

Section 2

Data Summaries for Reportable Diseases and Conditions—2019







Anaplasmosis

Key Points

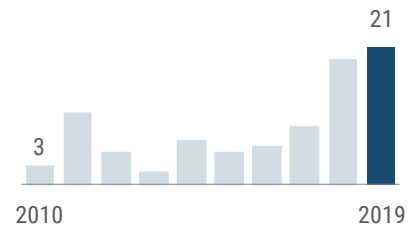
Anaplasmosis was previously known as human granulocytic ehrlichiosis (HGE), but was later renamed human granulocytic anaplasmosis (HGA) when the bacterium genus was changed from *Ehrlichia* to *Anaplasma*. Anaplasmosis is transmitted to humans by tick bites primarily from *Ixodes scapularis*, the black-legged tick, and *Ixodes pacificus*, the western black-legged tick. Co-infection with other pathogens found in these vectors is possible. Unlike ehrlichiosis, most HGA cases reported in Florida are due to infections acquired in the northeastern and midwestern U.S. *Anaplasma* infections can be acquired in Florida, but it is uncommon.

Nationally, cases are most common in males more than 40 years old. In 2019, 20 out of 21 cases reported in Florida were more than 40 years old and 62% were males. Onset dates ranged from April to November, consistent with national peak activity. Twenty of the 21 cases were acquired in northeastern U.S., while one case was acquired in the Midwest (Wisconsin). The vector is common in both regions and continues to expand its range. The continued increase in cases is attributed to vector expansion. Two anaplasmosis cases were co-infected with Lyme disease.

Disease Facts

-  **Caused by** *Anaplasma phagocytophilum* bacteria
-  **Illness** includes fever, headache, chills, malaise, and muscle aches; more severe infections can occur in elderly and immunocompromised people
-  **Transmitted** via bite of infective tick
-  **Under surveillance** to monitor incidence over time, estimate burden of illness, and target areas of high incidence for prevention education

Anaplasmosis incidence increased slightly in 2019.



Disease Trends

Summary

Number of cases	21
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+119.4%

Age (in Years)

Mean	69
Median	70
Min-max	32 - 80

Gender

Gender	Number (Percent)	Rate
Female	8 (38.1)	NA
Male	13 (61.9)	NA
Unknown gender	0	

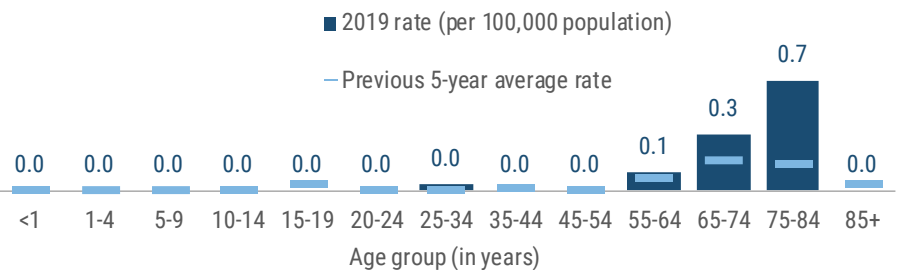
Race

Race	Number (Percent)	Rate
White	20 (95.2)	0.1
Black	0 (0.0)	NA
Other	1 (4.8)	NA
Unknown race	0	

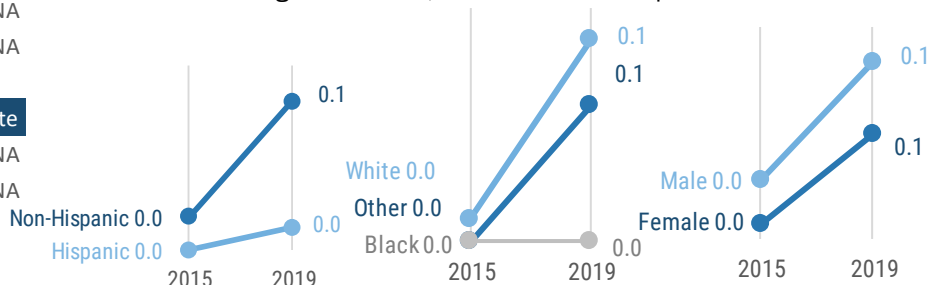
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	19 (95.0)	NA
Hispanic	1 (5.0)	NA
Unknown ethnicity	1	

The anaplasmosis rate (per 100,000 population) is highest in adults, particularly in adults 55 to 84 years old.



The anaplasmosis rate (per 100,000 population) increased in all demographics from 2015 to 2019, except for blacks, where rates remained stable. Rates were higher in males, whites and non-Hispanics in 2019.

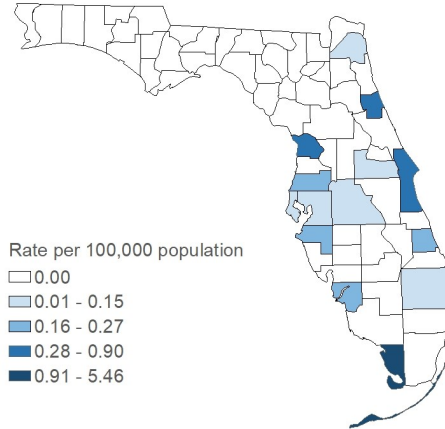


Rates are by county of residence for infections acquired in Florida (21 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

Anaplasmosis

Summary	Number
Number of cases	21
Case Classification	Number (Percent)
Confirmed	17 (81.0)
Probable	4 (19.0)
Outcome	Number (Percent)
Hospitalized	8 (38.1)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	0 (0.0)
Acquired in the U.S., not Florida	21 (100.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	20 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	1

Anaplasmosis is primarily imported from other U.S. states where it is highly endemic. In 2019, the counties with the most imported cases were Monroe (4), Brevard (3), Lee (2) and Palm Beach (2). The remaining ten counties each reported one imported case.

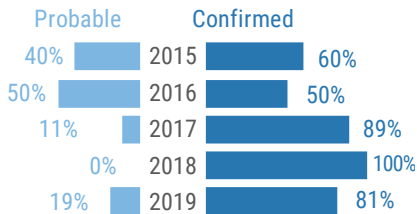


Rates are by county of residence for infections acquired in Florida (21 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

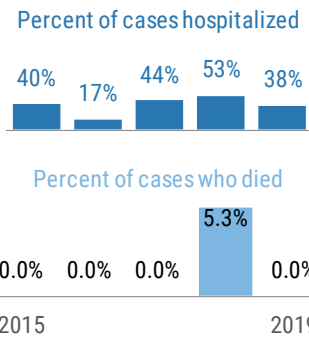


More Disease Trends

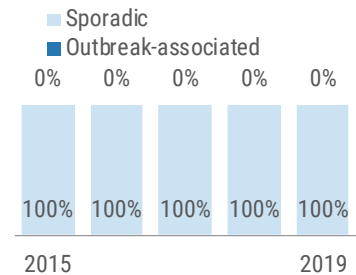
Between 50% and 100% of anaplasmosis cases are confirmed; 81% of 2019 cases were confirmed.



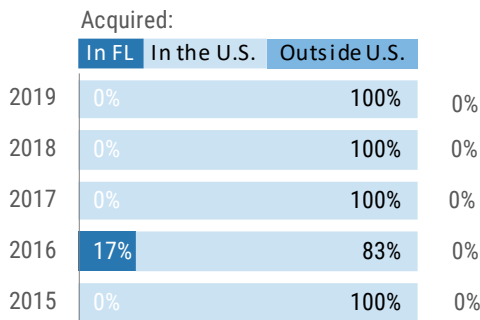
Between 17% and 53% of cases are hospitalized each year; deaths are uncommon.



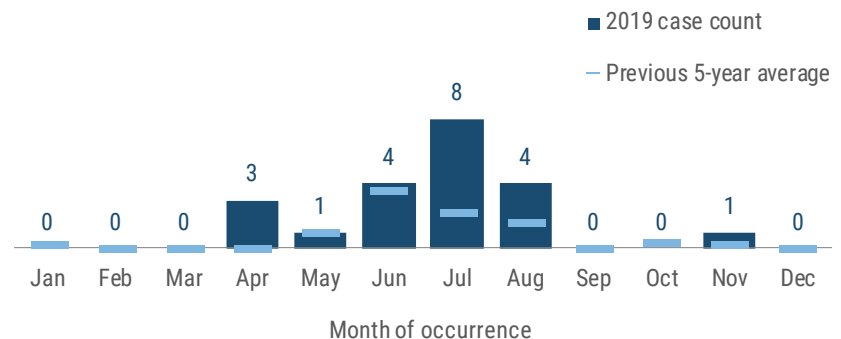
All cases were sporadic; no outbreak-associated cases were identified.



Anaplasmosis is primarily imported from northern U.S. states where it is highly endemic. In 2019, 100% of infections were imported from other states.



Anaplasmosis peak transmission occurs during the summer months. In 2019, activity was highest in July.



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





Babesiosis

Key Points

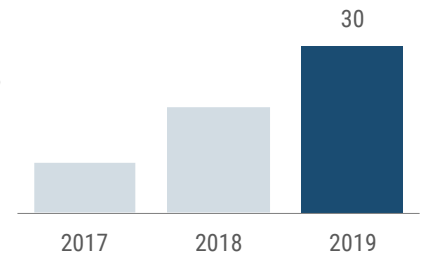
Babesiosis became nationally notifiable in 2011 and became reportable in Florida in October 2016. Most U.S. reported cases have been *B. microti* infections acquired in parts of the northeastern and north-central regions. Sporadic U.S. cases may be caused by other *Babesia* species, such as *B. duncani* and related organisms in several western states, as well as *B. divergens*-like variant M01 in various states. Zoonotic *Babesia* species have also been reported in Europe, Africa, Japan, Taiwan, India and Mexico. Some infections may be asymptomatic and can lead to transfusion-associated cases in both endemic and non-endemic areas like Florida.

B. microti circulates between *Ixodes scapularis* (blacklegged tick) and animal reservoir hosts, primarily small mammals such as *Peromyscus leucopus* (white-footed mouse). This enzootic cycle is shared by the etiologic agents of Lyme disease (*Borrelia burgdorferi*) and human anaplasmosis (*Anaplasma phagocytophilum*) and co-infections can occur. Both babesiosis case numbers and the endemic area seem to be increasing. The full geographic extent of *B. microti* and novel *Babesia* agents are unknown. Asplenia, advanced age and weakened immune systems are risk factors for severe disease. One hospitalized case was asplenic.

Disease Facts

-  **Caused by** *Babesia* parasites, most commonly *Babesia microti*
-  **Illness** includes hemolytic anemia and influenza-like symptoms (e.g., fever, chills, body aches, weakness, fatigue); complications can include thrombocytopenia, disseminated intravascular coagulation, hemodynamic instability, acute respiratory distress, myocardial infarction, renal failure, hepatic dysfunction, altered mental status, and death; can be asymptomatic
-  **Transmitted** via bite of infective tick
-  **Under surveillance** to monitor incidence over time, estimate burden of illness, and target areas of high incidence for prevention education

Babesiosis cases have continued to increase.



Disease Trends

Summary

Number of cases	30
Rate (per 100,000 population)	0.1
Change from 2-year average incidence	+109.8%

Age (in Years)

Mean	68
Median	72
Min-max	29 - 88

Gender

Gender	Number (Percent)	Rate
Female	8 (26.7)	NA
Male	22 (73.3)	0.2
Unknown gender	0	

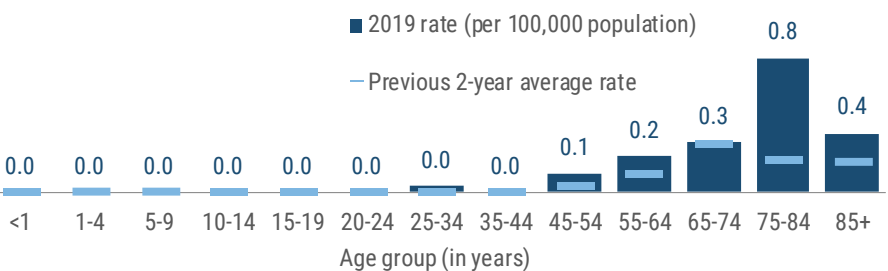
Race

Race	Number (Percent)	Rate
White	24 (85.7)	0.1
Black	3 (10.7)	NA
Other	1 (3.6)	NA
Unknown race	2	

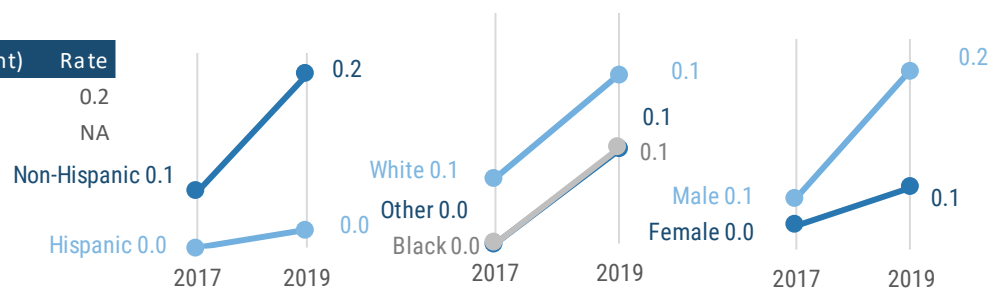
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	28 (96.6)	0.2
Hispanic	1 (3.4)	NA
Unknown ethnicity	1	

The babesiosis rates were highest in adults ages 75 to 84 years old. Advanced age is a risk factor for more severe illness.



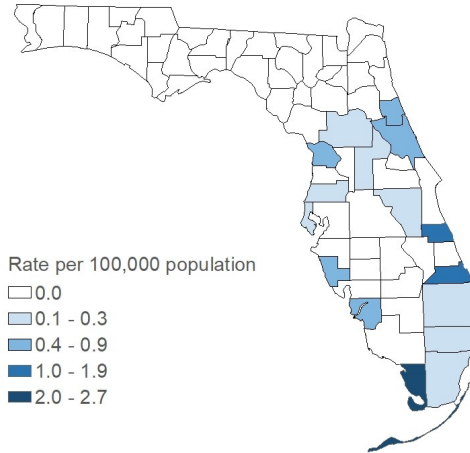
The babesiosis rate (per 100,000 population) increased in all demographics from 2017 to 2019. The rates were highest in non-Hispanics and males.



Babesiosis

Summary	Number
Number of cases	30
Case Classification	Number (Percent)
Confirmed	27 (90.0)
Probable	3 (10.0)
Outcome	Number (Percent)
Hospitalized	8 (26.7)
Died	1 (3.3)
Imported Status	Number (Percent)
Acquired in Florida	0 (0)
Acquired in the U.S., not Florida	30 (100)
Acquired outside the U.S.	0 (0)
Acquired location unknown	0 (0)
Outbreak Status	Number (Percent)
Sporadic	30 (100)
Outbreak-associated	0 (0)
Outbreak status unknown	0 (0)

In 2019, all babesiosis cases were acquired in the U.S., but not in Florida. Most cases were reported from the central and south part of the state.

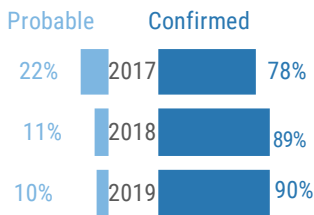


Rates are by county of residence for infections acquired in Florida (30 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

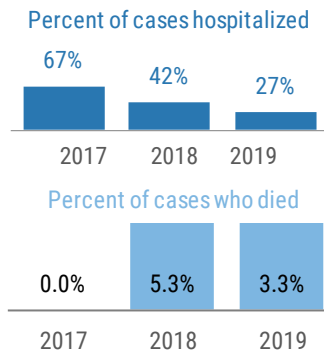


More Disease Trends

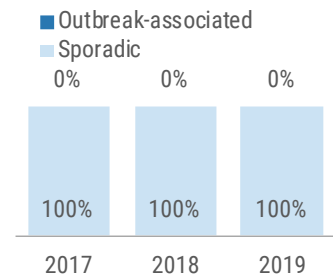
The majority of babesiosis cases were confirmed.



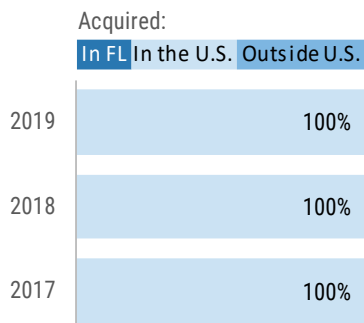
In 2019, 27% of cases were hospitalized. One death was reported in a patient with a PICC line with a positive bacterial blood culture.



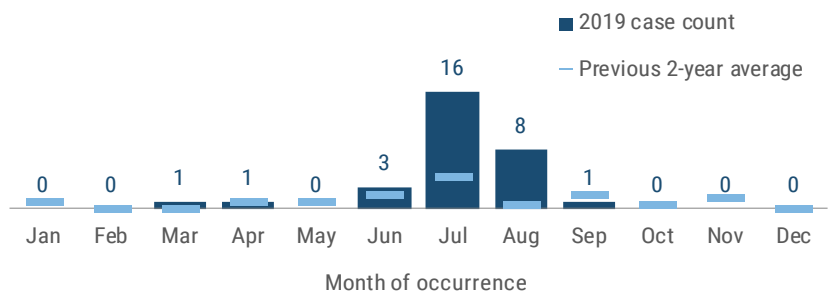
All cases were sporadic; no outbreak-associated cases have been identified.



All cases were acquired in the U.S., but not in Florida.



Babesiosis cases peaked in summer months with the most cases reported in July and August in 2019. This correlates with peak outdoor activity in northern states where all exposures occurred.



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

Campylobacteriosis





Key Points

Campylobacteriosis is the most common bacterial cause of diarrheal illness in the U.S. The Centers for Disease Control and Prevention estimates that *Campylobacter* infection affects at least 1.5 million U.S. residents each year. While most cases are not part of recognized outbreaks, outbreaks in the U.S. have historically been associated with poultry, raw (unpasteurized) dairy products, seafood, produce, untreated water, puppies and live poultry.

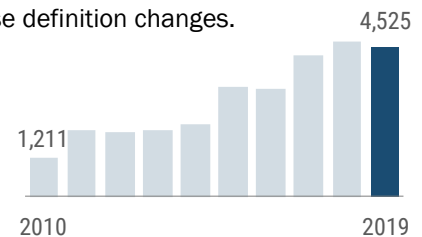
The use of culture-independent diagnostic testing (CIDT) to identify *Campylobacter* has increased dramatically in recent years. Florida changed the campylobacteriosis surveillance case definition in January and July 2011, January 2015 and January 2017 to account for CIDTs, increasing the number of reported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

Campylobacteriosis occurs year-round in Florida, with a slight seasonal increase in spring and summer. Campylobacteriosis incidence is consistently highest in infants <1 year old, followed by children 1 to 4 years old.

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. Notable increases in 2011, 2015 and 2017 are primarily due to case definition changes.



Disease Trends

Summary

Number of cases	4,525
Rate (per 100,000 population)	21.3
Change from 5-year average rate	+21.2%

Age (in Years)

Mean	45
Median	50
Min-max	0 - 100

Gender

Gender	Number (Percent)	Rate
Female	2,255 (49.8)	20.7
Male	2,269 (50.2)	21.8
Unknown gender	1	

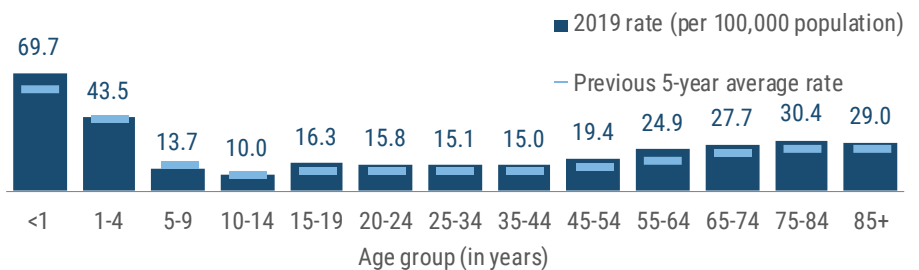
Race

Race	Number (Percent)	Rate
White	3,365 (76.6)	20.5
Black	494 (11.2)	13.7
Other	533 (12.1)	43.5
Unknown race	133	

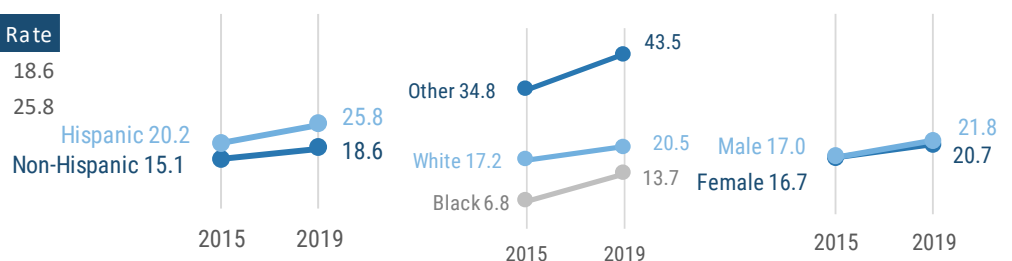
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	2,914 (66.9)	18.6
Hispanic	1,442 (33.1)	25.8
Unknown ethnicity	169	

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.



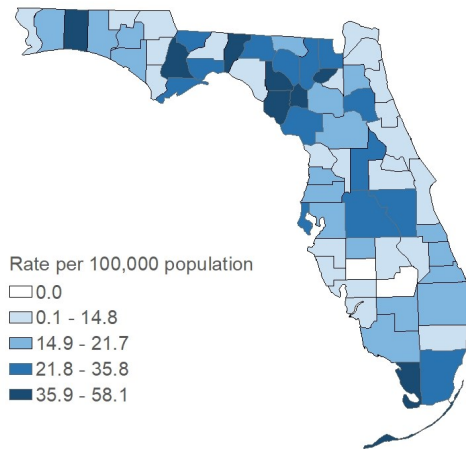
The campylobacteriosis rate (per 100,000 population) increased in all demographics from 2015 to 2019. The rates were higher in males, whites and Hispanics compared to females, blacks and non-Hispanics in 2019. The rate was notably higher in other races compared to whites and blacks in 2019.



Campylobacteriosis

Summary	Number
Number of cases	4,525
Case Classification	Number (Percent)
Confirmed	1,276 (28.2)
Probable	3,249 (71.8)
Outcome	Number (Percent)
Hospitalized	1,753 (38.7)
Died	28 (0.6)
Sensitive Situation	Number (Percent)
Daycare	121 (2.7)
Health care	79 (1.7)
Food handler	53 (1.2)
Imported Status	Number (Percent)
Acquired in Florida	3,685 (91.0)
Acquired in the U.S., not Florida	52 (1.3)
Acquired outside the U.S.	313 (7.7)
Acquired location unknown	475
Outbreak Status	Number (Percent)
Sporadic	4,175 (95.2)
Outbreak-associated	210 (4.8)
Outbreak status unknown	140

Campylobacteriosis occurs throughout the state. In 2019, rates (per 100,000 population) were highest in small, rural counties, particularly in the northern part of the state.

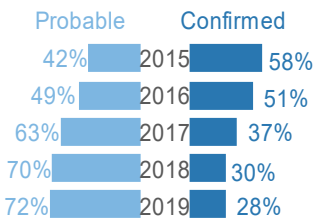


Rates are by county of residence for infections acquired in Florida (4,525 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

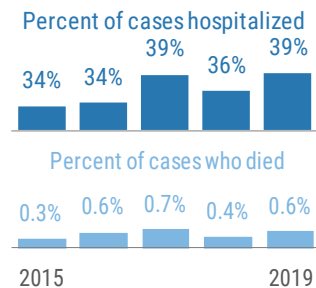


More Disease Trends

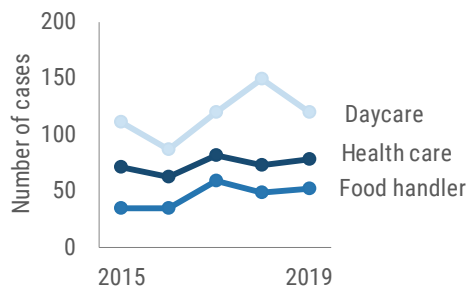
The percentage of confirmed cases began decreasing in 2015 due to case definition changes and increased use of CIDT.



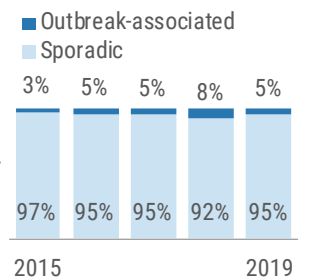
Between 30% and 40% of cases are hospitalized each year. Very few cases die.



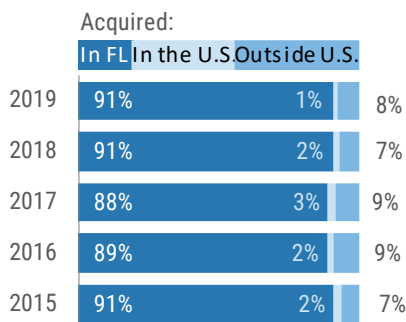
Cases in sensitive situations are monitored. No outbreaks have been identified in these settings in recent years.



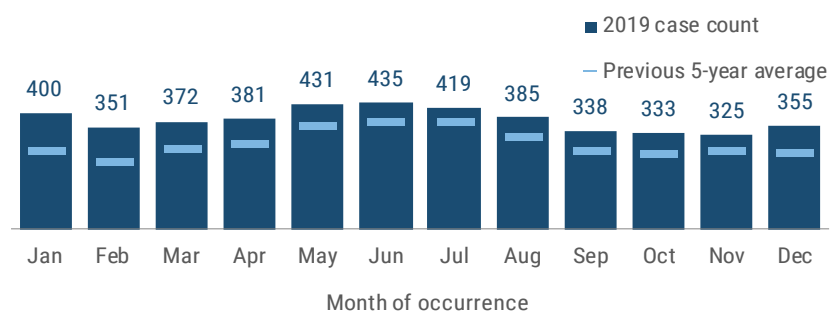
Most cases are sporadic; less than 10% were outbreak-associated and often reflect household clusters.



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



Campylobacteriosis occurred throughout 2019, though cases were slightly higher in spring and summer, which is consistent with past years. In 2019, the largest number of cases was reported in June.



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

Carbon Monoxide Poisoning





Key Points

Carbon monoxide (CO) is an invisible, odorless and tasteless gas that is highly poisonous. It can cause sudden illness and death if present in sufficient concentration in the ambient air. Floridians are exposed to CO during significant power outages by using alternative fuel or power sources such as generators or gasoline-powered equipment placed inside or too close to the windows causing CO to build up indoors.

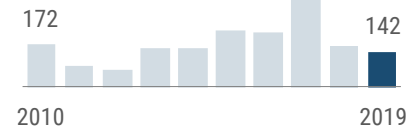
In 2017, 359 CO poisoning cases occurred after Hurricane Irma, a Category 4 storm, made landfall in Florida on September 10, causing extensive power outages and generator use throughout the state. In 2018, Hurricane Michael, a Category 5 storm, made landfall in the Florida Panhandle on October 10, causing 19 sporadic cases associated with inappropriate generator use. The fewer number of cases associated with Hurricane Michael reflects the smaller population of impacted counties compared to counties affected by Hurricane Irma.

The most commonly identified exposures for 2019 cases were automobile and recreational vehicles (RVs) (43%), generators (13.4%) and fires (13.4%).

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

After the sharp increase in 2017 as a result of Hurricane Irma, CO poisoning incidence returned to an average level in 2018 and decreased in 2019.



Disease Trends

Summary

Number of cases	142
Rate (per 100,000 population)	0.7
Change from 5-year average rate	-49.7%

Age (in Years)

Mean	49
Median	46
Min-max	5 - 96

Gender

	Number (Percent)	Rate
Female	71 (50.0)	0.7
Male	71 (50.0)	0.7
Unknown gender	0	

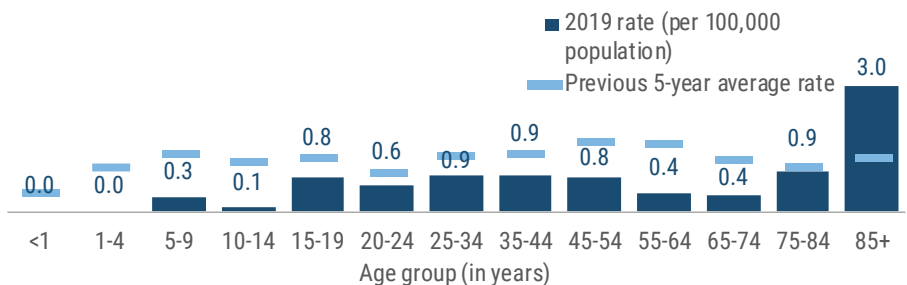
Race

	Number (Percent)	Rate
White	85 (61.6)	0.5
Black	31 (22.5)	0.9
Other	22 (15.9)	1.8
Unknown race	4	

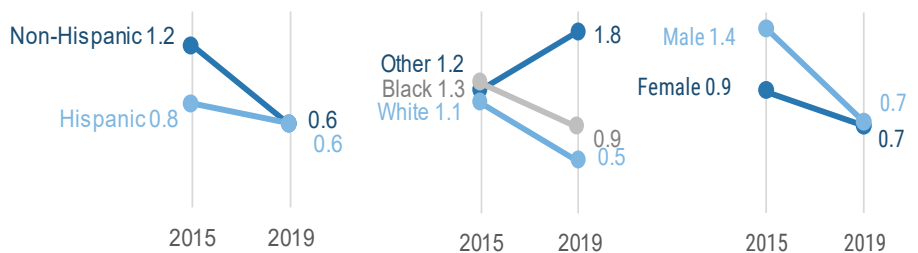
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	100 (73.5)	0.6
Hispanic	36 (26.5)	0.6
Unknown ethnicity	6	

In 2019, the CO poisoning rate (per 100,000 population) was highest in adults 85 years and older. In past years, the rate was highest in adults 25 to 44 years old. The difference seen in the previous five-year average rate is likely being driven by the spike in cases in 2017.



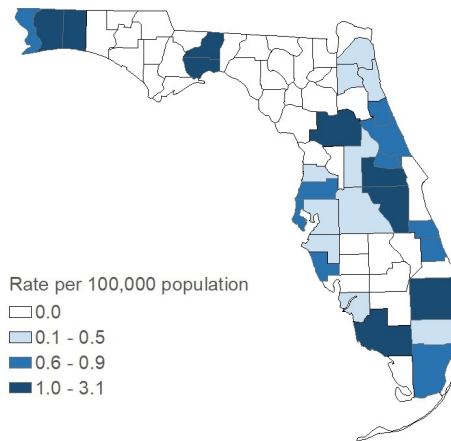
In 2019, CO poisoning rates (per 100,000 population) were the same for all genders and ethnicities and higher in blacks and other races. While the rates decreased slightly in whites, blacks and Hispanics over the past five years, rates increased in other races over the same time period.



Carbon Monoxide Poisoning

Summary	Number
Number of cases	142
Case Classification	Number (Percent)
Confirmed	111 (78.2)
Probable	31 (21.8)
Outcome	Number (Percent)
Hospitalized	43 (30.3)
Died	5 (3.5)
Imported Status	Number (Percent)
Exposed in Florida	141 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	1
Outbreak Status	Number (Percent)
Sporadic	50 (35.2)
Outbreak-associated	92 (64.8)
Outbreak status unknown	0
Exposure Type	Number (Percent)
Automobile/RV	61 (43.0)
Fire	19 (13.4)
Generator	19 (13.4)
Other	11 (7.7)
Fuel-burning appliances	9 (6.3)
Power tools (including mower)	9 (6.3)

Carbon monoxide poisonings in 2019 were concentrated in northwest, central and southern Florida. Rates (per 100,000) varied across counties throughout the state.

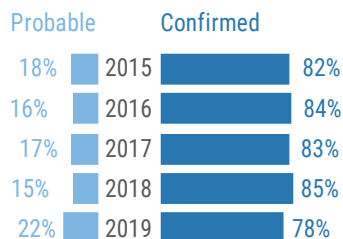


Rates are by county of residence for cases exposed in Florida (142 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

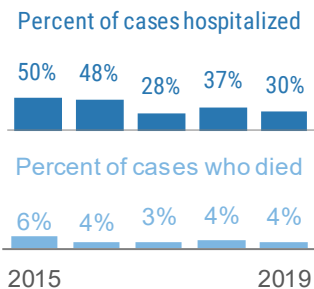


More Disease Trends

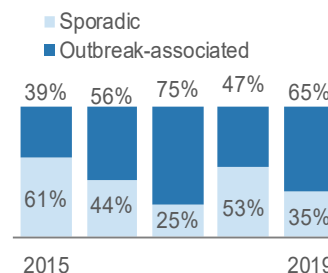
Most CO poisoning cases are confirmed. In 2019, 78% of cases were confirmed.



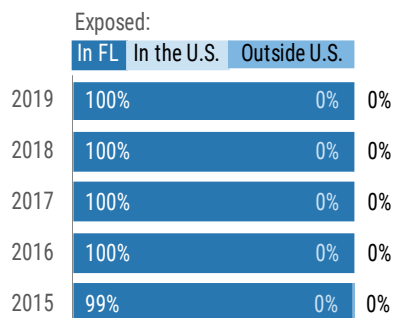
Between 28% and 50% of cases are hospitalized each year; deaths do occur.



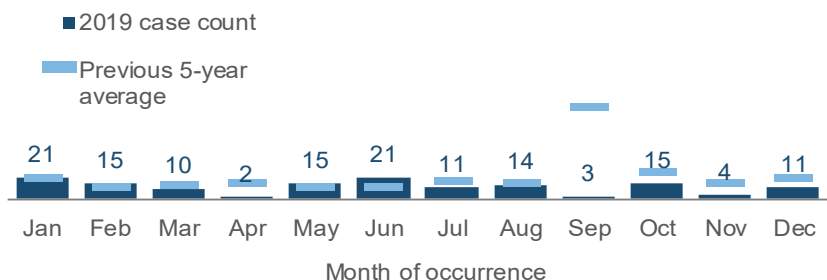
More than half (65%) of CO poisoning cases were linked to at least one other case in 2019. Over half of these cases were associated with exposure to automobile (61 cases) or generator exhaust (19 cases).



All CO poisoning cases were exposed in Florida in 2019.



CO poisoning cases were highest in January and June in 2019. 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 sexually transmitted disease in Florida and in the U.S.; incidence rates have been slowly increasing over the past decade. Incidence is highest among females 20 to 24 years old and non-Hispanic blacks. If untreated, chlamydia can lead to serious reproductive complications and can make it difficult for females to conceive. As the infection 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, particularly in the past four years. The rate has decreased in non-Hispanic blacks, primarily driven by a decrease in infections in young black females.

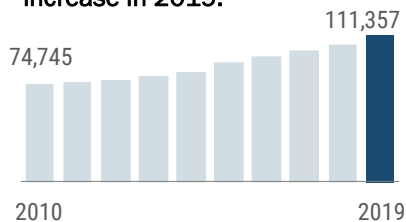
Disease Facts

-  **Caused by** *Chlamydia trachomatis* bacteria
-  **Illness** is frequently asymptomatic; sometimes 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 2019.



Summary

Number of cases	111,357
Rate (per 100,000 population)	523.6
Change from 5-year average rate	+12.1%

Age (in Years)

Mean	25
Median	22
Min-max	4 - 94

Gender

	Number (Percent)	Rate
Female	71,249 (64.0)	655.4
Male	40,059 (36.0)	385.3
Unknown gender	49	

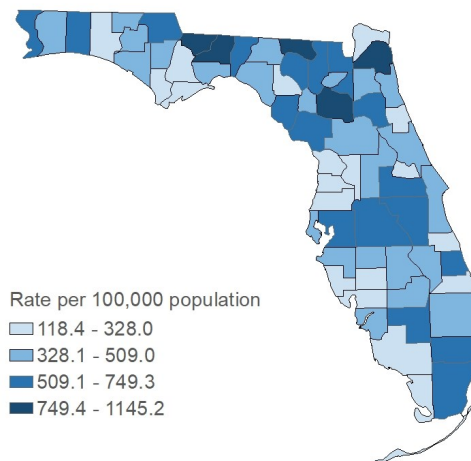
Race

	Number (Percent)	Rate
White	32,436 (37.5)	197.3
Black	37,864 (43.8)	1050.7
Other	16,112 (18.6)	1314.9
Unknown race	24,945	

Ethnicity

	Number (Percent)	Rate
Non-Hispanic	65,903 (80.0)	420.2
Hispanic	16,521 (20.0)	295.8
Unknown ethnicity	28,933	

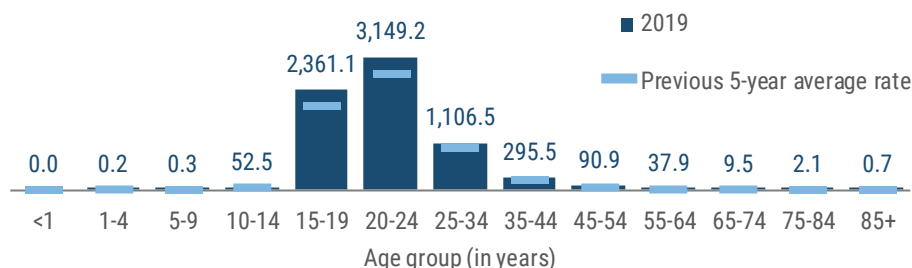
Chlamydia occurs throughout the state. The highest rates (per 100,000 population) in 2019 were in Leon (1,145.2), Gadsden (1,076.7), Alachua (1,004.3), Duval (817.5) and Hamilton (804.8) counties. These counties accounted for 13% of the state's cases, but only 7.5% of the state's population. The largest number of cases were reported in Miami-Dade (14,735 cases) and Broward (12,265 cases) counties. These two counties accounted for 24% of the state's cases and 22% of the state's population.



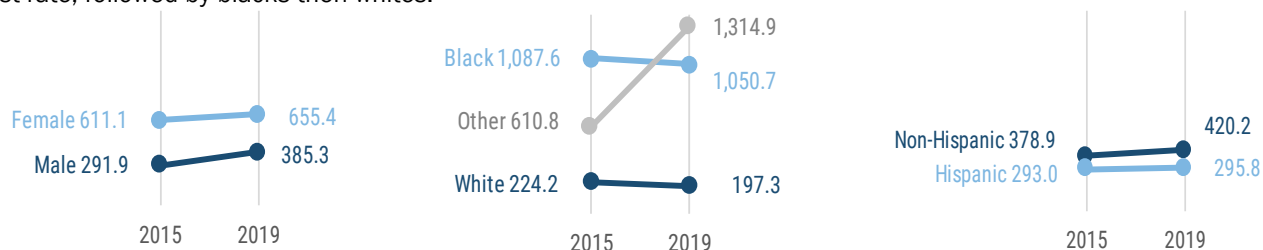
Rates are by county of residence, regardless of where infection was acquired (111,357 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

Chlamydia (Excluding Neonatal Conjunctivitis)

Chlamydia rates (per 100,000 population) are highest in adults 20 to 24 years old, followed by teenagers 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 35 times the rate in adults 45 to 54 years old.

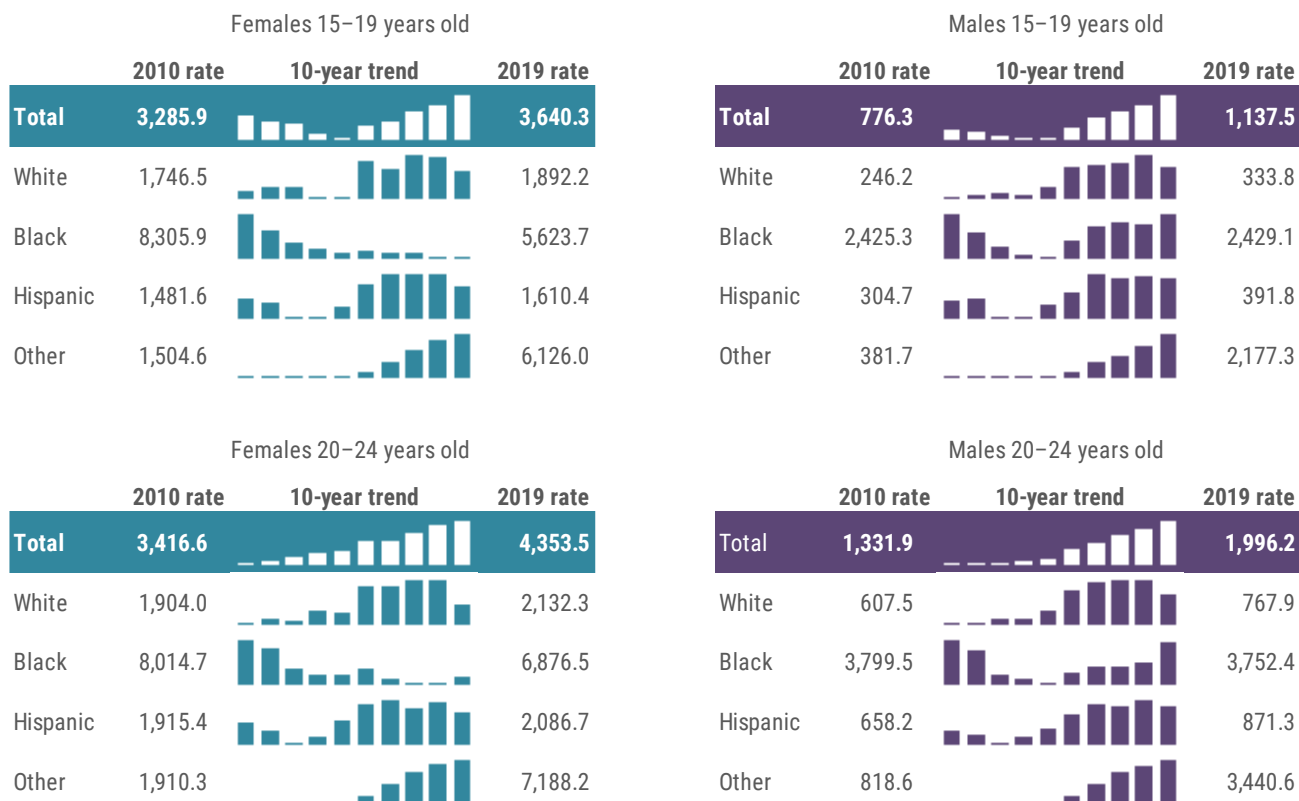


Chlamydia rates (per 100,000 population) have increased in all genders, ethnicity groups and other races from 2015 to 2019, but decreased slightly in blacks and whites. The rate in other races almost tripled in that time and now that group has the highest rate, followed by blacks then whites.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chlamydia cases (excluding neonatal conjunctivitis) were missing 21.4% of ethnicity data in 2015 and 14.4% of race data in 2015.

Overall, rates have increased in males in both age groups and in females 20 to 24 years old. 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

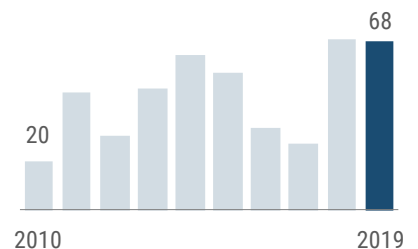
Ciguatoxin is produced by dinoflagellates in the genus *Gambierdiscus*. Marine dinoflagellates are typically found in tropical and subtropical waters and are eaten by herbivorous fish that are in turn eaten by larger carnivorous fish, causing the toxins to bioaccumulate in larger fish such as barracuda or grouper. 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.

Thirty-nine investigations occurred in 2019 involving 68 cases, of which 1 case was a non-Florida resident. Investigations involved an average of 1.7 cases with a range of 1 to 5 cases. The most common fish consumed was barracuda. Cases were most commonly associated with recreationally harvested fish. In 2019, cases were investigated throughout the year, with the largest number of cases occurring in January and August.

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)

Ciguatera fish poisoning cases reported in 2019 were above the 10-year average of 46.7 cases.



Disease Trends

Summary

Number of cases	68
Rate (per 100,000 population)	0.3
Change from 5-year average rate	+30.3%

Age (in Years)

Mean	47
Median	47
Min-max	8 - 85

Gender

Gender	Number (Percent)	Rate
Female	31 (45.6)	0.3
Male	37 (54.4)	0.4
Unknown gender	0	

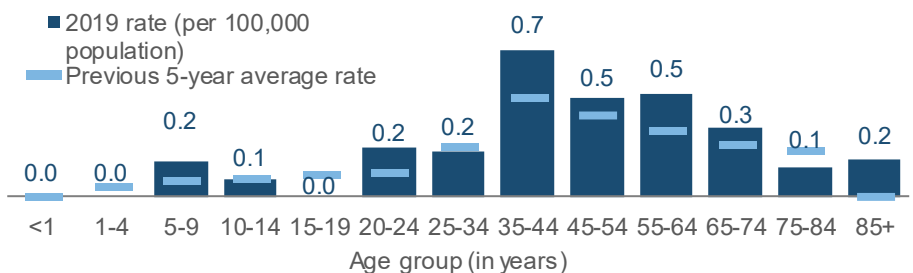
Race

Race	Number (Percent)	Rate
White	53 (85.5)	0.3
Black	0 (0.0)	NA
Other	9 (14.5)	NA
Unknown race	6	

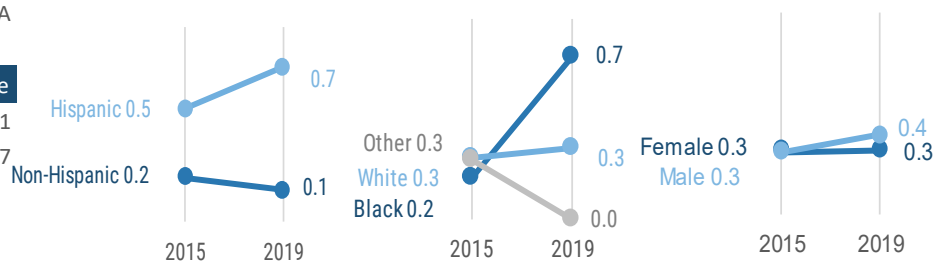
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	23 (36.5)	0.1
Hispanic	40 (63.5)	0.7
Unknown ethnicity	5	

The ciguatera fish poisoning rate (per 100,000 population) is generally highest in adults ages 25 to 74 years. In 2019, 65 cases were reported in adults and three cases were reported in those less than 20 years old.



The ciguatera fish poisoning rate (per 100,000 population) is generally similar in males and females. The rate was notably higher in Hispanics and blacks in 2019.

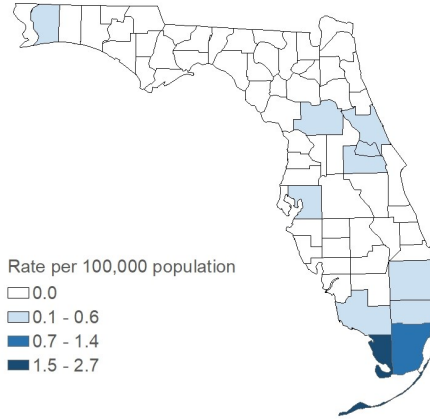


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ciguatera fish poisoning cases were missing 7.4% of ethnicity data in 2019 and 8.8% of race data in 2019.

Ciguatera Fish Poisoning

Summary	Number
Number of cases	68
Outcome	Number (Percent)
Hospitalized	10 (14.7)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	61 (89.7)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	7 (10.3)
Exposed location unknown	0
Outbreak Status	Number (Percent)
Sporadic	23 (33.8)
Outbreak-associated	45 (66.2)
Outbreak status unknown	0

Ciguatera fish poisoning cases tend to occur in coastal counties, particularly in south Florida. In 2019, the rate per 100,000 population was highest in Monroe County (two cases); Miami-Dade County accounted for over half of all cases (42).

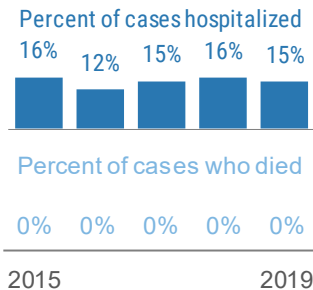


Rates are by county of residence for cases exposed in Florida (68 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

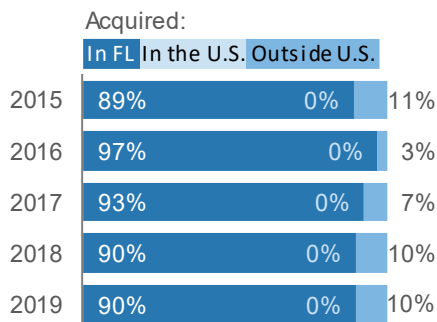


More Disease Trends

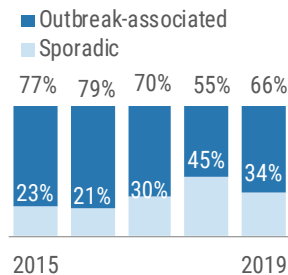
Less than 25% of cases are hospitalized. No deaths have been identified in recent years.



More than 85% of cases are exposed in Florida each year.

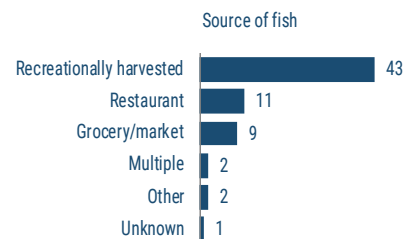


Most cases are outbreak-associated. Implicated fish are commonly shared by multiple people.

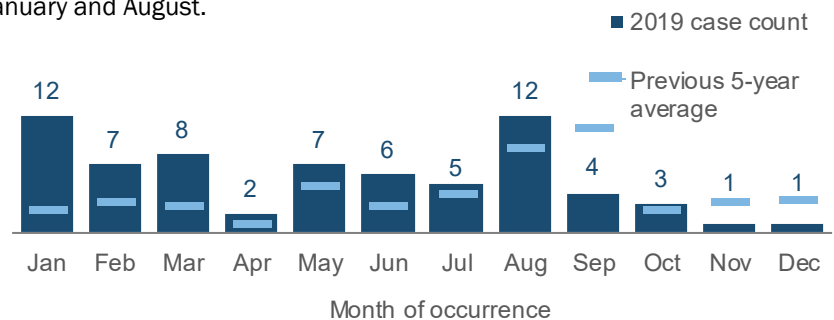


Most fish causing ciguatera fish poisoning were recreationally harvested.

Sometimes, multiple sources of fish are identified, and occasionally, no source can be identified.



Ciguatera fish poisoning generally peaks in August and September. However, cases were distributed across months in 2019 with 12 cases reported in January and August.



Cryptosporidiosis

Key Points

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. 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 have generally decreased.

Cryptosporidiosis incidence is consistently highest in children 1 to 4 years old.

Cryptosporidiosis incidence peaked in 2014 when there were 6 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 reported waterborne disease outbreaks due to *Cryptosporidium* in 2019, which is a decrease from the 2 outbreaks reported in 2018. Reported clusters of illness were associated with person-to-person transmission, travel, daycares and exposure to animals and livestock.

Disease Facts



Caused by *Cryptosporidium* parasites



Illness is gastroenteritis (diarrhea, vomiting)

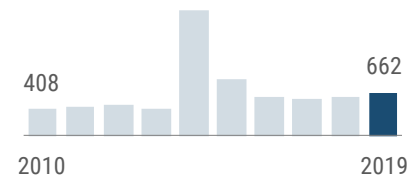


Transmitted via fecal-oral route, including person to person, animal to person, waterborne and foodborne



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, decreased in 2015 and 2016 and has remained relatively stable since.



Disease Trends

Summary

Number of cases	662
Rate (per 100,000 population)	3.1
Change from 5-year average rate	-30.6%

Age (in Years)

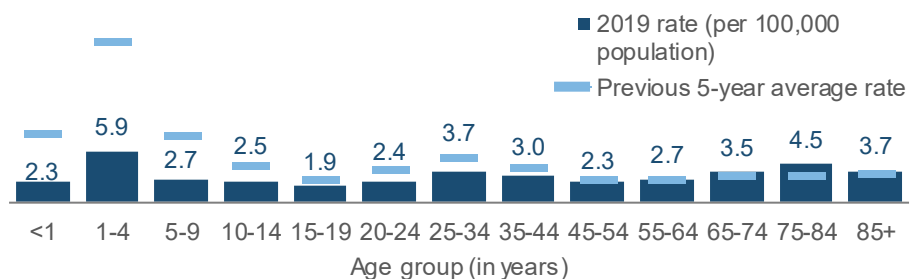
Mean	42
Median	41
Min-max	0 - 96

Gender	Number (Percent)	Rate
Female	314 (47.5)	2.9
Male	347 (52.5)	3.3
Unknown gender	1	

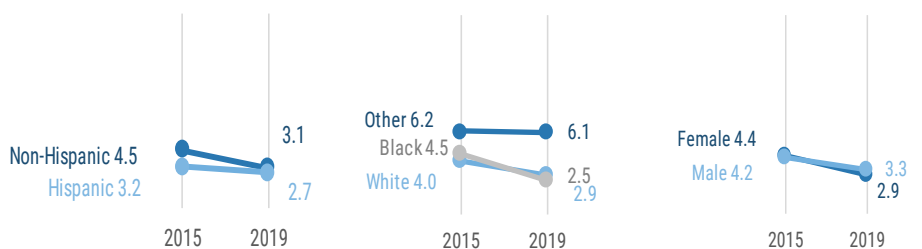
Race	Number (Percent)	Rate
White	482 (74.6)	2.9
Black	89 (13.8)	2.5
Other	75 (11.6)	6.1
Unknown race	16	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	490 (76.2)	3.1
Hispanic	153 (23.8)	2.7
Unknown ethnicity	19	

The cryptosporidiosis rate (per 100,000 population) is consistently highest in children 1 to 4 years old, which remained true in 2019.



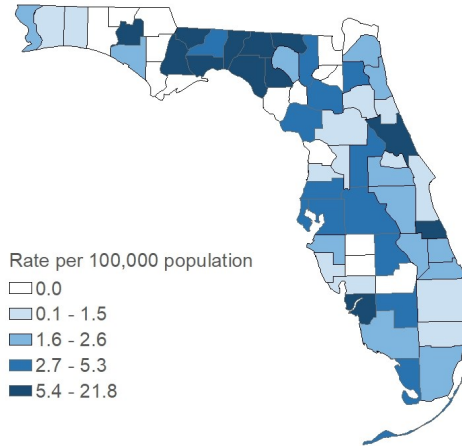
The cryptosporidiosis rate (per 100,000 population) decreased among all demographics from 2015 to 2019. Rates were lower by gender, race and ethnicity in 2019.



Cryptosporidiosis

Summary	Number
Number of cases	662
Case Classification	Number (Percent)
Confirmed	262 (39.6)
Probable	400 (60.4)
Outcome	Number (Percent)
Hospitalized	253 (38.2)
Died	3 (0.5)
Sensitive Situation	Number (Percent)
Daycare	33 (5.0)
Health care	21 (3.2)
Food handler	10 (1.5)
Imported Status	Number (Percent)
Acquired in Florida	538 (90.3)
Acquired in the U.S., not Florida	7 (1.2)
Acquired outside the U.S.	51 (8.6)
Acquired location unknown	66
Outbreak Status	Number (Percent)
Sporadic	620 (93.8)
Outbreak-associated	41 (6.2)
Outbreak status unknown	1

Cryptosporidiosis occurs throughout the state. The highest rates (per 100,000) in 2019 generally occurred in small, rural counties with lower rates in many of the large metropolitan areas of the state.

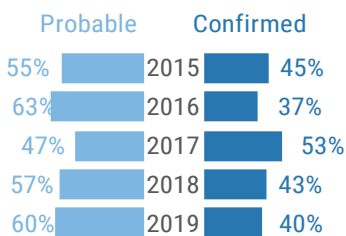


Rates are by county of residence for infections acquired in Florida (662 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

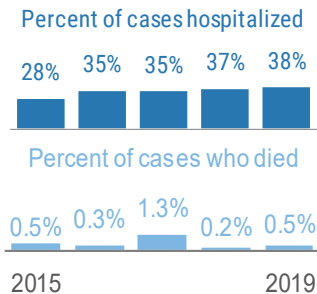


More Disease Trends

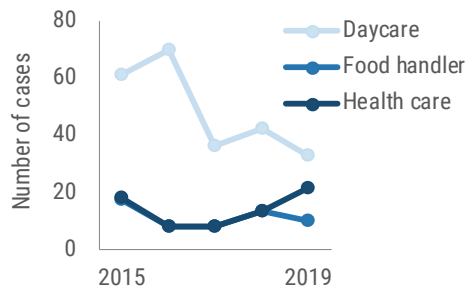
Unlike many other reportable diseases, less than half of cryptosporidiosis cases are confirmed.



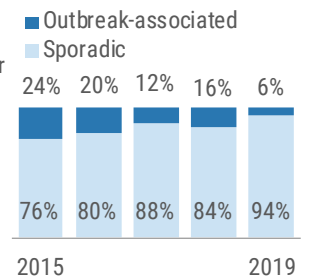
Hospitalizations and deaths are typically related to underlying conditions and comorbidities.



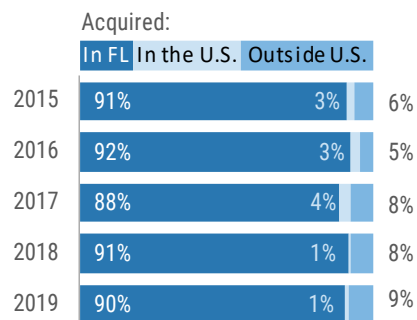
Many cases occurred in daycare settings. People in sensitive situations may pose a risk for transmitting infection to others.



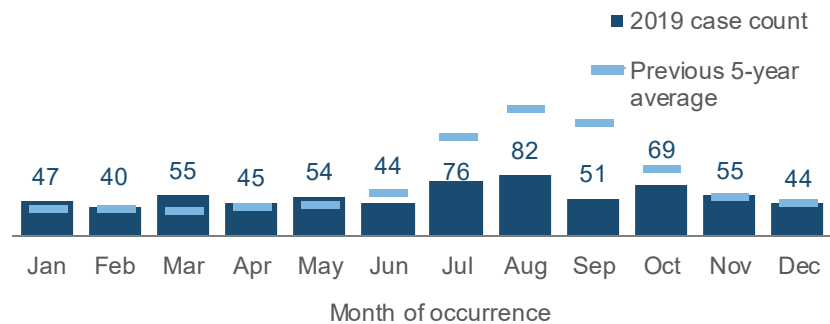
Most cryptosporidiosis cases are sporadic. Only 6% were outbreak-associated in 2019.



Most cryptosporidiosis infections are acquired within Florida.



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







Cyclosporiasis

Key Points

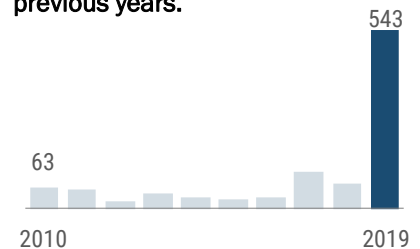
Cyclosporiasis incidence is strongly seasonal, peaking annually in June and July. Large multistate outbreaks of cyclosporiasis were identified in 2013, 2014, 2015, 2018 and 2019. In the U.S., cyclosporiasis outbreaks are primarily foodborne and have been linked to various types of imported fresh produce, including basil, cilantro, mesclun lettuce, raspberries and snow peas. More recently, domestically grown produce has been implicated.

In 2019, 2,408 laboratory-confirmed cases of cyclosporiasis were reported nationally as of November 19, 2019 (the most recent date for which national data were available). These cases were reported by 37 different states, had illness onset from May to August 2019 and had no history of international travel during the 14-day period prior to illness onset. Florida reported 527 (97%) of its 543 cases during this same time period. The large increase in cases in Florida was attributed in part to several large outbreaks associated with imported basil from Mexico; at least 175 cases were directly linked to those outbreaks. In addition, 20 other outbreaks were investigated in Florida for a total of 23 outbreaks involving 268 cases. Several of these outbreaks, including the 1 attributed to basil, were part of multi-state outbreaks.

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 dramatically increased in 2019 compared to previous years.



Disease Trends

Summary

Number of cases	543
Rate (per 100,000 population)	2.6
Change from 5-year average rate	+796.1%

Age (in Years)

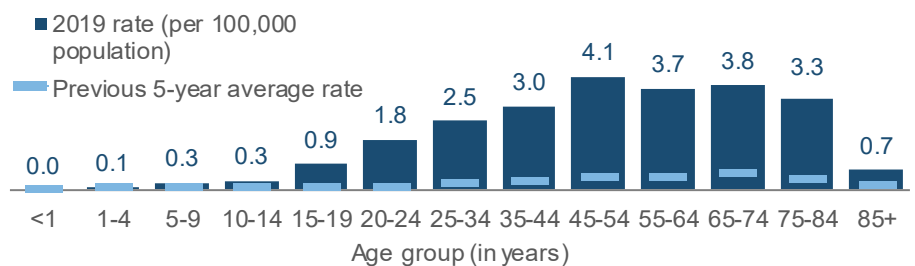
Mean	51
Median	52
Min-max	2 - 92

Gender	Number (Percent)	Rate
Female	315 (58.0)	2.9
Male	228 (42.0)	2.2
Unknown gender	0	

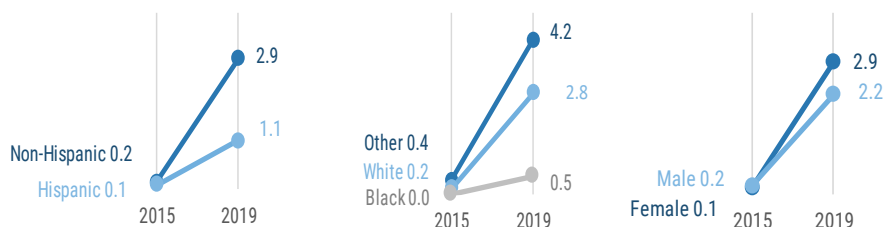
Race	Number (Percent)	Rate
White	457 (86.7)	2.8
Black	18 (3.4)	NA
Other	52 (9.9)	4.2
Unknown race	16	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	462 (88.3)	2.9
Hispanic	61 (11.7)	1.1
Unknown ethnicity	20	

The cyclosporiasis rate (per 100,000 population) is consistently higher in adults ≥ 25 years old. In 2019, the rate peaked at 45–54 years of age and remained high through age 84.



Cyclosporiasis rates (per 100,000 population) increased in all gender, race and ethnicity groups from 2015 to 2019. Rates were similar in gender groups, but higher in other races, whites and non-Hispanics in 2019.

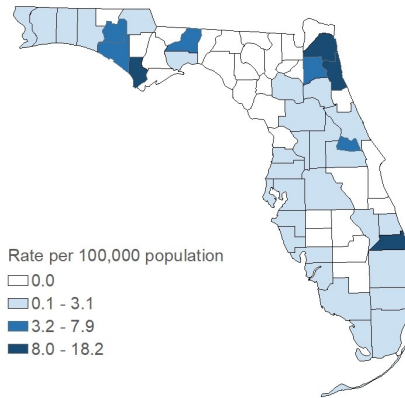


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Cyclosporiasis cases were missing 12.5% of ethnicity data in 2015 and 12.5% of race data in 2015.

Cyclosporiasis

Summary	Number
Number of cases	543
Case Classification	Number (Percent)
Confirmed	395 (72.7)
Probable	148 (27.3)
Outcome	Number (Percent)
Hospitalized	34 (6.3)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	419 (92.3)
Acquired in the U.S., not Florida	15 (3.3)
Acquired outside the U.S.	20 (4.4)
Acquired location unknown	89
Outbreak Status	Number (Percent)
Sporadic	264 (49.6)
Outbreak-associated	268 (50.4)
Outbreak status unknown	11

Cyclosporiasis cases occurred throughout the state in 2019 with an overall rate of 2.55 per 100,000 population. High county rates were skewed by low case counts (Gulf and Washington counties) or by the presence of large outbreaks (Duval, St. Johns, Martin and Leon counties).

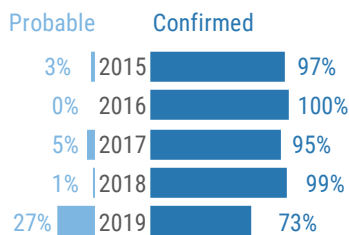


Rates are by county of residence for infections acquired in Florida (543 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

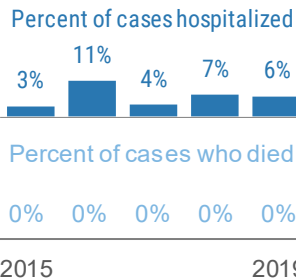


More Disease Trends

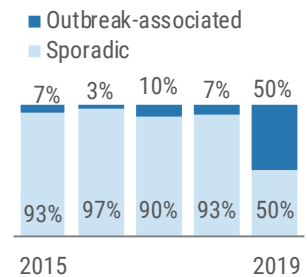
The majority of cyclosporiasis cases are confirmed. Probable cases are symptomatic people epidemiologically linked to confirmed cases.



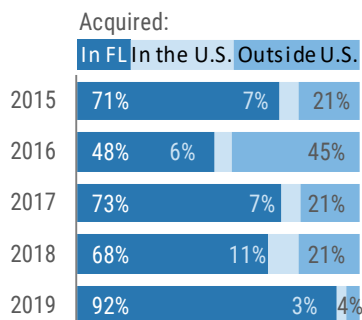
Few cyclosporiasis cases are hospitalized. No deaths have occurred in recent years.



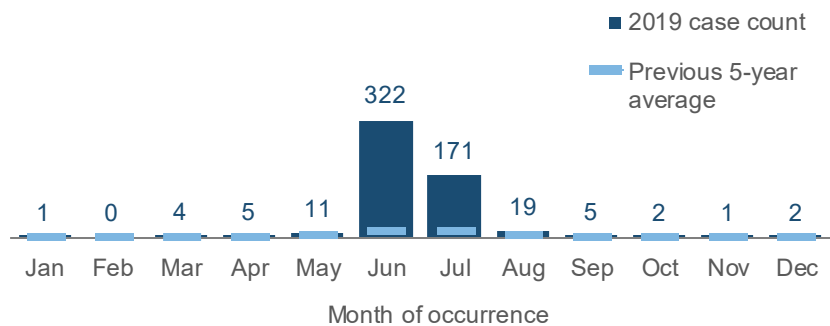
Half of the cyclosporiasis cases in 2019 were outbreak-associated, which is a contrast to previous years.



Most cyclosporiasis infections are acquired in Florida. Half of infections acquired outside the U.S. were from Mexico (10 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

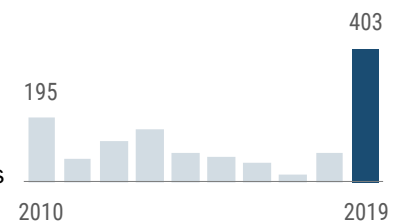
Historically the Americas, predominantly the Caribbean, have served as primary sources of dengue virus exposures in Florida residents. However, at least one locally acquired case has been identified each year from 2009 to 2019, with the exception of 2017. Introductions have been primarily in south Florida. Two outbreaks of locally acquired dengue fever have occurred; 1 in Monroe County (2009 to 2010) and 1 in Martin County (2013). In 2019, the highest number of travel-associated cases identified in a single year was reported, largely driven by an outbreak of DENV-2 in Cuba. There were 18 locally acquired cases in 2019. This represented the most introductions in a single year, though most were sporadic cases; 6 cases involved household clusters and 2 cases were in the same neighborhood.

One death was reported in a local case. Local cases were identified in Miami-Dade (16), Broward (1) and Hillsborough (1) counties. The serotypes for local cases were DENV-2 (14), DENV-1 (2), DENV-3 (1) and unknown (1). Identification of one-third of the travel-associated cases and over half of the local cases was attributed to active case finding. 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. Twenty-eight dengue fever cases were identified in non-Florida residents while traveling in Florida in 2019. Of the 403 cases reported in 2019, 5 were identified in 2018 but not reported until 2019. Similarly, 5 additional cases were identified in 2019 but were not reported until 2020 and will therefore be included in the 2020 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.

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; severe dengue (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, implement control measures to prevent introduction and active transmission, monitor incidence over time, estimate burden of illness**

Dengue fever incidence was above average in 2019.



Disease Trends

Summary

Number of cases	403
Rate (per 100,000 population)	1.9
Change from 5-year average rate	+452.4%

Age (in Years)

Mean	49
Median	52
Min-max	4 - 88

Gender

	Number (Percent)	Rate
Female	213 (52.8)	2.0
Male	190 (47.2)	1.8

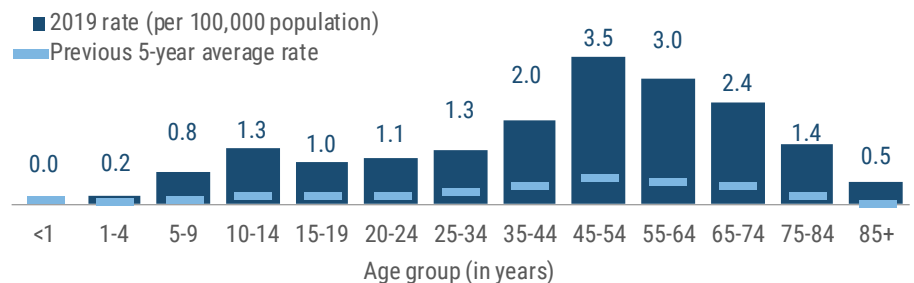
Race

	Number (Percent)	Rate
White	316 (78.4)	1.9
Black	37 (9.2)	1.0
Other	50 (12.4)	4.2

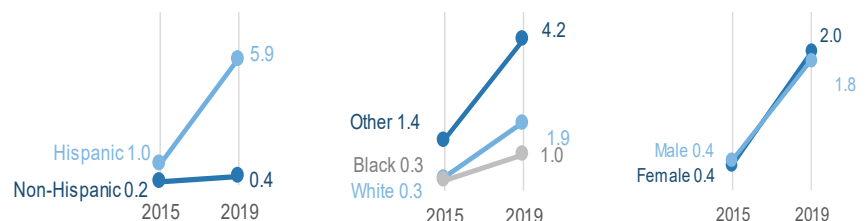
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	72 (17.9)	0.4
Hispanic	330 (81.9)	5.9
Unknown ethnicity	1	0.4

The dengue fever rate (per 100,000 population) has historically been highest in adults 25 to 74 years old. In 2019, the rate was highest in adults 45 to 54 years old; the youngest case was 4 years old.



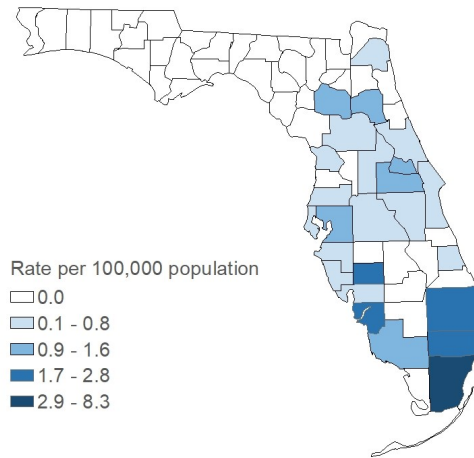
The dengue fever rate (per 100,000 population) is similar in both genders, blacks, whites and non-Hispanics. In 2019, rates were higher in other races and Hispanics, which is reflective of Miami-Dade county population demographics..



Dengue Fever

Summary	Number
Number of cases	403
Case Classification	Number (Percent)
Confirmed	355 (88.1)
Probable	48 (11.9)
Outcome	Number (Percent)
Hospitalized	195 (48.4)
Died	1 (0.2)
Imported Status	Number (Percent)
Acquired in Florida	18 (4.5)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	385 (95.5)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	379 (94.0)
Outbreak-associated	24 (6.0)
Outbreak status unknown	0

Dengue fever disproportionately affected south Florida, with Miami-Dade County reporting over 200 travel-related cases alone. Locally acquired cases were identified in Broward (1), Hillsborough (1) and Miami-Dade (16) counties.

