2014 Florida Morbidity Statistics Report

Bureau of Epidemiology

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Introduction

Background

The *Florida Morbidity Statistics Report* is the official record of the occurrence of reportable diseases in Florida and this edition marks the 59th publication since 1945. While numerous reports describing the disease burden are produced throughout the year, this report is noteworthy as the data contained here are final. The mission of the Florida Department of Health is to protect, promote, and improve the health of all people in Florida through integrated state, county, and community efforts. Per section 381.003, Florida Statutes "The Department shall conduct a communicable disease prevention and control program as part of fulfilling its public health mission." This report directly supports the mission of the Department by identifying patterns and trends in the incidence of disease that are used as the scientific basis for development of disease control and prevention strategies and policies.

Disease control and prevention are core functions of any public health agency. Protection of the public's health from existing, emerging, and re-emerging diseases requires diligence in all aspects of public health. Public health partners identifying and characterizing emerging trends in disease are the physicians, nurses, laboratorians, hospital infection preventionists, and other health care professionals who participate in reportable disease surveillance. Without their participation, the ability to recognize and intervene in emerging public health issues would be much more limited.

Acknowledgements

The Bureau of Epidemiology thanks all program areas within the Florida Department of Health that contributed to this report including the sections of HIV/AIDS, Immunization, Sexually Transmitted Diseases (STDs) and Viral Hepatitis, and Tuberculosis Control. Finally, many thanks are extended to the local health office staff and other public health professionals who are involved in reportable disease surveillance, either through disease control activities, case investigations, data collection, laboratory testing, or other essential functions.

Purpose

The *Florida Morbidity Statistics Report* is compiled in a single reference document to:

- Summarize annual morbidity from reportable communicable diseases and diseases of environmental origin in Florida.
- Describe patterns of disease that can be assessed over time, compared with trends from other states, and act as an aid in directing future disease prevention and control efforts.
- Provide a resource to medical and public health authorities at county, state, and national levels.

Data Sources

Data presented in this report are based on reportable disease information received by county and state health department staff from physicians, hospitals, and laboratories throughout the state obtained through passive and active surveillance. Reporting of suspected and confirmed reportable diseases and conditions in the state of Florida is mandated under section 381.0031, Florida Statutes and Florida Administrative Code Chapter 64D-3. People in charge of laboratories, hospitals, medical facilities, or other facilities providing health services (which can include schools, nursing homes, and state institutions) are required to report certain diseases and conditions and the associated laboratory test results as listed in the Table of Notifiable Diseases or Conditions to be Reported, Florida Administrative Code Chapter 64D-3. Reporting of test results by a laboratory does not nullify a practitioner's obligation to report the disease or condition. These data are the basis for providing useful information on reportable diseases and conditions in Florida to health care workers and policymakers, and would not be possible without the cooperation of the extensive network involving both private and public sector participants.

Data are collected by multiple means:

- Passive surveillance relies on physicians, laboratories, and other health care providers to report diseases to the Florida Department of Health confidentially in one of three forms: electronically, by telephone, or by facsimile. Increasingly, information about cases of reportable diseases and conditions is passed from providers, especially laboratories, to the Department as electronic records. This occurs automatically, without the involvement of a person after the electronic transmission process has been established between the Department and the reporting partner.
- Active surveillance entails Department staff regularly contacting hospitals, laboratories, and physicians in an effort to identify all cases of a given disease or condition.

References

The following references were used in many of the disease-specific chapters within Section 2: Data Summaries for Selected Reportable Diseases/Conditions of Frequent Occurrence.

Centers for Disease Control and Prevention. CDC A-Z Index. Available at www.cdc.gov/az/a.html.

Centers for Disease Control and Prevention. 2015. *Epidemiology and Prevention of Vaccine-Preventable Diseases*, 13th ed. Washington, D.C.: Public Health Foundation. Available at www.cdc.gov/vaccines/pubs/pinkbook/index.html.

Centers for Disease Control and Prevention. 2012. *Manual for the Surveillance of Vaccine-Preventable Diseases*, 5th ed. Available at www.cdc.gov/vaccines/pubs/surv-manual/index.html.

Centers for Disease Control and Prevention. 2016. *CDC Health Information for International Travel 2016*. New York: Oxford University Press. Available at wwwnc.cdc.gov/travel/page/yellowbook-home.

Centers for Disease Control and Prevention. 2014. National, State, and Selected Local Area Vaccination Coverage Among Children Aged 19-35 Months – United States, 2013. *Morbidity and Mortality Weekly Report*, 63(34);741-748. Available at www.cdc.gov/mmwr/preview/mmwrhtml/mm6334a1.htm?s_cid=mm6334a1_w.

Heymann DL (ed). 2015. *Control of Communicable Diseases Manual*. 20th ed. Washington, D.C.: American Public Health Association Press.

Interpreting the Data

Information in this report should be interpreted in light of the limitations below.

1. Under-reporting
   The data presented in this report are primarily based on passive reporting by health care providers and laboratories across Florida. Case reporting is most often dependent upon a person becoming ill, seeking medical attention, the health care provider ordering laboratory testing, and finally the health care provider or laboratory reporting the case. Frequently, not all steps in this process occur, so the number of reported cases represents a fraction of the true number of cases of reportable illnesses occurring in Florida each year. Evaluations of infectious disease reporting systems have indicated that the completeness of reporting varies by disease. The less common but more severe reportable diseases such as bacterial meningitis, diphtheria, polio, botulism, anthrax, tuberculosis, and congenital syphilis are more completely reported than the more common diseases with less severe symptoms such as hepatitis A or campylobacteriosis. Variation in identified disease incidence at the local level probably reflects, to varying degrees, both differences in the true incidence of disease and differences in the vigor with which surveillance is performed.

