small, rural counties.

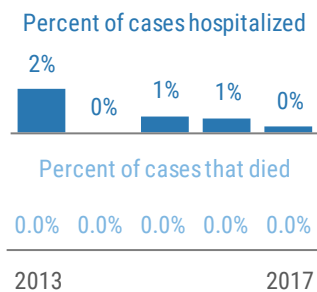


Rates are by county of residence for cases exposed in Florida (150 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

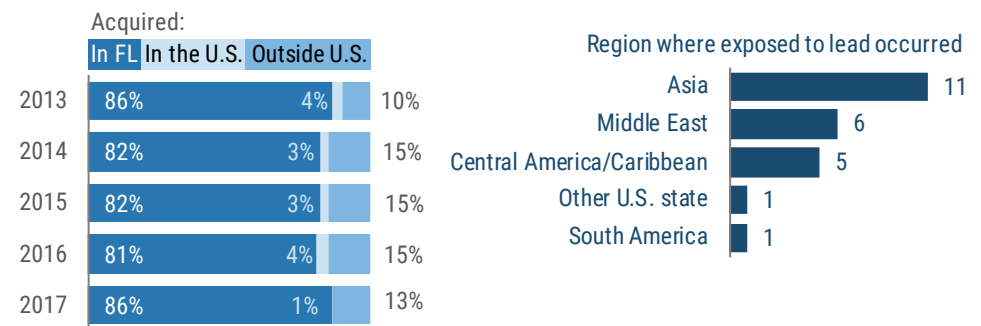


More Disease Trends

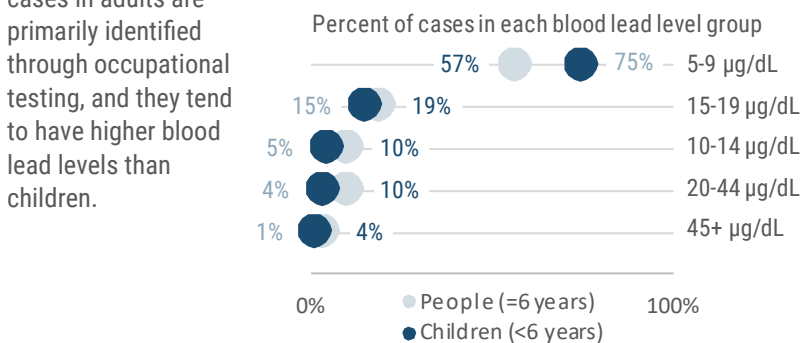
Hospitalizations and deaths in children <6 years old with lead poisoning are rare.



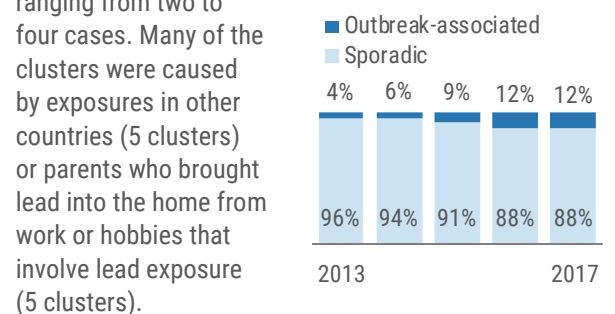
For cases known to be exposed outside Florida, Asia is the most common region where lead exposure occurred. Because 75% of cases have blood lead levels ≥ 5 and <10 $\mu\text{g}/\text{dL}$ and are not investigated, the location of exposure is unknown for 79% of cases.



Children <6 years old have a larger proportion of cases that are ≥ 5 and <10 $\mu\text{g}/\text{dL}$ compared to adults (75% versus 57%, respectively). Lead poisoning cases in adults are primarily identified through occupational testing, and they tend to have higher blood lead levels than children.



Most lead poisoning cases are sporadic. In 2017, there were 25 outbreak-associated cases associated with 17 different small household clusters, each ranging from two to four cases. Many of the clusters were caused by exposures in other countries (5 clusters) or parents who brought lead into the home from work or hobbies that involve lead exposure (5 clusters).



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Lead Poisoning in People ≥6 Years Old

Key Points

Adult lead poisoning is primarily caused by exposure to lead in the workplace or during certain activities where lead is used. High-risk occupations include battery manufacturing, painting, nonferrous smelting, radiator repair, scrap metal recycling, work at firing ranges, and construction and renovation. High-risk activities include recreational target shooting, home remodeling, casting bullets and fishing weights, making stained glass, and consuming traditional remedies. Regular lead screening is required for employees in high-risk occupations, making occupational lead poisoning cases more easily identifiable. Adults with non-occupational exposures are unlikely to be tested, making identification difficult.

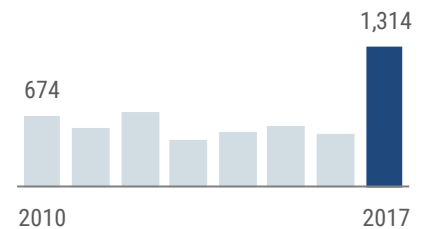
In 2017, Florida lowered the blood lead level for lead poisoning from ≥ 10 $\mu\text{g}/\text{dL}$ to ≥ 5 $\mu\text{g}/\text{dL}$ to align with current national guidelines based on the adverse health effects caused by blood lead levels < 10 $\mu\text{g}/\text{dL}$ in both children and adults.

The large increase in cases in 2017 was driven by cases with blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$, which accounted for 57% of 2017 cases. Prior to 2010, lead poisoning case data were primarily stored outside Florida's reportable disease surveillance system; therefore only cases from 2010 to 2017 are presented here.

Disease Facts

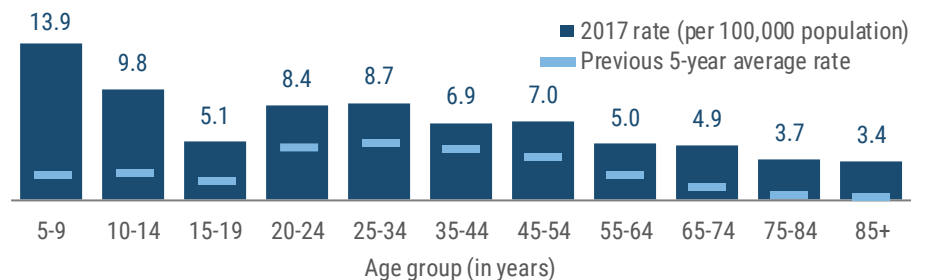
- Caused by lead**
- Illness** can be wide range of adverse health effects (e.g., arthralgia, headache, cognitive dysfunction, adverse reproductive outcomes, renal failure, hypertension, encephalopathy) but is often asymptomatic
- Exposure** is by inhalation or ingestion of lead, most often dust or fumes that occur when lead is melted
- Under surveillance** to identify cases among adults with high-risk occupations or hobbies, need for environmental remediation to prevent new cases and exacerbation of illness, prevent take-home lead exposures, help target public health interventions for high-risk populations

Lead poisoning incidence increased dramatically in 2017 due to a change in case definition that lowered the blood lead level in the case definition from ≥ 10 to ≥ 5 $\mu\text{g}/\text{dL}$.

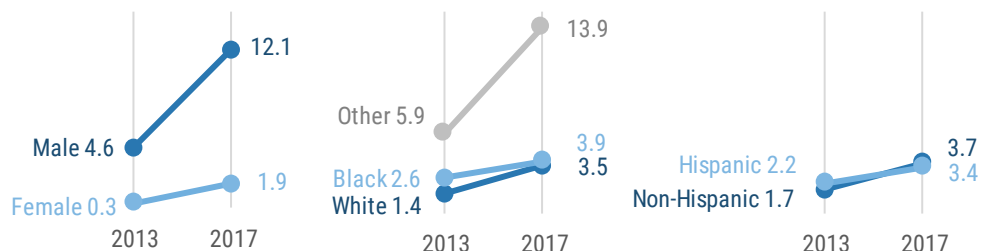


Disease Trends

Lowering the blood lead level for lead poisoning disproportionately affected children <15 years old. Between 80–85% of cases in that age range have blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$, compared to 45–55% of cases in adults 20 to 74 years old.



The rate (per 100,000 population) of lead poisoning in people >6 years old is notably higher in males than females, likely due to the type of occupations and hobbies that result in lead exposure. The rate is similar by ethnicity and in blacks and whites, but is higher in other races. Because few cases with blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$ are investigated, race and ethnicity data are missing for many cases.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in people more than 6 years old were missing 23.4% of ethnicity data in 2013, 22.9% of race data in 2013, 46.1% of ethnicity data in 2017, and 39.6% of race data in 2017.

Summary

Number of cases	1,314
Rate (per 100,000 population)	6.8
Change from 5-year average rate	+129.8%

Age (in Years)

Mean	38
Median	36
Min-max	6 - 99

Gender

Gender	Number (Percent)	Rate
Female	183 (13.9)	1.9
Male	1,131 (86.1)	12.1
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	527 (66.4)	3.5
Black	123 (15.5)	3.9
Other	144 (18.1)	14.1
Unknown race	520	

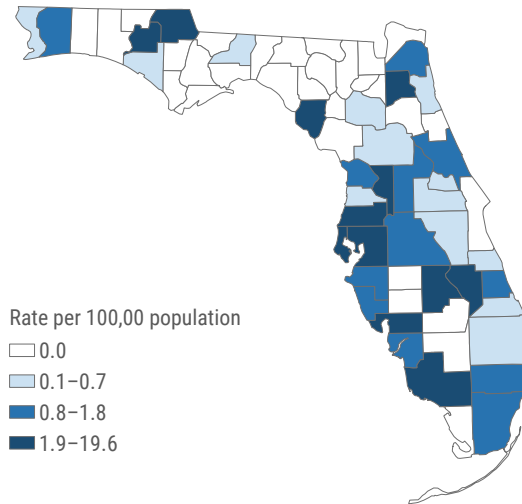
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	545 (77.0)	3.8
Hispanic	163 (23.0)	3.5
Unknown ethnicity	606	

Lead Poisoning in People ≥6 Years Old

Summary	Number
Number of cases	1,314
Outcome	Number (Percent)
Hospitalized	5 (0.4)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	335 (91.8)
Exposed in the U.S., not Florida	15 (4.1)
Exposed outside the U.S.	15 (4.1)
Exposed location unknown	949
Outbreak Status	Number (Percent)
Sporadic	389 (86.3)
Outbreak-associated	62 (13.7)
Outbreak status unknown	863
Age group	Number (Percent)
Children (<6 years old)	828 (38.7)
Adult (>6 years old)	1,314 (61.3)

Lead poisoning in people ≥6 years old occurred in most parts of the state in 2017, though there are fewer counties with cases in the Panhandle region. Hillsborough County has the largest number of reported cases due to occupational screening at a large battery and a metal recycling plant located there.

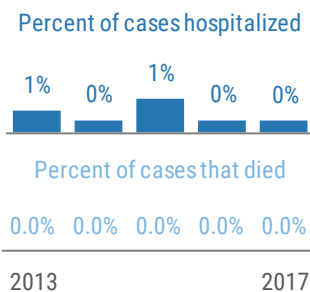


Rates are by county of residence for cases exposed in Florida (335 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

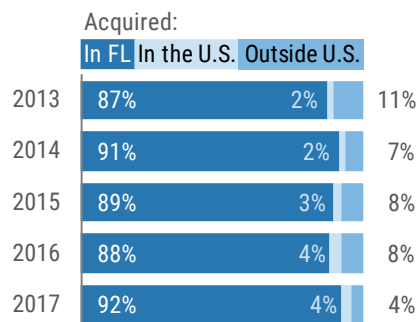


More Disease Trends

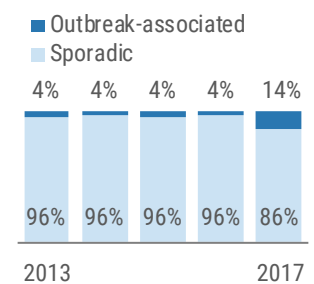
Hospitalizations and deaths in people ≥6 years old with lead poisoning are rare.



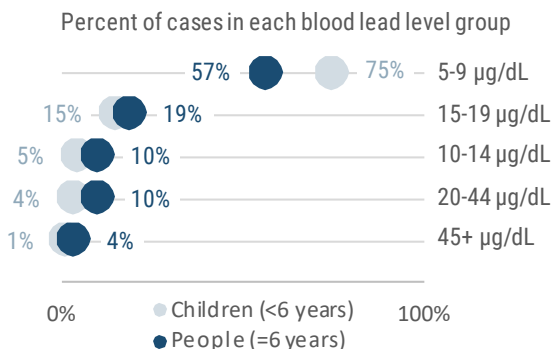
Of cases where the exposure location was known, most were exposed in Florida.



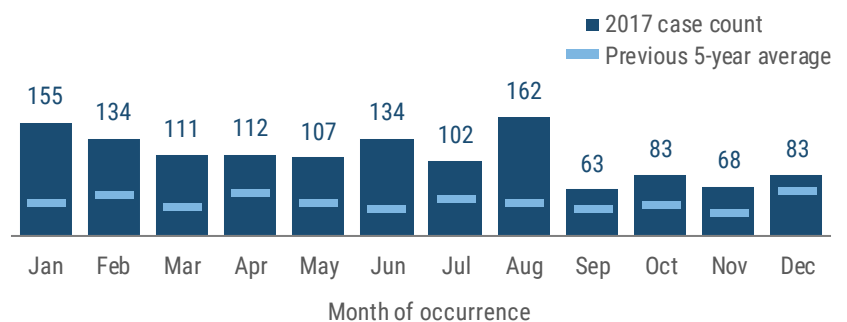
Most lead poisoning cases are sporadic. In 2017, 55 outbreak-associated cases due to lead exposure at three different gun ranges were identified.



Lead poisoning cases in adults are primarily identified through occupational testing, and they tend to have higher blood lead levels than children.



Lead poisoning cases in people ≥6 years old occur throughout the year, though fewer cases were identified from September to December.







Legionellosis

Key Points

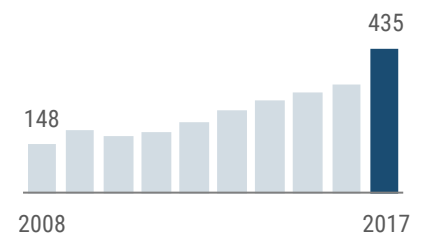
Recently identified sources of *Legionella* infection in Florida and the U.S. include decorative fountains, hot tubs, cooling towers (air conditioning units for large buildings), and potable water systems. Increasing incidence in Florida is consistent with the increase observed nationally over the past decade. This increase is likely due to a number of factors, including aging infrastructure and a greater percentage of the population aged ≥64 years. The elderly and those with weakened immune systems are at highest risk for developing disease.

In Florida, sporadic cases of both Legionnaires' disease and Pontiac fever (two distinct presentations of legionellosis) are monitored. Single cases of legionellosis that occur at a health care facility or other facility where a person spent their entire incubation period warrant a full investigation and are generally characterized as outbreaks for public health purposes. However, these cases are not consistently classified as outbreak-associated and therefore not all cases are reflected in the table on the following page.

Disease Facts

-  **Caused by** *Legionella* bacteria
-  **Illness** includes fever, muscle pain, cough, and shortness of breath; pneumonia can occur
-  **Transmitted** by inhaling aerosolized water containing the bacteria
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common reservoirs, monitor incidence over time, estimate burden of illness

Legionellosis incidence continued to increase in 2017.



Disease Trends

Summary

Number of cases	435
Rate (per 100,000 population)	2.1
Change from 5-year average rate	+51.2%

Age (in Years)

Mean	65
Median	66
Min-max	19 - 98

Gender

Gender	Number (Percent)	Rate
Female	162 (37.2)	1.5
Male	273 (62.8)	2.7
Unknown gender	0	

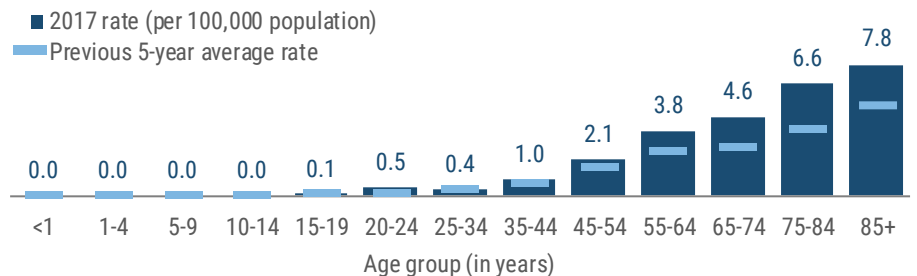
Race

Race	Number (Percent)	Rate
White	334 (77.3)	2.1
Black	72 (16.7)	2.1
Other	26 (6.0)	2.3
Unknown race	3	

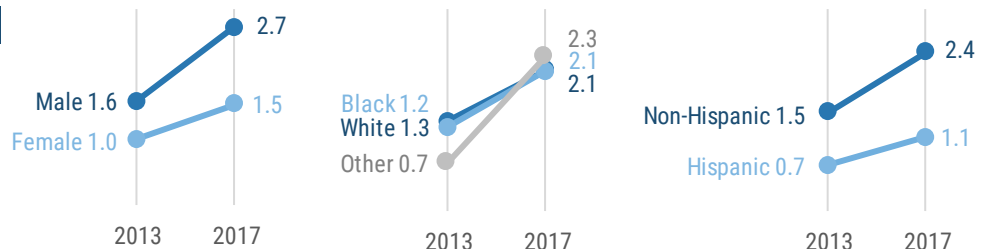
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	363 (86.6)	2.4
Hispanic	56 (13.4)	1.1
Unknown ethnicity	16	

Legionellosis is most common in the elderly. The rate (per 100,000 population) starts increasing in middle aged adults and continues to increase with age.



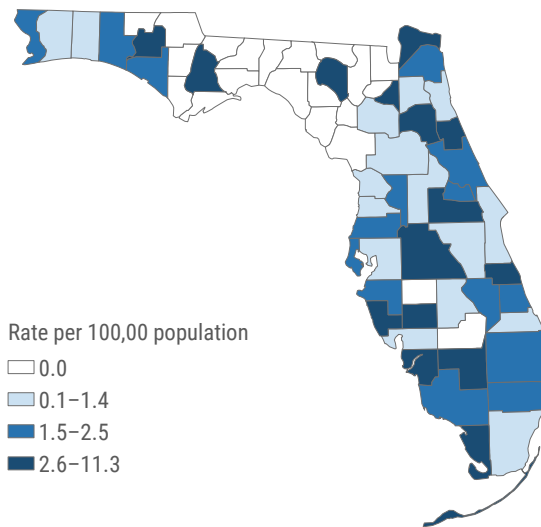
The legionellosis rate (per 100,000 population) is higher in males and non-Hispanics, but similar by race. The rate in all groups has increased from 2013 to 2017.



Legionellosis

Summary	Number
Number of cases	435
Outcome	Number (Percent)
Hospitalized	428 (98.4)
Died	49 (11.3)
Imported Status	Number (Percent)
Acquired in Florida	381 (93.8)
Acquired in the U.S., not Florida	22 (5.4)
Acquired outside the U.S.	3 (0.7)
Acquired location unknown	29
Outbreak Status	Number (Percent)
Sporadic	401 (93.7)
Outbreak-associated	27 (6.3)
Outbreak status unknown	7

Legionellosis occurred in most parts of the state in 2017, but is notably absent from most counties in the eastern panhandle.



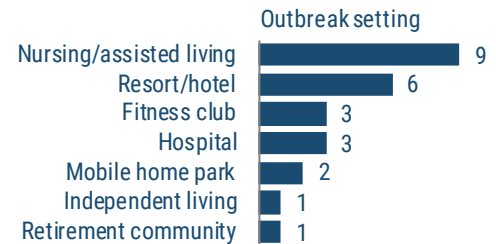
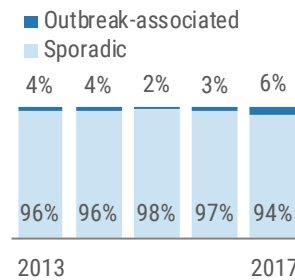
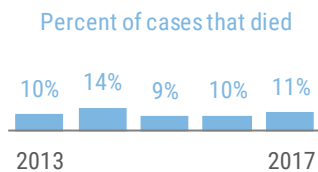
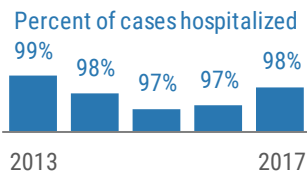
Rates are by county of residence for infections acquired in Florida (381 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



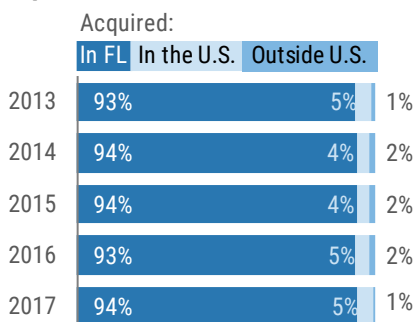
More Disease Trends

Most legionellosis cases are hospitalized, and deaths do occur. Those primarily affected are the elderly and people with underlying conditions. Pneumonia is commonly identified among cases.

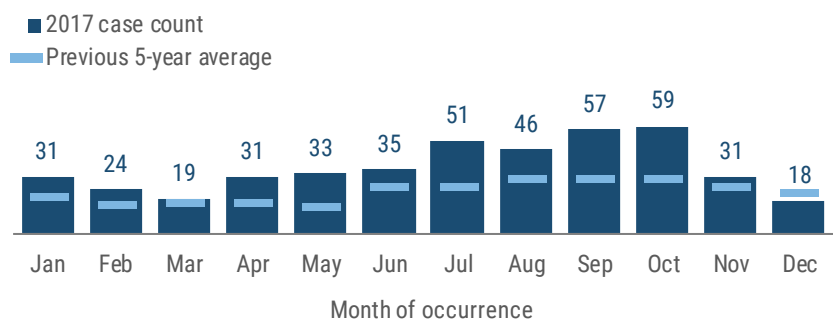
In 2017, 25 outbreaks were identified, some of which included non-Florida residents (who are not included in counts in this report). Nursing homes and assisted living facilities were the most commonly identified outbreak setting.



Between 93–94% of *Legionella* infections are acquired in Florida and between 4–5% are acquired in other states.



Legionellosis cases increase slightly in the summer and early fall months with 46 to 59 cases reported each month from July to October 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Listeriosis





Key Points

Listeriosis primarily affects older adults (≥ 75 years old), people with weakened immune systems, pregnant women, and infants born to infected mothers. Listeriosis is of particular concern for pregnant women because infection during pregnancy can cause fetal loss, preterm labor, stillbirths, and illness or death in newborn infants.

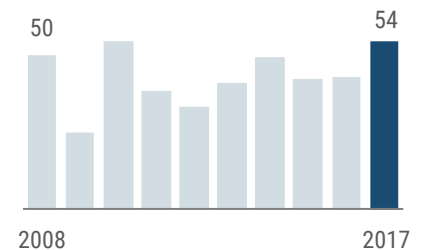
Historically, *Listeria* outbreaks have been linked to deli meats and hot dogs; however, new vehicles have been identified as sources of outbreaks including soft cheeses, frozen vegetables, sprouts, raw milk, melons, caramel apples, smoked seafood, and ice cream.

Whole genome sequencing (WGS) is now used to determine whether *Listeria* isolates are related, indicating the illnesses may have come from the same source. The Centers for Disease Control and Prevention (CDC) monitors WGS data from across the country to identify clusters of possibly related cases. Four Florida cases reported in 2017 matched multistate clusters. Additionally, two Florida cases reported in 2015 and one case reported in 2018 were linked to 2017 CDC multistate cluster investigations. No sources of infection were identified in the 2017 multistate clusters.

Disease Facts

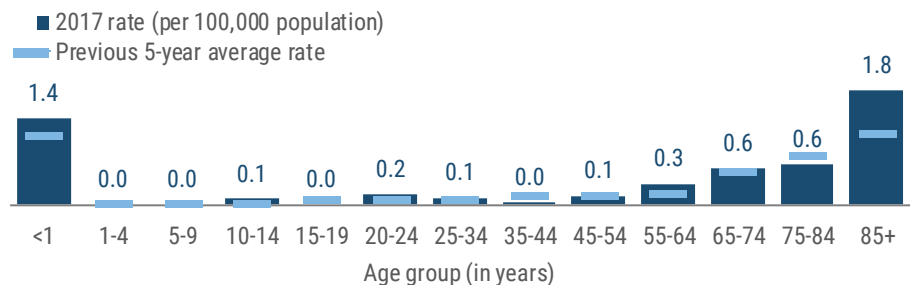
-  **Caused by** *Listeria monocytogenes* bacteria
-  **Illness** is usually invasive when bacteria have spread beyond gastrointestinal tract; initial illness is often characterized by fever and diarrhea
-  **Transmitted** is foodborne; can be transmitted to fetus during pregnancy
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness, reduce stillbirths

The number of listeriosis cases reported annually ranges from 25 to 54.