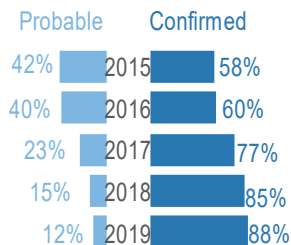


Rates are by county of residence, regardless of where infection was acquired (403 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

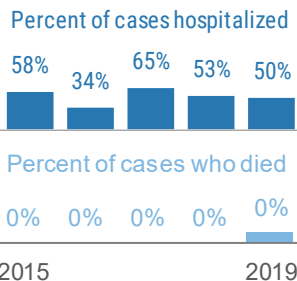


More Disease Trends

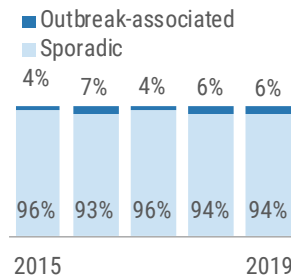
The highest percentage of confirmed cases was identified in 2019, primarily due to testing performed at public health laboratories and active case finding.



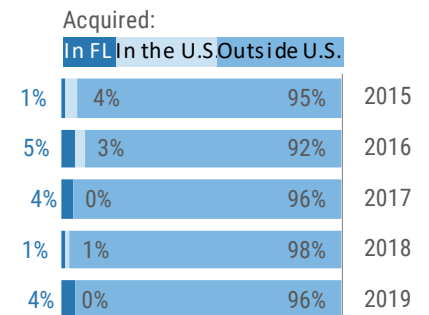
The rate of hospitalization is relatively high and one death was reported in a locally acquired case. Fourteen cases reported symptoms consistent with severe dengue.



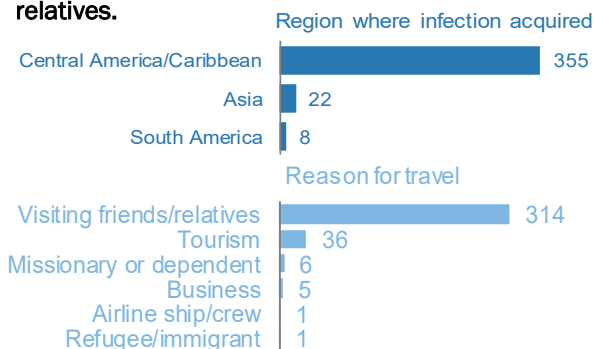
Two household clusters were linked to family members who had recently returned from Cuba.



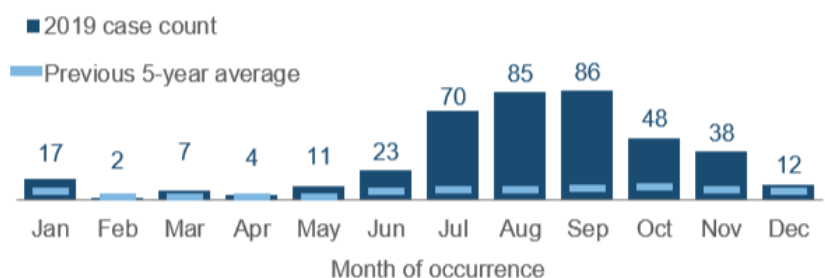
Eighteen cases were acquired in Florida in 2019; all others were imported from other countries or U.S. territories with endemic transmission.



Most dengue fever cases were acquired in the Caribbean, primarily Cuba, while visiting friends and relatives.



Dengue fever cases are most common in summer and fall but can be imported any time of year. In 2019, locally acquired cases occurred from March to December. The majority of travel-related cases occurred during July to October.



Ehrlichiosis





Key Points

Ehrlichiosis is a broad term used to describe illnesses caused by a group of bacterial pathogens. At least 3 different *Ehrlichia* species are known to cause human illness in the U.S. Both *Ehrlichia chaffeensis*, also known as human monocytic ehrlichiosis (HME), and *Ehrlichia ewingii* are transmitted by the lone star tick (*Amblyomma americanum*), one of the most commonly encountered ticks in the southeastern U.S. A third *Ehrlichia* species, called *Ehrlichia muris euclairensis*, has been reported in a small number of cases in Minnesota and Wisconsin; it is transmitted by the black-legged tick (*Ixodes scapularis*).

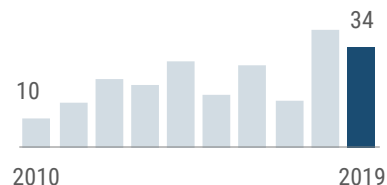
Ehrlichiosis cases present with similar symptoms regardless of species causing infection and are indistinguishable by serologic testing. *E. ewingii* and *E. muris euclairensis* are most frequently identified in immunocompromised patients. Severe illness is most frequent in adults ≥ 70 years old, children < 10 years old and those who are immunocompromised. Delays in treatment can increase risk for severe outcomes across all age groups. At least 47% of cases had to seek medical care more than once before rickettsial illness was suspected.

Ehrlichiosis incidence in Florida decreased slightly in 2019, but was still above the five-year average. The majority of cases were in males. Most cases involved whites and non-Hispanics, which may in part be due to more homogenous population demographics in northern and central Florida, where most exposures occur.

Disease Facts

-  **Caused by** *Ehrlichia chaffeensis*, *Ehrlichia ewingii*, *Ehrlichia muris euclairensis* bacteria
-  **Illness** includes fever, headache, fatigue and muscle aches
-  **Transmitted** via bite of infective tick; rarely through blood transfusion and organ transplant
-  **Under surveillance** to monitor incidence over time, estimate burden of illness, understand epidemiology of each species, target areas of high incidence for prevention education

Ehrlichiosis incidence decreased slightly in 2019.



Disease Trends

Summary

Number of cases	34
Rate (per 100,000 population)	0.2
Change from 5-year average rate	+23.8%

Age (in Years)

Mean	56
Median	60
Min-max	9 - 90

Gender

Gender	Number (Percent)	Rate
Female	9 (26.5)	NA
Male	25 (73.5)	0.2
Unknown gender	0	

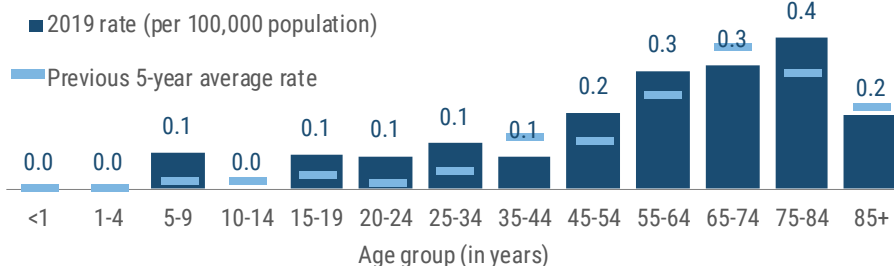
Race

Race	Number (Percent)	Rate
White	30 (88.2)	0.2
Black	1 (2.9)	NA
Other	3 (8.8)	NA
Unknown race	0	

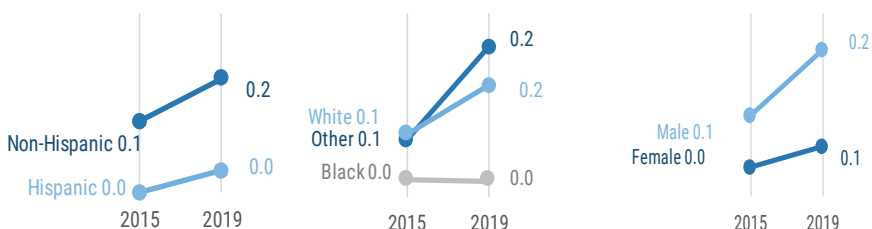
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	30 (93.8)	0.2
Hispanic	2 (6.3)	NA
Unknown ethnicity	2	

The ehrlichiosis rate (per 100,000 population) is highest in adults, particularly in adults 55 to 84 years old.



Ehrlichiosis rates (per 100,000 population) increased in most demographics from 2015 to 2019, except for blacks, where rates remained stable. Rates were higher in males, whites and other races in 2019.

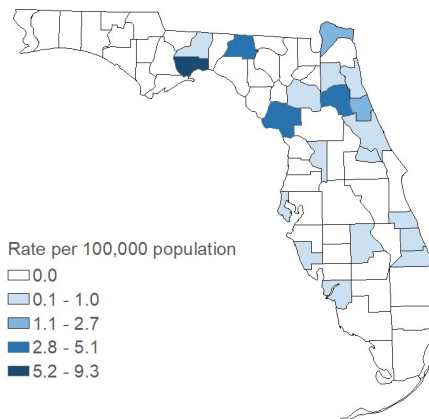


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ehrlichiosis cases were missing 5.9% of ethnicity data in 2019.

Ehrlichiosis

Summary	Number
Number of cases	34
Case Classification	Number (Percent)
Confirmed	23 (67.6)
Probable	11 (32.4)
Outcome	Number (Percent)
Hospitalized	29 (85.3)
Died	1 (2.9)
Imported Status	Number (Percent)
Acquired in Florida	21 (70.0)
Acquired in the U.S., not Florida	9 (30.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	4
Outbreak Status	Number (Percent)
Sporadic	34 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Most ehrlichiosis infections acquired within Florida are in residents of northern and central counties. In 2019, 4 cases each were reported in Putnam and Volusia counties and 2 cases each in Flagler, Levy, Nassau and Wakulla counties. The remaining 6 counties each had 1 case reported.



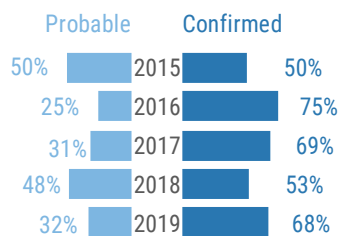
Rates are by county of residence for infections acquired in Florida (34 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

Of note, two cases from 2017 were reported in 2019 due to an electronic laboratory data feed issue.

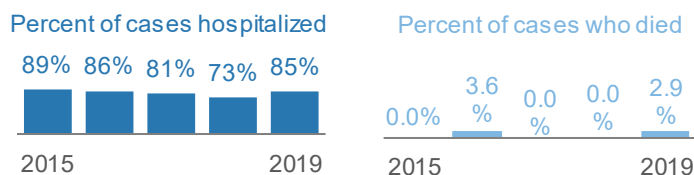


More Disease Trends

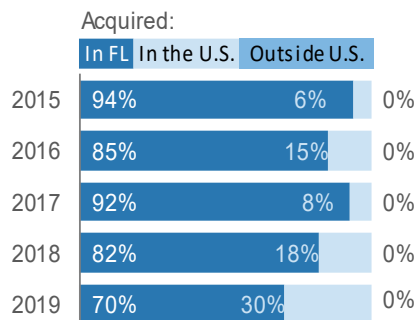
Between 50% and 75% of ehrlichiosis cases are confirmed; 68% of 2019 cases were confirmed.



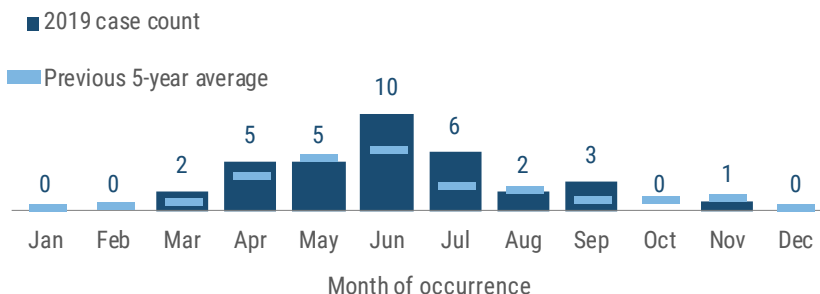
Most ehrlichiosis cases are hospitalized; deaths are uncommon. Although severe illness is more common in older adults, 9 of the 11 cases (82%) in people <50 years old were hospitalized in 2019.



Most infections are acquired in Florida. In 2019, 9 infections were imported from other states and 4 cases had an unknown location of exposure.



Ehrlichiosis cases are reported year-round, though peak transmission occurs during the summer months. Activity was highest in June in 2019.



Giardiasis, Acute

Key Points





Giardia intestinalis (also known as *G. lamblia* and *G. duodenalis*) is the most common intestinal parasite in 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.

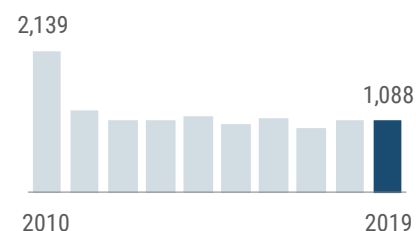
Giardiasis is a common parasitic disease reported in Florida. Giardiasis incidence is highest in children 1 to 4 years old, followed by children 5 to 9 years old, then infants <1 year old. It occurs throughout the state year-round, though the highest rates (per 100,000 population) are in small, rural 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	1,088
Rate (per 100,000 population)	5.1
Change from 5-year average rate	-4.8%

Age (in Years)

Mean	37
Median	37
Min-max	0 - 96

Gender

Gender	Number (Percent)	Rate
Female	397 (36.5)	3.7
Male	690 (63.5)	6.6
Unknown gender	1	

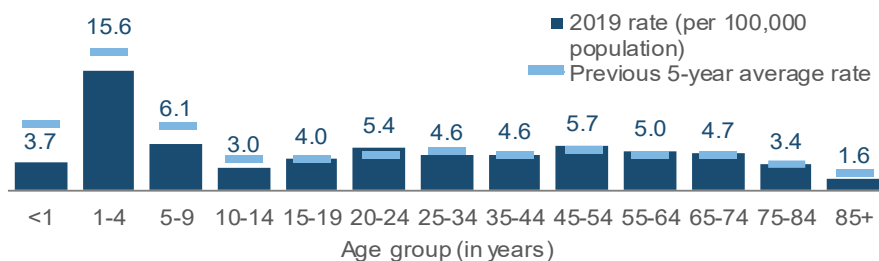
Race

Race	Number (Percent)	Rate
White	798 (79.6)	4.9
Black	94 (9.4)	2.6
Other	110 (11.0)	9.0
Unknown race	86	

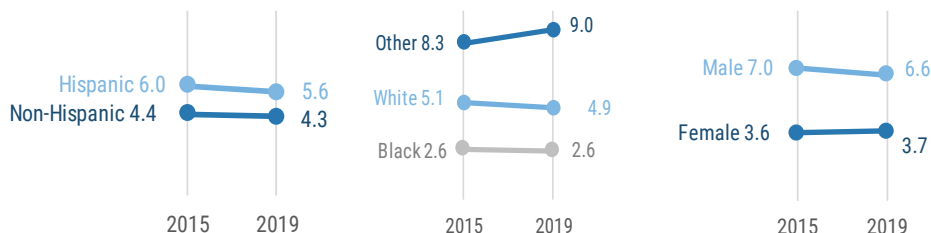
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	674 (68.4)	4.3
Hispanic	312 (31.6)	5.6
Unknown ethnicity	102	

The giardiasis rate (per 100,000 population) is consistently highest in children 1 to 4 years old and children 5 to 9 years old, which remained true in 2019.



In 2019, the giardiasis rate (per 100,000 population) increased in other races and females compared to 2015. The increase was most notable in other races.



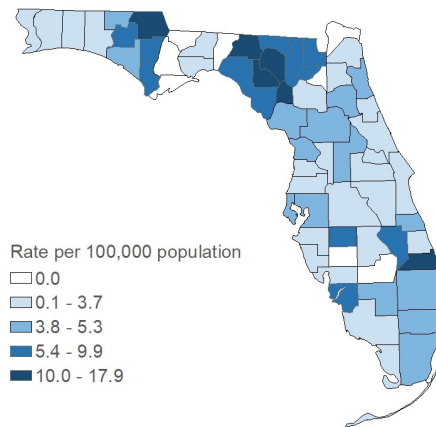
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute giardiasis cases were missing 7.7% of ethnicity data in 2015, 6.3% of race data in 2015, 9.4% of ethnicity data in 2019 and 7.9% of race data in 2019.

*For more information, visit <https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6403a2.htm>

Giardiasis, Acute

Summary	Number
Number of cases	1,088
Case Classification	Number (Percent)
Confirmed	1,049 (96.4)
Probable	39 (3.6)
Outcome	Number (Percent)
Hospitalized	147 (13.5)
Died	3 (0.3)
Sensitive Situation	Number (Percent)
Daycare	46 (4.2)
Health care	16 (1.5)
Food handler	15 (1.4)
Imported Status	Number (Percent)
Acquired in Florida	814 (86.8)
Acquired in the U.S., not Florida	24 (2.6)
Acquired outside the U.S.	100 (10.7)
Acquired location unknown	150
Outbreak Status	Number (Percent)
Sporadic	972 (91.6)
Outbreak-associated	89 (8.4)
Outbreak status unknown	27

Giardiasis occurs throughout the state. In 2019, rates (per 100,000 population) were consistently highest in small, rural counties.

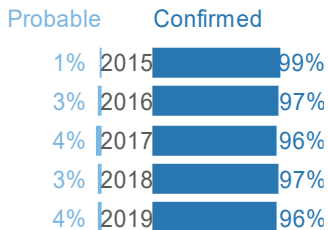


Rates are by county of residence for infections acquired in Florida (1,088 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

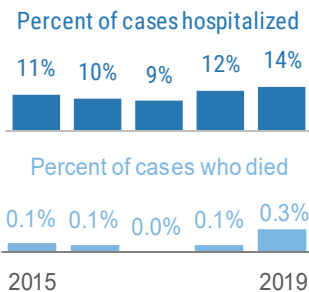


More Disease Trends

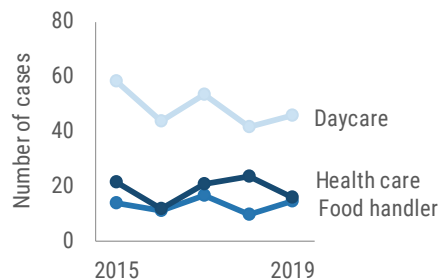
Most cases are confirmed. Probable cases are epidemiologically linked to confirmed cases.



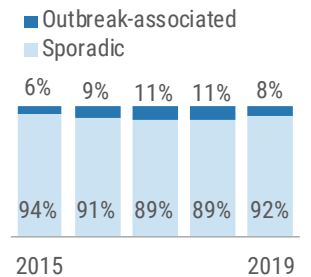
Between 9% and 14% of cases are hospitalized; deaths are very rare.



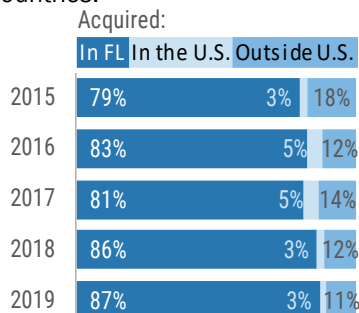
Cases in sensitive situations are monitored. People in sensitive situations may pose a risk for transmitting infection to others.



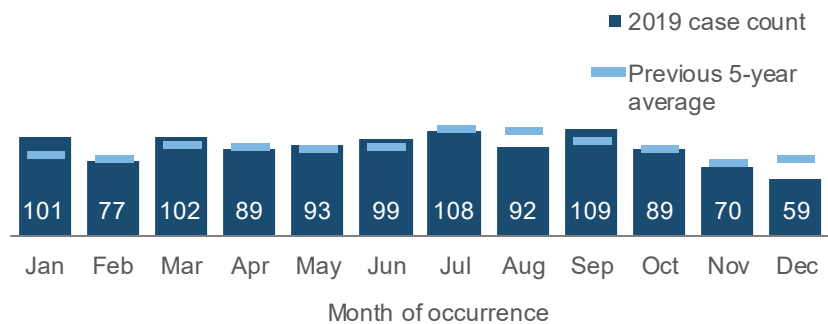
Outbreak-associated giardiasis cases typically reflect small household clusters.



Between 79% to 87% of giardiasis infections are acquired in Florida each year; some infections are acquired in other states and countries.



Giardiasis occurs throughout the year with a small increase in the summer and early fall months. In 2019, incidence was highest in July and September.



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 persons 15 to 24 years old. During 2015, this shifted for persons 20 to 24 years old, with more male than female patients in that age group 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) Sexually Transmitted Disease Surveillance Network 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 are used to identify at-risk subpopulations and better target prevention efforts for these groups.

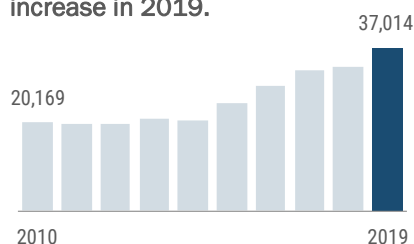
Disease Facts

-  **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 and evaluate treatment and prevention programs

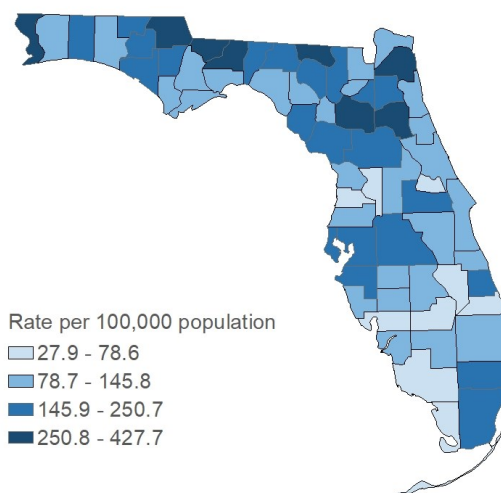


Disease Trends

Gonorrhea incidence continued to increase in 2019.



Gonorrhea occurs throughout the state. Higher rates (per 100,000 population) were clustered in the northern part of the state in 2019. The highest rates were in Gadsden (427.7), Duval (411.4), Leon (369.4), Hamilton (304.3) and Escambia (296.4) counties. These counties accounted for 17% of the state's cases but only 7.7% of the state's population.



Summary

Number of cases	37,014
Rate (per 100,000 population)	174.0
Change from 5-year average rate	+28.7%

Age (in Years)

Mean	29
Median	26
Min-max	1 - 94

Gender	Number (Percent)	Rate
Female	13,599 (36.8)	125.1
Male	23,403 (63.2)	225.1
Unknown gender	12	

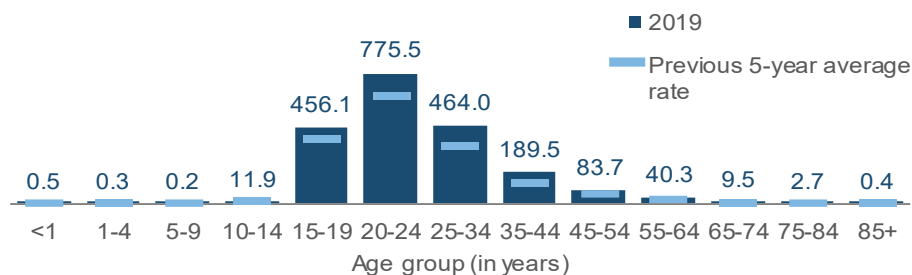
Race	Number (Percent)	Rate
White	12,061 (37.8)	73.4
Black	16,182 (50.7)	449.1
Other	3,643 (11.4)	297.3
Unknown race	5,128	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	25,223 (82.5)	160.8
Hispanic	5,361 (17.5)	96.0
Unknown ethnicity	6,430	

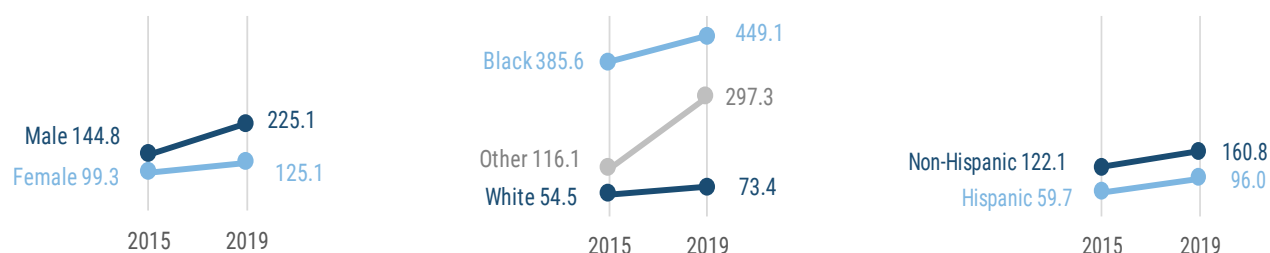
Rates are by county of residence, regardless of where infection was acquired (37,014 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

Gonorrhea (Excluding Neonatal Conjunctivitis)

Gonorrhea rates are highest in teenagers and adults 15 to 34 years old, peaking in adults 20 to 24 years old.

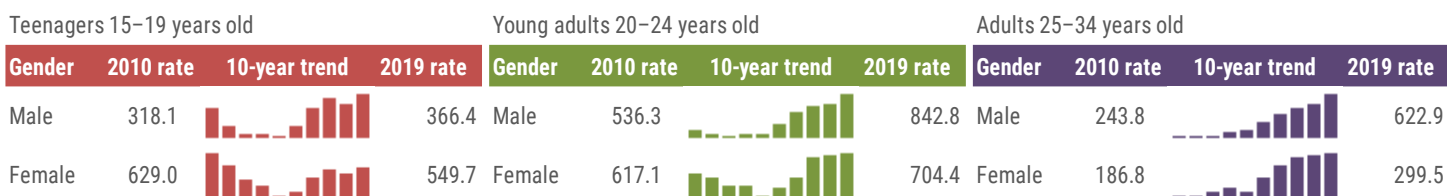


Gonorrhea rates (per 100,000 population) have increased in all genders, races and ethnicity groups from 2015 to 2019, but the most noticeable increase was in other races. The rates were almost seven times higher in blacks than whites in 2019. Rates are higher in males than females and higher in non-Hispanics than Hispanics.



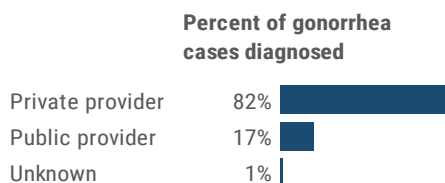
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Gonorrhea cases (excluding neonatal conjunctivitis) were missing 13.5% of ethnicity data in 2016 and 8.6% of race data in 2016.

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 4 years. In females, the rate has decreased from 10 years ago in people 15 to 19 years old but has increased in young adults and adults 20 to 34 years old.

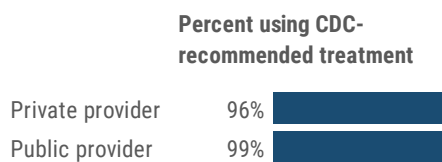


With the looming threat of antibiotic-resistant *Neisseria gonorrhoeae*, it is important that patients diagnosed with gonorrhea are treated with CDC-recommended antibiotics. Currently, ceftriaxone paired with azithromycin is the recommended treatment. Ceftriaxone is the last available antibiotic to treat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

In 2019, 82% of diagnosed gonorrhea cases in Florida were diagnosed at private providers' offices, while 17% were diagnosed in public providers' offices.



Public providers used CDC-recommended treatment more often than private providers in 2019. Common reasons for not receiving CDC-recommended treatment are drug allergies and medication cost.







Haemophilus influenzae Invasive Disease in Children <5 Years

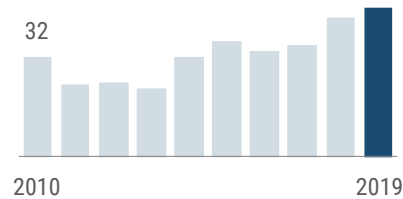
Key Points

There are 6 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. There were no cases of invasive Hib reported in 2019, consistent with no cases reported in 2018. *H. influenzae* invasive disease can sometimes result in serious complications and even death. There were 6 deaths among other *H. influenzae* cases in 2019, 4 of whom had nontypeable strains, 1 with a not type b strain and 1 with an unknown strain. No deaths in 2019 had *H. influenzae* meningitis or bacteremia listed as a cause of death on the death certificates.

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 48 invasive *H. influenzae* cases are reported each year in children <5 years old.



Disease Trends

Summary

Number of cases	48
Rate (per 100,000 population)	4.2
Change from 5-year average rate	+26.6%

Age (in Years)

Mean	1
Median	0
Min-max	0 - 4

Gender

	Number (Percent)	Rate
Female	25 (52.1)	4.5
Male	23 (47.9)	3.9
Unknown gender	0	

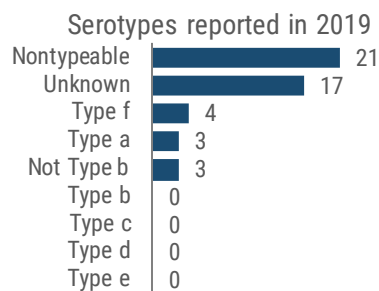
Race

	Number (Percent)	Rate
White	24 (54.5)	3.0
Black	15 (34.1)	NA
Other	5 (11.4)	NA
Unknown race	4	

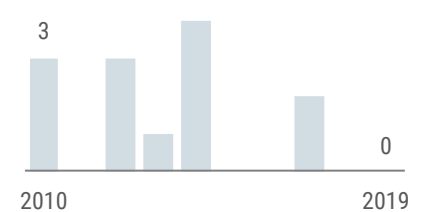
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	28 (68.3)	3.6
Hispanic	13 (31.7)	NA
Unknown ethnicity	7	

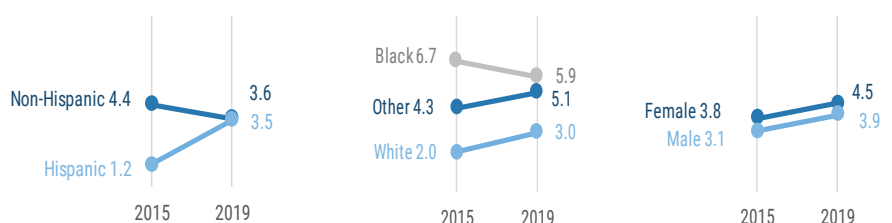
Many (44%) cases had nontypeable strains, followed by serotype f (8%); samples from 17 cases (35%) were not available for serotyping testing.



Number of Hib cases



The rate (per 100,000 population) of invasive *H. influenzae* in children <5 years old was higher in females than males and higher in non-Hispanics than Hispanics in 2019. The rate was highest in blacks, followed by other and then whites in 2019, though whites had the largest increase from 2015 to 2019.

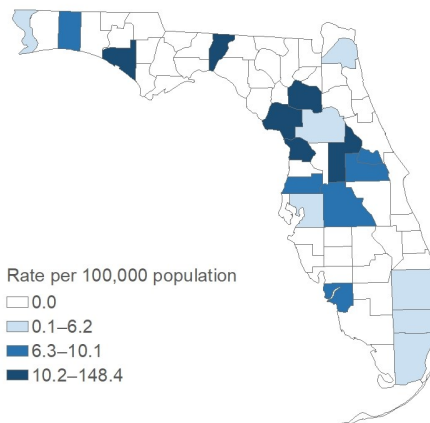


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. *H. influenzae* invasive disease cases in children less than 5 years old were missing 14.6% of ethnicity data in 2019 and 8.3% of race data in 2019.

Haemophilus influenzae Invasive Disease in Children <5 Years

Summary	Number
Number of cases	48
Case Classification	Number (Percent)
Confirmed	48 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	45 (93.8)
Died	6 (12.5)
Imported Status	Number (Percent)
Acquired in Florida	41 (100.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	7
Outbreak Status	Number (Percent)
Sporadic	44 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	4

Invasive *H. influenzae* cases in children <5 years old were identified in most areas of the state in 2019, but primarily in central Florida. The highest rates (per 100,000 population) were in small, rural counties.



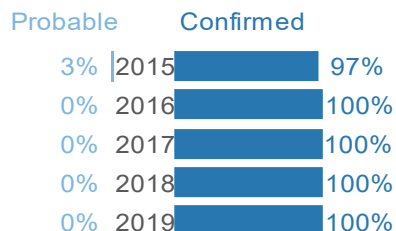
Rates are by county of residence for infections acquired in Florida (48 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.



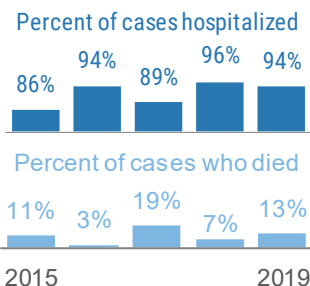
More Disease Trends

All cases were confirmed by culture or polymerase chain reaction (PCR) in 2019, which is consistent with past years.

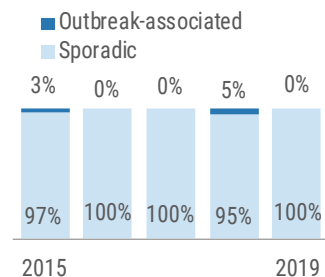
Probable cases are based on Hib antigen detection in cerebrospinal fluid, which is rare.



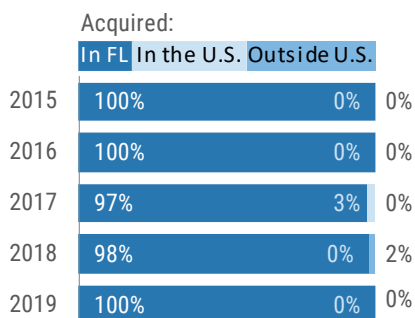
A large percentage of invasive *H. influenzae* cases in children <5 years old are hospitalized. Six children died in 2019.



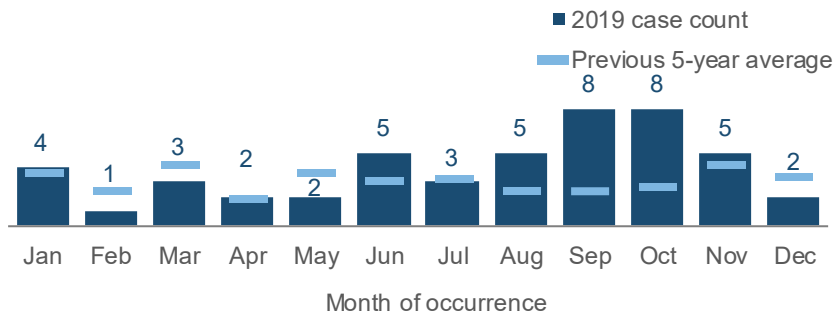
Almost all cases are sporadic. Outbreak-associated cases are usually vertical transmission from mother to infant.



Most infections are acquired in Florida. In 2019, all cases were acquired in Florida.



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 September and October in 2019.



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





Hansen's Disease (Leprosy)

Key Points

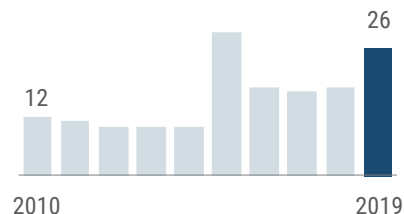
With early diagnosis and treatment, Hansen's disease can be cured. However, if left untreated, the nerve damage can be permanent. Leprosy was once feared as a highly contagious and devastating disease. However, it is now recognized that the disease is not spread through casual contact, and most people (about 95%) are resistant to infection. For those who do become infected, effective treatment is available. Historically, the disease was not thought to be endemic in Florida. More recently in Florida and other parts of the southern U.S., infections have been identified in both people and armadillos believed to have been exposed in the region.

Due to the long incubation period for Hansen's disease and a mobile population, location of exposure is often difficult to identify.

Disease Facts

-  **Caused by** *Mycobacterium leprae* bacteria
-  **Illness** mainly affects the skin (e.g., discolored patches of skin, nodules on the skin, ulcers on soles of feet), nerves (e.g., numbness in affected areas, muscle weakness or paralysis, enlarged nerves), and mucous membranes (e.g., stuffy nose, nosebleeds)
-  **Transmission** thought to be person-to-person via respiratory droplets following extended close contact with an infected person (still not clearly defined, but it is hard to spread)
-  **Under surveillance** to facilitate early diagnosis and appropriate treatment by an expert to minimize permanent nerve damage and prevent further transmission

Hansen's disease incidence increased in 2019.



Disease Trends

Summary

Number of cases	26
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+34.5%

Age (in Years)

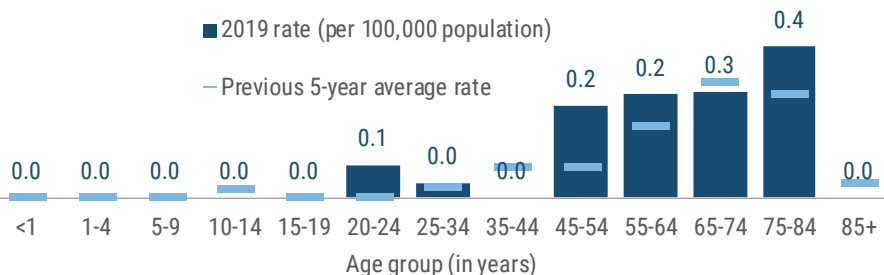
Mean	61
Median	62
Min-max	21 - 81

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

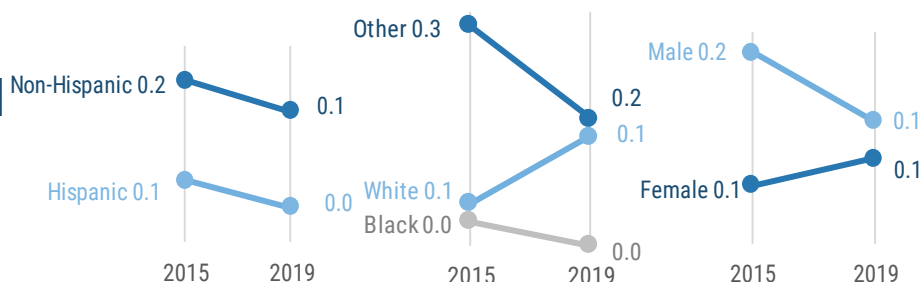
Race	Number (Percent)	Rate
White	23 (92.0)	0.1
Black	0 (0.0)	NA
Other	2 (8.0)	NA
Unknown race	1	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	21 (91.3)	0.1
Hispanic	2 (8.7)	NA
Unknown ethnicity	3	

The Hansen's disease rate (per 100,000 population) is consistently highest in adults over 55 years old. The increase in 2019 was most noticeable in those aged 75–84 years old.



The rates remained stable across the demographics from 2015–2019. Rates were highest in non-Hispanics, other races, and the same for males and females in 2019.

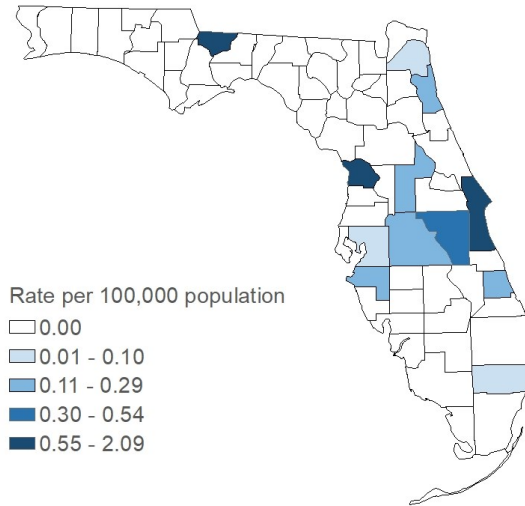


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hansen's disease (leprosy) cases were missing 11.5% of ethnicity data in 2019.

Hansen's Disease (Leprosy)

Summary	Number
Number of cases	26
Outcome	Number (Percent)
Hospitalized	0 (0.0)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	13 (86.7)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	2 (13.3)
Acquired location unknown	11
Outbreak Status	Number (Percent)
Sporadic	25 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	1

Hansen's disease cases occurred throughout the state in 2019, with the highest rates (per 100,000 population) in central Florida.

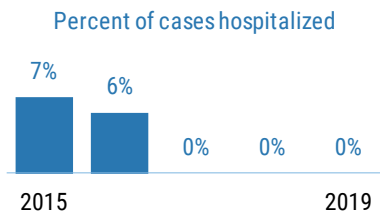


Rates are by county of residence, regardless of where infection was acquired (26 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

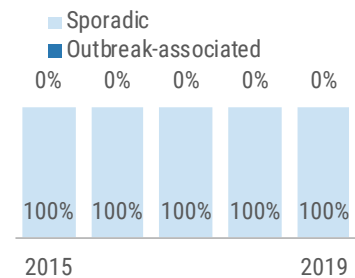


More Disease Trends

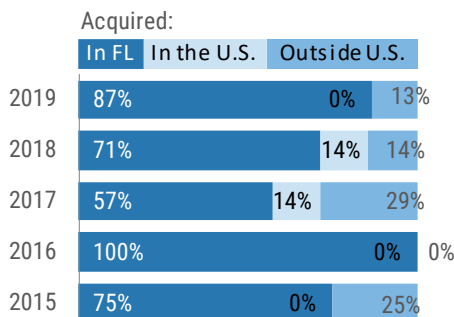
Hospitalizations and deaths due to Hansen's disease are rare. No cases were hospitalized or died due to the disease in 2019.



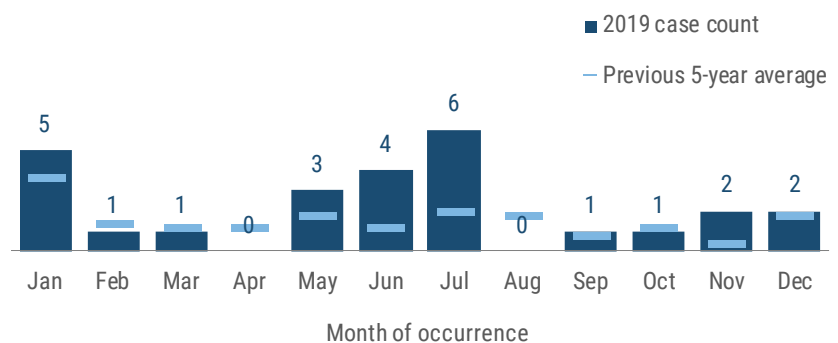
All cases were sporadic; no outbreak-associated cases were identified.



Most cases of Hansen's disease were acquired in Florida in 2019.



Hansen's disease cases occurred throughout the year in 2019. Peak activity occurred between May and July but cases were also seen in January.



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 substantially in 2019, with more than 3,000 cases reported. Most cases occurred in central Florida, with almost half (263 cases) reported in Pinellas, Hillsborough and Pasco counties. The majority of cases were in adults (median of 39 years old), males (63.8%), whites (88.5%) and non-Hispanics (92.6%).

In 2019, the most commonly reported risk factor was drug use in 57.8% of cases. Other risk factors included homelessness in 14% of cases and men who have sex with men in 24.3% of cases. No foodborne outbreaks of hepatitis A were reported in 2019.

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 2019 due to large outbreaks.



Disease Trends

Summary

Number of cases	3,392
Rate (per 100,000 population)	15.9
Change from 5-year average rate	+1,294.1%

Age (in Years)

Mean	42
Median	39
Min-max	1 - 93

Gender

	Number (Percent)	Rate
Female	1,227 (36.2)	11.3
Male	2,165 (63.8)	20.8
Unknown gender	0	

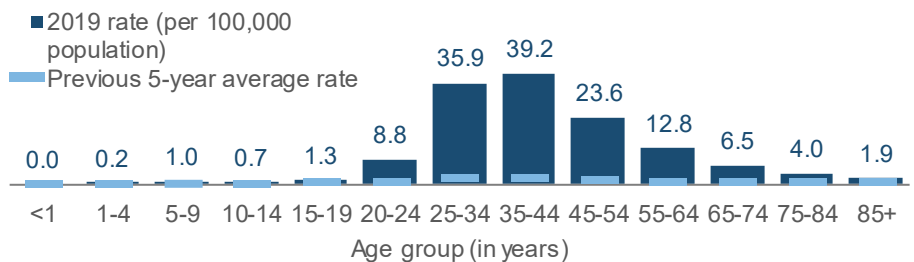
Race

	Number (Percent)	Rate
White	2,991 (88.5)	18.2
Black	205 (6.1)	5.7
Other	182 (5.4)	14.9
Unknown race	14	

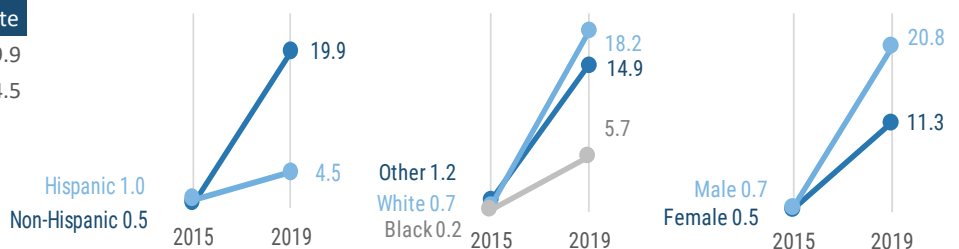
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	3,118 (92.6)	19.9
Hispanic	249 (7.4)	4.5
Unknown ethnicity	25	

The hepatitis A rate (per 100,000 population) is consistently highest in adults 25 to 44 years old. The increase in 2019 was most noticeable in this age group, but noticeable increases also occurred in adults 20 to 34 years old and 45 to 64 years old.



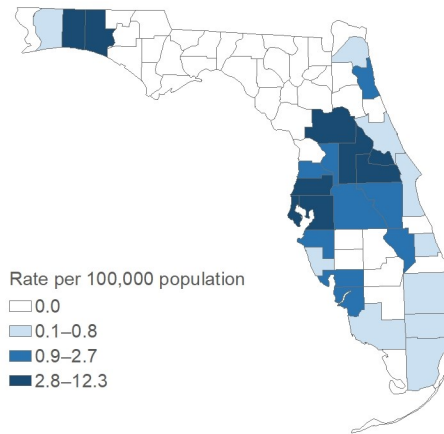
The increased hepatitis A incidence in 2019 was evident in rates (per 100,000 population) for all demographic groups, though most notably in males, whites, other races and non-Hispanics.



Hepatitis A

Summary	Number
Number of cases	3,392
Case Classification	Number (Percent)
Confirmed	3,392 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	2,641 (77.9)
Died	141 (4.2)
Sensitive Situation	Number (Percent)
Daycare	7 (0.2)
Health care	54 (1.6)
Food handler	139 (4.1)
Imported Status	Number (Percent)
Acquired in Florida	3,161 (98.4)
Acquired in the U.S., not Florida	12 (0.4)
Acquired outside the U.S.	38 (1.2)
Acquired location unknown	181
Outbreak Status	Number (Percent)
Sporadic	2,476 (73.7)
Outbreak-associated	882 (26.3)
Outbreak status unknown	34

Hepatitis A cases occurred throughout the state in 2019, with the highest rates (per 100,000 population) in central Florida.

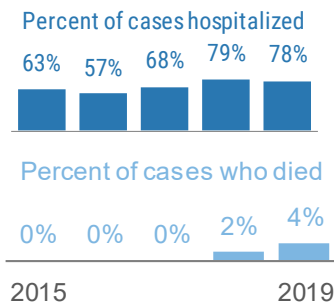


Rates are by county of residence for infections acquired in Florida (3,392 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

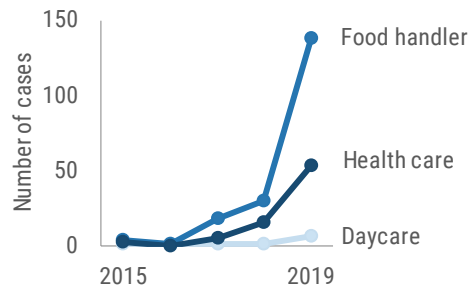


More Disease Trends

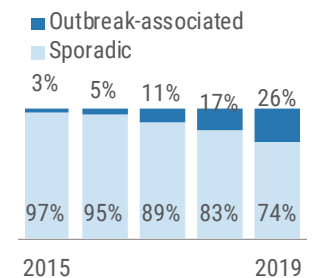
Each year, 50% to 80% of hepatitis A cases are hospitalized, though deaths are uncommon in otherwise healthy individuals.



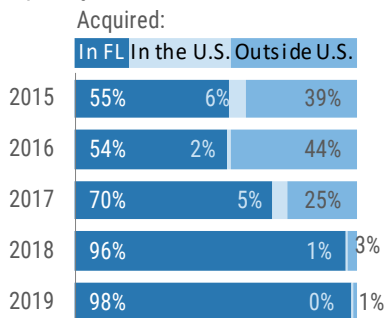
The increase in cases resulted in more infections in persons in sensitive situations, including food handlers and health care workers. However, no outbreaks were reported as a result of these infections.



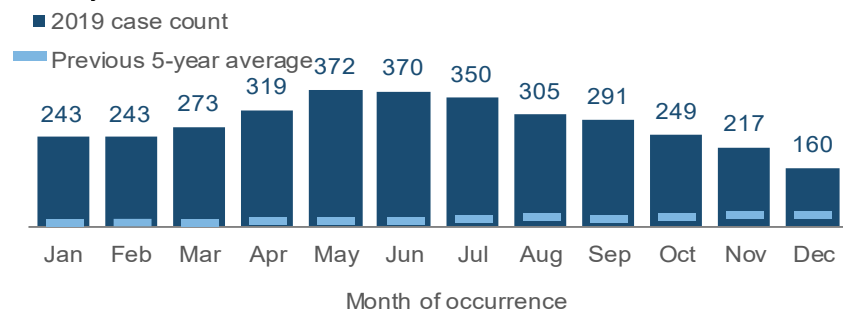
More outbreak-associated cases were identified in 2018 and 2019 than previous years.



A larger proportion of infections were acquired in Florida in 2019 compared to past years.



In 2019, the number of cases was highest in the summer months, but case counts substantially exceeded the previous five-year average in each month of the year.



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

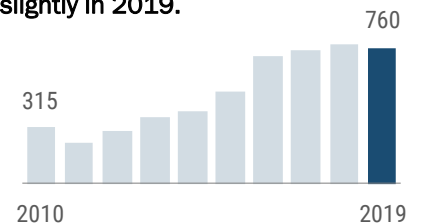
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis B from chronic diagnoses, making surveillance challenging. Incidence has increased over the last decade despite increased vaccination. The identified increase is likely due to several factors, including an enhanced surveillance project focusing on hepatitis infections in young adults 18 to 25 years old, 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.

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.

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 (may 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 cases decreased slightly in 2019.



Disease Trends

Summary

Number of cases	760
Rate (per 100,000 population)	3.6
Change from 5-year average rate	+14.8%

Age (in Years)

Mean	48
Median	46
Min-max	14 - 96

Gender

	Number (Percent)	Rate
Female	285 (37.5)	2.6
Male	475 (62.5)	4.6
Unknown gender	0	

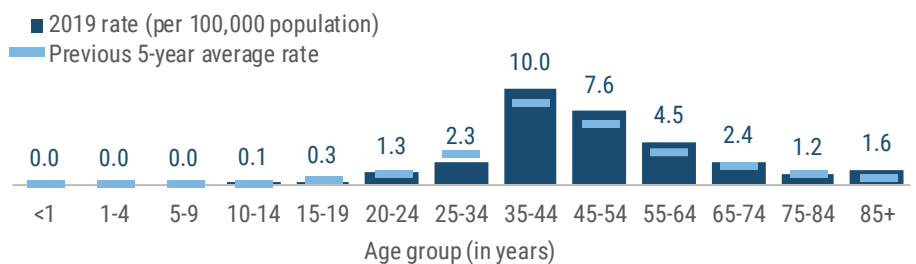
Race

	Number (Percent)	Rate
White	549 (75.7)	3.3
Black	106 (14.6)	2.9
Other	70 (9.7)	5.7
Unknown race	35	

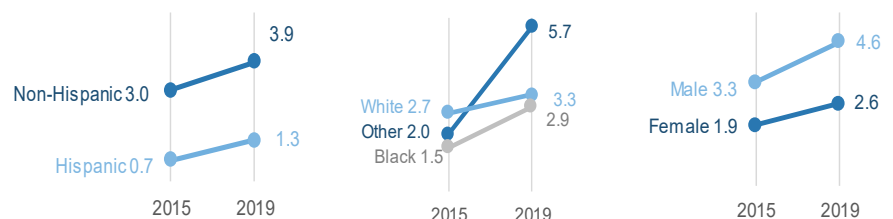
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	613 (89.1)	3.9
Hispanic	75 (10.9)	1.3
Unknown ethnicity	72	

The acute hepatitis B rate (per 100,000 population) is consistently highest in adults 35 to 44 years old and decreases steadily with age. The rate in adults 25 to 34 years old was lower in 2019 than the previous five-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 2019, rates were similar in blacks and whites but notably higher in other races.

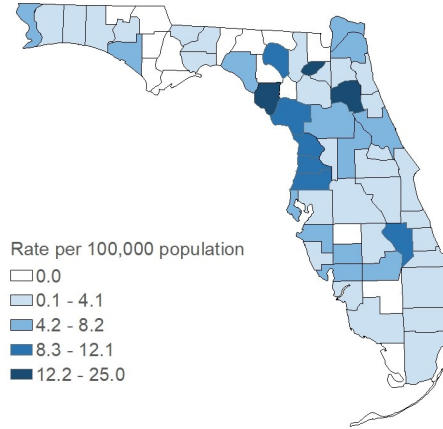


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis B cases were missing 7.5% of ethnicity data in 2015 and 9.5% of ethnicity data in 2019.

Hepatitis B, Acute

Summary	Number
Number of cases	760
Case Classification	Number (Percent)
Confirmed	596 (78.4)
Probable	164 (21.6)
Outcome	Number (Percent)
Hospitalized	446 (58.7)
Died	21 (2.8)
Imported Status	Number (Percent)
Acquired in Florida	544 (97.5)
Acquired in the U.S., not Florida	4 (0.7)
Acquired outside the U.S.	10 (1.8)
Acquired location unknown	202
Outbreak Status	Number (Percent)
Sporadic	592 (96.6)
Outbreak-associated	21 (3.4)
Outbreak status unknown	147

Acute hepatitis B cases occurred in most parts of the state in 2019, though less commonly in the central and eastern parts of the Florida Panhandle. The rates (per 100,000 population) were highest in primarily small, rural counties across the rest of the state.



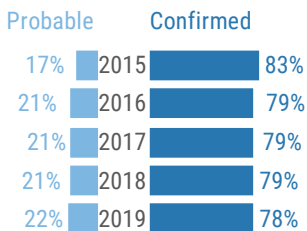
Rates are by county of residence, regardless of where infection was acquired (760 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

In 2019, 21 outbreak-associated cases were identified, including 14 (67%) pairs of acute cases. Seven (33%) cases were linked to chronic hepatitis B cases, 5 (24%) cases were linked to household contacts and 16 (76%) cases were epidemiologically linked to sexual contacts.

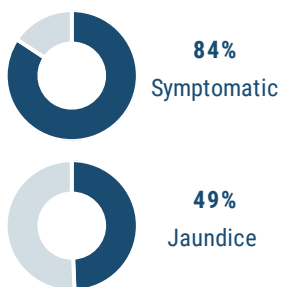


More Disease Trends

More than 75% of cases are confirmed each year. In 2019, 97% of cases were investigated.



Over 80% of acute hepatitis B cases reported in 2019 were symptomatic, but fewer than half had jaundice.

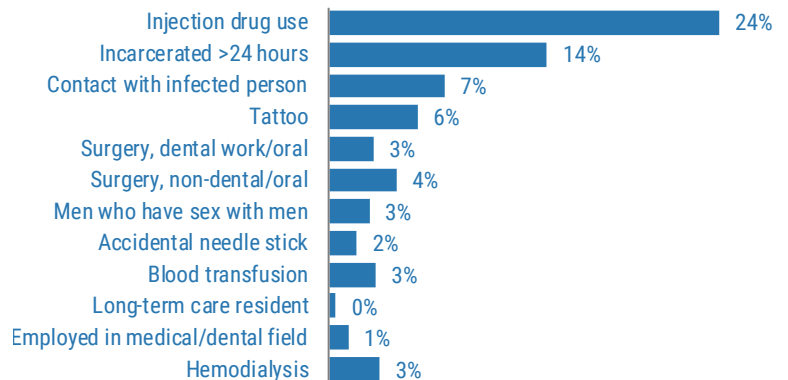


Most acute hepatitis B cases tested positive for hepatitis B surface antigen and IgM antibody to hepatitis B core antigen. The IgM antibody is an indicator of acute infection.

Test type	Percent of cases	Test interpretation
Hepatitis B surface antigen	82%	Acute or chronic HBV infection, no immunity developed
Hepatitis B core antibody, IgM	78%	HBV is multiplying
Hepatitis B DNA	42%	HBV has stopped multiplying
Hepatitis B core antibody, total	23%	Amount of HBV in blood
Hepatitis B e antigen	22%	Acute HBV infection
Hepatitis B e antibody	10%	Immunity to HBV
Hepatitis B surface antibody	10%	Hepatitis B core antibody, IgM

Similar to past years, the most common risk factors for hepatitis B infection reported in 2019 included injection drug use, non-injection drug use and incarceration.

Reported risk factors within six months of infection



Hepatitis B, Chronic

Key Points

Hepatitis B incidence is highest among adults 35 to 44 years old. 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, logic within the surveillance application and expansion of reporting requirements are believed to have improved case ascertainment. 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. Electronic laboratory reporting (ELR) has continued to expand. Acute clinical symptoms or prior negative laboratory results are required to differentiate acute from chronic hepatitis B. 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. Chronic cases are not required to be investigated.

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

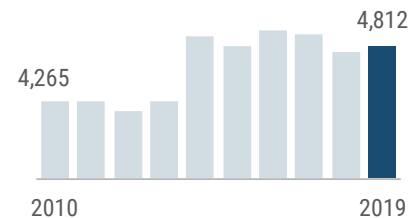


Transmitted via blood exposure, anal or vaginal sex, percutaneous exposure (e.g., tattooing, needle sticks) or from mother to child during pregnancy or delivery



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

Summary

Number of cases	4,812
Rate (per 100,000 population)	22.6
Change from 5-year average rate	-6.2%

Age (in Years)

Mean	48
Median	47
Min-max	1 - 97

Gender

	Number (Percent)	Rate
Female	2,059 (42.9)	18.9
Male	2,745 (57.1)	26.4
Unknown gender	8	

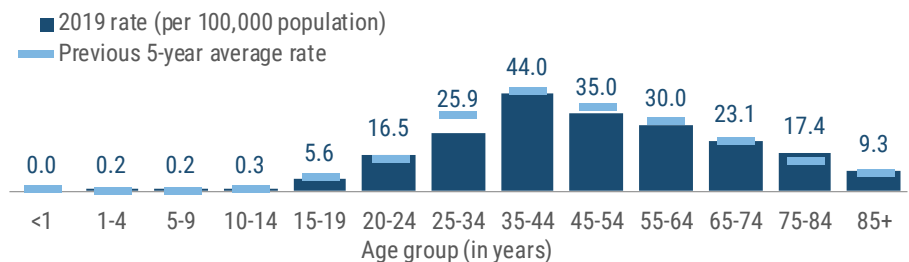
Race

	Number (Percent)	Rate
White	1,740 (51.0)	10.6
Black	953 (27.9)	26.4
Other	720 (21.1)	58.8
Unknown race	1,399	

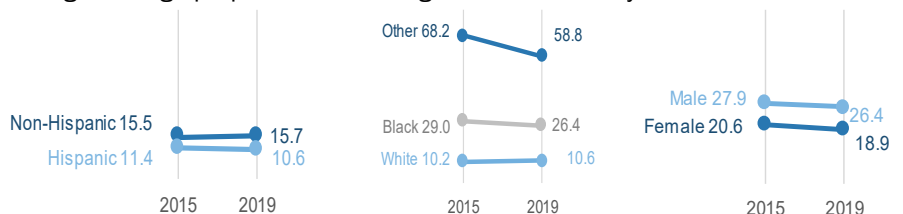
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	2,463 (80.7)	15.7
Hispanic	590 (19.3)	10.6
Unknown ethnicity	1,759	

Similar to acute hepatitis B, the rate (per 100,000 population) of chronic hepatitis B was highest in adults 35 to 44 years old. The rate in adults 25 to 34 years old was lower in 2019 than the previous five-year average.



Chronic hepatitis B rates (per 100,000 population) are similar by gender and ethnicity groups, though rates vary by race. Few chronic cases were investigated, resulting in a large proportion of missing race and ethnicity data.

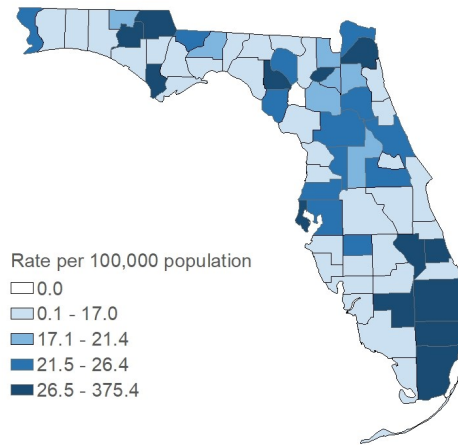


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis B cases were missing 40.2% of ethnicity data in 2015, 32.2% of race data in 2015, 36.6% of ethnicity data in 2019 and 29.1% of race data in 2019.

Hepatitis B, Chronic

Summary	Number
Number of cases	4,812
Case Classification	Number (Percent)
Confirmed	2,284 (47.5)
Probable	2,528 (52.5)
Outcome	Number (Percent)
Hospitalized	215 (4.5)
Died	23 (0.5)
Imported Status	Number (Percent)
Acquired in Florida	485 (96.2)
Acquired in the U.S., not Florida	1 (0.2)
Acquired outside the U.S.	18 (3.6)
Acquired location unknown	4,308
Outbreak Status	Number (Percent)
Sporadic	816 (99.3)
Outbreak-associated	6 (0.7)
Outbreak status unknown	3,990

Chronic hepatitis B occurred throughout the state in 2019, 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 (4,812 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 2019 by county.

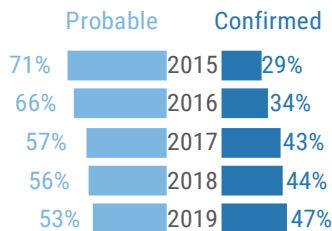


More Disease Trends

Most chronic hepatitis B cases tested positive for hepatitis B surface antigen. A small number of cases had immunoglobulin M 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, no immunity developed
Hepatitis B DNA	37%	HBV has stopped multiplying
Hepatitis B core antibody, total	27%	Acute HBV infection
Hepatitis B e antibody	15%	Immunity to HBV
Hepatitis B e antigen	10%	Amount of HBV in blood
Hepatitis B surface antibody	4%	HBV is multiplying
Hepatitis B core antibody, IgM	2%	Hepatitis B core antibody, IgM

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



In 2019, 276 chronic hepatitis B cases (5.7%) were also diagnosed with HIV. The majority of people with co-infections were male, black and 45 to 54 years old.

Gender	Percent of cases	Age group	Percent of cases
Male	86%	15–19	0.4%
Female	14%	20–24	2.0%
Race		25–34	11.7%
White	46%	35–44	21.8%
Black	49%	45–54	29.6%
Other	2%	55–64	28.4%
Unknown	4%	65–74	5.5%
		75–84	0.8%
		85+	0.0%

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.

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 ages 15 to 44 years old.

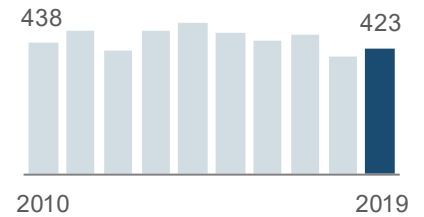
The 2016 National Immunization Survey estimates that HBV vaccination coverage for a birth dose administered from birth through 3 years old was 75% in the U.S. and 59% in Florida. Birthing hospitals have standing orders to administer the birth dose of the HBV vaccine; however, pediatricians sometimes 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 Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommends the birth dose be given 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 races category.

Disease Facts

-  **Caused** by hepatitis B virus (HBV)
-  **Illness** is acute or chronic; about 90% of children who are infected at birth or during the first year of life will become chronically infected
-  **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	423
Rate (per 100,000 population)	10.9
Change from 5-year average rate	-11.2%

Age (in Years)

Mean	32
Median	32
Min-max	17 - 49

Gender

Gender	Number (Percent)	Rate
Female	421 (100.0)	10.9
Male	0 (0.0)	NA
Unknown gender	2	

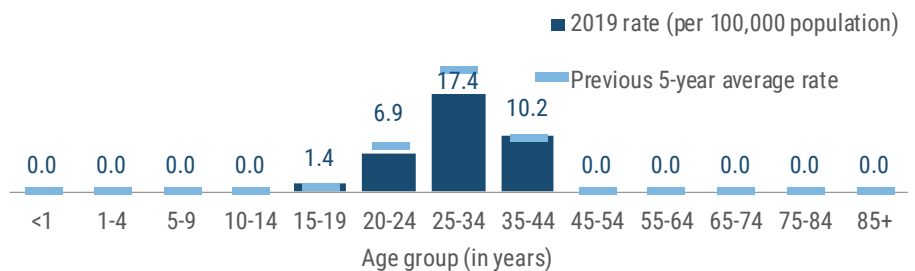
Race

Race	Number (Percent)	Rate
White	88 (24.3)	3.1
Black	153 (42.3)	19.1
Other	121 (33.4)	44.6
Unknown race	61	

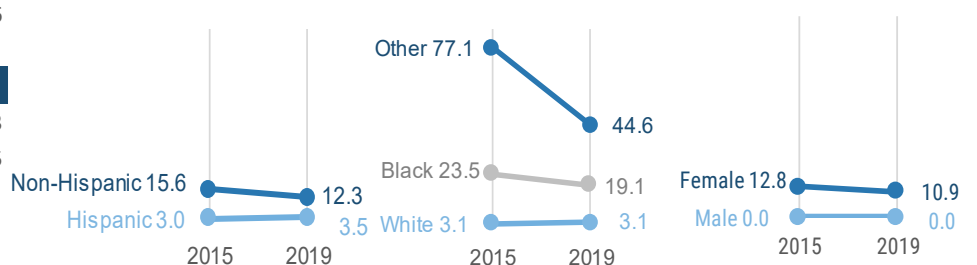
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	331 (89.0)	12.3
Hispanic	41 (11.0)	3.5
Unknown ethnicity	51	

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 childbearing age.



The HBV infection rate (per 100,000 population) in pregnant women decreased slightly across most demographics from 2014 to 2018, except in other races where the decrease was dramatic. The rate is highest in other races, followed by blacks and then whites, and higher in non-Hispanics than Hispanics.

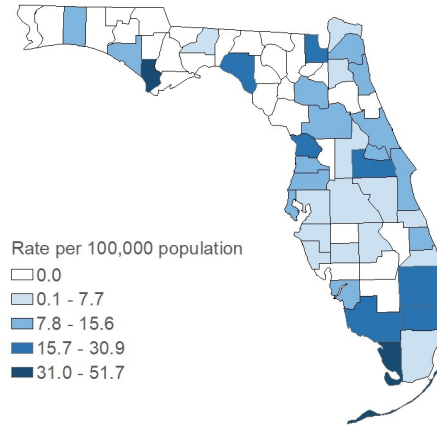


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis B surface antigen cases in pregnant women were missing 6.5% of ethnicity data in 2015, 6.1% of race data in 2015, 12.1% of ethnicity data in 2019 and 14.4% of race data in 2019.

Hepatitis B, Pregnant Women

Summary	Number
Number of cases	423
Outcome	Number (Percent)
Hospitalized	36 (8.5)
Died	2 (0.5)
Imported Status	Number (Percent)
Acquired in Florida	174 (59.6)
Acquired in the U.S., not Florida	2 (0.7)
Acquired outside the U.S.	116 (39.7)
Acquired location unknown	131

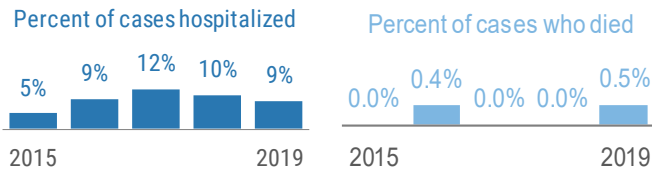
Similar to the distribution of chronic hepatitis B, the highest rates (per 100,000 population) of HBV infection in pregnant women are clustered in south Florida. Unlike chronic HBV infections, many counties in the Panhandle did not identify any HBV infections in pregnant women in 2019.



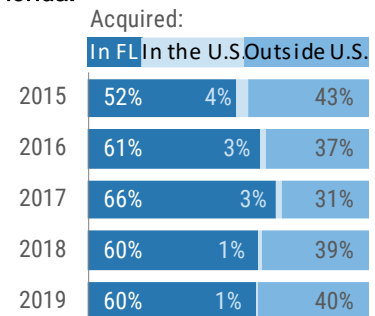
Rates are by county of residence, regardless of where infection was acquired (423 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

More Disease Trends

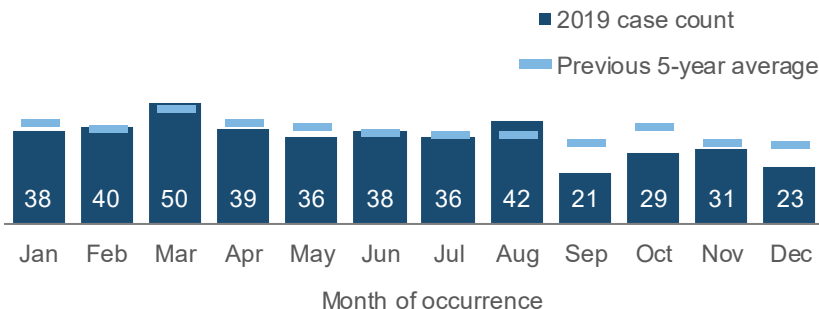
Between 5% and 12% of cases are hospitalized each year; deaths are rare. Two cases died in 2019.



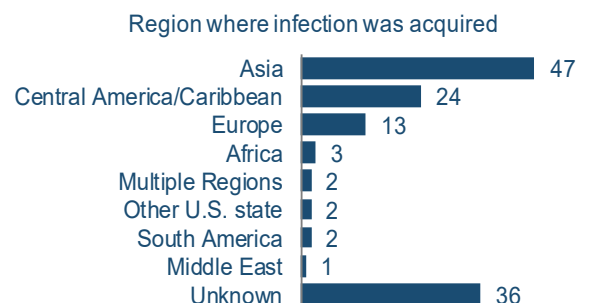
Generally, between 30% and 40% of infections are acquired outside Florida.



There is no seasonality to HBV infections in pregnant women. The number of cases that occurred in 2019 varied by month, from 21 cases in September to 50 cases in March.



For infections known to be acquired outside Florida, Asia and Central America/Caribbean are the most common regions where exposure occurred.







Hepatitis C, Acute

Key Points

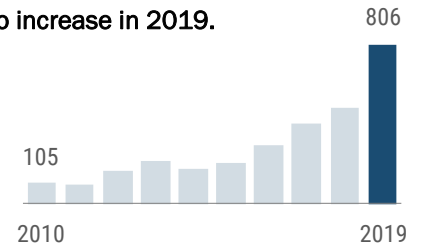
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis C from chronic diagnoses, making surveillance challenging. Incidence has increased since 2008, likely due to several factors, including a change in case definition in 2008, an enhanced surveillance 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.

New hepatitis C diagnoses are frequently associated with drug use and sharing of injection equipment. In 2019, most reported cases were sporadic. Thirteen outbreak-associated cases were identified, of which 11 (85%) were epidemiologically linked to a chronic hepatitis C case. Of the 13 outbreak-associated cases, 5 (38%) were epidemiologically linked through sexual contact, 5 (38%) through household contact and 1 (8%) was linked for other reasons.

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 2019.