2. Reliability of Rates
All incidence rates in this report are expressed as the number of reported cases of a disease or condition per 100,000 population unless otherwise specified. All population estimates are from the Community Health Assessment Resource Tool Set (CHARTS), a Florida Department of Health web-based data query system with community tools, health indicators, and data queries for public consumption (www.floridacharts.com/charts/default.aspx). Population estimates within CHARTS are provided by the Florida Department of Health, Division of Public Health Statistics and Performance Management, in consultation with the Florida Legislature's Office of Economic and Demographic Research. Estimates in CHARTS are updated at least once per year, and population data were extracted from CHARTS for this report on August 7, 2015, after the annual update in CHARTS. Note that previous editions of this report may show somewhat different populations for a given year than the ones shown here, as these estimates are revised periodically. This is especially true given the recent 2010 census.

Animal rabies is not expressed as a rate; it is only expressed as the number of cases because no reliable denominators exist for animal populations.

Rates for diseases with only a few cases reported per year can be unstable and should be interpreted with caution. The observation of zero events is especially difficult to interpret. Rates were not generally calculated in this report when there were less than 20 cases, except as part of graphs and maps. In some cases, even though maps and graphs (e.g., by year, gender, race) may have small individual counts, rates were calculated. These maps include footnotes as a reminder that rates based on less than 20 cases are not reliable.

3. Determining How Cases are Counted: Reporting Period and Cases Included
There are important differences by disease that determine how cases are “counted” and summarized in this report. The date of illness onset or the date of diagnosis may not be available for all cases. Cases reported early in 2014 may have actually had onset or been diagnosed in 2013; rarely, cases reported in 2014 may have onset or diagnosis dates prior to 2013. Additionally, cases with illness onset or diagnosis late in 2014 may not have been reported to public health by the end of the 2014 report year, and thus would not be included in this report for most diseases. Information by disease is listed below.

AIDS and HIV Infection

Year: Data are aggregated by calendar year.

Cases included: HIV infection cases are assigned to a report year based on the date of the first confirmed HIV test. AIDS cases are assigned to a report year based on the date of an AIDS defined opportunistic infection and/or a CD4 count below 200 on a person with HIV infection. The 2014 AIDS and HIV infection dataset was frozen on December 31, 2015. Changes occurring after that point that affect the number of cases in 2014 or earlier will be updated in the following year’s dataset.

Please note that prior to 2014, HIV infection and AIDS cases were assigned to a report year based on the date the case was entered into the surveillance system.

Sexually Transmitted Diseases (STDs)

Year: Data are aggregated by the standard reporting year as outlined by the Centers for Disease Control and Prevention (CDC), where every year has at least 52 reporting weeks and some years have 53 (there were 53 weeks in 2014). This is referred to as the Morbidity and Mortality Weekly Report (MMWR) year.

Cases included: Cases are assigned to a report year based on the date the case was entered into the surveillance system. Occasionally, STD reports are received after the end of the reporting year that should have been included based on the laboratory result date. For these cases, the laboratory result date is used for the report date.

<u>Tuberculosis</u>

Year: Data are aggregated by MMWR year (see STD report year above for explanation of MMWR year).

Cases included: Cases are assigned to a report year based on the date when the suspected diagnosis is confirmed by clinical, radiographic, and laboratory testing (often referred to as "date counted").

<u>All Other Diseases</u>

Year: Data are aggregated by MMWR year (see STD report year above for explanation of MMWR year).

Cases included: Cases are assigned to a report year based on the date the case was determined to have enough information to be submitted by local health office epidemiology staff to the Bureau of Epidemiology for state-level review.

Data in this report are consistent with national surveillance data published weekly by CDC in the MMWR. Additionally, disease-specific reports describing data by other dates, such as disease onset and diagnosis dates, may also be published and available on the Florida Department of Health website.

4. Case Definition

Cases of most diseases are classified as confirmed, probable, or suspect at the state level using a published set of surveillance case definitions consistent with national case definitions where appropriate (*Surveillance Case Definitions for Selected Reportable Diseases in Florida*, available at www.FloridaHealth.gov/DiseaseCaseDefinitions). Case classifications are reviewed at the state level for most diseases. Following CDC *Morbidity and Mortality Weekly Report* (MMWR) print criteria (available at www.cdc.gov/nndss/script/downloads.aspx), only confirmed and probable cases have been included (i.e., suspect cases are excluded) in this report unless otherwise specified.

Changes to case definitions can affect the number of cases reported, which can impact calculated incidence rates, but ultimately case definition changes do not change the true incidence of a disease. Each year case definitions are evaluated for necessary revisions. A number of changes were made to reportable disease case definitions in 2014 as a result of position statements approved by the Council of State and Territorial Epidemiologists (CSTE) in 2013.

Summary of case definition changes effective January 2014:

a. Acute arboviral disease (neuroinvasive and non-neuroinvasive): revised the clinical criteria (removed fever and added chills) and refined laboratory criteria.

b. Malaria: expanded the confirmed case classification to include detection of unspeciated malaria parasite by microscopy.

c. Pertussis: added apnea to clinical criteria for infants aged <1 year and expanded probable case classification to include infants with acute cough of any duration and one other symptom who have a positive polymerase chain reaction (PCR) test or an epidemiological link to a confirmed case or a PCR-positive probable infant case.

d. Trichinellosis: added a probable case classification for people with clinically compatible illness and appropriate exposure and a suspect case classification for people with clinically compatible illness with a positive serologic test and appropriate exposure (note that suspect cases are not included in this report).

e. Saxitoxin: added a probable case classification for people with clinically compatible illness who have appropriate exposure or are epidemiologically linked to confirmed cases (previously captured in the suspect case classification) and revised the suspect case classification to include people with clinically compatible illness whose exposure history is unknown.

f. Shiga toxin-producing *Escherichia coli*: expanded the epidemiological linkage criteria for the probable case classification.

5. Assigning Cases to Counties
Cases are assigned to Florida counties following national guidance and based on the county of residence at the time of the disease identification, regardless of where they became ill or were hospitalized, diagnosed, or exposed. Cases who reside outside of Florida are not counted as Florida cases regardless of whether they became ill or were hospitalized, diagnosed, or exposed in Florida. Cases in out-of-state residents are not included in this report, unless specifically noted. These cases are referred through an interstate reciprocal notification system to the state where the person resides.