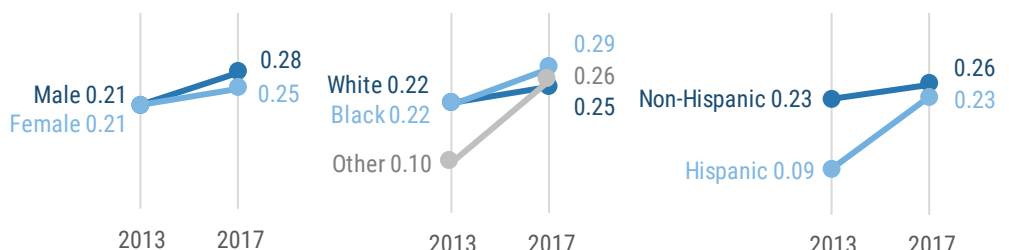


Disease Trends

The listeriosis rate (per 100,000 population) is highest in infants (who can acquire infection from the mother during pregnancy) and elderly adults ≥ 85 years old.



In 2017, the listeriosis rate (per 100,000 population) was similar by gender, race, and ethnicity. In past years, the rate was lower in other races and Hispanics.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Listeriosis cases were missing 7.3% of ethnicity data in 2013.

Summary

Number of cases	54
Rate (per 100,000 population)	0.3
Change from 5-year average rate	+24.1%

Age (in Years)

Mean	62
Median	69
Min-max	0 - 95

Gender

Gender	Number (Percent)	Rate
Female	26 (48.1)	0.2
Male	28 (51.9)	0.3
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	40 (75.5)	0.3
Black	10 (18.9)	NA
Other	3 (5.7)	NA
Unknown race	1	

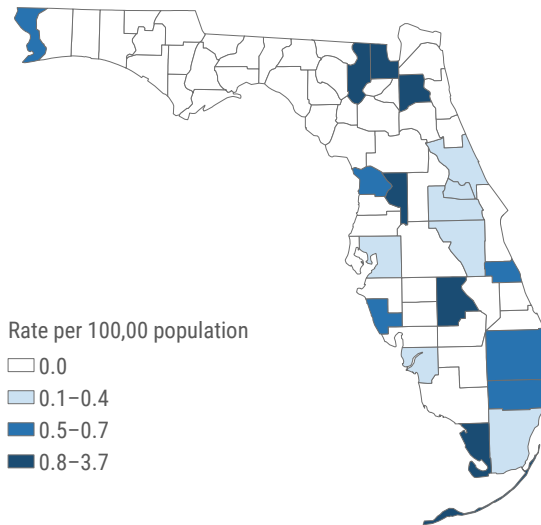
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	40 (76.9)	0.3
Hispanic	12 (23.1)	NA
Unknown ethnicity	2	

Listeriosis

Summary	Number
Number of cases	54
Outcome	Number (Percent)
Hospitalized	50 (92.6)
Died	7 (13.0)
Imported Status	Number (Percent)
Acquired in Florida	49 (96.1)
Acquired in the U.S., not Florida	2 (3.9)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	3
Outbreak Status	Number (Percent)
Sporadic	49 (92.5)
Outbreak-associated	4 (7.5)
Outbreak status unknown	1

Listeriosis did not have a geographic pattern in 2017. Rates (per 100,000 population) were highest in small, rural counties in different parts of the state.



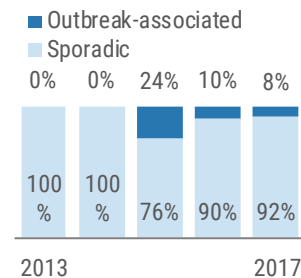
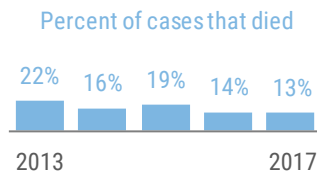
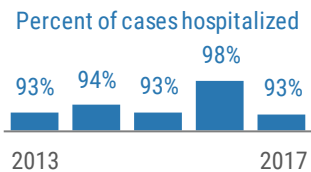
Rates are by county of residence for infections acquired in Florida (49 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



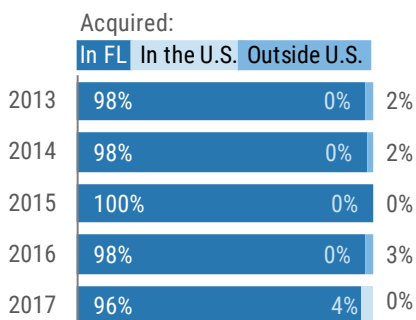
More Disease Trends

Most listeriosis cases are hospitalized, and deaths do occur. Those primarily affected are elderly and likely have underlying conditions. Peumonia is common among identified cases.

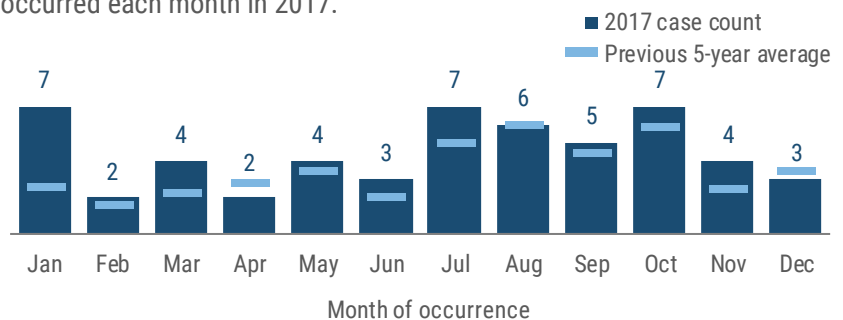
Each year, a few cases are linked to multistate clusters through whole genome sequencing; four cases reported in 2017 matched multistate clusters.



Most *Listeria* infections are acquired in Florida. Two infections were acquired in other states in 2017.



Listeriosis cases occur all year and do not exhibit a strong seasonality, and low numbers make it difficult to interpret trends. Between 2 and 7 cases occurred each month in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Lyme Disease

Key Points

Lyme disease is the most common tick-borne disease in the U.S. The case definition changed in 2008; expanding the acceptable laboratory criteria contributed to an increase in cases starting in 2008.

In 2017, the incidence of Lyme disease decreased slightly from 2016 but remained above the 5-year average incidence. The increase in cases over the past decade may be due to increases in animal host and reservoir populations and the slowly expanding geographic range of the vector tick due to ecological factors.

There were 114 acute and 96 chronic cases reported in 2017. Seven acute cases with onsets in 2016 were reported in 2017. *B. burgdorferi* shares a tick vector with *Anaplasma phagocytophilum* and *Babesia microti* and coinfections can occur. In 2017, one Lyme disease case was co-infected with *B. microti*. One case acquired in the U.S. outside of Florida was a duplicate case from 2016. Case counts are based on the year reported, and thus may differ from other tick-borne disease reports.

Disease Facts



Caused by *Borrelia burgdorferi* bacteria



Illness can be acute or late manifestation; both can include fever, headache, fatigue, joint pain, muscle pain, bone pain, and erythema migrans (characteristic bull's-eye rash); late manifestation can also include Bell's palsy, severe joint pain with swelling, shooting pain, tingling in hands and feet, irregular heartbeat, dizziness, shortness of breath, and short-term memory loss

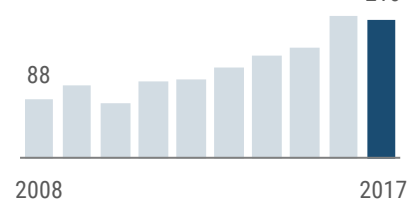


Transmitted via bite of infective *Ixodes scapularis* tick



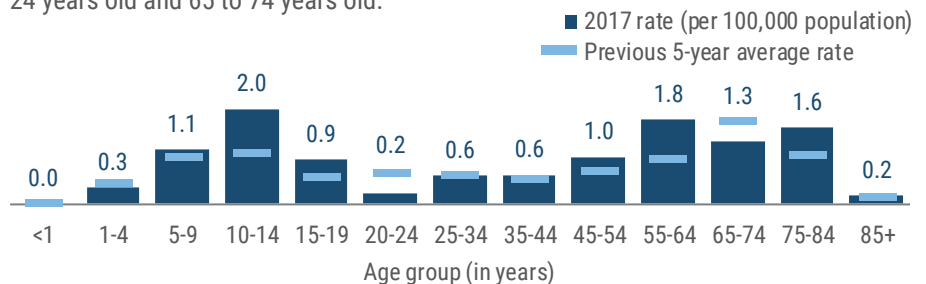
Under surveillance to monitor incidence over time, estimate burden of illness and degree of endemicity, target areas of high incidence for prevention education

Lyme disease incidence in 2017 decreased slightly from 2016.

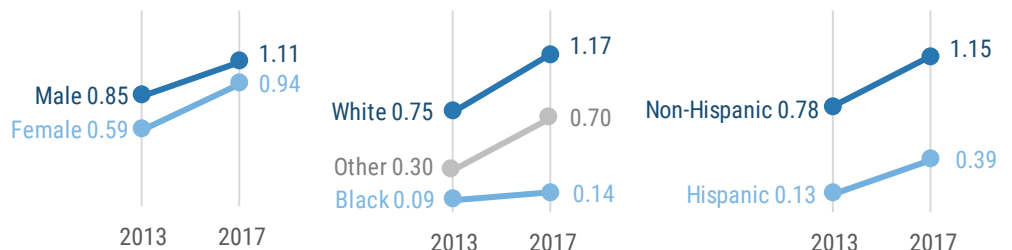


Disease Trends

In 2017, the Lyme disease rate (per 100,000 population) was highest in adolescents 10 to 14 years old, followed by adults 55 to 64 years old and 75 to 85 years old. The rate in 2017 was notably lower than the previous 5-year average rate for adults 20 to 24 years old and 65 to 74 years old.



The Lyme disease rate (per 100,000 population) was slightly higher in males than females and notably higher in non-Hispanics than Hispanics. The rate was highest in whites, followed by other races and blacks. The rate increased from 2013 to 2017 in all groups except for blacks.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lyme disease cases were missing 11.6% of ethnicity data in 2013, 13.8% of race data in 2013, and 5.7% of ethnicity data in 2017.

Summary

Number of cases	210
Rate (per 100,000 population)	1.0
Change from 5-year average rate	+26.9%

Age (in Years)

Mean	46
Median	53
Min-max	2 - 86

Gender

Gender	Number (Percent)	Rate
Female	99 (47.1)	0.9
Male	111 (52.9)	1.1
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	187 (93.5)	1.2
Black	5 (2.5)	NA
Other	8 (4.0)	NA
Unknown race	10	

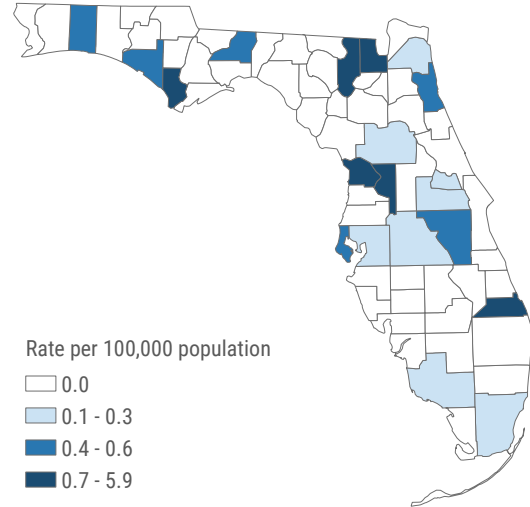
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	178 (89.9)	1.2
Hispanic	20 (10.1)	0.4
Unknown ethnicity	12	

Lyme Disease

Summary	Number
Number of cases	210
Case Classification	Number (Percent)
Confirmed	124 (59.0)
Probable	86 (41.0)
Outcome	Number (Percent)
Hospitalized	15 (7.1)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	27 (14.8)
Acquired in the U.S., not Florida	150 (82.0)
Acquired outside the U.S.	6 (3.3)
Acquired location unknown	27
Outbreak Status	Number (Percent)
Sporadic	208 (99.0)
Outbreak-associated	2 (1.0)
Outbreak status unknown	0

Lyme disease is primarily imported from other U.S. states where it is highly endemic; however, 27 infections were acquired in Florida in 2017. Four cases were reported in Pinellas County residents and three were reported in Orange County residents. The remaining counties only had one or two cases reported.

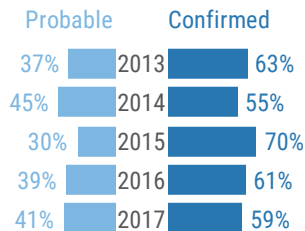


Rates are by county of residence for infections acquired in Florida (27 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

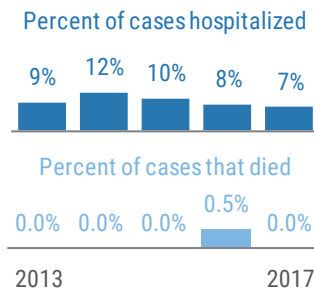


More Disease Trends

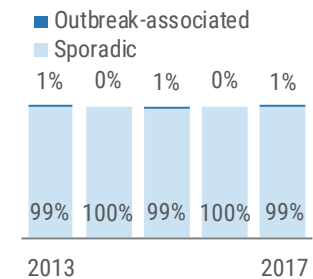
Between 55% and 70% of cases are confirmed annually; 59% of 2017 cases were confirmed.



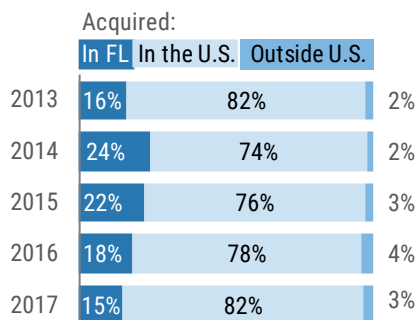
The hospitalization rate for people with Lyme disease is low and deaths are rare.



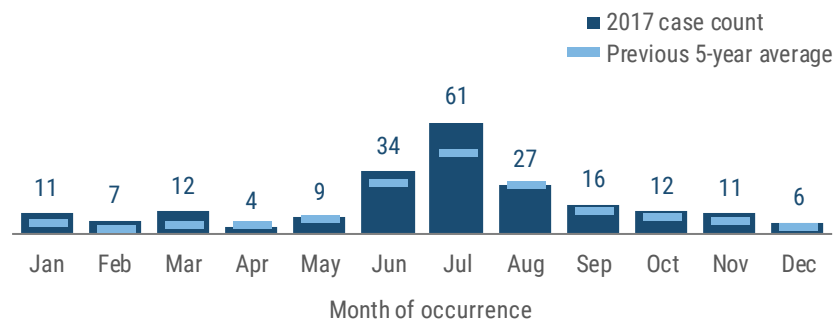
Almost all Lyme disease cases are sporadic and most are imported from other states.



Lyme disease is primarily imported from other U.S. states where it is highly endemic. Five cases in 2017 were imported from Europe.



Lyme disease cases are reported year-round, but there is a strong seasonal peak in the summer. In 2017, 58% of cases occurred from June to August.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Malaria

Key Points

All infections were among people traveling to countries with endemic transmission (primarily visiting friends and family in African countries). Imported malaria cases peaked in 2010 after the January 2010 earthquake in Haiti resulted in an influx of Haitians in Florida. The number of cases imported from Central America and the Caribbean has increased in recent years, though more cases are still infected in Africa.

In 2017, there were two deaths associated with *P. falciparum* infection; both had traveled to Africa. One death was associated with renal failure, respiratory distress, and cerebral malaria. The second death was associated with renal failure, respiratory distress, and a high parasitemia level (>30%). One of the deaths was in a person visiting Africa on vacation and neither case took chemoprophylaxis to prevent malaria while traveling. One of the fatal cases declined recommended transfusion treatment due to religious beliefs.

It is important to note that infected residents and non-residents pose a potential malaria introduction risk since the malaria vector *Anopheles quadrimaculatus* is common in Florida. In 2017, 16 non-Florida residents were diagnosed with malaria while traveling in Florida (note that this report only includes Florida residents in case counts).

Disease Facts



Caused by *Plasmodium vivax*, *P. falciparum*, *P. malariae*, *P. ovale* parasites



Illness can be uncomplicated or severe; common symptoms include high fever with chills, rigor, sweats, headache, nausea, and vomiting

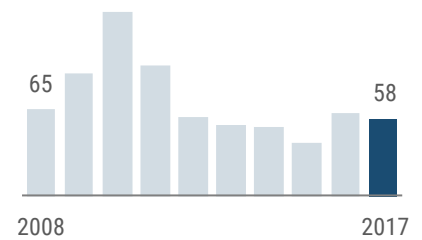


Transmitted via bite of infective mosquito; rarely by blood transfusion or organ transplant



Under surveillance to identify individual cases and implement control measures to prevent introduction and active transmission, monitor incidence over time, estimate burden of illness

The number of reported malaria cases has remained relatively consistent since 2012.



Disease Trends

Summary

Number of cases	58
Rate (per 100,000 population)	0.3
Change from 5-year average rate	+3.6%

Age (in Years)

Mean	39
Median	40
Min-max	1 - 76

Gender

Gender	Number (Percent)	Rate
Female	18 (31.0)	NA
Male	40 (69.0)	0.4
Unknown gender	0	

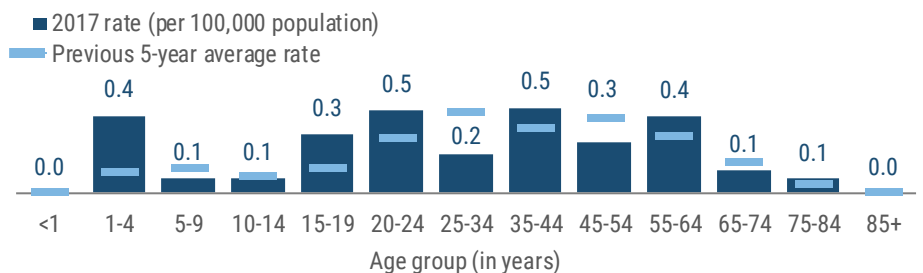
Race

Race	Number (Percent)	Rate
White	15 (25.9)	NA
Black	32 (55.2)	0.9
Other	11 (19.0)	NA
Unknown race	0	

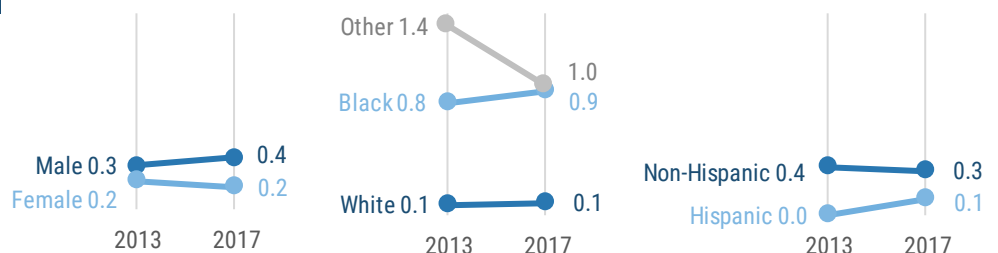
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	51 (89.5)	0.3
Hispanic	6 (10.5)	NA
Unknown ethnicity	1	

The malaria rate (per 100,000 population) varies by age. Historically, rates are highest in adults 20 to 64 years old. In 2017, rates were highest in children 1 to 4 years old and adults 20 to 24 and 35 to 44 years old. Children less than 5 years old are one of the most vulnerable groups affected by malaria and are at higher risk for severe disease and death. Three of four cases in children less than 5 years old were refugees or immigrants coming from malaria-affected countries.



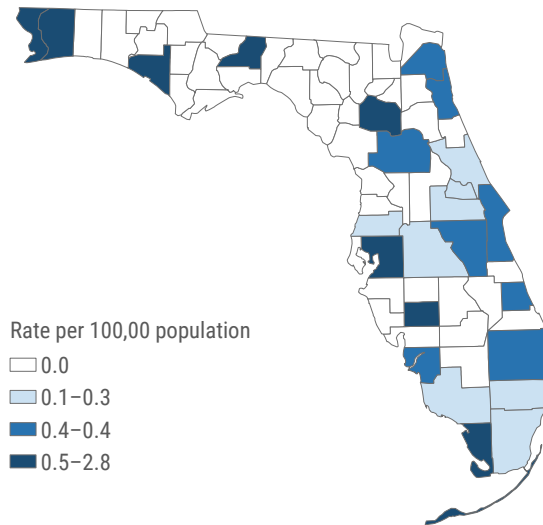
The malaria rate (per 100,000 population) was similar in males, females, Hispanics, and non-Hispanics in 2017. By race, the rate was low in whites and similar in blacks and other races in 2017.



Malaria

Summary	Number
Number of cases	58
Outcome	Number (Percent)
Hospitalized	49 (84.5)
Died	2 (3.4)
Imported Status	Number (Percent)
Acquired in Florida	0 (0.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	58 (100.0)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	53 (91.4)
Outbreak-associated	5 (8.6)
Outbreak status unknown	0

No malaria cases were acquired in Florida in 2017. Cases were identified in residents of 24 counties across Florida.

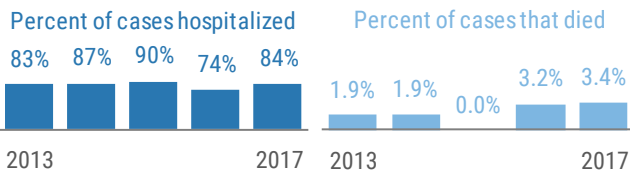


Rates are by county of residence, regardless of where infection was acquired (58 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

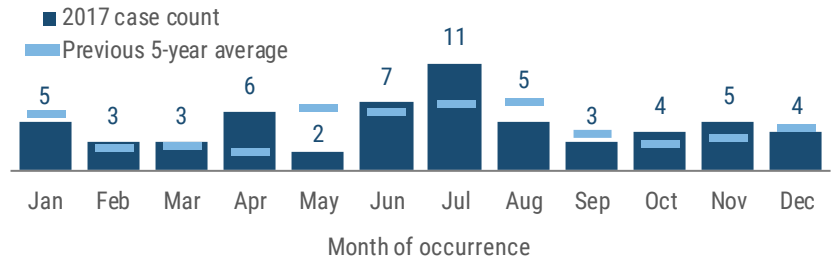


More Disease Trends

The majority of malaria cases are hospitalized and deaths do occur. Two people infected with *P. falciparum* died in 2017.

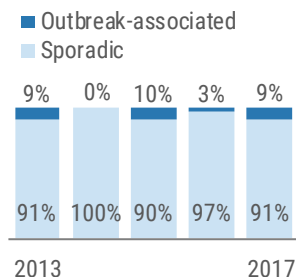


Malaria cases are imported into Florida year-round but peaked in June and July in 2017.



Two family clusters were identified in 2017 resulting in five outbreak-associated cases.

One family visited Uganda and the other visited Nigeria.



All cases were acquired outside the U.S. Africa remained the most common region where people were infected. The most common reason for travel among people with malaria was visiting friends and relatives.



Meningococcal Disease





Key Points

Five *Neisseria meningitidis* serogroups cause almost all invasive disease (A, B, C, Y, and W). Vaccines provide protection against serogroups A, B, C, Y, and W. In 2016, the incidence of meningococcal disease reached a historic low in Florida. The number of cases reported was slightly higher in 2017.

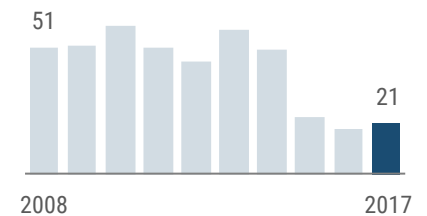
In 2017, serogroup C became the most frequently identified serogroup causing meningococcal disease in Florida, which differs significantly from national trends where serogroup B is the most frequently identified serogroup. From September 2016 to April 2017, an outbreak of five *N. meningitidis* serogroup C cases, with three co-infected with HIV, was reported among men who have sex with men in Miami-Dade County with no known close contact. All eight meningococcal disease cases reported in Miami-Dade County in 2017 were serogroup C.

Prior to 2017, serogroup W was the most frequently identified serogroup causing infection in Florida. Beginning in late 2008, a dominant clone of *N. meningitidis* serogroup W emerged in south Florida. This *N. meningitidis* clone has caused the majority of invasive meningococcal disease cases in south Florida over the past eight years and has also caused a multi-year increase in invasive meningococcal disease in the region, which has now diminished.