Disease Trends

Summary

Number of cases	806
Rate (per 100,000 population)	3.8
Change from 5-year average rate	+144.1%

Age (in Years)

Mean	41
Median	38
Min-max	14 - 89

Gender

	Number (Percent)	Rate
Female	294 (36.6)	2.7
Male	509 (63.4)	4.9
Unknown gender	3	

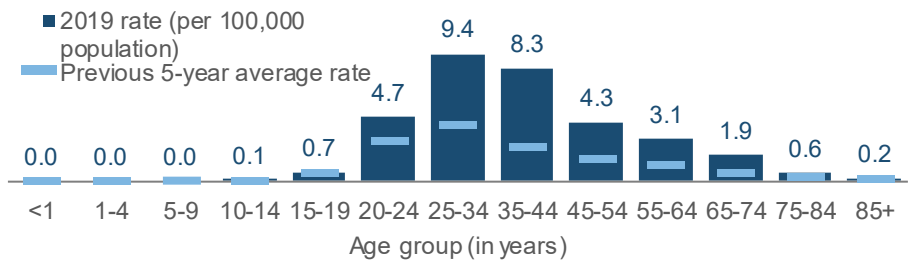
Race

	Number (Percent)	Rate
White	631 (81.9)	3.8
Black	72 (9.4)	2.0
Other	67 (8.7)	5.5
Unknown race	36	

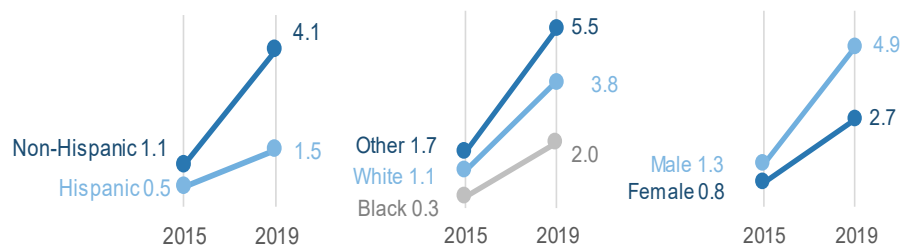
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	644 (88.5)	4.1
Hispanic	84 (11.5)	1.5
Unknown ethnicity	78	

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 ages 25 to 34 years old, followed by adults 35 to 44 years old. In 2019, rates in all adult age groups exceeded the previous five-year average.



The acute hepatitis C rates (per 100,000 population) increased across all age, race and ethnicity groups from 2015 to 2019. The rate was higher in males compared to females, higher in non-Hispanics compared to Hispanics and higher in whites and other races compared to blacks.

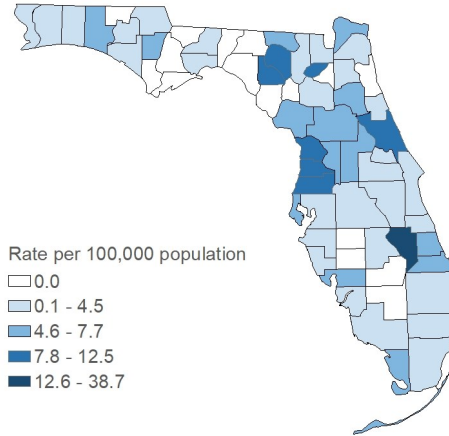


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis C cases were missing 9.0% of ethnicity data in 2015 and 9.7% of ethnicity data in 2019.

Hepatitis C, Acute

Summary	Number
Number of cases	806
Case Classification	Number (Percent)
Confirmed	599 (74.3)
Probable	207 (25.7)
Outcome	Number (Percent)
Hospitalized	368 (45.7)
Died	11 (1.4)
Imported Status	Number (Percent)
Acquired in Florida	536 (99.3)
Acquired in the U.S., not Florida	3 (0.6)
Acquired outside the U.S.	1 (0.2)
Acquired location unknown	266
Outbreak Status	Number (Percent)
Sporadic	645 (98.0)
Outbreak-associated	13 (2.0)
Outbreak status unknown	148

Acute hepatitis C cases were reported in most parts of the state in 2019, though less commonly in the central and eastern parts of the Florida Panhandle. The highest rates (per 100,000 population) occurred in small, rural counties across the state.

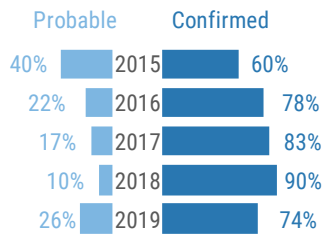


Rates are by county of residence, regardless of where infection was acquired (806 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

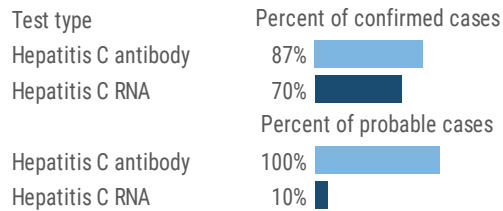


More Disease Trends

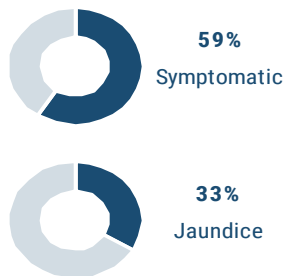
Over half of acute hepatitis C cases are confirmed each year. In 2019, 96% of cases were investigated.



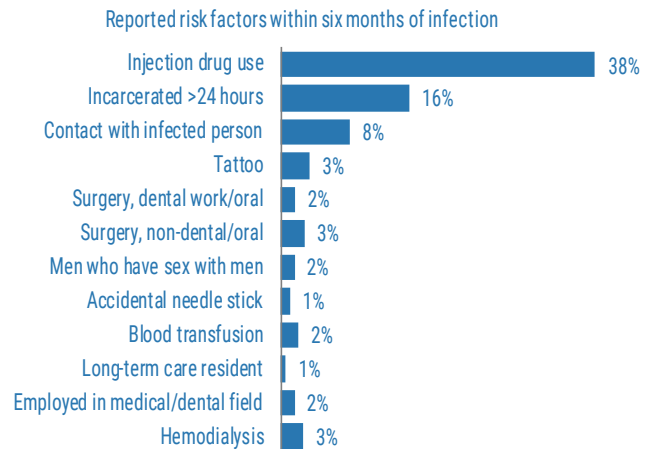
Almost all confirmed cases of acute hepatitis C were positive for hepatitis C antibody and most were positive for hepatitis C RNA. Only a small portion of probable cases were positive for hepatitis C RNA.



Fifty-nine percent of acute hepatitis C cases reported in 2019 were symptomatic, but only 33% had jaundice.



Similar to past years, the most common risk factors for hepatitis C infection reported in 2019 included injection drug use, non-injection drug use and incarceration.







Hepatitis C, Chronic (Including Perinatal)

Key Points

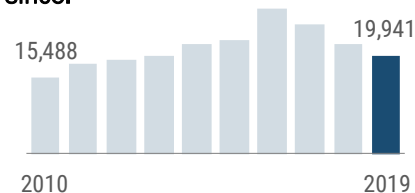
Hepatitis C incidence is highest among adults 25 to 34 years old. Changes in treatment options for HCV have led to an increased focus on identifying HCV infections. Given the large burden of chronic hepatitis and limited county resources, there have been concerns regarding data completeness and case ascertainment. Earlier data are less reliable. Over the past few years, improvements in electronic laboratory reporting, 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 from chronic hepatitis C. 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.

Chronic cases are not required to be investigated. 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% to 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 but has decreased each year since.



Disease Trends

Summary

Number of cases	19,941
Rate (per 100,000 population)	93.8
Change from 5-year average rate	-23.2%

Age (in Years)

Mean	45
Median	43
Min-max	0 - 100

Gender

	Number (Percent)	Rate
Female	6,990 (35.1)	64.3
Male	12,913 (64.9)	124.2
Unknown gender	38	

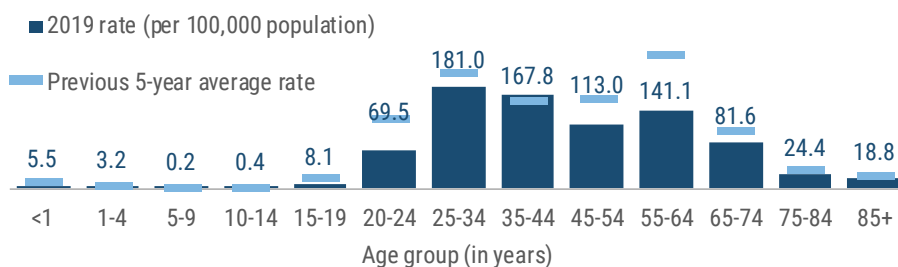
Race

	Number (Percent)	Rate
White	12,401 (80.1)	75.4
Black	1,686 (10.9)	46.8
Other	1,399 (9.0)	114.2
Unknown race	4,455	

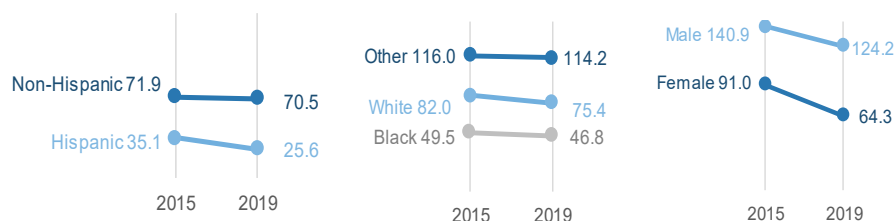
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	11,058 (88.5)	70.5
Hispanic	1,431 (11.5)	25.6
Unknown ethnicity	7,452	

The rate of chronic hepatitis C (per 100,000 population) was highest in adults 25 to 34 years old.



The chronic hepatitis C rate (per 100,000 population) was higher in males than females and higher in non-Hispanics than Hispanics. Rates were lower in blacks than in whites and other races. Few chronic cases were investigated, resulting in a large proportion of missing race and ethnicity data.

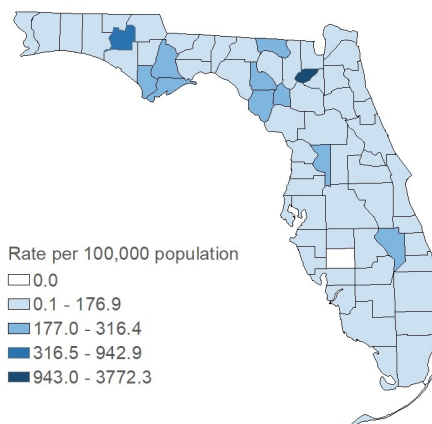


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis C cases (including perinatal) were missing 45.5% of ethnicity data in 2015, 32.3% of race data in 2015, 37.4% of ethnicity data in 2019 and 22.3% of race data in 2019.

Hepatitis C, Chronic (Including Perinatal)

Summary	Number
Number of cases	19,941
Case Classification	Number (Percent)
Confirmed	14,461 (72.5)
Probable	5,480 (27.5)
Outcome	Number (Percent)
Hospitalized	1,101 (5.5)
Died	40 (0.2)
Imported Status	Number (Percent)
Acquired in Florida	2,483 (99.0)
Acquired in the U.S., not Florida	21 (0.8)
Acquired outside the U.S.	3 (0.1)
Acquired location unknown	17,434
Outbreak Status	Number (Percent)
Sporadic	4,279 (98.5)
Outbreak-associated	64 (1.5)
Outbreak status unknown	15,598

Chronic hepatitis C occurred throughout the state in 2019 with the highest rates in small counties in northern and central Florida, particularly in the Panhandle.

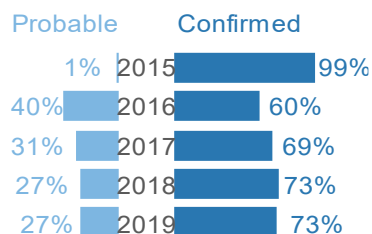


Rates are by county of residence, regardless of where infection was acquired (19,941 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

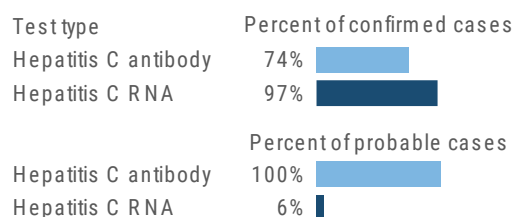


More Disease Trends

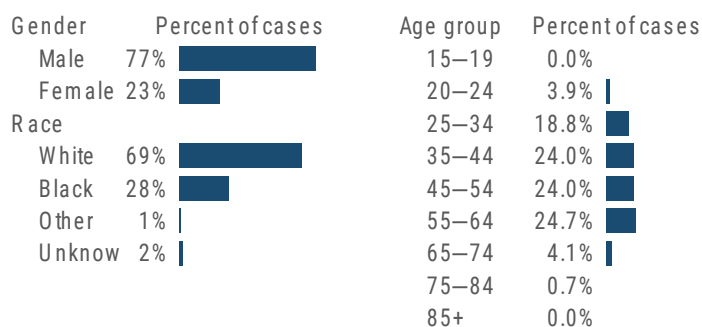
Almost 75% of chronic hepatitis C cases were confirmed in 2019. The probable case classification expanded in 2016, resulting in an increase in probable cases.



Almost all confirmed cases of chronic hepatitis C were positive for hepatitis C ribonucleic acid (RNA) and most were positive for hepatitis C antibody in 2019. Only a small portion of probable cases were positive for hepatitis C RNA.



In 2019, 423 (2.1%) chronic hepatitis C cases were also diagnosed with HIV. The majority of people with co-infections were male, white and 55 to 64 years old.



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.

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.

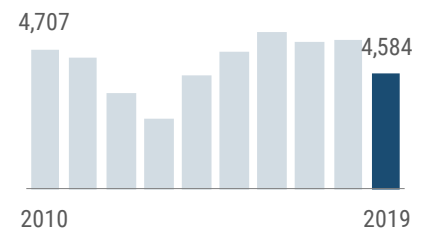
HIV incidence (new diagnoses) has been gradually decreasing over the past five years, representing a two percent decline from 2015–2019. Rates are consistently highest in adults 20 to 34 years old. In 2019, male-to-male sexual contact continued to account for most (75%) HIV diagnoses among males.

Untreated, HIV can continue to weaken the immune system and develop into AIDS. Florida observed a 47% decrease in AIDS diagnoses from 2010 to 2019, as well as a 38% decrease in HIV-related deaths over that same time period. These trends suggest that 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 allow persons with HIV to live longer and have a more productive life.

Disease Facts

-  **Caused** by human immunodeficiency virus (HIV)
-  **Illness** is flu-like primary infection; AIDS (acquired immunodeficiency syndrome) is defined as HIV with CD4 count <200 cells/μL 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 decreasing over the past 5 years.



Disease Trends

Summary

Number of diagnoses	4,584
Rate (per 100,000 population)	21.6
Change from 5-year average rate	-7.5%

Age (in Years)

Mean	38
Median	35
Min-max	0 - 88

Gender

	Number (Percent)	Rate
Female	966 (21.1)	8.9
Male	3,618 (78.9)	34.8
Unknown gender	0	

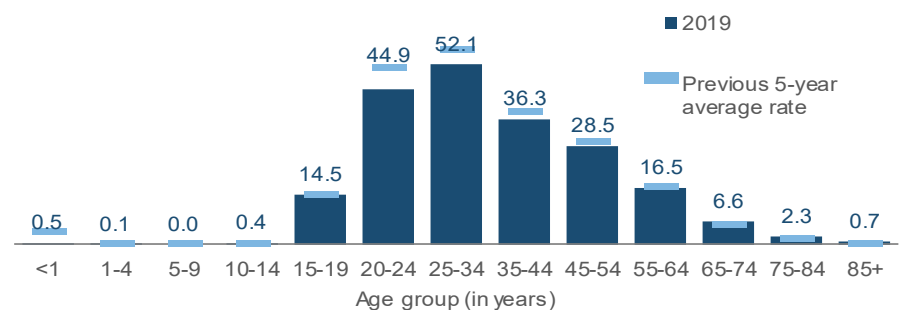
Race

	Number (Percent)	Rate
White	2,520 (56.6)	15.3
Black	1,868 (41.9)	51.8
Other	65 (1.5)	5.3
Unknown race	131	

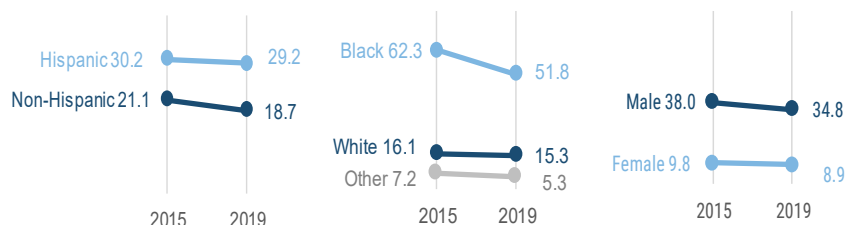
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	2,925 (64.2)	18.7
Hispanic	1,632 (35.8)	29.2
Unknown ethnicity	27	

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



In 2019, HIV incidence rates (per 100,000 population) were 3.9 times higher among males than females and 3.4 times higher among blacks than whites.



HIV/AIDS

Male-to-male sexual contact was the primary mode of exposure among males who received an HIV diagnosis in 2019 (75%) and heterosexual contact was the primary mode of exposure among females (89%).

Mode of exposure	Female		Male	
	Count	Percentage	Count	Percentage
Male-to-male sexual contact (MMSC)	NA	NA	2,711	74.9%
Heterosexual contact	860	89.0%	662	18.3%
Injection drug use (IDU)	102	10.6%	122	3.4%
MMSC and IDU	NA	NA	108	3.0%
Pediatric transmission	3	0.3%	5	0.1%
Transgender sexual contact	1	0.1%	10	0.3%
Total	966		3,618	

Note: Pediatric transmission includes perinatal exposure and pediatric diagnoses without a confirmed mode of exposure. Transgender sexual contact includes transgender males or females whose mode of exposure was sexual contact.

Race/ethnicity	Female	Male
White	3.6	15.9
Black	30.8	77.4
Hispanic	7.5	51.5

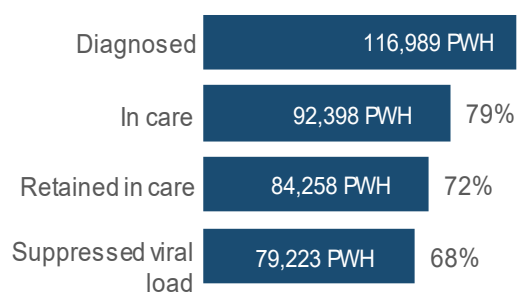
In 2019, the HIV incidence rate (per 100,000 population) among black females was 8.6 times higher than white females. The rate among black males was 4.9 times higher than white males,

while the rate in Hispanic males was 3.2 times higher than white males.

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). Persons with HIV (PWH) with a suppressed viral load (less than 200 copies/mL) are highly unlikely to transmit the virus.

There were 116,989 PWH in Florida in 2019, 72% of whom were retained in care and 68% of whom had a suppressed viral load.

Percent of persons with HIV (PWH)



HIV care continuum definitions

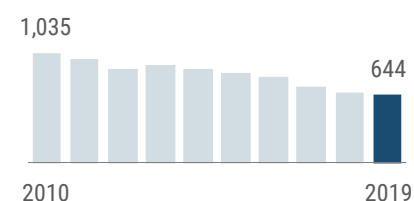
In care: documented HIV-related care at least once in 2019

Retained in care: documented HIV-related care at least two times, at least three months apart in 2019

Suppressed viral load: less than 200 copies/mL

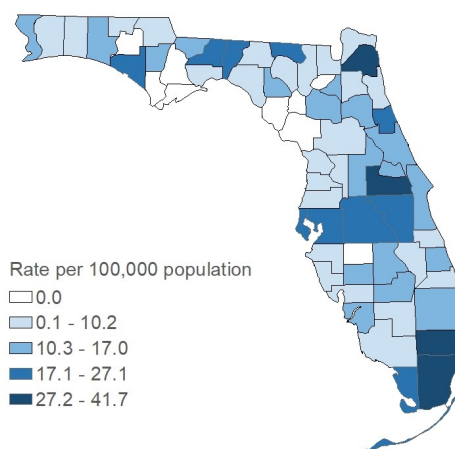
HIV was the ninth leading cause of death for people 24 to 44 years old in Florida in 2019. Following the advent of antiretroviral therapy, there has been an 85% decline in Florida resident deaths due to HIV from 1995 (4,336 deaths) to 2019 (644 deaths).

Deaths due to HIV decreased by 38% from 2010 to 2019 and by 3% since 2018 alone.



High HIV incidence rates (per 100,000 population) occurred in the central and southeastern parts of the state in 2019.

One-half (50%) of diagnoses were in 3 counties, including Miami-Dade (1,181 diagnoses), Broward (624 diagnoses) and Orange (474 diagnoses).



HIV diagnosis rates are by county of residence at diagnosis and exclude Florida Department of Corrections cases (4,584 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 2019 by county.

To access more information on HIV surveillance, visit [FloridaHealth.gov/diseases-and-conditions/aids/surveillance/index.html](https://www.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](https://www.floridahealth.gov/diseases-and-conditions/aids/index.html).

Lead Poisoning in Children <6 Years Old

Key Points

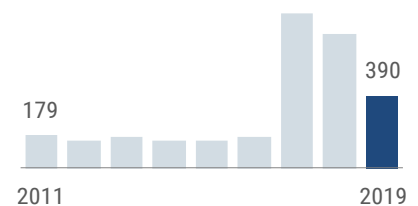
Lead poisoning is most often identified in children as part of routine screening. The Centers for Medicare and Medicaid Services requires blood lead screening for all Medicaid-enrolled children at 12 and 24 months old; if not previously screened, children must be screened between 24 and 72 months old. The Centers for Disease Control and Prevention recommends all children who are foreign-born or otherwise identified as high-risk be screened for lead. 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, toys or jewelry, parental occupations or hobbies involving lead and folk medicines or cosmetics from other countries.

In 2017, the Florida Department of Health changed the case definition 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 and later are presented here.

Disease Facts

- Caused by lead**
- Illness** includes a 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 case definition expansion. Incidence decreased in 2018 and 2019.



Disease Trends

Summary

Number of cases	390
Rate (per 100,000 population)	28.4
Change from 5-year average rate	-4.5%

Age (in Years)

Mean	2
Median	1
Min-max	0 - 5

Gender

	Number (Percent)	Rate
Female	170 (43.6)	25.3
Male	220 (56.4)	31.3
Unknown gender	0	

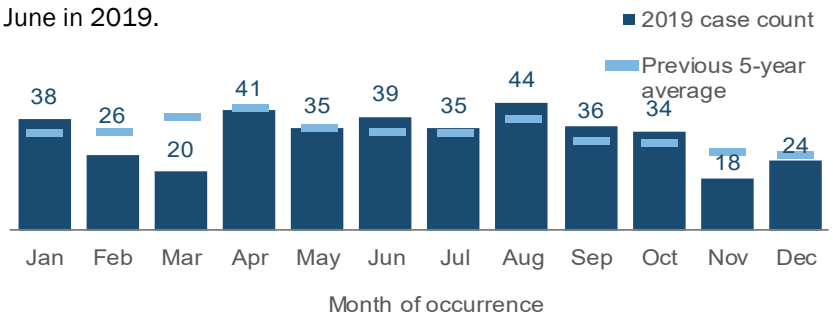
Race

	Number (Percent)	Rate
White	115 (37.6)	12.1
Black	94 (30.7)	30.7
Other	97 (31.7)	81.8
Unknown race	84	

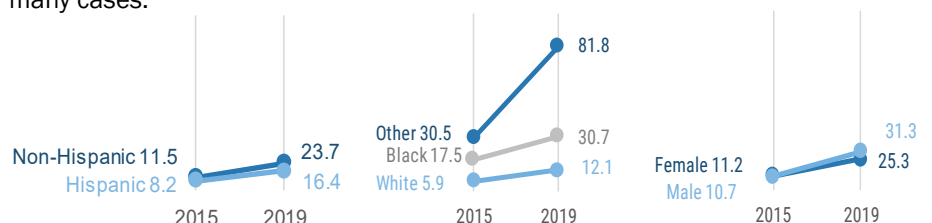
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	220 (75.1)	23.7
Hispanic	73 (24.9)	16.4
Unknown ethnicity	97	

Lead poisoning in children <6 years old occurs throughout the year, with no distinct seasonality. The highest number of cases were reported in August, April and June in 2019.



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. 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.

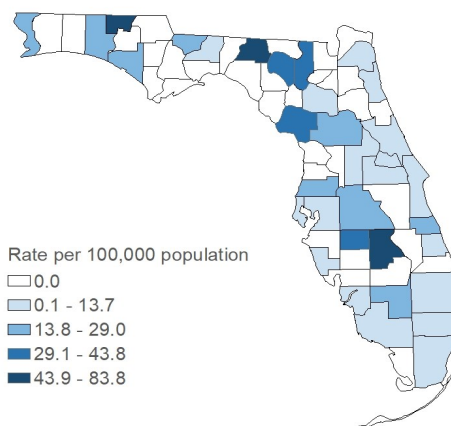


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in children less than 6 years old were missing 5.5% of ethnicity data in 2015, 24.9% of ethnicity data in 2019 and 21.5% of race data in 2019.

Lead Poisoning in Children <6 Years Old

Summary	Number
Number of cases	390
Outcome	Number (Percent)
Hospitalized	1 (0.3)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	147 (85.5)
Exposed in the U.S., not Florida	5 (2.9)
Exposed outside the U.S.	20 (11.6)
Exposed location unknown	218
Outbreak Status	Number (Percent)
Sporadic	167 (90.3)
Outbreak-associated	18 (9.7)
Outbreak status unknown	205
Age Group	Number (Percent)
Children (<6 years old)	390 (31.3)
Adult (?6 years old)	858 (68.8)

Lead poisoning in children <6 years old occurred in most parts of the state in 2019. The lead poisoning rates (per 100,000 population) are typically highest in small, rural counties.

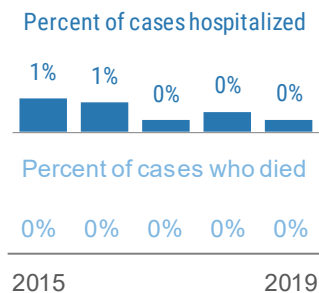


Rates are by county of residence for cases exposed in Florida (390 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

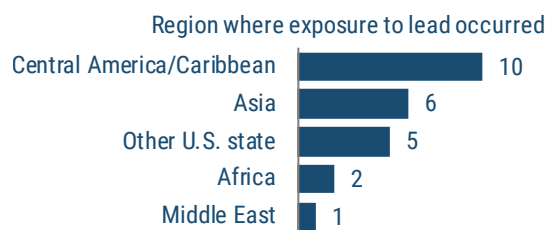
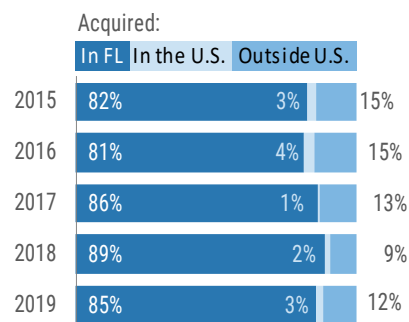


More Disease Trends

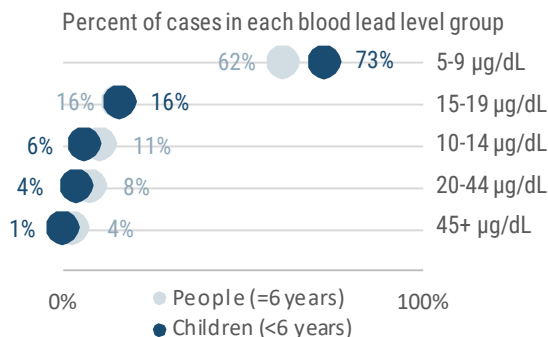
Hospitalizations and deaths in children <6 years old with lead poisoning are rare.



For cases known to be exposed outside Florida, Central America/Caribbean is the most common region where lead exposure occurred. The location of exposure was unknown for 79% of cases because 75% of cases had blood lead levels ≥ 5 and < 10 $\mu\text{g}/\text{dL}$ and were not investigated.

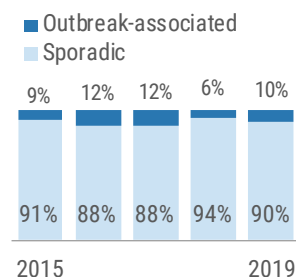


Children <6 years old have a larger proportion of cases with blood lead levels < 10 $\mu\text{g}/\text{dL}$ compared to adults (73% versus 62%, respectively). Lead poisoning cases in adults are primarily identified through occupational testing and they tend to have higher blood lead levels than children.



Most lead poisoning cases are sporadic. In 2019, there were 17 outbreak-associated cases associated with 7 different small household clusters, each ranging from 2 to 3 cases.

Common exposures included imported food and spices, lead-based paint, glazed countertop tiles and unknown sources of lead exposure.







Lead Poisoning in People ≥6 Years Old

Key Points

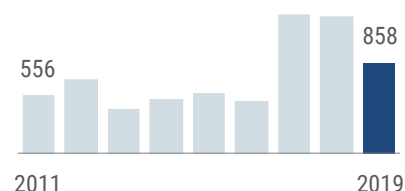
Adult lead poisoning is primarily caused by exposure to lead in the workplace or during certain activities where lead is used. High-risk occupations include battery manufacturing, painting, nonferrous smelting, radiator repair, scrap metal recycling, work at firing ranges and construction and renovation. High-risk activities include recreational target shooting, home remodeling, casting bullets and fishing weights, making stained glass and consuming traditional remedies. The Occupational Safety and Health Administration requires regular lead screening 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, the Florida Department of Health changed the case definition 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 57% of 2017 adult cases. Prior to 2010, lead poisoning case data were primarily stored outside Florida's reportable disease surveillance system; therefore, only cases from 2010 and later are presented here.

Disease Facts

-  **Caused by lead**
-  **Illness includes a 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 case definition expansion. Incidence decreased in 2019.



Disease Trends

Summary

Number of cases	858
Rate (per 100,000 population)	4.3
Change from 5-year average rate	-1.9%

Age (in Years)

Mean	42
Median	40
Min-max	6 - 94

Gender

	Number (Percent)	Rate
Female	113 (13.2)	1.1
Male	745 (86.8)	7.7
Unknown gender	0	

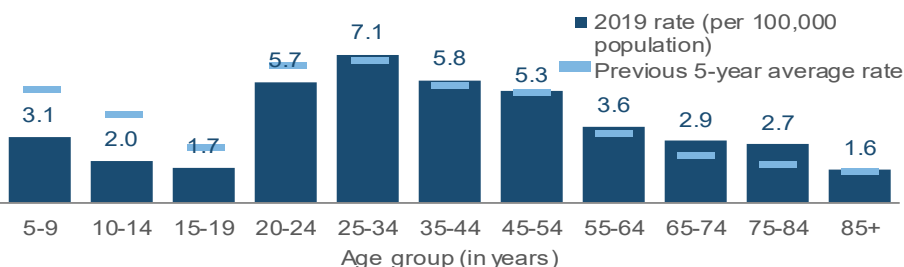
Race

	Number (Percent)	Rate
White	375 (67.4)	2.4
Black	76 (13.7)	2.3
Other	105 (18.9)	9.5
Unknown race	302	

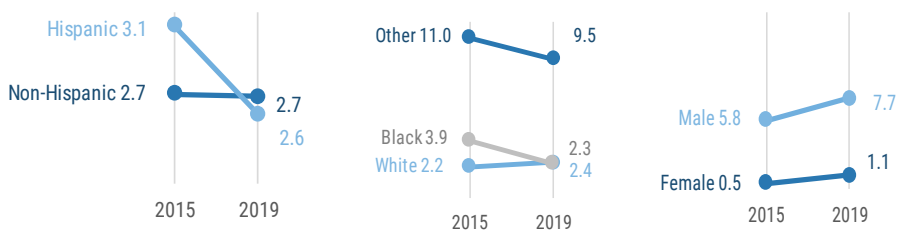
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	400 (74.9)	2.7
Hispanic	134 (25.1)	2.6
Unknown ethnicity	324	

The rate (per 100,000 population) of lead poisoning in people ≥ 6 years old is highest in adults 25 to 34 years old, followed by adults 35 to 44 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. Since 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.

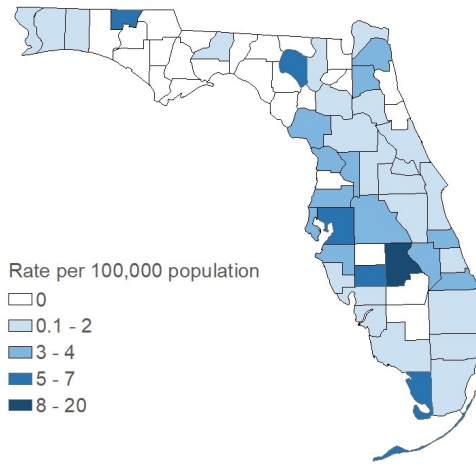


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in people more than 6 years old were missing 8.4% of ethnicity data in 2015, 6.1% of race data in 2015, 37.8% of ethnicity data in 2019 and 35.2% of race data in 2019.

Lead Poisoning in People ≥6 Years Old

Summary	Number
Number of cases	858
Outcome	Number (Percent)
Hospitalized	3 (0.3)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	276 (92.3)
Exposed in the U.S., not Florida	14 (4.7)
Exposed outside the U.S.	9 (3.0)
Exposed location unknown	559
Outbreak Status	Number (Percent)
Sporadic	321 (95.0)
Outbreak-associated	17 (5.0)
Outbreak status unknown	520
Age Group	Number (Percent)
Children (<6 years old)	390 (31.3)
Adult (≥6 years old)	858 (68.8)

Lead poisoning in people ≥6 years old occurred in most parts of the state in 2019, though there are fewer counties with cases in the Panhandle region.



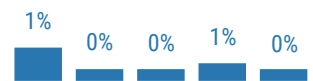
Rates are by county of residence for cases exposed in Florida (858 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.



More Disease Trends

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

Percent of cases hospitalized



Percent of cases who died

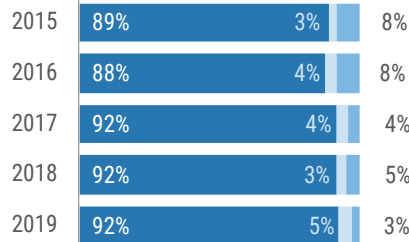


2015 2019

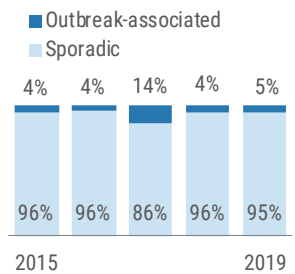
Of cases where the exposure location was known, most were exposed in Florida.

Acquired:

In FL In the U.S. Outside U.S.

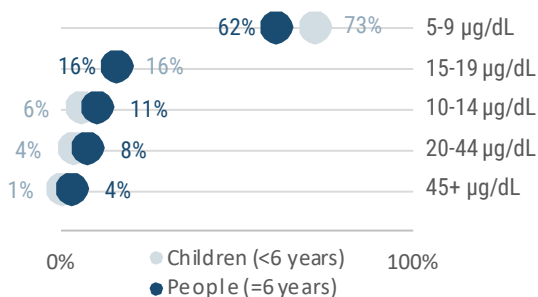


Most lead poisoning cases are sporadic. In 2019, 17 outbreak-associated cases were identified. Seven cases (41%) were exposed from working at a gun range.

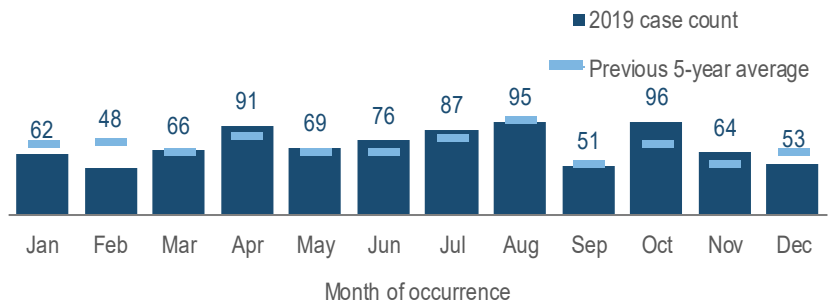


Lead poisoning cases in adults are primarily identified through occupational testing and they tend to have higher blood lead levels than children.

Percent of cases in each blood lead level group



Lead poisoning cases in people ≥6 years old occur throughout the year, with no distinct seasonality. The highest number of cases were reported in October, August and April in 2019.



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





Legionellosis

Key Points

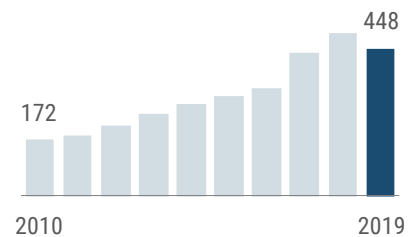
Recently identified sources of *Legionella* infection in Florida and the U.S. include decorative fountains, hot tubs, cooling towers (air conditioning units for large buildings) and potable water systems. Over the past decade, the increasing incidence in Florida is consistent with the increase observed nationally. This increase is likely due to a number of factors, including aging infrastructure and a greater percentage of the population age ≥ 64 years. Older adults and those with weakened immune systems are at highest risk for developing disease. While the incidence did not increase from 2018, the 2019 incidence remained higher than any other year in the past decade.

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 exposure 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 decreased slightly in 2019.



Disease Trends

Summary

Number of cases	448
Rate (per 100,000 population)	2.1
Change from 5-year average rate	+16.1%

Age (in Years)

Mean	64
Median	66
Min-max	25 - 99

Gender

Gender	Number (Percent)	Rate
Female	165 (36.9)	1.5
Male	282 (63.1)	2.7
Unknown gender	1	

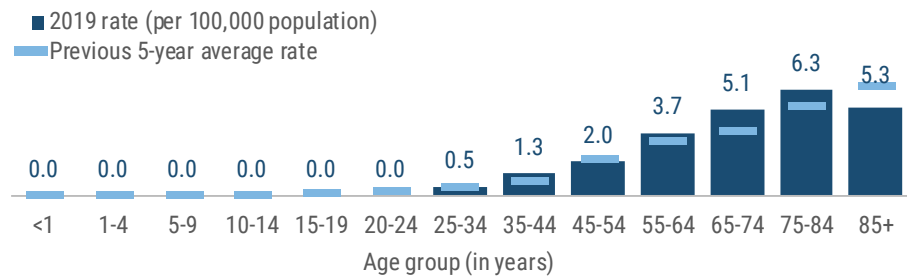
Race

Race	Number (Percent)	Rate
White	339 (76.4)	2.1
Black	73 (16.4)	2.0
Other	32 (7.2)	2.6
Unknown race	4	

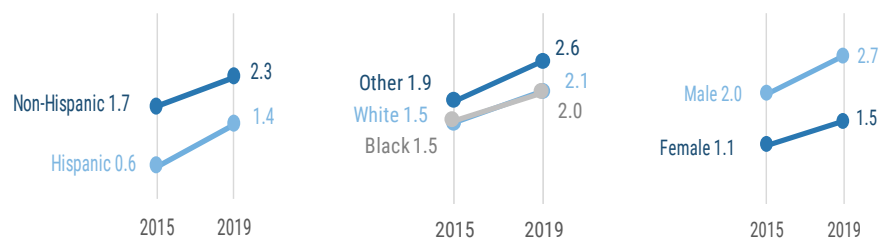
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	361 (82.0)	2.3
Hispanic	79 (18.0)	1.4
Unknown ethnicity	8	

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



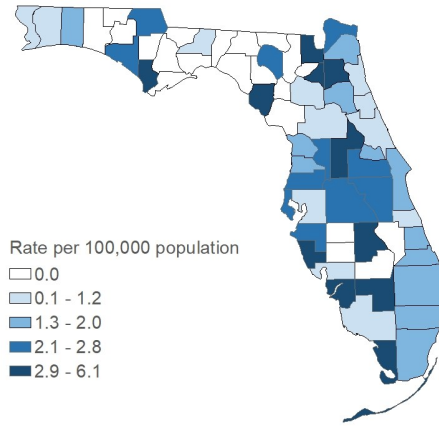
The legionellosis rate (per 100,000 population) has increased in all demographics from 2015 to 2019. Rates were higher in males but generally similar by race and ethnicity in 2019.



Legionellosis

Summary	Number
Number of cases	448
Outcome	Number (Percent)
Hospitalized	434 (96.9)
Died	41 (9.2)
Imported Status	Number (Percent)
Acquired in Florida	394 (96.8)
Acquired in the U.S., not Florida	9 (2.2)
Acquired outside the U.S.	4 (1.0)
Acquired location unknown	41
Outbreak Status	Number (Percent)
Sporadic	415 (93.5)
Outbreak-associated	29 (6.5)
Outbreak status unknown	4

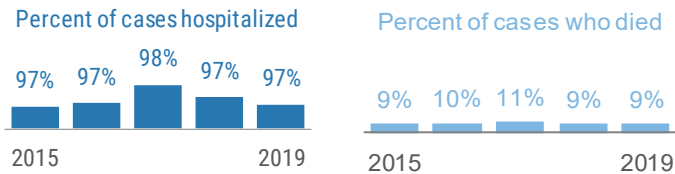
Legionellosis occurred in most parts of the state in 2019, but is notably absent from most counties in the Panhandle.



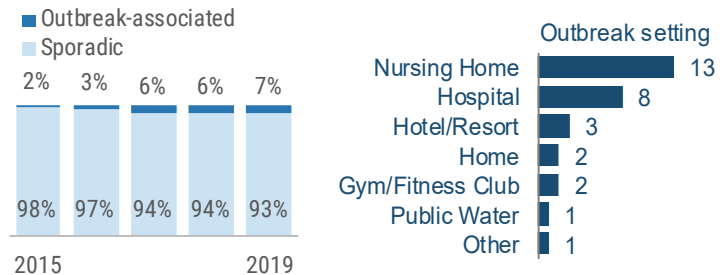
Rates are by county of residence for infections acquired in Florida (448 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

More Disease Trends

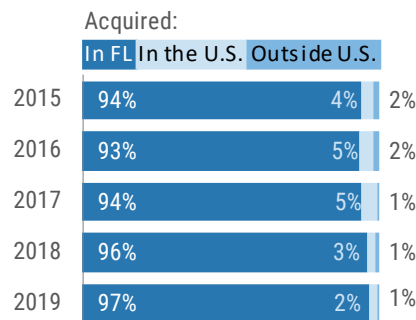
Most legionellosis cases are hospitalized, and deaths do occur. Those primarily affected are older adults and people with underlying conditions. Pneumonia is commonly identified among cases.



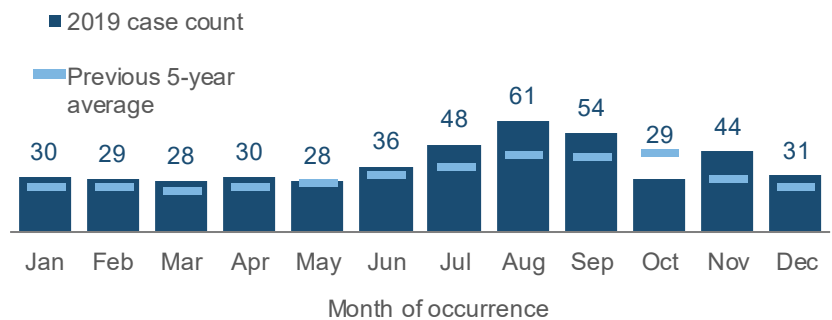
In 2019, 30 outbreaks were identified, some of which included non-Florida residents (who are not included in counts in this report). Nursing homes and hospitals were the most commonly identified outbreak settings.



Between 93% and 97% of Legionella infections are acquired in Florida; some infections were imported from other states and countries.



Legionellosis cases increase slightly in the summer and early fall months with 48 to 61 cases reported each month from July to September 2019.



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 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. The confirmed case definition for listeriosis was expanded in 2019, which may affect the disease reporting trends.

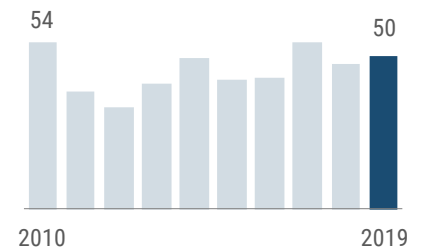
Historically, *Listeria* outbreaks have been linked to deli meats and hot dogs; however, new vehicles have been identified as sources of outbreaks including soft cheeses, frozen vegetables, sprouts, raw milk, melons, caramel apples, smoked seafood and ice cream.

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 monitors WGS data from across the country to identify clusters of possibly related cases. In 2019, Florida identified 6 cases associated with multistate outbreaks.

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
-  **Transmission** 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

Summary

Number of cases	50
Rate (per 100,000 population)	0.2
Change from 5-year average rate	+1.3%

Age (in Years)

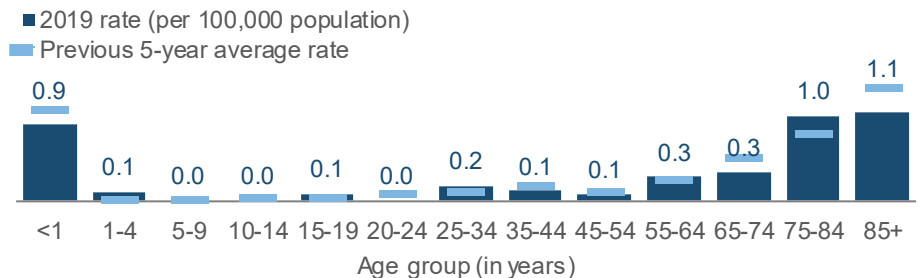
Mean	61
Median	69
Min-max	0 - 92

Gender	Number (Percent)	Rate
Female	32 (64.0)	0.3
Male	18 (36.0)	NA
Unknown gender	0	

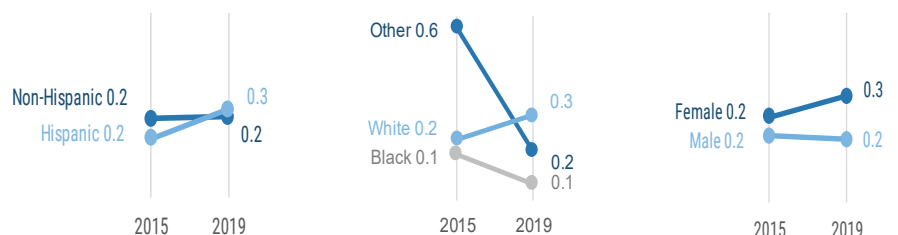
Race	Number (Percent)	Rate
White	46 (92.0)	0.3
Black	2 (4.0)	NA
Other	2 (4.0)	NA
Unknown race	0	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	36 (72.0)	0.2
Hispanic	14 (28.0)	NA
Unknown ethnicity	0	

The listeriosis rate (per 100,000 population) is highest in infants (who can acquire infection from the mother during pregnancy) and adults ≥ 75 years old.



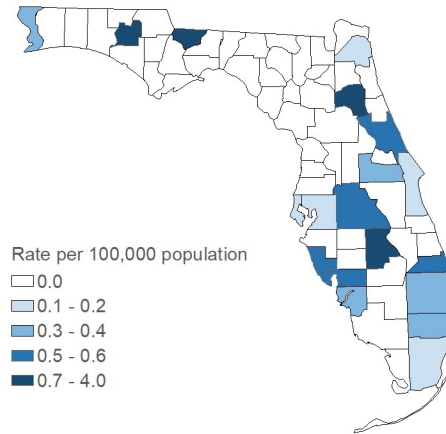
The listeriosis rate (per 100,000 population) was similar by gender, race and ethnicity in 2019. Most demographic rates remained stable from 2015 to 2019, except for the rates for other races which decreased and whites, females and Hispanic rates which increased slightly.



Listeriosis

Summary	Number
Number of cases	50
Outcome	Number (Percent)
Hospitalized	47 (94.0)
Died	10 (20.0)
Imported Status	Number (Percent)
Acquired in Florida	44 (100.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	6
Outbreak Status	Number (Percent)
Sporadic	41 (83.7)
Outbreak-associated	8 (16.3)
Outbreak status unknown	1

Listeriosis did not have a geographic pattern in 2019. Rates (per 100,000 population) were highest in small, rural counties in different parts of the state.

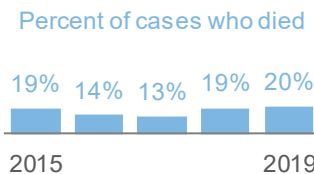
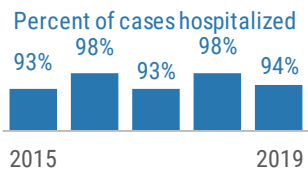


Rates are by county of residence for infections acquired in Florida (50 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

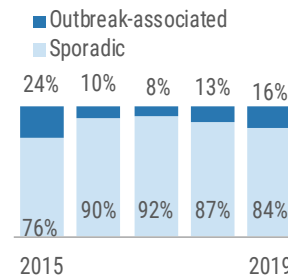


More Disease Trends

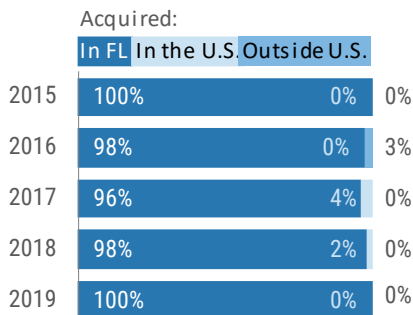
Most listeriosis cases are hospitalized; deaths do occur. Those primarily affected are older adults who likely have underlying conditions.



Each year, a few cases are linked to multistate outbreaks through whole genome sequencing. Six cases reported in 2019 matched multistate outbreaks.

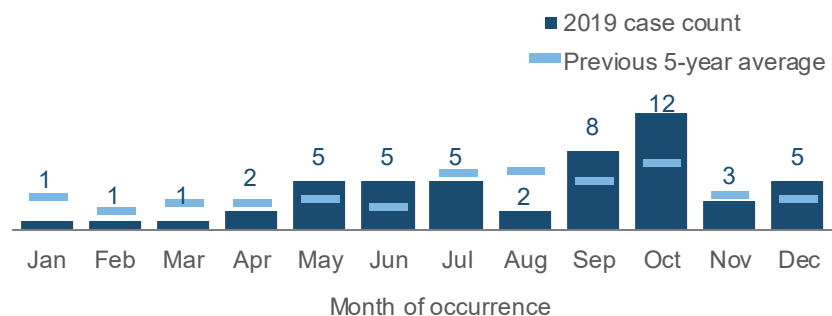


Most *Listeria* infections are acquired in Florida.



Listeriosis cases occur all year and do not exhibit a strong seasonality.

Additionally, low case counts make it difficult to interpret trends. However, it can be noted the early fall months had the highest number of cases reported with 8 cases in September and 12 cases in October.



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 Centers for Disease Control and Prevention (CDC) estimates that about 476,000 Lyme disease cases are reported each year. Nationally, Lyme disease cases are concentrated in the Northeast and upper Midwest, with 14 states accounting for most of the reported cases each year.

Lyme disease incidence in Florida has generally increased over the past decade. This increase 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. In 2019, incidence of Lyme disease decreased slightly from 2018, falling below the previous five-year average incidence. COVID-19 travel restrictions may have contributed to this decrease.

The majority of Florida cases were acquired during travel to other U.S. states in 2019. However, 1 case was acquired outside of the U.S., in Greece or Italy.

There were 92 acute and 55 late-manifestation cases reported in 2019. Eleven Lyme disease cases were co-infected with *Babesia* and 2 with *Anaplasma*. Case counts and rates from this report may differ from those found in other tick-borne disease reports as different criteria are used to assemble the data.

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

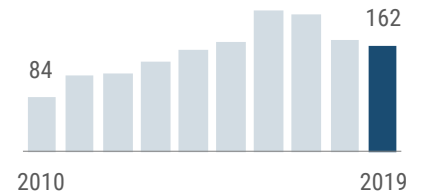


Transmitted via bite of infective *Ixodes scapularis* tick



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 2019 decreased slightly from 2018.



Disease Trends

Summary

Number of cases	162
Rate (per 100,000 population)	0.8
Change from 5-year average rate	-15.9%

Age (in Years)

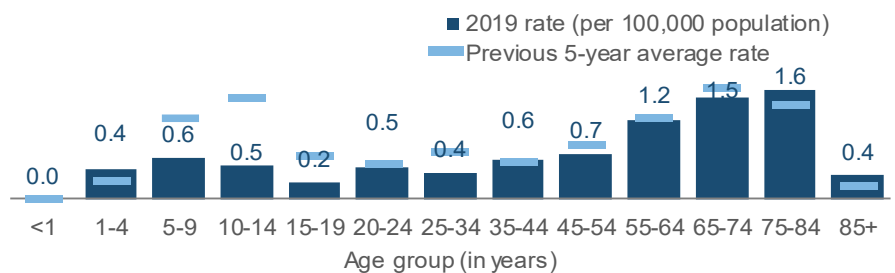
Mean	52
Median	59
Min-max	2 - 95

Gender	Number (Percent)	Rate
Female	88 (54.3)	0.8
Male	74 (45.7)	0.7
Unknown gender	0	

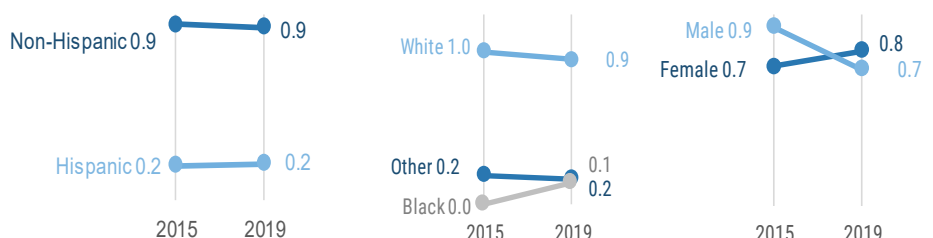
Race	Number (Percent)	Rate
White	151 (95.6)	0.9
Black	5 (3.2)	NA
Other	2 (1.3)	NA
Unknown race	4	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	146 (93.0)	0.9
Hispanic	11 (7.0)	NA
Unknown ethnicity	5	

In 2019, the Lyme disease rate (per 100,000 population) was highest in adults 74 to 84 years old, followed by adults 65 to 74 years old and 55 to 64 years old. The rate in 2019 was notably lower than the previous five-year average rate for adolescents 10 to 14 years old and children 5 to 9 years old.



In 2019, the Lyme disease rate (per 100,000 population) was similar by gender groups, but higher in non-Hispanics. The rate was highest in whites, followed by other races, then blacks. The rate increased from 2015 to 2019 in females and blacks and remained stable for all other demographics.

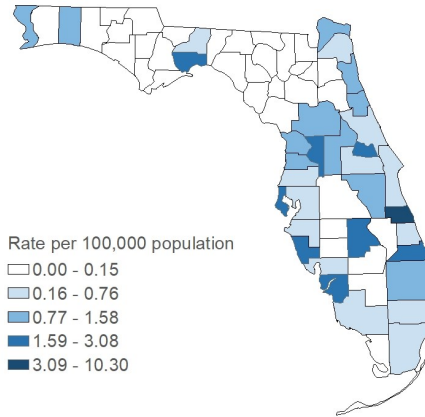


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lyme disease cases were missing 8.4% of ethnicity data in 2015 and 8.4% of race data in 2015.

Lyme Disease

Summary	Number
Number of cases	162
Case Classification	Number (Percent)
Confirmed	78 (48.1)
Probable	84 (51.9)
Outcome	Number (Percent)
Hospitalized	8 (4.9)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	20 (14.4)
Acquired in the U.S., not Florida	118 (84.9)
Acquired outside the U.S.	1 (0.7)
Acquired location unknown	23
Outbreak Status	Number (Percent)
Sporadic	157 (97.5)
Outbreak-associated	4 (2.5)
Outbreak status unknown	1

Lyme disease is primarily imported from other U.S. states where it is highly endemic; however, 20 infections were acquired in Florida in 2019. Three cases were reported in Palm Beach County and 2 cases were reported in Osceola County. The remaining 15 counties each had 1 case reported.

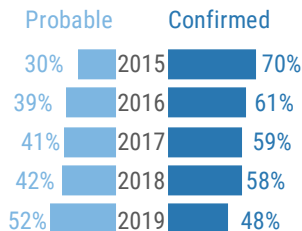


Rates are by county of residence for infections acquired in Florida (162 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.



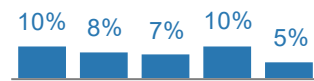
More Disease Trends

Between 48% and 70% of cases are confirmed annually; 48% of 2019 cases were confirmed.

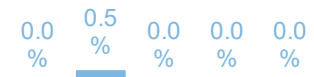


The hospitalization rate for people with Lyme disease is low; deaths are rare.

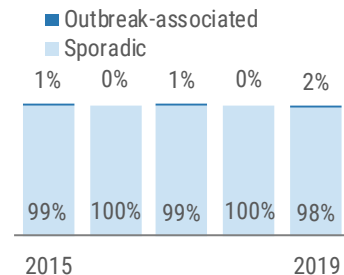
Percent of cases hospitalized



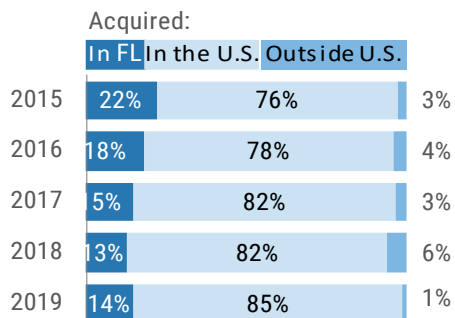
Percent of cases who died



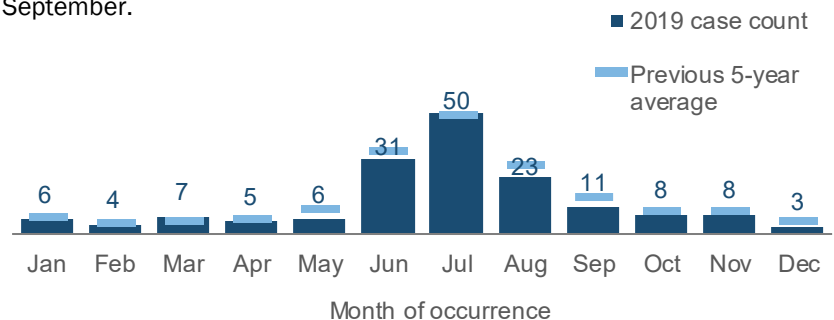
Almost all Lyme disease cases are sporadic. Two small travel-associated outbreaks were reported, each involving 2 family members exposed while travelling together to high-incidence states (NY and PA).



Lyme disease is primarily imported from other U.S. states where it is highly endemic. One case in 2019 was imported from another country.



Lyme disease cases are reported year-round, but there is a strong seasonal peak in the summer. In 2019, 71% of cases occurred from June to September.



Malaria





Key Points

The number of malaria cases imported from Central America and the Caribbean has increased in recent years, though most cases are still infected in Africa. All cases in 2019 were among people traveling to countries with endemic transmission (primarily African countries) while visiting friends and relatives with the majority exposed in Nigeria (16), Ghana (10) and Cote d'Ivoire (6). One family trip to Nigeria to visit friends/relatives resulted in a cluster of 5 *P. falciparum* cases. Four of these cases were children. The family did not take prophylactic medication to prevent malaria infection while traveling.

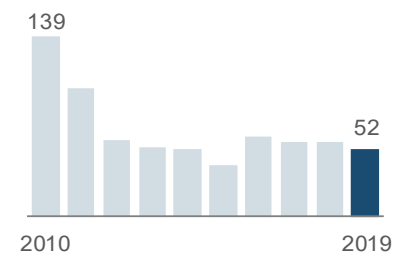
Four cases had illness onset in late December 2019 and were not identified and reported until 2020.

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; however, cases in non-Florida residents are not included in counts in this report. In 2019, 20 non-Florida residents were diagnosed with malaria while traveling in Florida (12 cases from Africa, 4 cases from southern Asia [India], 3 from Central and South America and 1 from Oceania). The 12 cases from Africa were infected with *P. falciparum* (9), *P. ovale* (2) and *P. malariae* (1). All 8 non-African residents were infected with *P. vivax*. An Italian couple was infected with *P. falciparum* while visiting Cote d'Ivoire. Both developed febrile illness, delayed seeking medical care and traveled to Florida instead. The husband died on the plane. The wife became critically ill with cerebral malaria but survived following treatment at a Florida hospital.

Disease Facts

-  **Caused by** *Plasmodium falciparum*, *P. malariae*, *P. ovale*, *P. vivax* parasites; a zoonotic malaria in non-human primates, *P. knowlesi*, can also infect people
-  **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	52
Rate (per 100,000 population)	0.2
Change from 5-year average rate	-8.2%

Age (in Years)

Mean	42
Median	43
Min-max	4 - 83

Gender

Gender	Number (Percent)	Rate
Female	14 (26.9)	NA
Male	38 (73.1)	0.4
Unknown gender	0	

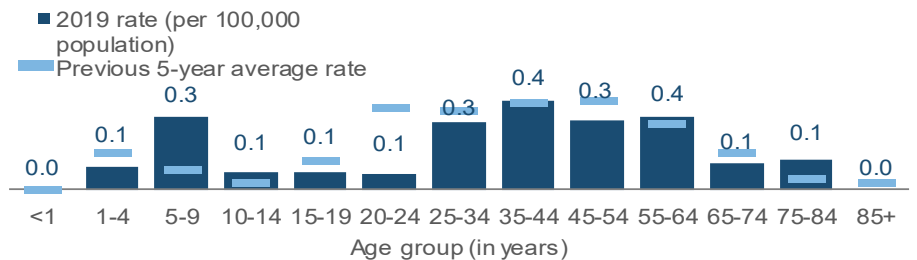
Race

Race	Number (Percent)	Rate
White	13 (25.0)	NA
Black	36 (69.2)	1.0
Other	3 (5.8)	NA
Unknown race	0	

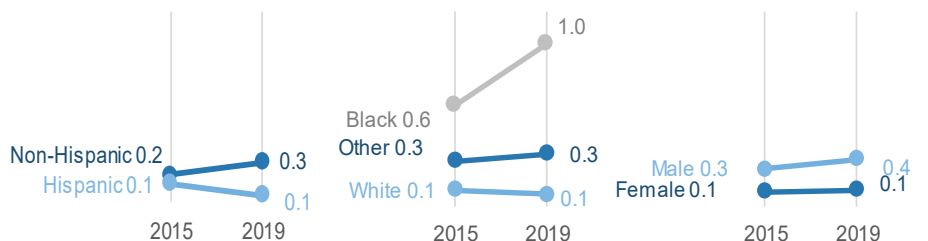
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	49 (94.2)	0.3
Hispanic	3 (5.8)	NA
Unknown ethnicity	0	

The malaria rate (per 100,000 population) varies by age. Historically, rates are highest in adults 20 to 64 years old. In 2019, rates were highest in adults 35 to 44 and 55 to 64 years old. Children <5 years old are one of the most vulnerable groups affected by malaria and are at higher risk for severe disease and death. In 2019, the single case in a child 1 to 4 years old was infected with *P. falciparum* while visiting family in Nigeria.



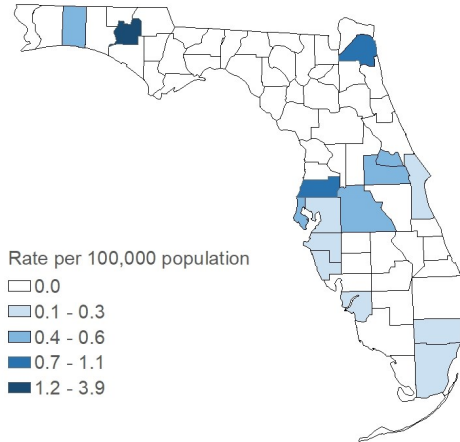
The malaria rate (per 100,000 population) was similar in males, females, Hispanics and non-Hispanics in 2019. By race, the rate was similar in whites and other races and higher in blacks.



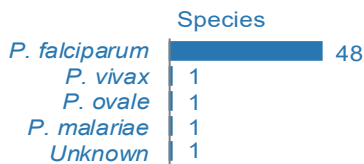
Malaria

Summary	Number
Number of cases	52
Outcome	Number (Percent)
Hospitalized	38 (75.0)
Died	0 (0.0)
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.	52 (100.0)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	38 (73.1)
Outbreak-associated	14 (26.9)
Outbreak status unknown	0

Malaria cases were identified in residents of 15 counties across Florida in 2019. Duval county had the most cases (10), primarily due to a family cluster of 5 cases.



In 2019, the majority (92%) of infections were caused by *P. falciparum*. One sample was unable to be speciated.

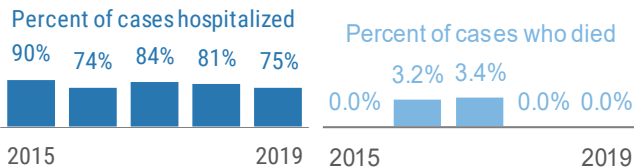


Rates are by county of residence, regardless of where infection was acquired (52 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

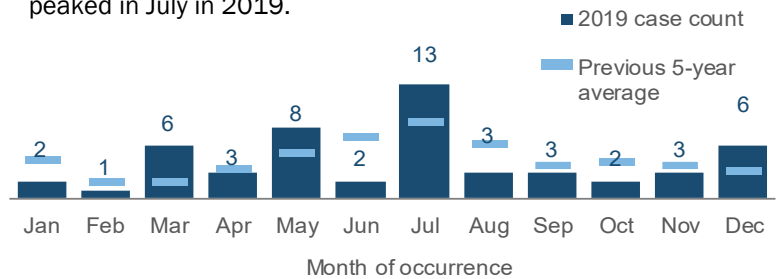


More Disease Trends

The majority of malaria cases are hospitalized; deaths do occur. No deaths were reported in Florida residents in 2019.

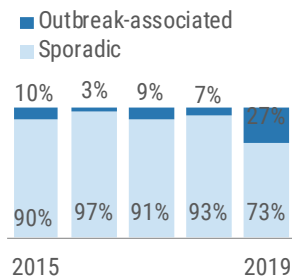


Malaria cases are imported into Florida year-round, but activity peaked in July in 2019.

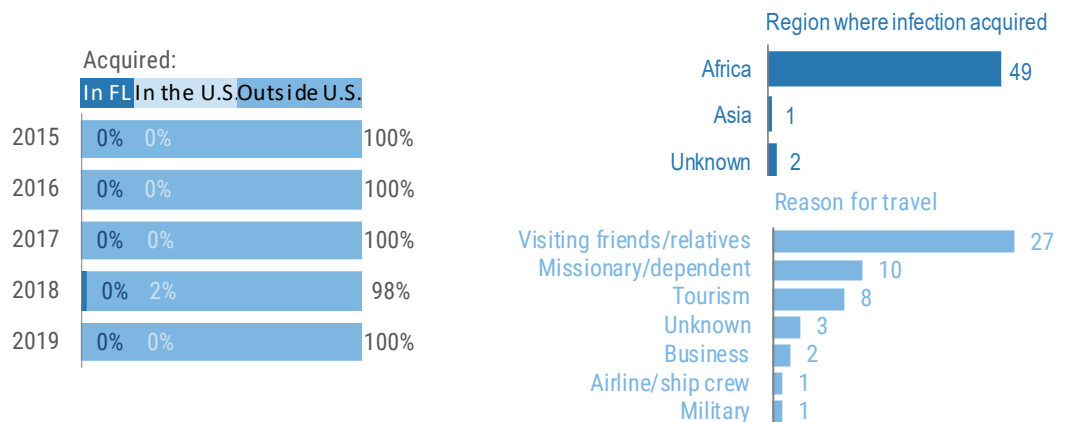


Several family clusters were identified in 2019 with travel to Africa to visit friends and family.

Additionally, there was a cluster of 2 cases who served as missionaries in Zambia.



Africa remained the most common region where people were infected. Two cases had travel to several countries in multiple regions and the location of exposure was unknown. The most common reason for travel among people with malaria was visiting friends and relatives.







Meningococcal Disease

Key Points

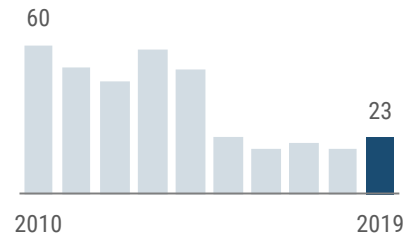
Five *Neisseria meningitidis* serogroups cause almost all invasive disease (A, B, C, Y and W). Vaccines are available to provide protection against these serogroups. In 2016, the incidence of meningococcal disease reached a historic low in Florida. The number of cases reported each year since has remained relatively stable, but was slightly higher in 2019. The increase could not be explained by an outbreak since no cases were known to be connected.

The most commonly identified serogroup causing meningococcal disease can vary year to year. In 2019, serogroup B was the most frequently identified serogroup in Florida with 39% of the cases. Serogroups C and Y caused 17% each of the total cases for 2019.

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 increased slightly in 2019.



Disease Trends

Summary

Number of cases	23
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-16.6%

Age (in Years)

Mean	46
Median	50
Min-max	0 - 89

Gender

Gender	Number (Percent)	Rate
Female	13 (56.5)	NA
Male	10 (43.5)	NA
Unknown gender	0	

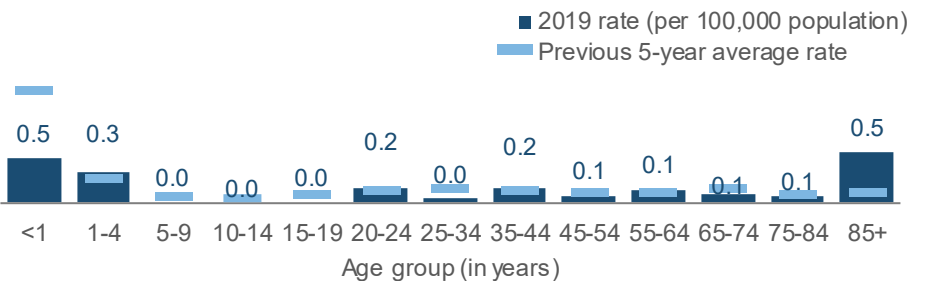
Race

White	17 (73.9)	NA
Black	6 (26.1)	NA
Other	0 (0.0)	NA
Unknown race	0	

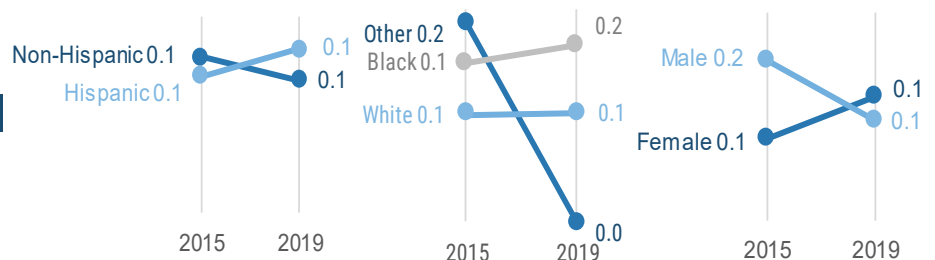
Ethnicity

Non-Hispanic	16 (69.6)	NA
Hispanic	7 (30.4)	NA
Unknown ethnicity	0	

The rate of meningococcal disease cases was highest in those <1 year old and those 85 years or older.



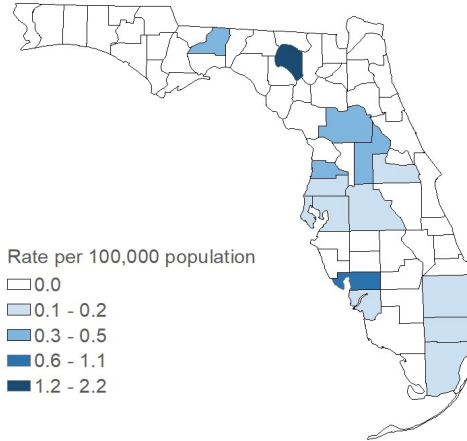
Meningococcal disease rates were similar among all races, genders and ethnicities from 2015–19.