6. Population Estimates
All population estimates are from the Community Health Assessment Resource Tool Set (CHARTS), a Florida Department of Health web-based data query system with community tools, health indicators, and data queries for public consumption (www.floridacharts.com/charts/default.aspx). Population estimates within CHARTS are provided by the Florida Department of Health Division of Public Health Statistics and Performance Management, in consultation with the Florida Legislature's Office of Economic and Demographic Research. Estimates in CHARTS are updated at least once per year, and population data were extracted from CHARTS for this report on August 7, 2015. Note that previous editions of this report may show somewhat different populations for a given year than the ones shown here, as these estimates are revised periodically. This is especially true given the recent 2010 census.

7. Florida Disease Codes in Merlin
Reported case data for most reportable diseases (excluding HIV/AIDS, STDs, and tuberculosis) are stored in Merlin, Florida's web-based reportable disease surveillance system. When entering case data into Merlin, users assign a Florida Disease Code based on the disease. Due to changes in case definitions over time, new codes have been added and outdated codes have expired. In addition, some diseases have multiple disease codes that represent different clinical manifestations.

Diseases that include cases from multiple or expired Florida Disease Codes in this report:

a. California Serogroup Virus Disease
California Serogroup Virus Neuroinvasive Disease - 06250
California Serogroup Virus Non-Neuroinvasive Disease - 06251

b. Dengue Fever
Dengue Fever - 06100
Dengue Fever, Severe - 06101

c. Eastern Equine Encephalitis
Eastern Equine Encephalitis Neuroinvasive Disease - 06220
Eastern Equine Encephalitis Non-Neuroinvasive Disease - 06221

d. Ehrlichiosis
Ehrlichiosis (*Ehrlichia ewingii*) - 08383
Ehrlichiosis, HME (*Ehrlichia chaffeensis*) - 08382

e. *Haemophilus influenzae* Invasive Disease in Children <5 Years Old
Haemophilus influenzae Invasive Disease - 03841
Cellulitis (*Haemophilus influenzae*) - 69290 (EXPIRED)
Epiglottitis (*Haemophilus influenzae*) - 46430 (EXPIRED)
Meningitis (*Haemophilus influenzae*) - 32000 (EXPIRED)
Pneumonia (*Haemophilus influenzae*) - 48220 (EXPIRED)
Septic Arthritis (*Haemophilus influenzae*) - 71100 (EXPIRED)

f. Hantavirus Infection
Hantavirus Infection, Non-Pulmonary Syndrome - 07870
Hantavirus Pulmonary Syndrome - 07869

g. Listeriosis
Listeriosis - 02700
Meningitis (*Listeria monocytogenes*) - 32070 (EXPIRED)

h. Plague
Plague, Bubonic - 02000
Plague, Pneumonic - 02050

i. Poliomyelitis
Poliomyelitis, Nonparalytic - 04520
Poliomyelitis, Paralytic - 04590

j. Q Fever (*Coxiella burnetii*)
Q Fever, Acute (*Coxiella burnetii*) - 08301
Q Fever, Chronic (*Coxiella burnetii*) - 08302
Q Fever - 08300 (EXPIRED)

k. Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis - 08309
Rocky Mountain Spotted Fever - 08200 (EXPIRED)

l. Rubella
Rubella - 05690
Rubella, Congenital Syndrome - 77100

m. Shiga Toxin-Producing *Escherichia coli* Infection
Shiga Toxin-Producing *Escherichia coli* (STEC) Infection, Non-O157 - 41602 (EXPIRED)
Shiga Toxin-Producing *Escherichia coli* (STEC) Infection, O157:H7 - 41601 (EXPIRED)

n. St. Louis Encephalitis
St. Louis Encephalitis Neuroinvasive Disease - 06230
St. Louis Encephalitis Non-Neuroinvasive Disease - 06231

o. Typhus Fever
Typhus Fever, Epidemic (*Rickettsia prowa*zekii) - 08000
Typhus Fever, Endemic (*Rickettsia typhi*) - 08100 (EXPIRED)
Typhus Fever - 08190 (EXPIRED)

p. Venezuelan Equine Encephalitis
Venezuelan Equine Encephalitis Neuroinvasive Disease - 06620
Venezuelan Equine Encephalitis Non-Neuroinvasive Disease - 06621

q. Vibriosis (Excluding Cholera)
Vibriosis (*Grimontia hollisae*) - 00196
Vibriosis (*Vibrio alginolyticus*) - 00195
Vibriosis (*Vibrio cholerae* Type Non-O1) - 00198
Vibriosis (*Vibrio fluvialis*) - 00194
Vibriosis (*Vibrio mimicus*) - 00197
Vibriosis (*Vibrio parahaemolyticus*) - 00540
Vibriosis (*Vibrio vulnificus*) - 00199
Vibriosis (Other *Vibrio* Species) - 00193

r. Viral Hemorrhagic Fever
Crimean-Congo Hemorrhagic Fever - 06591
Ebola Hemorrhagic Fever - 06592
Guanarito Hemorrhagic Fever - 06593
Junin Hemorrhagic Fever - 06594
Lassa Fever - 06595
Lujo Virus - 06596
Machupo Hemorrhagic Fever - 06597
Marburg Fever - 06598
Sabia-Associated Hemorrhagic Fever - 06599
Viral Hemorrhagic Fever - 06590 (EXPIRED)

s. West Nile Virus Disease
West Nile Virus Neuroinvasive Disease - 06630
West Nile Virus Non-Neuroinvasive Disease - 06631

t. Western Equine Encephalitis
Western Equine Encephalitis Neuroinvasive Disease - 06210
Western Equine Encephalitis Non-Neuroinvasive Disease - 06211

Summary of Key Disease Trends in 2014

Sexually transmitted diseases (STDs), HIV infection, and AIDS are the most common reportable diseases in Florida, particularly among 20- to 54-year-olds. Chlamydia incidence has been increasing over the past 10 years, with over 84,000 cases reported in Florida in 2014. As chlamydia has increased, the number of gonorrhea cases has consistently decreased nationally and in Florida since 2006. However, in 2013, there was a slight increase in gonorrhea cases compared to 2012. The incidence rate in 2014 was lower than 2013, but still higher than 2012 and slightly higher than the 5-year average incidence rate. The syphilis incidence rate has been increasing since 2009 and increased more in 2014, with a 37.0% increase in 2014 compared to the past five years. The incidence of HIV infection and AIDS has also decreased overall in the last 10 years, though both AIDS and HIV infection increased in 2013, partially due to an expansion of electronic laboratory reporting in 2012 which resulted in receiving more laboratory reports. Incidence of HIV infection increased again in 2014, partially due to a statewide increase in infections in white and Hispanic men who have sex with men, while the incidence of AIDS decreased in 2014.