Disease Facts

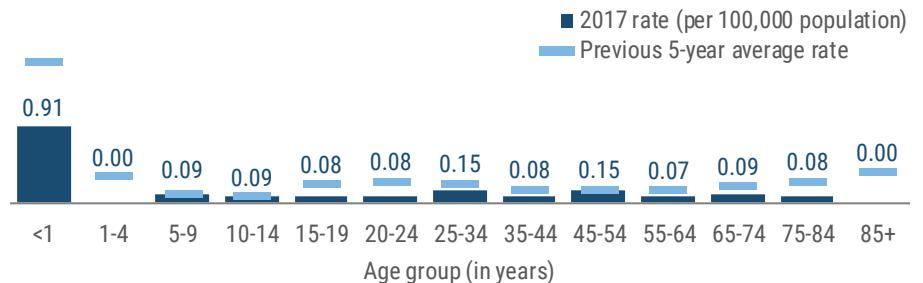
-  **Caused** by *Neisseria meningitidis* bacteria
-  **Illness** is most commonly neurological (meningitis) or bloodstream infections (septicemia)
-  **Transmitted** person-to-person by direct contact with respiratory droplets from nose or throat of colonized or infected person
-  **Under surveillance** to take immediate public health actions in response to every suspected meningococcal disease case to prevent secondary transmission, monitor effectiveness of immunization programs and vaccines

Meningococcal disease incidence remained low in 2017.

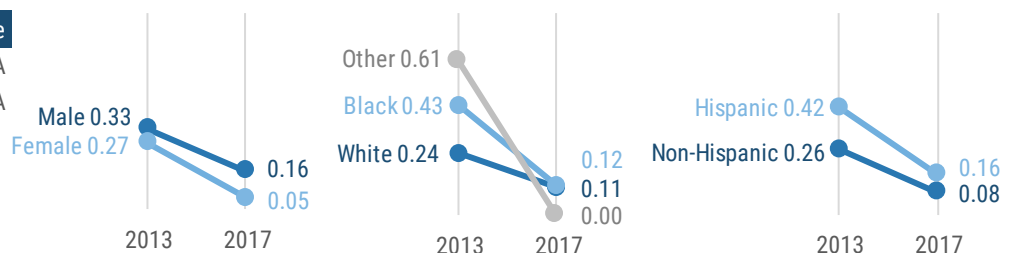


Disease Trends

The meningococcal disease rate (per 100,000 population) is consistently highest among infants <1 year old.



Meningococcal disease rates (per 100,000 population) have decreased in all gender, race, and ethnic groups from 2013 to 2017. In 2017, the rate was slightly higher in males than females and Hispanics than non-Hispanics. Note that small case numbers make rates unreliable and hard to interpret.



Summary

Number of cases	21
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-48.7%

Age (in Years)

Mean	37
Median	35
Min-max	0 - 82

Gender

Gender	Number (Percent)	Rate
Female	5 (23.8)	NA
Male	16 (76.2)	NA
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	17 (81.0)	NA
Black	4 (19.0)	NA
Other	0 (0.0)	NA
Unknown race	0	

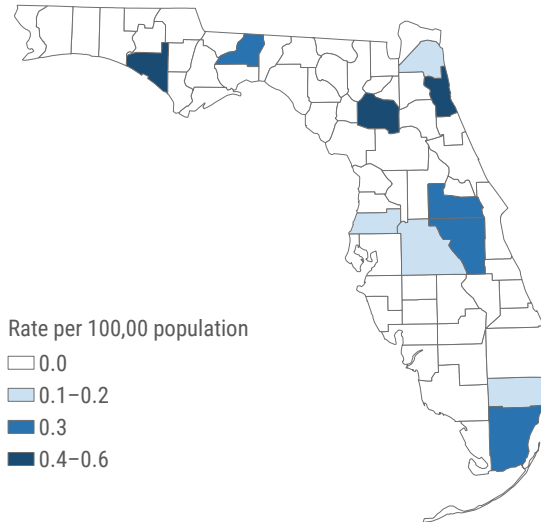
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	13 (61.9)	NA
Hispanic	8 (38.1)	NA
Unknown ethnicity	0	

Meningococcal Disease

Summary	Number
Number of cases	21
Case Classification	Number (Percent)
Confirmed	21 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	21 (100.0)
Died	3 (14.3)
Imported Status	Number (Percent)
Acquired in Florida	19 (90.5)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	2 (9.5)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	15 (71.4)
Outbreak-associated	6 (28.6)
Outbreak status unknown	0

Meningococcal disease infections were acquired in Florida in residents of 11 counties in 2017. Though rates (per 100,000 population) were highest in low-population counties in north Florida, seven cases were in Miami-Dade residents and three cases were in Orange County residents. All other counties had only one case reported.

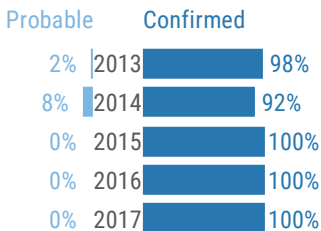


Rates are by county of residence for infections acquired in Florida (19 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

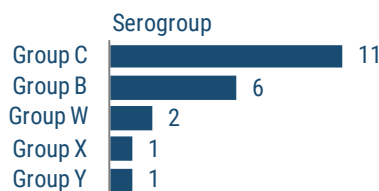


More Disease Trends

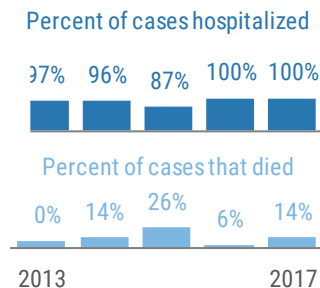
Almost all meningococcal disease cases are laboratory-confirmed.



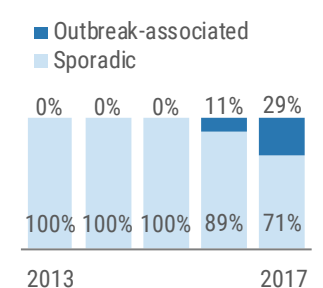
Serogroup W has been the most commonly identified serogroup in Florida for nine years. In 2017, serogroup C was most common.



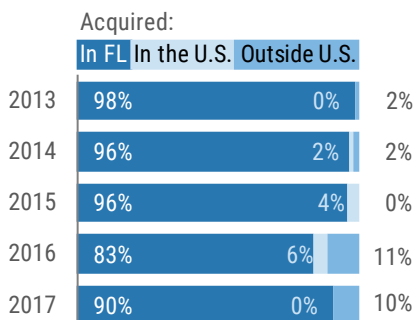
Meningococcal disease causes serious illness, and most cases require hospitalization.



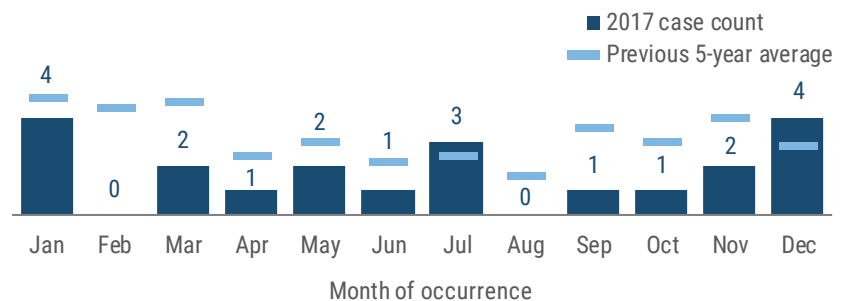
In 2017, two small outbreaks with six cases were identified in Miami-Dade County.



Most *N. meningitidis* infections are acquired in Florida. Two cases in 2017 were acquired in other countries (Cuba and Jamaica).



Nationally, meningococcal disease peaks in late winter and early spring. In Florida, small numbers make a trend hard to discern. Slightly more cases were reported in January and December in Florida in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Mercury Poisoning

Key Points

In August 2008, the case definition was updated to require clinically compatible illness, leading to a decrease in cases in subsequent years. The number of cases increased dramatically in 2017 with more cases than any year since the 2008 case definition change. This increase is not well-understood.

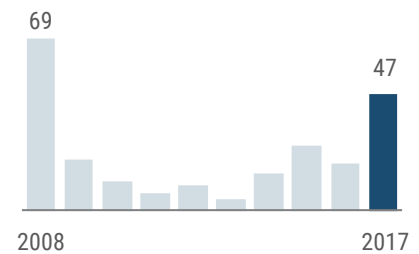
Forms of mercury most likely encountered by the general public include elemental mercury vapor (found in some thermometers and dental amalgam), methylmercury (associated with fish consumption), ethylmercury (found in some medical preservatives), and inorganic mercury (mercuric salts). Eating fish is healthy and can reduce the risk of heart attack and stroke, but eating too much of certain fish can increase exposure to mercury.

Developing fetuses and young children are more sensitive to the effects of mercury, which can impact brain development. Women of childbearing age and young children should eat fish with low mercury levels. The Florida Department of Health guidelines for fish consumption are available at FloridaHealth.gov/FloridaFishAdvice.

Disease Facts

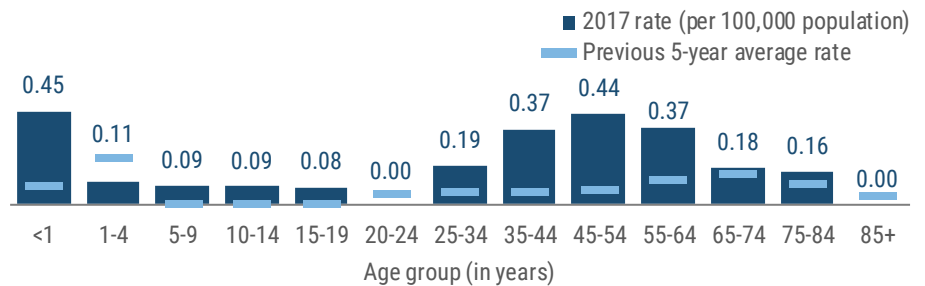
- Caused** by mercury (elemental or metallic mercury, organic mercury compounds, inorganic mercury compounds)
- Illness** includes impaired neurological development, impaired peripheral vision; disturbed sensations (e.g., “pins and needles feelings”), lack of coordinated movements, muscle weakness, or impaired speech, hearing, and walking
- Exposure** is through ingestion of mercury or inhalation of mercury vapors
- Under surveillance** to identify and mitigate persistent sources of exposure, prevent further or continued exposure through remediation or elimination of sources when possible, identify populations at risk

Mercury poisoning increased dramatically in 2017.

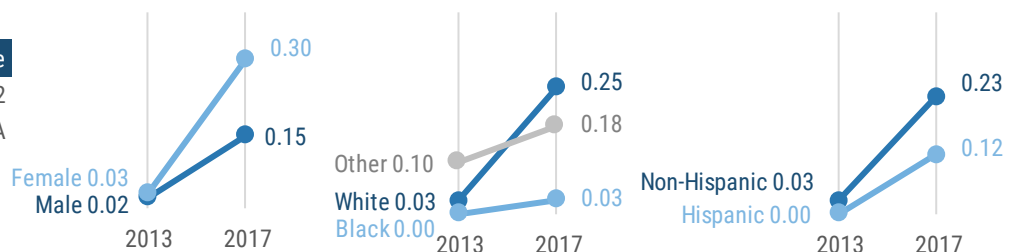


Disease Trends

The mercury poisoning rate (per 100,000 population) has historically been highest in children 1 to 4 years old and adults 45 to 75 years old. In 2017, rates were higher in younger age groups (infants <1 year old and adults 35 to 64 years old).



The mercury poisoning rate (per 100,000 population) increased in all gender, race, and ethnicity groups, though the increase was larger in females, whites, and non-Hispanics.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Mercury poisoning cases were missing 20.0% of ethnicity data in 2013, 10.6% of ethnicity data in 2017, and 8.5% of race data in 2017.

Summary

Number of cases	47
Rate (per 100,000 population)	0.2
Change from 5-year average rate	+201.3%

Age (in Years)

Mean	47
Median	49
Min-max	0 - 81

Gender

Gender	Number (Percent)	Rate
Female	32 (68.1)	0.3
Male	15 (31.9)	NA
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	40 (93.0)	0.3
Black	1 (2.3)	NA
Other	2 (4.7)	NA
Unknown race	4	

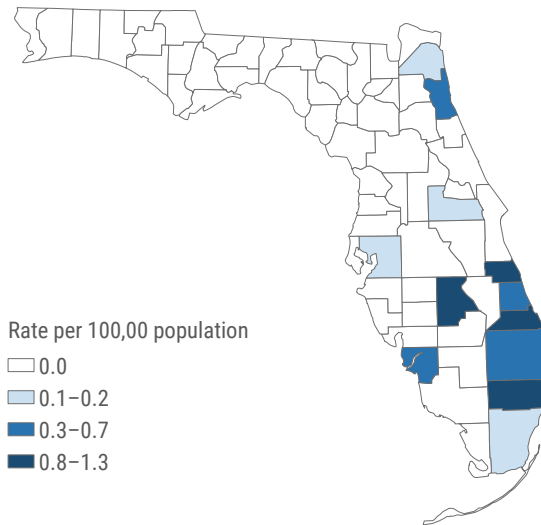
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	36 (85.7)	0.2
Hispanic	6 (14.3)	NA
Unknown ethnicity	5	

Mercury Poisoning

Summary	Number
Number of cases	47
Case Classification	Number (Percent)
Confirmed	47 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	5 (10.6)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	38 (90.5)
Exposed in the U.S., not Florida	2 (4.8)
Exposed outside the U.S.	2 (4.8)
Exposed location unknown	5
Outbreak Status	Number (Percent)
Sporadic	43 (93.5)
Outbreak-associated	3 (6.5)
Outbreak status unknown	1
Type of exposure	Number (Percent)
Fish consumption	43 (91.5)
Unknown	4 (8.5)

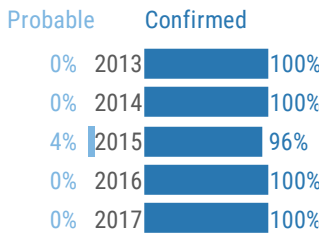
Mercury poisoning occurred primarily in southeast Florida in 2017. More than 40% of cases were reported in Broward (14 cases) and Palm Beach (8 cases) counties.



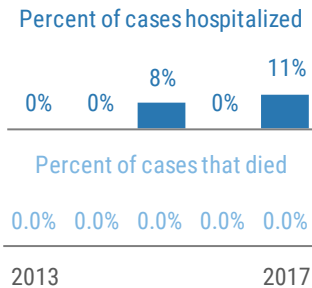
Rates are by county of residence for cases exposed in Florida (38 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

More Disease Trends

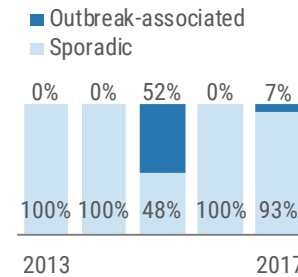
Almost all mercury poisoning cases are laboratory-confirmed.



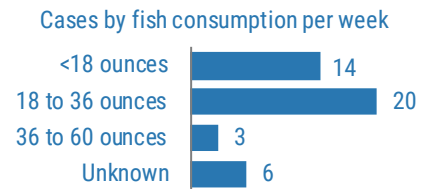
Five mercury poisoning cases were hospitalized in 2017; no deaths have been identified in recent years.



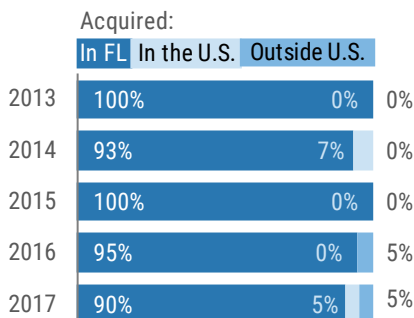
Three outbreak-associated cases in a single household cluster were identified in 2017.



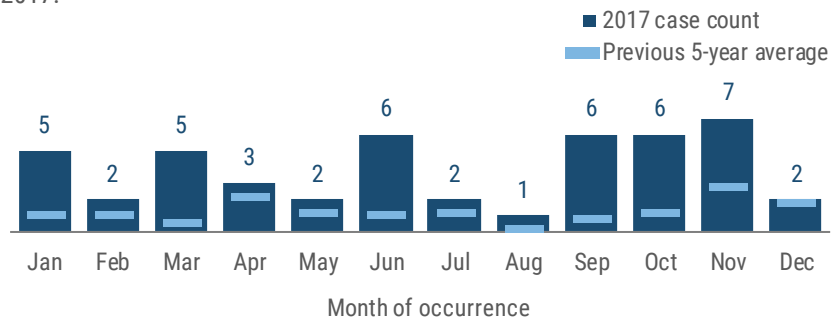
Mercury poisoning is mostly caused by fish consumption. The amount of fish consumed per week varies.



Most people with mercury poisoning are exposed in Florida. In 2017, 4 cases were exposed in other states or countries.



Mercury poisoning occurs throughout the year, with little obvious seasonality in Florida, though 40% of cases occurred in September, October, and November in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Mumps





Key Points

Despite routine vaccination, mumps has been increasing in the U.S., mainly due to outbreaks in young adults in settings with close contact, like college campuses. Nationally, 150 mumps outbreaks with over 9,000 cases were identified from January 2016 to June 2017. Waning immunity is thought to play a role in these outbreaks.

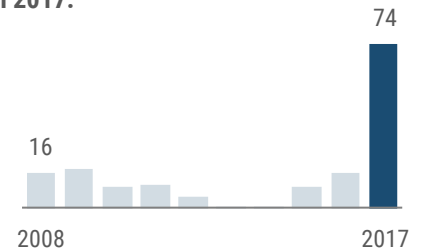
Mumps incidence in Florida increased dramatically in 2017. The rise in cases is partly due to increased awareness in the medical community of testing and reporting guidance and increased efforts to obtain specimens for testing at the state public health laboratory for both sporadic and outbreak-associated cases.

The majority of cases reported in 2017 were outbreak-associated. Most notable was an outbreak in a Broward County middle school where 10 cases were identified, prompting the county to provide press releases, conduct outreach to the medical community, and coordinate a vaccine clinic offering a third dose of measles, mumps, and rubella (MMR) vaccine at the middle school. During this outbreak, the Centers for Disease Control and Prevention released updated recommendations advising a third dose of vaccine to be given during prolonged outbreaks in close contact settings, even in settings where coverage with two doses of MMR vaccine is high. This recommendation is based on evidence that two doses of MMR vaccine is not sufficient for preventing infection during an outbreak in such settings.

Disease Facts

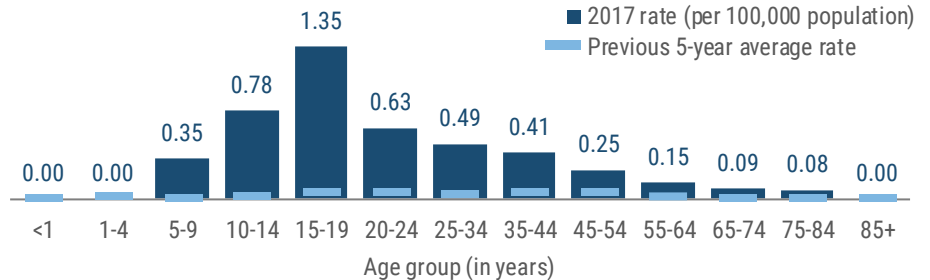
-  **Caused** by mumps virus
-  **Illness** includes fever, headache, muscle aches, tiredness and loss of appetite, followed by swelling of salivary glands
-  **Transmitted** person-to-person via droplets of saliva or mucus from the mouth, nose or throat of an infected person (usually when the person coughs, sneezes or talks)
-  **Under surveillance** to prevent further transmission through isolation and vaccination of contacts, identify and control outbreaks, monitor effectiveness of immunization programs and vaccines

Mumps incidence increased dramatically in 2017.

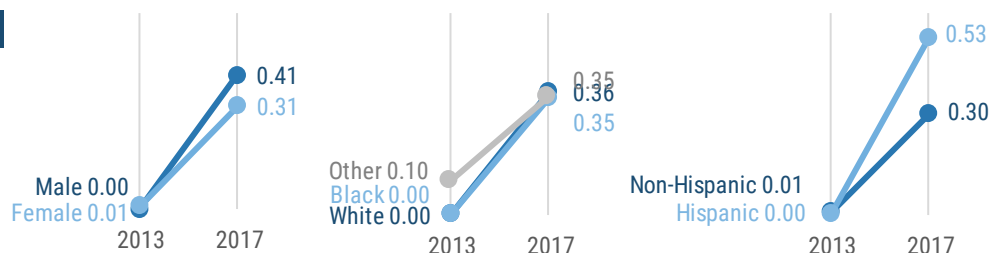


Disease Trends

The mumps rate (per 100,000 population) is highest in teenagers 15 to 19 years old and decreases with age. This may be due to waning immunity from vaccine, time spent in close contact settings (e.g., school campuses), and being an age group that is more likely to seek medical care for symptoms.



Mumps rates (per 100,000 population) have increased across all gender, race, and ethnicity groups from 2013 to 2017, though the increase was disproportionately larger among Hispanics.



Summary

Number of cases	74
Rate (per 100,000 population)	0.4
Change from 5-year average rate	+985.8%

Age (in Years)

Mean	30
Median	24
Min-max	6 - 83

Gender

Gender	Number (Percent)	Rate
Female	33 (44.6)	0.3
Male	41 (55.4)	0.4
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	58 (78.4)	0.4
Black	12 (16.2)	NA
Other	4 (5.4)	NA
Unknown race	0	

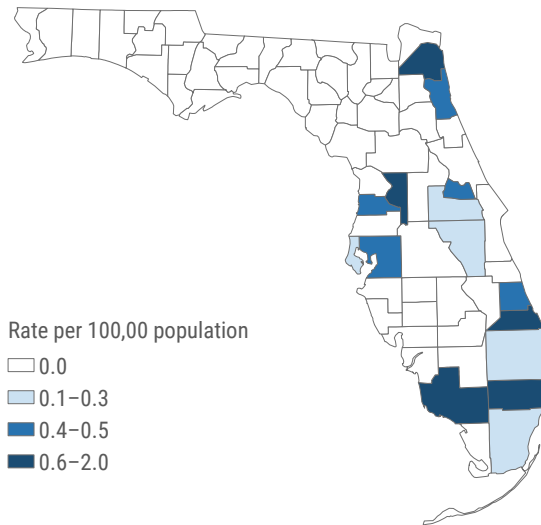
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	46 (63.0)	0.3
Hispanic	27 (37.0)	0.5
Unknown ethnicity	1	

Mumps

Summary	Number
Number of cases	74
Case Classification	Number (Percent)
Confirmed	24 (32.4)
Probable	50 (67.6)
Outcome	Number (Percent)
Hospitalized	13 (17.6)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	56 (86.2)
Acquired in the U.S., not Florida	7 (10.8)
Acquired outside the U.S.	2 (3.1)
Acquired location unknown	9
Outbreak Status	Number
Sporadic	31 (41.9)
Outbreak-associated	43 (58.1)
Outbreak status unknown	0

In 2017, most mumps cases were acquired in Florida. Cases occurred in residents of 15 counties, with the highest rates (per 100,000 population) being in Broward, Collier, Duval, Martin, and Sumter counties.

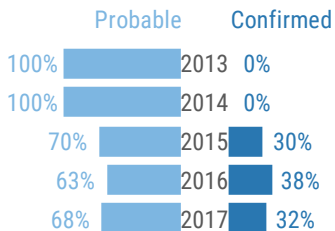


Rates are by county of residence for infections acquired in Florida (56 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

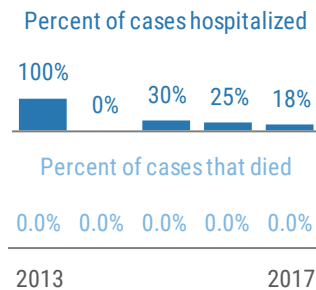


More Disease Trends

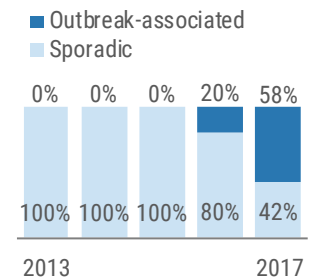
Generally between 30–40% of cases are confirmed each year (only one case was reported in 2013 and 2014).



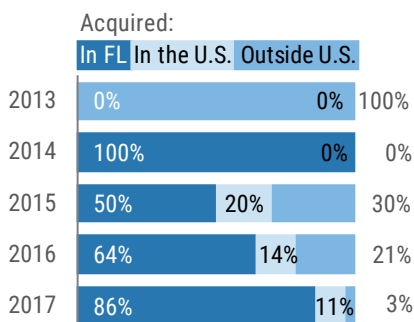
Some mumps cases are hospitalized, but no deaths have been identified in recent years.