Meningococcal Disease

Summary	Number
Number of cases	23
Case Classification	Number (Percent)
Confirmed	23 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	21 (91.3)
Died	3 (13.0)
Imported Status	Number (Percent)
Acquired in Florida	18 (81.8)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	4 (18.2)
Acquired location unknown	1
Outbreak Status	Number (Percent)
Sporadic	23 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Meningococcal disease cases occurred in residents of 15 Florida counties. The rates were highest in Suwannee and Charlotte counties due to low population. Broward, Dade and Palm Beach had 3 cases each. Most counties had 1 case each.

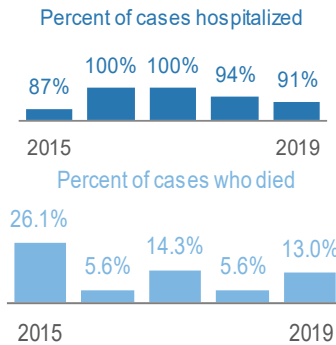


Rates are by county of residence for infections acquired in Florida (23 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

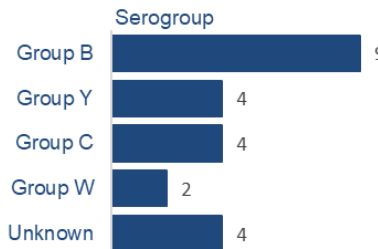


More Disease Trends

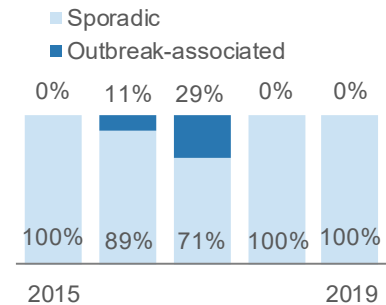
The hospitalization rate for people with meningococcal disease decreased in 2019; however, the death rate doubled.



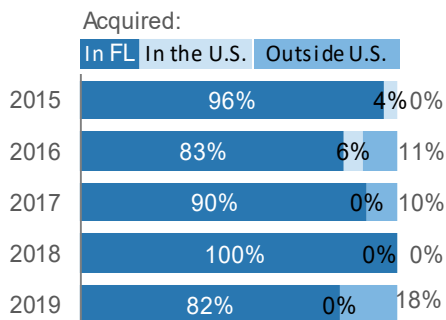
In 2019, the most common serogroup identified was serogroup B.



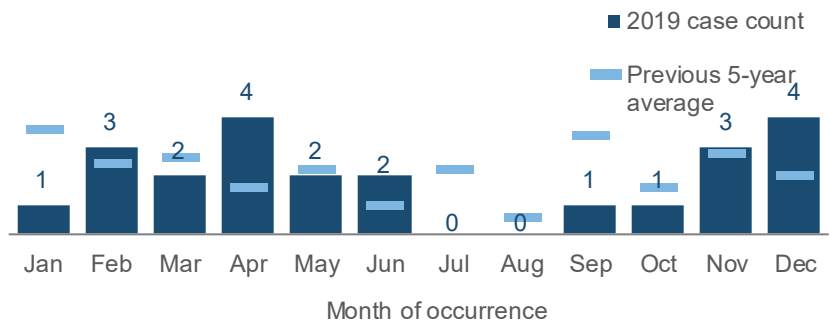
All meningococcal disease cases were sporadic in 2019.



Meningococcal disease is primarily acquired in Florida. In 2019, 5 cases were potentially acquired outside the U.S.



Nationally, meningococcal disease peaks in late winter and early spring. Slightly more cases were reported in April and December in 2019.



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





Mumps

Key Points

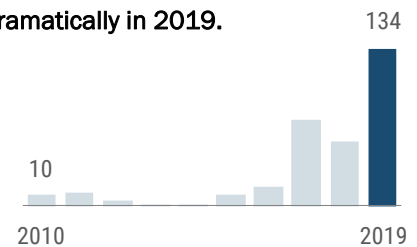
Despite routine vaccination, mumps has been increasing in the U.S., mainly due to outbreaks in young adults in settings with close contact like college campuses. Nationally, 2,515 mumps cases were reported in 2018, with over half in people 15 to 39 years old. Well over one-third of the cases were reported from the Pacific and Middle Atlantic regions of the country, with several college outbreaks driving the increased incidence in those states. Waning immunity is thought to play a role in these outbreaks.

Mumps incidence in Florida increased dramatically in 2017 and increased again in 2019. The elevated incidence over these three years was partly due to efforts by state and county health department staff to maintain awareness of mumps disease in the medical community by educating providers on reporting guidance and appropriate testing. From 2017 through 2019, staff also increased surveillance efforts to obtain specimens for testing at the state public health laboratory for both sporadic and outbreak-associated cases.

Disease Facts

-  **Caused** by mumps virus
-  **Illness** includes fever, headache, muscle aches, tiredness and loss of appetite, followed by swelling of salivary glands, in some cases orchitis and oophoritis
-  **Transmitted** person to person via droplets of saliva or mucus from the mouth, nose or throat of an infected person, usually when they cough, sneeze or talk
-  **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 2019.



Disease Trends

Summary

Number of cases	134
Rate (per 100,000 population)	0.6
Change from 5-year average rate	+316.2%

Age (in Years)

Mean	26
Median	22
Min-max	1 - 86

Gender

	Number (Percent)	Rate
Female	37 (27.6)	0.3
Male	97 (72.4)	0.9
Unknown gender	0	

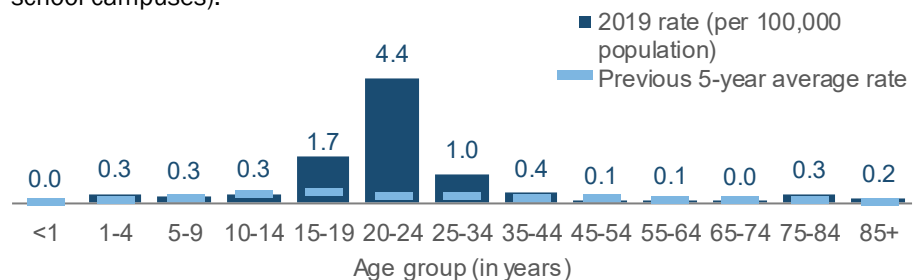
Race

	Number (Percent)	Rate
White	92 (76.7)	0.6
Black	10 (8.3)	NA
Other	18 (15.0)	NA
Unknown race	14	

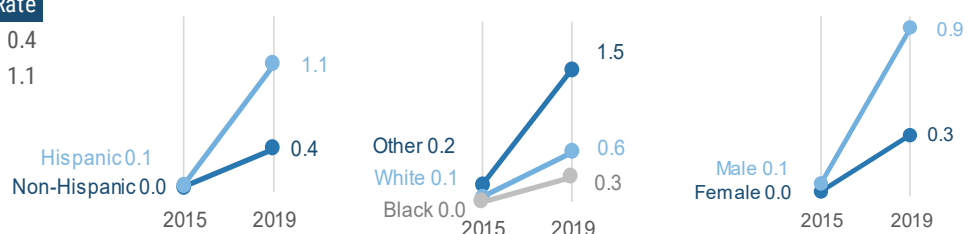
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	59 (49.2)	0.4
Hispanic	61 (50.8)	1.1
Unknown ethnicity	14	

In 2019, the mumps rate (per 100,000 population) was highest in adults 20 to 24 years old followed by those ages 15 to 19 years old. This may be due to waning immunity from vaccine and time spent in close-contact settings (e.g., school campuses).



Mumps rates (per 100,000 population) have increased across all gender, race and ethnicity groups from 2015 to 2019, though the increase was disproportionately larger among other races and Hispanics.

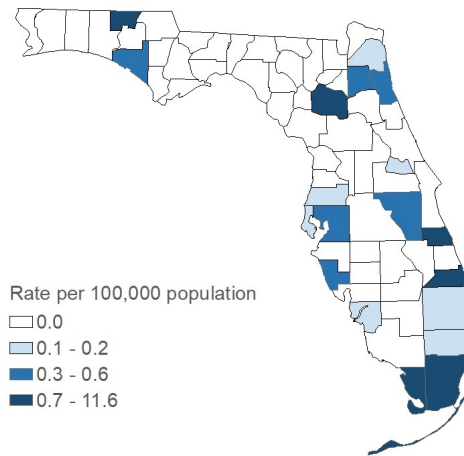


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Mumps cases were missing 10.4% of ethnicity data in 2019 and 10.4% of race data in 2019.

Mumps

Summary	Number
Number of cases	134
Case Classification	Number (Percent)
Confirmed	67 (50.0)
Probable	67 (50.0)
Outcome	Number (Percent)
Hospitalized	18 (13.4)
Died	1 (0.7)
Imported Status	Number (Percent)
Acquired in Florida	99 (92.5)
Acquired in the U.S., not Florida	4 (3.7)
Acquired outside the U.S.	4 (3.7)
Acquired location unknown	27
Outbreak Status	Number (Percent)
Sporadic	38 (28.6)
Outbreak-associated	95 (71.4)
Outbreak status unknown	1

In 2019, most mumps cases were acquired in Florida. Cases occurred in counties throughout Florida.

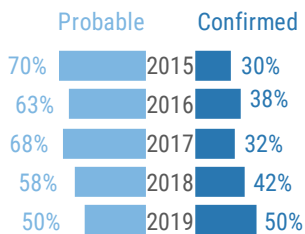


Rates are by county of residence for infections acquired in Florida (134 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

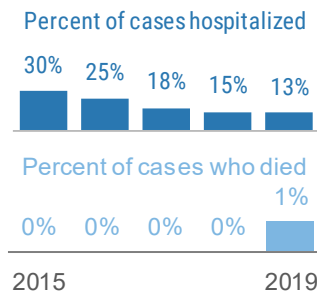


More Disease Trends

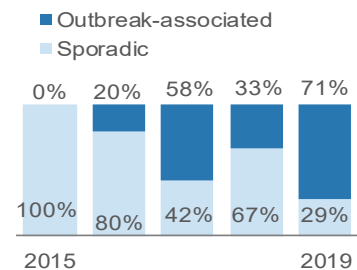
Generally between 30% and 50% of cases are confirmed each year.



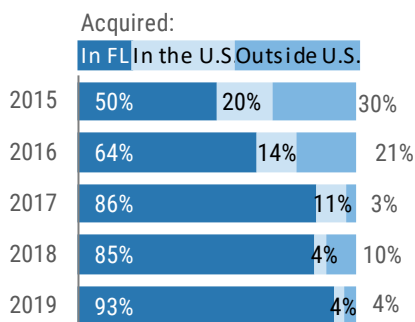
Some mumps cases are hospitalized. One death was reported in 2019.



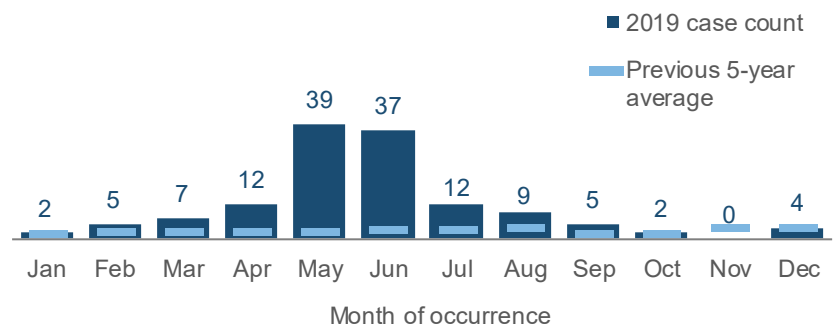
71% of cases were outbreak-associated in 2019, which is an increase from 2018.



Most mumps infections were acquired in Florida in 2019; 8 infections were imported from other states and countries.



Mumps cases occurred throughout the year in Florida in 2019. More cases were reported in May and June.







Pertussis

Key Points

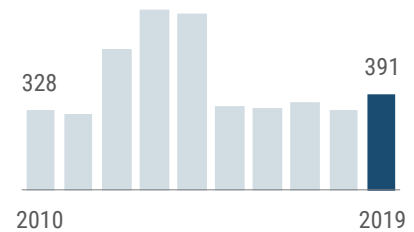
Nationally, the number of pertussis cases reported increased starting in the 1980s, peaked in 2012, and has gradually decreased since. Pertussis is cyclical in nature with peaks in disease every 3 to 5 years. In Florida, pertussis cases last peaked in 2013. Pertussis incidence in 2019 remained consistent with that seen during non-peak years. There were 2 pertussis outbreaks reported in 2019. Both of the outbreaks occurred in school settings, with the largest involving 5 cases.

Older adults often have milder infections and serve as 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. The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommends that 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.

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 2019 was consistent with incidence in non-peak years.



Disease Trends

Summary

Number of cases	391
Rate (per 100,000 population)	1.8
Change from 5-year average rate	-11.0%

Age (in Years)

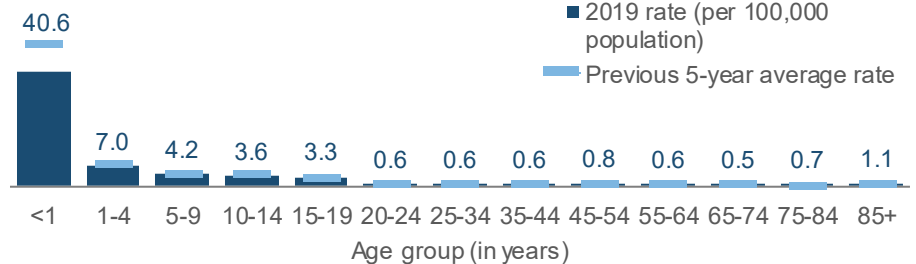
Mean	18
Median	9
Min-max	0 - 93

Gender	Number (Percent)	Rate
Female	225 (57.5)	2.1
Male	166 (42.5)	1.6
Unknown gender	0	

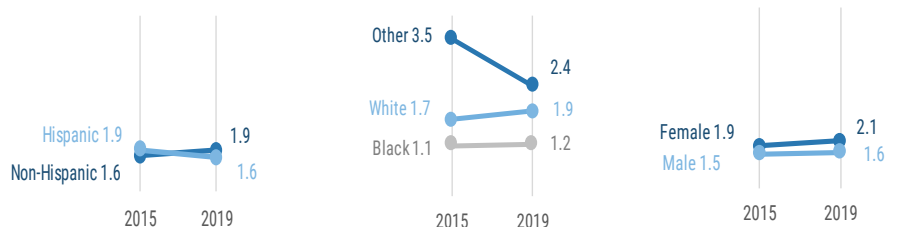
Race	Number (Percent)	Rate
White	309 (81.1)	1.9
Black	42 (11.0)	1.2
Other	30 (7.9)	2.4
Unknown race	10	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	291 (77.0)	1.9
Hispanic	87 (23.0)	1.6
Unknown ethnicity	13	

The pertussis rate (per 100,000 population) is highest in infants <1 year old.



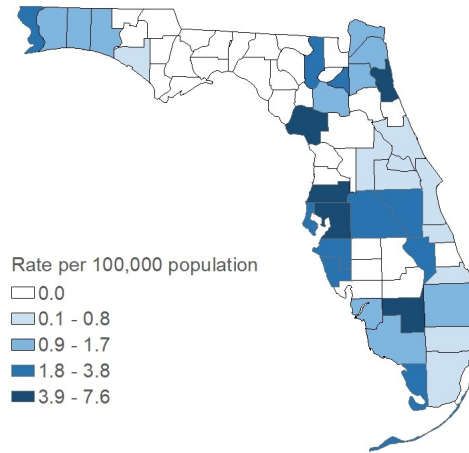
Pertussis rates (per 100,000 population) have remained fairly stable between 2015 and 2019. The most notable decrease was in other races.



Pertussis

Summary	Number
Number of cases	391
Case Classification	Number (Percent)
Confirmed	276 (70.6)
Probable	115 (29.4)
Outcome	Number (Percent)
Hospitalized	91 (23.3)
Died	1 (0.3)
Imported Status	Number (Percent)
Acquired in Florida	365 (98.4)
Acquired in the U.S., not Florida	6 (1.6)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	20
Outbreak Status	Number (Percent)
Sporadic	276 (71.5)
Outbreak-associated	110 (28.5)
Outbreak status unknown	5

In 2019, pertussis cases occurred in the more populated areas of the state in south and central Florida. However, there was a notable amount of cases in the Panhandle as well.

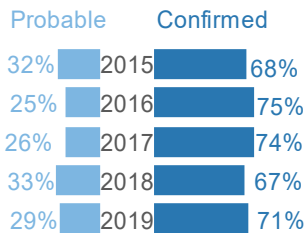


Rates are by county of residence for infections acquired in Florida (391 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

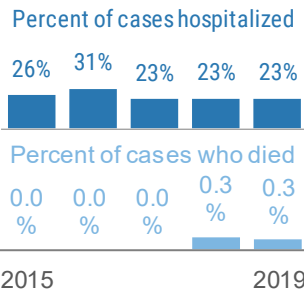


More Disease Trends

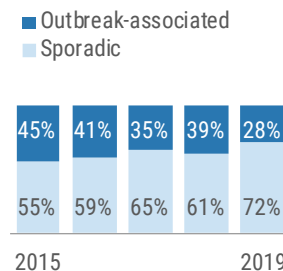
About two-thirds of pertussis cases are confirmed. Probable cases are clinically compatible but lack confirmatory testing.



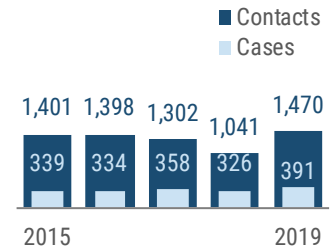
Between 20% to 31% of pertussis cases are hospitalized. Deaths from pertussis are rare.



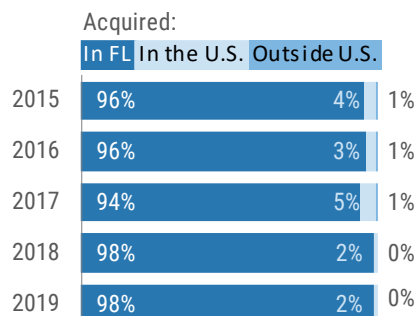
The percentage of cases that were outbreak-associated decreased in 2019.



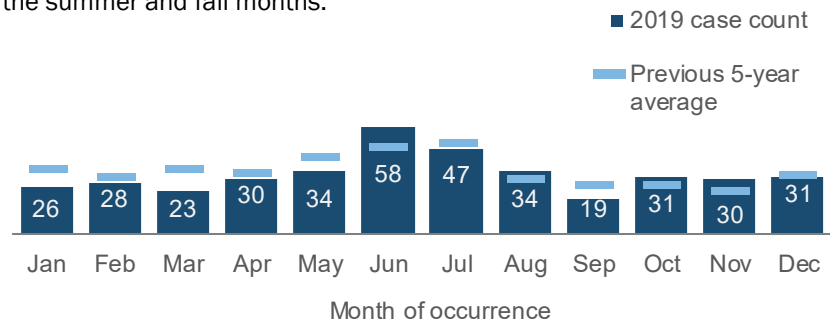
For each pertussis case, an average of 3 exposed contacts are recommended antibiotics to prevent illness.



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 2019. 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. Incidence since 2012 has remained relatively stable with a slight decrease in 2016.

In 2019, 17 cases (48.6%) had a low severity of illness and 17 cases (48.6%) had moderate severity of illness. One case had severe illness and no deaths were reported. The 13 outbreak-associated cases in 2019 were associated with 4 in-state outbreaks. One outbreak was associated with residential yard spraying (St. Johns: two cases), 1 was associated with a residence sprayed for bed bugs (Martin: 2 cases), 1 involved a truck that was sprayed for cockroaches (St. Johns: two cases) and 1 was related to a workplace exposure in which pesticide was inhaled via the air vents (Lake: 6 cases, Seminole: 1 case).

Disease Facts



Caused by pesticides



Illness can be respiratory, gastrointestinal, neurological, dermal, etc., depending on the agent

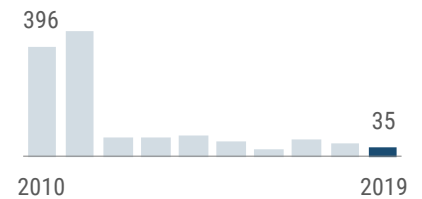


Exposure depends on several factors (e.g., agent, application method, environmental conditions); dermal, inhalation and ingestion are most common routes of exposure



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

Summary

Number of cases	35
Rate (per 100,000 population)	0.2
Change from 5-year average rate	-39.4%

Age (in Years)

Mean	42
Median	38
Min-max	3 - 82

Gender

Gender	Number (Percent)	Rate
Female	15 (44.1)	NA
Male	19 (55.9)	NA
Unknown gender	1	

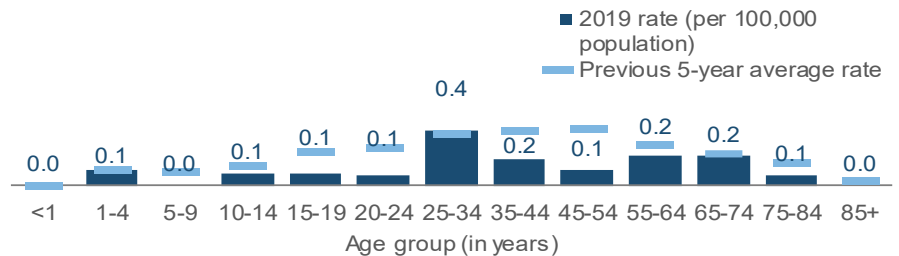
Race

Race	Number (Percent)	Rate
White	25 (75.8)	0.2
Black	2 (6.1)	NA
Other	6 (18.2)	NA
Unknown race	2	

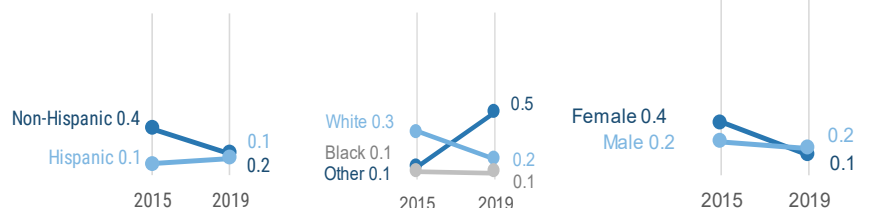
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	26 (78.8)	0.2
Hispanic	7 (21.2)	NA
Unknown ethnicity	2	

In 2019, the rate (per 100,000 population) of acute pesticide-related illness and injury was highest in people 25 to 34 years old.



Since 2015, rates (per 100,000 population) of acute pesticide-related illness and injury have increased slightly in other races and remained fairly stable for all other demographics. While rates were similar by gender and ethnicity groups in 2019, the rate was highest in other races compared to whites and blacks.

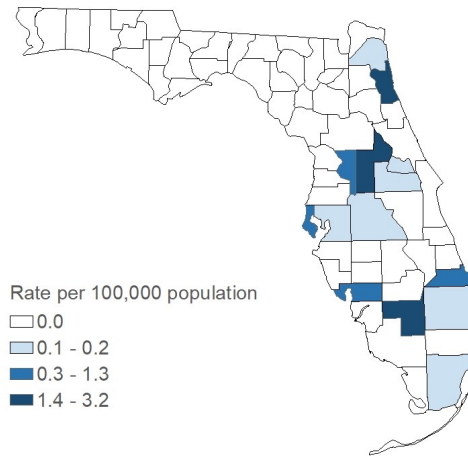


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute pesticide-related illness and injury cases were missing 5.7% of ethnicity data in 2019 and 5.7% of race data in 2019.

Pesticide-Related Illness and Injury, Acute

Summary	Number
Number of cases	35
Case Classification	Number (Percent)
Confirmed	10 (28.6)
Probable	4 (11.4)
Suspect	21 (60.0)
Outcome	Number (Percent)
Hospitalized	4 (11.4)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	34 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	1
Outbreak Status	Number (Percent)
Sporadic	21 (61.8)
Outbreak-associated	13 (38.2)
Outbreak status unknown	1

Acute pesticide-related illnesses and injuries occurred in residents of 11 Florida counties in 2019. The most cases occurred in St. Johns (8 cases) and Lake (7 cases) counties.

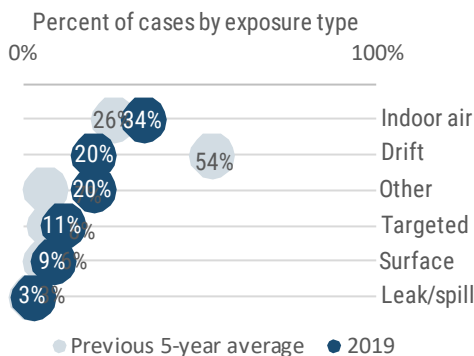


Rates are by county of residence, regardless of where exposure occurred (35 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

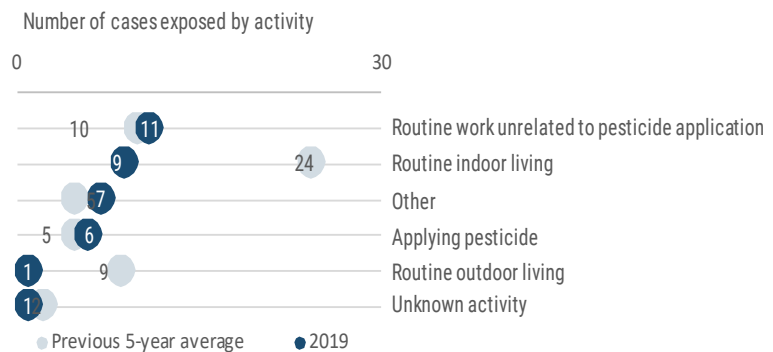


More Disease Trends

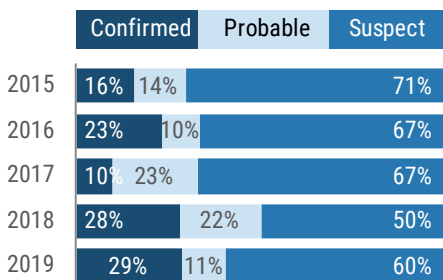
Indoor air was the most common exposure type and was above the previous five-year average in 2019. Note: cases can report >1 exposure type.



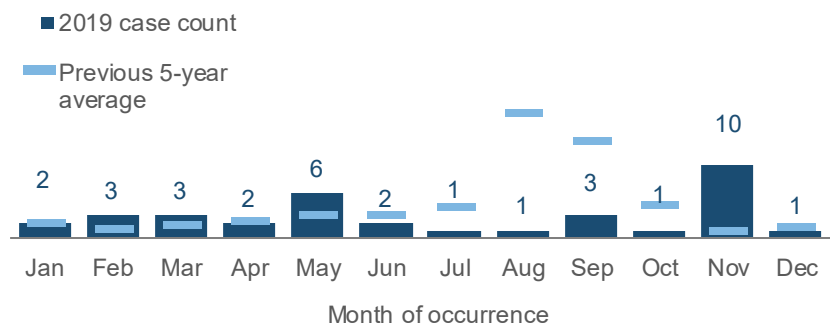
In 2019, 11 cases (31%) were exposed to pesticide while doing routine indoor activities unrelated to pesticide application work. This is consistent with the previous five-year average.



From 2015 to 2019, between 50% and 71% of cases were suspect each year. Less than one-third were confirmed in 2019.



Acute pesticide-related illnesses and injuries were reported throughout the year but were highest in May and November.



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. In 2018, another human rabies case was reported in a 6-year-old male from Lake County. The child developed a fatal rabies infection after being bitten by a sick bat found near the family's home about 2 weeks prior to symptom onset. No medical attention was sought at the time of the bite. The rabies virus strain involved was associated with *Tadarida brasiliensis* (Brazilian free-tailed) bats.

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. Case counts and rates from 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

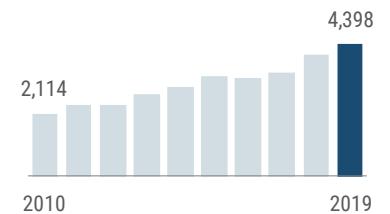


Transmitted when infectious saliva or nervous tissue comes in contact with open wound or mucous membrane via bite



Under surveillance to identify and mitigate sources of exposure, evaluate adherence to guidance on rabies post-exposure prophylaxis (PEP)

Possible human exposures to rabies increased in 2019.



Human Trends

Summary

Number of cases	4,398
Rate (per 100,000 population)	20.7
Change from 5-year average rate	+21.7%

Age (in Years)

Mean	39
Median	37
Min-max	0 - 96

Gender

Gender	Number (Percent)	Rate
Female	2,342 (53.3)	21.5
Male	2,052 (46.7)	19.7
Unknown gender	4	

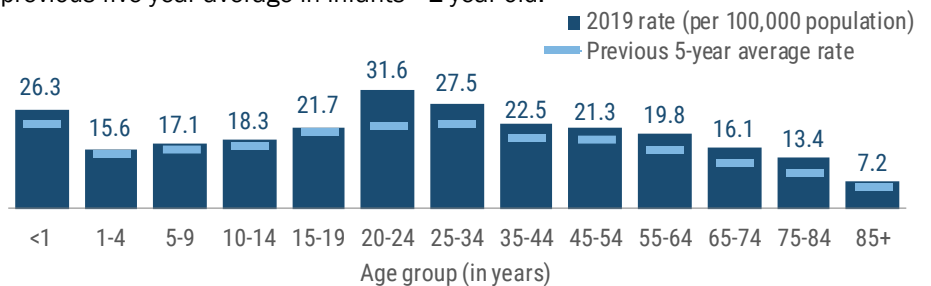
Race

Race	Number (Percent)	Rate
White	3,229 (81.3)	19.6
Black	409 (10.3)	11.3
Other	333 (8.4)	27.2
Unknown race	427	

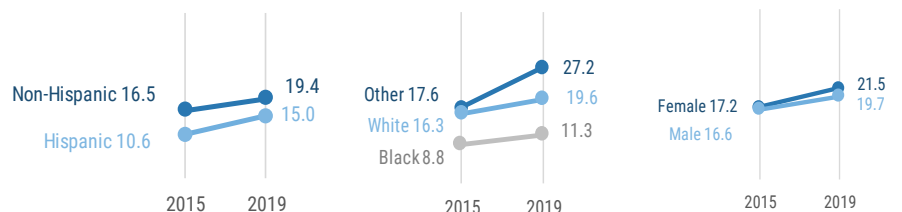
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	3,043 (78.4)	19.4
Hispanic	840 (21.6)	15.0
Unknown ethnicity	515	

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 in 2019 was higher than the previous five-year average in infants <1 year old.



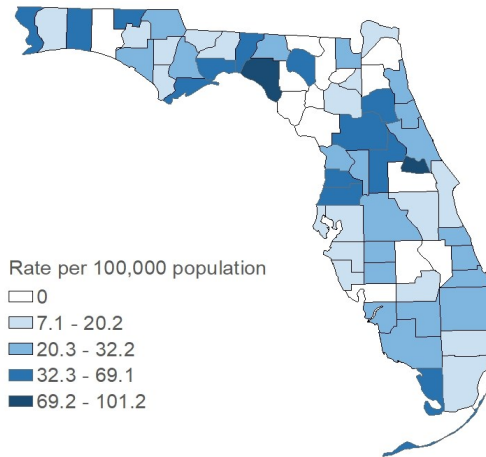
The rate (per 100,000 population) of human exposures to suspected rabid animals for which PEP is recommended is highest in females, other races, whites and non-Hispanics in 2019. The rate increased in all demographics from 2015 to 2019.



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 10.9% of ethnicity data in 2015, 10.7% of ethnicity data in 2019, and 9.7% of race data in 2019.

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 2019.



Rates are by county of residence for cases exposed in Florida (4,398 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 2019 by county.



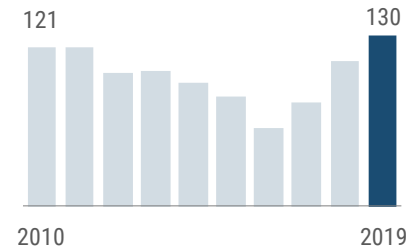
Animal Trends

Key Points for Animals

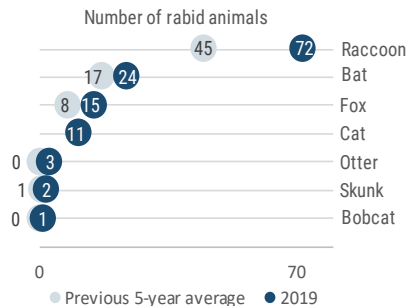
Laboratory testing for animal rabies is only done when animals potentially expose (e.g., bite) humans or domestic (owned) animals; thus, these data do not necessarily correlate with the true prevalence of rabies by animal species in Florida.

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 for these animals per section 828.30, *Florida Statutes*.

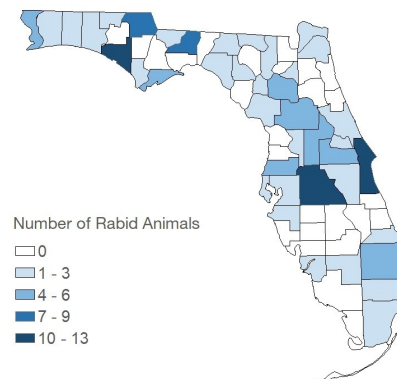
The number of rabid animals identified has generally decreased over the past decade, but has increased since 2017. Rabies activity is cyclical.



In 2019, raccoons remained the most commonly identified rabid animal, followed by bats, cats and foxes.



Rabid animals were identified throughout the state in 2019.







Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis

Key Points

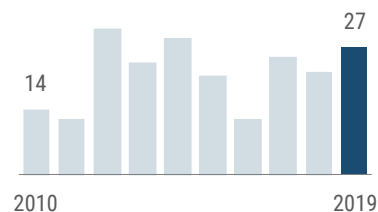
Spotted fever rickettsioses (SFRs) are a group of tick-borne diseases caused by closely related *Rickettsia* bacteria. The most serious and commonly reported spotted fever group rickettsiosis in the U.S. is Rocky Mountain spotted fever (RMSF) caused by *R. rickettsii*. Other causes of SFR include *R. parkeri*, *R. africae* and *R. conorii*. The principal imported and locally acquired 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*. Antibody-based testing for RMSF is strongly cross-reactive with other SFR. More than 96% of cases in 2019 were probable because eschar swabs or convalescent serology samples were either not available or not obtained. Most cases are probable and only require a single RMSF titer of 1:64 or higher. Acute titers of 1:64 are frequently found to be false positive results when convalescent testing is subsequently performed.

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; eschar is commonly seen in SFR other than RMSF
-  **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	27
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+17.6%

Age (in Years)

Mean	50
Median	57
Min-max	17 - 85

Gender

Gender	Number (Percent)	Rate
Female	8 (29.6)	NA
Male	19 (70.4)	NA
Unknown gender	0	

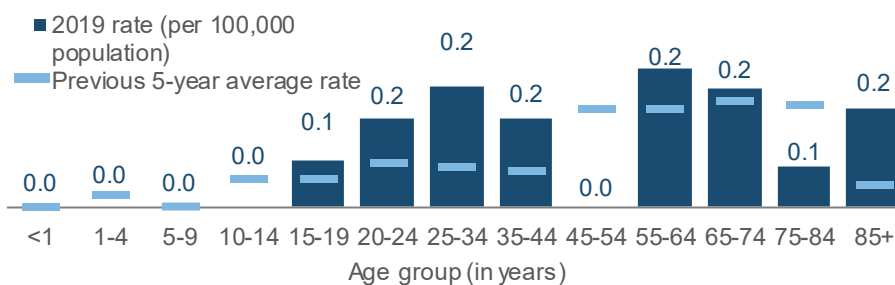
Race

Race	Number (Percent)	Rate
White	24 (88.9)	0.1
Black	1 (3.7)	NA
Other	2 (7.4)	NA
Unknown race	0	

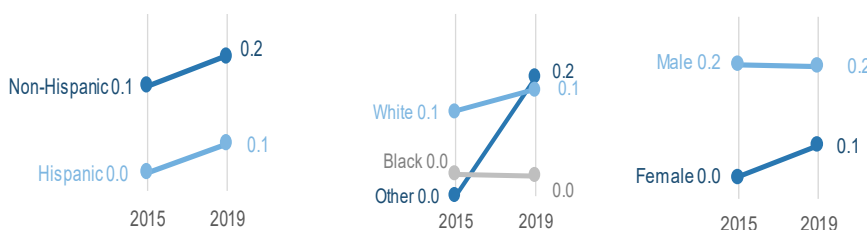
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	24 (88.9)	0.2
Hispanic	3 (11.1)	NA
Unknown ethnicity	0	

In 2019, the RMSF and SFR rates (per 100,000 population) were highest in adults 55 to 64 years old followed by adults 25 to 34 and 65 to 74 years old. The rate in 2019 was notably lower than the previous five-year average rate for adults 45 to 54 years old and 75 to 84 years old.



RMSF and SFR rates (per 100,000 population) increased in all demographics from 2015–19, except for blacks, where rates remained stable. Rates were higher in males, whites, other races and non-Hispanics in 2019.

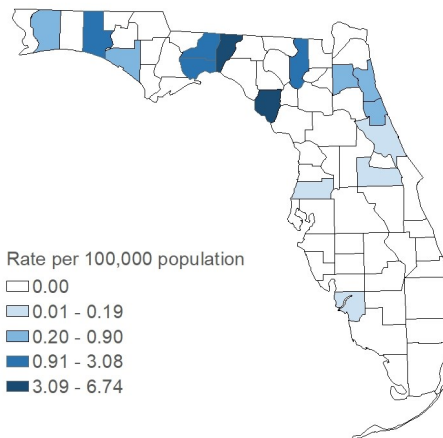


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Rocky Mountain spotted fever and spotted fever rickettsiosis cases were missing 9.5% of ethnicity data in 2015 and 9.5% of race data in 2015.

Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis

Summary	Number
Number of cases	27
Case Classification	Number (Percent)
Confirmed	1 (3.7)
Probable	26 (96.3)
Outcome	Number (Percent)
Hospitalized	12 (44.4)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	18 (72.0)
Acquired in the U.S., not Florida	7 (28.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	2
Outbreak Status	Number (Percent)
Sporadic	27 (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. Four cases each were reported in Lee and Leon counties and 2 cases were reported in Pasco county in 2019. The remaining 17 counties each had 1 case reported.

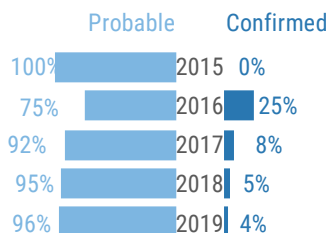


Rates are by county of residence for infections acquired in Florida (27 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

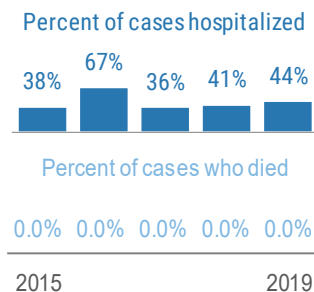


More Disease Trends

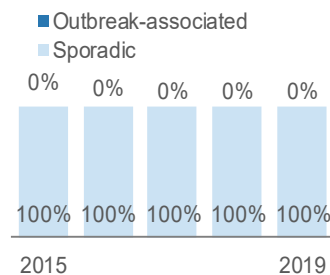
Most RMSF and SFR cases are not confirmed due to laboratory testing limitations. In 2019, the only confirmed case (Walton County) demonstrated a fourfold increase in titer.



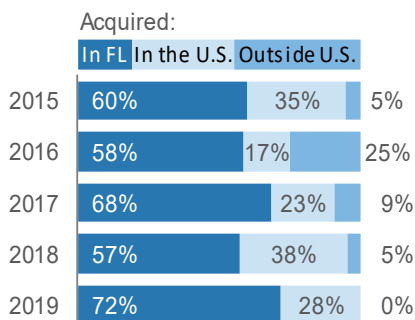
Typically more than 35% of cases are hospitalized; deaths are rare.



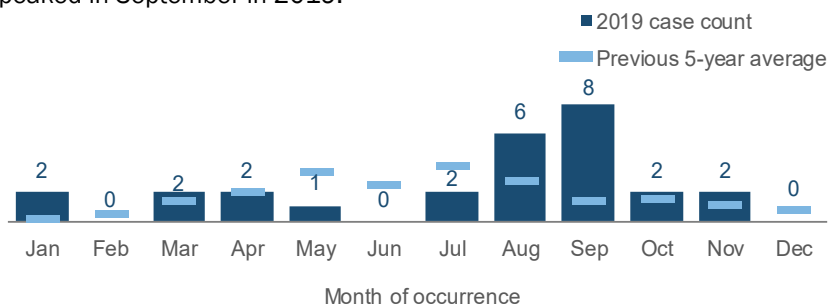
Most RMSF and SFR cases are sporadic. No outbreak-associated cases have been identified since 2014.



Most cases are acquired in Florida. In 2019, 7 cases were imported from other states.



RMSF and SFR cases are reported year-round without distinct seasonality, though peak transmission typically occurs during the summer months. Cases peaked in September in 2019.



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

Salmonellosis





Key Points

Salmonellosis is one of the most common bacterial causes of diarrheal illness in the U.S. The Centers for Disease Control and Prevention estimates that *Salmonella* bacteria cause about 1.35 million infections, 26,500 hospitalizations and 420 deaths in the U.S. each year. Florida frequently has the highest number and one of the highest incidence rates of salmonellosis cases in the U.S. The seasonal pattern is very strong, with cases peaking in late summer to early fall. Incidence is highest in infants <1 year old and decreases dramatically with age.

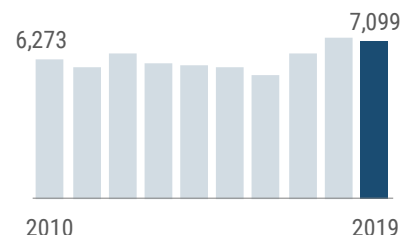
The use of culture-independent diagnostic testing (CIDT) to identify *Salmonella* has increased in recent years. Florida changed the salmonellosis surveillance case definition in January 2017 to include CIDT in the criteria for probable cases, contributing to the increase in cases reported in 2017–19.

Most outbreak-associated cases are reflective of household clusters; however, some cases are part of in-state or multistate outbreaks. In 2019, Florida identified 77 cases associated with 19 different multistate outbreaks. A variety of vehicles were identified for 13 of these multistate outbreaks, including chicken, shelled eggs, pig ears, pork, cut fruit, papaya, prepackaged salad mix, iceberg lettuce and live poultry. Four in-state outbreaks were identified in 2019.

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 has remained relatively stable over the past ten years, but has increased since 2016 likely due to CIDT.



Disease Trends

Summary

Number of cases	7,099
Rate (per 100,000 population)	33.4
Change from 5-year average rate	+8.0%

Age (in Years)

Mean	29
Median	18
Min-max	0 - 101

Gender

Gender	Number (Percent)	Rate
Female	3,732 (52.6)	34.3
Male	3,362 (47.4)	32.3
Unknown gender	5	

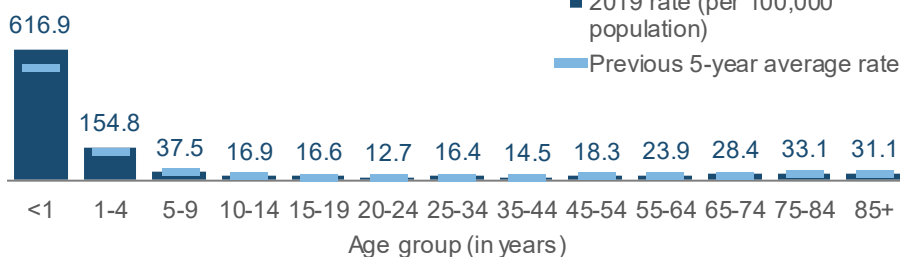
Race

Race	Number (Percent)	Rate
White	4,937 (74.3)	30.0
Black	767 (11.5)	21.3
Other	945 (14.2)	77.1
Unknown race	450	

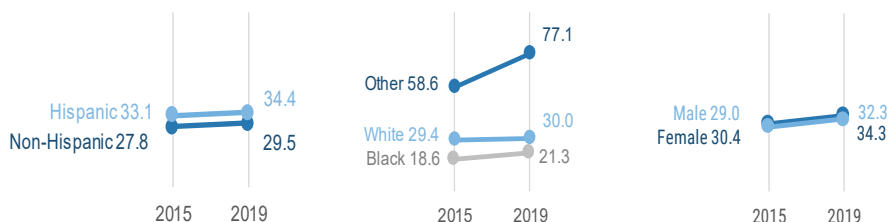
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	4,624 (70.7)	29.5
Hispanic	1,920 (29.3)	34.4
Unknown ethnicity	555	

The salmonellosis rate (per 100,000 population) is highest in infants <1 year old and children 1 to 4 years old, then decreases dramatically with age.



The salmonellosis rate (per 100,000 population) remained relatively stable in all demographics from 2015 to 2019 except in other races where it increased. The rates were similar across gender and ethnicity groups in 2019. The rate was notably higher in other races compared to whites and blacks in 2019.

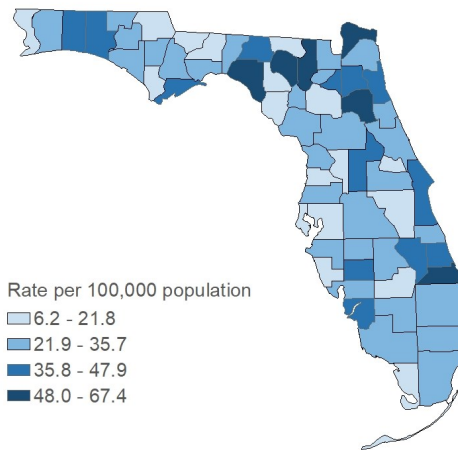


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Salmonellosis cases were missing 7.8% of ethnicity data in 2019 and 6.3% of race data in 2019.

Salmonellosis

Summary	Number
Number of cases	7,099
Case Classification	Number (Percent)
Confirmed	6,235 (87.8)
Probable	864 (12.2)
Outcome	Number (Percent)
Hospitalized	1,810 (25.5)
Died	40 (0.6)
Sensitive Situation	Number (Percent)
Daycare	475 (6.7)
Health care	69 (1.0)
Food handler	59 (0.8)
Imported Status	Number (Percent)
Acquired in Florida	5,211 (97.0)
Acquired in the U.S., not Florida	41 (0.8)
Acquired outside the U.S.	121 (2.3)
Acquired location unknown	1,726
Outbreak Status	Number (Percent)
Sporadic	6,150 (92.5)
Outbreak-associated	497 (7.5)
Outbreak status unknown	452

Salmonellosis occurs throughout the state. In 2019, the highest rates (per 100,000 population) were primarily in small, rural counties.

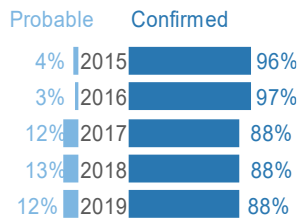


Rates are by county of residence for infections acquired in Florida (7,099 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

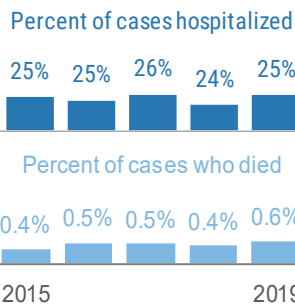


More Disease Trends

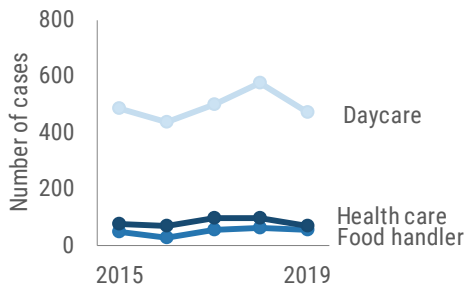
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



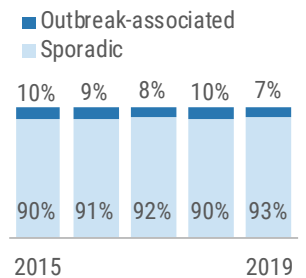
Approximately 25% of cases are hospitalized each year. Very few cases die.



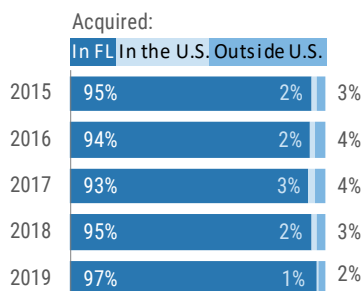
Cases in sensitive situations are monitored. The large number of cases in daycares reflects the age distribution of cases.



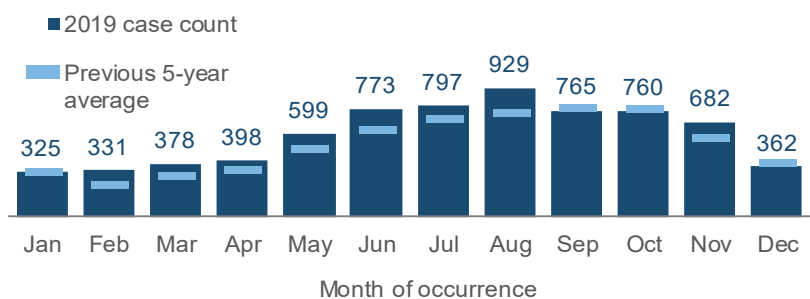
Most cases were sporadic; less than 11% are outbreak-associated and often reflect household clusters.



Salmonella infections were primarily acquired in Florida; a small number of infections were imported from other states and countries.



Salmonellosis occurred throughout 2019, but has a strong seasonal pattern with cases peaking late summer to early fall, which is consistent with past years. The largest number of cases was reported in August in 2019.



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

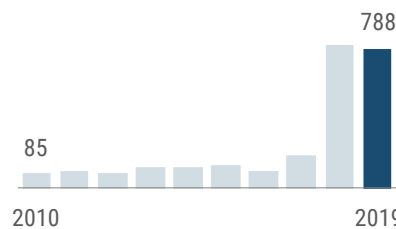
STEC infection is a common cause of diarrheal illness in the U.S., resulting in an estimated 265,000 illnesses each year. STEC infection incidence in Florida has generally increased over the past 10 years, likely due to advancements in laboratory techniques, resulting in improved identification of STEC infection. The dramatic increase in 2018 was due to a surveillance case definition change in January 2018 that expanded the probable case classification to include culture-independent diagnostic testing (CIDT).

Most outbreak-associated cases are reflective of household clusters; however, some cases are part of in-state or multistate outbreaks. In 2019, Florida identified 14 cases associated with 6 different multistate outbreaks. Of the 4 multistate outbreaks where a source was identified, 2 were linked to consumption of romaine lettuce, 1 to consumption of leafy greens and 1 to consumption of bison. In 2019, Florida identified 18 cases associated with 2 different in-state outbreaks. One outbreak was in a daycare and 1 outbreak was associated with a restaurant.

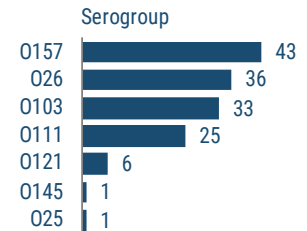
Disease Facts

-  **Caused** by Shiga toxin-producing *Escherichia coli* (STEC) bacteria
-  **Illness** is gastroenteritis (diarrhea, vomiting); less frequently, infection can lead to hemolytic uremic syndrome (HUS)
-  **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

STEC infection incidence increased dramatically in 2018 due to a case definition change. Cases decreased slightly in 2019.



Serogroup O157 and the top six non-O157 serogroups were the cause of 48% of all confirmed STEC infections in 2019.



Disease Trends

Summary

Number of cases	788
Rate (per 100,000 population)	3.7
Change from 5-year average rate	+183.7%

Age (in Years)

Mean	29
Median	22
Min-max	0 - 95

Gender

	Number (Percent)	Rate
Female	457 (58.1)	4.2
Male	329 (41.9)	3.2
Unknown gender	2	

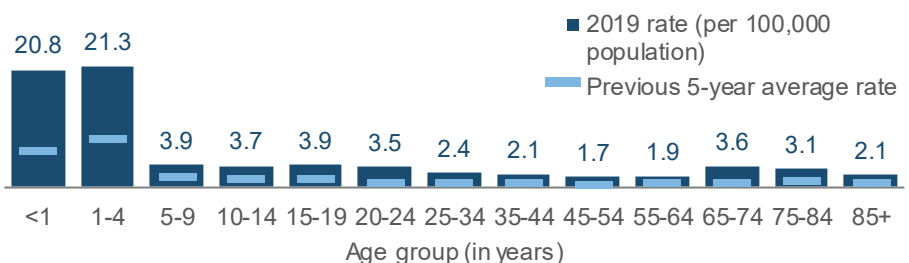
Race

	Number (Percent)	Rate
White	594 (80.2)	3.6
Black	49 (6.6)	1.4
Other	98 (13.2)	8.0
Unknown race	47	

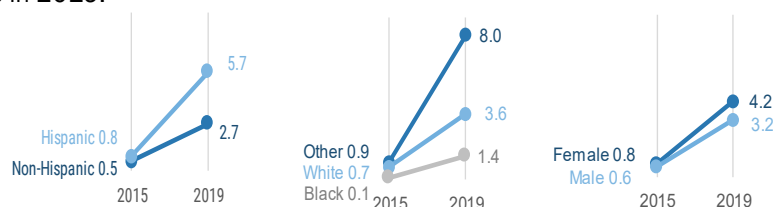
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	425 (57.4)	2.7
Hispanic	316 (42.6)	5.7
Unknown ethnicity	47	

The STEC infection rate (per 100,000 population) was highest in children 1 to 4 years old followed by infants <1 year old. Children <5 years old are particularly vulnerable to STEC infection and are at highest risk of developing HUS. Two (50%) of the 4 HUS cases reported in 2019 were in children ≤5 years old.



The STEC infection rate (per 100,000 population) increased in all demographics from 2015 to 2019, driven primarily by the dramatic increase in cases in 2018. The rates were similar by gender in 2019, but higher in Hispanics than non-Hispanics. The rate was notably higher in other races compared to whites and blacks in 2019.

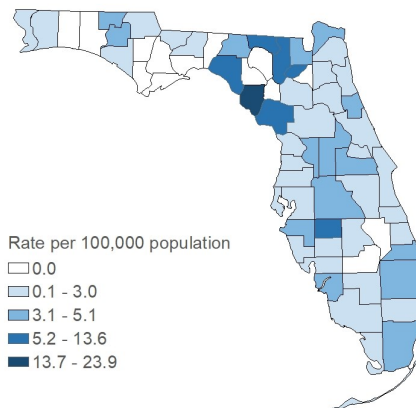


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. STEC infection cases were missing 9.6% of ethnicity data in 2015, 8.9% of race data in 2015, 6.0% of ethnicity data in 2019 and 6.0% of race data in 2019.

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

Summary	Number
Number of cases	788
Case Classification	Number (Percent)
Confirmed	304 (38.6)
Probable	484 (61.4)
Outcome	Number (Percent)
Hospitalized	172 (21.8)
Died	2 (0.3)
Sensitive Situation	Number (Percent)
Daycare	81 (10.3)
Health care	15 (1.9)
Food handler	18 (2.3)
Imported Status	Number (Percent)
Acquired in Florida	544 (85.1)
Acquired in the U.S., not Florida	17 (2.7)
Acquired outside the U.S.	78 (12.2)
Acquired location unknown	149
Outbreak Status	Number (Percent)
Sporadic	562 (75.7)
Outbreak-associated	180 (24.3)
Outbreak status unknown	46

STEC infection cases occurred in most areas of the state, though less commonly in the Florida Panhandle in 2019. The highest rates (per 100,000 population) were primarily in small, rural counties in 2019.

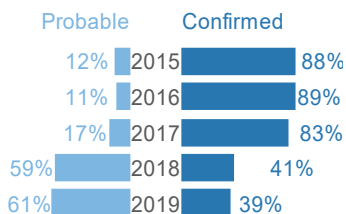


Rates are by county of residence for infections acquired in Florida (788 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

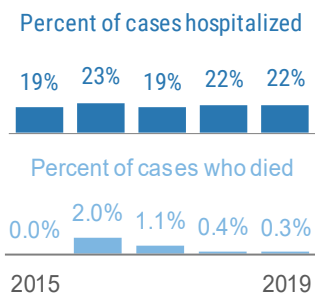


More Disease Trends

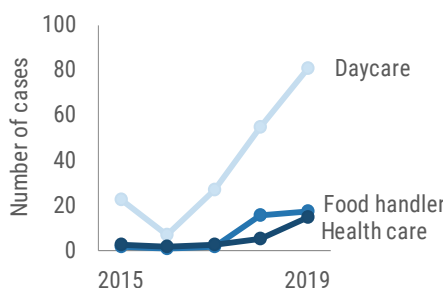
The case definition changed in 2018 to include CIDT in the probable case classification, resulting in more probable cases.



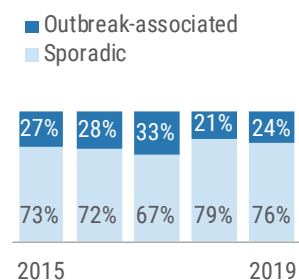
Between 19% and 23% of cases are hospitalized each year. Very few cases die (more likely in cases who develop HUS).



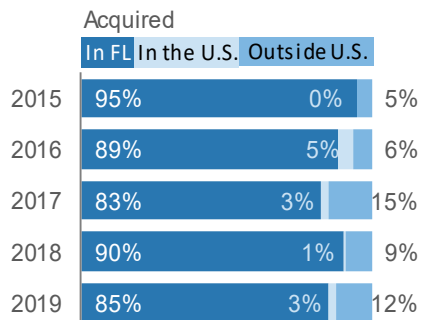
Outbreaks in daycares in 2015, 2017, 2018 and 2019 contributed to higher numbers of cases in that setting.



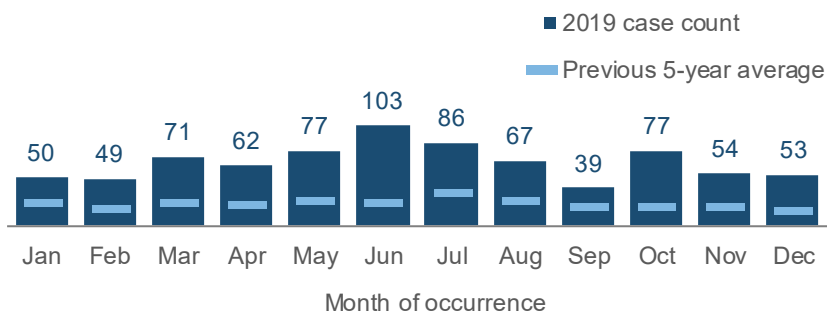
Less than 35% of cases are outbreak-associated each year.



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



There is no distinct seasonality to STEC infection cases in Florida. Cases occur at moderate levels year-round. More cases occurred in June and July in 2019.



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

Shigellosis





Key Points

Shigellosis is a common cause of diarrheal illness in the U.S., resulting in an estimated 450,000 illnesses each year*. Shigellosis has a cyclic temporal pattern with large community-wide outbreaks, frequently involving daycare centers, occurring every 3 to 5 years. Incidence is consistently highest in children <10 years old.

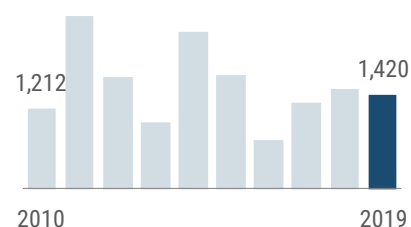
The use of culture-independent diagnostic testing (CIDT) to identify *Shigella* has increased in recent years. Florida changed the shigellosis surveillance case definition in January 2017 to include CIDT in the criteria for probable cases, contributing to the increase in cases reported in 2017.

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.

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 decreased in 2019, consistent with historic cyclical patterns; recent peaks occurred in 2011 and 2014.



Disease Trends

Summary

Number of cases	1,420
Rate (per 100,000 population)	6.7
Change from 5-year average rate	-12.7%

Age (in Years)

Mean	25
Median	19
Min-max	0 - 101

Gender

	Number (Percent)	Rate
Female	595 (42.0)	5.5
Male	823 (58.0)	7.9
Unknown gender	2	

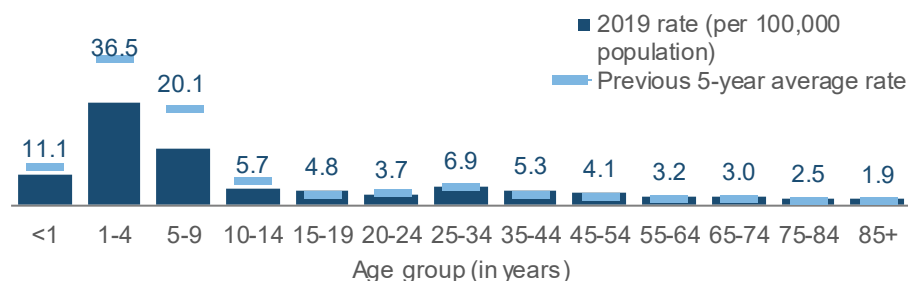
Race

	Number (Percent)	Rate
White	769 (55.1)	4.7
Black	385 (27.6)	10.7
Other	242 (17.3)	19.7
Unknown race	24	

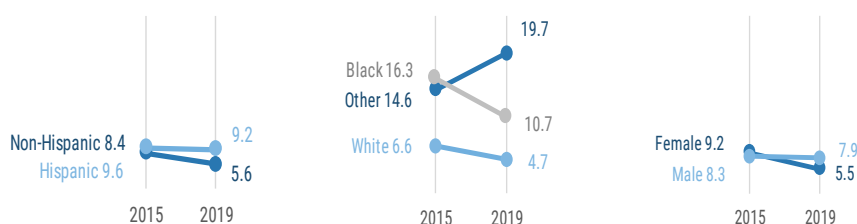
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	875 (62.9)	5.6
Hispanic	516 (37.1)	9.2
Unknown ethnicity	29	

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



The shigellosis rate (per 100,000 population) decreased in all demographics from 2015 to 2019, except in other races where it increased. The rates were slightly higher in males and Hispanics compared to females and non-Hispanics in 2019. The rate was highest in other races, followed by blacks then whites in 2019.

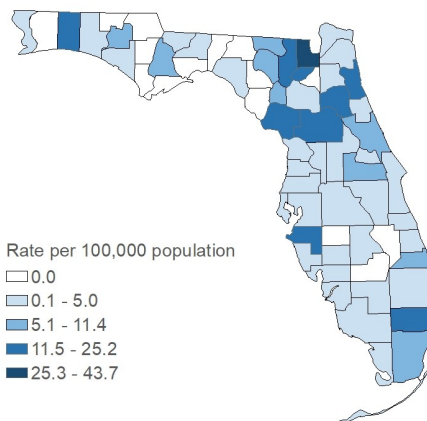


*For more information, visit CDC's Shigellosis webpage at <https://www.cdc.gov/shigella/general-information.html>

Shigellosis

Summary	Number
Number of cases	1,420
Case Classification	Number (Percent)
Confirmed	638 (44.9)
Probable	782 (55.1)
Outcome	Number (Percent)
Hospitalized	315 (22.2)
Died	5 (0.4)
Sensitive Situation	Number (Percent)
Daycare	200 (14.1)
Health care	22 (1.5)
Food handler	31 (2.2)
Imported Status	Number (Percent)
Acquired in Florida	1,192 (91.3)
Acquired in the U.S., not Florida	12 (0.9)
Acquired outside the U.S.	102 (7.8)
Acquired location unknown	114
Outbreak Status	Number (Percent)
Sporadic	1,003 (71.1)
Outbreak-associated	407 (28.9)
Outbreak status unknown	10

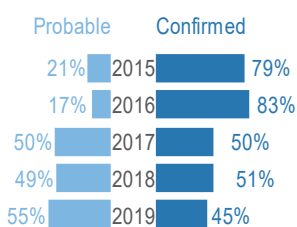
Shigellosis cases occurred in most areas of the state, though less commonly in the Florida Panhandle in 2019. The highest rates (per 100,000 population) were in northern and southeast Florida. Geographic distribution varies by year, often driven by clusters in counties experiencing large outbreaks.



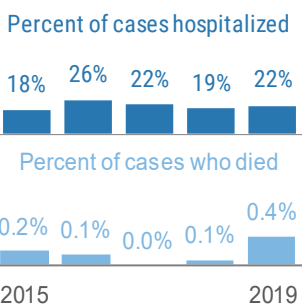
Rates are by county of residence for infections acquired in Florida (1,420 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

More Disease Trends

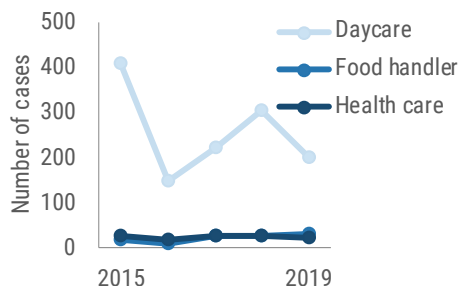
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



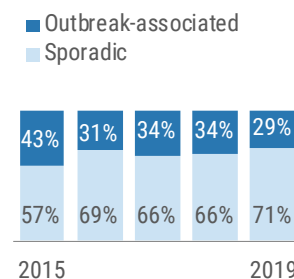
Between 18% and 26% of cases are hospitalized each year. Deaths are rare.



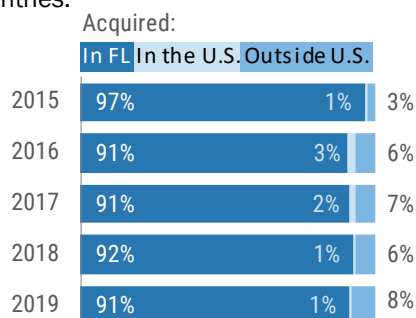
Person-to-person outbreaks are common in daycare settings. In 2019, 26% of outbreak-associated cases occurred in daycare settings.



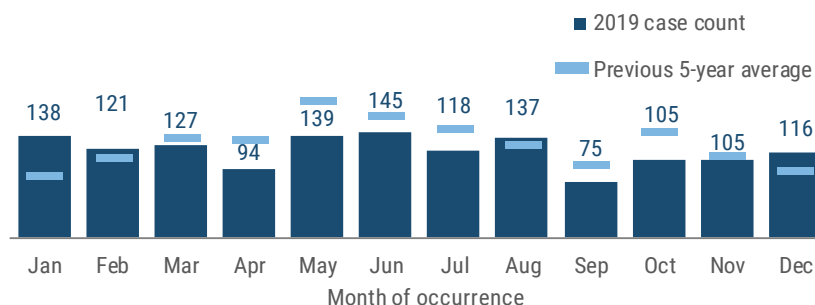
Outbreaks are common; as few as 10 *Shigella* bacteria can result in illness, making it easy to spread from person to person.



Most *Shigella* infections are acquired in Florida; a small number of infections are acquired from other states and countries.



Shigellosis occurred throughout 2019, with activity peaking during the summer. The largest number of cases was reported in June in 2019.







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 of 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 2019, 45% of infectious syphilis cases were reported in individuals who were known to be coinfecting with HIV, which was a 12% increase from 2018.

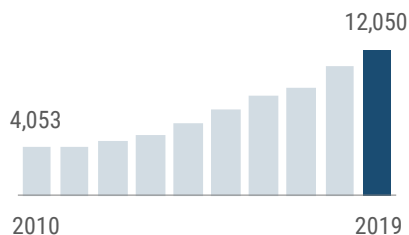
Disease Facts

-  **Caused by** *Treponema pallidum* bacteria
-  **Illness** includes sores on genitals, anus or mouth; 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 2019, syphilis incidence continued to increase both in Florida and nationally.



Summary

Number of cases	12,050
Rate (per 100,000 population)	56.7
Change from 5-year average rate	+41.0%

Age (in Years)

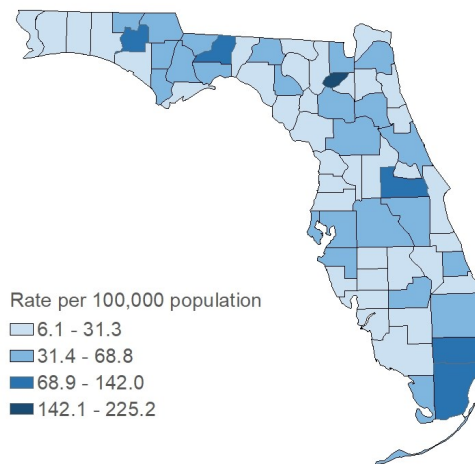
Mean	37
Median	34
Min-max	13 - 92

Gender	Number (Percent)	Rate
Female	2,176 (18.1)	20.0
Male	9,873 (81.9)	95.0
Unknown gender	1	

Race	Number (Percent)	Rate
White	5,965 (52.3)	36.3
Black	4,092 (35.9)	113.6
Other	1,351 (11.8)	110.3
Unknown race	642	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	7,432 (67.1)	47.4
Hispanic	3,647 (32.9)	65.3
Unknown ethnicity	971	

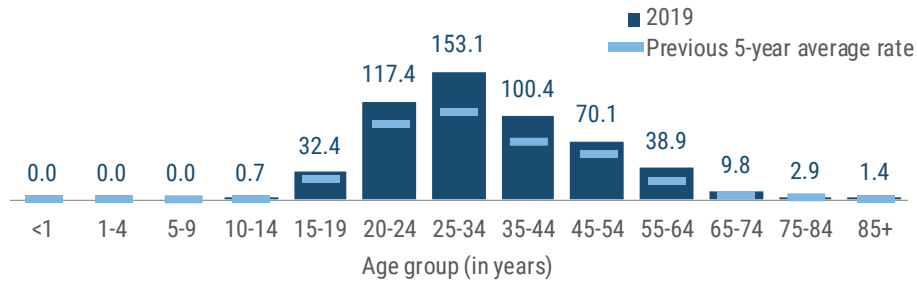
Syphilis occurs throughout the state. The highest rates (per 100,000 population) in 2019 were in large counties, including Miami-Dade (113.3), Broward (105.3) and Orange (84.4) as well as in small rural counties, including Union (225.2 based on 36 cases), Gadsden (62.6) and Washington (142.0).



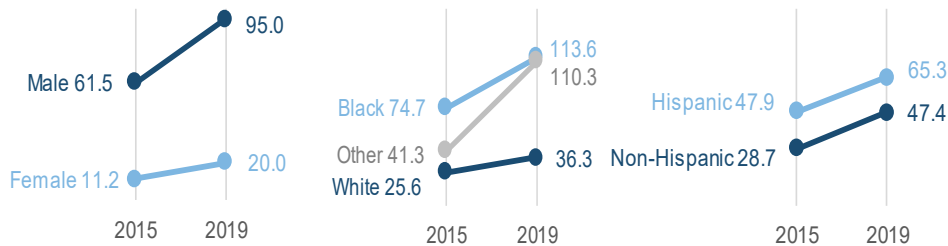
Rates are by county of residence, regardless of where infection was acquired (12,050 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

Syphilis (Excluding Congenital)

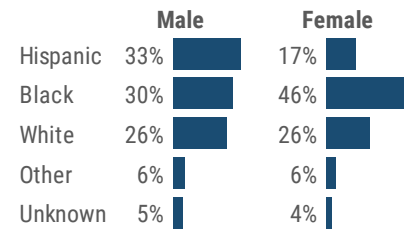
The syphilis rate (per 100,000 population) is highest in adults 20 to 54 years old and peaks in adults 25 to 34 years old.



The syphilis rate (per 100,000 population) increased in all gender, race and ethnic groups from 2015 to 2019. The increase was most notable in males and in other races. The rates are highest in men, blacks and Hispanics.



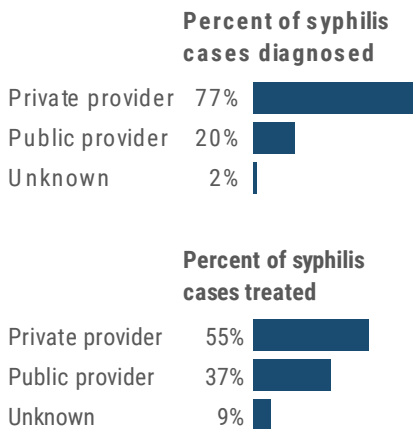
Race and ethnicity differed between genders. Black females and Hispanic males were at increased risk for syphilis.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Syphilis cases (excluding congenital) were missing 6.8% of ethnicity data in 2015.