In the mid-1980s, tuberculosis (TB) re-emerged as a public health threat in the U.S. Since 1994, the number of cases of TB in Florida has decreased every year. The incidence rate in 2014 decreased 22.9% compared to the past five years. Over the past 20 years, the number of TB cases counted in foreign-born people has remained relatively constant while decreasing dramatically in U.S.-born people. Now the proportion of all Florida TB cases that are made up of people born in a foreign country has grown to 62.4% of all TB cases in 2014.

Florida consistently has one of the highest rates of enteric disease in the nation, with 10,000 to 12,000 cases reported annually. Enteric diseases disproportionately affect children less than five years old. Over 13,000 enteric disease cases were reported in 2014, more than any prior year. While salmonellosis was still the largest volume disease with over 6,000 cases, the overall increase in 2014 was primarily due to large increases in cryptosporidiosis and shigellosis. Outbreaks of cryptosporidiosis were identified in swimming pools, a recreational water park, and kiddie pools, and additional community-wide outbreaks were associated with daycares and person-to-person transmission. Historically, shigellosis has a cyclic temporal pattern with large, community-wide outbreaks, frequently involving daycare centers, every three to five years. Shigellosis activity peaked in 2007, 2011, and again in 2014. The incidence of Shiga toxin-producing *E. coli* (STEC) has generally increased since 2006, partially due to widespread implementation of a laboratory screening test that identifies Shiga toxin, prompting additional testing. Though there was a slight decrease in 2014, the incidence rate was still 14.5% higher than the 5-year average.

Despite high vaccine coverage in Florida, vaccine-preventable diseases (VPDs) continue to occur. Vaccination coverage in Florida and nationally for 2014 was published by the Centers for Disease Control and Prevention in the Morbidity and Mortality Weekly Report in August 2014 (see National, State, and Selected Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2014 available at www.cdc.gov/mmwr/preview/mmwrhtml/mm6433a1.htm). In 2014, VPD incidence decreased slightly overall in Florida compared to 2013. Acute hepatitis A and hepatitis B incidence has declined drastically over the past 15 years, largely due to increased vaccination coverage. Though there was a slight increase in hepatitis A in 2013, the incidence rate in 2014 decreased and was 29.0% lower than the previous 5-year average. The acute hepatitis B incidence rate increased 29.0% compared to the previous 5-year average, partially due to an enhanced surveillance project that focuses on chronic hepatitis in young adults. The additional follow-up has resulted in identifying acute cases that would otherwise have been misclassified as chronic. Varicella incidence has been steadily declining since 2008 due to effective vaccination programs. Beginning with the 2008-2009 school year, children entering kindergarten were required to receive two doses of varicella vaccine. Pertussis incidence has increased nationwide over the past 10 years, despite routine vaccine use. In Florida, there was a sharp increase in reported pertussis cases in 2012 and 2013. Incidence decreased slightly in 2014, but was still 43.1% higher than the previous 5-year average.

Tick-borne diseases continued to be a threat in Florida in 2014. Lyme disease, transmitted by ticks, increased in 2014. Consistent with past years, most infections identified in 2014 were acquired in other states (primarily in the Northeast and upper Midwest U.S.). However, while the number of imported cases remained the same in 2014 compared to 2013, there was an increase in the number of reported infections acquired in Florida. Mosquito-borne diseases also continued to occur in Florida in 2014. West Nile virus (WNV) disease incidence decreased dramatically compared to 2012, when a large number of cases were reported in Duval County. The 2012 outbreak likely resulted from many factors, including higher-than-normal temperatures that influenced mosquito and bird abundance, viral replication in host mosquitoes, and interactions of birds and mosquitoes. Dengue fever cases decreased in 2014 and the incidence rate was 26.1% lower than the 5-year average. In 2014, there were five unrelated local introductions in Miami-Dade County, resulting in seven locally acquired dengue fever cases. The first autochthonous transmission of chikungunya virus in the Americas was reported on the island of St. Martin in December 2013. Since then, local transmission was identified in countries throughout the Caribbean and the Americas. Prior to 2014, Florida had five imported cases of chikungunya, all of whom had traveled to Asia. Chikungunya fever became reportable in Florida in June 2014 and over 400 cases were reported.

Starting in March 2014, West Africa experienced the largest outbreak of Ebola virus disease (EVD) in history, with over 28,000 confirmed, probable, and suspect cases identified as of January 2016. In response to the large outbreak, Florida implemented active case finding by conducting in-person twice

-daily temperature monitoring for any traveler returning from Guinea, Liberia, Mali, and Sierra Leone for 21 days. From October 2014 to January 2016, over 760 travelers were monitored in Florida; no EVD cases were identified among these travelers.