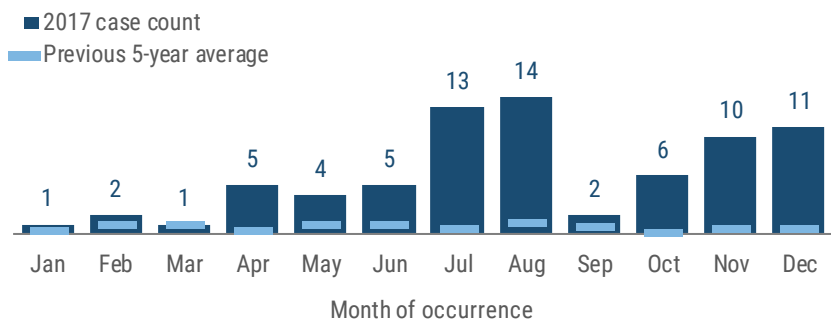
Most cases in 2017 were outbreak-associated. Outbreaks were largely limited to small household clusters.



Most mumps infections were acquired in Florida in 2017; nine infections were imported from other states and countries.



Mumps cases occurred throughout the year in Florida in 2017. More cases were reported in July, August, November, and December.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Pertussis





Key Points

Nationally, the number of pertussis cases reported increased starting in the 1980s, peaked in 2012, and has gradually decreased since. Pertussis is cyclical in nature with peaks in disease every three to five years. In Florida, pertussis cases last peaked in 2013. Pertussis incidence in 2017 remained consistent with those seen during non-peak years.

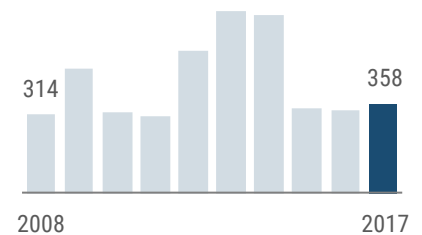
Older adults often have milder infections and serve as the reservoirs and sources of infection for infants and young children. Infants have the greatest burden of pertussis infections, both in number of cases and severity. Infants <2 months old are too young to be vaccinated, underscoring the importance of vaccinating pregnant women and family members of infants to protect infants from infection. All pregnant women should receive a dose of Tdap (tetanus, diphtheria, pertussis) vaccine during the third trimester of each pregnancy to help protect their babies. In addition, all children and adults who plan to have close contact with infants should receive a dose of Tdap if they have not previously received one.

There were five non-household outbreaks reported in 2017. All five occurred in school settings, with the largest involving 12 cases.

Disease Facts

-  **Caused by** *Bordetella pertussis* bacteria
-  **Illness** includes runny nose, low-grade fever, mild cough, and apnea that progresses to paroxysmal cough or “whoop” with posttussive vomiting and exhaustion
-  **Transmitted** person-to-person via inhalation of infective, aerosolized respiratory tract droplets
-  **Under surveillance** to identify cases for treatment to prevent death, identify and prevent outbreaks, limit transmission in settings with infants or others who may transmit to infants, monitor effectiveness of immunization programs and vaccines

Pertussis incidence in 2017 was consistent with incidence in non-peak years.



Disease Trends

Summary

Number of cases	358
Rate (per 100,000 population)	1.7
Change from 5-year average rate	-37.0%

Age (in Years)

Mean	16
Median	8
Min-max	0 - 99

Gender

Gender	Number (Percent)	Rate
Female	189 (52.8)	1.8
Male	169 (47.2)	1.7
Unknown gender	0	

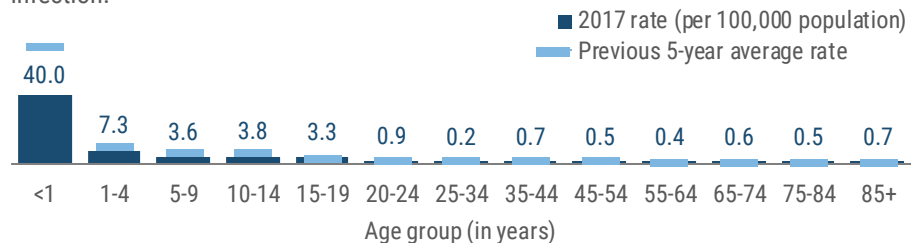
Race

Race	Number (Percent)	Rate
White	274 (79.0)	1.7
Black	32 (9.2)	0.9
Other	41 (11.8)	3.6
Unknown race	11	

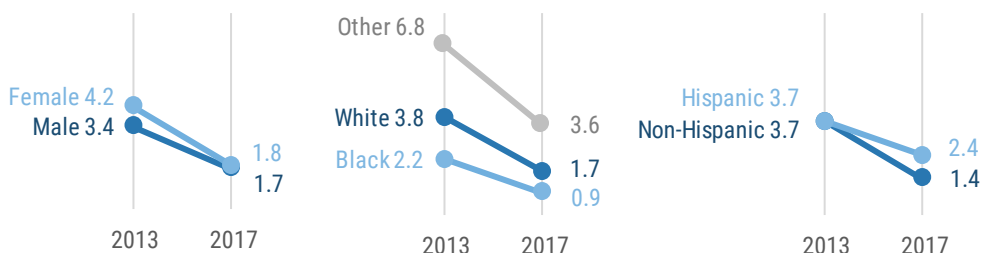
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	222 (64.5)	1.4
Hispanic	122 (35.5)	2.4
Unknown ethnicity	14	

The pertussis rate (per 100,000 population) is highest in infants <1 year old. Infants <2 months old are too young to be vaccinated, underscoring the importance of vaccinating pregnant women and family members of infants to protect infants from infection.



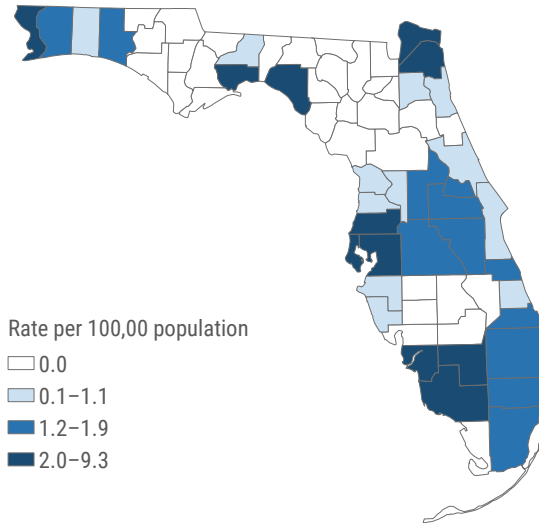
Pertussis rates (per 100,000 population) have decreased in all gender, race, and ethnicity groups since 2013. This is expected given the cyclical nature of pertussis, which last peaked in 2013.



Pertussis

Summary	Number
Number of cases	358
Case Classification	Number (Percent)
Confirmed	265 (74.0)
Probable	93 (26.0)
Outcome	Number (Percent)
Hospitalized	82 (22.9)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	327 (94.0)
Acquired in the U.S., not Florida	18 (5.2)
Acquired outside the U.S.	3 (0.9)
Acquired location unknown	10
Outbreak Status	Number
Sporadic	230 (65.3)
Outbreak-associated	122 (34.7)
Outbreak status unknown	6

In 2017, pertussis cases primarily occurred in the more populated areas of the states in south and central Florida, as well as the western Panhandle, and the northeastern corner of the state. Several of the counties with the highest rates reported pertussis outbreaks.

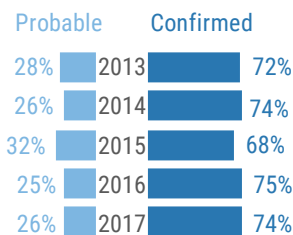


Rates are by county of residence for infections acquired in Florida (327 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

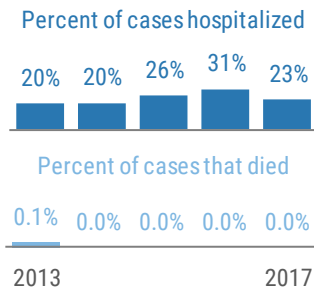


More Disease Trends

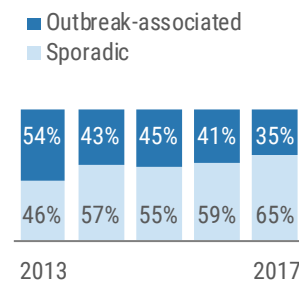
About 3/4 of pertussis cases are confirmed. Probable cases are clinically compatible but lack confirmatory testing.



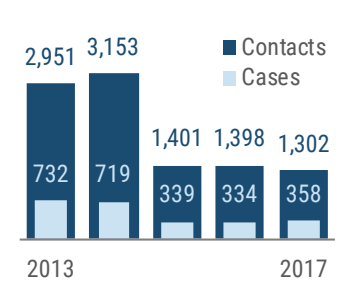
Between 20-30% of pertussis cases are hospitalized. Deaths from pertussis are rare.



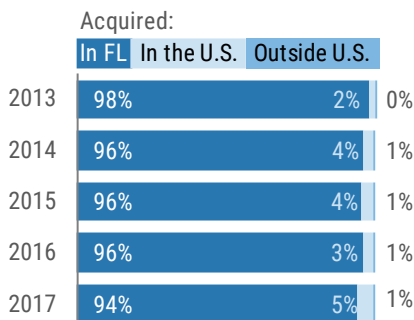
The percentage of cases that were outbreak associated decreased in 2017. Five outbreaks were identified.



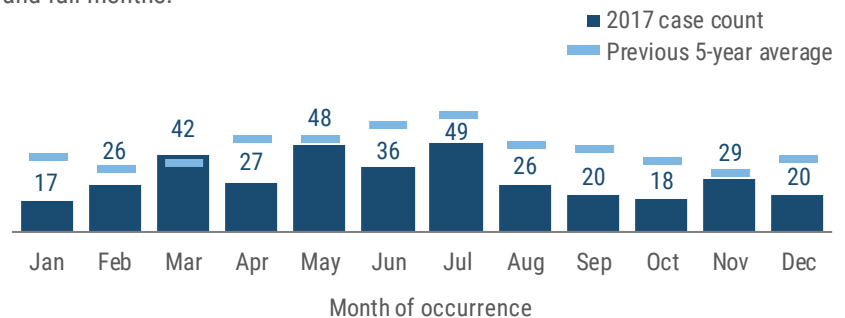
For each pertussis case, an average of 4 exposed contacts are recommended antibiotics to prevent illness.



Most pertussis cases are acquired in Florida; a small number of cases are imported from other states and countries.



Pertussis cases did not have a distinct seasonality in 2017. In general, pertussis does not have a seasonal pattern, although cases may increase in the summer and fall months.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Pesticide-Related Illness and Injury, Acute





Key Points

Pesticides are used in agricultural, residential, recreational, and other various settings throughout the state. Exposures resulting in illness or injury can occur from pesticide drift; consumption of contaminated food or water; or improper use, storage, or application of household pesticides such as insect repellents, foggers, rodent poisons, weed killers, and mosquito, flea, and tick control products.

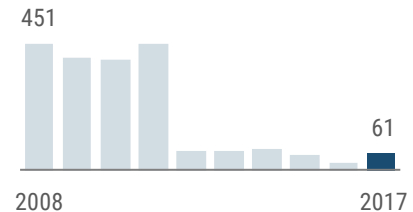
Prior to January 2012, suspect sporadic cases (i.e., not part of a cluster) and suspect cases associated with non-occupational exposures (typically limited household exposures) met the surveillance case definition. The case definition was changed in January 2012 to exclude these cases, substantially decreasing the number of cases reported. The number of cases reported since 2012 has remained relatively stable with a slight decrease in 2016.

Most cases (70%) had a low severity of illness, 28% had moderate severity of illness, one case had severe illness, and no deaths were reported. Over half the 2017 cases were outbreak-associated (32 cases). Of these 75% were related to paladin odor in Hillsborough County. Paladin is a soil fumigant applied in August and September that has a sulfurous or garlic-like odor; dimethyl disulfide is the active ingredient.

Disease Facts

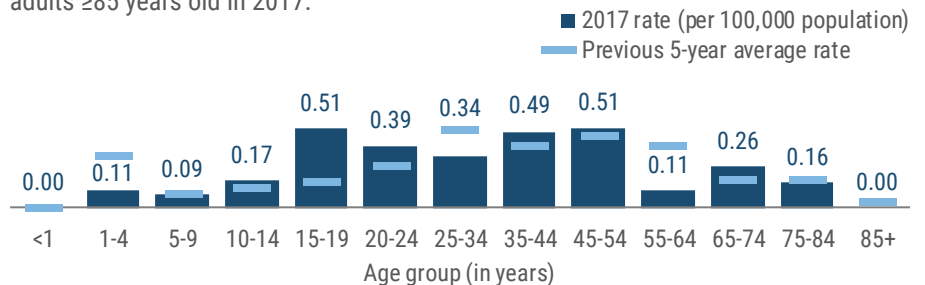
-  **Caused by pesticides**
-  **Illness** can be respiratory, gastrointestinal, neurological, dermal, etc., depending on the agent
-  **Exposure** depends on several factors (e.g., agent, application method, environmental conditions); dermal, inhalation, and ingestion are most common routes of exposure
-  **Under surveillance** to identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions and occupational exposure, improve administration and proper use of pesticides to reduce exposure

Pesticide-related case incidence has remained relatively stable since the 2012 case definition change.

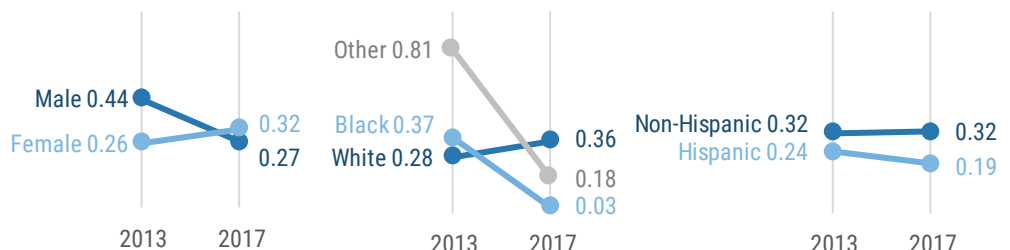


Disease Trends

The rate (per 100,000 population) of acute pesticide-related illness and injury is highest in people 15 to 84 years old. No cases occurred in infants <1 year old or adults ≥85 years old in 2017.



Since 2013, rates (per 100,000 population) of acute pesticide-related illness and injury have increased in females and whites, and decreased in males, blacks, other races, and Hispanics. In 2017, rates were similar by gender, and higher in whites than blacks or other races. The rate in non-Hispanics remained higher than in Hispanics.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute pesticide-related illness and injury cases were missing 13.2% of ethnicity data in 2013 and 8.8% of race data in 2013.

Summary		
Number of cases		61
Rate (per 100,000 population)		0.3
Change from 5-year average rate		-4.0%

Age (in Years)		
Mean		40
Median		43
Min-max		3 - 83

Gender	Number (Percent)	Rate
Female	34 (55.7)	0.3
Male	27 (44.3)	0.3
Unknown gender	0	

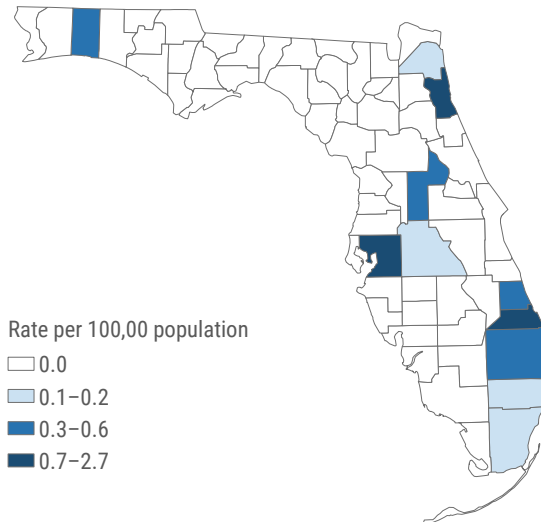
Race	Number (Percent)	Rate
White	57 (95.0)	0.4
Black	1 (1.7)	NA
Other	2 (3.3)	NA
Unknown race	1	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	50 (83.3)	0.3
Hispanic	10 (16.7)	NA
Unknown ethnicity	1	

Pesticide-Related Illness and Injury, Acute

Summary	Number
Number of cases	61
Case Classification	Number (Percent)
Confirmed	6 (9.8)
Probable	14 (23.0)
Suspect	41 (67.2)
Outcome	Number (Percent)
Hospitalized	6 (9.8)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	59 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	2
Outbreak Status	Number (Percent)
Sporadic	29 (47.5)
Outbreak-associated	32 (52.5)
Outbreak status unknown	0

Acute pesticide-related illness and injuries were focused in Hillsborough County (61% of all cases) and several southeast Florida counties (28% of cases) in 2017. Most cases (76%) in Hillsborough County were related to paladin odor.

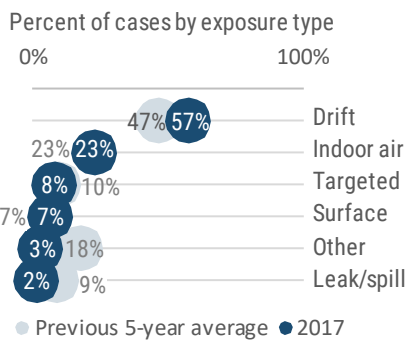


Rates are by county of residence, regardless of where exposure occurred (61 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

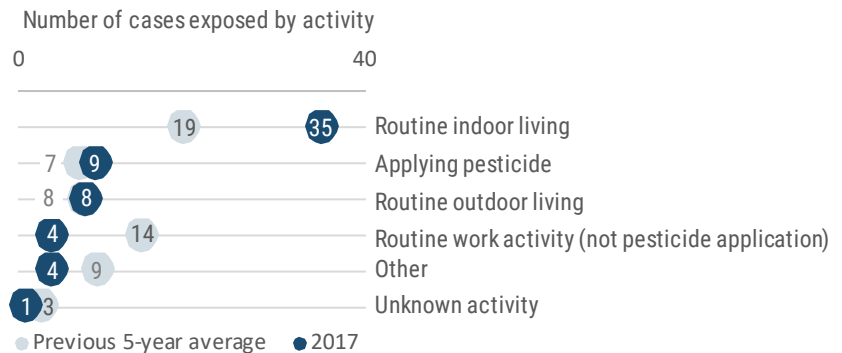


More Disease Trends

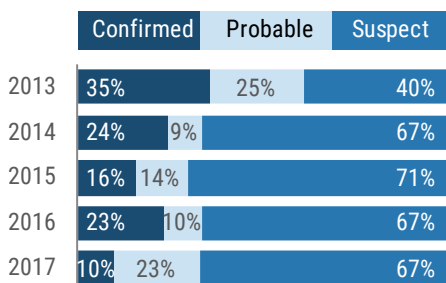
Drift was the most common exposure type and was above the previous 5-year average in 2017. Note: cases can report >1 exposure type.



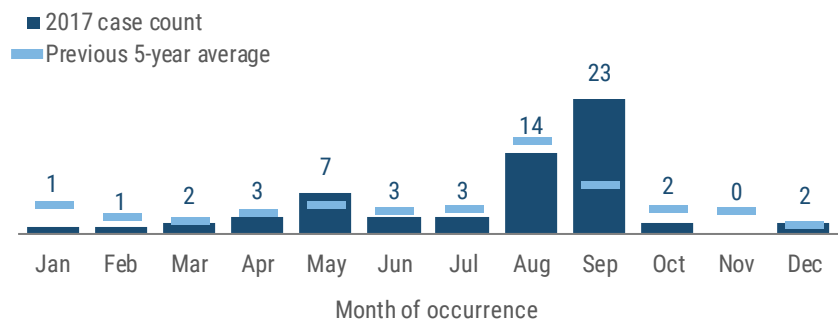
In 2017, 35 cases (57%) were exposed to pesticide while doing routine indoor activities, not related to pesticide application work. This was notably higher than the previous 5-year average.



Since 2014, between 67 and 71% of cases are suspect. Only 10% were confirmed in 2017.



Acute pesticide-related illness and injuries peak in late summer in August and September. Pesticide application also increases in the summer.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Rabies, Animal and Possible Exposure

Key Points for Humans





The first case of human rabies acquired in Florida since 1948 was reported in 2017. Exposure was attributed to a bite from a rabid bat. See Section 3: Notable Outbreaks and Case Investigations for more information.

The animals most frequently diagnosed with rabies in Florida are raccoons, bats, unvaccinated cats, and foxes. Rabies is endemic in the raccoon and bat populations of Florida. Rabies frequently spreads from raccoons, and occasionally bats, to other animal species such as foxes and cats.

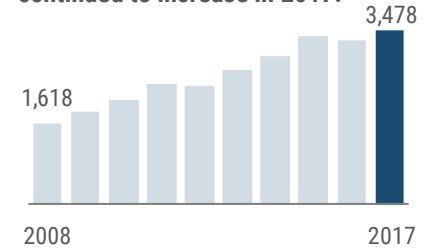
Incidence of human exposures to suspected rabid animals for which PEP is recommended has increased since case reporting was initiated, primarily due to PEP recommendations related to dog bites. Contributing factors may include more animal bites, lack of rabies PEP training, and fewer local resources to find and confine or test biting animals. Florida was impacted by Hurricane Irma in 2017; animal bites frequently increase after hurricanes and other disasters. Analysis of syndromic surveillance data identified a significant increase in animal bites in Florida immediately prior to and following Hurricane Irma. See Overview of 2017 section for more information.

Case counts in this report may differ from those found in other rabies reports as different criteria are used to assemble the data.

Disease Facts

-  **Caused by Rabies virus**
-  **Illness in humans includes** fever, headache, insomnia, confusion, hallucinations, increase in saliva, difficulty swallowing, and fear of water; near 100% fatality rate, death usually occurs within days of symptom onset
-  **Transmitted** when infectious saliva or nervous tissue comes in contact with open wound or mucous membrane via bite
-  **Under surveillance** to identify and mitigate sources of exposure, evaluate adherence to guidance on rabies post-exposure prophylaxis (PEP)

Possible human exposures to rabies continued to increase in 2017.



Human Trends

Summary

Number of cases	3,478
Rate (per 100,000 population)	16.9
Change from 5-year average rate	+12.8%

Age (in Years)

Mean	38
Median	36
Min-max	0 - 95

Gender

Gender	Number (Percent)	Rate
Female	1,856 (53.4)	17.7
Male	1,622 (46.6)	16.2
Unknown gender	0	

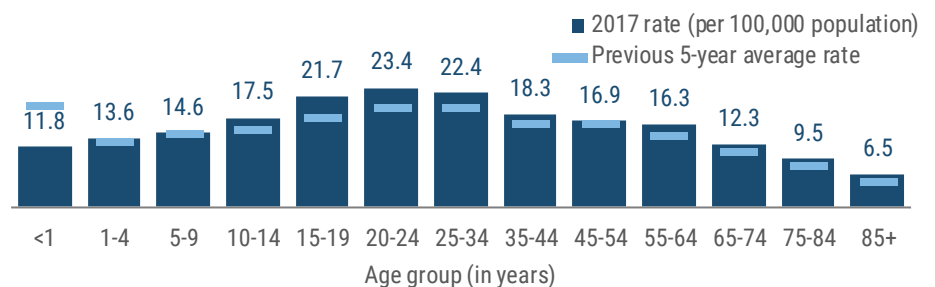
Race

Race	Number (Percent)	Rate
White	2,545 (85.2)	16.0
Black	278 (9.3)	8.0
Other	163 (5.5)	14.3
Unknown race	492	

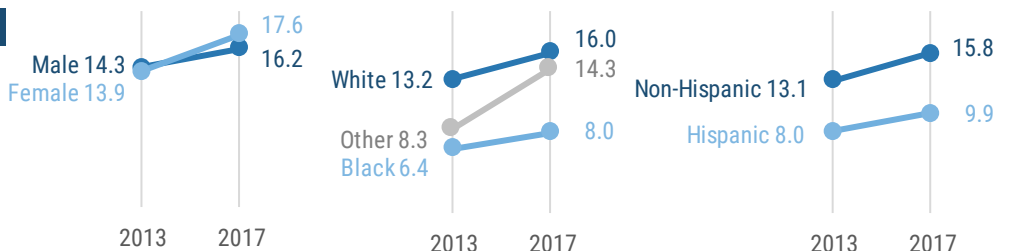
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	2,438 (82.8)	15.8
Hispanic	507 (17.2)	9.9
Unknown ethnicity	533	

Human exposures to suspected rabid animals for which PEP is recommended occurs in all age groups, but the rate (per 100,000 population) tends to be highest in people 15 to 34 years old.