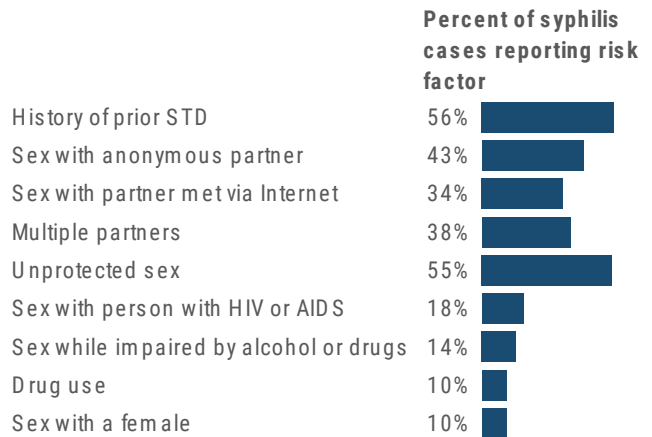
In 2019, most people (77%) went to their own private provider for sexually transmitted disease testing. However, the recommended treatment for syphilis, per the Centers for Disease Control and Prevention, is parenterally administered penicillin G benzathine. As many providers do not keep the standard benzathine penicillin product Bicillin on hand, they often refer their patients to county health departments for treatment.

In 2019, 37% 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 incidence of the MSM risk is difficult to estimate due to many factors. In 2019, most (69%) syphilis cases in males were in men who reported having sex with other men.

MSM with syphilis who were interviewed in 2019 (6,709 men) disclosed an array of risk behaviors, which included sex with anonymous partners and sex with females.







Tuberculosis

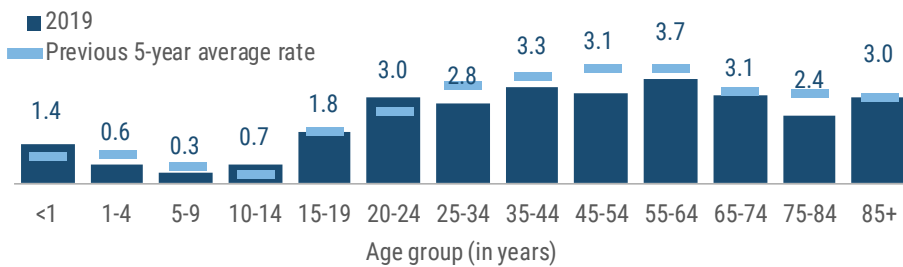
Key Points

Tuberculosis (TB) continues to be a public health threat in Florida. Incidence has generally declined over the past decade, though small fluctuations can occur year to year. Slight increases in 2015, 2016 and 2018 were observed after historic lows in 2014 and 2017. In 2019, cases decreased by 6%. Medically underserved and low-income populations, including racial and ethnic minorities, have high rates of TB. In Florida, TB incidence is much higher in men than women. The rate per 100,000 population in blacks in Florida was more than three times as high as the rate in whites in 2019.

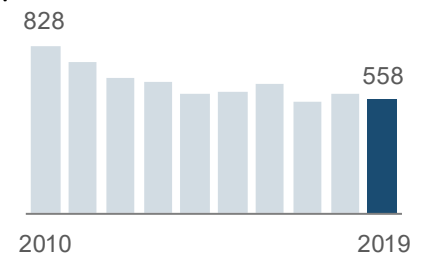
Disease Facts

-  **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 2.4 to 3.7 in adults 25 to 84 years old.



Despite a slight increase in 2018, TB incidence has generally decreased over the past decade.



Disease Trends

Summary

Number of cases	558
Rate (per 100,000 population)	2.6
Change from 5-year average rate	-11.5%

Age (in Years)

Mean	48
Median	50
Min-max	0 - 92

Gender

Gender	Number (Percent)	Rate
Female	196 (35.1)	1.8
Male	362 (64.9)	3.5
Unknown gender	0	

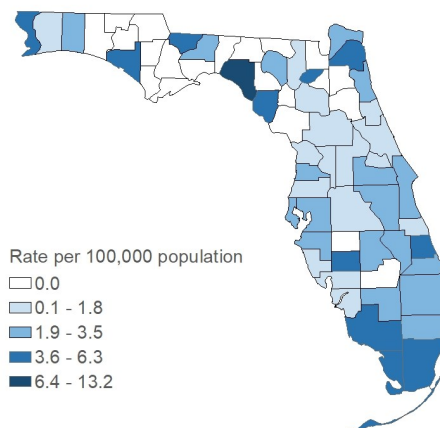
Race

Race	Number (Percent)	Rate
White	269 (48.2)	1.6
Black	210 (37.6)	5.8
Other	79 (14.2)	6.4
Unknown race	0	

Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	377 (67.6)	2.4
Hispanic	181 (32.4)	3.2
Unknown ethnicity	0	

TB occurred in most parts of the state in 2019, though was less common in the Panhandle. While the highest rates (per 100,000 population) tended to be in small, rural counties, over 31% of all TB cases were in Miami-Dade (118 cases) and Broward (56 cases) counties.

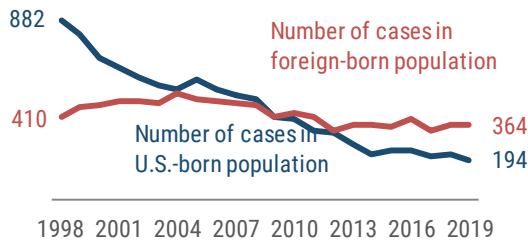


Rates are by county of residence, regardless of where infection was acquired (558 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

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 2019, 65% of all TB cases in Florida were in the foreign-born population. The most common countries of origin in 2019 included Haiti, Mexico, the Philippines, Vietnam, Guatemala, Colombia and Cuba, accounting for 224 (61%) of 364 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 2019, 65% more cases were in foreign-born people than U.S.-born.

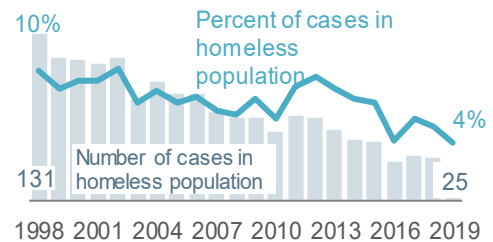


As the number of TB cases has declined in Florida, the percent of those cases in the foreign-born population has increased. In 2019, 65% of cases were in people born outside the U.S.

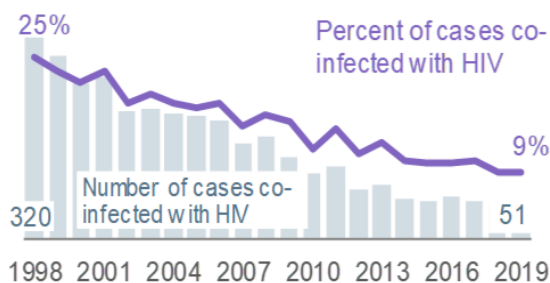


People experiencing homelessness are at increased risk for disease and are a focus for TB prevention and control efforts in Florida. Since 1998, the total number of TB cases among the homeless population in Florida has decreased by over 50%; however, in the same time period, the percent of people with TB who are homeless remained relatively stable (8% to 10%) until 2012. Since 2012, the percent of people with TB who are homeless decreased from 9.6% to 4% in 2019.

Despite a slight increase in 2017, the number and percent of cases among the homeless population has steadily decreased since 2012.



In 2019, 9% of TB cases were co-infected with HIV. This is a slight decrease from 2017 and is consistent with the overall decreasing trend.



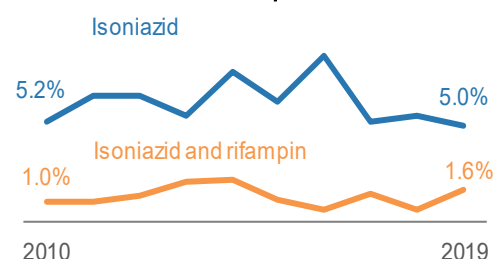
Untreated HIV infection remains the biggest risk factor for developing active TB disease following infection with TB and is a focus for TB prevention and control efforts in Florida. TB and HIV co-infection has been declining modestly but steadily over time in Florida. In the last three years the decline has leveled off at 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 2019, 437 TB cases were tested in Florida for resistance to isoniazid and rifampin. Over the past 10 years:

- Resistance to isoniazid alone ranged from 5% to 9%.
- Resistance to isoniazid and rifampin ranged from 0.6 to 2.2%.

In 2019, resistance to isoniazid alone decreased and resistance to isoniazid and rifampin increased, but were within the 10-year ranges.

In 2019, 5% of tested cases were resistant to isoniazid alone and 1.6% were resistant to both isoniazid and rifampin.



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 by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices. Beginning with the 2008 to 2009 school year, children entering kindergarten in Florida were required to receive two doses of varicella vaccine per Florida Administrative Code Rule 64D-3.046. Due to effective vaccination programs, there was a steady decrease in incidence in Florida from 2008 to 2014. Incidence increased slightly in 2015 and has remained elevated.

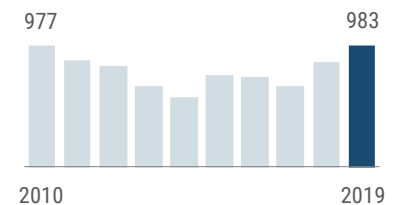
The rate of varicella remained highest among infants <1 year old who are too young to be vaccinated. As a result, vaccination of siblings and caregivers is particularly important to protect this group.

The number of outbreak-associated cases decreased from 256 (30.8%) in 2018 to 235 (24.4%) in 2019. Of the 235 outbreak-associated cases identified, most were small household clusters. Two outbreaks (defined as 5 or more cases linked in a single setting) were identified in 2019, including 1 outbreak in a daycare and 1 outbreak in a shelter. Counties with ≥10 outbreak-associated cases included Miami-Dade (55), Broward (30) and Palm Beach (20).

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 increased in 2019.



Disease Trends

Summary

Number of cases	983
Rate (per 100,000 population)	4.6
Change from 5-year average rate	+31.9%

Age (in Years)

Mean	19
Median	11
Min-max	0 - 95

Gender

	Number (Percent)	Rate
Female	455 (46.4)	4.2
Male	526 (53.6)	5.1
Unknown gender	2	

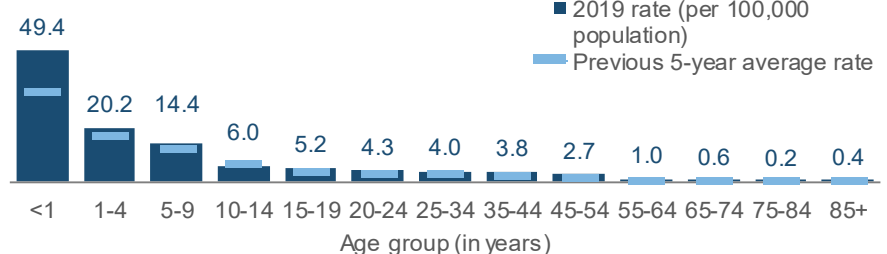
Race

	Number (Percent)	Rate
White	622 (65.7)	3.8
Black	139 (14.7)	3.9
Other	186 (19.6)	15.2
Unknown race	36	

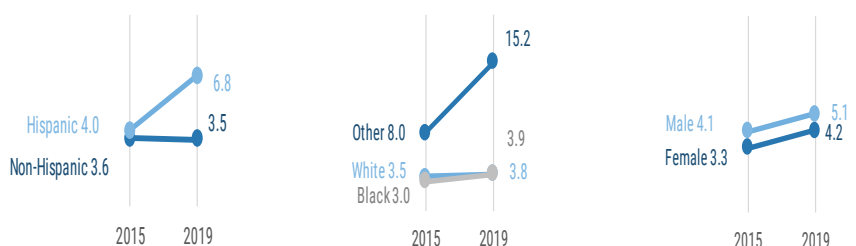
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	550 (59.1)	3.5
Hispanic	380 (40.9)	6.8
Unknown ethnicity	53	

The varicella rate (per 100,000 population) remained highest in infants <1 year old in 2019, exceeding the previous five-year average.



The varicella rate (per 100,000 population) is relatively similar among males and females. It is also similar among whites and blacks, and since 2015, the rate in other races has increased notably. The rate in Hispanics has also increased since 2015.

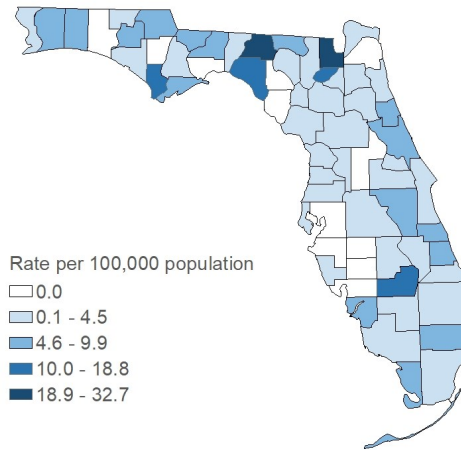


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Varicella cases were missing 5.4% of ethnicity data in 2019.

Varicella (Chickenpox)

Summary	Number
Number of cases	983
Case Classification	Number (Percent)
Confirmed	350 (35.6)
Probable	633 (64.4)
Outcome	Number (Percent)
Hospitalized	73 (7.4)
Died	1 (0.1)
Imported Status	Number (Percent)
Acquired in Florida	856 (95.7)
Acquired in the U.S., not Florida	9 (1.0)
Acquired outside the U.S.	29 (3.2)
Acquired location unknown	89
Outbreak Status	Number (Percent)
Sporadic	727 (75.6)
Outbreak-associated	235 (24.4)
Outbreak status unknown	21

Varicella occurred throughout the state in 2019. Rates (per 100,000 population) varied regardless of county population.

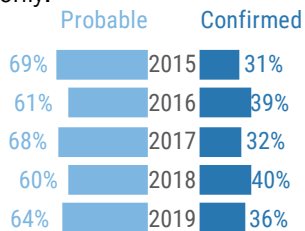


Rates are by county of residence for infections acquired in Florida (983 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

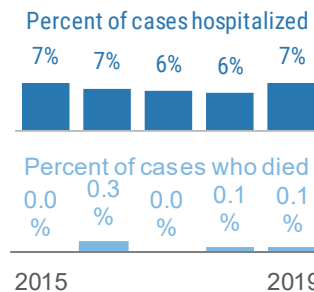


More Disease Trends

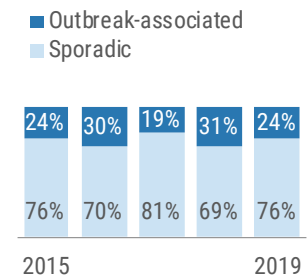
Just over one-third of cases are confirmed. Most varicella cases are classified as probable based on symptoms only.



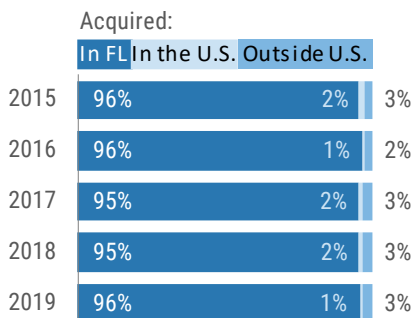
Most varicella cases do not require hospitalization; deaths are very rare.



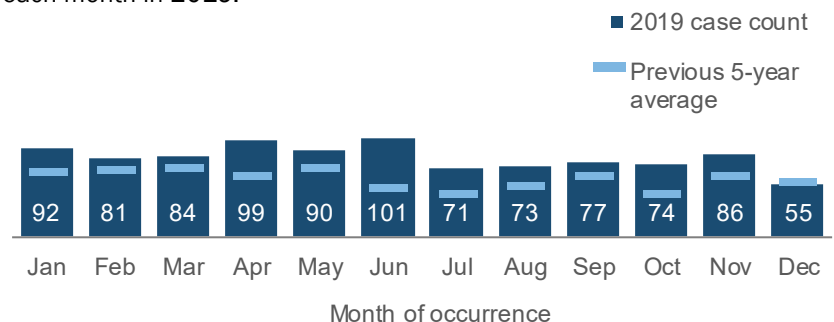
Less than one-third of cases are outbreak-associated. In 2019, 24% of cases were outbreak-associated.



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



Due to robust vaccination programs, there is no longer discernable seasonality for varicella in Florida. Between 55 and 101 cases occurred each month in 2019.



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).

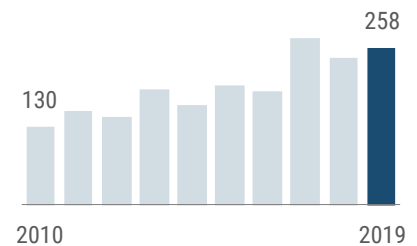
Vibrio vulnificus infections typically occur in people who have chronic kidney or liver disease, a history of alcoholism or are immunocompromised. Of the 27 *V. vulnificus* cases in 2019, 24 (88.9%) had underlying medical conditions. *V. vulnificus* can cause particularly severe disease, with about 50% of bloodstream infections being fatal.

Of the 27 cases due to *V. vulnificus* in 2019, 24 (88.9%) were hospitalized and 2 (7.4%) died, accounting for 2 of the 7 total vibriosis deaths. The remaining 5 deaths were associated with infection with *V. cholerae* type non-O1 (2 cases), *V. alginolyticus* (1 case), *V. fluvialis* (1 case) and an unidentified *Vibrio* species (1 case). Of the 7 people who died from vibriosis, 3 reported having a wound with seawater exposure, 1 had multiple exposures and 3 had other or unknown exposures.

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, 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 slightly in 2019.



Disease Trends

Summary

Number of cases	258
Rate (per 100,000 population)	1.2
Change from 5-year average rate	+15.6%

Age (in Years)

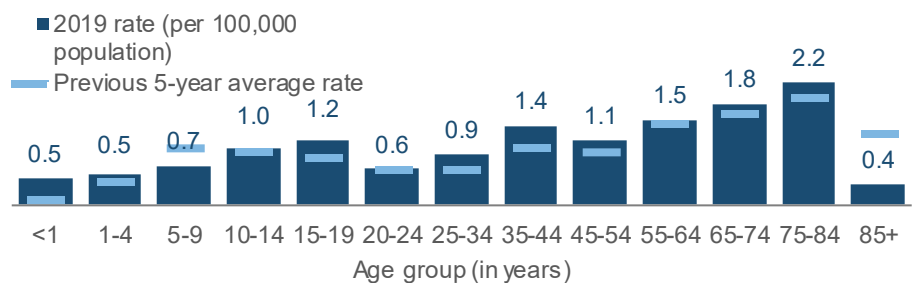
Mean	48
Median	52
Min-max	0 - 92

Gender	Number (Percent)	Rate
Female	72 (27.9)	0.7
Male	186 (72.1)	1.8
Unknown gender	0	

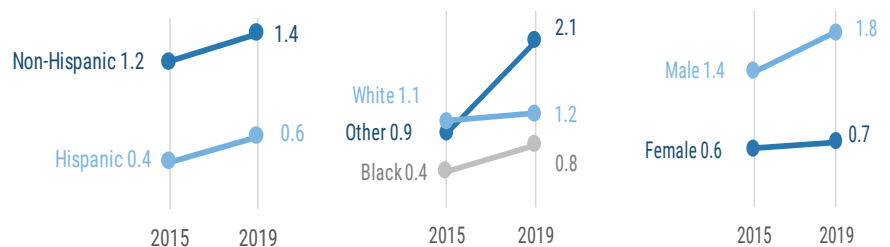
Race	Number (Percent)	Rate
White	196 (78.4)	1.2
Black	28 (11.2)	0.8
Other	26 (10.4)	2.1
Unknown race	8	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	217 (87.1)	1.4
Hispanic	32 (12.9)	0.6
Unknown ethnicity	9	

The vibriosis rate (per 100,000 population) is usually highest in adults 55 to 84 years old. In 2019, the rate was highest in adults 75 to 84 years old.



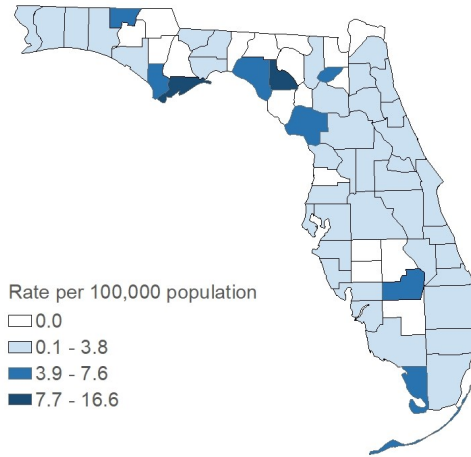
Vibriosis rates (per 100,000 population) increased in all gender, race and ethnicity groups from 2015 to 2019. The rate is consistently higher in males, whites and non-Hispanics.



Vibriosis (Excluding Cholera)

Summary	Number
Number of cases	258
Case Classification	Number (Percent)
Confirmed	188 (72.9)
Probable	70 (27.1)
Outcome	Number (Percent)
Hospitalized	113 (43.8)
Died	7 (2.7)
Imported Status	Number (Percent)
Acquired in Florida	225 (91.5)
Acquired in the U.S., not Florida	9 (3.7)
Acquired outside the U.S.	12 (4.9)
Acquired location unknown	12
Outbreak Status	Number (Percent)
Sporadic	250 (96.9)
Outbreak-associated	8 (3.1)
Outbreak status unknown	0

Vibriosis occurred in most parts of the state in 2019. The rates (per 100,000 population) varied across the state with some of the highest rates in low-population counties.

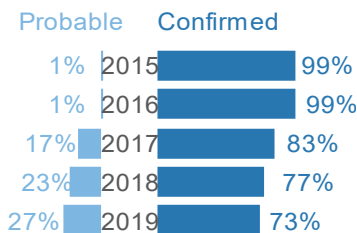


Rates are by county of residence for infections acquired in Florida (258 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

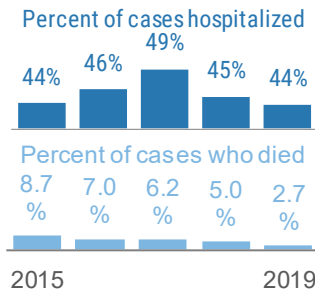


More Disease Trends

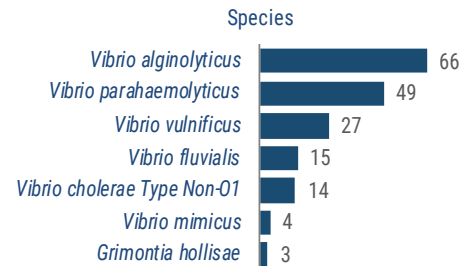
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



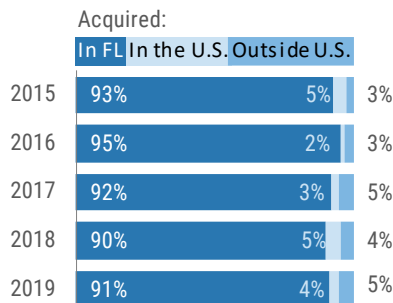
Between 40% and 50% of cases are hospitalized; deaths do occur. Two people infected with *V. vulnificus* died in 2019.



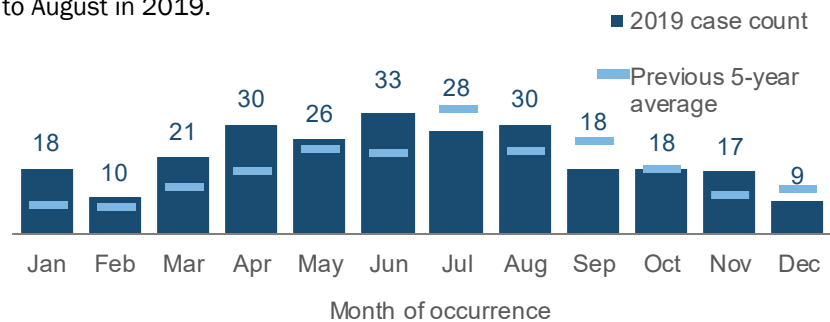
In 2019, the most commonly reported *Vibrio* species were *V. alginolyticus*, *V. parahaemolyticus* and *V. vulnificus*. The number of other *Vibrio* infections was largely due to CIDT, which cannot differentiate between species.



Most *Vibrio* infections are acquired in Florida. In 2019, 21 infections were acquired in other states or countries.



Vibriosis occurs throughout the year in Florida, with activity typically peaking during the summer months. Over 26 cases occurred each month from April to August in 2019.



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, with most being travel-associated; however, 285 cases were locally acquired. Active transmission of Zika virus was identified in four areas in Miami-Dade County in 2016. Three-hundred cases were locally acquired and linked to exposure in 2016.

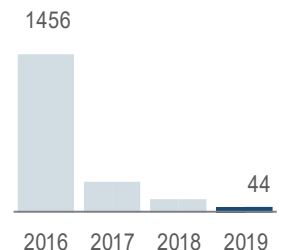
Unlike dengue fever, infection with Zika virus leads to lifetime immunity, which is believed to be the primary reason for the substantial decrease in incidence in endemic countries and subsequent decreased risk for introduction in non-endemic areas such as Florida. As a result, only 2 locally acquired cases were identified with symptom onset in September 2017.

Unlike other diseases and conditions in this report, non-Florida residents are included in Zika case counts. Non-Florida residents made up about 7% of cases reported from 2016 to 2017, compared to 18% of cases in 2018, and returning to about 7% of cases in 2019. Only 21% (299) of cases were pregnant in 2016, compared to much larger proportions in 2017 (136, 49%), 2018 (82, 71%) and 2019 (28, 64%). This increase was primarily related to the absence of local transmission and significant decrease in regional outbreaks. It is important to note that prolonged Zika Immunoglobulin M (IgM) antibody detection of 2 years or longer is possible as are false positive IgM antibody results. As a result, since November 2019, CDC has recommended utilizing Zika nucleic acid amplification rather than antibody testing.

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 birth defects may occur when mother is infected during pregnancy; post-infection Guillain-Barré syndrome
- 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

The incidence of Zika virus disease and infection has decreased drastically since 2016.



Disease Trends

Summary

Number of cases	44
Rate (per 100,000 population)	0.2
Change from 3-year average incidence	-93.2%

Age (in Years)

Mean	30
Median	29
Min-max	17 - 63

Gender

	Number (Percent)	Rate
Female	43 (97.7)	0.4
Male	1 (2.3)	NA
Unknown gender	0	

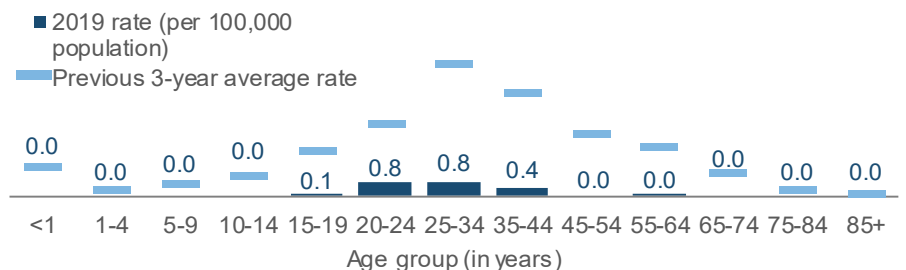
Race

	Number (Percent)	Rate
White	24 (54.5)	0.1
Black	12 (27.3)	NA
Other	8 (18.2)	NA
Unknown race	0	

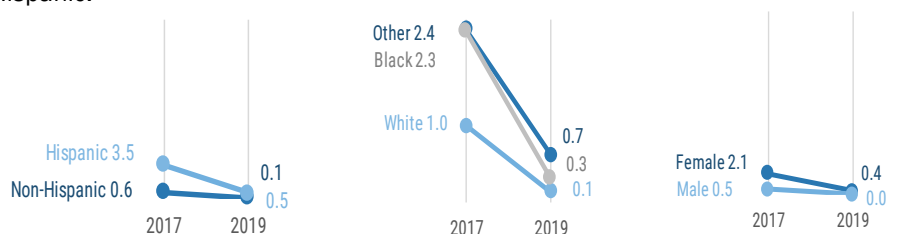
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	14 (31.8)	NA
Hispanic	30 (68.2)	0.5
Unknown ethnicity	0	

The rate of Zika virus disease and infection (per 100,000 population) is highest in adults 20 to 34 years old. Due to the possibility of adverse pregnancy and fetal outcomes associated with Zika virus infection during pregnancy, testing is focused on pregnant women.



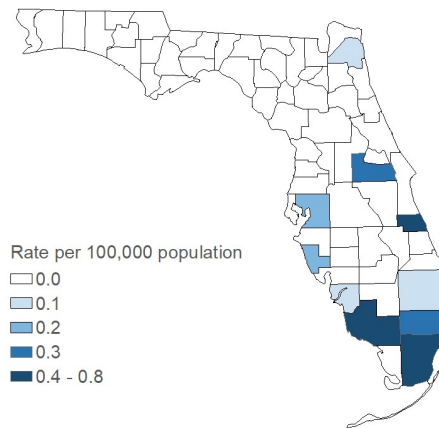
The rates of Zika virus disease and infection (per 100,000 population) vary by gender, race and ethnicity. In 2019, the majority of cases were female, white and Hispanic.



Zika Virus Disease and Infection

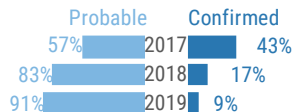
Summary	Number
Number of cases	44
Case Classification	Number (Percent)
Confirmed	4 (9.1)
Probable	40 (90.9)
Type	Number (Percent)
Non-congenital	44 (100)
Congenital	0 (0)
Residence Status	Number (Percent)
Florida resident	41 (93.2)
Non-Florida resident	3 (6.8)
Special Populations	Number (Percent)
Pregnant women	28 (63.6)
Symptom Status	Number (Percent)
Symptomatic	0 (0)
Asymptomatic	44 (100)

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 where there are a higher proportion of residents born outside of the U.S. More than half of these cases were reported among Miami-Dade County residents.



Rates are by county of residence, regardless of where infection was acquired (44 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 2019 by county.

Very few cases met confirmatory case criteria in 2019; positive results were only from antibody testing rather than detection of Zika virus.



More Disease Trends

Haiti and Cuba were the top two countries where infections were acquired in both 2018 and 2019.

All 2019 cases were in individuals without symptoms and the date of virus exposure cannot be definitively determined.

Top 5 exposure locations for 2018

Country	Number	Percent
Haiti	43	37%
Cuba	22	19%
Venezuela	16	14%
Honduras	8	7%
Dominican Republic	4	3%

Top 5 exposure locations for 2019

Country	Number	Percent
Haiti	11	25%
Cuba	10	23%
Guatemala	5	11%
Honduras	4	9%
Venezuela	3	7%

Imported Status	2018		2019	
	Number	Percent	Number	Percent
Travel-related	111	97%	41	93%
Undetermined (exposed in 2016)	2	2%	3	7%
Locally acquired (exposed in 2016)	0	0%	0	0%
Locally acquired (exposed in 2017)	0	0%	0	0%
Locally acquired (unknown exposure year)	1	1%	0	0%
Locally acquired (laboratory exposure)	1	1%	0	0%

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 confirmed for these individuals.

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. From 2016 to 2018, eight congenital Zika syndrome (CZS) cases and two healthy-appearing infants with Zika virus infection were reported. No CZS cases were identified in 2019. Six sexual transmission cases were reported from 2016 to 2017; however, none were reported in 2018 or 2019.

Section 2

Data Summaries for Reportable Diseases and Conditions—2020



Campylobacteriosis





Key Points

Campylobacteriosis is the most common bacterial cause of diarrheal illness in the U.S. The Centers for Disease Control and Prevention estimates that *Campylobacter* infection affects at least 1.5 million U.S. residents each year. While most cases are not part of recognized outbreaks, outbreaks in the U.S. have historically been associated with poultry, raw (unpasteurized) dairy products, seafood, produce, untreated water, puppies and live poultry.

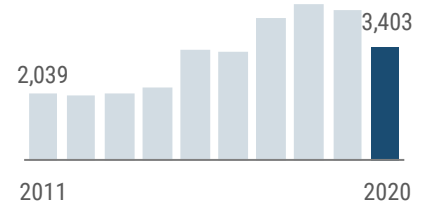
The use of culture-independent diagnostic testing (CIDT) to identify *Campylobacter* has increased dramatically in recent years. Florida changed the campylobacteriosis surveillance case definition in January 2011, July 2011, January 2015 and January 2017 to account for CIDTs, increasing the number of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

Campylobacteriosis occurs year-round in Florida, with a slight seasonal increase in spring and summer. Campylobacteriosis incidence is consistently highest in infants <1 year old, followed by children 1 to 4 years old.

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. Notable increases in 2015 and 2017 are primarily due to case definition changes.



Disease Trends

Summary

Number of cases	3,403
Rate (per 100,000 population)	15.7
Change from 5-year average rate	-19.6%

Age (in Years)

Mean	44
Median	48
Min-max	0 - 106

Gender

Gender	Number (Percent)	Rate
Female	1,718 (50.5)	15.5
Male	1,685 (49.5)	15.9
Unknown gender	0	

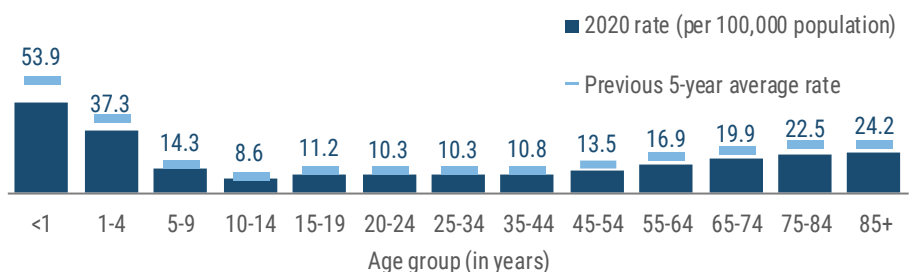
Race

Race	Number (Percent)	Rate
White	2,583 (77.7)	15.5
Black	371 (11.2)	10.1
Other	371 (11.2)	29.5
Unknown race	78	

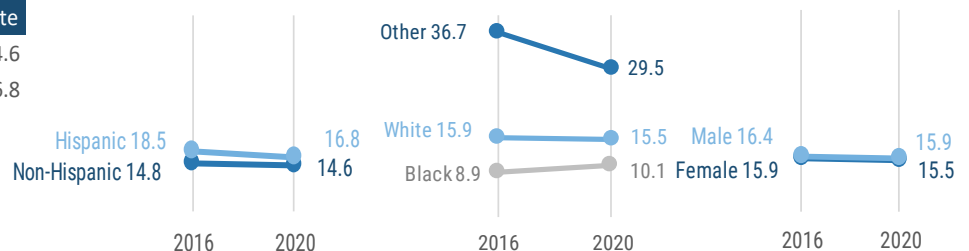
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	2,314 (70.5)	14.6
Hispanic	970 (29.5)	16.8
Unknown ethnicity	119	

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



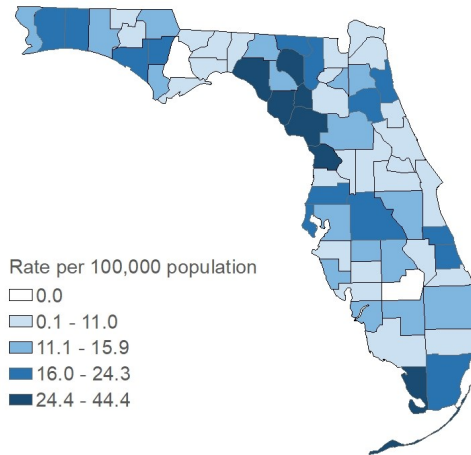
The campylobacteriosis rate (per 100,000 population) decreased in all demographics except for blacks from 2016 to 2020. The rates were slightly higher in males, whites and Hispanics compared to females, blacks and non-Hispanics in 2020. The rate was notably higher in other races compared to whites and blacks in 2020.



Campylobacteriosis

Summary	Number
Number of cases	3,403
Case Classification	Number (Percent)
Confirmed	1,221 (35.9)
Probable	2,182 (64.1)
Outcome	Number (Percent)
Hospitalized	1,318 (38.7)
Died	55 (1.6)
Sensitive Situation	Number (Percent)
Daycare	64 (1.9)
Health care	67 (2.0)
Food handler	33 (1.0)
Imported Status	Number (Percent)
Acquired in Florida	2,974 (97.3)
Acquired in the U.S., not Florida	16 (0.5)
Acquired outside the U.S.	68 (2.2)
Acquired location unknown	345
Outbreak Status	Number (Percent)
Sporadic	3,053 (96.1)
Outbreak-associated	125 (3.9)
Outbreak status unknown	225

Campylobacteriosis occurs throughout the state. In 2020, rates (per 100,000 population) were highest in small, rural counties, particularly in the north central part of the state.

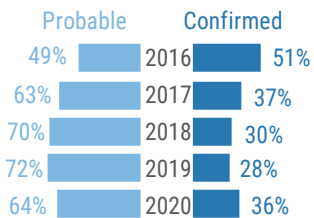


Rates are by county of residence for infections acquired in Florida (3,403 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

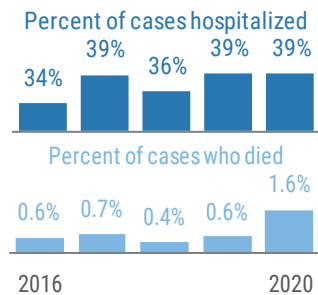


More Disease Trends

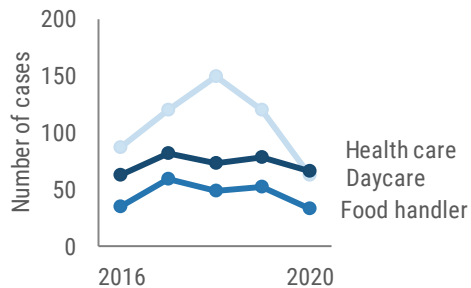
Between 28% and 51% of cases are confirmed due to case definition changes and increased use of CIDT.



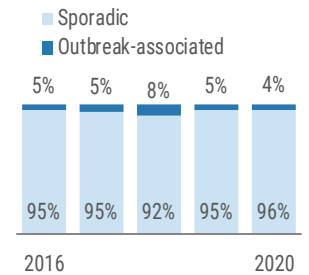
Between 34% and 39% of cases are hospitalized each year. Very few cases die.



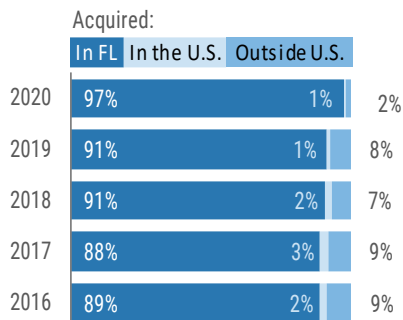
Cases in sensitive situations are monitored. No outbreaks have been identified in these settings in recent years.



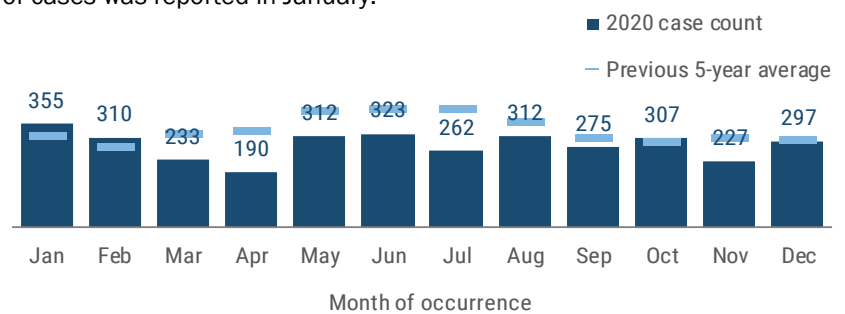
Most cases are sporadic; outbreak-associated cases often reflect household clusters.



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



Campylobacteriosis occurred throughout 2020, though cases were lower in **spring**, which is not consistent with past years. In 2020, the largest number of cases was reported in January.



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

Carbon Monoxide Poisoning

Key Points

Carbon monoxide (CO) is an invisible, odorless and tasteless gas that is highly poisonous. It can cause sudden illness and death if present in sufficient concentration in the ambient air. Floridians are exposed to CO during significant power outages by using alternative fuel or power sources such as generators or gasoline-powered equipment placed inside the home or too close to windows causing CO to build up indoors.

In 2017, 359 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.

In 2018, Hurricane Michael, a Category 5 storm, made landfall in the Florida Panhandle on October 10, causing 19 sporadic cases associated with inappropriate generator use. The fewer number of cases associated with Hurricane Michael reflects the smaller population of impacted counties compared to counties affected by Hurricane Irma.

The most commonly identified exposures for 2020 cases were automobile and recreational vehicles (RVs) (35%) and generators (15%).

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

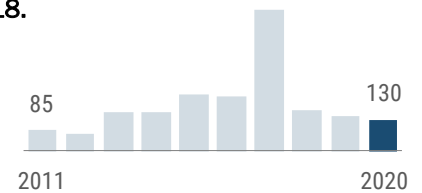


Exposure to CO gas is from combustion fumes (produced by cars and trucks, generators, stoves, lanterns, burning charcoal and wood, and gas ranges and heating systems)



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

After the sharp increase in 2017 as a result of Hurricane Irma, CO poisoning incidence returned to an average level in 2018.



Disease Trends

Summary

Number of cases	130
Rate (per 100,000 population)	0.6
Change from 5-year average rate	-53.8%

Age (in Years)

Mean	47
Median	45
Min-max	4 - 97

Gender

	Number (Percent)	Rate
Female	60 (46.2)	0.5
Male	70 (53.8)	0.7
Unknown gender	0	

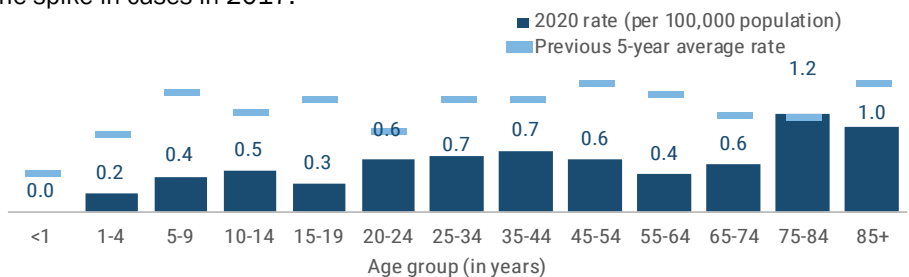
Race

	Number (Percent)	Rate
White	90 (70.9)	0.5
Black	17 (13.4)	NA
Other	20 (15.7)	1.6
Unknown race	3	

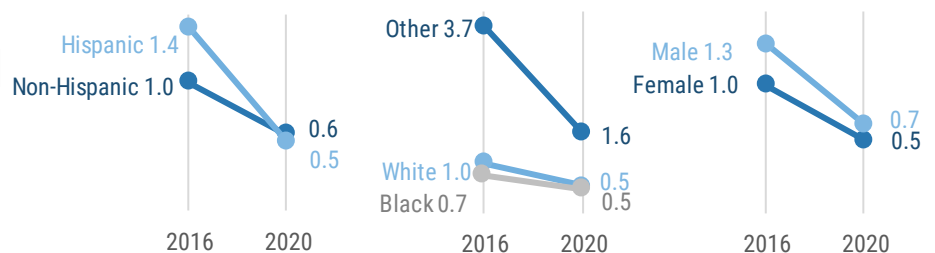
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	93 (75.0)	0.6
Hispanic	31 (25.0)	0.5
Unknown ethnicity	6	

In 2020, the CO poisoning rate (per 100,000 population) was highest in adults 75 to 84 years old. In past years, the rate was highest in adults 45 to 54 years old. The difference seen in the previous five-year average rate is likely being driven by the spike in cases in 2017.



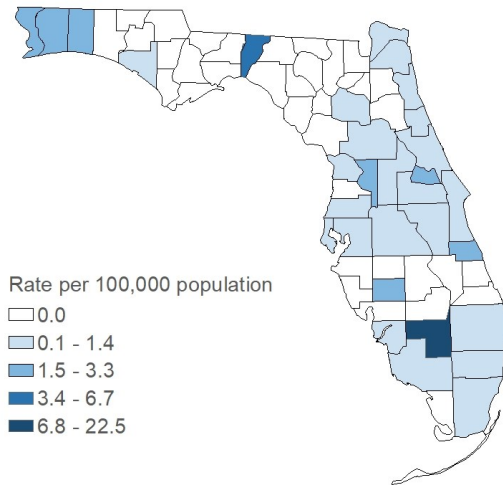
In 2020, CO poisoning rates (per 100,000 population) were slightly higher in males and non-Hispanics and notably higher in other races. The rates decreased in all demographics over the past 5 years.



Carbon Monoxide Poisoning

Summary	Number
Number of cases	130
Case Classification	Number (Percent)
Confirmed	113 (86.9)
Probable	17 (13.1)
Outcome	Number (Percent)
Hospitalized	47 (36.2)
Died	6 (4.6)
Imported Status	Number (Percent)
Exposed in Florida	130 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	0
Outbreak Status	Number (Percent)
Sporadic	49 (38.0)
Outbreak-associated	80 (62.0)
Outbreak status unknown	1
Exposure Type	Number (Percent)
Automobile/RV	46 (35.4)
Generator	20 (15.4)
Other	15 (11.5)
Fire	13 (10.0)
Power tools (including mower)	12 (9.2)
Portable fuel-burning grill/stove	11 (8.5)

Carbon monoxide poisonings in 2020 were concentrated in northeast, central and south Florida. Rates (per 100,000) were highest in small, rural counties throughout the state.

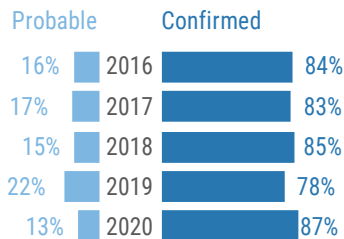


Rates are by county of residence for cases exposed in Florida (130 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

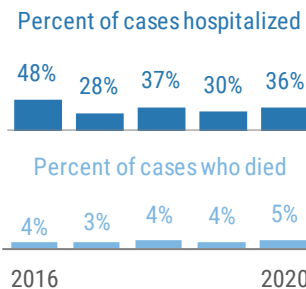


More Disease Trends

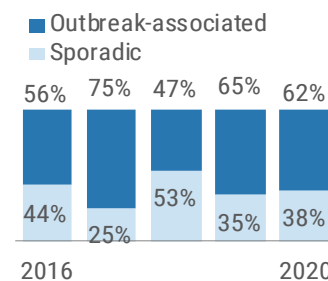
Most CO poisoning cases are confirmed. In 2020, 87% of cases were confirmed.



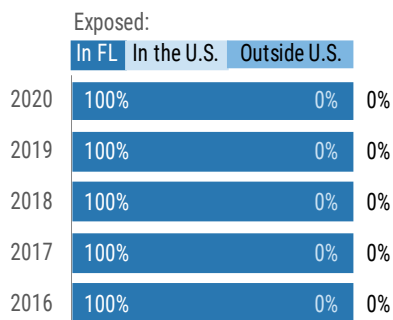
Between 28% and 48% of cases are hospitalized each year; deaths do occur.



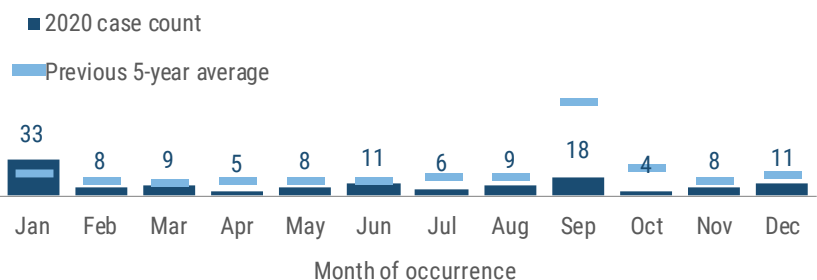
More than half (62%) of CO poisoning cases were linked to at least 1 other case in 2020. Over half of these cases were associated with exposure to automobiles (46 cases) or generator exhaust (20 cases).



All CO poisoning cases were exposed in Florida.



CO poisoning cases were highest in January and September in 2020. 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

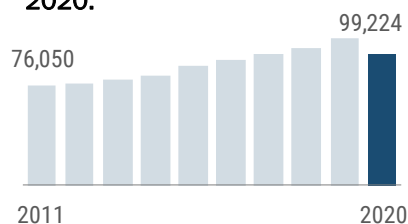
Chlamydia is the most commonly reported sexually transmitted disease in Florida and the U.S.; incidence rates have been slowly increasing over the past decade. Incidence is highest among females 20 to 24 years old and non-Hispanic blacks. If untreated, chlamydia can lead to serious reproductive complications and can make it difficult for females to conceive. As the infection 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, particularly in the past four years. The rate has decreased in non-Hispanic blacks, primarily driven by a decrease in infections in young black females.

Disease Facts

-  **Caused by** *Chlamydia trachomatis* bacteria
-  **Illness** is frequently asymptomatic; sometimes 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

Chlamydia incidence decreased in 2020.



Disease Trends

Chlamydia occurs throughout the state. The highest rates (per 100,000 population) in 2020 were in Leon (985.6), Gadsden (955.9), Alachua (931.6) and Hamilton (875.6) counties. The largest number of cases were reported in Miami-Dade (12,423 cases) and Broward (10,081 cases) counties. These 2 counties accounted for 23% of the state's cases and 22% of the state's population.

Summary

Number of cases	99,224
Rate (per 100,000 population)	458.5
Change from 5-year average rate	-5.9%

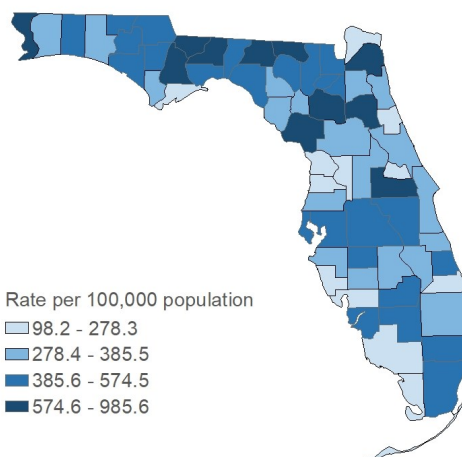
Age (in Years)

Mean	25
Median	23
Min-max	4 - 98

Gender	Number (Percent)	Rate
Female	63,915 (64.4)	577.7
Male	35,270 (35.6)	333.5
Unknown gender	39	

Race	Number (Percent)	Rate
White	26,917 (36.5)	161.0
Black	33,692 (45.7)	917.7
Other	13,103 (17.8)	1043.5
Unknown race	25,512	

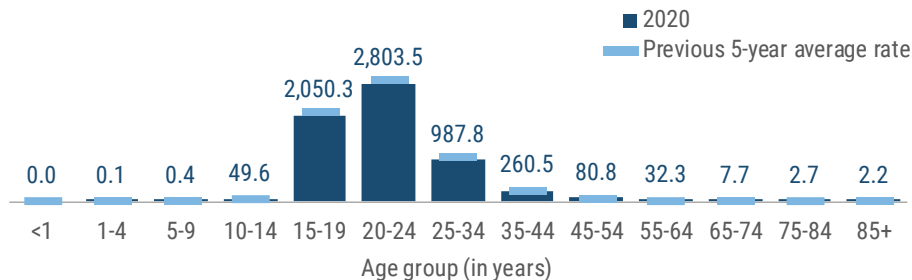
Ethnicity	Number (Percent)	Rate
Non-Hispanic	55,424 (79.8)	349.2
Hispanic	14,019 (20.2)	242.9
Unknown ethnicity	29,781	



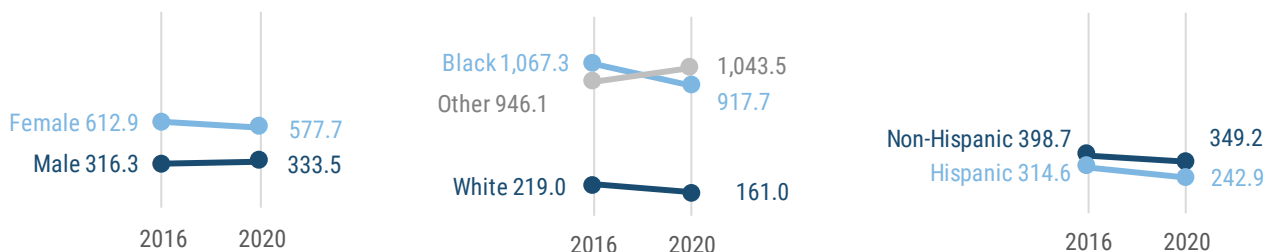
Rates are by county of residence, regardless of where infection was acquired (99,224 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

Chlamydia (Excluding Neonatal Conjunctivitis)

Chlamydia rates (per 100,000 population) are highest in adults 20 to 24 years old, followed by teenagers 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 35 times the rate in adults 45 to 54 years old.

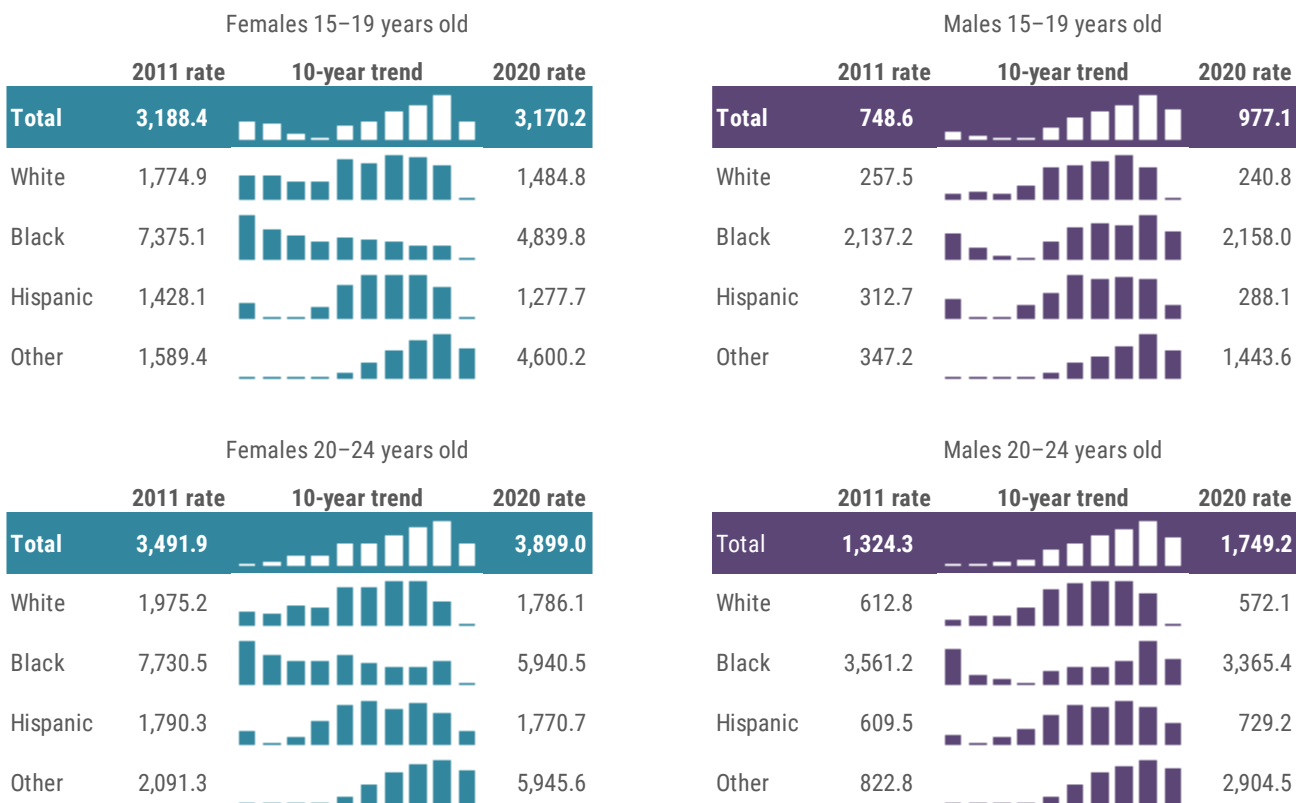


Chlamydia rates (per 100,000 population) decreased in both ethnicity groups, blacks, whites and females from 2016 to 2020. The rate in males and other races increased during this timeframe.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chlamydia cases (excluding neonatal conjunctivitis) were missing 19.3% of ethnicity data in 2016 and 14.3% of race data in 2016.

Overall, rates have increased in males 15 to 24 years old and in females 20 to 24 years old. However, in 2020, rates declined from the previous year. 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

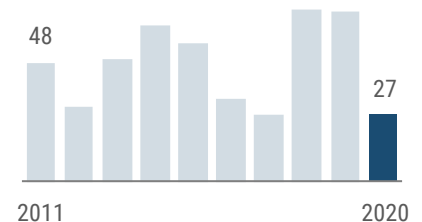
Ciguatoxin is produced by dinoflagellates in the genus *Gambierdiscus*. Marine dinoflagellates are typically found in tropical and subtropical waters and are eaten by herbivorous fish that are in turn eaten by larger carnivorous fish, causing the toxins to bioaccumulate in fish such as barracuda or grouper. 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 2 or more people had a common exposure. Eighteen investigations occurred in 2020 involving 27 cases. Six cases reported in 2020 were associated with 2 investigations that occurred in 2019. Investigations involved an average of 1.5 cases with a range of 1 to 5 cases. The most common fish consumed was barracuda. Cases were most commonly associated with recreationally harvested fish. In 2020, cases were investigated throughout the year, with the largest number of cases occurring in February, August and 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)

Ciguatera fish poisoning cases decreased significantly in 2020 compared to the previous 2 years.



Disease Trends

Summary

Number of cases	27
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-49.1%

Age (in Years)

Mean	42
Median	45
Min-max	5 - 67

Gender

Gender	Number (Percent)	Rate
Female	11 (40.7)	NA
Male	16 (59.3)	NA
Unknown gender	0	

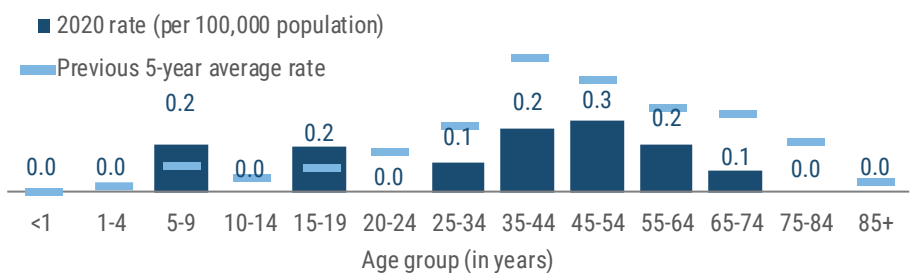
Race

Race	Number (Percent)	Rate
White	17 (68.0)	NA
Black	5 (20.0)	NA
Other	3 (12.0)	NA
Unknown race	2	

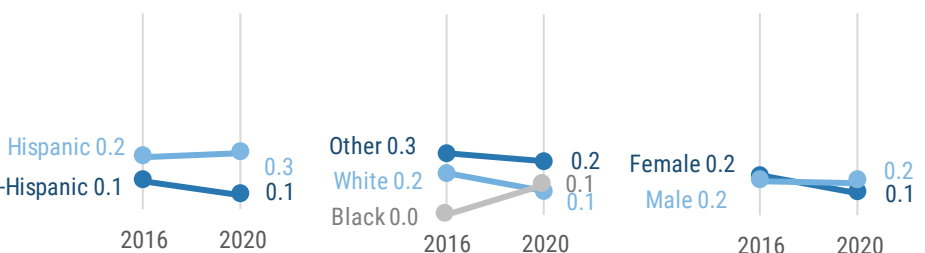
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	11 (42.3)	NA
Hispanic	15 (57.7)	NA
Unknown ethnicity	1	

The ciguatera fish poisoning rate (per 100,000 population) is generally highest in adults ages 25 to 74 years. In 2020, 21 cases were reported in that age group and 6 were less than 20 years of age.



The ciguatera fish poisoning rate (per 100,000 population) is generally similar in males and females as well as in whites and blacks. The rate was slightly higher in other races and higher in Hispanics in 2020.

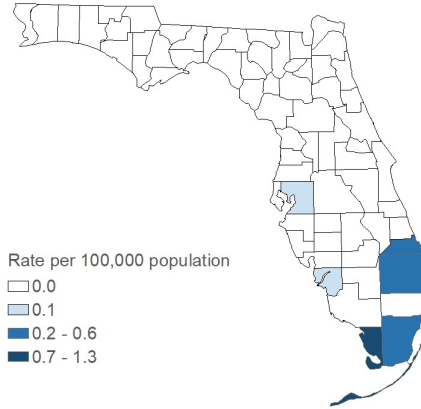


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ciguatera fish poisoning cases were missing 7.4% of race data in 2020.

Ciguatera Fish Poisoning

Summary	Number
Number of cases	27
Outcome	Number (Percent)
Hospitalized	4 (14.8)
Died	0 0%
Imported Status	Number (Percent)
Exposed in Florida	21 (80.8)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	5 (19.2)
Exposed location unknown	1
Outbreak Status	Number (Percent)
Sporadic	14 (53.8)
Outbreak-associated	12 (46.2)
Outbreak status unknown	1

Ciguatera fish poisoning cases occur most commonly in south Florida. In 2020, Miami-Dade and Palm Beach counties accounted for 85% of the cases (17 and 6 cases, respectively). No other county reported more than 1 case.

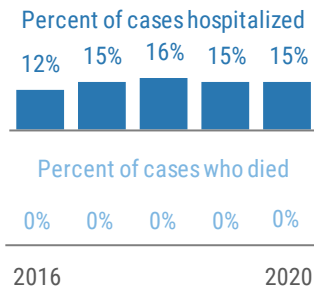


Rates are by county of residence for cases exposed in Florida (21 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2017 by county.

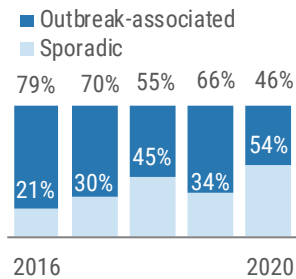


More Disease Trends

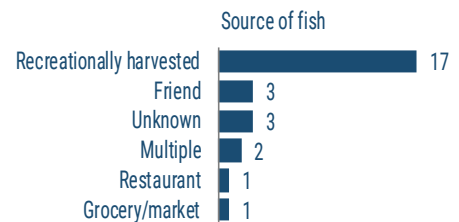
Less than 16% of cases were hospitalized. No deaths have been identified in recent years.



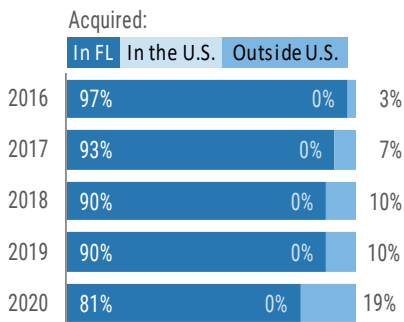
Most cases are outbreak-associated. Implicated fish are commonly shared by multiple people.



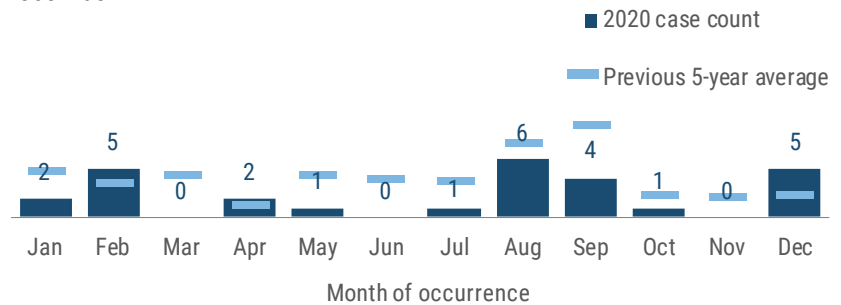
Most fish causing ciguatera fish poisoning were recreationally harvested. Sometimes multiple sources of fish are identified, and occasionally no source can be identified.



More than 81% of cases are exposed in Florida each year.



Ciguatera fish poisoning generally peaks in August and September, which occurred in 2020. However, 5 cases also occurred in both February and December.



Cryptosporidiosis

Key Points

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. 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 have generally decreased.

Cryptosporidiosis incidence is consistently highest in children 1 to 4 years old.

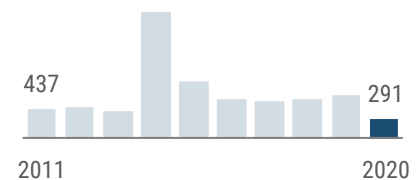
Cryptosporidiosis incidence peaked in 2014 when there were 6 waterborne outbreaks investigated, including 134 cases associated with swimming pools, a recreational water park and kiddie pools. Additional community-wide outbreaks in 2014 were associated with person-to-person transmission and daycares.

There were no reported waterborne outbreaks due to *Cryptosporidium* in 2020. Other reported clusters of illness were associated with person-to-person transmission, travel, daycares and exposure to animals and livestock.

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, decreased in 2015 and has remained relatively stable since.



Disease Trends

Summary

Number of cases	291
Rate (per 100,000 population)	1.3
Change from 5-year average rate	-57.4%

Age (in Years)

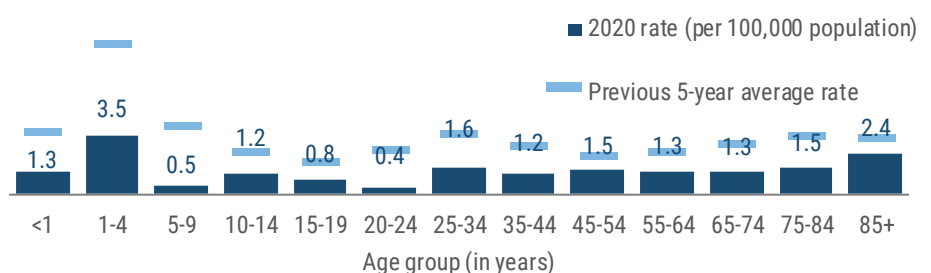
Mean	43
Median	45
Min-max	0 - 90

Gender	Number (Percent)	Rate
Female	134 (46.0)	1.2
Male	157 (54.0)	1.5
Unknown gender	0	

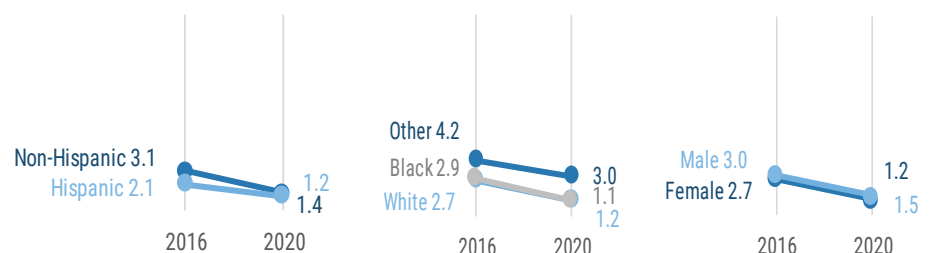
Race	Number (Percent)	Rate
White	207 (72.1)	1.2
Black	42 (14.6)	1.1
Other	38 (13.2)	3.0
Unknown race	4	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	216 (76.3)	1.4
Hispanic	67 (23.7)	1.2
Unknown ethnicity	8	

The cryptosporidiosis rate (per 100,000 population) is consistently highest in children 1 to 4 years old, which remained true in 2020.



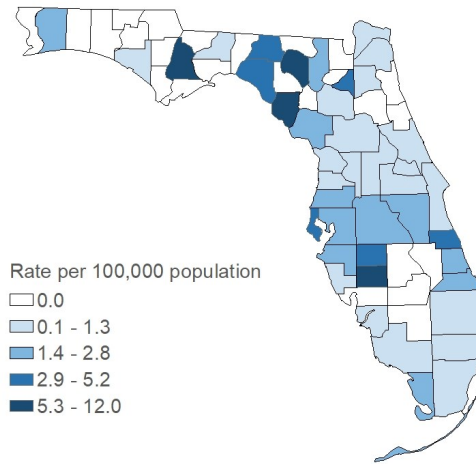
The cryptosporidiosis rate (per 100,000 population) decreased among all demographics from 2016 to 2020. Rates were similar by gender, race and ethnicity in 2020.



Cryptosporidiosis

Summary	Number
Number of cases	291
Case Classification	Number (Percent)
Confirmed	137 (47.1)
Probable	154 (52.9)
Outcome	Number (Percent)
Hospitalized	116 (39.9)
Died	1 (0.3)
Sensitive Situation	Number (Percent)
Daycare	8 (2.7)
Health care	5 (1.7)
Food handler	6 (2.1)
Imported Status	Number (Percent)
Acquired in Florida	256 (97.0)
Acquired in the U.S., not Florida	1 (0.4)
Acquired outside the U.S.	7 (2.7)
Acquired location unknown	27
Outbreak Status	Number (Percent)
Sporadic	280 (98.2)
Outbreak-associated	5 (1.8)
Outbreak status unknown	6

Cryptosporidiosis occurs throughout the state. The highest rates (per 100,000) in 2020 generally occurred in small, rural counties with lower rates in many of the large metropolitan areas of the state.

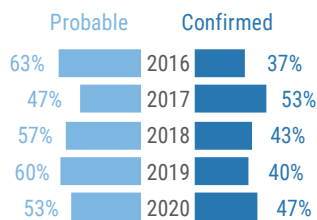


Rates are by county of residence for infections acquired in Florida (291 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

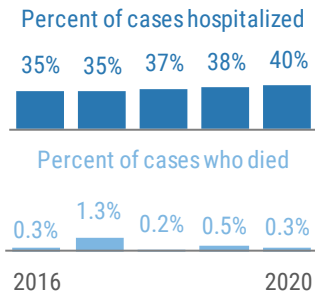


More Disease Trends

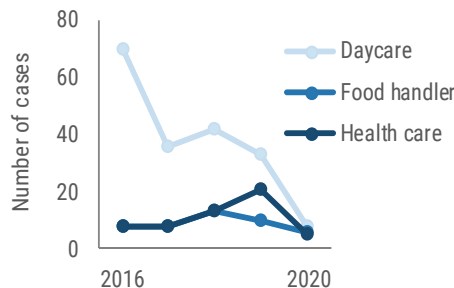
Unlike many other reportable diseases, less than half of cryptosporidiosis cases are confirmed.



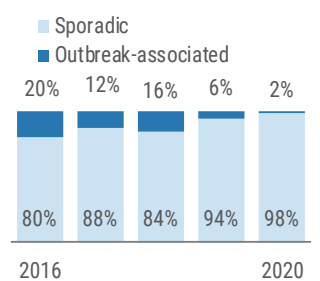
Hospitalizations and deaths are typically related to underlying conditions and comorbidities.



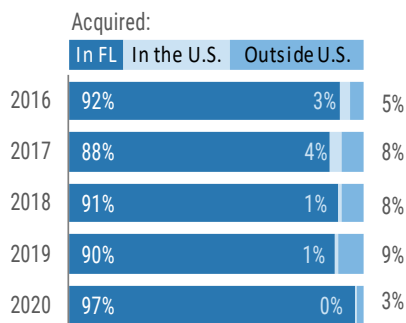
Cases occurring in daycare settings decreased in 2020. People in sensitive situations may pose a risk for transmitting infection to others.