Chronic hepatitis C continues to account for a large bulk of infectious disease burden in Florida with over 19,000 confirmed and probable cases reported annually. Over 22,000 cases were reported in 2014, more than any previous year, likely due to improved case ascertainment from electronic laboratory reporting and new automated case classification and reporting logic added to the reportable disease surveillance system, Merlin. Collection of risk factor information has also been improved for chronic hepatitis C cases. In response to an increased rate of chronic hepatitis in young adults, an enhanced surveillance project focusing on chronic hepatitis in young adults was funded and implemented in 2012 in Florida. The additional follow-up has resulted in identifying acute cases that would otherwise have been misclassified as chronic. A large number of new hepatitis C infections in young adults in Florida are due to injection drug use (IDU). In Florida and other states, the dual increases in newly identified hepatitis C infections and IDU among young adults has been associated with the proliferation of highly addictive prescription opioid painkillers.[1]

For additional information on disease-specific trends, see Section 1: Summary of Selected Reportable Diseases/Conditions, Section 2: Data Summaries for Selected Reportable Diseases/Conditions of Frequent Occurrence and Section 3: Narratives for Selected Reportable Diseases/Conditions of Infrequent Occurrence.

Suryaprasad AG, White JZ, Xu F, Eichler BA, Hamilton J, Patel A, et al. 2014. Emerging Epidemic of Hepatitis C Virus Infections Among Young Non-Urban Persons who Inject Drugs in the United States, 2006–2012. *Clinical Infectious Diseases*, 59(10):1411-1419.

Zibbell JE, Iqbal K, Patel RC, Suryaprasad A, Sanders KJ, Moore-Moravian L, et al. 2015. Increases in Hepatitis C Virus Infection Related to Injection Drug Use Among Persons Aged ≤30 Years — Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. *Morbidity and Mortality Weekly Report*, 64(17):453-458. Available at www.cdc.gov/mmwr/preview/mmwrhtml/mm6417a2.htm.

List of Reportable Diseases/Conditions in Florida, January 2014

Section 381.0031 (2), Florida Statutes, provides that "Any practitioner licensed in this state to practice medicine, osteopathic medicine, chiropractic medicine, naturopathy, or veterinary medicine; any hospital licensed under part I of Chapter 395, Florida Statutes; or any laboratory licensed under Chapter 483, Florida Statutes that diagnoses or suspects the existence of a disease of public health significance shall immediately report the fact to the Department of Health." Local health offices serve as the Department's representatives in this reporting requirement. Furthermore, section 381.0031 (4), Florida Statutes, provides that "The Department shall periodically issue a list of infectious or noninfectious diseases determined by it to be a threat to public health and therefore of significance to public health and shall furnish a copy of the list to the practitioners . . ." This list of reportable diseases and conditions is maintained in Florida Administrative Code Rule 64D-3.029. The list below reflects diseases and conditions that were reportable in January 2014. The Rule was revised in June 2014; a summary of the changes and the updated list are on the following page.

- Any disease outbreak
- Any grouping or clustering of disease
- Acquired immune deficiency syndrome (AIDS)
- Amebic encephalitis
- Anthrax
- Arsenic poisoning
- Botulism
- Brucellosis
- California serogroup virus disease
- Campylobacteriosis
- Cancer (excluding non-melanoma skin cancer and including benign and borderline intracranial and CNS tumors)
- Carbon monoxide poisoning
- Chancroid
- Chlamydia
- Cholera (*Vibrio cholerae* type O1)
- Ciguatera fish poisoning
- Congenital anomalies
- Conjunctivitis in neonates <14 days old
- Creutzfeldt-Jakob disease (CJD)
- Cryptosporidiosis
- Cyclosporiasis
- Dengue fever
- Diphtheria
- Eastern equine encephalitis
- Ehrlichiosis/anaplasmosis
- Encephalitis, other (non-arboviral)
- *Escherichia coli* infection, Shiga toxin-producing
- Giardiasis, acute
- Glanders
- Gonorrhea
- Granuloma inguinale
- *Haemophilus influenzae* invasive disease
- Hansen's disease (leprosy)
- Hantavirus infection
- Hemolytic uremic syndrome (HUS)
- Hepatitis A
- Hepatitis B, C, D, E, and G
- Hepatitis B surface antigen in pregnant women or children <2 years old
- Herpes simplex virus (HSV) in infants <60 days old with disseminated infection and liver involvement; encephalitis; and infections limited to skin, eyes, and mouth; anogenital HSV in children <12 years old
- Human immunodeficiency virus (HIV) infection
- Human papillomavirus (HPV), associated laryngeal papillomas or recurrent respiratory papillomatosis in children <6 years old; anogenital papillomas in children <12 years old
- Influenza A, novel or pandemic strains
- Influenza-associated pediatric mortality in children <18 years old
- Lead poisoning
- Legionellosis
- Leptospirosis
- Listeriosis
- Lyme disease
- Lymphogranuloma venereum (LGV)
- Malaria
- Measles (rubeola)
- Melioidosis
- Meningitis, bacterial or mycotic
- Meningococcal disease
- Mercury poisoning
- Mumps
- Neurotoxic shellfish poisoning
- Pertussis
- Pesticide-related illness and injury, acute
- Plague
- Poliomyelitis
- Psittacosis (ornithosis)
- Q fever
- Rabies (human, animal, possible exposure)
- Ricin toxin poisoning
- Rocky Mountain spotted fever
- Rubella
- St. Louis encephalitis
- Salmonellosis
- Saxitoxin poisoning (paralytic shellfish poisoning)
- Severe acute respiratory syndrome (SARS) associated with coronavirus infection
- Shigellosis
- Smallpox
- Staphylococcal enterotoxin B poisoning
- *Staphylococcus aureus,* intermediate or full resistance to vancomycin (VISA, VRSA)
- *Staphylococcus aureus*, community-associated mortality
- Streptococcal invasive disease (Group A)
- *Streptococcus pneumoniae* invasive disease
- Syphilis
- Tetanus
- Toxoplasmosis
- Trichinellosis (trichinosis)
- Tuberculosis
- Tularemia
- Typhoid fever (*Salmonella* serotype Typhi)
- Typhus fever, epidemic and endemic
- Vaccinia disease
- Varicella (chickenpox)
- Venezuelan equine encephalitis
- Vibriosis (excluding cholera)
- Viral hemorrhagic fevers
- West Nile virus disease
- Western equine encephalitis virus disease
- Yellow fever

List of Reportable Diseases/Conditions in Florida, June 2014

Florida Administrative Code Rule 64D-3.029 was updated in 2014 to modify the list of reportable diseases and conditions and changes became effective June 4, 2014. Additions and modifications are highlighted below in red. Diseases removed were non-arboviral encephalitis, group A Streptococcal invasive disease, community-associated *Staphylococcus aureus* mortality, endemic typhus fever, and toxoplasmosis. Data in this report reflect the updated list below. Updates may be made to the list of reportable diseases and conditions in future years and these updates will continue to be reflected as appropriate in future *Florida Morbidity Statistics Reports*.