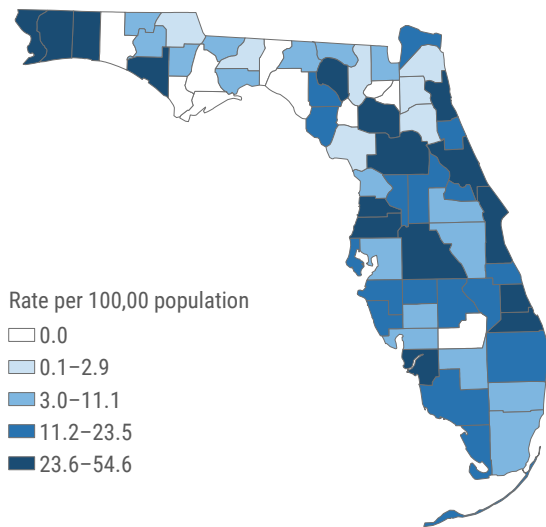
The rate (per 100,000 population) of human exposures to suspected rabid animals for which PEP is recommended is similar in males and females, but is higher in whites than blacks and higher in non-Hispanics than Hispanics. The rate increased in all gender, race, and ethnic groups from 2013 to 2017.



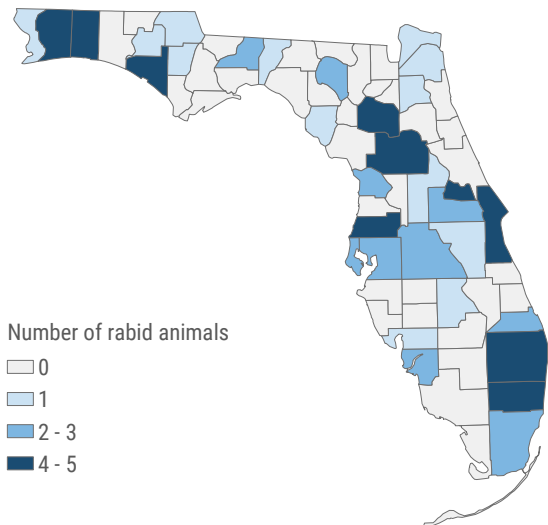
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Possible human exposure to rabies cases were missing 15.1% of ethnicity data in 2013, 15.8% of race data in 2013, 15.3% of ethnicity data in 2017, and 14.1% of race data in 2017.

Rabies, Animal and Possible Exposure

Human exposures to suspected rabid animals for which PEP is recommended occur throughout the state. The rate (per 100,000 population) was high in both rural and urban counties in 2017.



Rabid animals were identified throughout the state in 2017.



Rates are by county of residence for cases exposed in Florida (3,239 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



Animal Trends

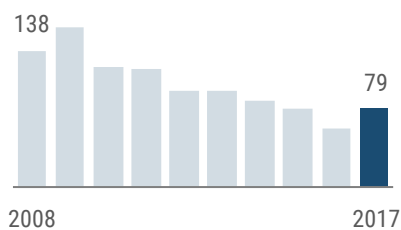
Key Points for Animals

Laboratory testing for animal rabies is only done when animals potentially expose (e.g., bite) humans or domestic animals; thus, these data do not necessarily correlate with the true prevalence of rabies by animal species in Florida. A total of 79 laboratory-confirmed rabid animals were reported in 2017.

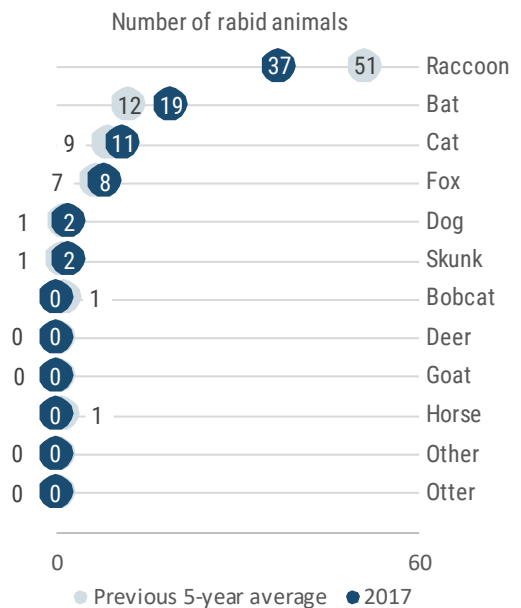
There is generally a much greater risk for rabies exposure to people when domestic animals are infected versus wildlife. Properly administered rabies vaccines are highly effective in protecting domestic animals like cats, dogs, and ferrets against rabies infection, and rabies vaccination is required by state law for these animals.

In 2017, part of a bat was found in a pre-packed salad. See Section 3: Notable Outbreaks and Case Investigations for more information on that investigation.

The number of rabid animals identified has generally decreased over the past decade, but may be on the rise. Rabies activity is frequently cyclical.



In 2017, raccoons remained the most commonly identified rabid animal, followed by bats, cats, and foxes.



Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis





Key Points

Spotted fever rickettsioses (SFRs) are a group of tick-borne diseases caused by closely related *Rickettsia* bacteria. The most serious and commonly reported spotted fever group rickettsiosis in the U.S. is Rocky Mountain spotted fever (RMSF) caused by *R. rickettsii*. Examples of other causes of SFR include *R. parkeri*, *R. africae*, and *R. conorii*. The principal tick vectors in Florida are the American dog tick (*Dermacentor variabilis*) and the Gulf Coast tick (*Amblyomma maculatum*).

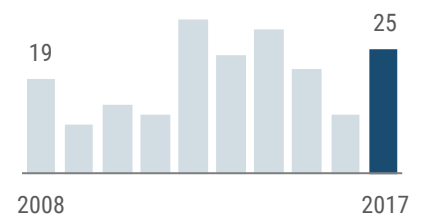
Human antibodies to spotted fever rickettsial species such as *R. parkeri*, *R. amblyommii*, *R. africae*, and *R. conorii* cross-react with serologic tests for the RMSF organism *R. rickettsii*. Commercial antibody testing to differentiate other SFRs from RMSF is currently limited, though PCR testing of eschar swabs performed at reference laboratories can provide species. More than 90% of cases in 2017 were probable because eschar swabs or convalescent serology samples were either not available or not obtained. An eschar swab collected for a case exposed in Zimbabwe tested positive for *R. africae*.

Cases counted in this report are based on year reported, whereas other reports may use year of onset. One RMSF/SFR case reported in 2017 had an onset at the end of 2016.

Disease Facts

-  **Caused** by certain *Rickettsia* bacteria; most commonly *Rickettsia rickettsii*, *R. parkeri*, *R. africae*, *R. conorii*
-  **Illness** includes fever, headache, abdominal pain, vomiting, and muscle pain; rash develops in 80% of cases
-  **Transmitted** via bite of infective tick
-  **Under surveillance** to monitor incidence over time, estimate burden of illness, monitor geographical and temporal occurrence, target areas of high incidence for prevention education

RMSF and SFR incidence varies by year.



Disease Trends

Summary

Number of cases	25
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+1.5%

Age (in Years)

Mean	55
Median	60
Min-max	19 - 79

Gender

Gender	Number (Percent)	Rate
Female	2 (8.0)	NA
Male	23 (92.0)	0.2
Unknown gender	0	

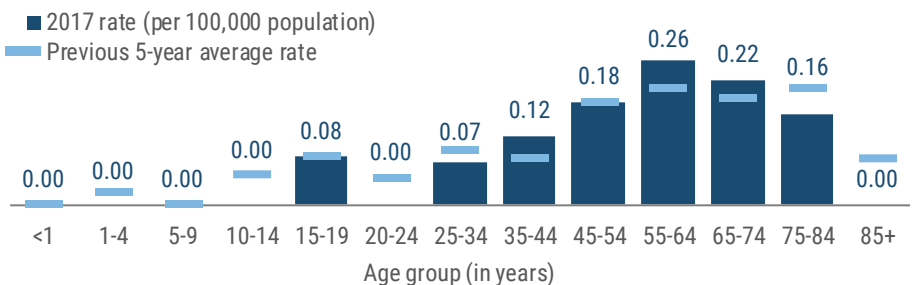
Race

Race	Number (Percent)	Rate
White	21 (91.3)	0.1
Black	1 (4.3)	NA
Other	1 (4.3)	NA
Unknown race	2	

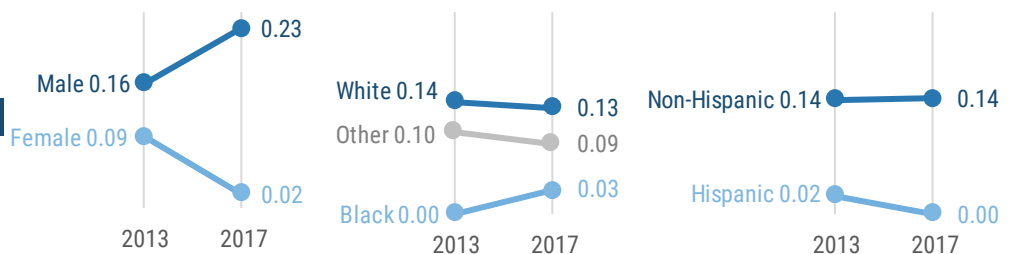
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	22 (100.0)	0.1
Hispanic	0 (0.0)	NA
Unknown ethnicity	3	

RMSF and SFR rates (per 100,000 population) are highest in adults, particularly between 45 and 84 years old.



RMSF and SFR rates (per 100,000 population) vary by gender, race, and ethnic groups. Rates are generally higher in males, whites, and non-Hispanics.

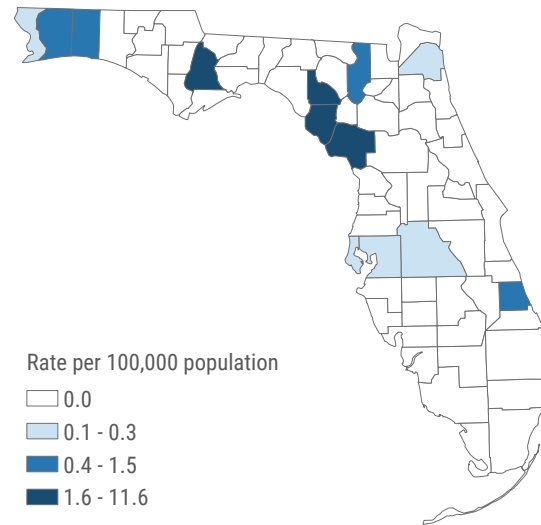


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Rocky Mountain spotted fever and spotted fever rickettsiosis cases were missing 8.3% of ethnicity data in 2013, 8.3% of race data in 2013, 12.0% of ethnicity data in 2017, and 8.0% of race data in 2017.

Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis

Summary	Number
Number of cases	25
Case Classification	Number (Percent)
Confirmed	2 (8.0)
Probable	23 (92.0)
Outcome	Number (Percent)
Hospitalized	9 (36.0)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	15 (68.2)
Acquired in the U.S., not Florida	5 (22.7)
Acquired outside the U.S.	2 (9.1)
Acquired location unknown	3
Outbreak Status	Number (Percent)
Sporadic	25 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Most *Rickettsia* infections acquired within Florida are in residents of northern and central counties. Three cases were reported in Okaloosa County in 2017, and 12 other counties each had one case.

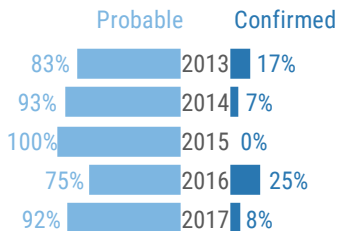


Rates are by county of residence for infections acquired in Florida (15 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

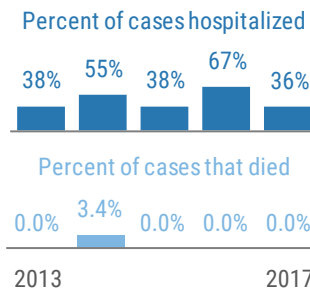


More Disease Trends

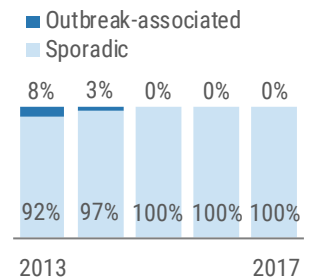
Most RMSF and SFR cases are not confirmed due to laboratory testing limitations; two cases were confirmed in 2017.



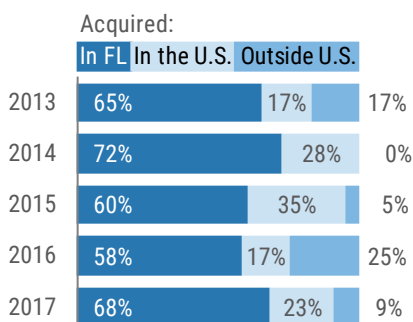
Typically more than 30% of cases are hospitalized, but deaths are rare.



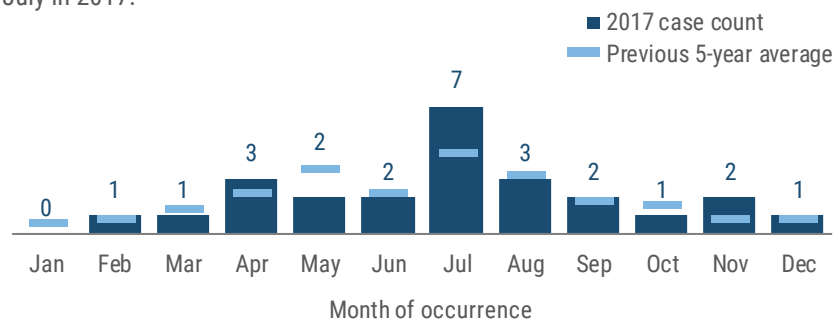
Most RMSF and SFR cases are sporadic. No outbreak-associated cases have been identified since 2014.



Most cases are acquired in Florida. In 2017, two cases were exposed in Mongolia and Zimbabwe.



RMSF and SFR cases are reported year-round without distinct seasonality, though peak transmission typically occurs during the summer months. Cases peaked in July in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.





Salmonellosis

Key Points

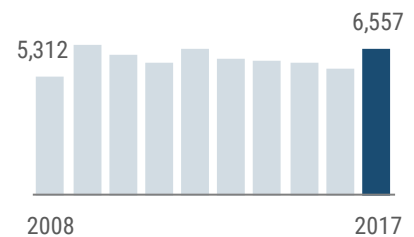
The use of culture-independent diagnostic testing (CIDT) for *Salmonella* has increased in recent years. The salmonellosis case definition expanded in January 2017 to include CIDT in the criteria for probable cases, resulting in an increase in cases reported in 2017. Florida frequently has the highest number and one of the highest incidence rates of salmonellosis cases in the U.S. Incidence is highest in infants <1 year old and decreases dramatically with age. The rate in other races increased from 2013 to 2017 while the rate in whites and blacks decreased. The seasonal pattern is very strong, with cases peaking in late summer.

Most outbreak-associated cases were reflective of household clusters; however, some cases were part of larger clusters or multistate outbreaks. In 2017, Florida identified 165 cases associated with 25 different multistate outbreaks. A variety of vehicles were identified for multistate outbreaks, including live poultry, leafy greens, and papayas. In 2017, Florida identified 28 cases associated with three different in-state clusters. No common vehicles were identified for any in-state cluster.

Disease Facts

-  **Caused** by *Salmonella* bacteria (excluding *Salmonella* serotype Typhi)
-  **Illness** is gastroenteritis (diarrhea, vomiting)
-  **Transmitted** via fecal-oral route, including person-to-person, animal-to-person, foodborne, and waterborne
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Salmonellosis incidence increased slightly in 2017 compared to the previous four years.



Disease Trends

Summary

Number of cases	6,557
Rate (per 100,000 population)	31.9
Change from 5-year average rate	+3.5%

Age (in Years)

Mean	29
Median	17
Min-max	0 - 104

Gender

Gender	Number (Percent)	Rate
Female	3,511 (53.5)	33.4
Male	3,046 (46.5)	30.3
Unknown gender	0	

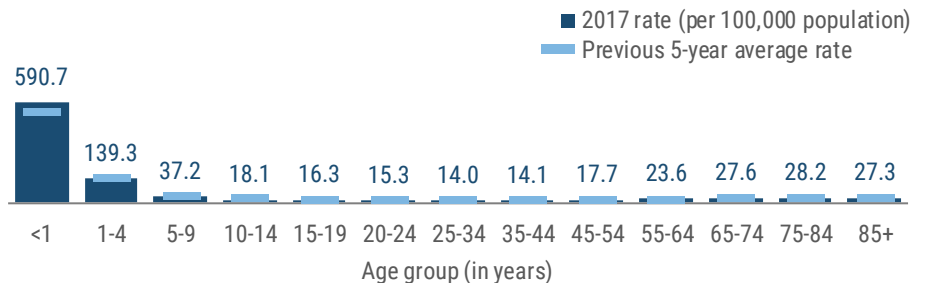
Race

Race	Number (Percent)	Rate
White	4,346 (74.8)	27.3
Black	728 (12.5)	21.0
Other	733 (12.6)	64.2
Unknown race	750	

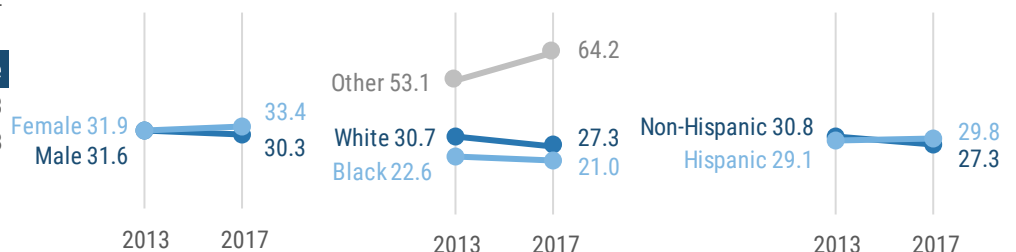
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	4,214 (73.3)	27.3
Hispanic	1,532 (26.7)	29.8
Unknown ethnicity	811	

The salmonellosis rate (per 100,000 population) is highest in infants <1 year old and decreases dramatically with age.



The salmonellosis rate (per 100,000 population) is slightly higher in whites than blacks and notably higher in other races compared to both whites and blacks. Rates were similar by gender groups and by ethnic groups. The rates in whites and blacks decreased slightly from 2013 to 2017, while the rate in other races increased.

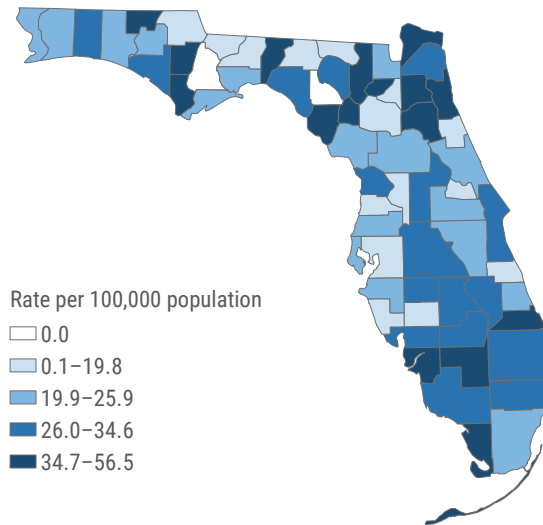


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Salmonellosis cases were missing 12.4% of ethnicity data in 2017 and 11.4% of race data in 2017.

Salmonellosis

Summary	Number
Number of cases	6,557
Case Classification	Number (Percent)
Confirmed	5,740 (87.5)
Probable	817 (12.5)
Outcome	Number (Percent)
Hospitalized	1,680 (25.6)
Died	32 (0.5)
Sensitive Situation	Number (Percent)
Daycare	505 (7.7)
Health care	97 (1.5)
Food handler	56 (0.9)
Imported Status	Number (Percent)
Acquired in Florida	5,406 (93.4)
Acquired in the U.S., not Florida	149 (2.6)
Acquired outside the U.S.	235 (4.1)
Acquired location unknown	767
Outbreak Status	Number
Sporadic	5,902 (92.4)
Outbreak-associated	482 (7.6)
Outbreak status unknown	173

Geographic distribution is relatively consistent, though not well understood, with high rates (per 100,000 population) clustered in northern Florida and the Panhandle (particularly in lower population counties). This continued in 2017.

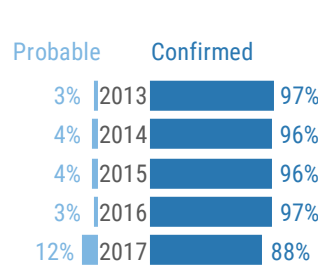


Rates are by county of residence for infections acquired in Florida (5,406 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

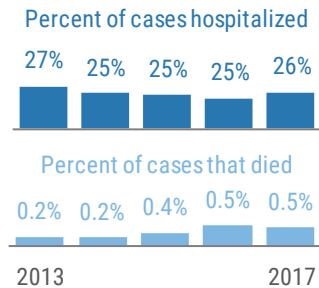


More Disease Trends

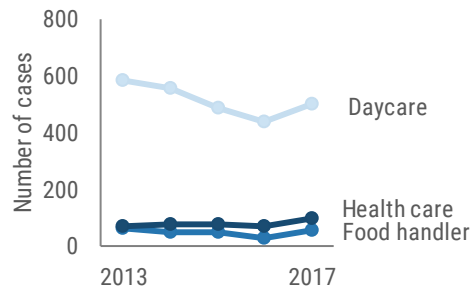
The percent of cases that are probable increased in 2017 due to case definition changes.



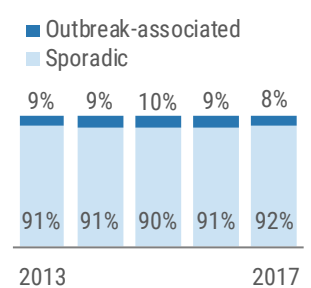
Approximately 25% of cases are hospitalized each year. Very few cases die.



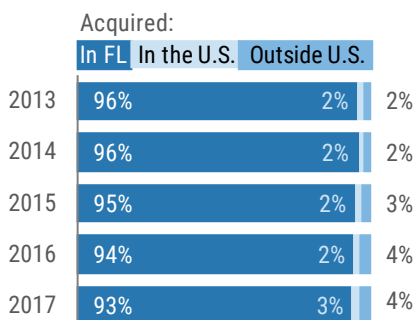
Cases in sensitive situations are monitored. The large number of cases in daycares reflects the age distribution of cases.



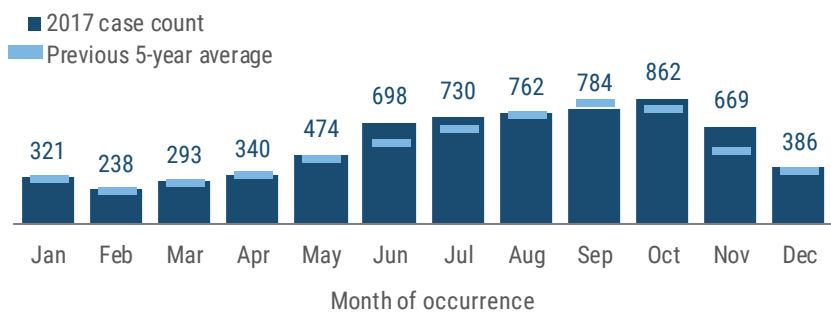
Most cases are sporadic; 10% or less are outbreak-associated.



Most cases are acquired in Florida; a small number of cases are imported from other states and countries.



Salmonellosis occurred throughout 2017, but has a strong seasonal pattern with cases peaking in late summer, which is consistent with past years.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.





Shiga Toxin-Producing *Escherichia coli* (STEC) Infection

Key Points

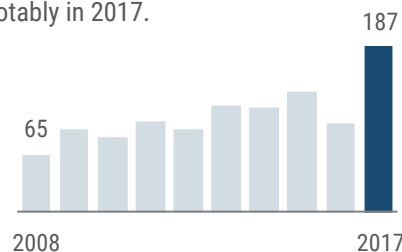
STEC infection incidence in Florida has generally increased over the past 10 years, likely due to advancements in laboratory techniques, resulting in improved identification of STEC infection. The notable increase in 2017 is likely related to revised testing and reporting protocols implemented at the state public health laboratory.