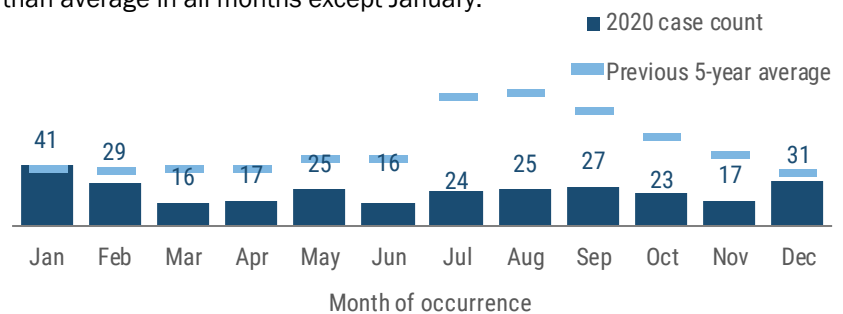
Most cryptosporidiosis cases are sporadic. Only 2% were outbreak-associated in 2020.



Most cryptosporidiosis infections are acquired within Florida.



In previous years, cryptosporidiosis cases peaked in the summer and early fall months, similar to other enteric diseases. In 2020, cases remained lower than average in all months except January.



Cyclosporiasis





Key Points

Cyclosporiasis incidence is strongly seasonal, peaking annually in June and July. Large multistate outbreaks of cyclosporiasis have been identified numerous times over the last several years, including 2020. In the U.S., cyclosporiasis outbreaks are primarily foodborne and have been linked to various types of imported fresh produce, including basil, cilantro, mesclun lettuce, raspberries and snow peas. More recently, domestically grown produce has been implicated.

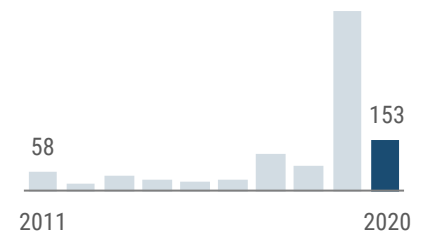
In 2020, 1,241 laboratory-confirmed cases of cyclosporiasis were reported nationally as of September 24, 2020 (the most recent date for which national data were available). These cases were reported by 34 different states, had illness onsets from May to August 2020 and had no history of international travel during the 14-day period prior to illness onset. Florida reported 122 (80%) of its 153 cases during this same time period.

The number of cases in Florida, while significantly down from 2019, remained high mainly due to frequent outbreaks. Several multi-state outbreaks occurred, including 1 attributed to bagged salads. Globalization of food distribution typically results in the same products being sold and consumed across the U.S. While cases cannot always be linked to a particular outbreak, Florida's continued increase is likely a result of the same food products driving the national case numbers. Most cases are now acquired in Florida compared to past years when a much larger percentage were acquired outside the U.S.

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 decreased from 2019 but was still above the 10-year average of 112 cases.



Disease Trends

Summary

Number of cases	153
Rate (per 100,000 population)	0.7
Change from 5-year average rate	-7.2%

Age (in Years)

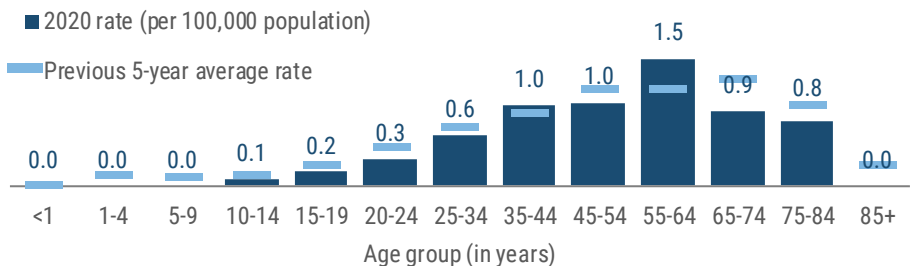
Mean	52
Median	55
Min-max	11 - 83

Gender	Number (Percent)	Rate
Female	93 (60.8)	0.8
Male	60 (39.2)	0.6
Unknown gender	0	

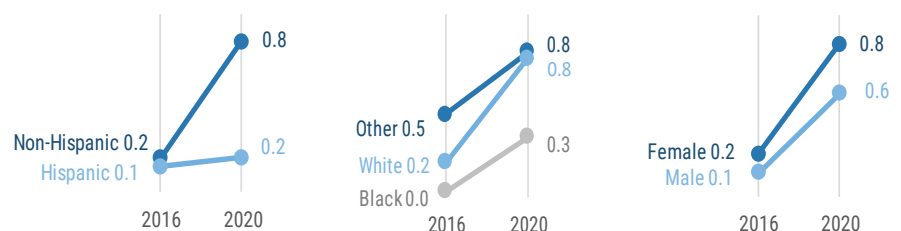
Race	Number (Percent)	Rate
White	127 (85.2)	0.8
Black	12 (8.1)	NA
Other	10 (6.7)	NA
Unknown race	4	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	134 (92.4)	0.8
Hispanic	11 (7.6)	NA
Unknown ethnicity	8	

The cyclosporiasis rate (per 100,000 population) is consistently higher in adults ≥ 25 years old. The rate peaked in the 55- to 64 year-old age group in 2020.



The cyclosporiasis rate (per 100,000 population) was higher in females, other races, whites and non-Hispanics in 2020. Rates increased among all demographics in the past 5 years.

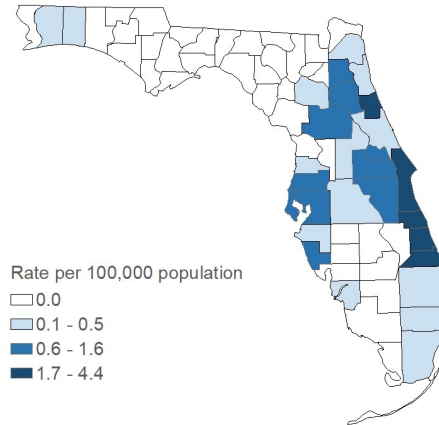


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Cyclosporiasis cases were missing 5.2% of ethnicity data in 2020.

Cyclosporiasis

Summary	Number
Number of cases	153
Case Classification	Number (Percent)
Confirmed	150 (98.0)
Probable	3 (2.0)
Outcome	Number (Percent)
Hospitalized	13 (8.5)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	126 (97.7)
Acquired in the U.S., not Florida	3 (2.3)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	24
Outbreak Status	Number (Percent)
Sporadic	82 (56.2)
Outbreak-associated	64 (43.8)
Outbreak status unknown	7

Cyclosporiasis cases occurred throughout the state in 2020. The rate (per 100,000 population) was highest in Flagler County (attributed to an outbreak); Orange and Hillsborough counties had the most reported cases (17 and 16, respectively).

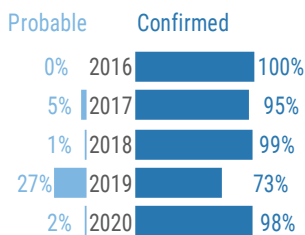


Rates are by county of residence for infections acquired in Florida (153 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

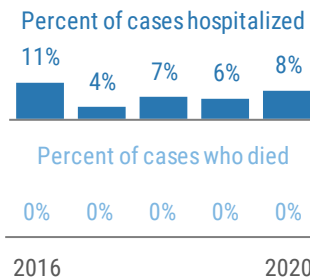


More Disease Trends

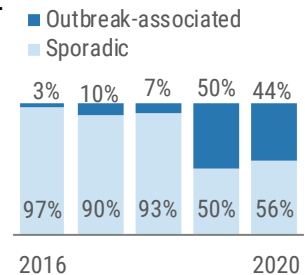
The majority of cyclosporiasis cases are confirmed. Probable cases are symptomatic people epidemiologically linked to confirmed cases.



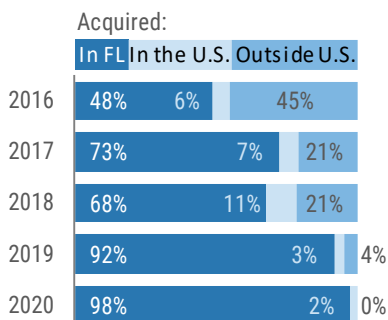
Few cyclosporiasis cases are hospitalized. No deaths have occurred in recent years.



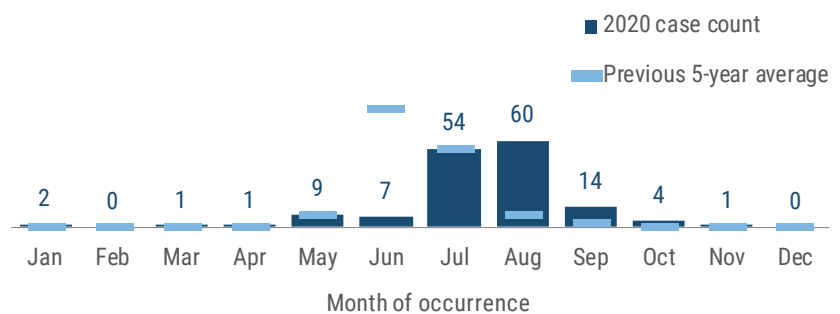
Although the majority of cyclosporiasis cases are sporadic, the percentage of outbreak-associated cases has increased in the last 2 years.



Almost all cyclosporiasis infections were acquired in Florida in 2020, in contrast to past years.



Cyclosporiasis has a very strong seasonal pattern with cases primarily occurring May through August, peaking in June and July. In 2020, the peak was in August with some cases still occurring in September.



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

Dengue Fever





Key Points

Historically the Americas, predominantly the Caribbean, have served as primary sources of dengue virus exposures in Florida residents. However, at least 1 locally acquired case has been identified each year from 2009 to 2020, with the exception of 2017. Introductions have been primarily in south Florida. Incidence of travel-related dengue fever cases was much lower in 2020 compared to the abnormally high activity reported in 2019. This decrease was attributed to COVID-19 pandemic travel restrictions. Despite the decrease in travel-related cases, there was an outbreak of locally acquired dengue fever in Monroe County (DENV-1). There was also a local DENV-1 household cluster in Miami-Dade and a local DENV-2 case with travel to at least 2 Florida counties.

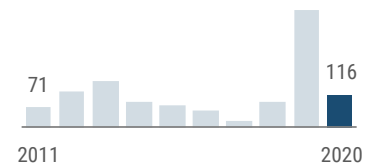
Three outbreaks of locally acquired dengue fever have occurred; 2 in Monroe County (2009–10 and 2020) and 1 in Martin County (2013).

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. Nine dengue fever cases were identified in non-Florida residents while traveling in Florida in 2020, including 3 locally acquired cases. Of the 116 cases reported in 2020, 5 were identified in 2019 but not reported until 2020. Similarly, 7 additional cases were identified in 2020 but were not reported until 2021 and will be included in the 2021 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.

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; severe dengue (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, implement control measures to prevent introduction and active transmission, monitor incidence over time, estimate burden of illness

Dengue fever incidence returned to an average level in 2020.



Disease Trends

Summary

Number of cases	116
Rate (per 100,000 population)	0.5
Change from 5-year average rate	-14.6%

Age (in Years)

Mean	46
Median	48
Min-max	8 - 86

Gender

	Number (Percent)	Rate
Female	61 (52.6)	0.6
Male	55 (47.4)	0.5
Unknown gender	0	

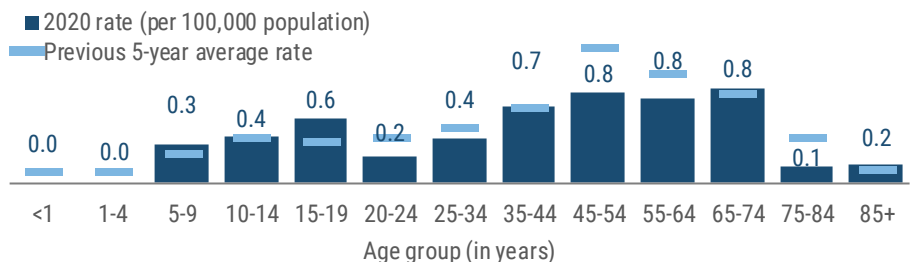
Race

	Number (Percent)	Rate
White	100 (86.2)	0.6
Black	7 (6.1)	NA
Other	8 (6.9)	NA
Unknown race	1	

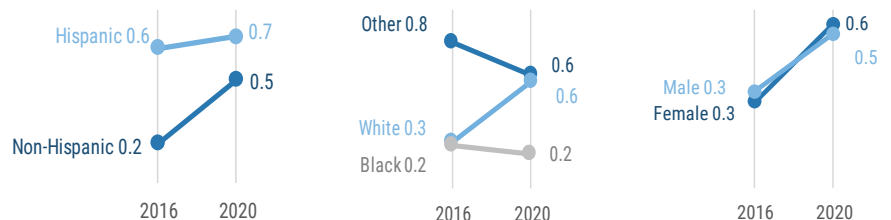
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	76 (65.5)	0.5
Hispanic	39 (33.6)	0.7
Unknown ethnicity	1	

The dengue fever rate (per 100,000 population) has historically been highest in adults 25 to 74 years old. In 2020, rates were highest in adults 45 to 74 years old (which reflect population demographics of Monroe County); the youngest case was 8 years old.



The dengue fever rate (per 100,000 population) increased across all demographics between 2016 and 2020 except in blacks and other races.

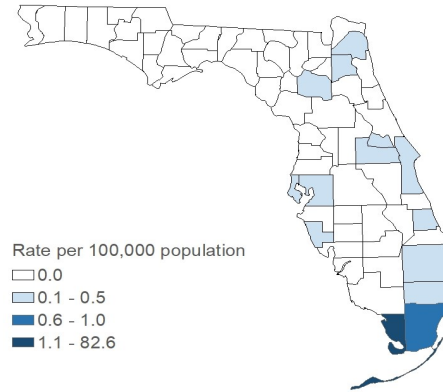


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Dengue fever cases were missing 6.5% of race data in 2016.

Dengue Fever

Summary	Number
Number of cases	116
Case Classification	Number (Percent)
Confirmed	65 (56.0)
Probable	51 (44.0)
Outcome	Number (Percent)
Hospitalized	24 (20.7)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	72 (62.1)
Acquired in the U.S., not Florida	5 (4.3)
Acquired outside the U.S.	39 (33.6)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	45 (38.8)
Outbreak-associated	71 (61.2)
Outbreak status unknown	0

Travel-related dengue fever cases were identified more frequently in Miami-Dade County residents in 2020 (22 cases). Locally acquired cases were identified in Miami-Dade County (4) and Monroe County (72, including 3 non-Florida residents and 2 cases reported late that are not included in this report); an additional locally acquired case had possible exposures in multiple counties and the county of exposure is unknown.

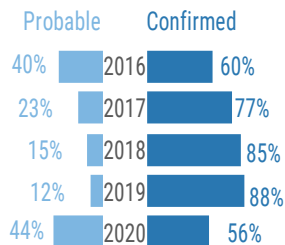


Rates are by county of residence, regardless of where infection was acquired (116 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

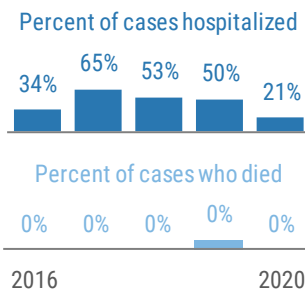


More Disease Trends

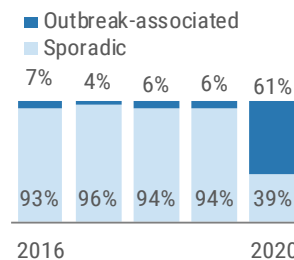
The percentage of confirmed cases was lower in 2020 than in the previous 4 years, likely due to retrospective case finding.



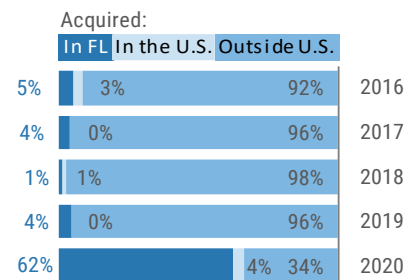
The rate of hospitalization was lower in 2020. No severe dengue cases or deaths were reported.



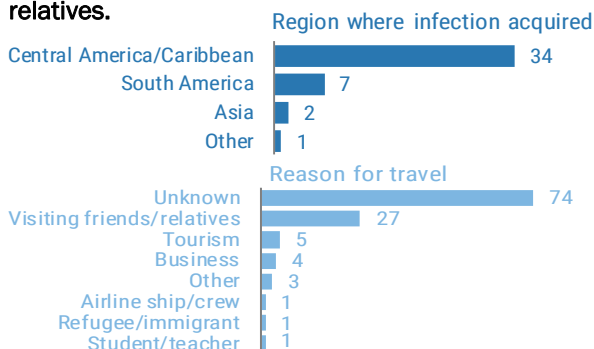
In addition to the dengue fever outbreak in Monroe County, there was a household cluster of three locally acquired dengue fever cases in Miami-Dade County.



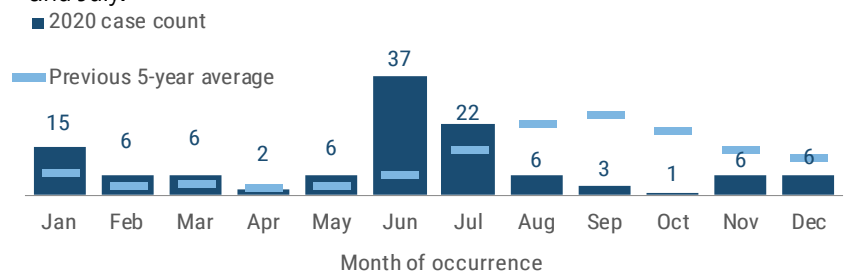
In 2020, 62% of cases were locally acquired, primarily due to an outbreak in Key Largo, Monroe County; all others were imported from other countries or U.S. territories with endemic transmission.



Most travel-related dengue fever cases were acquired in the Caribbean while visiting friends and relatives.



Dengue fever cases are most common in summer and fall but can be imported any time of year. Locally acquired cases associated with the Monroe County outbreak occurred from February (a non-Florida resident not included in this report) to August, with most cases occurring in June and July.



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 water and groundwater. Annually, an estimated 1.1 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.

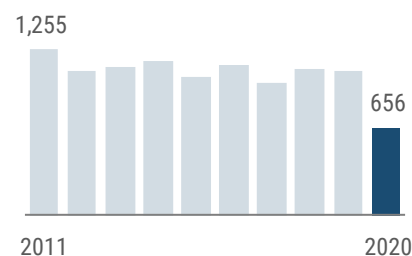
Giardiasis is a common parasitic disease reported in Florida. Giardiasis incidence is highest in children 1 to 4 years old, followed by children 5 to 9 years old, then infants <1 year old. It occurs throughout the state year-round, though the highest rates (per 100,000 population) are in small, rural 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 cases decreased in 2020.



Disease Trends

Summary

Number of cases	656
Rate (per 100,000 population)	3.0
Change from 5-year average rate	-41.8%

Age (in Years)

Mean	39
Median	40
Min-max	0 - 93

Gender

Gender	Number (Percent)	Rate
Female	236 (36.0)	2.1
Male	420 (64.0)	4.0
Unknown gender	0	

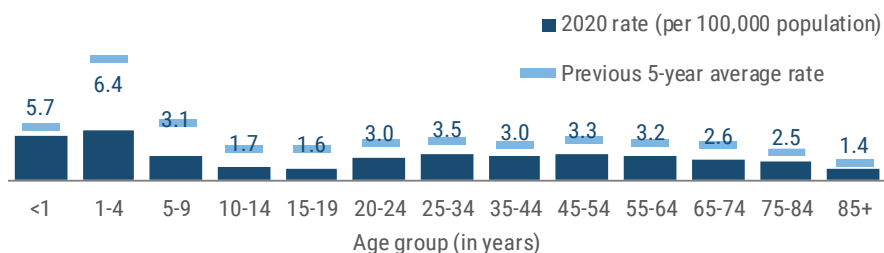
Race

Race	Number (Percent)	Rate
White	467 (76.9)	2.8
Black	59 (9.7)	1.6
Other	81 (13.3)	6.5
Unknown race	49	

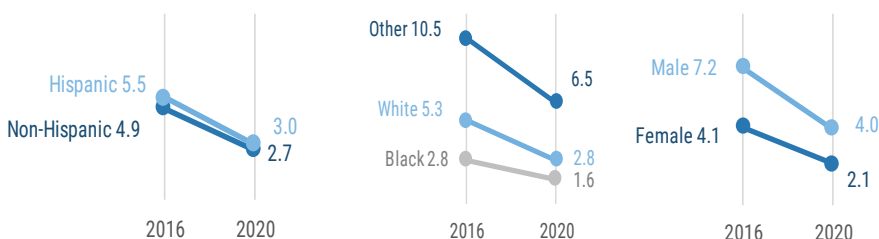
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	430 (71.2)	2.7
Hispanic	174 (28.8)	3.0
Unknown ethnicity	52	

The giardiasis rate (per 100,000 population) is consistently highest in children 1 to 4 years old, followed by infants <1 year old and children 5 to 9 years old, which remained true in 2020.



In 2020, the giardiasis rate (per 100,000 population) was lower in all gender, race and ethnicity groups compared to 2016. The decrease was most notable in females.



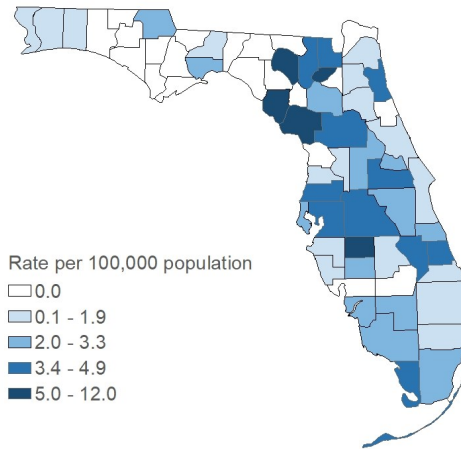
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute giardiasis cases were missing 9.1% of ethnicity data in 2016, 7.7% of race data in 2016, 7.9% of ethnicity data in 2020 and 7.5% of race data in 2020.

*For more information, visit www.cdc.gov/mmwr/preview/mmwrhtml/ss6403a2.htm

Giardiasis, Acute

Summary	Number
Number of cases	656
Case Classification	Number (Percent)
Confirmed	641 (97.7)
Probable	15 (2.3)
Outcome	Number (Percent)
Hospitalized	85 (13.0)
Died	5 (0.8)
Sensitive Situation	Number (Percent)
Daycare	17 (2.6)
Health care	12 (1.8)
Food handler	8 (1.2)
Imported Status	Number (Percent)
Acquired in Florida	518 (92.8)
Acquired in the U.S., not Florida	11 (2.0)
Acquired outside the U.S.	29 (5.2)
Acquired location unknown	98
Outbreak Status	Number (Percent)
Sporadic	581 (93.1)
Outbreak-associated	43 (6.9)
Outbreak status unknown	32

Giardiasis occurs throughout the state. In 2020, rates (per 100,000 population) were consistently highest in small, rural counties.

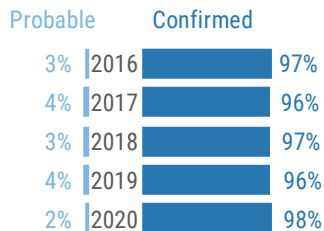


Rates are by county of residence for infections acquired in Florida (656 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

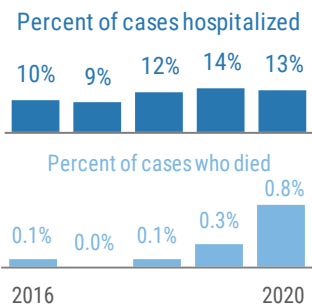


More Disease Trends

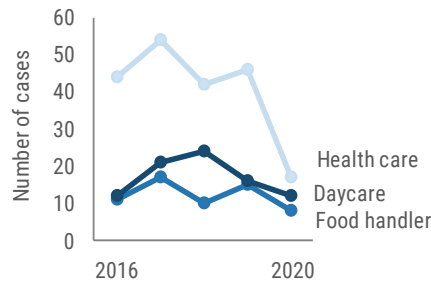
Most cases are confirmed. Probable cases are epidemiologically linked to confirmed cases.



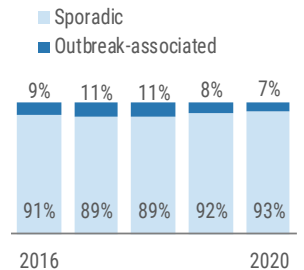
Between 9% and 14% of cases are hospitalized; deaths are very rare.



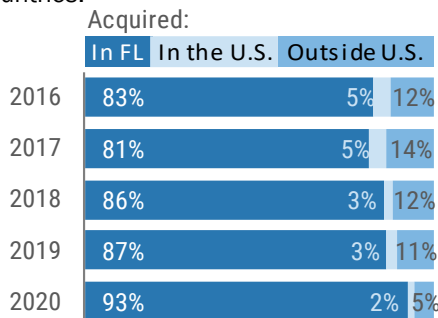
Cases in sensitive situations are monitored. People in sensitive situations may pose a risk for transmitting infection to others.



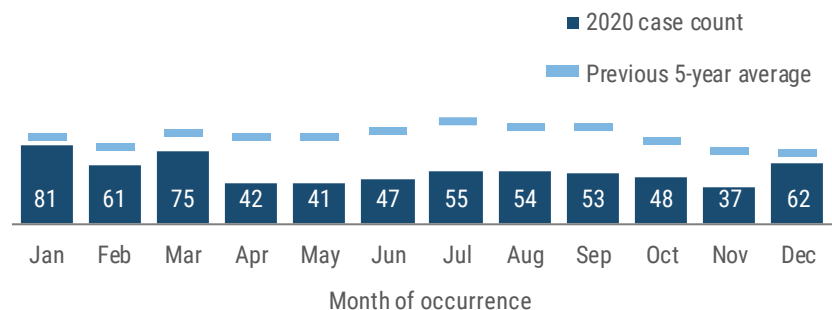
Outbreak-associated giardiasis cases typically reflect small household clusters.



Between 81% to 93% of giardiasis infections are acquired in Florida each year; some infections are acquired in other states and countries.



Giardiasis occurs throughout the year with usually a small increase in the summer and early fall months. In 2020, incidence was highest in January and March.



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 persons 15 to 24 years old. During 2015, this shifted for persons 20 to 24 years old, with more male than female patients in that age group 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) Sexually Transmitted Disease Surveillance Network 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 are used to 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

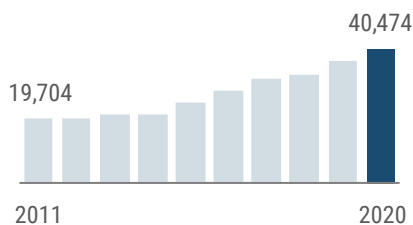


Transmitted sexually via anal, vaginal or oral sex and sometimes from mother to child during pregnancy or delivery



Under surveillance to implement effective interventions immediately for every case, monitor incidence over time, estimate burden of illness and evaluate treatment and prevention programs

Gonorrhea incidence continued to increase in 2020.



Summary

Number of cases	40,474
Rate (per 100,000 population)	187.0
Change from 5-year average rate	+25.5%

Age (in Years)

Mean	28
Median	26
Min-max	1 - 83

Gender

Gender	Number (Percent)	Rate
Female	15,974 (39.5)	144.4
Male	24,493 (60.5)	231.6
Unknown gender	7	

Race

Race	Number (Percent)	Rate
White	11,597 (34.3)	69.4
Black	18,403 (54.5)	501.3
Other	3,769 (11.2)	300.2
Unknown race	6,705	

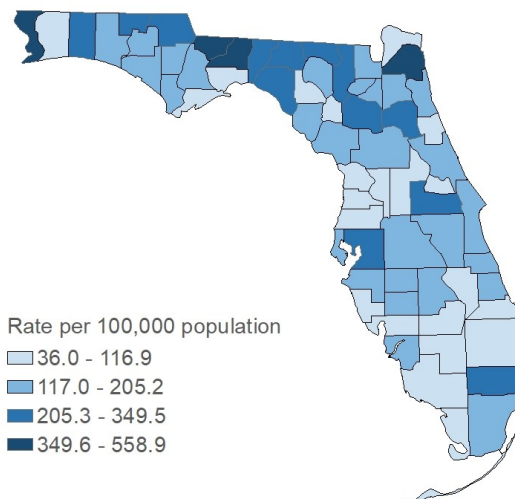
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	26,792 (83.3)	168.8
Hispanic	5,373 (16.7)	93.1
Unknown ethnicity	8,309	



Disease Trends

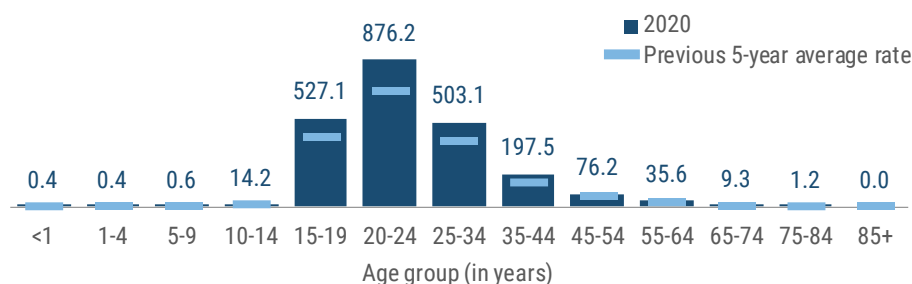
Gonorrhea occurs throughout the state. Higher rates (per 100,000 population) were clustered in the northern part of the state in 2020. The highest rates were in Gadsden (558.9), Duval (435.3), Leon (430.3), Escambia (374.6) and Alachua (349.5) counties. These counties accounted for 19.8% of the state's cases but only 8.9% of the state's population.



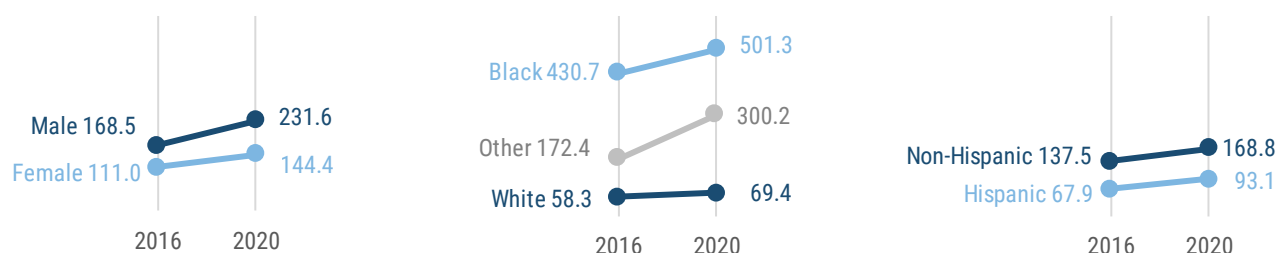
Rates are by county of residence, regardless of where infection was acquired (40,474 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

Gonorrhea (Excluding Neonatal Conjunctivitis)

Gonorrhea rates are highest in teenagers and adults 15 to 34 years old, peaking in adults 20 to 24 years old.

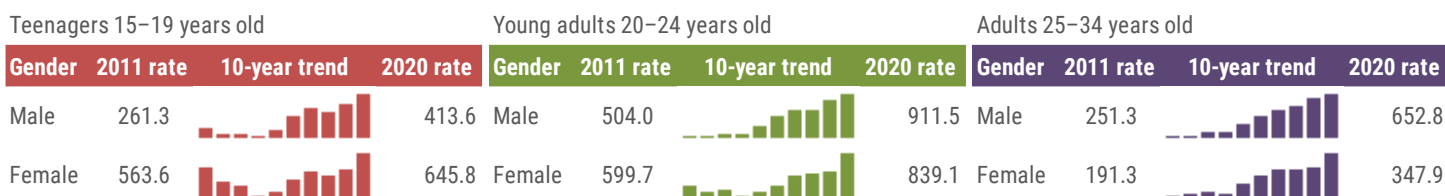


Gonorrhea rates (per 100,000 population) have increased in all genders, races and ethnicity groups from 2016 to 2020, but the most noticeable increase was in other races. The rates were 7 times higher in blacks than whites in 2020. Rates are higher in males than females and higher in non-Hispanics than Hispanics.



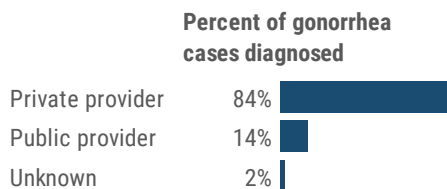
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Gonorrhea cases (excluding neonatal conjunctivitis) were missing 13.5% of ethnicity data in 2016 and 8.6% of race data in 2016.

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 4 years. In females, the rate increased in 2020 among those 15 to 34 years old.

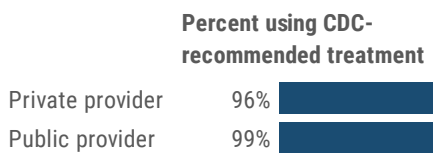


With the looming threat of antibiotic-resistant *Neisseria gonorrhoeae*, it is important that patients diagnosed with gonorrhea are treated with CDC-recommended antibiotics. Currently, ceftriaxone paired with azithromycin is the recommended treatment. Ceftriaxone is the last available antibiotic to treat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

In 2020, 84% of diagnosed gonorrhea cases in Florida were diagnosed at private providers' offices, while 14% were diagnosed in public providers' offices.



Public providers used CDC-recommended treatment more often than private providers in 2020. Common reasons for not receiving CDC-recommended treatment are drug allergies and medication cost.







Hansen's Disease (Leprosy)

Key Points

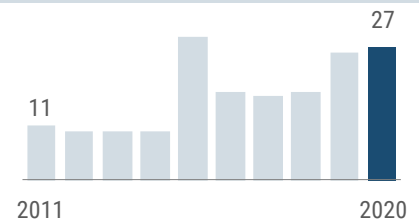
With early diagnosis and treatment, Hansen's disease can be cured. However, if left untreated, the nerve damage can be permanent. Leprosy was once feared as a highly contagious and devastating disease. However, it is now recognized that the disease is not spread through casual contact, and most people (about 95%) are resistant to infection. For those who do become infected, effective treatment is available. Historically, the disease was not thought to be endemic in Florida. More recently in Florida and other parts of the southern U.S., infections have been identified in both people and armadillos believed to have been exposed in the region.

Due to the long incubation period for Hansen's disease and a mobile population, location of exposure is often difficult to identify.

Disease Facts

-  **Caused by** *Mycobacterium leprae* bacteria
-  **Illness** mainly affects the skin (e.g., discolored patches of skin, nodules on the skin, ulcers on soles of feet), nerves (e.g., numbness in affected areas, muscle weakness or paralysis, enlarged nerves), and mucous membranes (e.g., stuffy nose, nosebleeds)
-  **Transmission** thought to be person-to-person via respiratory droplets following extended close contact with an infected person (still not clearly defined, but it is hard to spread)
-  **Under surveillance** to facilitate early diagnosis and appropriate treatment by an expert to minimize permanent nerve damage and prevent further transmission

Hansen's disease incidence increased in 2020.



Disease Trends

Summary

Number of cases	27
Rate (per 100,000 population)	0.1
Change from 5-year average rate	+18.7%

Age (in Years)

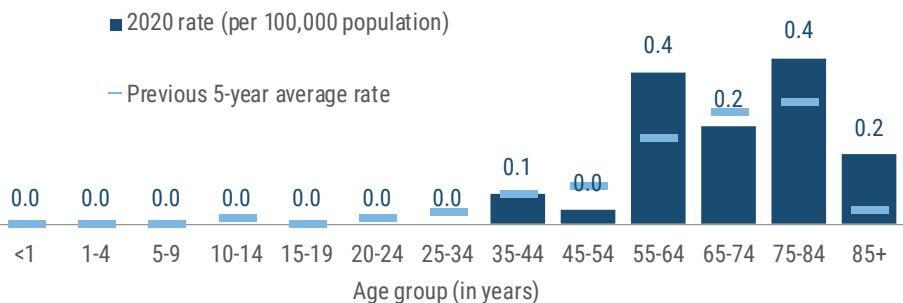
Mean	65
Median	64
Min-max	37 - 90

Gender	Number (Percent)	Rate
Female	13 (48.1)	NA
Male	14 (51.9)	NA
Unknown gender	0	

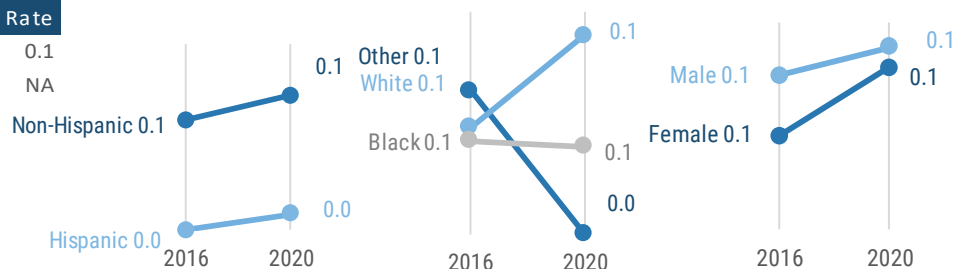
Race	Number (Percent)	Rate
White	21 (91.3)	0.1
Black	2 (8.7)	NA
Other	0 (0.0)	NA
Unknown race	4	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	23 (95.8)	0.1
Hispanic	1 (4.2)	NA
Unknown ethnicity	3	

The Hansen's disease rate (per 100,000 population) is consistently highest in adults 55 to 84 years old.



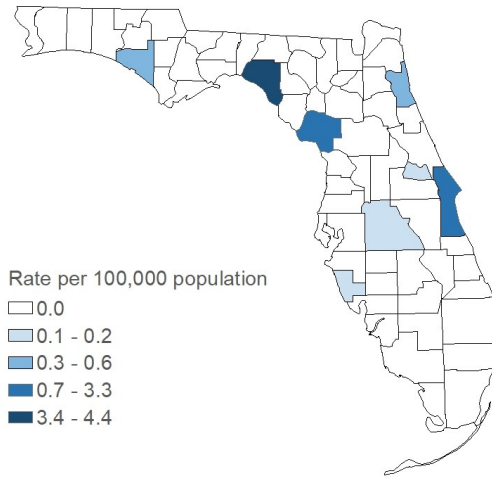
Hansen's disease rates (per 100,000 population) in 2020 were similar for all demographic groups. All groups remained stable from 2016–20 except for other races who decreased.



Hansen's Disease (Leprosy)

Summary	Number
Number of cases	27
Outcome	Number (Percent)
Hospitalized	0 (0.0)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	3 (75.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	1 (25.0)
Acquired location unknown	23
Outbreak Status	Number (Percent)
Sporadic	27 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Hansen's disease cases occurred mostly in northern and central parts of the state in 2020.



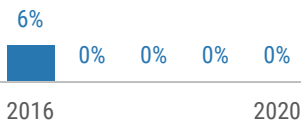
Rates are by county of residence, regardless of where infection was acquired (27 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.



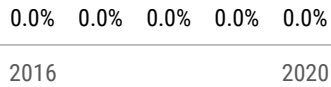
More Disease Trends

Few cases are hospitalized each year; deaths are uncommon. No cases were hospitalized or died due to the disease in 2020.

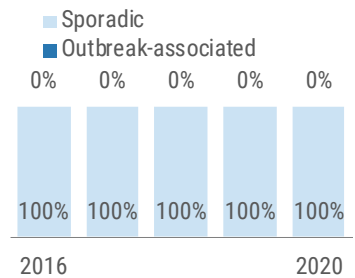
Percent of cases hospitalized



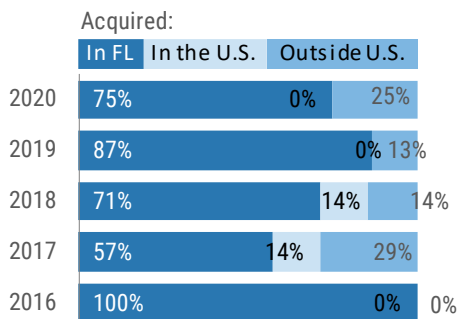
Percent of cases who died



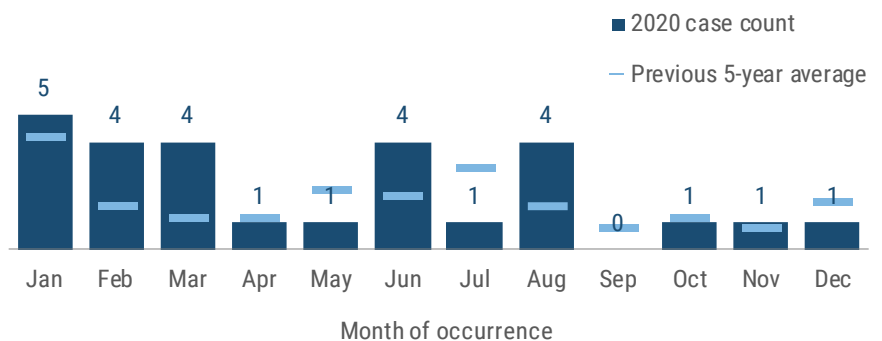
All cases were sporadic; no outbreak-associated cases were identified.



Most cases of Hansen's disease were acquired in Florida in 2020.



Hansen's disease cases were reported throughout the year in 2020. Most cases were reported in January.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hansen's disease (leprosy) cases were missing 11.1% of ethnicity data in 2020 and 14.8% of race data in 2020.





Hepatitis A

Key Points

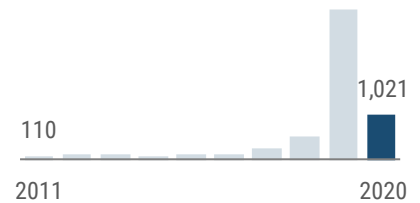
The best way to prevent hepatitis A infection is through vaccination. Vaccination is recommended for all children at age 1 year, travelers to countries where hepatitis A is common, families and caregivers of adoptees from countries where hepatitis A is common, men who have sex with men, persons who use 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 remained high in 2020, though it decreased from the previous high observed in 2019. The majority of cases were in adults (median of 40 years old), males, whites and non-Hispanics.

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 remained at historic highs for 2020, though it decreased from the previous year.



Disease Trends

Summary

Number of cases	1,021
Rate (per 100,000 population)	4.7
Change from 5-year average rate	+11.7%

Age (in Years)

Mean	42
Median	40
Min-max	2 - 98

Gender

	Number (Percent)	Rate
Female	382 (37.4)	3.5
Male	639 (62.6)	6.0
Unknown gender	0	

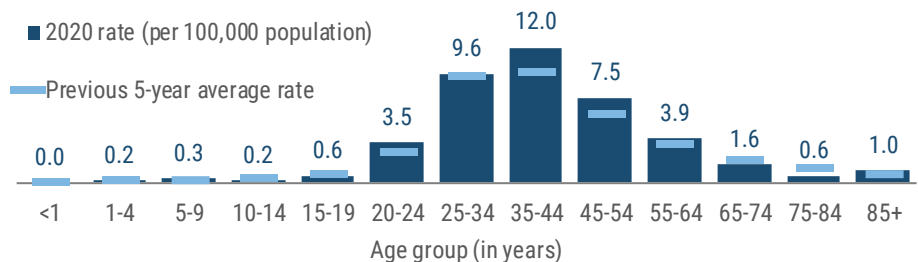
Race

	Number (Percent)	Rate
White	873 (86.4)	5.2
Black	84 (8.3)	2.3
Other	54 (5.3)	4.3
Unknown race	10	

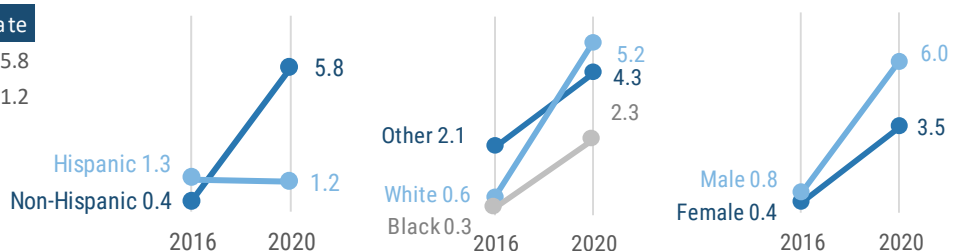
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	927 (93.1)	5.8
Hispanic	69 (6.9)	1.2
Unknown ethnicity	25	

The hepatitis A rate (per 100,000 population) is consistently highest in adults 25 to 54 years old.



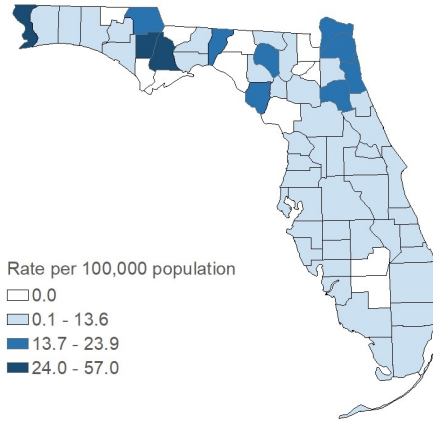
Hepatitis A rates (per 100,000 population) in 2020 remained high for all demographic groups. Only Hispanics noted a slight decrease.



Hepatitis A

Summary	Number
Number of cases	1,021
Case Classification	Number (Percent)
Confirmed	1,021 (100.0)
Probable	0 (0.0)
Outcome	Number (Percent)
Hospitalized	740 (72.5)
Died	51 (5.0)
Sensitive Situation	Number (Percent)
Daycare	2 (0.2)
Health care	14 (1.4)
Food handler	35 (3.4)
Imported Status	Number (Percent)
Acquired in Florida	892 (98.7)
Acquired in the U.S., not Florida	3 (0.3)
Acquired outside the U.S.	9 (1.0)
Acquired location unknown	117
Outbreak Status	Number (Percent)
Sporadic	804 (81.5)
Outbreak-associated	182 (18.5)
Outbreak status unknown	35

Hepatitis A cases occurred throughout the state in 2020, though the rate (per 100,000 population) was high in counties in the Panhandle and northeast Florida.

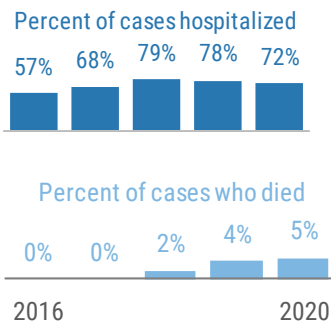


Rates are by county of residence for infections acquired in Florida (1,021 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

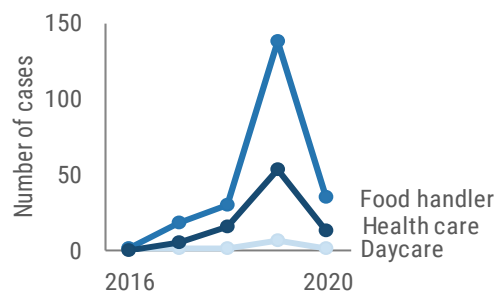


More Disease Trends

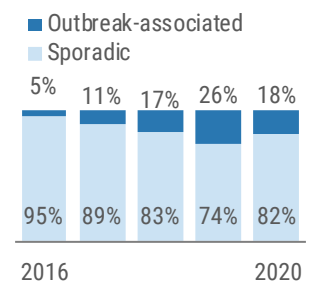
Each year, 57% to 79% of hepatitis A cases are hospitalized, though deaths are rare.



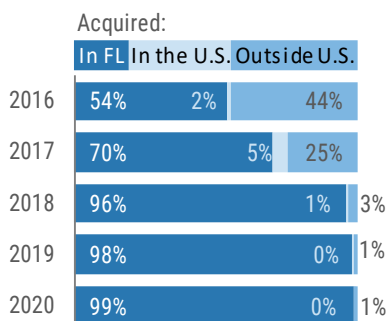
Cases in sensitive situations were highest in food handlers, followed by health care workers and daycare, similar to previous years.



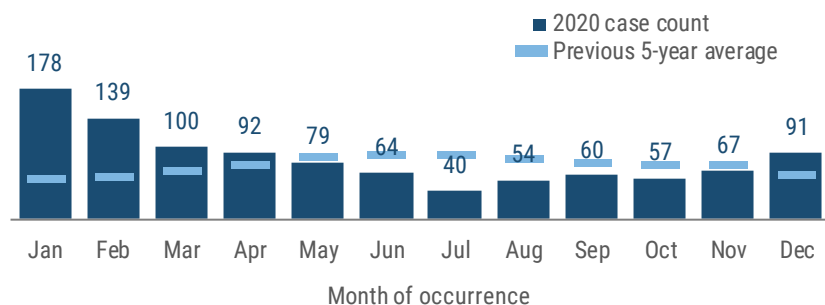
More outbreak-associated cases were identified in 2019 and 2020 than previous years.



Almost all cases of hepatitis A were acquired in Florida in 2020.



Hepatitis A case numbers gradually declined throughout the first half of the year before stabilizing and increasing slightly in December.



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

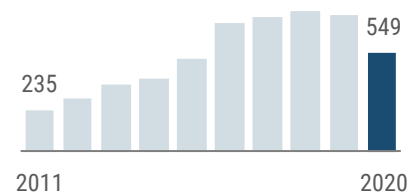
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis B from chronic diagnoses, making surveillance challenging. Incidence has increased over the last decade despite increased vaccination. The identified increase is likely due to several factors, including an enhanced surveillance project focusing on hepatitis infections in young adults 18 to 25 years old 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.

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.

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 decreased in 2020.



Disease Trends

Summary

Number of cases	549
Rate (per 100,000 population)	2.5
Change from 5-year average rate	-25.6%

Age (in Years)

Mean	49
Median	48
Min-max	10 - 90

Gender

	Number (Percent)	Rate
Female	228 (41.5)	2.1
Male	321 (58.5)	3.0
Unknown gender	0	

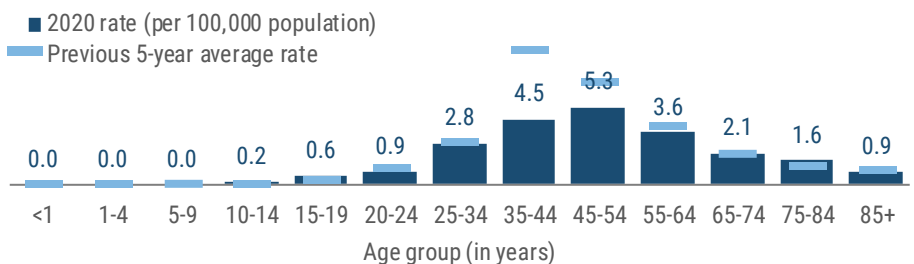
Race

	Number (Percent)	Rate
White	362 (69.9)	2.2
Black	101 (19.5)	2.8
Other	55 (10.6)	4.4
Unknown race	31	

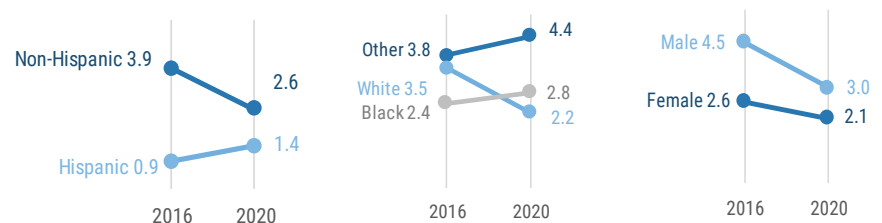
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	413 (83.6)	2.6
Hispanic	81 (16.4)	1.4
Unknown ethnicity	55	

The acute hepatitis B rate (per 100,000 population) is consistently highest in adults 35 to 54 years old and decreases steadily with age. The rate in adults 25 to 34 years old was lower in 2020 than the previous five-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 2020, rates were similar in blacks and whites but notably higher in other races.

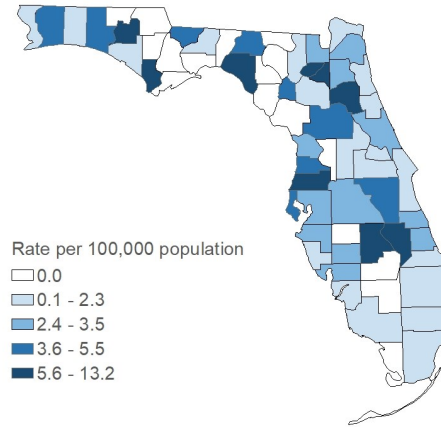


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis B cases were missing 9.2% of ethnicity data in 2016, 5.8% of race data in 2016, 10.0% of ethnicity data in 2020 and 5.6% of race data in 2020.

Hepatitis B, Acute

Summary	Number
Number of cases	549
Case Classification	Number (Percent)
Confirmed	456 (83.1)
Probable	93 (16.9)
Outcome	Number (Percent)
Hospitalized	239 (43.5)
Died	13 (2.4)
Imported Status	Number (Percent)
Acquired in Florida	344 (99.4)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	2 (0.6)
Acquired location unknown	203
Outbreak Status	Number (Percent)
Sporadic	351 (98.3)
Outbreak-associated	6 (1.7)
Outbreak status unknown	192

Acute hepatitis B cases occurred in most parts of the state in 2020, though less commonly in the central and eastern parts of the Florida Panhandle. The rates (per 100,000 population) were highest in the western part of the Panhandle and primarily small, rural counties across the rest of the state.



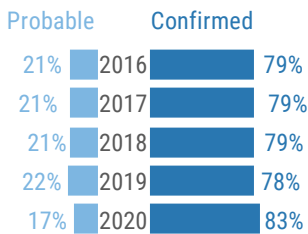
Rates are by county of residence, regardless of where infection was acquired (549 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

In 2020, 6 outbreak-associated cases were identified, including 4 (67%) cases linked to sexual contact, 3 (50%) pairs of acute cases, 2 (33%) cases linked to chronic hepatitis B cases and 1 (17%) case linked to a household contact.



More Disease Trends

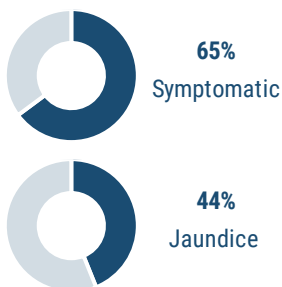
More than 78% of cases are confirmed each year. In 2020, 83% of cases were confirmed.



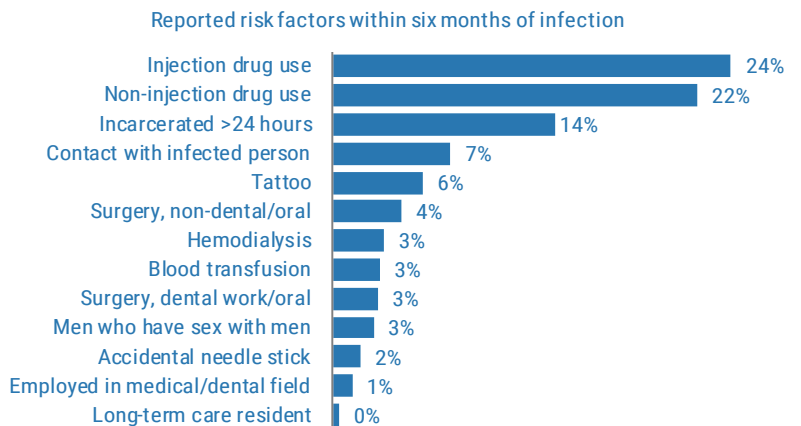
Most acute hepatitis B cases tested positive for hepatitis B surface antigen and immunoglobulin M (IgM) antibody to hepatitis B core antigen. The IgM antibody is an indicator of acute infection.

Test type	Percent of cases	Test interpretation
Hepatitis B surface antigen	82%	Acute or chronic HBV infection, no immunity developed
Hepatitis B core antibody, IgM	78%	HBV is multiplying
Hepatitis B DNA	42%	HBV has stopped multiplying
Hepatitis B core antibody, total	23%	Amount of HBV in blood
Hepatitis B e antigen	22%	Acute HBV infection
Hepatitis B e antibody	10%	Immunity to HBV
Hepatitis B surface antibody	10%	Hepatitis B core antibody, IgM

65% of acute hepatitis B cases reported in 2020 were symptomatic, but fewer than half had jaundice.



Similar to past years, the most common risk factors for hepatitis B infection reported in 2020 included injection drug use, non-injection drug use and incarceration.



Hepatitis B, Chronic

Key Points

Hepatitis B incidence is highest among adults 34 to 44 years old. 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. 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.

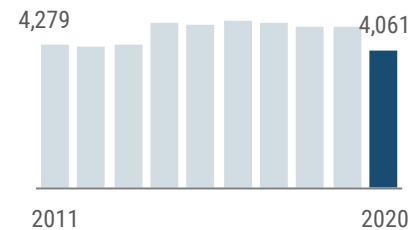
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis B from chronic. Cases that do not meet the clinical criteria for acute hepatitis B or do not have prior negative laboratory results to indicate acute infection are reported as chronic. There is no requirement to investigate chronic cases.

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 decreased in 2020.



Disease Trends

Summary

Number of cases	4,061
Rate (per 100,000 population)	18.8
Change from 5-year average rate	-20.6%

Age (in Years)

Mean	50
Median	50
Min-max	0 - 100

Gender

Gender	Number (Percent)	Rate
Female	1,746 (43.1)	15.8
Male	2,305 (56.9)	21.8
Unknown gender	10	

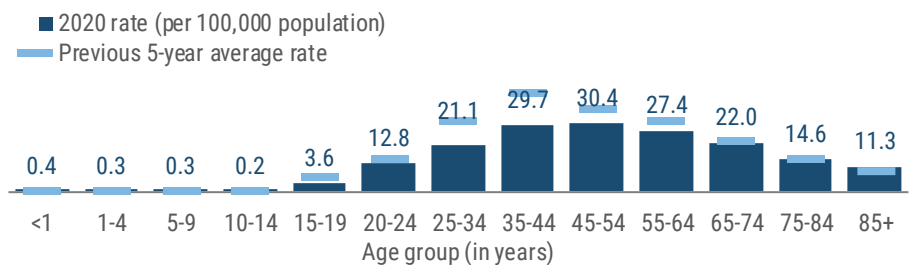
Race

Race	Number (Percent)	Rate
White	1,380 (49.3)	8.3
Black	777 (27.7)	21.2
Other	645 (23.0)	51.4
Unknown race	1,259	

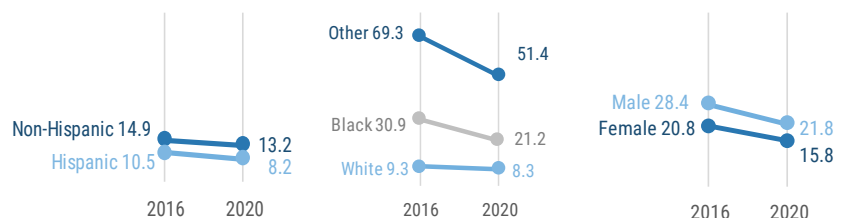
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	2,088 (81.6)	13.2
Hispanic	471 (18.4)	8.2
Unknown ethnicity	1,502	

Similar to acute hepatitis B, the rate (per 100,000 population) of chronic hepatitis B is highest in adults 35 to 54 years old. The rates in most age groups were lower in 2020 than the previous five-year average.



Chronic hepatitis B rates (per 100,000 population) are similar by gender and ethnicity groups, though rates vary by race. Few chronic cases are investigated, causing a large proportion of race and ethnicity data to be missing.

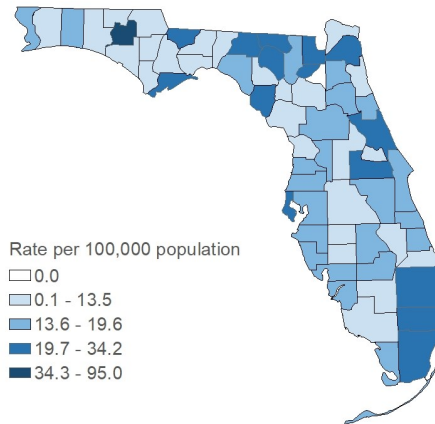


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis B cases were missing 43.6% of ethnicity data in 2016, 34.0% of race data in 2016, 37.0% of ethnicity data in 2020 and 31.0% of race data in 2020.

Hepatitis B, Chronic

Summary	Number
Number of cases	4,061
Case Classification	Number (Percent)
Confirmed	2,060 (50.7)
Probable	2,001 (49.3)
Outcome	Number (Percent)
Hospitalized	99 (2.4)
Died	33 (0.8)
Imported Status	Number (Percent)
Acquired in Florida	266 (96.7)
Acquired in the U.S., not Florida	1 (0.4)
Acquired outside the U.S.	8 (2.9)
Acquired location unknown	3,786
Outbreak Status	Number (Percent)
Sporadic	402 (99.3)
Outbreak-associated	3 (0.7)
Outbreak status unknown	3,656

Chronic hepatitis B occurred throughout the state in 2020, 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 (4,061 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 2020 by county.

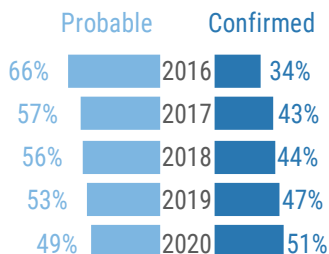


More Disease Trends

Most chronic hepatitis B cases tested positive for hepatitis B surface antigen. A small number of cases had immunoglobulin M (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, no immunity developed
Hepatitis B DNA	37%	HBV has stopped multiplying
Hepatitis B core antibody, total	27%	Acute HBV infection
Hepatitis B e antibody	15%	Immunity to HBV
Hepatitis B e antigen	10%	Amount of HBV in blood
Hepatitis B surface antibody	4%	HBV is multiplying
Hepatitis B core antibody, IgM	2%	Hepatitis B core antibody, IgM

Just over half (51%) of chronic hepatitis B cases were confirmed in 2020. Very few cases were investigated.



In 2020, 217 chronic hepatitis B cases (5.3%) were also diagnosed with HIV. The majority of people with co-infections were male, black and 45 to 54 years old.

Category	Percent of cases	Age group	Percent of cases
Gender	Male	15-19	0.4%
	Female	20-24	2.0%
Race	White	25-34	11.7%
	Black	35-44	21.8%
	Other	45-54	29.6%
	Unknown	55-64	28.4%
		65-74	5.5%
	75-84	0.8%	
	85+	0.0%	

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.

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 ages 15 to 44 years old.

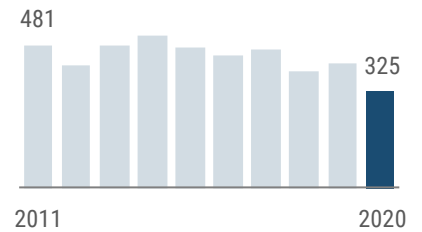
The 2016 National Immunization Survey estimates that HBV vaccination coverage for a birth dose administered from birth through 3 years old was 75% in the U.S. and 59% in Florida. Birthing hospitals have standing orders to administer the birth dose of the HBV vaccine; however, pediatricians sometimes 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 Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommends the birth dose be given within 24 hours to help decrease HBV infections in newborns.

Incidence of HBV 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 races category.

Disease Facts

-  **Caused** by hepatitis B virus (HBV)
-  **Illness** is acute or chronic; about 90% of children who are infected at birth or during the first year of life will become chronically infected
-  **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 2011.



Disease Trends

Summary

Number of cases	325
Rate (per 100,000 population)	8.3
Change from 5-year average rate	-29.2%

Age (in Years)

Mean	32
Median	32
Min-max	17 - 45

Gender

Gender	Number (Percent)	Rate
Female	325 (100.0)	8.3
Male	0 (0.0)	NA
Unknown gender	0	

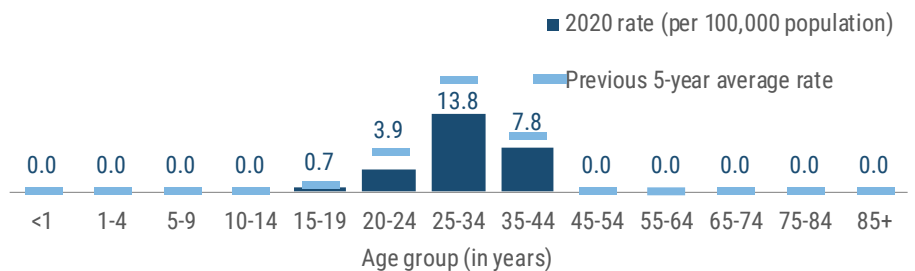
Race

Race	Number (Percent)	Rate
White	50 (16.8)	1.8
Black	156 (52.5)	19.2
Other	91 (30.6)	32.8
Unknown race	28	

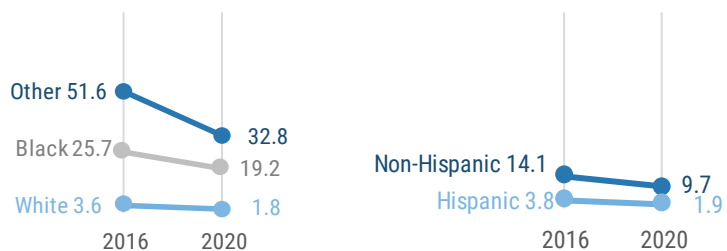
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	263 (92.0)	9.7
Hispanic	23 (8.0)	1.9
Unknown ethnicity	39	

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 childbearing age.



The HBV infection rate (per 100,000 population) in pregnant women decreased slightly across all demographics from 2016 to 2020, except in other races where the decrease was dramatic. The rate is highest in other races, followed by blacks and then whites, and is higher in non-Hispanics than Hispanics.

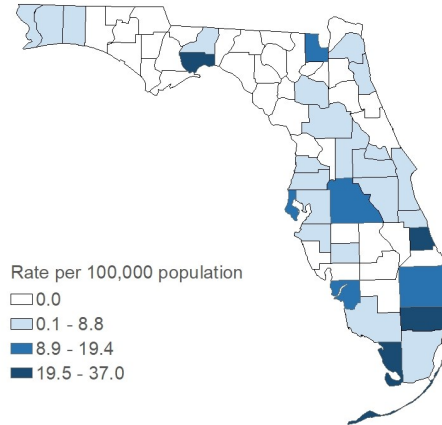


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis B surface antigen cases in pregnant women were missing 6.7% of ethnicity data in 2016, 5.6% of race data in 2016, 12.0% of ethnicity data in 2020 and 8.6% of race data in 2020.

Hepatitis B, Pregnant Women

Summary	Number
Number of cases	325
Outcome	Number (Percent)
Hospitalized	32 (9.8)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	181 (78.4)
Acquired in the U.S., not Florida	5 (2.2)
Acquired outside the U.S.	45 (19.5)
Acquired location unknown	94

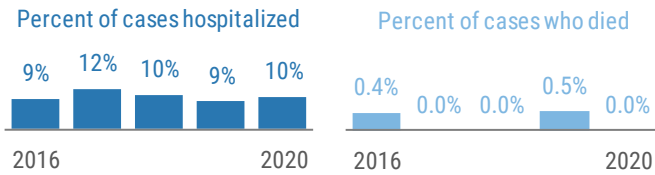
Similar to the distribution of chronic hepatitis B, the highest rates (per 100,000 population) of HBV infection in pregnant women are clustered in south Florida. Unlike chronic HBV infections, many counties in the Panhandle did not identify any HBV infections in pregnant women in 2020.



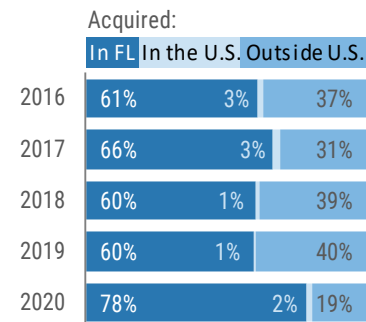
Rates are by county of residence, regardless of where infection was acquired (325 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

More Disease Trends

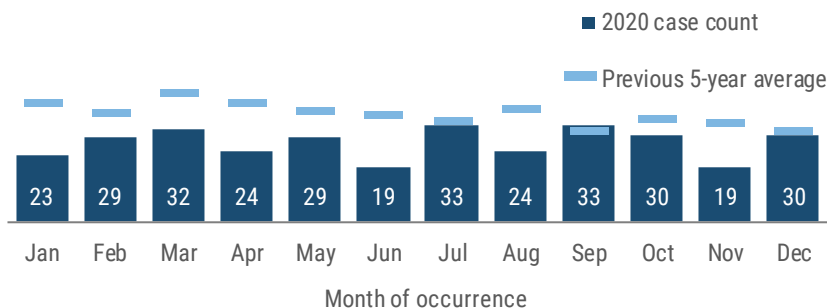
Between 9% and 12% of cases are hospitalized each year; deaths are rare. No deaths were identified in 2020.



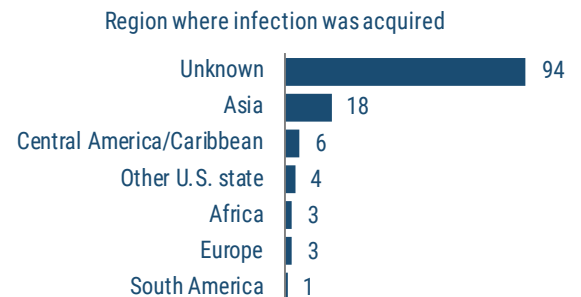
Generally, between 19% and 40% of infections are acquired outside Florida.



There is no seasonality to HBV infections in pregnant women. The number of cases that occurred in 2020 varied by month from 19 cases in June and November to 33 cases in July and September.



For infections known to be acquired outside Florida, Asia and Central America/Caribbean are the most common regions where exposure occurred.







Hepatitis C, Acute

Key Points

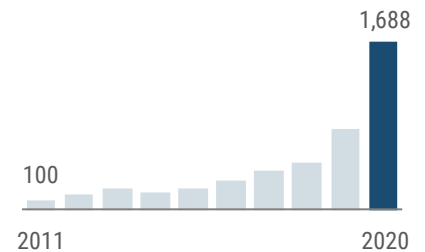
Acute clinical symptoms or prior negative laboratory results are required to differentiate acute hepatitis C from chronic diagnoses, making surveillance challenging. Incidence has increased since 2008, likely due to several factors, including a change in case definition in 2008, an enhanced surveillance project focusing on hepatitis infections in young adults initiated in 2012 and changes in risk behaviors in young adults. 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.

New hepatitis C diagnoses are frequently associated with drug use and sharing of injection equipment. In 2020, most reported cases were sporadic. Twelve outbreak-associated cases were identified, of which 5 (42%) were epidemiologically linked to chronic hepatitis C cases. Of the 12 outbreak-associated cases, 6 (50%) were epidemiologically linked through sexual contact, 2 (17%) were linked to acute hepatitis C cases and 1 (8%) was linked for other reasons.

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 dramatically increased in 2020.



Disease Trends

Summary

Number of cases	1,688
Rate (per 100,000 population)	7.8
Change from 5-year average rate	+267.3%

Age (in Years)

Mean	44
Median	41
Min-max	16 - 94

Gender

	Number (Percent)	Rate
Female	593 (35.1)	5.4
Male	1,095 (64.9)	10.4
Unknown gender	0	

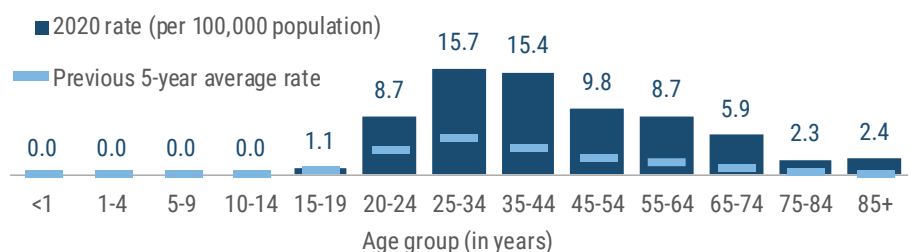
Race

	Number (Percent)	Rate
White	1,236 (79.0)	7.4
Black	165 (10.5)	4.5
Other	164 (10.5)	13.1
Unknown race	123	

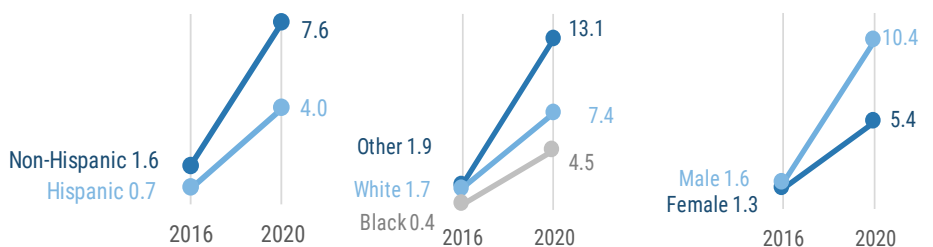
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	1,208 (83.8)	7.6
Hispanic	233 (16.2)	4.0
Unknown ethnicity	247	

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 ages 25 to 34 years old, followed by adults 35 to 44 years old. In 2020, rates in all adult age groups exceeded the previous five-year average.