Any disease outbreak
Any grouping or clustering of disease
Acquired immune deficiency syndrome (AIDS)
Amebic encephalitis
Anthrax
Arsenic poisoning
Arboviral diseases not otherwise listed
Botulism
Brucellosis
California serogroup virus disease
Campylobacteriosis
Cancer (excluding non-melanoma skin cancer and including benign and borderline intracranial and CNS tumors)
Carbon monoxide poisoning
Chancroid
Chikungunya fever
Chlamydia
Cholera (*Vibrio cholerae* type O1)
Ciguatera fish poisoning
Congenital anomalies
Conjunctivitis in neonates <14 days old
Creutzfeldt-Jakob disease (CJD)
Cryptosporidiosis
Cyclosporiasis
Dengue fever
Diphtheria
Eastern equine encephalitis
Ehrlichiosis/anaplasmosis
Escherichia coli infection, Shiga toxin-producing
Giardiasis, acute
Glanders
Gonorrhea
Granuloma inguinale
Haemophilus influenzae invasive disease in children <5 years old (all ages for electronic laboratory reporting laboratories)
Hansen's disease (leprosy)
Hantavirus infection
Hemolytic uremic syndrome (HUS)
Hepatitis A
Hepatitis B, C, D, E, and G
Hepatitis B surface antigen in pregnant women or children <2 years old
Herpes B virus, possible exposure
Herpes simplex virus (HSV) in infants <60 days old with disseminated infection and liver involvement; encephalitis; and infections limited to skin, eyes, and mouth; anogenital HSV in children <12 years old
Human immunodeficiency virus (HIV) infection
HIV, exposed infants <18 months old born to an HIV-infected woman
Human papillomavirus (HPV), associated laryngeal papillomas or recurrent respiratory papillomatosis in children <6 years old; anogenital papillomas in children <12 years old (all HPV DNA for electronic laboratory reporting laboratories)
Influenza A, novel or pandemic strains
Influenza-associated pediatric mortality in children <18 years old
Lead poisoning
Legionellosis
Leptospirosis
Listeriosis
Lyme disease
Lymphogranuloma venereum (LGV)
Malaria
Measles (rubeola)
Melioidosis
Meningitis, bacterial or mycotic
Meningococcal disease
Mercury poisoning
Mumps
Neonatal abstinence syndrome (NAS)
Neurotoxic shellfish poisoning
Pertussis
Pesticide-related illness and injury, acute
Plague
Poliomyelitis
Psittacosis (ornithosis)
Q Fever
Rabies (human, animal, possible exposure)
Ricin toxin poisoning
Rocky Mountain spotted fever and other spotted fever rickettsioses
Rubella
St. Louis encephalitis
Salmonellosis
Saxitoxin poisoning (paralytic shellfish poisoning)
Severe acute respiratory disease syndrome associated with coronavirus infection
Shigellosis
Smallpox
Staphylococcal enterotoxin B poisoning
Staphylococcus aureus infection, intermediate or full resistance to vancomycin (VISA, VRSA)
Streptococcus pneumoniae invasive disease in children <6 years old (all ages for electronic laboratory reporting laboratories)
Syphilis
Tetanus
Trichinellosis (trichinosis)
Tuberculosis (TB)
Tularemia
Typhoid fever (*Salmonella* serotype Typhi)
Typhus fever, epidemic
Vaccinia disease
Varicella (chickenpox)
Venezuelan equine encephalitis
Vibriosis (infections of *Vibrio* species and closely related organisms, excluding *Vibrio cholerae* type O1)
Viral hemorrhagic fevers
West Nile virus disease
Yellow fever

Electronic laboratory reporting laboratories only:
Antimicrobial susceptibility results for isolates from a normally sterile site for *Acinetobacter baumannii*, *Citrobacter* species, *Enterococcus* species, *Enterobacter* species, *Escherichia coli*, *Klebsiella* species, *Pseudomonas aeruginosa*, and *Serratia* species
Hepatitis B, C, D, E, and G viruses, all test results (positive and negative) and all liver function tests
Influenza virus, all test results (positive and negative)
Respiratory syncytial virus, all test results (positive and negative)
Staphylococcus aureus isolated from a normally sterile site

Florida County Boundaries

Florida Population Estimates[1] by Year, Age Group, Gender, Race, and Ethnicity

Year	Population
2005	17,876,663
2006	18,237,596
2007	18,500,958
2008	18,636,837
2009	18,711,844
2010	18,820,278
2011	18,934,175
2012	19,042,458
2013	19,318,859
2014	19,548,031

Age Group	2014 Population
<1	217,026
1-4	886,618
5-9	1,132,972
10-14	1,146,040
15-19	1,192,611
20-24	1,312,024
25-34	2,448,462
35-44	2,345,727
45-54	2,699,859
55-64	2,574,936
65-74	1,951,625
75-84	1,142,703
85+	497,428
Total	19,548,031

Gender	2014 Population
Female	9,992,462
Male	9,555,569
Race	**2014 Population**
White	15,286,521
Black	3,263,817
Other	997,693
Ethnicity	**2014 Population**
Non-Hispanic	14,861,999
Hispanic	4,686,032
Total	19,548,031

[1] All population estimates are from the Community Health Assessment Resource Tool Set (CHARTS), a Florida Department of Health web-based data query system with community tools, health indicators, and data queries for public consumption (www.floridacharts.com/charts/default.aspx). Population estimates within CHARTS are provided by the Florida Department of Health Division of Public Health Statistics and Performance Management, in consultation with the Florida Legislature's Office of Economic and Demographic Research. Estimates in CHARTS are updated at least once per year, and population data were extracted from CHARTS for this report on August 7, 2015. Note that previous editions of this report may show somewhat different populations for a given year than the ones shown here, as these estimates are revised periodically. This is especially true given the recent 2010 census.