Most outbreak-associated cases are reflective of household clusters; however, some cases are part of larger clusters or multistate outbreaks. In 2017, Florida identified a cluster of 13 STEC infection cases caused by *E. coli* O123 at a daycare, causing a notable increase in cases in children 1 to 4 years old and cases in daycare settings. In 2015, a cluster of 10 STEC infections caused by *E. coli* O126 in a Florida daycare caused similar increases. In 2017, five Florida cases had isolates that matched three different multistate clusters of STEC infections caused by *E. coli* O157. Two cases were associated with a cluster caused by SoyNut Butter and three were associated with two other multistate clusters where no source of infection was identified.

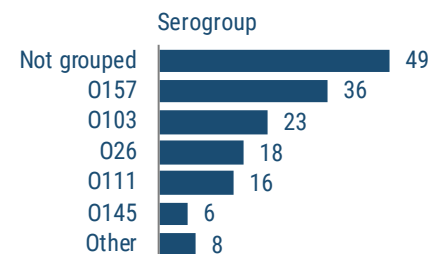
Disease Facts

-  **Caused** by Shiga toxin-producing *Escherichia coli* (STEC) bacteria
-  **Illness** is gastroenteritis (diarrhea, vomiting); less frequently hemolytic uremic syndrome (HUS)
-  **Transmitted** via fecal-oral route; including person-to-person, animal-to-person, waterborne and foodborne
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

STEC infection incidence has increased over the past 10 years and increased notably in 2017.

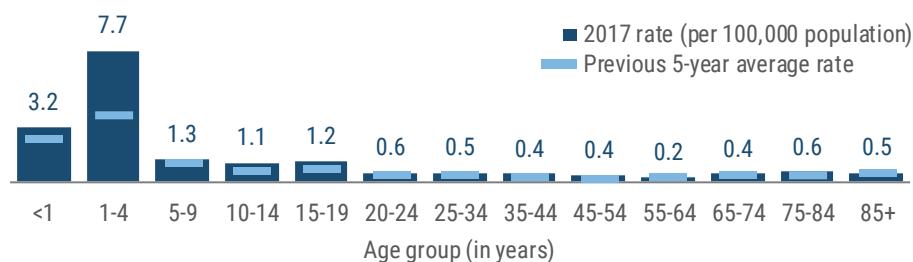


O157 remained the most commonly identified serogroup in 2017.

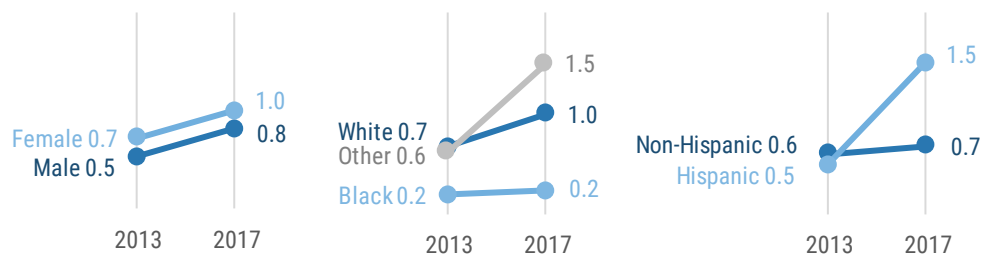


Disease Trends

The rate of STEC infection (per 100,000 population) is highest in children 1 to 4 years old and infants <1 year old. Children <4 years old are particularly vulnerable to STEC infection and at highest risk of developing hemolytic uremic syndrome (HUS).



The STEC infection rate (per 100,000 population) has increased slightly in all gender, race, and ethnicity groups, except blacks, since 2013. The rate was higher in females and Hispanics compared to males and non-Hispanics in 2017. The rate was highest in other races in 2017, followed by whites then blacks.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Shiga toxin-producing *E. coli* infection cases were missing 9.1% of ethnicity data in 2013 and 6.6% of race data in 2013.

Summary

Number of cases	187
Rate (per 100,000 population)	0.9
Change from 5-year average rate	+58.0%

Age (in Years)

Mean	21
Median	10
Min-max	0 - 94

Gender

Gender	Number (Percent)	Rate
Female	105 (56.1)	1.0
Male	82 (43.9)	0.8
Unknown gender	0	

Race

Race	Number (Percent)	Rate
White	158 (86.3)	1.0
Black	8 (4.4)	NA
Other	17 (9.3)	NA
Unknown race	4	

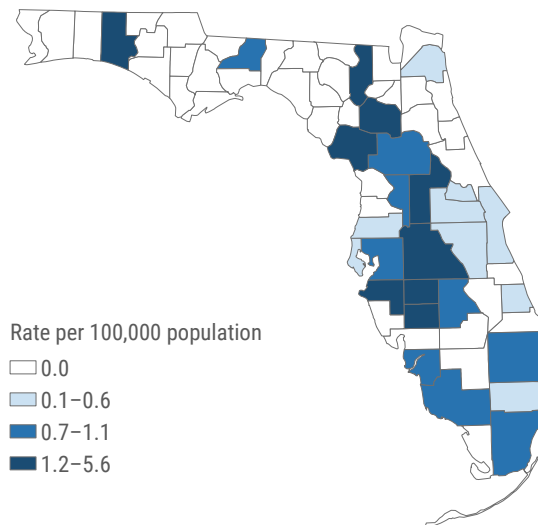
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	104 (57.5)	0.7
Hispanic	77 (42.5)	1.5
Unknown ethnicity	6	

Shiga Toxin-Producing *Escherichia coli* (STEC) Infection

Summary	Number
Number of cases	187
Case Classification	Number (Percent)
Confirmed	156 (83.4)
Probable	31 (16.6)
Outcome	Number (Percent)
Hospitalized	36 (19.3)
Died	2 (1.1)
Sensitive Situation	Number (Percent)
Daycare	27 (14.4)
Health care	3 (1.6)
Food handler	2 (1.1)
Imported Status	Number (Percent)
Acquired in Florida	132 (82.5)
Acquired in the U.S., not Florida	4 (2.5)
Acquired outside the U.S.	24 (15.0)
Acquired location unknown	27
Outbreak Status	Number
Sporadic	119 (67.2)
Outbreak-associated	58 (32.8)
Outbreak status unknown	10

STEC infection cases occurred in most areas of the state, though minimally in the Florida Panhandle. The highest rates (per 100,000 population) were in small, rural counties.

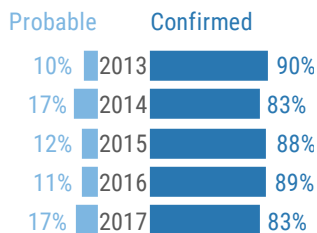


Rates are by county of residence for infections acquired in Florida (132 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

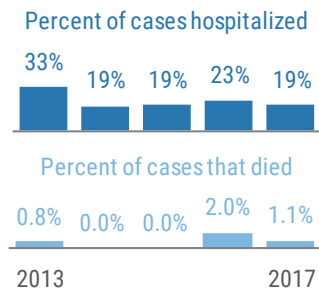


More Disease Trends

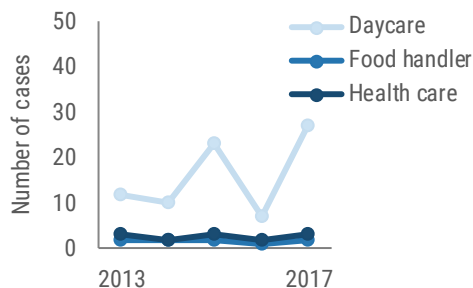
Most STEC infections were confirmed; less than 20% are probable each year.



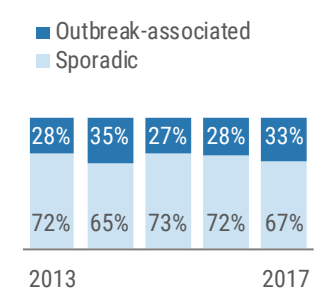
Each year, around 20% of cases are hospitalized. Deaths are rare (more likely in children <10 years old and older adults).



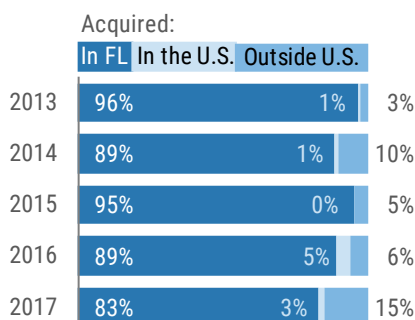
Single outbreaks in daycares in 2015 and 2017 resulted in higher numbers of cases in that setting.



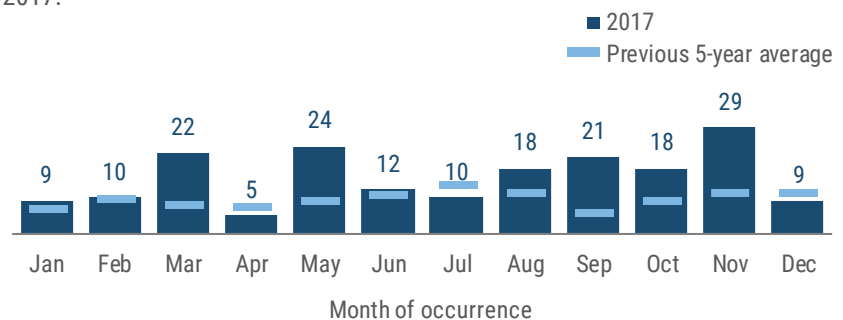
Between 25-35% of cases are outbreak-associated each year.



Most STEC infections were acquired in Florida; some infections were acquired in other states or countries.



There is no distinct seasonality to STEC infections in Florida. Cases occur at moderate levels year-round. More cases occurred in March, May, and November in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Shigellosis





Key Points

The use of culture-independent diagnostic testing (CIDT) for *Shigella* has increased in recent years. The shigellosis case definition expanded in January 2017 to include CIDT in the criteria for probable cases, resulting in an increase in cases reported in 2017.

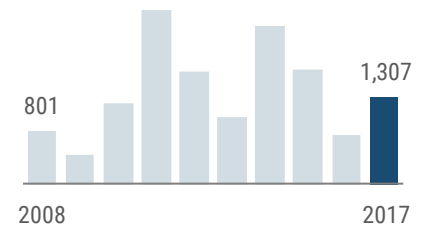
Shigellosis has a cyclic temporal pattern with large, community-wide outbreaks, frequently involving daycare centers, occurring every three to five years. Of outbreak-associated cases in 2017, 25% occurred in daycare settings.

Antimicrobial resistance in *Shigella* is a growing concern. In the U.S., most *Shigella* is already resistant to ampicillin and trimethoprim/sulfamethoxazole. Health care providers rely on alternative drugs such as ciprofloxacin and azithromycin to treat *Shigella* infections when needed, though treatment of shigellosis with antibiotics is not routinely recommended. The proportion of cases with isolates resistant to ampicillin, trimethoprim/sulfamethoxazole, ciprofloxacin, or azithromycin has increased over the past few years. For confirmed shigellosis cases with antimicrobial resistance testing results available (between 40–50% of confirmed cases each year), the percent of isolates resistant to one or more of these antibiotics increased from 34% in 2016 to 57% in 2016 to 60% in 2017.

Disease Facts

-  **Caused by** *Shigella* bacteria
-  **Illness** is gastroenteritis (diarrhea, vomiting)
-  **Transmitted** via fecal-oral route, including person-to-person, foodborne, and waterborne
-  **Under surveillance** to identify and control outbreaks, identify and mitigate common sources (e.g., ill daycare attendee), monitor incidence over time, estimate burden of illness

Shigellosis incidence increased in 2017, consistent with historic cyclical patterns; recent peaks occurred in 2011 and 2014.



Disease Trends

Summary

Number of cases	1,307
Rate (per 100,000 population)	6.4
Change from 5-year average rate	-18.2%

Age (in Years)

Mean	21
Median	9
Min-max	0 - 94

Gender

Gender	Number (Percent)	Rate
Female	585 (44.8)	5.6
Male	722 (55.2)	7.2
Unknown gender	0	

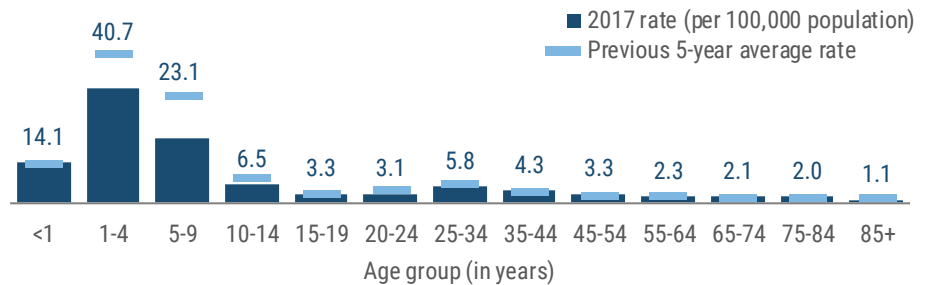
Race

Race	Number (Percent)	Rate
White	746 (58.6)	4.7
Black	349 (27.4)	10.1
Other	177 (13.9)	15.5
Unknown race	35	

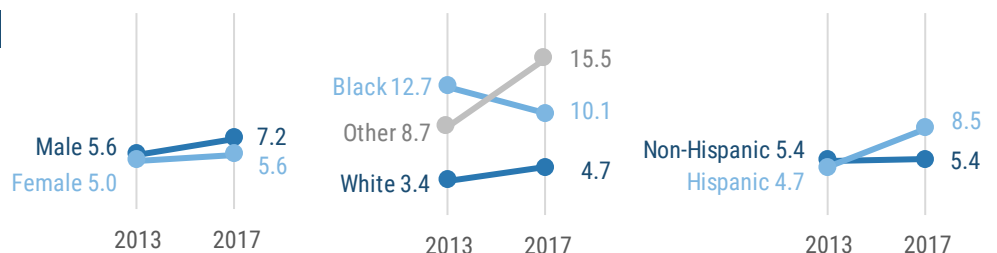
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	837 (65.6)	5.4
Hispanic	438 (34.4)	8.5
Unknown ethnicity	32	

The shigellosis rate (per 100,000 population) is highest in children 1-4 years and 5-9 years old, followed by infants <1 year old.



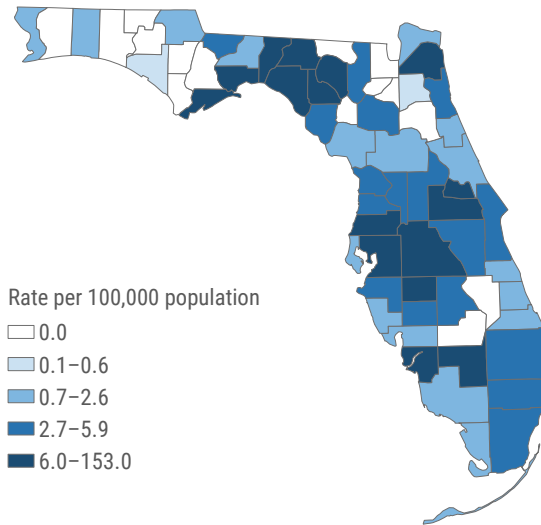
Shigellosis rates (per 100,000 population) increased slightly in males, females, whites, and Hispanics, and increased more notably in other races from 2013 to 2017. The rate among blacks decreased from 2013 to 2017.



Shigellosis

Summary	Number
Number of cases	1,307
Case Classification	Number (Percent)
Confirmed	657 (50.3)
Probable	650 (49.7)
Outcome	Number (Percent)
Hospitalized	291 (22.3)
Died	0 (0.0)
Sensitive Situation	Number (Percent)
Daycare	224 (17.1)
Health care	27 (2.1)
Food handler	27 (2.1)
Imported Status	Number (Percent)
Acquired in Florida	1,131 (91.4)
Acquired in the U.S., not Florida	24 (1.9)
Acquired outside the U.S.	82 (6.6)
Acquired location unknown	70
Outbreak Status	Number
Sporadic	846 (65.7)
Outbreak-associated	442 (34.3)
Outbreak status unknown	19

In 2017, the rate of shigellosis (per 100,000 population) was highest in the north central, central, and southwest parts of the state. Geographic distribution varies by year, often driven by clusters of counties experiencing large outbreaks.

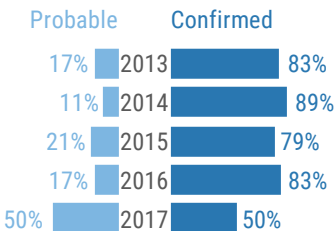


Rates are by county of residence for infections acquired in Florida (1,131 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

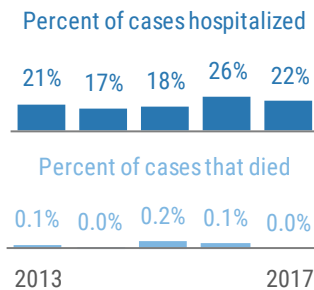


More Disease Trends

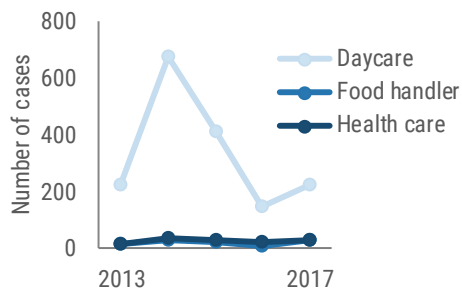
The percent of probable cases increased in 2017 due to case definition updates.



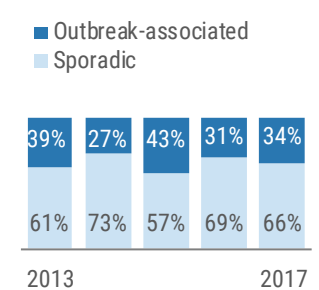
Hospitalizations do occur, but deaths are rare. In 2017, 22% of cases were hospitalized.



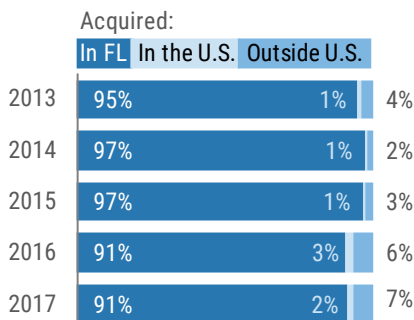
Person-to-person outbreaks are common in daycares; a large number of cases were identified in daycares.



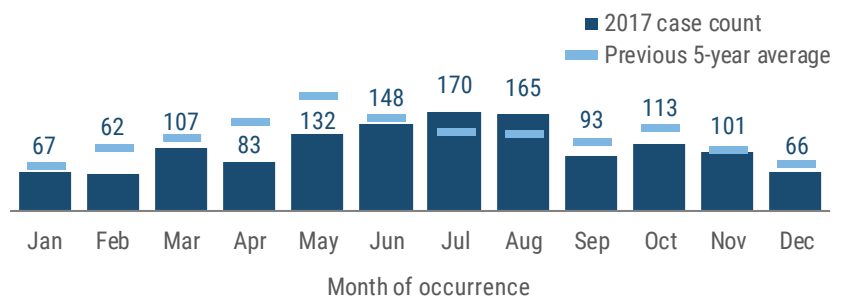
Outbreaks are common; as few as 10 *Shigella* bacteria can result in illness.



Most cases are acquired in Florida; a small number of cases are imported from other states and countries.



Shigellosis occurred throughout 2017, with activity peaking during July and August. A strong cyclic temporal pattern with peaks every three to five years explains the difference between 2017 and the previous 5-year average.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.





Syphilis (Excluding Congenital)

Key Points

Syphilis is separated into early syphilis (i.e., syphilis less than one year duration, which includes latent and infectious stages) and late or late latent syphilis (i.e., syphilis diagnosed more than one year after infection). Syphilis creates an open sore at the point of infection, called a primary lesion, during the infectious stage. A primary lesion can work as a conduit for HIV transmission and puts either the person displaying the lesion or their sexual partners at risk of HIV infection if either partner is living with HIV. In 2017, 35% of infectious syphilis cases were reported in individuals who were known to be coinfecting with HIV, a 4% decrease from 2016.

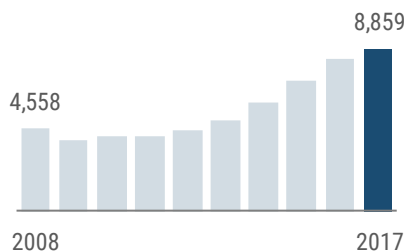
In 2017, Florida was awarded a congenital syphilis-specific supplemental grant to help combat the increase in congenital syphilis cases the state is experiencing. These funds were allocated to five high-burden counties to pilot a variety of tools that could help decrease the number of congenital syphilis cases before implementing these techniques statewide. For more information, see Overview of 2017, Focus in 2017: Syphilis.

Disease Facts

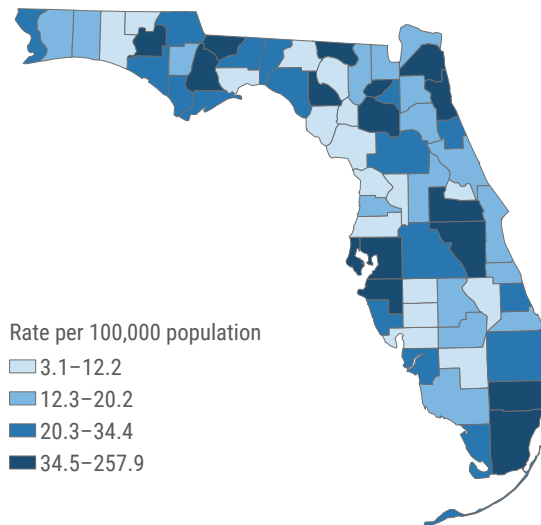
-  **Caused** by *Treponema pallidum* bacteria
-  **Illness** includes sores on genitals, anus, or mouth; or a rash on the body
-  **Transmitted** sexually via anal, vaginal, or oral sex and sometimes from mother to infant during pregnancy or delivery
-  **Under surveillance** to implement interventions immediately for every case, monitor incidence over time, estimate burden of illness, target prevention education programs, evaluate treatment and prevention programs

Disease Trends

In 2017, syphilis incidence continued to increase, both in Florida and nationally.



Syphilis occurs throughout the state. The highest rates (per 100,000 population) in 2017 were in large counties, including Miami-Dade (85.8), Broward (75.3), and Orange (69.7); and small rural counties, including Union (257.9 based on 41 cases), Washington (60.2), and Gadsden (59.6).



Rates are by county of residence, regardless of where infection was acquired (8,859 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

Summary

Number of cases	8,859
Rate (per 100,000 population)	43.1
Change from 5-year average rate	+37.7%

Age (in Years)

Mean	36
Median	33
Min-max	1 - 87

Gender

Gender	Number (Percent)	Rate
Female	1,541 (17.4)	14.7
Male	7,317 (82.6)	72.9
Unknown gender	1	

Race

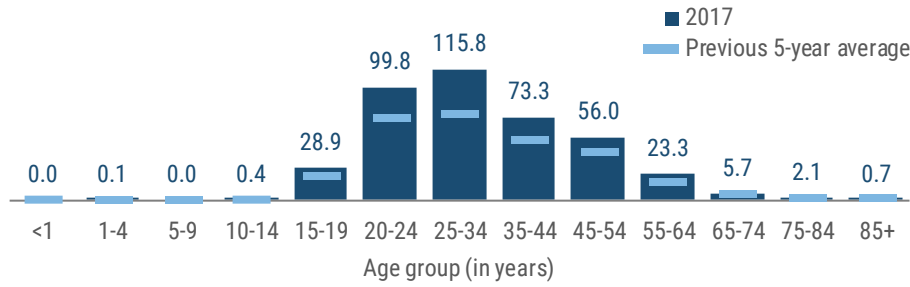
Race	Number (Percent)	Rate
White	4,657 (55.1)	29.2
Black	2,977 (35.2)	85.8
Other	813 (9.6)	71.3
Unknown race	412	

Ethnicity

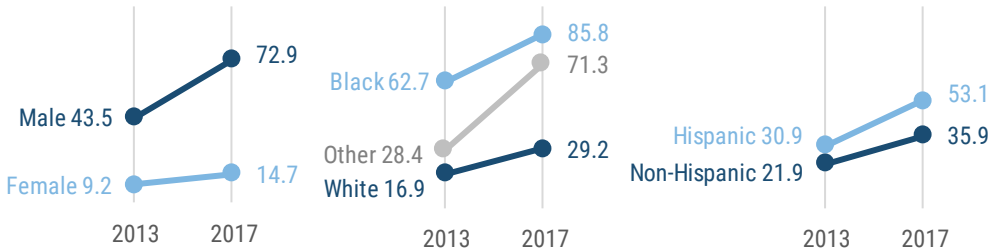
Ethnicity	Number (Percent)	Rate
Non-Hispanic	5,533 (67.0)	35.9
Hispanic	2,725 (33.0)	53.1
Unknown ethnicity	601	

Syphilis (Excluding Congenital)

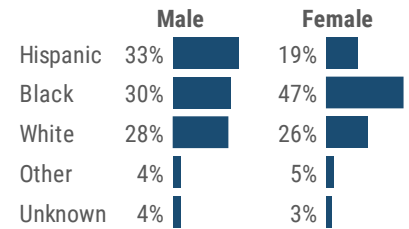
The syphilis rate (per 100,000 population) is highest in adults 20 to 54 years old and peaks in adults 25 to 34 years old.