Acute hepatitis C rates (per 100,000 population) increased across demographic groups from 2016 to 2020. The rate was higher in males compared to females, higher in non-Hispanics compared to Hispanics and higher in whites and other races compared to blacks.

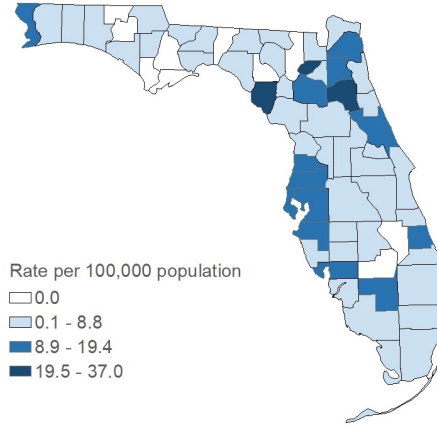


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis C cases were missing 5.3% of ethnicity data in 2016, 14.6% of ethnicity data in 2020 and 7.3% of race data in 2020.

Hepatitis C, Acute

Summary	Number
Number of cases	1,688
Case Classification	Number (Percent)
Confirmed	1,336 (79.1)
Probable	352 (20.9)
Outcome	Number (Percent)
Hospitalized	380 (22.5)
Died	47 (2.8)
Imported Status	Number (Percent)
Acquired in Florida	668 (99.3)
Acquired in the U.S., not Florida	4 (0.6)
Acquired outside the U.S.	1 (0.1)
Acquired location unknown	1,015
Outbreak Status	Number (Percent)
Sporadic	783 (98.5)
Outbreak-associated	12 (1.5)
Outbreak status unknown	893

Acute hepatitis C cases were reported in most parts of the state in 2020. The highest rates (per 100,000 population) occurred in small, rural counties across the state.

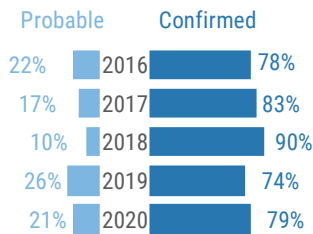


Rates are by county of residence, regardless of where infection was acquired (1,688 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

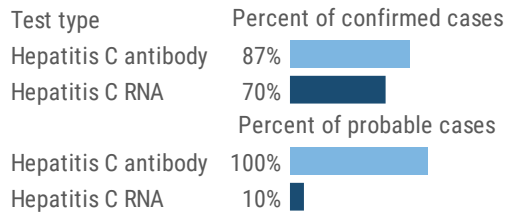


More Disease Trends

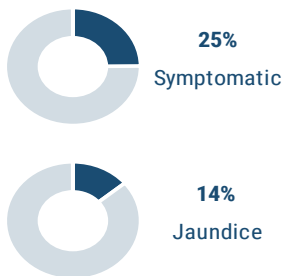
More than 74% of cases are confirmed each year. In 2020, 66% of cases were investigated.



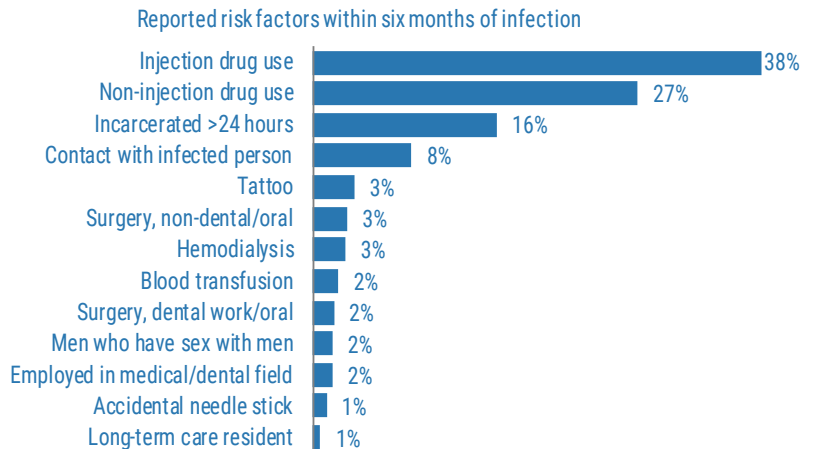
Almost all confirmed cases of acute hepatitis C were positive for hepatitis C antibody and most were positive for hepatitis C RNA. Only a small portion of probable cases were positive for hepatitis C RNA.



One-fourth of acute hepatitis C cases reported in 2020 were symptomatic, but only 14% had jaundice.



Similar to past years, the most common risk factors for hepatitis C infection reported in 2020 included injection drug use, non-injection drug use and incarceration.



Hepatitis C, Chronic (Including Perinatal)

Key Points

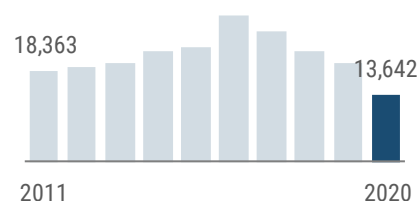
Hepatitis C incidence is highest among adults 25 to 34 years old. Changes in treatment options for HCV have led to an increased focus on identifying HCV infections. Given the large burden of chronic hepatitis C and limited county resources, there have been concerns regarding data completeness and case ascertainment. Earlier data are less reliable. Over the past few years, improvements in electronic laboratory reporting, 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. There is no requirement to investigate chronic cases. 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% to 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 but has decreased each year since.



Disease Trends

Summary

Number of cases	13,642
Rate (per 100,000 population)	63.0
Change from 5-year average rate	-46.5%

Age (in Years)

Mean	47
Median	45
Min-max	0 - 100

Gender

Number (Percent)	Rate
Female 5,121 (37.7)	46.3
Male 8,466 (62.3)	80.0
Unknown gender 55	

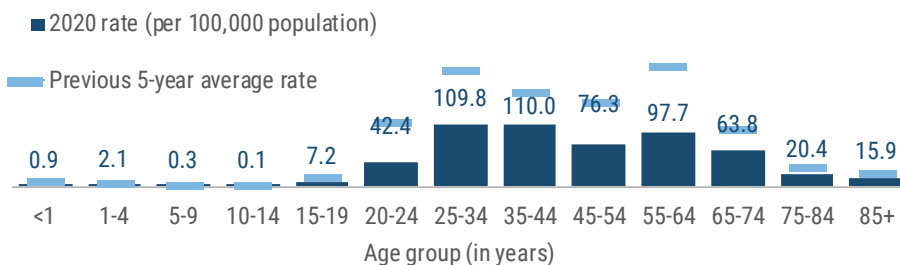
Race

Number (Percent)	Rate
White 7,964 (78.3)	47.6
Black 1,194 (11.7)	32.5
Other 1,019 (10.0)	81.2
Unknown race 3,465	

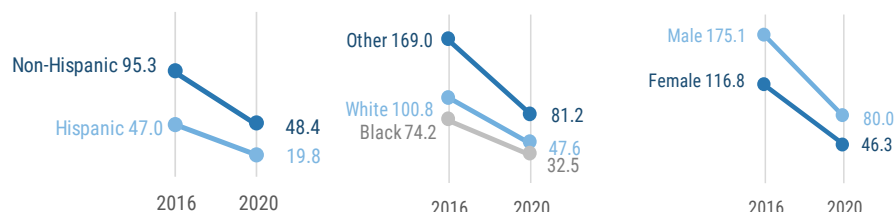
Ethnicity

Number (Percent)	Rate
Non-Hispanic 7,685 (87.0)	48.4
Hispanic 1,145 (13.0)	19.8
Unknown ethnicity 4,812	

The rate of chronic hepatitis C (per 100,000 population) is highest in adults 35 to 44 years old, followed closely by adults 25 to 34 years old.



The chronic hepatitis C rate (per 100,000 population) is higher in males than females and higher in non-Hispanics than Hispanics. Rates are lower in blacks than in whites and other races. Few chronic cases are investigated, causing a large proportion of race and ethnicity data to be missing.

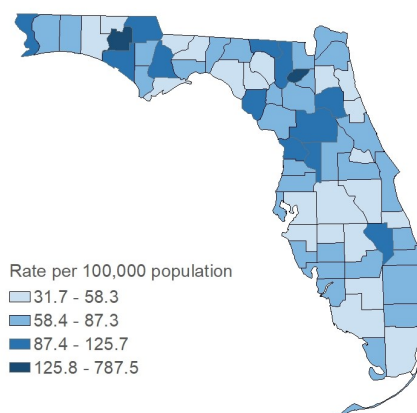


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chronic hepatitis C cases (including perinatal) were missing 42.7% of ethnicity data in 2016, 31.3% of race data in 2016, 35.3% of ethnicity data in 2020 and 25.4% of race data in 2020.

Hepatitis C, Chronic (Including Perinatal)

Summary	Number
Number of cases	13,642
Case Classification	Number (Percent)
Confirmed	9,370 (68.7)
Probable	4,272 (31.3)
Outcome	Number (Percent)
Hospitalized	520 (3.8)
Died	83 (0.6)
Imported Status	Number (Percent)
Acquired in Florida	1,360 (98.7)
Acquired in the U.S., not Florida	11 (0.8)
Acquired outside the U.S.	7 (0.5)
Acquired location unknown	12,264
Outbreak Status	Number (Percent)
Sporadic	2,149 (99.3)
Outbreak-associated	15 (0.7)
Outbreak status unknown	11,478

Chronic hepatitis C occurred throughout the state in 2020 with the highest rates in small counties in northern and central Florida, particularly in the Panhandle.

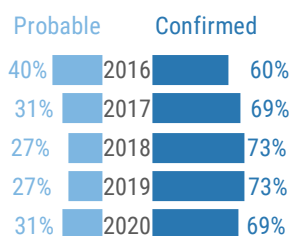


Rates are by county of residence, regardless of where infection was acquired (13,642 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

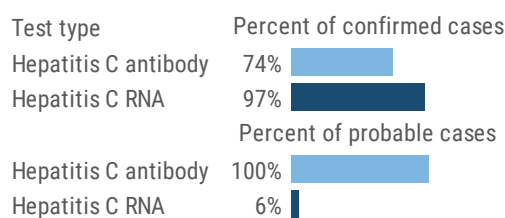


More Disease Trends

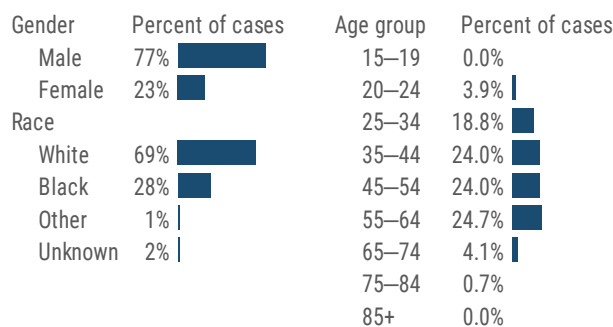
Most cases of chronic hepatitis C cases were confirmed in 2020. The probable case classification expanded in 2016, resulting in a large increase in probable cases.



Almost all confirmed cases of chronic hepatitis C were positive for hepatitis C RNA and most were positive for hepatitis C antibody in 2020. Only a small portion of probable cases were positive for hepatitis C RNA.



In 2020, 344 (2.5%) chronic hepatitis C cases were also diagnosed with HIV. The majority of people with co-infections were male, white and 55 to 64 years old.



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.

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. Data for 2020 should be interpreted with caution due to the impact of COVID-19 on HIV testing, care-related services and case surveillance activities in state and local jurisdictions.

HIV incidence (new diagnoses) has been gradually decreasing over the past five years, with a 27% decline from 2016 to 2020. Rates are consistently highest in adults 20 to 34 years old. In 2020, male-to-male sexual contact continued to account for most (76%) HIV diagnoses among males. Untreated, HIV can continue to weaken the immune system and develop into AIDS. Florida observed a 54% decrease in AIDS diagnoses from 2011 to 2020 and a 34% decrease in HIV-related deaths. These trends suggest that 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 allow persons with HIV to live longer and have a more productive life.

Disease Facts



Caused by human immunodeficiency virus (HIV)



Illness is flu-like primary infection; AIDS (acquired immunodeficiency syndrome) is defined as HIV with CD4 count <200 cells/μL or occurrence of opportunistic infection

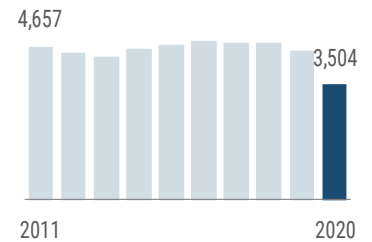


Transmitted via anal or vaginal sex, blood exposure (e.g., sharing injection drug needles, receiving infected blood transfusion [rare due to donor screening]) or vertically during pregnancy, delivery or breastfeeding



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 decreasing over the past 5 years.



Disease Trends

Summary

Number of diagnoses	3,504
Rate (per 100,000 population)	16.2
Change from 5-year average rate	-29.3%

Age (in Years)

Mean	38
Median	35
Min-max	0 - 82

Gender

	Number (Percent)	Rate
Female	701 (20.0)	6.3
Male	2,803 (80.0)	26.5
Unknown gender	0	

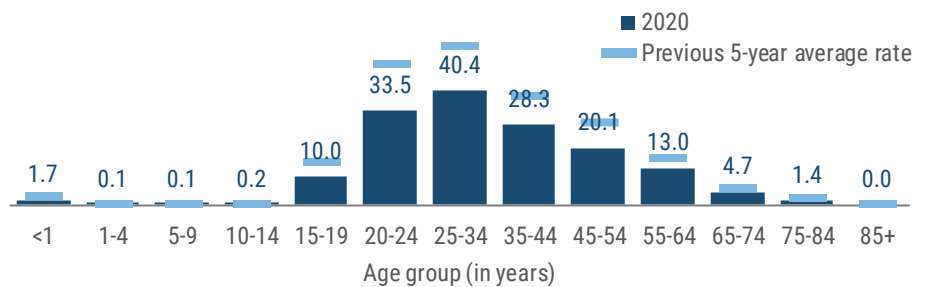
Race

	Number (Percent)	Rate
White	1,841 (54.4)	11.0
Black	1,480 (43.7)	40.3
Other	62 (1.8)	4.9
Unknown race	121	

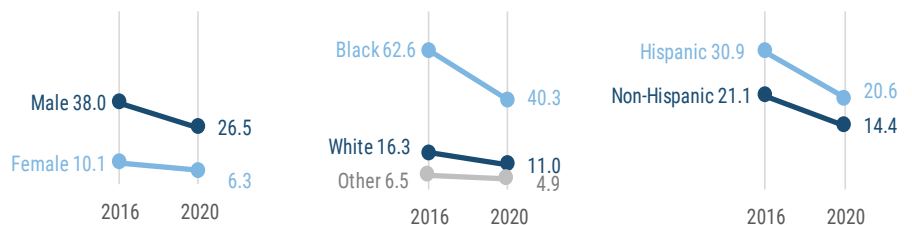
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	2,286 (65.8)	14.4
Hispanic	1,187 (34.2)	20.6
Unknown ethnicity	31	

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



In 2020, HIV incidence rates (per 100,000 population) were 4.2 times higher among males than females and 3.7 times higher among blacks than whites.



HIV/AIDS

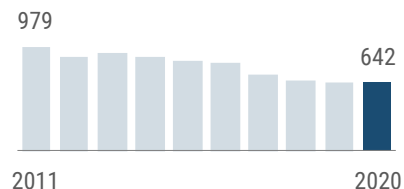
Male-to-male sexual contact was the primary mode of exposure among males who received an HIV diagnosis in 2020 (76%), and heterosexual contact was the primary mode of exposure among females (88%).

Mode of exposure	Female		Male	
	Count	Percentage	Count	Percentage
Male-to-male sexual contact (MMSC)	NA	NA	2,120	75.6%
Heterosexual contact	617	88.0%	483	17.2%
Injection drug use (IDU)	77	11.0%	101	3.6%
MMSC and IDU	NA	NA	76	2.7%
Pediatric transmission	5	0.7%	2	0.1%
Transgender sexual contact	2	0.3%	21	0.7%
Total	701		2,803	

Note: Pediatric transmission includes perinatal exposure and pediatric diagnoses without a confirmed mode of exposure. Transgender sexual contact includes transgender males or females whose mode of exposure was sexual contact.

Following the advent of antiretroviral therapy, there has been an 85% decline in Florida resident deaths due to HIV from 1995 (4,336 deaths) to 2020 (642 deaths).

Deaths due to HIV decreased by 44% from 2009 to 2018 and by 8% since 2017 alone.

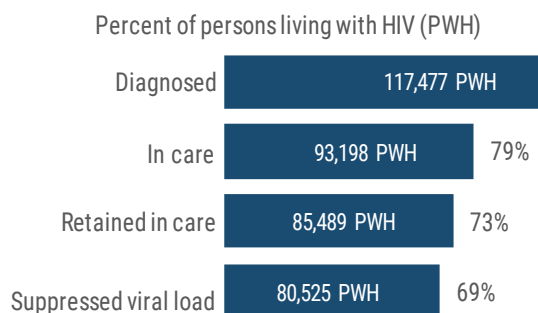


Race/ethnicity	Female	Male
White	2.9	11.5
Black	22.3	62.2
Hispanic	4.3	37.3

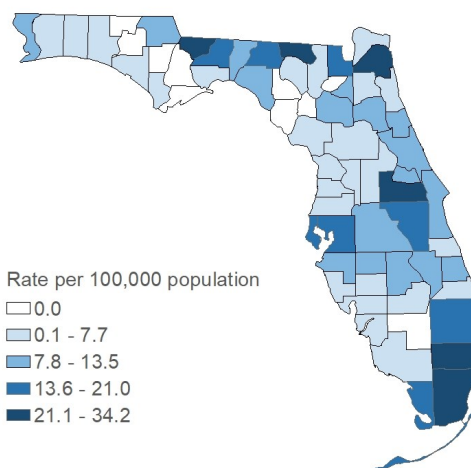
In 2020, the HIV incidence rate (per 100,000 population) among black females was 7.7 times higher than white females. The rate among black males was 5.4 times higher than white males, while the rate in Hispanic males was 3.2 times higher than white males.

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). Persons with HIV (PWH) with a suppressed viral load (less than 200 copies/mL) are highly unlikely to transmit the virus.

There were 117,477 PWH in Florida in 2020, 73% of whom were retained in care and 69% of whom had a suppressed viral load.



High HIV incidence rates (per 100,000 population) occurred in the central and southeastern parts of the state in 2020. Almost half (47%) of diagnoses were in 3 counties, including Miami-Dade (813 diagnoses), Broward (467 diagnoses) and Orange (374 diagnoses).



HIV care continuum definitions

In care: documented HIV-related care at least once in 2020

Retained in care: documented HIV-related care at least two times, at least three months apart in 2020

Suppressed viral load: less than 200 copies/mL

HIV diagnosis rates are by county of where the resident was diagnosed, excluding Florida Department of Corrections cases (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 2020 by county.

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

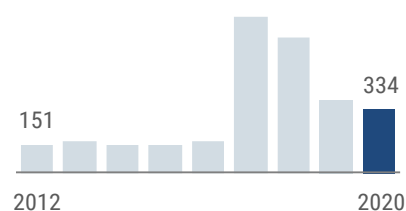
Lead poisoning is most often identified in children as part of routine screening. The Centers for Medicare and Medicaid Services requires blood lead screening in all Medicaid-enrolled children at 12 and 24 months old; if not previously screened, children must be screened between 24 and 72 months old. The Centers for Disease Control and Prevention recommends all children who are foreign-born or otherwise identified as high-risk be screened for lead. 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, toys or jewelry, parental occupations or hobbies involving lead and folk medicines or cosmetics from other countries.

In 2017, the Florida Department of Health changed the case definition 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.

Disease Facts

- Caused by lead**
- Illness** includes a 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 case definition expansion. Incidence has continued to decrease.



Disease Trends

Summary

Number of cases	334
Rate (per 100,000 population)	24.1
Change from 5-year average rate	-27.0%

Age (in Years)

Mean	2
Median	1
Min-max	0 - 5

Gender

	Number (Percent)	Rate
Female	156 (46.7)	23.0
Male	178 (53.3)	25.1
Unknown gender	0	

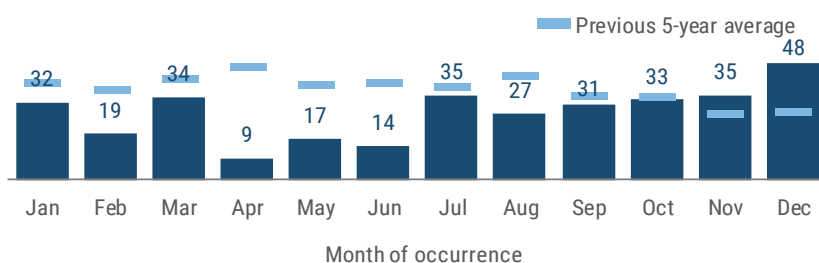
Race

	Number (Percent)	Rate
White	108 (40.3)	11.2
Black	77 (28.7)	25.2
Other	83 (31.0)	70.9
Unknown race	66	

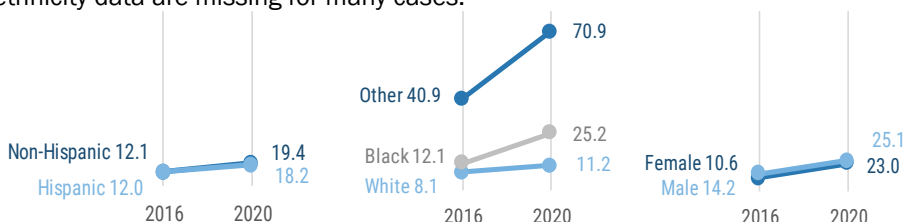
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	180 (68.4)	19.4
Hispanic	83 (31.6)	18.2
Unknown ethnicity	71	

Lead poisoning in children <6 years old occurs throughout the year with no distinct seasonality. In 2020, the lowest testing rates were in April through June while the highest rates were reported in 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.

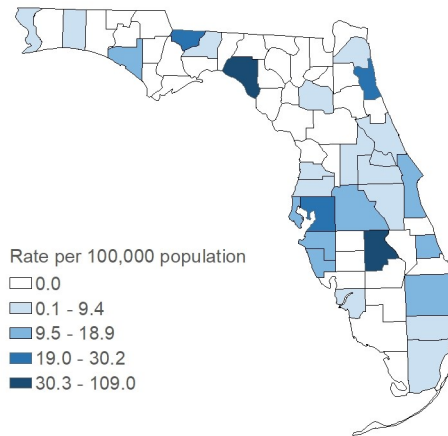


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in children less than 6 years old were missing 21.3% of ethnicity data in 2020 and 19.8% of race data in 2020.

Lead Poisoning in Children <6 Years Old

Summary	Number
Number of cases	334
Outcome	Number (Percent)
Hospitalized	1 (0.3)
Died	0 (0.0)
Imported Status	Number (Percent)
Exposed in Florida	146 (94.8)
Exposed in the U.S., not Florida	5 (3.2)
Exposed outside the U.S.	3 (1.9)
Exposed location unknown	180
Outbreak Status	Number (Percent)
Sporadic	156 (92.9)
Outbreak-associated	12 (7.1)
Outbreak status unknown	166
Age Group	Number (Percent)
Children (<6 years old)	334 (31.9)
Adults (≥6 years old)	712 (68.1)

Lead poisoning in children <6 years old occurred in most parts of the state in 2020. The lead poisoning rates (per 100,000 population) are typically highest in small, rural counties.

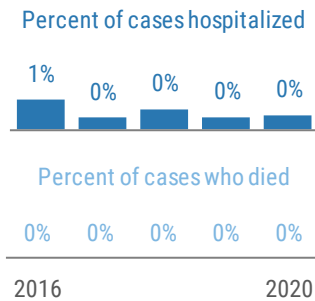


Rates are by county of residence for cases exposed in Florida (334 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

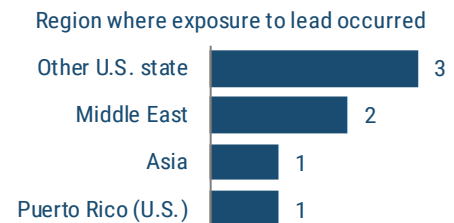
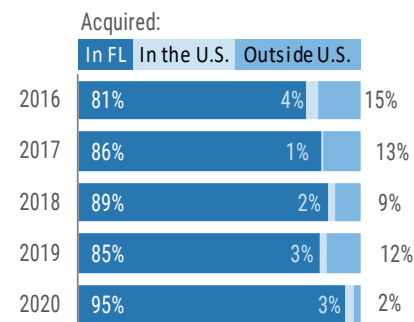


More Disease Trends

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

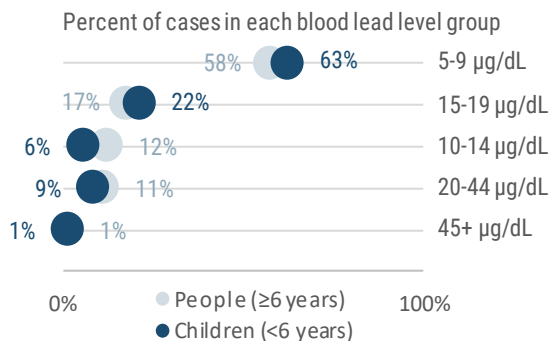


Most lead poisoning cases were exposed in Florida. In 2020, seven cases were exposed in other regions. Three were imported from other U.S. states, 2 from the Middle East and 1 each from Asia and Puerto Rico.



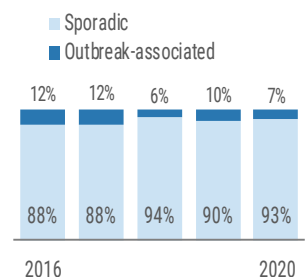
Children <6 years old have a larger proportion of cases with blood lead levels <10 µg/dL compared to adults (63% versus 58%, respectively).

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 2020, there were 12 outbreak-associated cases associated with 6 different small household clusters.

Common exposures included imported food and spices, lead-based paint, lead pipes and unknown sources of lead exposure.







Lead Poisoning in People ≥6 Years Old

Key Points

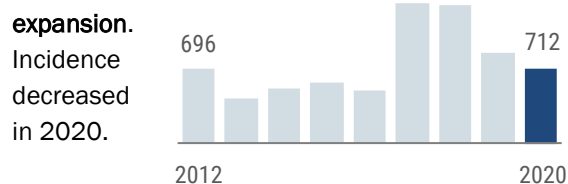
Adult lead poisoning is primarily caused by exposure to lead in the workplace or during certain activities where lead is used. High-risk occupations include battery manufacturing, painting, nonferrous smelting, radiator repair, scrap metal recycling, work at firing ranges and construction and renovation. High-risk activities include recreational target shooting, home remodeling, casting bullets and fishing weights, making stained glass and consuming traditional remedies. The Occupational Safety and Health Administration requires regular lead screening 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, the Florida Department of Health changed the case definition 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.

Disease Facts

-  **Caused by lead**
-  **Illness includes a 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 case definition expansion.



Disease Trends

Summary

Number of cases	712
Rate (per 100,000 population)	3.5
Change from 5-year average rate	-25.1%

Age (in Years)

Mean	43
Median	40
Min-max	6 - 92

Gender

Gender	Number (Percent)	Rate
Female	89 (12.5)	0.9
Male	623 (87.5)	6.3
Unknown gender	0	

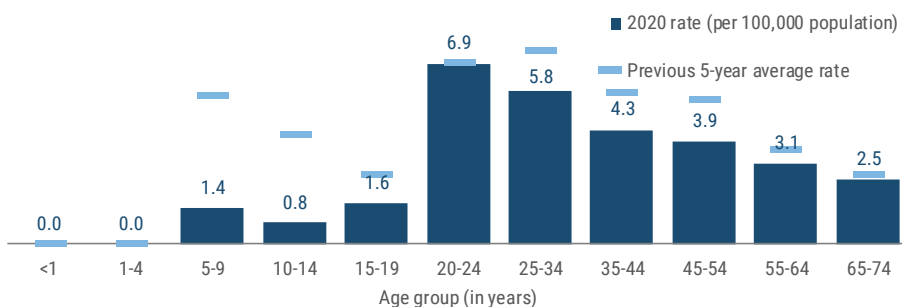
Race

Race	Number (Percent)	Rate
White	327 (67.6)	2.1
Black	79 (16.3)	2.3
Other	78 (16.1)	6.9
Unknown race	228	

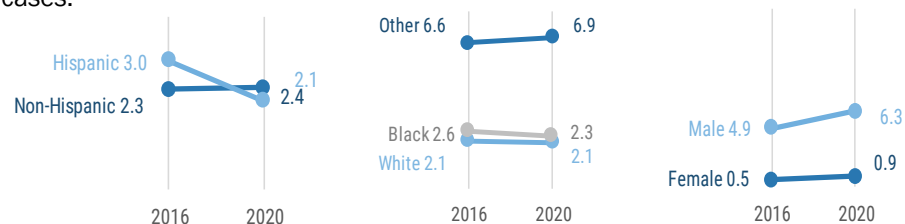
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	354 (76.5)	2.4
Hispanic	109 (23.5)	2.1
Unknown ethnicity	249	

The rate (per 100,000 population) of lead poisoning in people ≥ 6 years old is highest in adults 20 to 24 years old followed by adults 25 to 34 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.

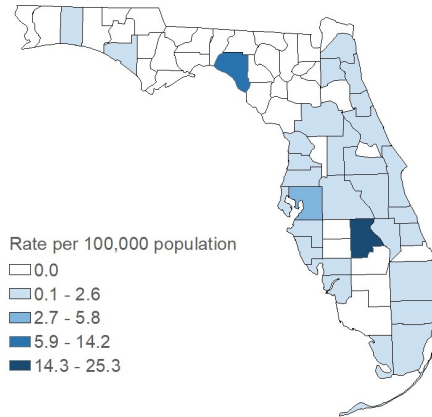


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases in people ≥ 6 years old were missing 6.4% of ethnicity data in 2016, 7.4% of race data in 2016, 35.0% of ethnicity data in 2020 and 32.0% of race data in 2020.

Lead Poisoning in People ≥6 Years Old

Summary	Number
Number of cases	712
Outcome	Number (Percent)
Hospitalized	2 (0.3)
Died	1 (0.1)
Imported Status	Number (Percent)
Exposed in Florida	274 (98.6)
Exposed in the U.S., not Florida	3 (1.1)
Exposed outside the U.S.	1 (0.4)
Exposed location unknown	434
Outbreak Status	Number (Percent)
Sporadic	328 (97.9)
Outbreak-associated	7 (2.1)
Outbreak status unknown	377
Age Group	Number (Percent)
Children (<6 years old)	334 (31.9)
Adults (≥6 years old)	712 (68.1)

Lead poisoning in people ≥6 years old occurred in most parts of the state in 2020, though there were fewer counties with cases in the Panhandle region.

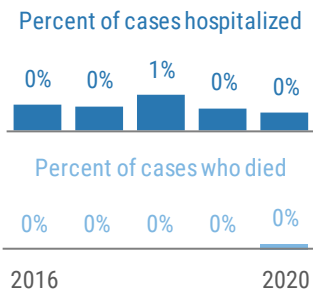


Rates are by county of residence for cases exposed in Florida (712 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

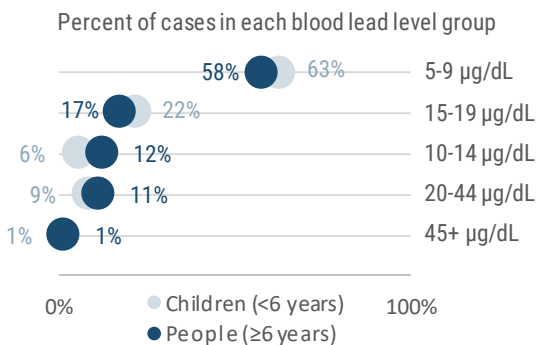


More Disease Trends

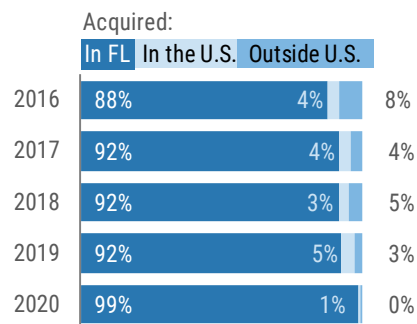
Hospitalizations and deaths in people ≥6 years old with lead poisoning are rare.



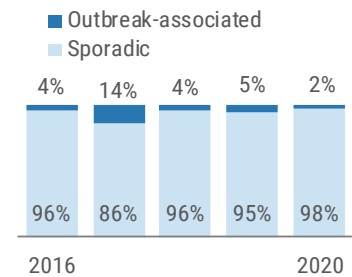
Lead poisoning cases in adults are primarily identified through occupational testing and they tend to have higher blood lead levels than children.



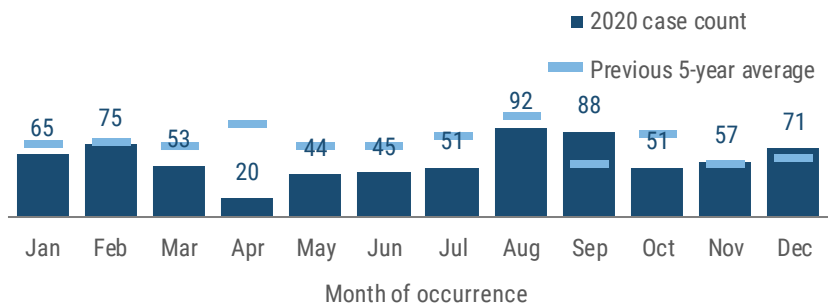
Of cases where the exposure location was known, most were exposed in Florida.



Most lead poisoning cases are sporadic. In 2020, 7 outbreak-associated cases were identified. Of the 7, 3 cases were exposed from ammunition making.



Lead poisoning cases in people ≥6 years old occur throughout the year with no distinct seasonality. The highest number of cases were reported in February, August and September in 2020.







Legionellosis

Key Points

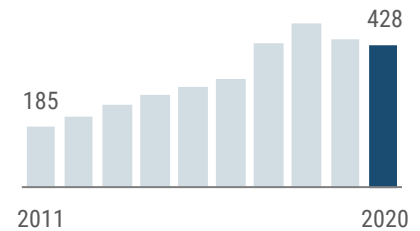
Recently identified sources of *Legionella* infection in Florida and the U.S. include decorative fountains, hot tubs, cooling towers (air conditioning units for large buildings) and potable water systems. Over the past decade, the increasing incidence in Florida is consistent with the increase observed nationally. This increase is likely due to several factors, including aging infrastructure and a greater percentage of the population ≥ 64 years old. Older adults and those with weakened immune systems are at highest risk for developing disease. At the start of 2020, Florida updated the legionellosis case definition, which may have contributed to changes in reported trends.

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 exposure 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 may 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 decrease in 2020.



Disease Trends

Summary

Number of cases	428
Rate (per 100,000 population)	2.0
Change from 5-year average rate	+1.4%

Age (in Years)

Mean	64
Median	64
Min-max	24 - 103

Gender

	Number (Percent)	Rate
Female	161 (37.6)	1.5
Male	267 (62.4)	2.5
Unknown gender	0	

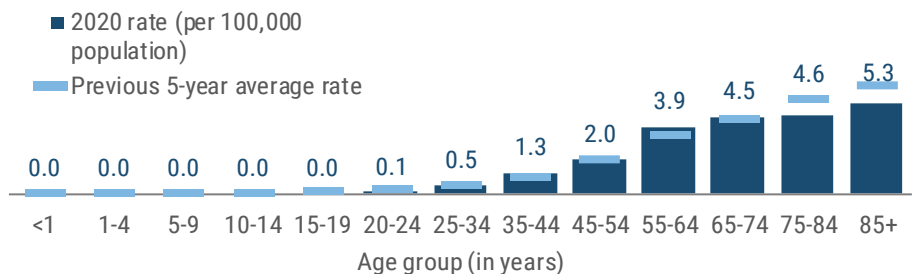
Race

	Number (Percent)	Rate
White	307 (72.2)	1.8
Black	82 (19.3)	2.2
Other	36 (8.5)	2.9
Unknown race	3	

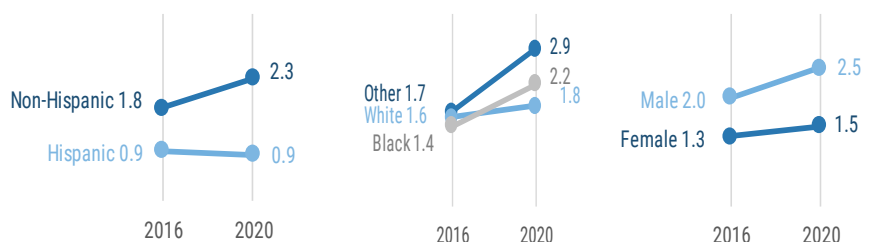
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	365 (88.0)	2.3
Hispanic	50 (12.0)	0.9
Unknown ethnicity	13	

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



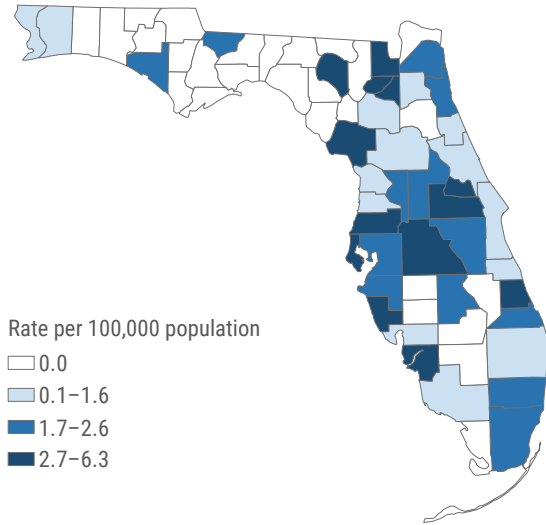
The legionellosis rate (per 100,000 population) increased in all demographics from 2016 to 2020. Rates were higher in males and non-Hispanics but generally similar by race in 2020.



Legionellosis

Summary	Number
Number of cases	428
Outcome	Number (Percent)
Hospitalized	404 (94.4)
Died	38 (8.9)
Imported Status	Number (Percent)
Acquired in Florida	393 (99.2)
Acquired in the U.S., not Florida	3 (0.8)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	32
Outbreak Status	Number (Percent)
Sporadic	391 (93.1)
Outbreak-associated	29 (6.9)
Outbreak status unknown	8

Legionellosis occurred in most parts of the state in 2020 but is notably absent from most counties in the Panhandle.

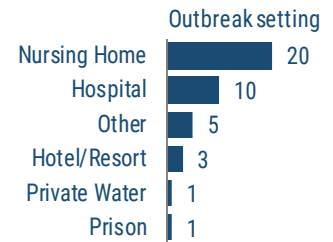
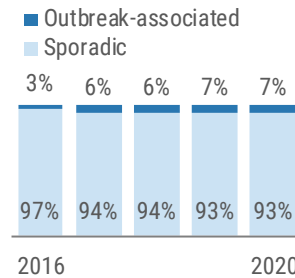
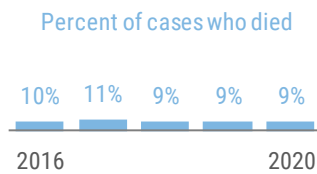
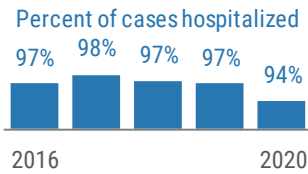


Rates are by county of residence for infections acquired in Florida (428 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

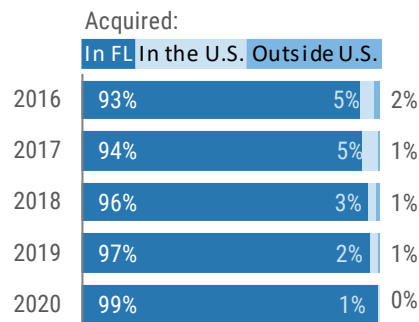


More Disease Trends

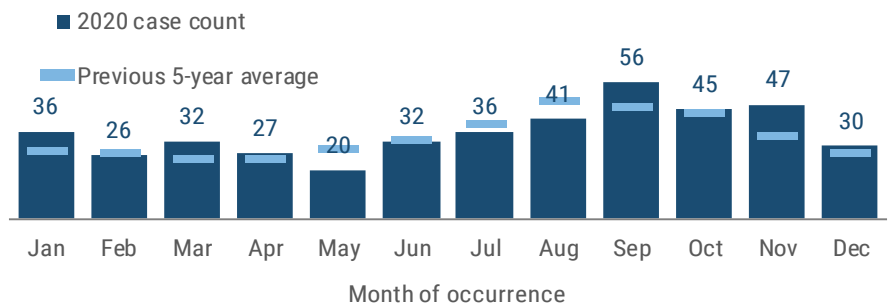
Most legionellosis cases are hospitalized and deaths do occur. Those primarily affected are older adults and people with underlying conditions. Pneumonia is commonly identified among cases.



Between 93% and 99% of Legionella infections are acquired in Florida; some infections are imported from other states and countries.



Legionellosis cases increased slightly in the summer and early fall months with 41 to 56 cases reported each month from August to November 2020.



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 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.

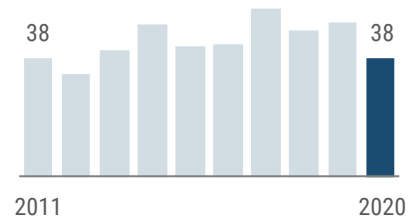
Historically, *Listeria* outbreaks have been linked to deli meats and hot dogs; however, new vehicles have been identified as sources of outbreaks including soft cheeses, frozen vegetables, sprouts, raw milk, melons, caramel apples, smoked seafood and ice cream.

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 monitors WGS data from across the country to identify clusters of possibly related cases. In 2020, Florida identified 3 cases associated with 3 different multistate outbreaks and 2 cases associated with a local Florida cluster.

Disease Facts

-  **Caused by** *Listeria monocytogenes* bacteria
-  **Illness** is usually invasive when bacteria have spread beyond the gastrointestinal tract; initial illness is often characterized by fever and diarrhea
-  **Transmission** 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 in 2020 decreased from 2019.



Disease Trends

Summary

Number of cases	38
Rate (per 100,000 population)	0.2
Change from 5-year average rate	-23.4%

Age (in Years)

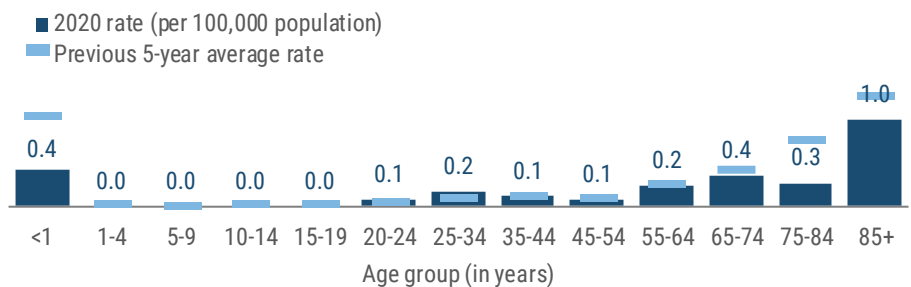
Mean	60
Median	65
Min-max	0 - 94

Gender	Number (Percent)	Rate
Female	22 (57.9)	0.2
Male	16 (42.1)	NA
Unknown gender	0	

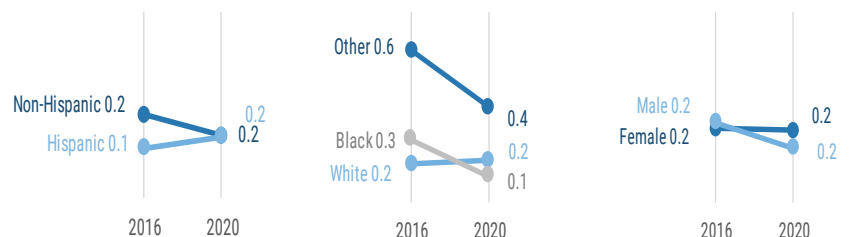
Race	Number (Percent)	Rate
White	29 (76.3)	0.2
Black	4 (10.5)	NA
Other	5 (13.2)	NA
Unknown race	0	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	28 (73.7)	0.2
Hispanic	10 (26.3)	NA
Unknown ethnicity	0	

The listeriosis rate (per 100,000 population) is highest in infants (who can acquire infection from their mothers during pregnancy) and adults 85+ years old.



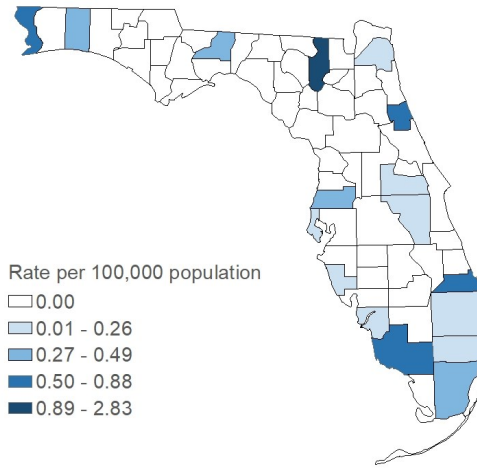
The listeriosis rate (per 100,000 population) was similar by gender, race and ethnicity in 2020. Most demographics remained stable from 2016 to 2020 except for other races and blacks who decreased slightly and Hispanics who increased slightly.



Listeriosis

Summary	Number
Number of cases	38
Outcome	Number (Percent)
Hospitalized	30 (78.9)
Died	9 (23.7)
Imported Status	Number (Percent)
Acquired in Florida	35 (100.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	3
Outbreak Status	Number (Percent)
Sporadic	36 (94.7)
Outbreak-associated	2 (5.3)
Outbreak status unknown	0

Listeriosis did not have a geographic pattern in 2020. Rates (per 100,000 population) were highest in small, rural counties in different parts of the state.



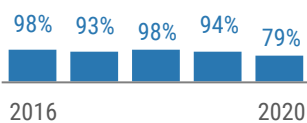
Rates are by county of residence for infections acquired in Florida (38 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.



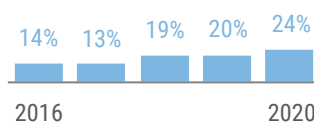
More Disease Trends

Most listeriosis cases are hospitalized; deaths do occur. Those primarily affected are older adults who likely have underlying conditions.

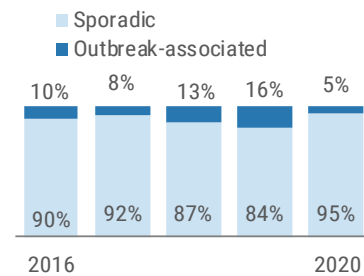
Percent of cases hospitalized



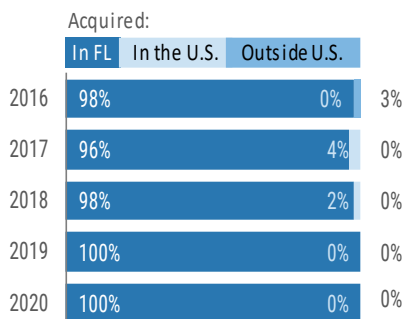
Percent of cases who died



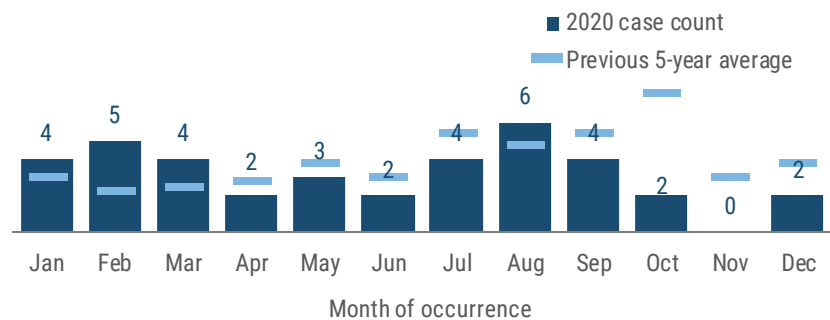
Each year, a few cases are linked to multistate outbreaks through whole genome sequencing. Three cases reported in 2020 matched multistate outbreaks.



All *Listeria* infections were acquired in Florida in 2020.



Listeriosis cases occur all year and do not exhibit a strong seasonality; however, low case counts make it difficult to interpret trends. Between zero and 6 cases occurred each month in 2020.



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 Centers for Disease Control and Prevention estimates that about 476,000 Lyme disease cases are reported each year. Nationally, Lyme disease cases are concentrated in the Northeast and upper Midwest, with 14 states accounting for most reported cases each year.

Lyme disease incidence in Florida has generally increased over the past decade. This increase 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. In 2020, incidence of Lyme disease decreased slightly from 2019, falling below the previous five-year average incidence. COVID-19 travel restrictions may have contributed to this decrease.

The majority of Florida cases were acquired during travel to other U.S. states in 2020. However, one case was acquired in Germany.

There were 53 acute and 63 late-manifestation Lyme disease cases reported in 2020. One Lyme disease case was co-infected with *Anaplasma*. Case counts and rates from this report may differ from those found in other tick-borne disease reports as different criteria are used to assemble the data.

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

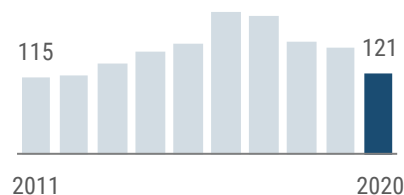


Transmitted via bite of infective *Ixodes scapularis* tick



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 2020 decreased from 2019.



Disease Trends

Summary

Number of cases	121
Rate (per 100,000 population)	0.6
Change from 5-year average rate	-37.8%

Age (in Years)

Mean	49
Median	55
Min-max	4 - 87

Gender

	Number (Percent)	Rate
Female	64 (52.9)	0.6
Male	57 (47.1)	0.5
Unknown gender	0	

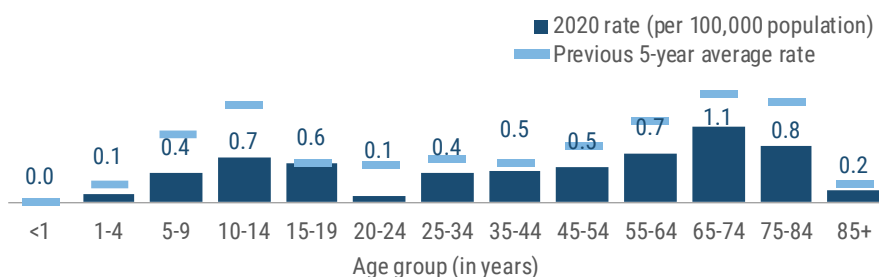
Race

	Number (Percent)	Rate
White	102 (84.3)	0.6
Black	2 (1.6)	NA
Other	3 (2.5)	NA
Unknown race	14	

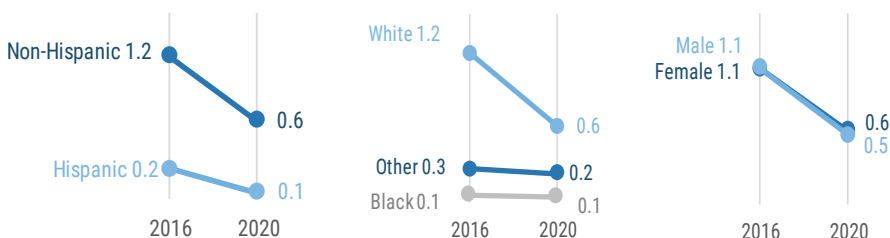
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	101 (97.1)	0.6
Hispanic	3 (2.9)	NA
Unknown ethnicity	17	

In 2020, the Lyme disease rate (per 100,000 population) was highest in adults 65 to 74 years old, followed by adults 74 to 84 years old. The rate in 2020 was notably lower than the previous five-year average rate for most age groups or remained relatively stable. No age group had an increased rate.



In 2020, the Lyme disease rate (per 100,000 population) was similar by gender but higher in non-Hispanics. The rate was highest in whites, followed by other races, then blacks. The rate decreased from 2016 to 2020 in all demographics except for blacks, who remained stable.

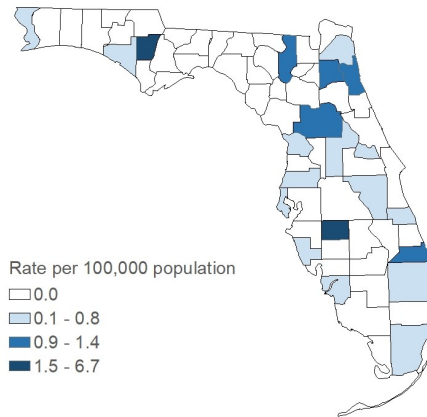


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lyme disease cases were missing 13.0% of ethnicity data in 2016, 11.1% of race data in 2016, 14.0% of ethnicity data in 2020 and 11.6% of race data in 2020.

Lyme Disease

Summary	Number
Number of cases	121
Case Classification	Number (Percent)
Confirmed	65 (53.7)
Probable	56 (46.3)
Outcome	Number (Percent)
Hospitalized	5 (4.1)
Died	0 (0)
Imported Status	Number (Percent)
Acquired in Florida	39 (43.3)
Acquired in the U.S., not Florida	50 (55.6)
Acquired outside the U.S.	1 (1.1)
Acquired location unknown	31
Outbreak Status	Number (Percent)
Sporadic	121 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Lyme disease is primarily imported from other U.S. states where it is highly endemic; however, 39 infections were acquired in Florida in 2020. Twenty-two of these cases had late manifestations requiring more time-consuming and in-depth history taking. It is not clear what impacts COVID-19 might have had on case investigations.

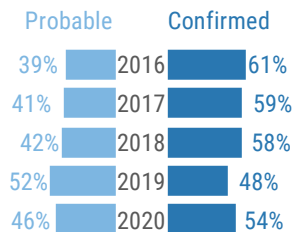


Rates are by county of residence for infections acquired in Florida (121 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

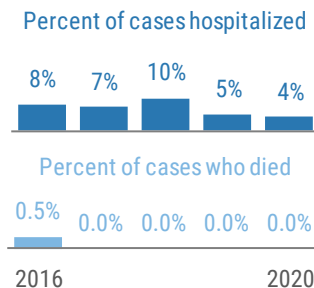


More Disease Trends

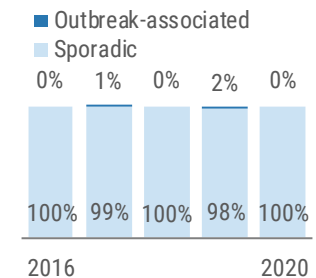
Between 48% and 61% of cases are confirmed annually; 54% of 2020 cases were confirmed.



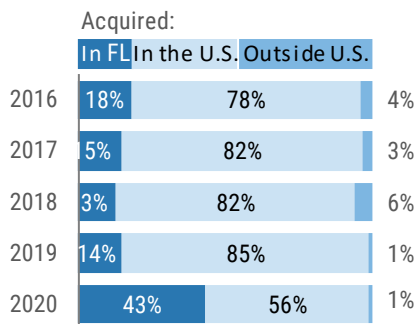
The hospitalization rate for people with Lyme disease is low; deaths are rare.



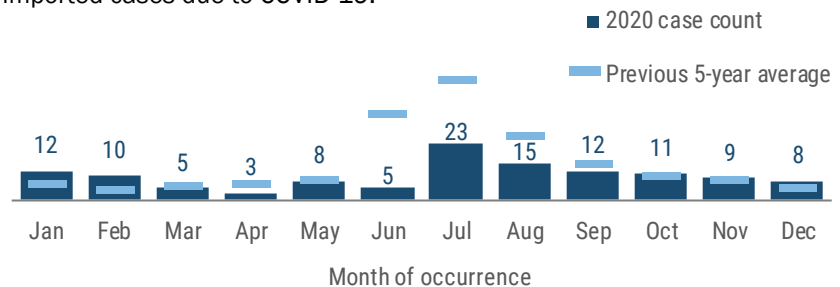
All Lyme disease cases were sporadic in 2020.



Lyme disease is primarily imported from other U.S. states where it is highly endemic. One case in 2020 was imported from another country.



Lyme disease cases are reported year-round, but there is a strong seasonal peak in the summer. In 2020, 45% of cases occurred from June to September, which is lower than usual and may reflect significantly less imported cases due to COVID-19.



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

Mumps

Key Points

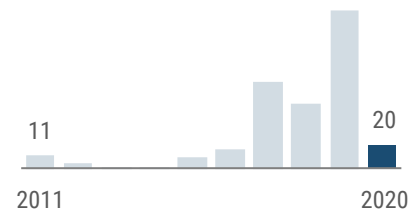
Despite routine vaccination, mumps has been increasing in the U.S., mainly due to outbreaks in young adults in settings with close contact like college campuses. Nationally, 2,515 mumps cases were reported in 2018, with over half in people 15 to 39 years old. Well over one-third of the cases were reported from the Pacific and Middle Atlantic regions of the country, with several college outbreaks driving the increased incidence in those states. Waning immunity is thought to play a role in these outbreaks.

Mumps incidence in Florida increased dramatically in 2017 and remained elevated in 2018. The elevated incidence over these 2 years was partly due to efforts by state and county health department staff to maintain awareness of mumps disease in the medical community by educating providers on reporting guidance and appropriate testing. In 2017 and 2018, staff also increased surveillance efforts to obtain specimens for testing at the state public health laboratory for both sporadic and outbreak-associated cases.

Disease Facts

- Caused** by mumps virus
- Illness** includes fever, headache, muscle aches, tiredness and loss of appetite, followed by swelling of salivary glands, and in some cases orchitis and oophoritis
- Transmitted** person to person via droplets of saliva or mucus from the mouth, nose or throat of an infected person, usually when they cough, sneeze or talk
- Under surveillance** to prevent further transmission through isolation during infectious period. A third dose of vaccine is recommend to control outbreaks.

Mumps incidence decreased drastically in 2020 compared to 2019.



Disease Trends

Summary

Number of cases	20
Rate (per 100,000 population)	0.1
Change from 5-year average rate	-66.6%

Age (in Years)

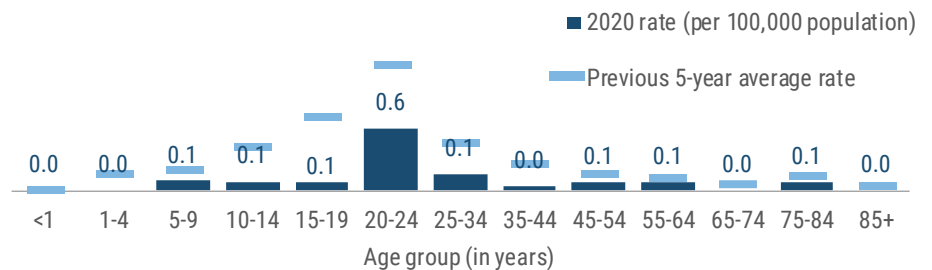
Mean	32
Median	24
Min-max	9 - 78

Gender	Number (Percent)	Rate
Female	8 (40.0)	NA
Male	12 (60.0)	NA
Unknown gender	0	

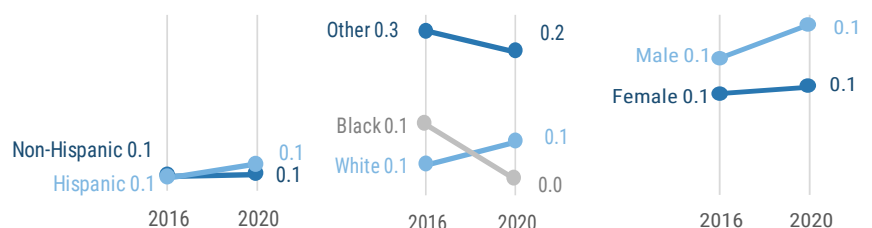
Race	Number (Percent)	Rate
White	15 (78.9)	NA
Black	1 (5.3)	NA
Other	3 (15.8)	NA
Unknown race	1	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	12 (63.2)	NA
Hispanic	7 (36.8)	NA
Unknown ethnicity	1	

In 2020, the mumps rate (per 100,000 population) was highest in adults 20 to 24 years old.



Mumps rates (per 100,000 population) have decreased or remained stable across all demographic groups from 2016 to 2020.

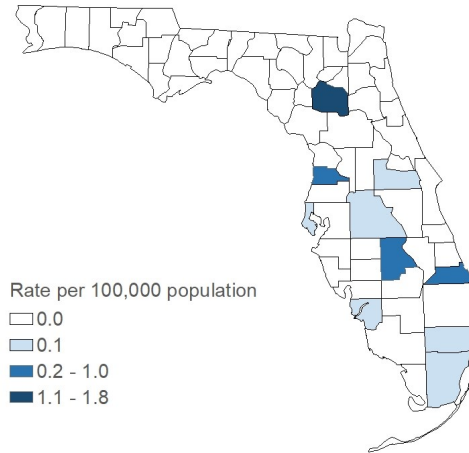


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Mumps cases were missing 12.5% of ethnicity data in 2016 and 6.3% of race data in 2016.

Mumps

Summary	Number
Number of cases	20
Case Classification	Number (Percent)
Confirmed	8 (40.0)
Probable	12 (60.0)
Outcome	Number (Percent)
Hospitalized	3 (15.0)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	16 (84.2)
Acquired in the U.S., not Florida	2 (10.5)
Acquired outside the U.S.	1 (5.3)
Acquired location unknown	1
Outbreak Status	Number (Percent)
Sporadic	13 (65.0)
Outbreak-associated	7 (35.0)
Outbreak status unknown	0

In 2020, most mumps cases were acquired in Florida. Cases occurred in residents of 12 counties, with the highest rates (per 100,000 population) in Alachua County.

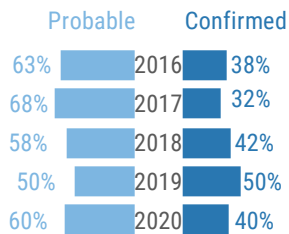


Rates are by county of residence for infections acquired in Florida (20 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2019 by county.

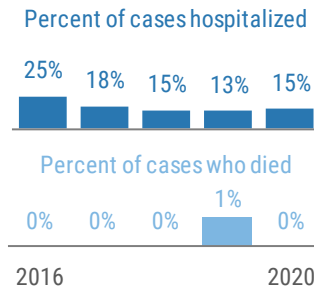


More Disease Trends

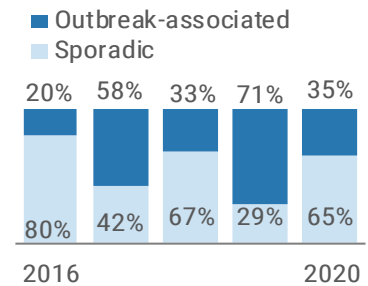
Generally between 32% and 50% of cases are confirmed each year.



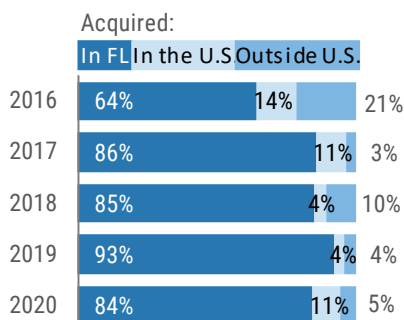
Some mumps cases are hospitalized. No deaths were reported in 2020.



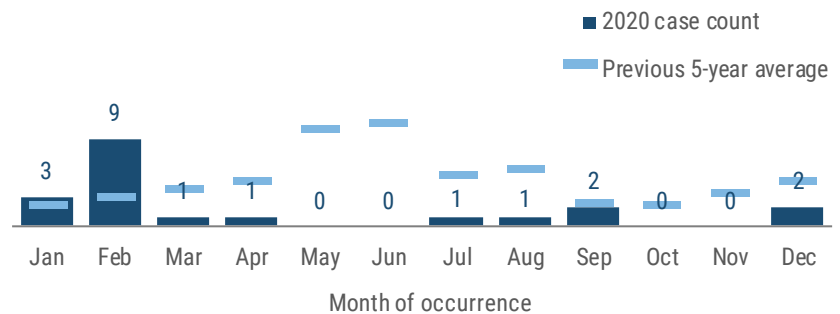
In 2020, just over one-third of cases were associated with an outbreak.



Most mumps infections were acquired in Florida in 2020; 3 infections were imported from other states or countries.



Mumps cases occurred throughout the year in Florida in 2020. More cases were reported in January and February.



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





Pertussis

Key Points

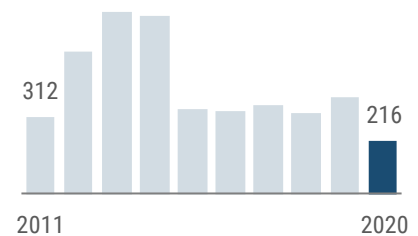
Nationally, the number of pertussis cases reported increased starting in the 1980s, peaked in 2012, and has gradually decreased since. Pertussis is cyclical in nature with peaks in disease every three to five years. In Florida, pertussis cases last peaked in 2013. Pertussis incidence in 2020 decreased from rates seen in previous non-peak years. There were no pertussis outbreaks reported in 2020.

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. The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommends that all pregnant women 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.

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 2020 decreased compared to previous non-peak years.



Disease Trends

Summary

Number of cases	216
Rate (per 100,000 population)	1.0
Change from 5-year average rate	-41.2%

Age (in Years)

Mean	20
Median	9
Min-max	0 - 95

Gender

Gender	Number (Percent)	Rate
Female	119 (55.1)	1.1
Male	97 (44.9)	0.9
Unknown gender	0	

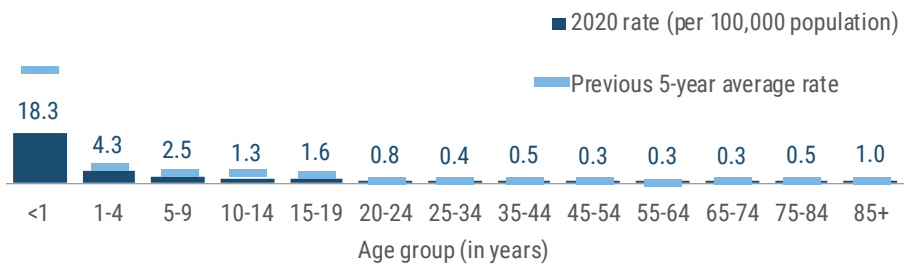
Race

Race	Number (Percent)	Rate
White	162 (77.1)	1.0
Black	29 (13.8)	0.8
Other	19 (9.0)	NA
Unknown race	6	

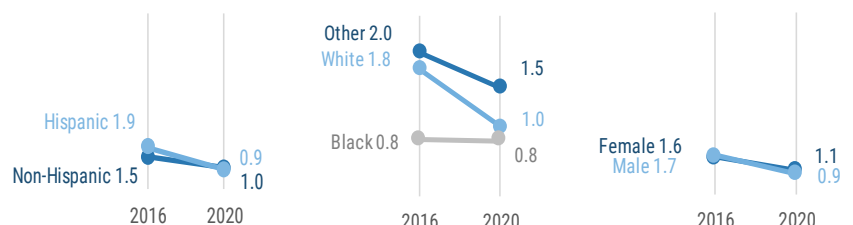
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	154 (75.1)	1.0
Hispanic	51 (24.9)	0.9
Unknown ethnicity	11	

The pertussis rate (per 100,000 population) is highest in infants <1 year old.



Pertussis rates (per 100,000 population) have decreased in all genders, races and ethnicity groups since 2016. This is expected given the cyclical nature of pertussis, which last peaked in 2013.

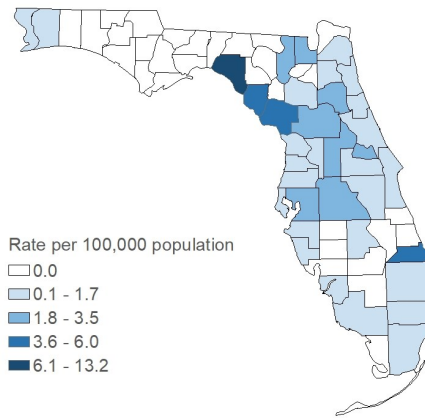


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Pertussis cases were missing 5.1% of ethnicity data in 2020.

Pertussis

Summary	Number
Number of cases	216
Case Classification	Number (Percent)
Confirmed	162 (75.0)
Probable	54 (25.0)
Outcome	Number (Percent)
Hospitalized	51 (23.6)
Died	0 (0.0)
Imported Status	Number (Percent)
Acquired in Florida	205 (98.1)
Acquired in the U.S., not Florida	3 (1.4)
Acquired outside the U.S.	1 (0.5)
Acquired location unknown	7
Outbreak Status	Number (Percent)
Sporadic	160 (74.8)
Outbreak-associated	54 (25.2)
Outbreak status unknown	2

In 2020, pertussis cases primarily occurred in south and central Florida and were absent from most of the Panhandle.



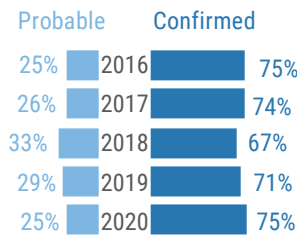
Rates are by county of residence for infections acquired in Florida (216 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.



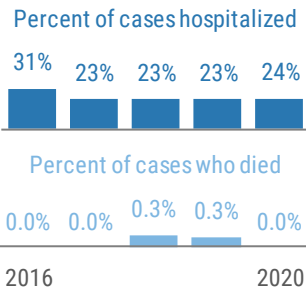
More Disease Trends

In 2020, 75% of pertussis cases were confirmed.

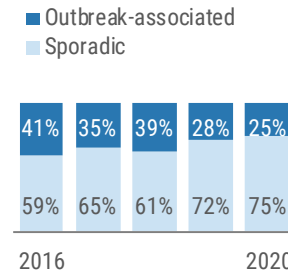
Probable cases are clinically compatible but lack confirmatory testing.



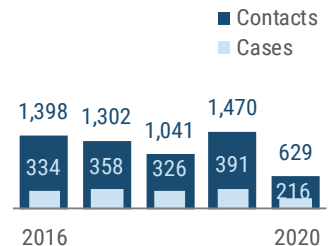
Between 23% to 31% of pertussis cases are hospitalized. Deaths from pertussis are rare.



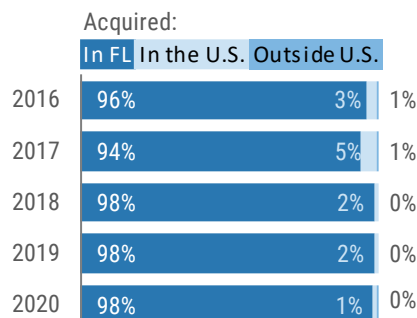
The percentage of cases that were outbreak-associated decreased slightly in 2020.



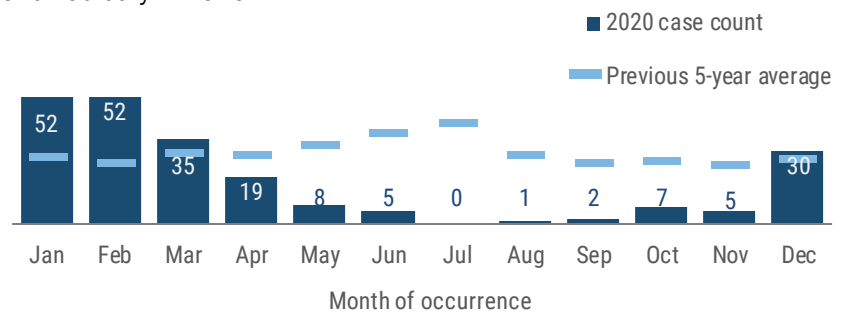
For each pertussis case, an average of 3 exposed contacts are recommended antibiotics to prevent illness.