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Section 1

Summary of Selected Reportable Diseases/Conditions

Table 1: Reported Confirmed and Probable Cases and Incidence Rates (Per 100,000 Population) of Reportable Diseases/Conditions of Frequent Occurrence, Florida, 2005-2014

Reportable Disease/Condition	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
AIDS[1]	4,450	24.9	4,238	23.2	4,043	21.9	4,184	22.5	3,864	20.7	3,157	16.8	3,029	16.0	2,855	15.0	2,964	15.3	2,370	12.1
Campylobacteriosis	894	5.0	941	5.2	1,017	5.5	1,118	6.0	1,120	6.0	1,211	6.4	2,039	10.8	1,964	10.3	2,027	10.5	2,195	11.2
Carbon Monoxide Poisoning	NR	NR	NR	NR	NR	NR	NR	NR	43	0.2	172	0.9	85	0.4	69	0.4	161	0.8	157	0.8
Chikungunya Fever	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	442	2.3
Chlamydia	43,372	242.6	48,929	268.3	57,732	312.0	70,732	379.5	72,932	389.8	74,777	397.3	76,076	401.8	77,890	409.0	80,991	419.2	84,196	430.7
Ciguatera Fish Poisoning	10	--	32	0.2	29	0.2	53	0.3	49	0.3	20	0.1	48	0.3	30	0.2	49	0.3	63	0.3
Creutzfeldt-Jakob Disease (CJD)	17	--	14	--	12	--	23	0.1	15	--	13	--	16	--	23	0.1	20	0.1	24	0.1
Cryptosporidiosis	350	2.0	717	3.9	738	4.0	549	2.9	497	2.7	408	2.2	437	2.3	470	2.5	409	2.1	1,905	9.7
Cyclosporiasis	524	2.9	31	0.2	32	0.2	59	0.3	40	0.2	63	0.3	58	0.3	25	0.1	47	0.2	33	0.2
Dengue Fever[2]	19	--	20	0.1	46	0.3	33	0.2	55	0.3	195	1.0	71	0.4	124	0.7	160	0.8	92	0.5
Ehrlichiosis[2]	4	--	5	--	18	--	10	--	11	--	10	--	15	--	23	0.1	21	0.1	29	0.2
Giardiasis, Acute	987	5.5	1,165	6.4	1,268	6.9	1,391	7.5	1,981	10.6	2,139	11.4	1,255	6.6	1,095	5.8	1,114	5.8	1,165	6.0
Gonorrhea	20,225	113.1	23,961	131.4	23,366	126.3	23,233	124.7	20,880	111.6	20,171	107.2	19,704	104.1	19,554	102.7	21,073	109.1	20,945	107.1
HIV Infection[1]	6,028	33.7	5,681	31.2	6,512	35.2	6,086	32.7	5,210	27.8	4,719	25.1	4,680	24.7	4,521	23.7	4,433	23.0	4,613	23.6
Haemophilus influenzae Invasive Disease in Children <5 Years Old[2,3]	23	2.4	19	--	28	2.8	25	2.4	29	3.0	32	3.5	23	2.6	24	2.7	22	2.5	32	3.4
Hepatitis A	289	1.6	233	1.3	171	0.9	165	0.9	191	1.0	178	0.9	110	0.6	118	0.6	133	0.7	107	0.5
Hepatitis B, Acute	510	2.9	446	2.4	368	2.0	358	1.9	318	1.7	315	1.7	235	1.2	292	1.5	375	1.9	408	2.1
Hepatitis B, Surface Antigen in Pregnant Women[4]	530	15.2	448	12.7	643	18.1	599	16.9	598	17.0	438	12.4	481	13.6	413	11.6	482	13.4	510	14.1
Hepatitis C, Acute	39	0.2	49	0.3	46	0.2	53	0.3	77	0.4	105	0.6	100	0.5	168	0.9	220	1.1	183	0.9
Lead Poisoning	--	--	--	--	--	--	--	--	--	--	916	4.9	742	3.9	864	4.5	683	3.5	669	3.4
Legionellosis	119	0.7	167	0.9	153	0.8	148	0.8	193	1.0	172	0.9	185	1.0	213	1.1	250	1.3	280	1.4
Listeriosis[2]	59	0.3	46	0.3	34	0.2	50	0.3	25	0.1	54	0.3	38	0.2	33	0.2	41	0.2	49	0.3
Lyme Disease	47	0.3	34	0.2	30	0.2	88	0.5	110	0.6	84	0.4	115	0.6	118	0.6	138	0.7	155	0.8
Malaria	68	0.4	61	0.3	56	0.3	65	0.3	93	0.5	139	0.7	99	0.5	59	0.3	54	0.3	52	0.3
Meningitis, Bacterial or Mycotic	127	0.7	162	0.9	135	0.7	199	1.1	210	1.1	183	1.0	192	1.0	191	1.0	153	0.8	132	0.7
Meningococcal Disease	84	0.5	79	0.4	67	0.4	51	0.3	52	0.3	60	0.3	51	0.3	45	0.2	58	0.3	50	0.3
Pertussis	208	1.2	228	1.3	211	1.1	314	1.7	497	2.7	328	1.7	312	1.6	575	3.0	732	3.8	719	3.7
Pesticide-Related Illness and Injury, Acute[5]	154	0.9	460	2.5	449	2.4	455	2.4	405	2.2	392	2.1	451	2.4	71	0.4	68	0.4	75	0.4
Rabies, Animal	201	--	176	--	128	--	138	--	161	--	121	--	120	--	102	--	103	--	94	--
Rabies, Possible Exposure	1,215	6.8	1,244	6.8	1,474	8.0	1,618	8.7	1,853	9.9	2,114	11.2	2,410	12.7	2,371	12.5	2,721	14.1	2,995	15.3
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis[2,6]	14	--	21	0.1	19	--	19	--	10	--	14	--	12	--	31	0.2	24	0.1	29	0.2
Salmonellosis	5,552	31.1	4,928	27.0	5,022	27.1	5,312	28.5	6,741	36.0	6,282	33.4	5,923	31.3	6,523	34.3	6,133	31.8	6,019	30.8
Shiga Toxin-Producing *Escherichia coli* (STEC) Infection[2]	114	0.6	38	0.2	47	0.3	65	0.3	94	0.5	85	0.5	103	0.6	93	0.5	121	0.6	117	0.6
Shigellosis	1,270	7.1	1,646	9.0	2,288	12.4	801	4.3	461	2.5	1,212	6.4	2,635	13.9	1,702	8.9	1,018	5.3	2,396	12.3
Streptococcus pneumoniae Invasive Disease, Drug-Resistant	614	3.4	774	4.2	726	3.9	792	4.3	779	4.2	816	4.3	645	3.4	457	2.4	537	2.8	391	2.0
Streptococcus pneumoniae Invasive Disease, Drug-Susceptible	598	3.3	620	3.4	622	3.4	704	3.8	701	3.7	693	3.7	679	3.6	531	2.8	552	2.9	401	2.1
Syphilis	2,887	16.2	2,944	16.1	3,927	21.2	4,585	24.6	3,861	20.6	4,077	21.7	4,142	21.9	4,510	23.7	5,075	26.3	6,112	31.3
Tuberculosis[1]	1,093	6.1	1,032	5.7	988	5.3	957	5.1	822	4.4	833	4.4	754	4.0	678	3.6	651	3.4	595	3.0
Varicella (Chickenpox)	NR	NR	NR	NR	1,321	7.1	1,735	9.3	1,125	6.0	977	5.2	861	4.5	815	4.3	659	3.4	570	2.9
Vibriosis (Excluding Cholera)[2]	103	0.6	99	0.5	97	0.5	94	0.5	112	0.6	130	0.7	155	0.8	147	0.8	191	1.0	166	0.8