The syphilis rate (per 100,000 population) increased in all gender, race, and ethnic groups from 2013 to 2017. The increase was most noticeable in other races and in males. The rates are highest in men, blacks, and Hispanics.



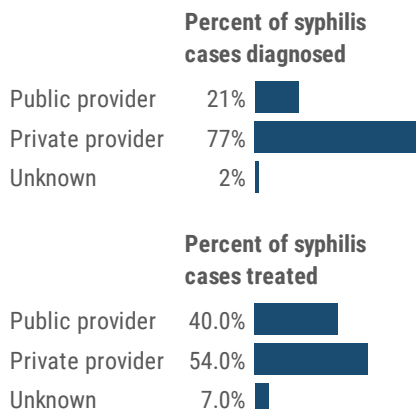
Race and ethnicity differed between genders. Black females and Hispanic males were at increased risk for syphilis.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Syphilis cases (excluding congenital) were missing 7.8% of ethnicity data in 2013 and 6.8% of ethnicity data in 2017.

In 2017, most people (77%) went to their own private provider for STD testing. However, the recommended treatment for syphilis is parenterally administered penicillin G benzathine. As many providers do not keep the standard benzathine penicillin product, Bicillin, on hand, they often refer their patients to county health departments for treatment. Additionally, during the recent Bicillin shortage, the Florida Department of Health managed distribution of this product, making the county health departments the easiest way for patients to obtain the treatments they needed.

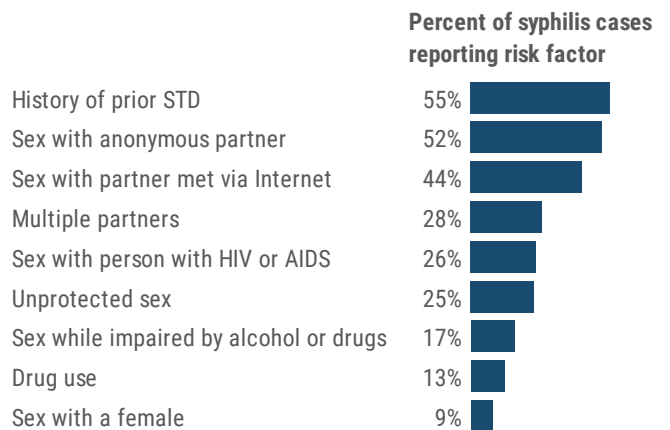
In 2017, 40% of syphilis cases were treated by public providers.



Men who have sex with men (MSM) are identified through risk behavior information collected during case investigations.

The true prevalence of the MSM risk is difficult to estimate due to many factors. Most (72%) syphilis cases in males were in men who reported having sex with other men.

MSM with syphilis who were interviewed in 2017 (5,063 men) disclosed an array of risk behaviors, which included sex with anonymous partners and sex with females.







Tuberculosis

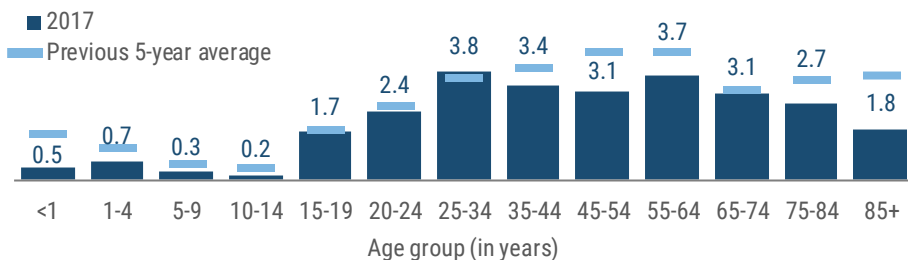
Key Points

Tuberculosis (TB) continues to be a public health threat in Florida. Incidence has declined over the past decade and continued to decrease in 2017 after small increases in 2015 and 2016. Medically underserved and low-income populations, including racial and ethnic minorities, have high rates of TB. In most countries and in Florida, TB incidence is much higher in men than women. The rate per 100,000 population in blacks in Florida was four times as high as the rate in whites in 2017.

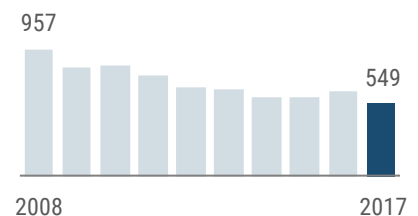
Disease Facts

-  **Caused by** *Mycobacterium tuberculosis* bacteria
-  **Illness** is usually respiratory (severe cough, pain in chest), but can affect all parts of the body including kidneys, spine, or brain
-  **Transmitted** via inhalation of aerosolized droplets from people with active tuberculosis
-  **Under surveillance** to implement effective interventions immediately for every case to prevent further transmission, monitor directly observed therapy prevention programs, evaluate trends

The TB rate (per 100,000 population) is low in children and ranged from 2.7–3.8 in adults 25 to 84 years old.



Tuberculosis incidence has generally decreased over the past decade and continued to decrease in 2017.



Disease Trends

Summary

Number of cases	549
Rate (per 100,000 population)	2.7
Change from 5-year average rate	-17.3%

Age (in Years)

Mean	47
Median	46
Min-max	0 - 93

Gender

Gender	Number (Percent)	Rate
Female	207 (37.7)	2.0
Male	342 (62.3)	3.4
Unknown gender	0	

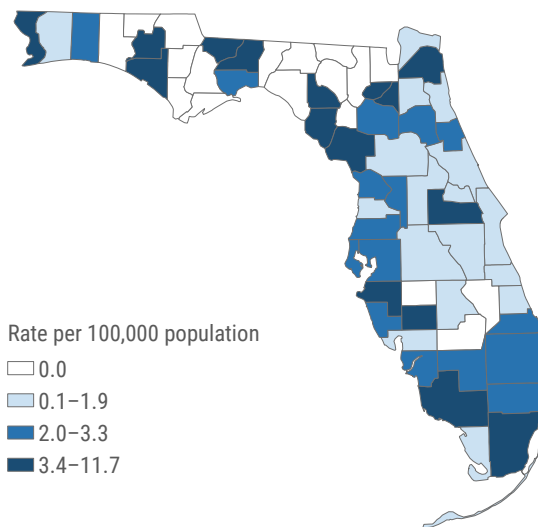
Race

Race	Number (Percent)	Rate
White	246 (44.8)	1.5
Black	208 (37.9)	6.0
Other	95 (17.3)	8.3
Unknown race	0	

Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	399 (72.7)	2.6
Hispanic	150 (27.3)	2.9
Unknown ethnicity	0	

TB occurred throughout the state in 2017, though was less common in the Panhandle. While the highest rates (per 100,000 population) tended to be in small, rural counties, almost one third of all TB cases were in two counties: Miami-Dade (99 cases) and Broward (60 cases).

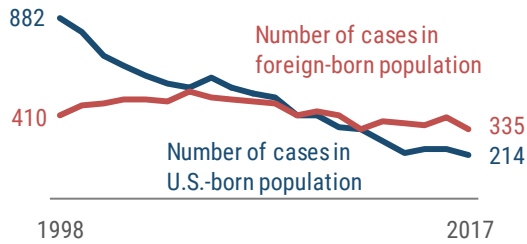


Rates are by county of residence, regardless of where infection was acquired (549 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

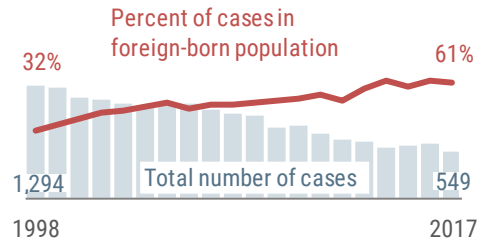
Tuberculosis

The rate of TB in the U.S.-born population in Florida has been decreasing faster than the rate among the foreign-born population. Being born in a country where TB is prevalent is one of the most significant risk factors for developing TB and is a focus for TB prevention and control efforts in Florida. In 2017, 61% of all TB cases in Florida were in the foreign-born population. The most common countries of origin in 2017 included Haiti, Mexico, the Philippines, Vietnam, Guatemala, Honduras, and Cuba, accounting for 212 (63%) of 335 cases identified in the foreign-born population.

In 1998, there were twice as many TB cases in the U.S.-born population than the foreign-born population. In 2017, 50% more cases were in foreign-born people than U.S.-born.

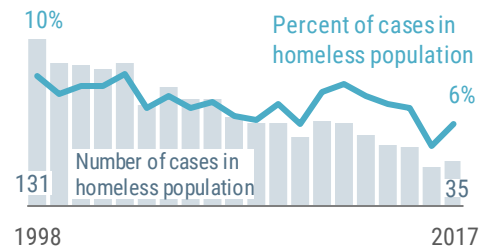


As the number of TB cases has declined in Florida, the percent of those cases in the foreign-born population has increased. In 2017, 61% of cases were in people born outside the U.S.

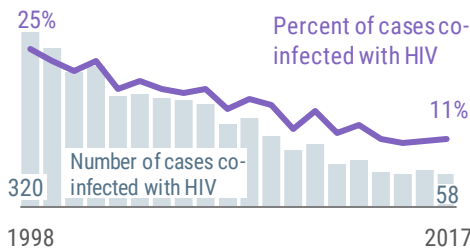


People experiencing homelessness are at increased risk for disease and are a focus for TB prevention and control efforts in Florida. Since 1998, the total number of TB cases among the homeless population in Florida has decreased by over 50%; however, in the same time period, the percent of people with TB who are homeless remained relatively stable (8–10%) until 2012. Since 2012, the percent of people with TB who are homeless decreased from 9.6% to 4.7% in 2016; however, the percent increased in 2017 to 6.5%.

The number and percent of cases among the homeless population increased in 2017 after several years of decreasing.



In 2017, 11% of TB cases were co-infected with HIV. This is a slight increase from 2016, but is similar to the past three years.



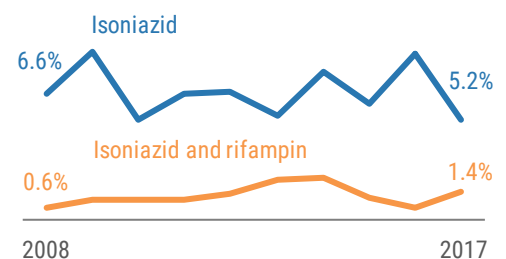
Untreated HIV infection remains the biggest risk factor for developing active TB disease following infection with TB and is a focus for TB prevention and control efforts in Florida. TB and HIV co-infection has been declining modestly but steadily over time in Florida. In the last three years the decline has leveled off around 10%.

Drug resistance arises due to improper use of antibiotics in the chemotherapy of drug-susceptible TB patients. Multidrug-resistant TB is caused by *M. tuberculosis* bacteria that are resistant to at least isoniazid and rifampin, the two most potent TB drugs. In 2017, 425 TB cases were tested in Florida for resistance to isoniazid and rifampin. Over the past 10 years:

- Resistance to isoniazid alone ranged from 5%–9%.
- Resistance to isoniazid and rifampin ranged from 0.6–2.1%.

In 2017, resistance to isoniazid alone decreased and resistance to isoniazid and rifampin increased, but were within the 10-year ranges.

In 2017, 5.2% of tested cases were resistant to isoniazid alone and 1.4% were resistant to both isoniazid and rifampin.



Typhoid Fever (*Salmonella* Serotype Typhi)

Key Points





Typhoid fever is common in most parts of the world except in industrialized regions such as the U.S., Canada, Western Europe, Australia, and Japan. Good sanitation and aggressive case follow-up help prevent typhoid fever from becoming endemic in industrialized regions.

Typically, about 85% of infections are acquired in other countries. In 2017, infections were acquired in Florida (2), India (5), Pakistan (4), Bangladesh (3), Haiti (2), Burundi (1), Mexico (1), Asia (1), Florida or Pakistan (1). For the 18 people with travel outside the U.S., most (13) were visiting friends or family. Two were traveling for tourism, one was infected before immigrating to the U.S., and one was studying abroad.

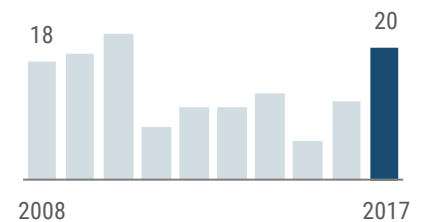
While 13 of the 2017 cases were in U.S. citizens, 7 cases were in citizens of other countries who were currently living in Florida. Five of those non-U.S. citizens were infected in their country of origin while visiting friends and family or prior to immigrating to the U.S.

Routine typhoid vaccination is not recommended in the U.S., but is recommended for travelers to parts of the world where typhoid is common, people in close contact with a typhoid carrier, and laboratory workers who work with *Salmonella* serotype Typhi bacteria. Only one person with typhoid fever in 2017 reported being vaccinated.

Disease Facts

-  **Caused** by *Salmonella* serotype Typhi
-  **Illness** includes high fever and possibly weakness, stomach pains, headache, loss of appetite, or rash
-  **Transmitted** via fecal-oral route, including person-to-person, foodborne, and waterborne
-  **Under surveillance** to identify sources of public health concern (e.g., an infected food handler or contaminated commercially distributed food product), prevent transmission from infected people, identify other unrecognized cases

Typhoid fever incidence increased in 2017 compared to the previous six years.



Disease Trends

Summary	
Number of cases	20
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+79.9%

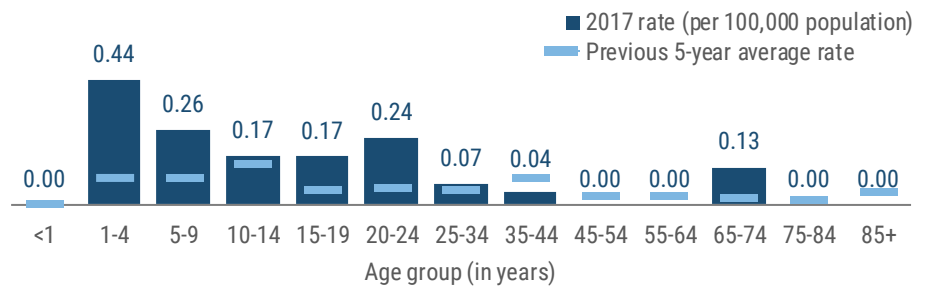
Age (in Years)	
Mean	23
Median	18
Min-max	1 - 74

Gender	Number (Percent)	Rate
Female	9 (45.0)	NA
Male	11 (55.0)	NA
Unknown gender	0	

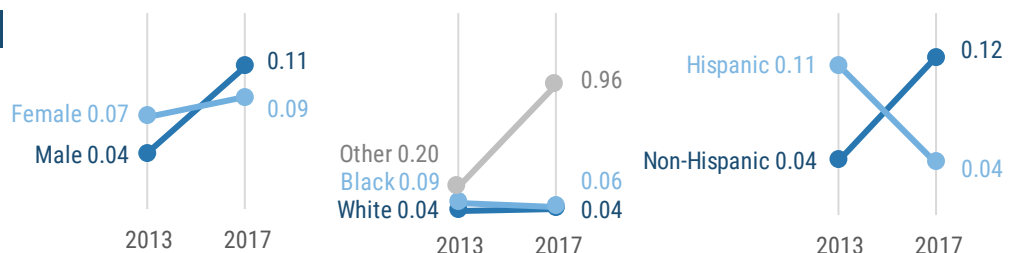
Race	Number (Percent)	Rate
White	7 (35.0)	NA
Black	2 (10.0)	NA
Other	11 (55.0)	NA
Unknown race	0	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	18 (90.0)	NA
Hispanic	2 (10.0)	NA
Unknown ethnicity	0	

The typhoid fever rate (per 100,000 population) varies by age. Historically, rates are slightly higher in children and young adults than older adults. In 2017, rates were notably higher in children 1 to 9 years old and adults 20 to 24 years old compared to previous years.



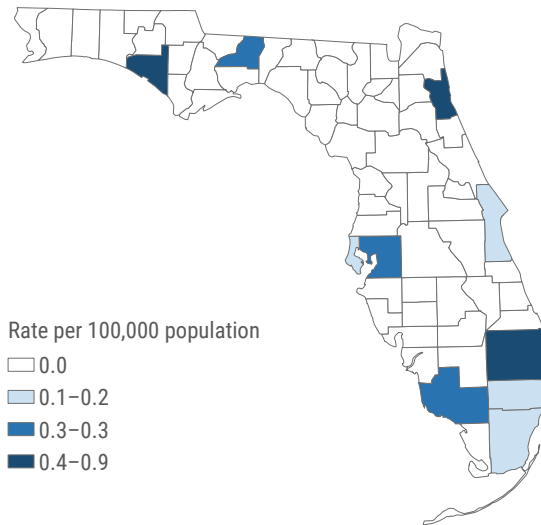
The typhoid fever rate (per 100,000 population) has increased in both genders, blacks, and non-Hispanics since 2013. In 2017, the rate was slightly higher in males than females, notably higher in other races than blacks and whites, and notably higher in non-Hispanics than Hispanics. Small numbers make rates unreliable and hard to interpret.



Typhoid Fever (*Salmonella* Serotype Typhi)

Summary	Number
Number of cases	20
Case Classification	Number (Percent)
Confirmed	16 (80.0)
Probable	4 (20.0)
Outcome	Number (Percent)
Hospitalized	11 (55.0)
Died	0 (0.0)
Sensitive Situation	Number (Percent)
Daycare	1 (5.0)
Health care	1 (5.0)
Food handler	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	2 (10.5)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	17 (89.5)
Acquired location unknown	1
Outbreak Status	Number
Sporadic	14 (70.0)
Outbreak-associated	6 (30.0)
Outbreak status unknown	0

In 2017, 75% of cases were reported in population centers in central (Hillsborough, Pinellas) and south (Palm Beach, Broward, Miami-Dade, Collier) Florida.

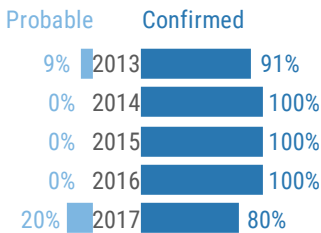


Rates are by county of residence, regardless of where infection was acquired (20 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

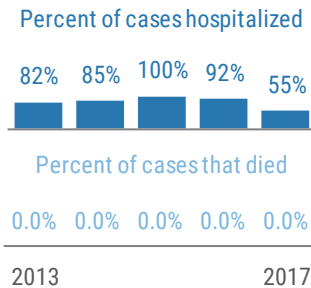


More Disease Trends

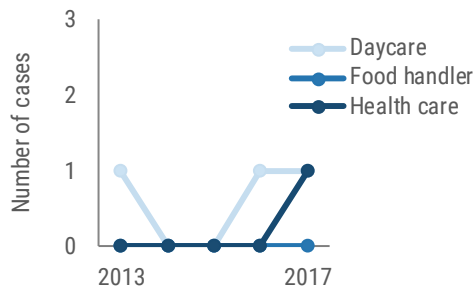
Most typhoid fever cases are confirmed. In 2017, four probable cases were part of a household cluster.



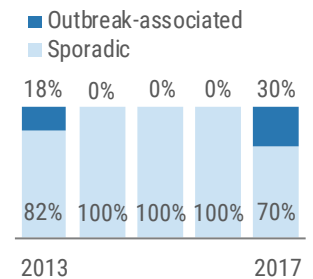
Only 55% of cases were hospitalized in 2017, compared to >80% in past years. Deaths are rare.



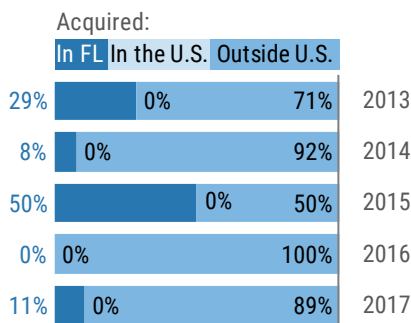
Cases in sensitive situations are monitored to prevent local transmission of disease.



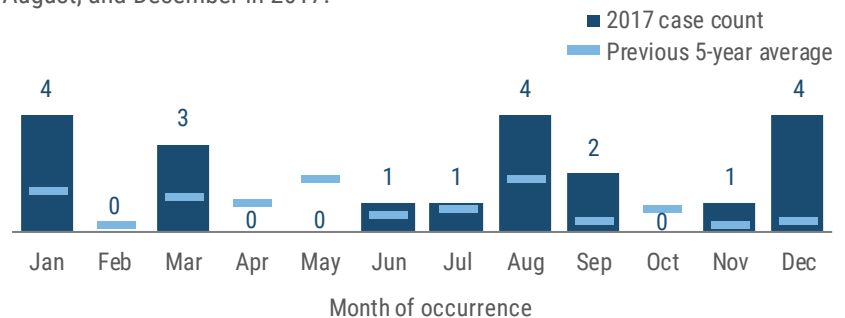
In 2017, six outbreak-associated cases occurred. Five were part of a household cluster and one was linked to cases reported in 2018.



Most typhoid fever cases are acquired outside of the U.S.



There is not a distinct seasonality to typhoid fever cases in Florida, with cases occurring at low levels year-round. More cases were reported in January, March, August, and December in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Varicella (Chickenpox)





Key Points

Varicella is a childhood disease that became reportable in Florida in late 2006. A vaccine was first released in the U.S. in 1995 and a 2-dose schedule was recommended in 2008. Beginning with the 2008–2009 school year, children entering kindergarten were required to receive two doses of varicella vaccine. Due to effective vaccination programs, there was a steady decrease in incidence in Florida from 2008 until 2015. Incidence increased slightly in 2015 and has remained elevated.

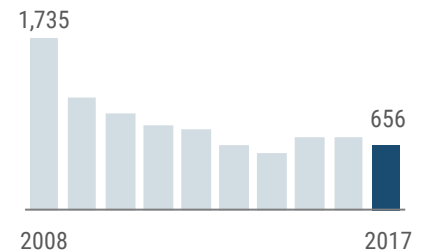
The rate of varicella remained highest among infants <1-year-old who are too young to be vaccinated and, as a result, vaccination of siblings and caregivers is particularly important to protect this group.

The number of outbreak-associated cases decreased from 217 (29.6%) in 2016 to 125 (19.1%) in 2017. Of the 125 outbreak-associated cases identified, most were small household clusters. Three outbreaks (defined as five or more cases linked in a single setting) were identified in 2017: two outbreaks in correctional facilities and one outbreak in a drug and mental health rehabilitation center. Counties with ≥10 outbreak-associated cases included Broward (4), Palm Beach (15), and Sumter (18). Counties with the highest incidence rates were counties that have low populations or had outbreaks during 2017.

Disease Facts

-  **Caused** by varicella-zoster virus (VZV)
-  **Illness** commonly includes vesicular rash, itching, tiredness, and fever
-  **Transmitted** person-to-person by contact with or inhalation of aerosolized, infective respiratory tract droplets or secretions, or direct contact with VZV vesicular lesions
-  **Under surveillance** to identify and control outbreaks, monitor effectiveness of immunization programs and vaccines, monitor trends and severe outcomes

Varicella incidence decreased slightly in 2017.



Disease Trends

Summary

Number of cases	656
Rate (per 100,000 population)	3.2
Change from 5-year average rate	-11.0%

Age (in Years)

Mean	18
Median	11
Min-max	0 - 90

Gender

Gender	Number (Percent)	Rate
Female	309 (47.1)	2.9
Male	347 (52.9)	3.5
Unknown gender	0	

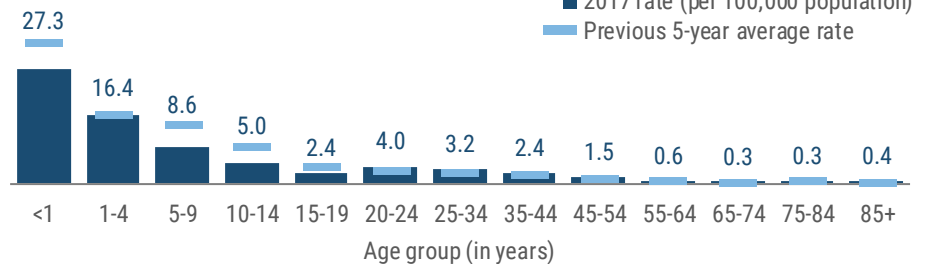
Race

Race	Number (Percent)	Rate
White	438 (69.2)	2.7
Black	123 (19.4)	3.5
Other	72 (11.4)	6.3
Unknown race	23	

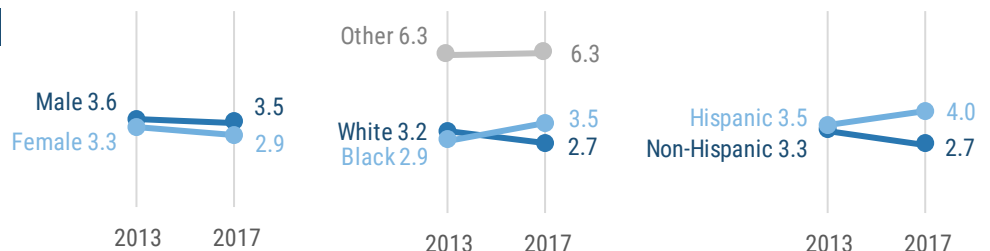
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	416 (66.8)	2.7
Hispanic	207 (33.2)	4.0
Unknown ethnicity	33	

Infants <1 year old are too young to be vaccinated and, as a result, vaccination of siblings and caregivers is particularly important to protect this group. The varicella rate (per 100,000 population) remained highest in infants <1 year old in 2017, though the rate was lower than the 5-year average.