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



Pertussis cases were highest in winter months in 2020. In general, pertussis does not have a seasonal pattern, although most cases were seen in January and February in 2020.



See Appendix III: Report Terminology for explanations of case classification, outcome, sensitive situation, 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. In 2018, another human rabies case was reported in a 6-year-old male from Lake County. The child developed a fatal rabies infection after being bitten by a sick bat found near the family's home about 2 weeks prior to symptom onset. No medical attention was sought at the time of the bite. The rabies virus strain involved was associated with *Tadarida brasiliensis* (Brazilian free-tailed) bats.

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. Case counts and rates from 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

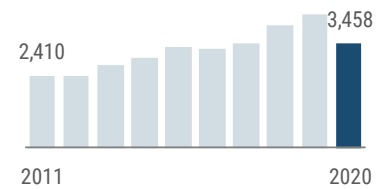


Transmitted when infectious saliva or nervous tissue comes in contact with open wound or mucous membrane via bite



Under surveillance to identify and mitigate sources of exposure, evaluate adherence to guidance on rabies post-exposure prophylaxis (PEP)

Possible human exposures to rabies decreased in 2020.



Human Trends

Summary

Number of cases	3,458
Rate (per 100,000 population)	16.0
Change from 5-year average rate	-11.5%

Age (in Years)

Mean	39
Median	37
Min-max	0 - 93

Gender

	Number (Percent)	Rate
Female	1,870 (54.1)	16.9
Male	1,588 (45.9)	15.0
Unknown gender	0	

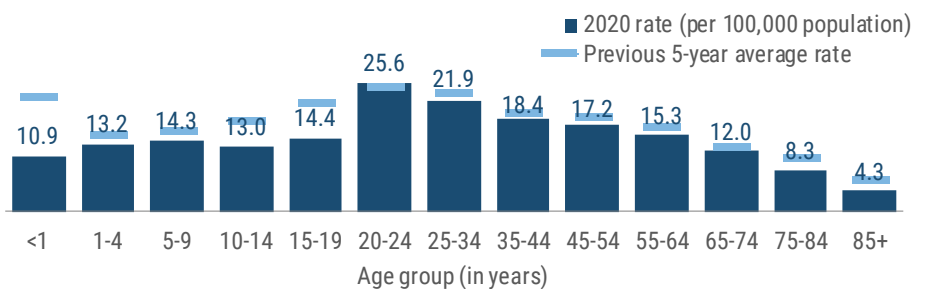
Race

	Number (Percent)	Rate
White	2,431 (78.8)	14.5
Black	297 (9.6)	8.1
Other	357 (11.6)	28.4
Unknown race	373	

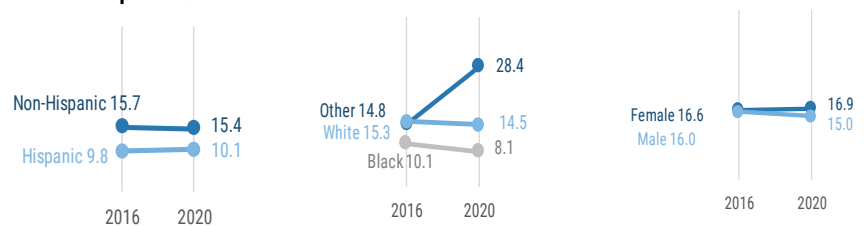
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	2,436 (80.7)	15.4
Hispanic	581 (19.3)	10.1
Unknown ethnicity	441	

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.



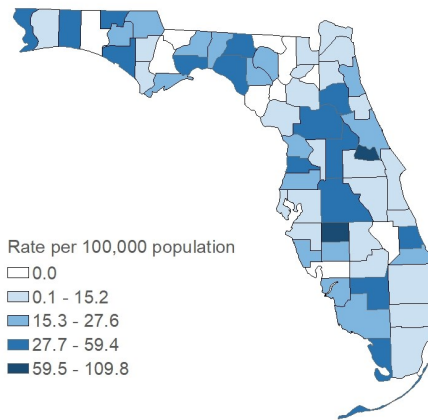
The rate (per 100,000 population) of human exposures to suspected rabid animals for which PEP is recommended is highest in females, other races, whites and non-Hispanics in 2020.



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 12.7% of ethnicity data in 2016, 12.0% of race data in 2016, 12.8% of ethnicity data in 2020 and 10.8% of race data in 2020.

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 2020.



Rates are by county of residence for cases exposed in Florida (3,458 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 2020 by county.



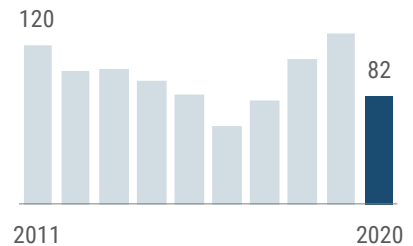
Animal Trends

Key Points for Animals

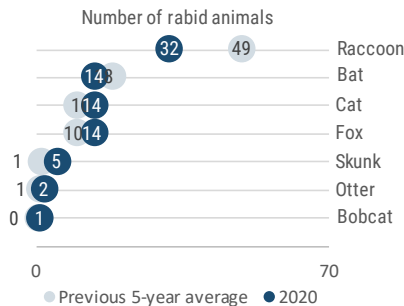
Laboratory testing for animal rabies is only done when animals potentially expose (e.g., bite) humans or domestic (owned) animals; thus, these data do not necessarily correlate with the true prevalence of rabies by animal species in Florida.

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 for these animals per section 828.30, *Florida Statutes*.

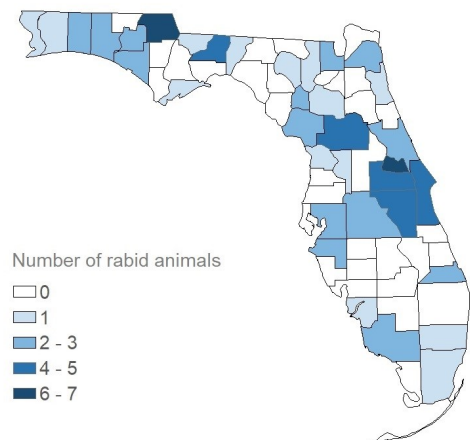
The number of rabid animals identified has generally decreased over the past decade and decreased in 2020 from 2019. Rabies activity is cyclical.



In 2020, raccoons remained the most commonly identified rabid animal, followed by bats, cats and foxes.



Rabid animals were identified throughout the state in 2020.



Salmonellosis

Key Points

Salmonellosis is one of the most common bacterial causes of diarrheal illness in the U.S. The Centers for Disease Control and Prevention estimates that *Salmonella* bacteria cause about 1.35 million infections, 26,500 hospitalizations and 420 deaths in the U.S. each year. Florida frequently has the highest number and one of the highest incidence rates of salmonellosis cases in the U.S. The seasonal pattern is very strong, with cases peaking in late summer to early fall. Incidence is highest in infants <1 year old and decreases dramatically with age.

The use of culture-independent diagnostic testing (CIDT) to identify *Salmonella* has increased in recent years. Florida changed the salmonellosis surveillance case definition in January 2017 to include CIDT in the criteria for probable cases, contributing to the increase in cases reported in 2017.

Most outbreak-associated cases are reflective of household clusters; however, some cases are part of in-state or multistate outbreaks. In 2020, Florida identified 83 cases associated with 10 different multistate outbreaks. A variety of vehicles were identified for 7 of these multistate outbreaks, including bearded dragons, small/baby turtles, live poultry, oysters, onions and mangos. One in-state outbreak was identified in 2020.

Disease Facts



Caused by *Salmonella* bacteria (excluding *Salmonella* serotype Typhi)



Illness is gastroenteritis (diarrhea, vomiting)

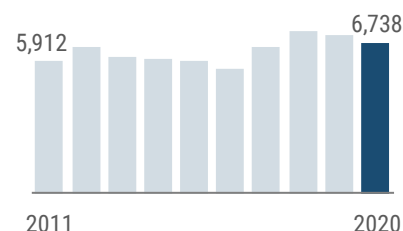


Transmitted via fecal-oral route, including person to person, animal to person, foodborne and waterborne



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 has remained relatively stable over the past 10 years but decreased slightly in 2020.



Disease Trends

Summary

Number of cases	6,738
Rate (per 100,000 population)	31.1
Change from 5-year average rate	-1.0%

Age (in Years)

Mean	28
Median	11
Min-max	0 - 104

Gender

	Number (Percent)	Rate
Female	3,469 (51.5)	31.4
Male	3,269 (48.5)	30.9
Unknown gender	0	

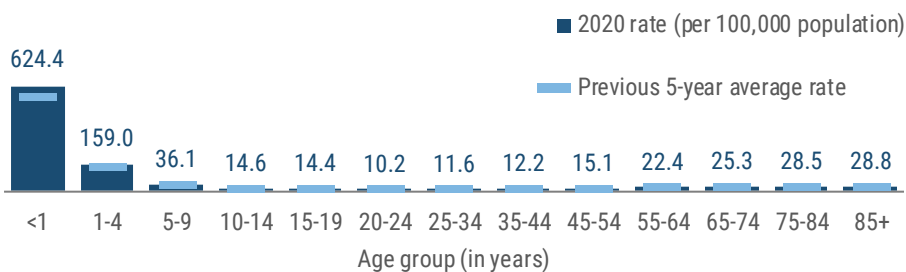
Race

	Number (Percent)	Rate
White	4,423 (74.7)	26.5
Black	721 (12.2)	19.6
Other	780 (13.2)	62.1
Unknown race	814	

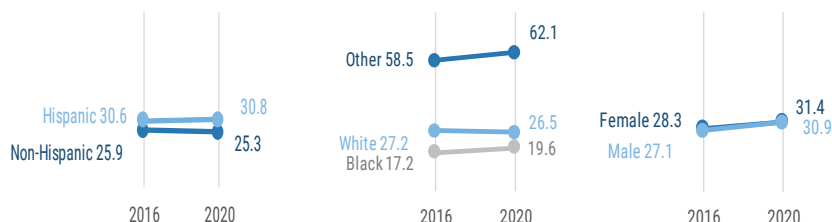
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	4,019 (69.4)	25.3
Hispanic	1,775 (30.6)	30.8
Unknown ethnicity	944	

The salmonellosis rate (per 100,000 population) is highest in infants <1 year old and children 1 to 4 years old, then decreases dramatically with age.



The salmonellosis rate (per 100,000 population) remained relatively stable in all demographics from 2016 to 2020. The rates were similar across gender and ethnicity groups in 2020. The rate was notably higher in other races compared to whites and blacks in 2020.

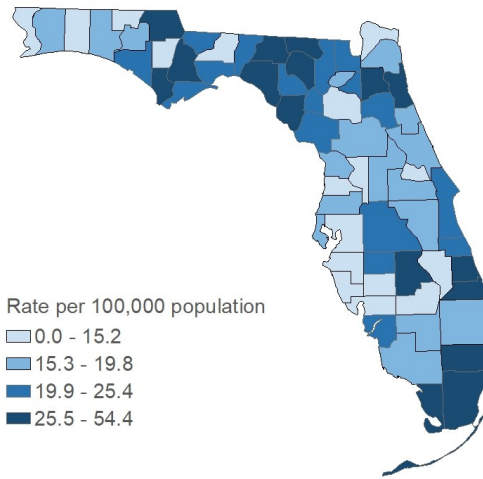


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Salmonellosis cases were missing 14.0% of ethnicity data in 2020 and 12.1% of race data in 2020.

Salmonellosis

Summary	Number
Number of cases	6,738
Case Classification	Number (Percent)
Confirmed	6,038 (89.6)
Probable	700 (10.4)
Outcome	Number (Percent)
Hospitalized	1,321 (19.6)
Died	65 (1.0)
Sensitive Situation	Number (Percent)
Daycare	207 (3.1)
Health care	40 (0.6)
Food handler	20 (0.3)
Imported Status	Number (Percent)
Acquired in Florida	4,355 (99.0)
Acquired in the U.S., not Florida	22 (0.5)
Acquired outside the U.S.	24 (0.5)
Acquired location unknown	2,337
Outbreak Status	Number (Percent)
Sporadic	4,282 (93.5)
Outbreak-associated	297 (6.5)
Outbreak status unknown	2,159

Salmonellosis occurs throughout the state. In 2020, the highest rates (per 100,000 population) were in small, rural counties as well as counties with larger populations.

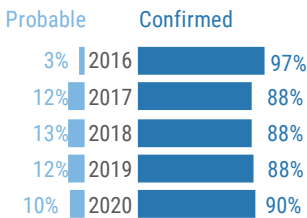


Rates are by county of residence for infections acquired in Florida (6,738 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

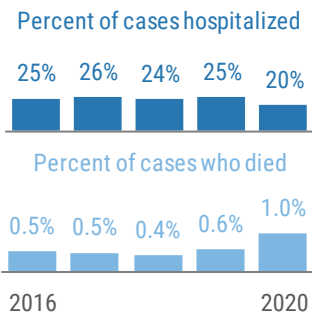


More Disease Trends

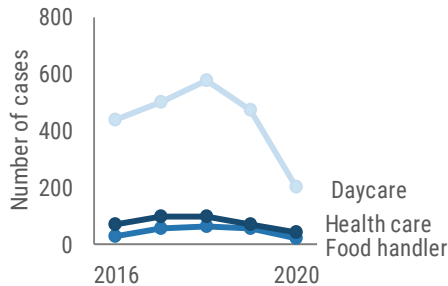
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



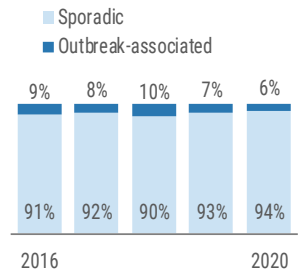
Approximately 25% of cases are hospitalized each year. Very few cases die.



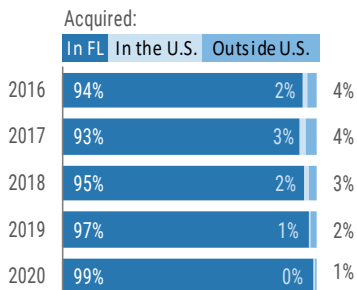
Cases in sensitive situations are monitored. The large number of cases in daycares reflects the age distribution of cases.



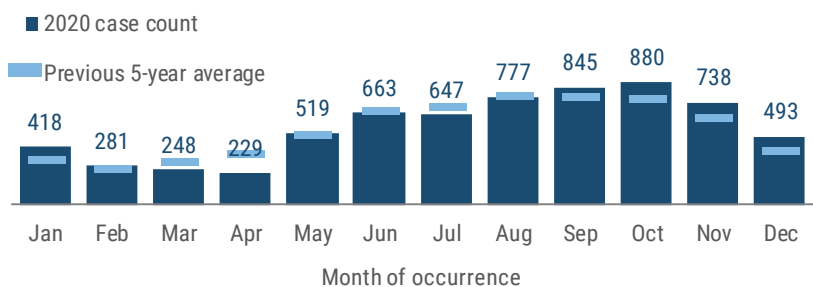
Most cases are sporadic; less than 10% are outbreak-associated and often reflect household clusters.



Salmonella infections are primarily acquired in Florida; a small number of infections are imported from other states and countries.



Salmonellosis occurred throughout 2020 but has a strong seasonal pattern with cases peaking late summer to early fall, which is consistent with past years. The largest number of cases was reported in October in 2020.



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 is a common cause of diarrheal illness in the U.S., resulting in an estimated 265,000 illnesses each year. 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 dramatic increase in 2018 was due to a surveillance case definition change in January 2018 that expanded the probable case classification to include culture-independent diagnostic testing (CIDT).

Most outbreak-associated cases are reflective of household clusters; however, some cases are part of in-state or multistate outbreaks. In 2020, Florida identified 3 cases associated with 3 different multistate outbreaks. Of the 3 multistate outbreaks, 1 outbreak was linked to consumption of clover sprouts. In 2020, Florida identified 5 cases associated with 1 in-state outbreak. The outbreak was associated with a school.

Disease Facts



Caused by Shiga toxin-producing *Escherichia coli* (STEC) bacteria



Illness is gastroenteritis (diarrhea, vomiting); less frequently, infection can lead to hemolytic uremic syndrome (HUS)

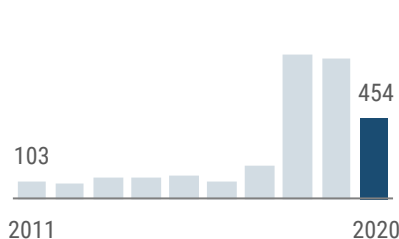


Transmitted via fecal-oral route; including person to person, animal to person, foodborne and waterborne

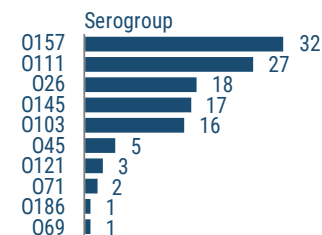


Under surveillance to identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

STEC infection incidence increased dramatically in 2018 due to a case definition change.



Serogroup O157 and the top six non-O157 serogroups were the cause of 73% of all confirmed STEC infections in 2020.



Disease Trends

Summary

Number of cases	454
Rate (per 100,000 population)	2.1
Change from 5-year average rate	+8.8%

Age (in Years)

Mean	32
Median	22
Min-max	0 - 99

Gender

Gender	Number (Percent)	Rate
Female	262 (57.7)	2.4
Male	192 (42.3)	1.8
Unknown gender	0	

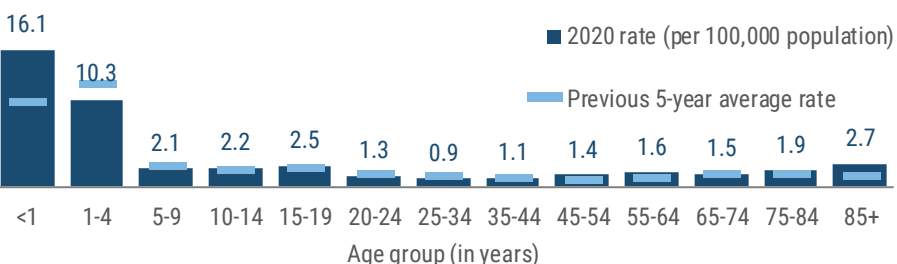
Race

Race	Number (Percent)	Rate
White	331 (77.7)	2.0
Black	37 (8.7)	1.0
Other	58 (13.6)	4.6
Unknown race	28	

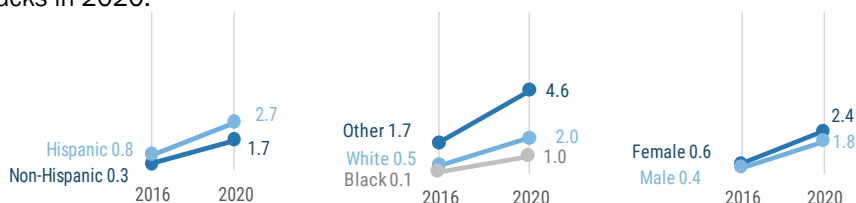
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	272 (63.7)	1.7
Hispanic	155 (36.3)	2.7
Unknown ethnicity	27	

The STEC infection rate (per 100,000 population) is highest in infants <1 year old followed by children 1 to 4 years old. Children <5 years old are particularly vulnerable to STEC infection and are at highest risk of developing HUS. Two (50%) of the 4 HUS cases reported in 2020 were in children ≤5 years old.



The STEC infection rate (per 100,000 population) increased in all demographics from 2016 to 2020, driven primarily by the dramatic increase in cases in 2018. The rates were similar by gender in 2020 but higher in Hispanics than non-Hispanics. The rate was notably higher in other races compared to whites and blacks in 2020.

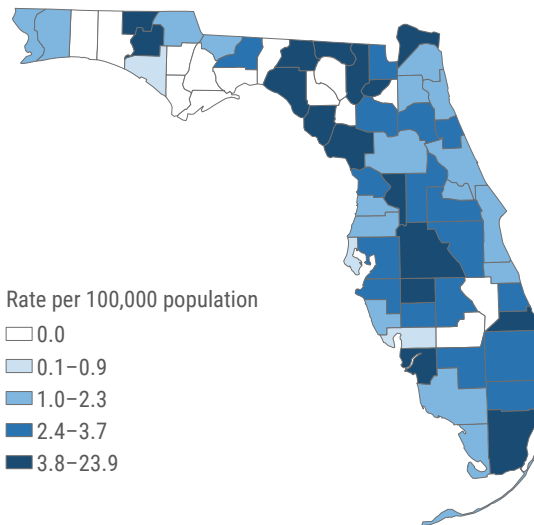


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. STEC infection cases were missing 5.1% of race data in 2016, 5.9% of ethnicity data in 2020 and 6.2% of race data in 2020.

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

Summary	Number
Number of cases	454
Case Classification	Number (Percent)
Confirmed	162 (35.7)
Probable	292 (64.3)
Outcome	Number (Percent)
Hospitalized	129 (28.4)
Died	8 (1.8)
Sensitive Situation	Number (Percent)
Daycare	27 (5.9)
Health care	11 (2.4)
Food handler	5 (1.1)
Imported Status	Number (Percent)
Acquired in Florida	338 (94.2)
Acquired in the U.S., not Florida	4 (1.1)
Acquired outside the U.S.	17 (4.7)
Acquired location unknown	95
Outbreak Status	Number (Percent)
Sporadic	336 (84.8)
Outbreak-associated	60 (15.2)
Outbreak status unknown	58

STEC infection cases occurred in most areas of the state, though less commonly in the Florida Panhandle in 2020. The highest rates (per 100,000 population) were found in counties with varying population sizes.

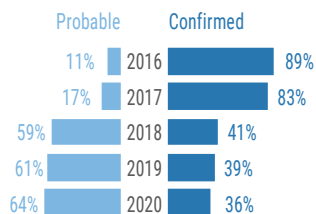


Rates are by county of residence for infections acquired in Florida (454 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

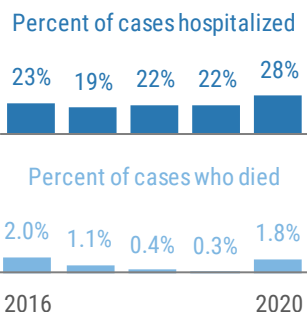


More Disease Trends

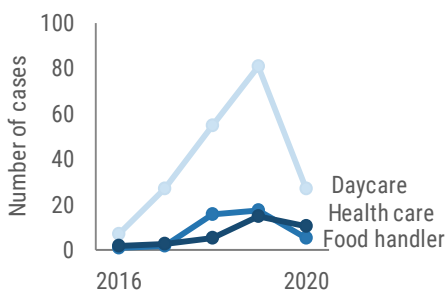
The case definition changed in 2018 to include CIDT in the probable case classification, resulting in more probable cases.



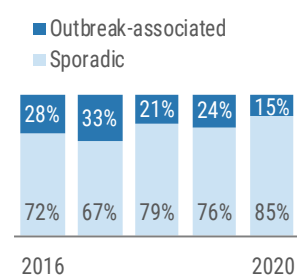
Between 19% and 28% of cases are hospitalized each year. Very few cases die (more likely in cases that develop HUS).



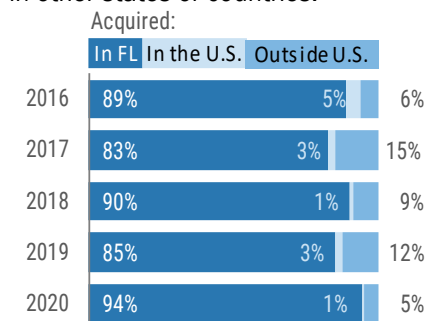
Outbreaks in daycares have contributed to higher numbers of cases in that setting.



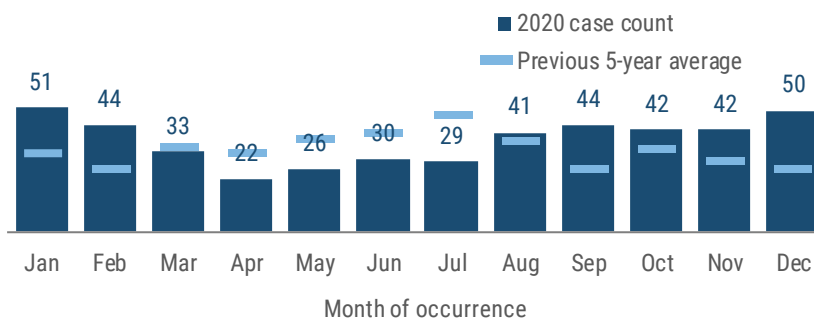
Less than 35% of cases are outbreak-associated each year.



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



There is no distinct seasonality to STEC infection cases in Florida. Cases occur at moderate levels year-round. More cases occurred in January and December in 2020.



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

Shigellosis





Key Points

Shigellosis is a common cause of diarrheal illness in the U.S., resulting in an estimated 450,000 illnesses each year. Shigellosis has a cyclic temporal pattern with large community-wide outbreaks, frequently involving daycare centers, occurring every 3 to 5 years. Incidence is consistently highest in children <10 years old.

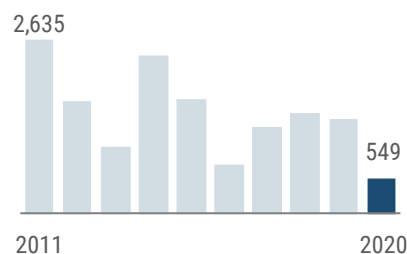
The use of culture-independent diagnostic testing (CIDT) to identify *Shigella* has increased in recent years. Florida changed the shigellosis surveillance case definition in January 2017 to include CIDT in the criteria for probable cases, contributing to the increase in cases reported in 2017.

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.

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 decreased in 2020, consistent with historic cyclical patterns; recent peaks occurred in 2011 and 2014.



Disease Trends

Summary

Number of cases	549
Rate (per 100,000 population)	2.5
Change from 5-year average rate	-61.2%

Age (in Years)

Mean	30
Median	29
Min-max	0 - 92

Gender

	Number (Percent)	Rate
Female	178 (32.4)	1.6
Male	371 (67.6)	3.5
Unknown gender	0	

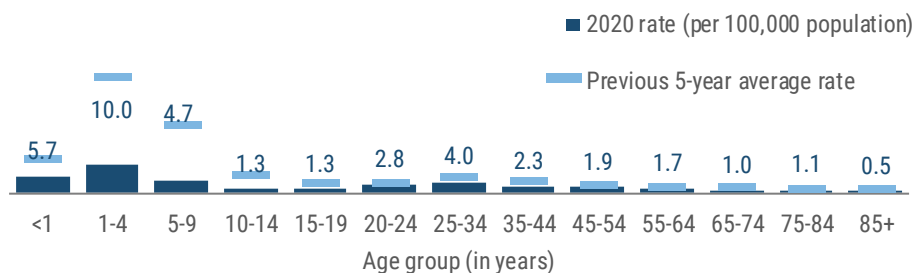
Race

	Number (Percent)	Rate
White	305 (56.9)	1.8
Black	164 (30.6)	4.5
Other	67 (12.5)	5.3
Unknown race	13	

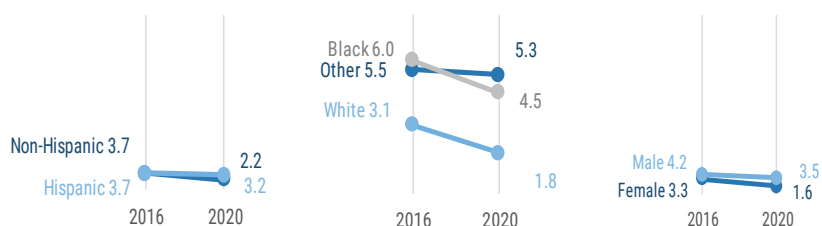
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	347 (65.0)	2.2
Hispanic	187 (35.0)	3.2
Unknown ethnicity	15	

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



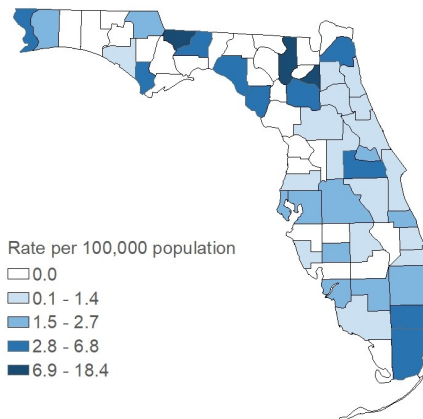
The shigellosis rate (per 100,000 population) decreased in all demographics from 2016 to 2020. The rates were slightly higher in males and Hispanics compared to females and non-Hispanics in 2020. The rate was highest in other races, followed by blacks, then whites in 2020.



Shigellosis

Summary	Number
Number of cases	549
Case Classification	Number (Percent)
Confirmed	286 (52.1)
Probable	263 (47.9)
Outcome	Number (Percent)
Hospitalized	148 (27.0)
Died	6 -110%
Sensitive Situation	Number (Percent)
Daycare	46 (8.4)
Health care	10 (1.8)
Food handler	14 (2.6)
Imported Status	Number (Percent)
Acquired in Florida	470 (95.7)
Acquired in the U.S., not Florida	4 (0.8)
Acquired outside the U.S.	17 (3.5)
Acquired location unknown	58
Outbreak Status	Number (Percent)
Sporadic	472 (88.4)
Outbreak-associated	62 (11.6)
Outbreak status unknown	15

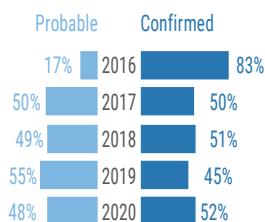
Shigellosis cases occurred in most areas of the state, though less commonly in the Florida Panhandle in 2020. The highest rates (per 100,000 population) were in northern and southeast Florida. Geographic distribution varies by year, often driven by clusters of counties experiencing large outbreaks.



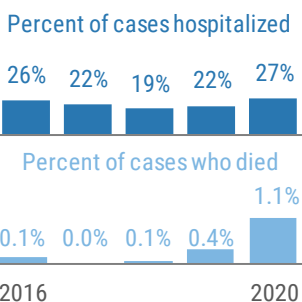
Rates are by county of residence for infections acquired in Florida (549 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

More Disease Trends

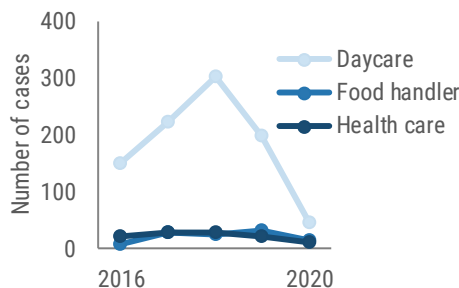
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



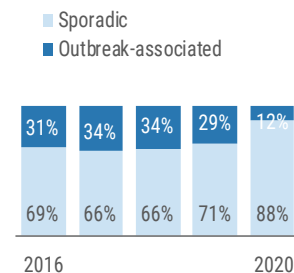
Between 19% and 27% of cases are hospitalized each year. Deaths are rare.



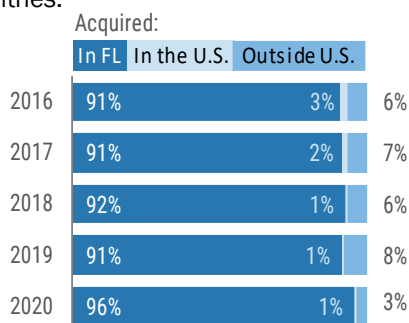
Person-to-person outbreaks are common in daycare settings. In 2020, 24% of outbreak-associated cases occurred in daycare settings.



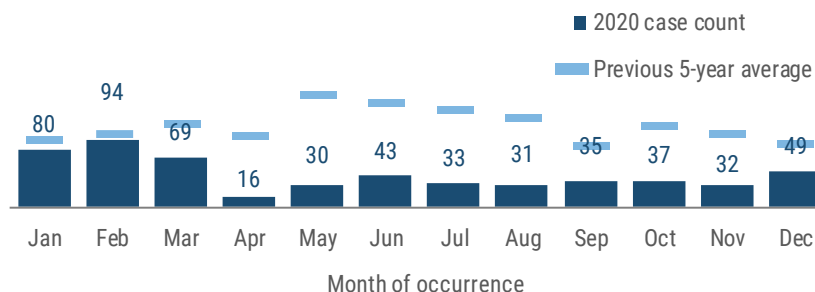
Outbreaks are common; as few as 10 *Shigella* bacteria can result in illness, making it easy to spread from person to person.



Most *Shigella* infections are acquired in Florida; a small number of infections are acquired from other states and countries.



Shigellosis occurred throughout 2020 with activity peaking during the winter months. Activity in 2020 was not consistent with the previous five-year average.







Syphilis (Excluding Congenital)

Key Points

Syphilis is separated into early syphilis (i.e., syphilis of 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.

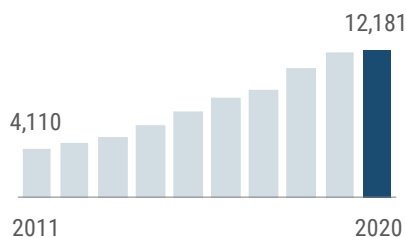
Disease Facts

-  **Caused by** *Treponema pallidum* bacteria
-  **Illness** includes sores on genitals, anus or mouth; 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 2020, syphilis incidence continued to increase, both in Florida and nationally.



Summary

Number of cases	12,181
Rate (per 100,000 population)	56.3
Change from 5-year average rate	+24.0%

Age (in Years)

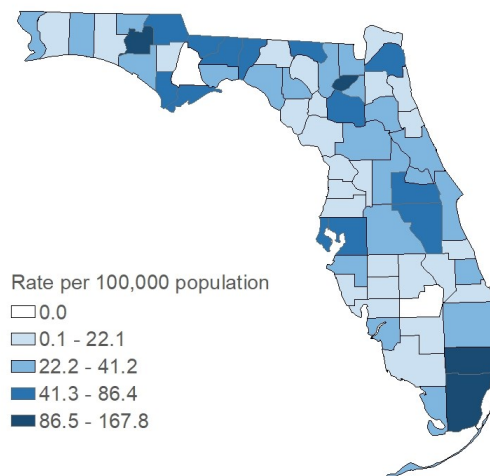
Mean	37
Median	34
Min-max	13 - 93

Gender	Number (Percent)	Rate
Female	2,178 (17.9)	19.7
Male	10,002 (82.1)	94.6
Unknown gender	1	

Race	Number (Percent)	Rate
White	5,868 (51.7)	35.1
Black	4,120 (36.3)	112.2
Other	1,367 (12.0)	108.9
Unknown race	826	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	7,355 (67.0)	46.3
Hispanic	3,630 (33.0)	62.9
Unknown ethnicity	1,196	

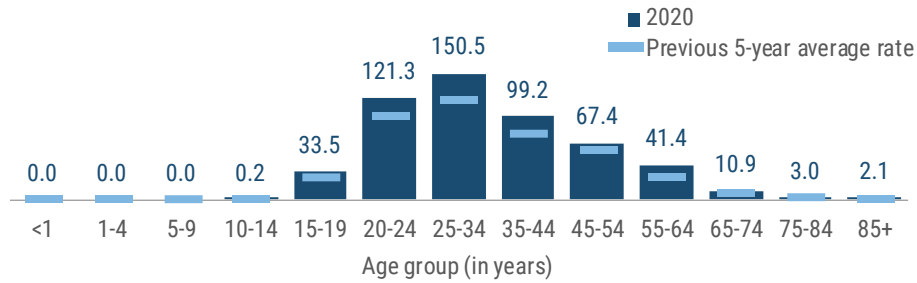
Syphilis occurs throughout the state. The highest rates (per 100,000 population) in 2020 were in large counties, including Broward (109.1), Miami-Dade (107.9) and Orange (86.4) as well as in small rural counties, including Union (167.8) and Washington (146.5).



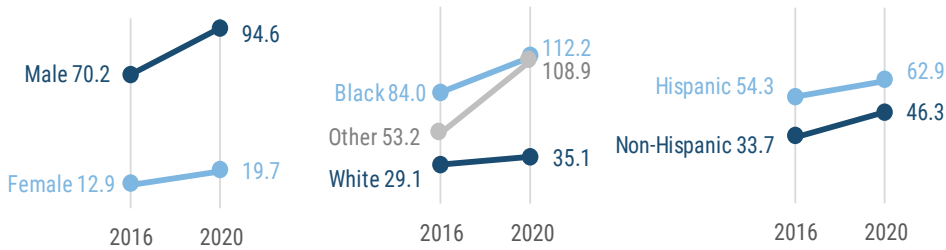
Rates are by county of residence, regardless of where infection was acquired (12,181 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

Syphilis (Excluding Congenital)

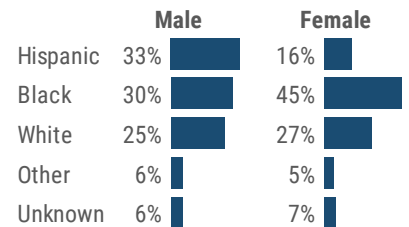
The syphilis rate (per 100,000 population) was highest in adults 20 to 54 years old and peaked in adults 25 to 34 years old.



The syphilis rate (per 100,000 population) increased in all genders, races and ethnic groups from 2016 to 2020. The increase was most notable in males and in other races. The rates are highest in men, blacks and Hispanics.



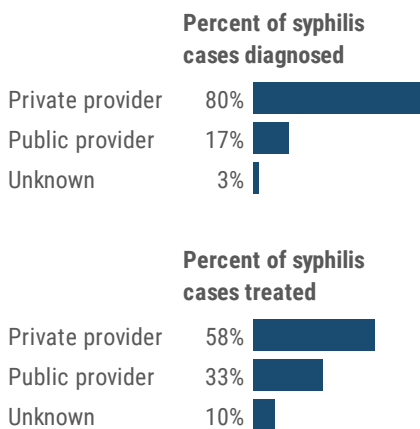
Race and ethnicity differed between genders. Black females and Hispanic males were at increased risk for syphilis.



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Syphilis cases (excluding congenital) were missing 5.2% of ethnicity data in 2016.

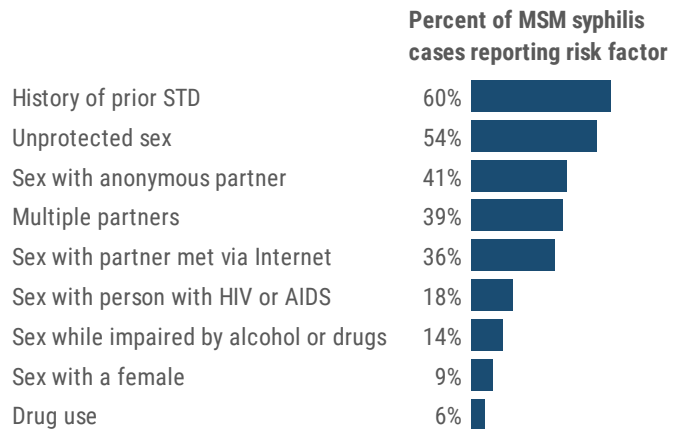
In 2020, most people (80%) went to their own private providers for sexually transmitted disease testing. However, the recommended treatment for syphilis, per the Centers for Disease Control and Prevention, is parenterally administered penicillin G benzathine. As many providers do not keep the standard benzathine penicillin product Bicillin on hand, they often refer their patients to county health departments for treatment.

In 2020, 58% 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 incidence of the MSM risk is difficult to estimate due to many factors. In 2020, most (68%) syphilis cases in males were in men who reported having sex with other men.

MSM with syphilis who were interviewed in 2020 (6,661 men) disclosed an array of risk behaviors, which included sex with anonymous partners and sex with females.

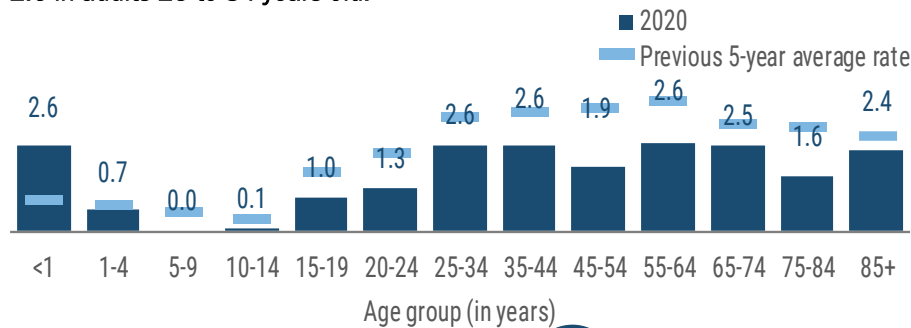


Tuberculosis

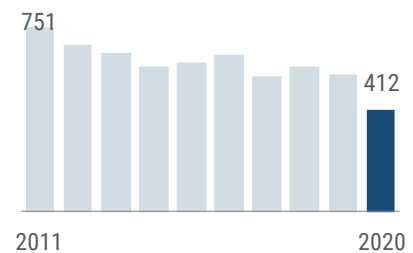
Key Points

Tuberculosis (TB) continues to be a public health threat in Florida. Incidence has generally declined over the past decade, though small fluctuations can occur year to year. Slight increases in 2015, 2016 and 2018 were observed after historic lows in 2014 and 2017. In 2020, Florida experienced a new historic low in reported TB cases. Medically underserved and low-income populations, including racial and ethnic minorities, have high rates of TB. In Florida, TB incidence is much higher in men than women. The rate per 100,000 population in blacks in Florida was almost 3 times as high as the rate in whites in 2020.

The TB rate (per 100,000 population) is low in children and ranged from 1.6 to 2.6 in adults 25 to 84 years old.



Despite a few slight increases, TB incidence has generally decreased over the past decade.



Disease Trends

Summary

Number of cases	412
Rate (per 100,000 population)	1.9
Change from 5-year average rate	-33.4%

Age (in Years)

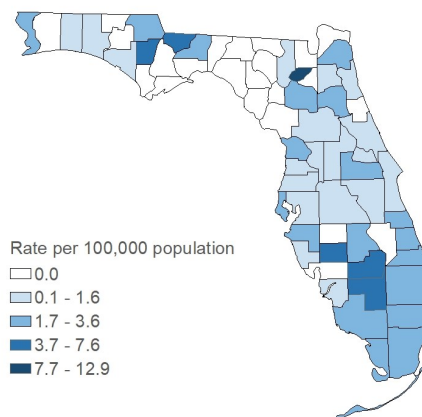
Mean	49
Median	50
Min-max	0 - 99

Gender	Number (Percent)	Rate
Female	150 (36.4)	1.4
Male	262 (63.6)	2.5
Unknown gender	0	

Race	Number (Percent)	Rate
White	214 (51.9)	1.3
Black	121 (29.4)	3.3
Other	77 (18.7)	6.1
Unknown race	0	

Ethnicity	Number (Percent)	Rate
Non-Hispanic	264 (64.1)	1.7
Hispanic	148 (35.9)	2.6
Unknown ethnicity	0	

TB occurred in most parts of the state in 2020 though was less common in the Panhandle. While the highest rates (per 100,000 population) tended to be in small, rural counties, 28% of all TB cases were in Miami-Dade (73 cases) and Broward (41 cases) counties.

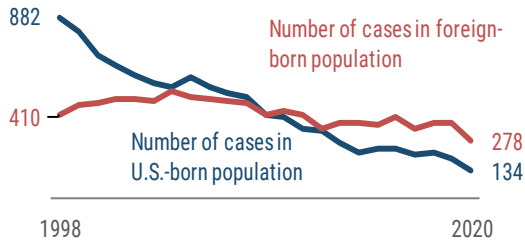


Rates are by county of residence, regardless of where infection was acquired (412 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

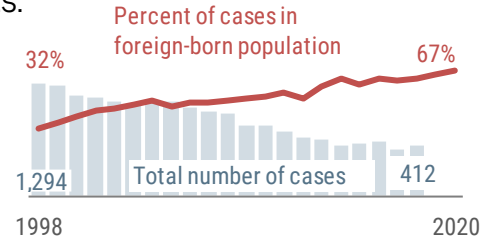
Tuberculosis

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 2020, 67% of all TB cases in Florida were in the foreign-born population. The most common countries of origin in 2020 included Haiti, Mexico, the Philippines, Vietnam, Guatemala, Colombia and Cuba, accounting for 176 (63%) of 278 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 2020, more than twice as many cases were in foreign-born people than U.S.-born.

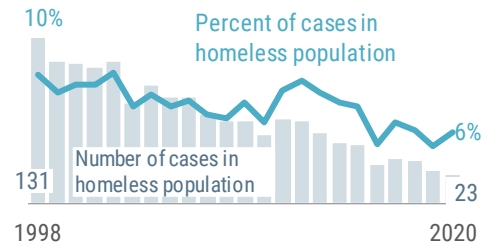


As the number of TB cases has declined in Florida, the percent of those cases in the foreign-born population has increased. In 2020, 67% of cases were in people born outside the U.S.

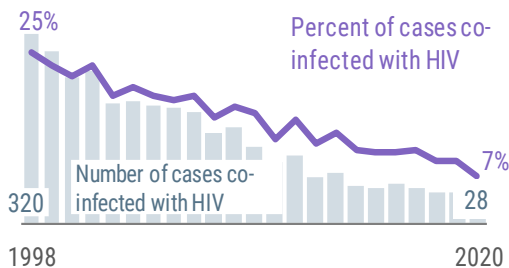


People experiencing homelessness are at increased risk for disease and are a focus for TB prevention and control efforts in Florida. Since 1998, the total number of TB cases among the homeless population in Florida has decreased by over 50%; however, in the same time period, the percent of people with TB who are homeless remained relatively stable (8% to 10%). Since 2012, the percent of people with TB who are homeless decreased from 9.6% to 4% in 2019, with a slight increase to 6% in 2020.

Despite slight increases in 2017 and 2020, the number and percent of cases among the homeless population has steadily decreased since 2012.



In 2020, 7% of TB cases were co-infected with HIV. This is a decrease from 2019 and is consistent with the overall decreasing trend.



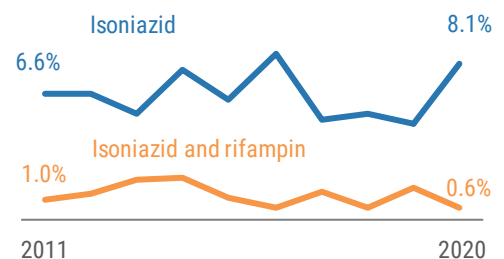
Untreated HIV infection remains the biggest risk factor for developing active TB disease following infection with TB and is a focus for TB prevention and control efforts in Florida. TB and HIV co-infection has been declining modestly but steadily over time in Florida. In the last 3 years the decline has leveled off at less than 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 2020, 346 TB cases were tested in Florida for resistance to isoniazid and rifampin. Over the past 10 years:

- Resistance to isoniazid alone ranged from 5% to 9%.
- Resistance to isoniazid and rifampin ranged from 0.6% to 2.2%.

In 2020, resistance to isoniazid alone increased and resistance to isoniazid and rifampin decreased but were within the 10-year ranges.

In 2020, 8% of tested cases were resistant to isoniazid alone and 0.6% were resistant to both isoniazid and rifampin.



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 by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices. Beginning with the 2008 to 2009 school year, children entering kindergarten in Florida were required to receive 2 doses of varicella vaccine per Florida Administrative Code Rule 64D-3.046 . Due to effective vaccination programs, there was a steady decrease in incidence in Florida from 2008 to 2014. Incidence increased slightly in 2015 and has remained elevated prior to 2020.

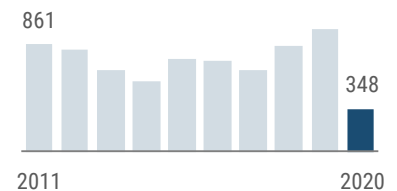
The rate of varicella remained highest among infants <1 year old, who are too young to be vaccinated. As a result, vaccination of siblings and caregivers is particularly important to protect this group.

The number of outbreak-associated cases decreased from 235 (24%) in 2019 to 54 (15.7%) in 2020. Of the 54 outbreak-associated cases identified, most were small household clusters. No outbreaks (defined as 5 or more cases linked in a single setting) were identified in 2020. The only county with ≥10 outbreak-associated cases was Broward (14).

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 increased in 2020.



Disease Trends

Summary

Number of cases	348
Rate (per 100,000 population)	1.6
Change from 5-year average rate	-58.2%

Age (in Years)

Mean	21
Median	16
Min-max	0 - 88

Gender

Gender	Number (Percent)	Rate
Female	169 (48.6)	1.5
Male	179 (51.4)	1.7
Unknown gender	0	

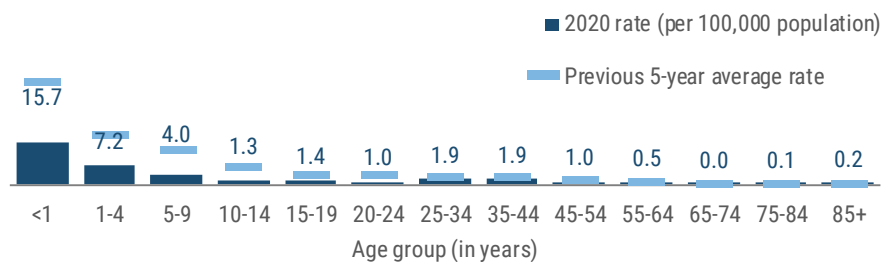
Race

Race	Number (Percent)	Rate
White	234 (70.3)	1.4
Black	46 (13.8)	1.3
Other	53 (15.9)	4.2
Unknown race	15	

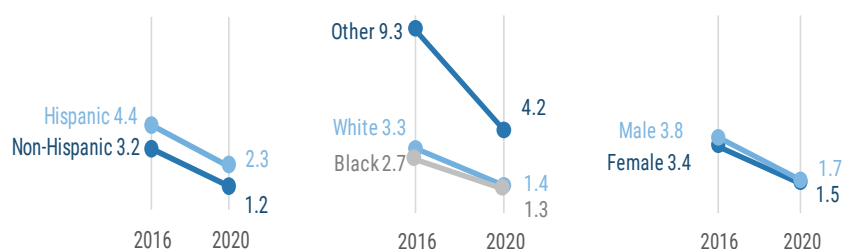
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	196 (59.8)	1.2
Hispanic	132 (40.2)	2.3
Unknown ethnicity	20	

The varicella rate (per 100,000 population) remained highest in infants <1 year old in 2020, though the rate was lower than the previous five-year average.



The varicella rate (per 100,000 population) is similar among males and females. It is also similar among whites and blacks, and since 2016, the rate in other races has decreased notably. The rate in Hispanics and non-Hispanics has also decreased since 2016.

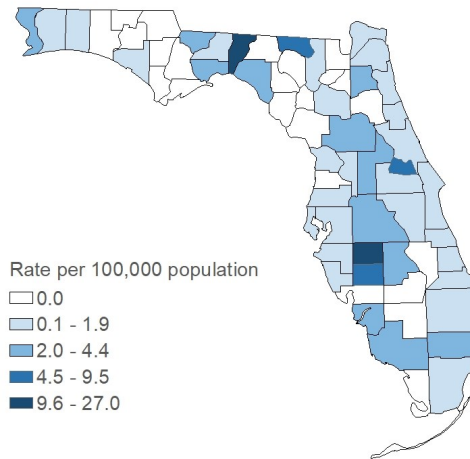


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Varicella cases were missing 5.7% of ethnicity data in 2020.

Varicella (Chickenpox)

Summary	Number
Number of cases	348
Case Classification	Number (Percent)
Confirmed	101 (29.0)
Probable	247 (71.0)
Outcome	Number (Percent)
Hospitalized	31 (8.9)
Died	1 (0.3)
Imported Status	Number (Percent)
Acquired in Florida	320 (97.6)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	8 (2.4)
Acquired location unknown	20
Outbreak Status	Number (Percent)
Sporadic	289 (84.3)
Outbreak-associated	54 (15.7)
Outbreak status unknown	5

Varicella occurred throughout the state in 2020. Rates (per 100,000 population) varied regardless of county population. Rates ranged from 0 to 27 per 100,000.

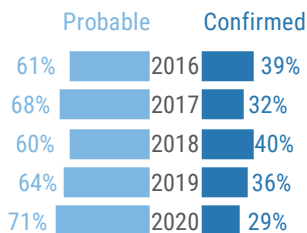


Rates are by county of residence for infections acquired in Florida (348 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

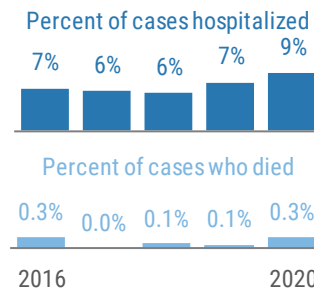


More Disease Trends

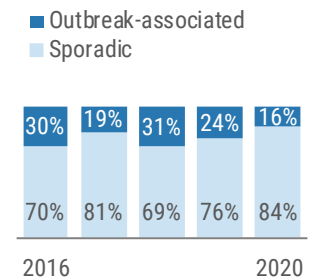
Less than one-third of cases were confirmed. Most varicella cases are classified as probable based on symptoms only.



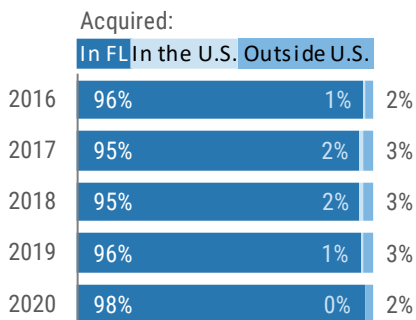
Most varicella cases do not require hospitalization; deaths are very rare.



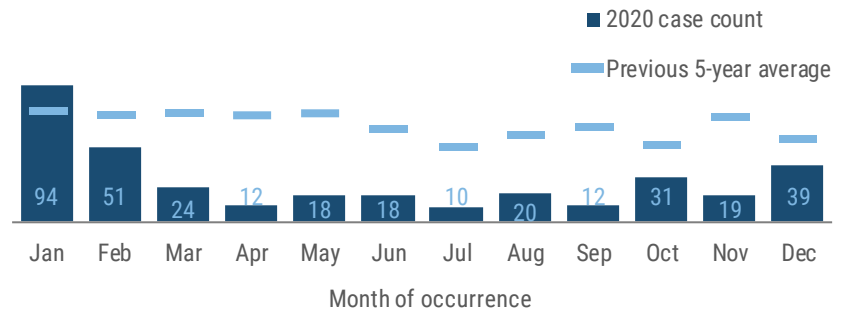
Less than one-fourth of cases are outbreak-associated. In 2020, 16% of cases were outbreak-associated.



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



Due to robust vaccination programs, there is no longer discernable seasonality for varicella in Florida. Between 51 and 94 cases occurred each month in 2020.



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).

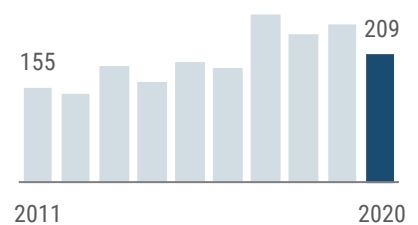
Vibrio vulnificus infections typically occur in people who have chronic kidney or liver disease, a history of alcoholism or are immunocompromised. Of the 36 *V. vulnificus* cases in 2020, 20 (55.6%) had underlying medical conditions. *V. vulnificus* can cause particularly severe disease, with about 50% of bloodstream infections being fatal.

Of the 36 cases due to *V. vulnificus* in 2020, 31 (86.1%) were hospitalized and seven (19.4%) died, accounting for 7 of the 11 total vibriosis deaths. The remaining 4 deaths were associated with infections with *V. cholerae* type non-O1 (1 case), *V. alginolyticus* (1 case), *V. parahaemolyticus* (1 case) and *V. fluvialis* (1 case). Of the 11 people who died from vibriosis, 2 reported having a wound with seawater/brackish water exposure, 1 had multiple exposures and 8 had other or unknown exposures.

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, 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 decreased in 2020.



Disease Trends

Summary

Number of cases	209
Rate (per 100,000 population)	1.0
Change from 5-year average rate	-13.9%

Age (in Years)

Mean	53
Median	59
Min-max	3 - 95

Gender

Gender	Number (Percent)	Rate
Female	68 (32.7)	0.6
Male	140 (67.3)	1.3
Unknown gender	1	

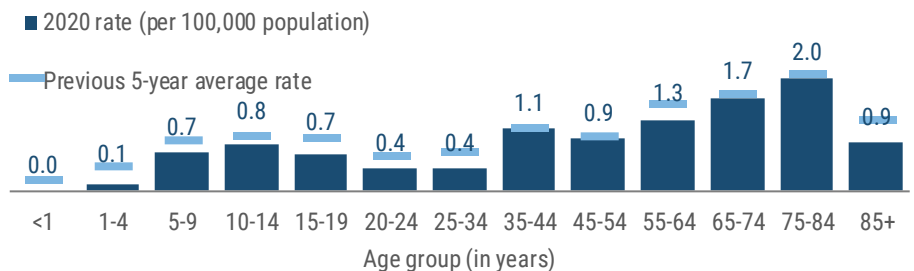
Race

Race	Number (Percent)	Rate
White	162 (81.0)	1.0
Black	24 (12.0)	0.7
Other	14 (7.0)	NA
Unknown race	9	

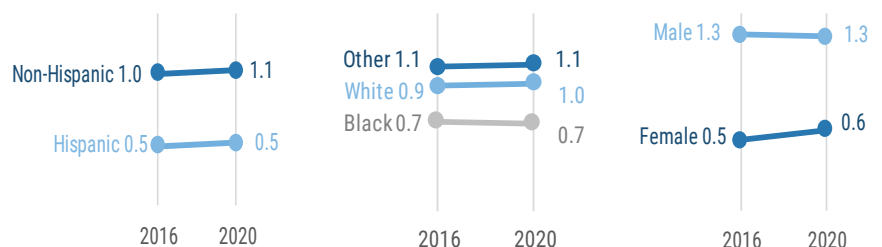
Ethnicity

Ethnicity	Number (Percent)	Rate
Non-Hispanic	168 (85.7)	1.1
Hispanic	28 (14.3)	0.5
Unknown ethnicity	13	

The vibriosis rate (per 100,000 population) is usually highest in adults 55 to 84 years old. In 2020, the rate was highest in adults 75 to 84 years old.



Vibriosis rates (per 100,000 population) remained stable in all genders, races and ethnicity groups from 2016 to 2020. The rate was higher in males, other races and non-Hispanics in 2020.

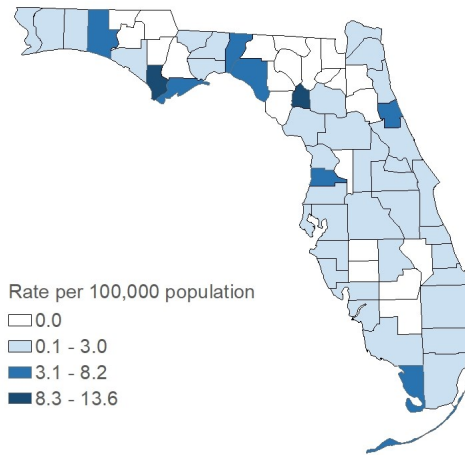


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Vibriosis cases (excluding cholera) were missing 6.2% of ethnicity data in 2020.

Vibriosis (Excluding Cholera)

Summary	Number
Number of cases	209
Case Classification	Number (Percent)
Confirmed	180 (86.1)
Probable	29 (13.9)
Outcome	Number (Percent)
Hospitalized	81 (38.8)
Died	11 (5.3)
Imported Status	Number (Percent)
Acquired in Florida	185 (95.4)
Acquired in the U.S., not Florida	4 (2.1)
Acquired outside the U.S.	5 (2.6)
Acquired location unknown	15
Outbreak Status	Number (Percent)
Sporadic	203 (99.0)
Outbreak-associated	2 (1.0)
Outbreak status unknown	4

Vibriosis occurred in most parts of the state in 2020. The rates (per 100,000 population) varied across the state with some of the highest rates in low-population counties.

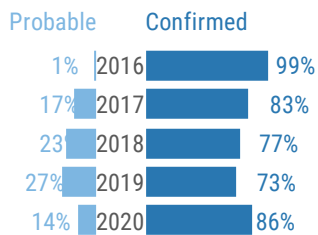


Rates are by county of residence for infections acquired in Florida (209 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

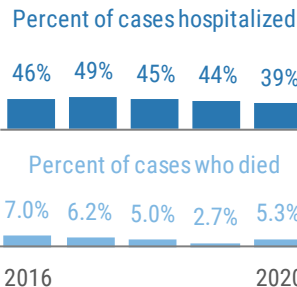


More Disease Trends

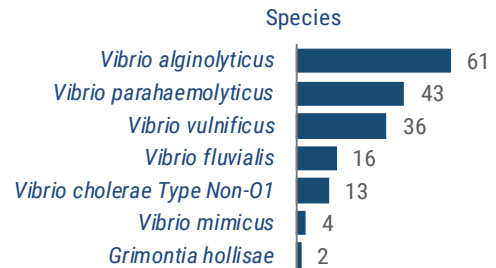
The case definition changed in 2017 to include CIDT in the probable case classification, resulting in more probable cases.



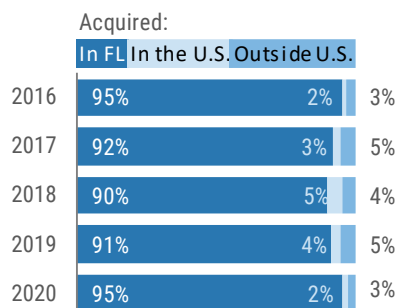
Between 39% and 49% of cases are hospitalized; deaths do occur. Eleven people infected with *Vibrio* died in 2020.



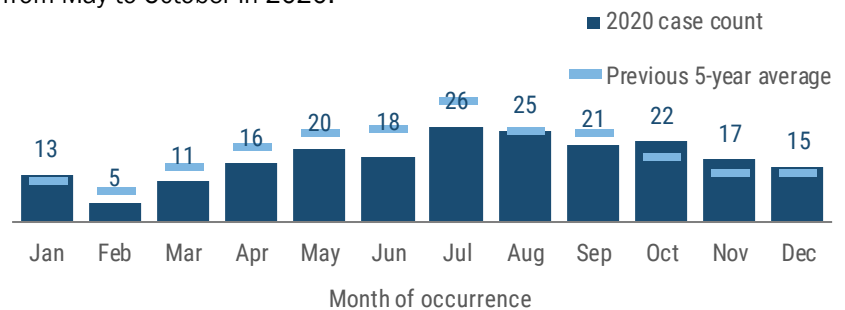
In 2020, the most commonly reported *Vibrio* species were *V. alginolyticus*, *V. parahaemolyticus* and *V. vulnificus*. The number of other *Vibrio* infections was largely due to CIDT, which cannot differentiate between species.



Most *Vibrio* infections are acquired in Florida. In 2020, 9 infections were acquired in other states or countries.



Vibriosis occurs throughout the year in Florida, with activity typically peaking during the summer months. Between 18 to 26 cases occurred each month from May to October in 2020.



West Nile Virus Disease

Key Points

West Nile virus (WNV) is a mosquito-borne *Flavivirus* that was first introduced to the northeastern U.S. in 1999 and first detected in Florida in 2001. Since its initial detection, WNV activity has been reported in all 67 Florida counties. Approximately 80% of people infected with WNV show no clinical symptoms, 20% have mild non-neuroinvasive illness and less than 1% suffer from the neuroinvasive form of illness. *Culex* species (mosquitoes) and wild birds are the natural hosts. Humans and horses can become infected when bitten by a mosquito infected with WNV.

WNV can also be transmitted to humans via contaminated blood transfusion or organ transplantation. Since 2003, all blood donations are screened for WNV prior to transfusion.

In 2020, four WNV disease cases were identified through blood donor screening, testing positive prior to developing symptoms, and an additional 37 asymptomatic WNV-positive blood donors were identified. People spending large amounts of time outside (due to occupation, hobbies or homelessness) or not using insect repellent or other forms of prevention are at higher risk of becoming infected. In 2020, 20 asymptomatic WNV-positive blood donors and 1 WNV disease case were experiencing homelessness. This represented the most individuals experiencing homelessness identified since Florida began tracking in 2005. The year 2020 had the second-highest number of WNV infections and the third-highest number of WNV illness on state record.

Disease Facts



Caused by West Nile virus



Illness can be asymptomatic, mild non-neuroinvasive (e.g., headache, fever, pain, fatigue), or neuroinvasive (e.g., meningitis and encephalitis with possible irreversible neurological damage, paralysis, coma or death)



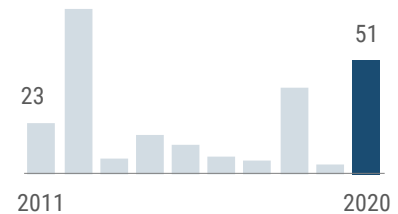
Transmitted via bite of infective mosquito or by blood transfusion or organ transplant



Under surveillance to identify areas where WNV is being transmitted to target prevention education for the public, monitor incidence over time, estimate burden of illness

The incidence of West Nile virus disease

increased sharply in 2020. Dry environmental conditions during the winter months and into the beginning of avian nesting season followed by increased precipitation in late spring may have contributed to increased WNV risk in south Florida.



Disease Trends

Summary

Number of cases	51
Rate (per 100,000 population)	0.2
Change from 5-year average rate	+247.6%

Age (in Years)

Mean	61
Median	66
Min-max	24 - 85

Gender

	Number (Percent)	Rate
Female	15 (29.4)	NA
Male	36 (70.6)	0.3
Unknown gender	0	

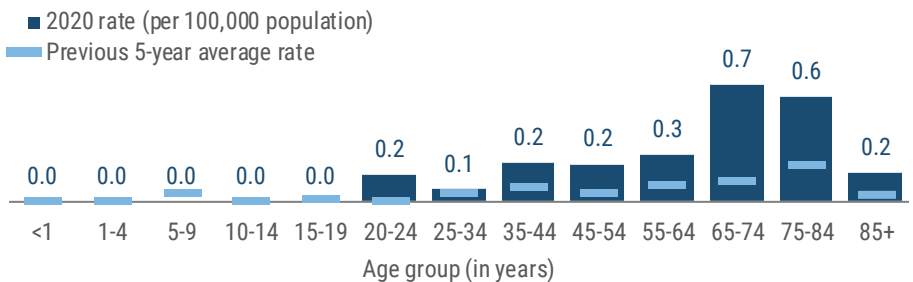
Race

	Number (Percent)	Rate
White	45 (88.2)	0.3
Black	4 (7.8)	NA
Other	2 (3.9)	NA
Unknown race	0	

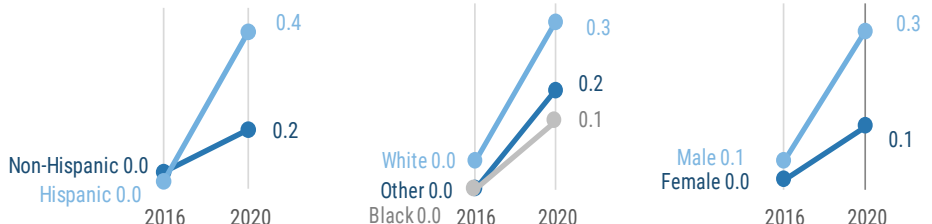
Ethnicity

	Number (Percent)	Rate
Non-Hispanic	26 (51.0)	0.2
Hispanic	25 (49.0)	0.4
Unknown ethnicity	0	

The rate of West Nile virus disease (per 100,000 population) was highest in adults 65 to 74 years old in 2020. People >60 years old are at greater risk of severe illness. In 2020, 63% of cases were among people >60 years old; all but 2 had neuroinvasive illness. All 3 deaths were in people >60 years old.



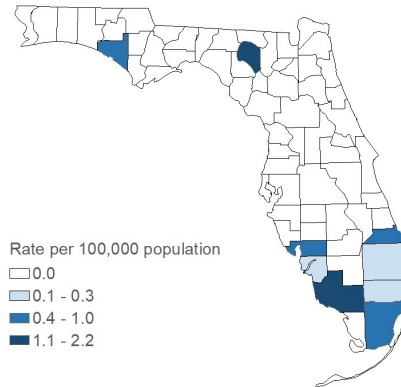
The rate of West Nile virus disease (per 100,000 population) increased slightly in all demographics from 2016 to 2020. In 2020, rates in Hispanics were double those in non-Hispanics, which is reflective of population demographics in Miami-Dade County.



West Nile Virus Disease

Summary	Number
Number of cases	51
Case Classification	Number (Percent)
Confirmed	50 (98.0)
Probable	1 (2.0)
Clinical Type	Number (Percent)
Neuroinvasive	34 (87.2)
Non-neuroinvasive	5 (12.8)
Outcome	Number (Percent)
Hospitalized	43 (84.3)
Died	3 (5.9)
Imported Status	Number (Percent)
Acquired in Florida	51 (100.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	0
Outbreak Status	Number (Percent)
Sporadic	51 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0

Locally acquired WNV disease cases occurred in nine Florida counties in 2020, primarily in south Florida. Cases were most commonly reported in Miami-Dade (28), Collier (7), Broward (6) and Palm Beach (5) counties. The remaining counties had one case each. Asymptomatic WNV-positive blood donors were identified in Broward (1), Hillsborough (1), Manatee (1) and Miami-Dade (34) counties. Environmental conditions supported increased transmission in south Florida.

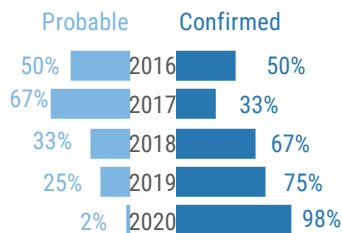


Rates are by county of residence for infections acquired in Florida (51 cases). Rates based on <20 cases are not reliable and should be interpreted with caution. See Tables 8 and 9 in Appendix I: Summary Data Tables for the number and rate of cases in 2020 by county.

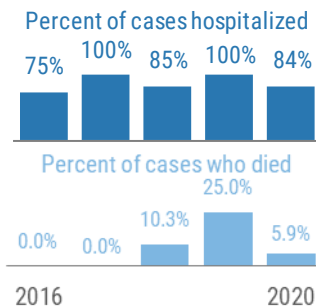


More Disease Trends

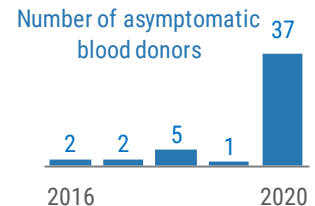
The percentage of confirmed cases increased in 2020, though it can vary by year.



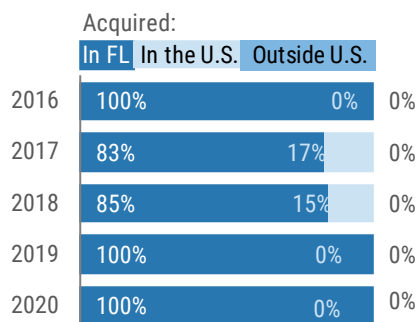
The majority of cases are hospitalized; deaths do occur. Three cases died in 2020.



Thirty-seven asymptomatic WNV-positive blood donors were identified in 2020, primarily in Miami-Dade County. Twenty of these donors were experiencing homelessness. While blood donors do not meet case criteria if no symptoms are reported, they are still indicative of WNV activity occurring in the area and can be used to meet criteria for issuing mosquito-borne illness advisories and alerts if the county of exposure is known.



In 2020, all cases were acquired in Florida.



West Nile virus disease has a strong seasonal pattern with cases primarily occurring July to November. During 2020, early season activity was identified in Miami-Dade County. Overall, the largest number of cases were reported from June to August. WNV-positive blood donations were identified from May to October, peaking during June and July.