The varicella rate (per 100,000 population) is relatively similar among males and females. It is also similar among whites and blacks, though since 2013, the rate in whites increased while the rate in blacks decreased. The rate in Hispanics has also increased slightly since 2013.

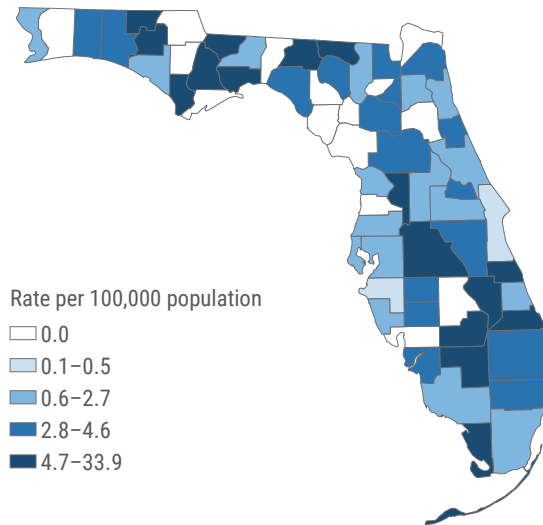


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Varicella cases were missing 5.0% of ethnicity data in 2017.

Varicella (Chickenpox)

Summary	Number
Number of cases	656
Case Classification	Number (Percent)
Confirmed	208 (31.7)
Probable	448 (68.3)
Outcome	Number (Percent)
Hospitalized	40 (6.1)
Died	0 (0.0)
Sensitive Situation	Number (Percent)
Daycare	65 (9.9)
Health care	17 (2.6)
Food handler	7 (1.1)
Imported Status	Number (Percent)
Acquired in Florida	585 (95.1)
Acquired in the U.S., not Florida	10 (1.6)
Acquired outside the U.S.	20 (3.3)
Acquired location unknown	41
Outbreak Status	Number
Sporadic	521 (80.7)
Outbreak-associated	125 (19.3)
Outbreak status unknown	10

Varicella occurred throughout the state in 2017. Rates (per 100,000 population) tended to be highest in small, rural counties. Rates ranged from 0 to 33.9 per 100,000.

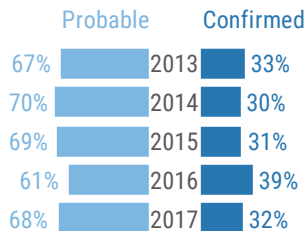


Rates are by county of residence for infections acquired in Florida (585 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

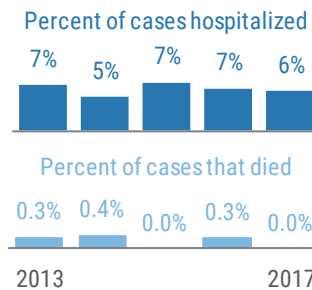


More Disease Trends

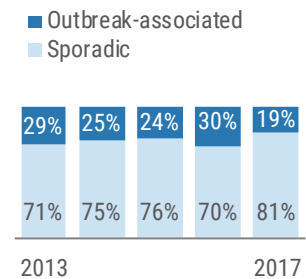
Only about 1/3 of cases are confirmed. Most varicella cases are classified as probable based on symptoms only.



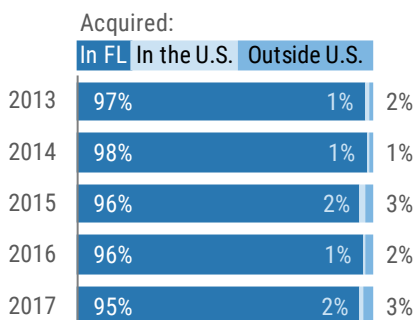
Most varicella cases do not require hospitalization and deaths are very rare.



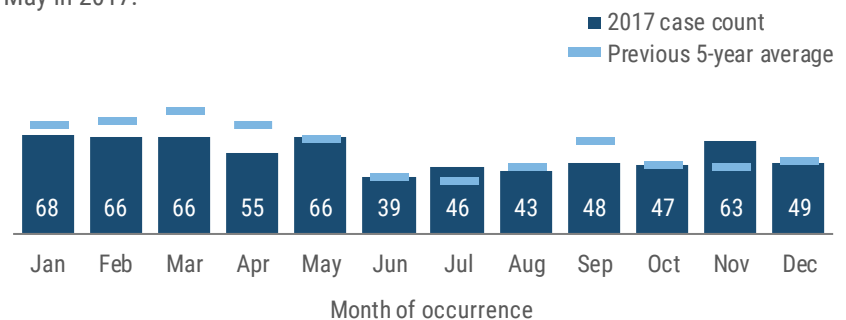
Usually between 25–30% of cases are outbreak associated; only 19% were outbreak-associated in 2017.



Most VZV infections are acquired in Florida. Each year, a few cases are imported from other states and countries.



Generally, more varicella cases occur in winter and spring, particularly in school-aged children. Between 55 and 68 cases occurred each month from January to May in 2017.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, imported status, outbreak status, and month of occurrence.

Vibriosis (Excluding Cholera)

Key Points

Vibrio species are endemic in Florida's seawater. Incidence is typically higher in the summer when exposure to seawater is more common and warmer water is conducive to bacterial growth. Incidence increased notably in 2017, largely due to a change in the probable case definition, which expanded in 2017 to include culture-independent diagnostic testing (CIDT).

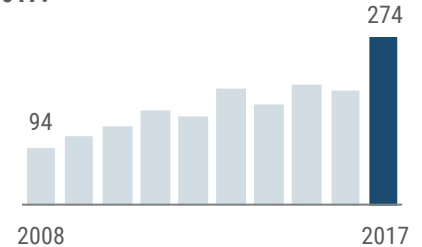
V. vulnificus can cause particularly severe disease, with about 50% of bloodstream infections being fatal. Of the 51 cases due to *V. vulnificus* in 2017, 48 (94%) were hospitalized and 11 (22%) died, accounting for 11 of the 17 total vibriosis deaths. Of the 51 *V. vulnificus* cases, 36 (70.6%) had underlying medical conditions, which is typical of these infections.

Five *V. vulnificus* and one *V. cholera* non-O1 cases were associated with Hurricane Irma in 2017. Cases were in Collier (3), Broward (1), Manatee (1), and Monroe (1) counties. All five people infected with *V. vulnificus* were hospitalized, two died, and one case required an above-the-knee amputation; two reported underlying medical conditions. The person infected with *V. cholera* non-O1 did not report underlying medical conditions and was hospitalized for reasons other than the *Vibrio* infection. Five cases reported wounds with exposure to either floodwaters or debris from the hurricane, and one reported exposure to floodwaters only.

Disease Facts

- Caused** by bacteria in the family *Vibrionaceae*
- Illness** can be gastroenteritis (diarrhea, vomiting), bacteremia, septicemia, wound infection, cellulitis; other common symptoms include low-grade fever, headache, and chills
- Transmitted** via food, water, and wound infections from direct contact with brackish water or salt water where the bacteria naturally live, or direct contact with marine wildlife
- Under surveillance** to identify sources of transmission (e.g., shellfish collection area) and mitigate source, monitor incidence over time, estimate burden of illness

Vibriosis incidence increased notably in 2017.



Disease Trends

Summary

Number of cases	274
Rate (per 100,000 population)	1.3
Change from 5-year average rate	+47.6%

Age (in Years)

Mean	51
Median	55
Min-max	0 - 92

Gender

Gender	Number (Percent)	Rate
Female	99 (36.1)	0.9
Male	175 (63.9)	1.7
Unknown gender	0	

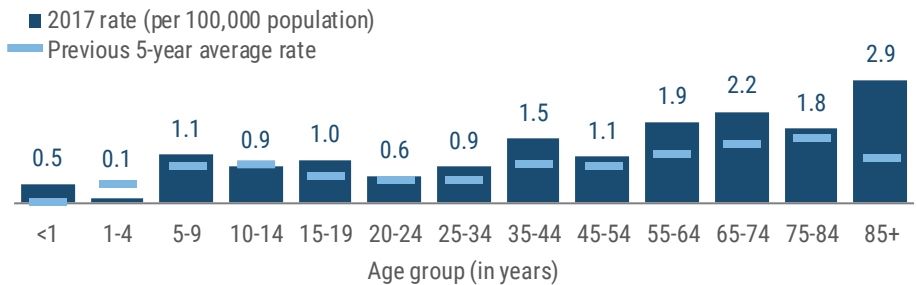
Race

Race	Number (Percent)	Rate
White	225 (84.9)	1.4
Black	25 (9.4)	0.7
Other	15 (5.7)	NA
Unknown race	9	

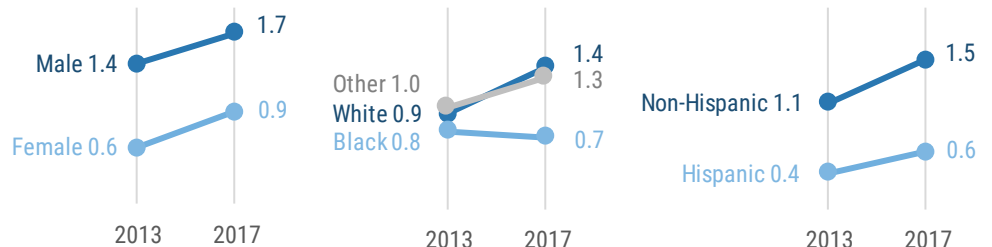
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	228 (88.7)	1.5
Hispanic	29 (11.3)	0.6
Unknown ethnicity	17	

The vibriosis rate (per 100,000 population) is usually highest in older adults aged 55 to 84 years. In 2017, the rate was highest in elderly adults ≥85 years old.



Vibriosis rates (per 100,000 population) increased in all gender, race, and ethnicity groups except blacks. The rate is consistently higher in males, whites, other races, and non-Hispanics.

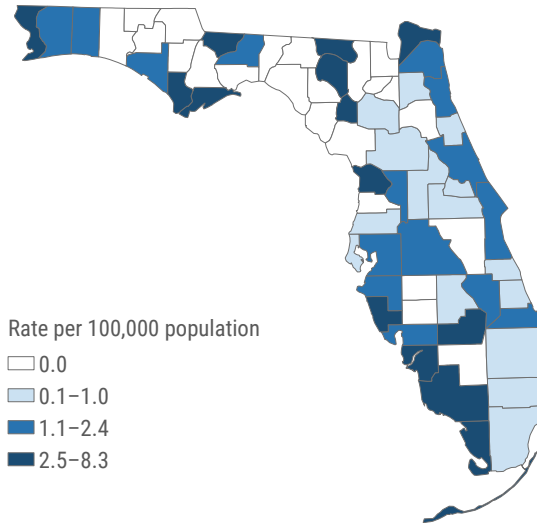


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Vibriosis cases (excluding cholera) were missing 9.4% of ethnicity data in 2013, 6.8% of race data in 2013, and 6.2% of ethnicity data in 2017.

Vibriosis (Excluding Cholera)

Summary	Number
Number of cases	274
Case Classification	Number (Percent)
Confirmed	228 (83.2)
Probable	46 (16.8)
Outcome	Number (Percent)
Hospitalized	135 (49.3)
Died	17 (6.2)
Imported Status	Number (Percent)
Acquired in Florida	246 (92.5)
Acquired in the U.S., not Florida	7 (2.6)
Acquired outside the U.S.	13 (4.9)
Acquired location unknown	8
Outbreak Status	Number (Percent)
Sporadic	269 (98.2)
Outbreak-associated	5 (1.8)
Outbreak status unknown	0

Vibriosis occurred in most parts of the state in 2017. The rates (per 100,000 population) were highest in southwest Florida and in low-population counties in the Panhandle.

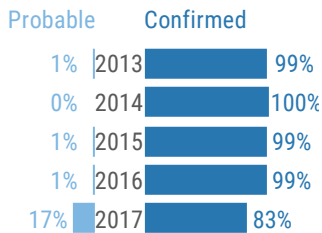


Rates are by county of residence for infections acquired in Florida (246 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

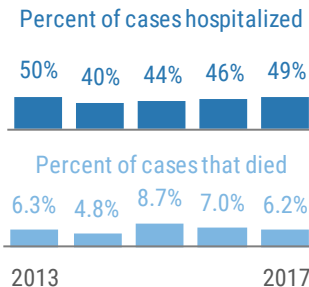


More Disease Trends

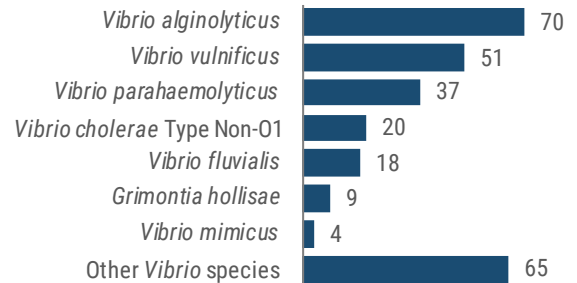
The case definition changed in 2017 to include CIDT in the probable classification, resulting in more probable cases.



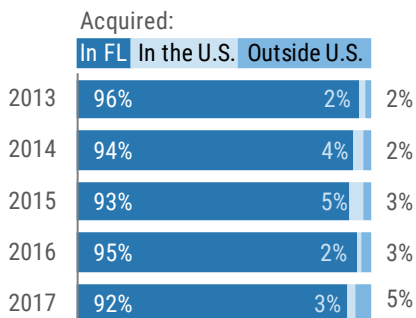
Between 40–50% of cases are hospitalized, and deaths do occur. Eleven people infected with *V. vulnificus* died in 2017.



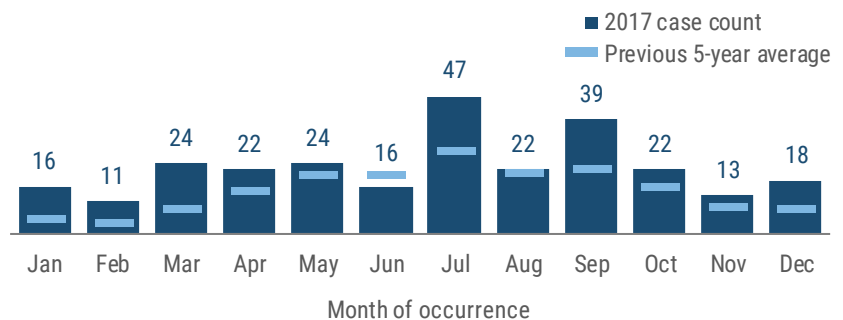
In 2017, the most commonly reported *Vibrio* species were *V. alginolyticus*, *V. vulnificus*, and *V. parahaemolyticus*. The number of other *Vibrio* infections was largely due to culture-independent testing, which cannot differentiate between species.



Most *Vibrio* infections are acquired in Florida. In 2017, 20 infections were acquired in other states or countries.



Vibriosis occurs throughout the year in Florida. In 2017, there was a summer peak in July and a peak in September.



See Appendix III: Report Terminology for explanations of case classification, outcome, imported status, outbreak status, and month of occurrence.

Zika Virus Disease and Infection





Key Points

Zika emerged in Brazil in 2015, followed by local transmission throughout the Americas and the Caribbean. In 2016, over 1,400 cases were reported in Florida, including 285 locally acquired cases and five congenital cases. Florida and Texas were the only two states in the continental U.S. with local Zika transmission following introduction. Active transmission of Zika virus was identified in four areas in Miami-Dade County in 2016. Due to the possibility of adverse pregnancy and fetal outcomes associated with Zika virus infection during pregnancy, outreach to pregnant women and their providers was a high priority for the Florida Department of Health. All infants born to Zika-positive mothers in 2016 and 2017 are followed until they are 2 years old.

Unlike other diseases and conditions in this report, non-Florida residents are included in Zika case counts. About 7% of the cases reported in both 2016 and 2017 were in non-Florida residents. In 2016, only 21% of the 1,456 Zika cases were pregnant, compared to a much larger 49% in 2017. This increase was primarily related to increased availability of testing for asymptomatic pregnant women, as well as the possibility of prolonged IgM antibody detection, which may have identified older Zika virus infections.

In 2016, four congenital Zika syndrome cases (CZS) and one healthy-appearing infant with Zika virus infection were reported. In 2017, three CZS cases and one healthy-appearing infant with Zika virus infection were reported. One of the congenital Zika infections in 2017 was in an infant born to a mother who did not travel outside Florida during pregnancy.

Disease Facts

-  **Caused** by Zika virus
-  **Illness** is frequently asymptomatic; common symptoms include fever, rash, headache, joint pain, conjunctivitis, and muscle pain; microcephaly and other severe fetal brain defects when mother is infected during pregnancy; post-infection Guillain-Barré syndrome has occurred
-  **Transmitted** via bite of infective mosquito, blood transfusions, sex with infected partner, or from mother to child during pregnancy
-  **Under surveillance** to identify individual cases and implement control measures to prevent local transmission, monitor incidence over time, estimate burden of illness, identify infants born to infected mothers for follow-up

Disease Trends

Summary

Number of cases	277
Rate (per 100,000 population)	1.3
Change from previous year incidence	-81.3%

Age (in Years)

Mean	35
Median	33
Min-max	0 - 78

Gender

Gender	Number (Percent)	Rate
Female	225 (81.2)	2.1
Male	52 (18.8)	0.5
Unknown gender	0	

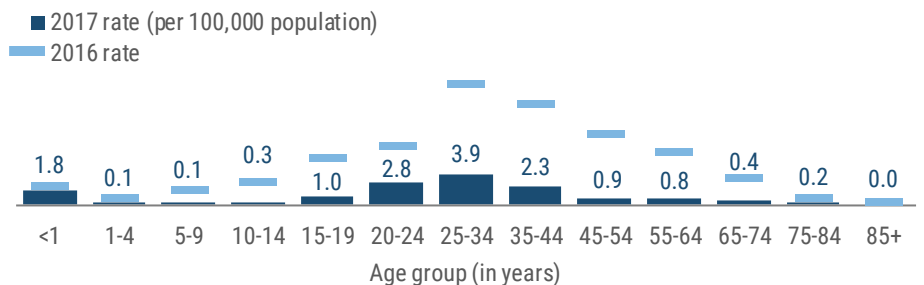
Race

Race	Number (Percent)	Rate
White	166 (61.3)	1.0
Black	84 (31.0)	2.4
Other	21 (7.7)	1.8
Unknown race	6	

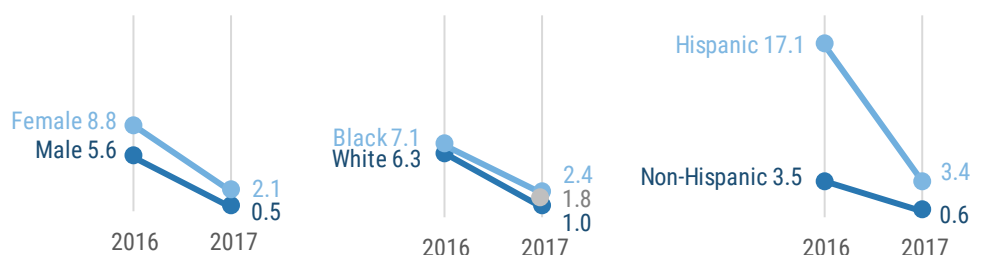
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	94 (34.7)	0.6
Hispanic	177 (65.3)	3.4
Unknown ethnicity	6	

The rate of Zika virus disease and infection (per 100,000 population) is highest in adults 25–34 years of age. Due to the possibility of adverse pregnancy and fetal outcomes associated with Zika virus infection during pregnancy, testing was focused on pregnant women; however, symptomatic individuals also met testing criteria.



The rates of Zika virus disease and infection (per 100,000 population) vary by gender, race, and ethnicity. In 2017, the rate in females was four times the rate in males, the rate in whites was more than twice the rate in blacks, and the rate in Hispanics was more than five times the rate in non-Hispanics.



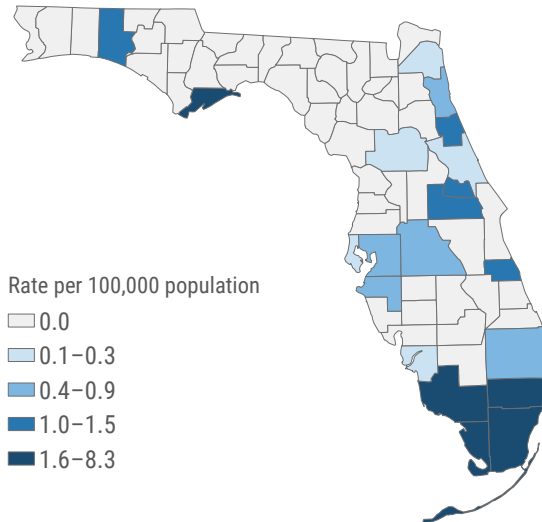
Zika Virus Disease and Infection

Summary	Number
Number of cases	277
Case Classification	Number (Percent)
Confirmed	120 (43.3)
Probable	157 (56.7)
Type	Number (Percent)
Non-congenital	273 (98.6)
Congenital	4 (1.4)
Residence status	Number Percent
Florida resident	257 (92.8%)
Non-Florida resident	20 (7.2)
Special populations	Number (Percent)
Pregnant women	136 (49.1)

Fewer cases of Zika virus infection met confirmatory case criteria in 2017; positive results were primarily for antibody testing rather than detection of Zika virus.



Imported Zika cases were more commonly reported in central and south Florida with the highest rates (per 100,000 population) concentrated in south Florida counties. Only two cases were locally acquired in 2017; one in Miami-Dade County and one in Manatee County.



Rates are by county of residence, regardless of where infection was acquired (277 cases). Non-Florida residents (20 cases) are included by the county where the case was reported. Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.



More Disease Trends

In 2017, Cuba was the most common country where infections were acquired, accounting for over 30% of cases. In 2016, Puerto Rico was the most common location, but only accounted for 15% of cases.

Top 5 exposure locations for 2017

Country/territory	Number	Percent
Cuba	90	32%
Haiti	41	15%
Venezuela	18	6%
Dominican Republic	10	4%
Jamaica	9	3%

Top 5 exposure locations for 2016

Country/territory	Number	Percent
Puerto Rico	222	15%
Dominican Republic	150	10%
Nicaragua	124	9%
Jamaica	123	8%
Haiti	98	7%

The percent of cases that were locally acquired decreased from 20% in 2016 to only 6% in 2017. Of the 17 cases reported as locally acquired in 2017, only two were exposed in 2017; the other 15 were exposed in 2016 but not tested until 2017. All 15 cases reported in 2017 with undetermined imported status were also exposed in 2016. One of the congenital Zika cases in 2017 was in an infant born to a mother who did not travel outside Florida during pregnancy.

Imported status	2016		2017	
	Number	Percent	Number	Percent
Travel-related	1,122	77%	225	81%
Undetermined (exposed in 2016)	49	3%	35	13%
Locally acquired (exposed in 2016)	285	20%	15	5%
Locally acquired (exposed in 2017)	NA		2	1%

Note: The undetermined category includes individuals who spent time in Miami-Dade County where local transmission was ongoing in 2016 and who spent time in countries or territories with widespread Zika virus transmission. The exact location of exposure was not able to be confirmed for these individuals.

Two cases in 2017 were the result of local mosquito-borne transmission. Three travel-associated cases were the result of sexual transmission and all three involved male-to-female transmission. Two of the cases had no recent international travel but their sexual partners reported travel to Cuba. The third traveled with her sexual partner to Cuba but developed symptoms more than two weeks after travel.

Two non-congenital cases were hospitalized for Zika in 2017.