1 The number of cases reported in past years should not change for sexually transmitted diseases (STDs) and most reportable diseases. However, different reconciliation processes are in place for AIDS, HIV infection, and tuberculosis. As a result, case numbers for prior years in the above tables may vary from previous reports.

2 For information on what is included in this disease category, see the paragraph on Florida Disease Codes in Merlin within Interpreting the Data in the Introduction (page ix).

3 Rate is per 100,000 children <5 years old.

4 Rate is per 100,000 women aged 15-44 years.

5 Acute pesticide-related illness and injury counts include suspect cases, unlike other diseases in this report.

6 One case in 2010 and two cases in 2013 were initially reported as Rocky Mountain spotted fever but were subsequently confirmed as *Rickettsia africae* infection by the Centers for Disease Control and Prevention. These three cases were excluded from previous reports but are included in this year's report as spotted fever rickettsiosis to align with Florida Administrative Code Rule 64D-3.029 changes to the list of reportable diseases and conditions (page xv).

— Not applicable. Rates calculated for less than 20 cases are unreliable and therefore are not included in this table. Animal rabies is only expressed as the number of cases because no reliable denominators exist for animal populations. Prior to 2010, lead poisoning case data were primarily stored outside of the state's reportable disease surveillance system and are not included in this table.

NR Not reportable.

Note that changes in disease case definitions can affect case counts over time. For information on case definition changes that affected case counts, refer to the disease-specific chapters in Section 2.

Summary of Selected Reportable Diseases/Conditions

Table 2: Reported Confirmed and Probable Cases of Reportable Diseases/Conditions of Infrequent Occurrence, Florida, 2005-2014

Reportable Disease/Condition	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Amebic Encephalitis	NR	NR	NR	NR	3	0	1	0	1	1
Anaplasmosis	1	1	3	2	3	3	11	5	2	7
Anthrax	0	0	0	0	0	0	1	0	0	0
Arboviral Disease, Other	NR	NR	NR	NR	NR	NR	NR	NR	NR	0
Arsenic Poisoning	NR	NR	NR	NR	9	14	7	5	13	2
Botulism, Foodborne	0	1	0	0	0	0	0	0	0	0
Botulism, Infant	1	0	1	1	1	1	0	1	0	0
Botulism, Other	0	0	0	0	0	0	0	0	0	0
Botulism, Wound	0	0	0	0	0	0	0	0	0	0
Brucellosis	3	5	10	10	9	9	6	17	9	3
California Serogroup Virus Disease[1]	0	1	1	1	0	0	1	0	0	1
Cholera (*Vibrio cholerae* Type O1)	0	0	0	0	0	4	11	7	4	2
Diphtheria	0	0	0	0	0	0	0	0	0	0
Eastern Equine Encephalitis[1]	5	0	0	1	0	4	0	2	2	1
Glanders (*Burkholderia mallei*)	0	0	0	0	0	0	0	0	0	0
Hansen's Disease (Leprosy)	2	7	10	10	7	12	11	10	10	10
Hantavirus Infection[1]	0	0	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome (HUS)	20	5	6	5	5	8	4	1	14	7
Hepatitis B, Perinatal	2	6	2	3	0	1	0	1	2	1
Hepatitis D	NR	NR	1	0	1	0	0	0	1	1
Hepatitis E	NR	NR	1	0	2	1	7	1	0	3
Hepatitis G	NR	NR	0	0	1	0	2	0	0	0
Leptospirosis	2	2	1	0	1	2	4	1	1	0
Measles (Rubeola)	0	4	5	1	5	1	8	0	7	0
Melioidosis (*Burkholderia pseudomallei*)	1	1	0	0	0	0	0	1	0	0
Mercury Poisoning	30	33	24	69	21	12	7	10	5	15
Middle East Respiratory Syndrome (MERS)	NR	NR	NR	NR	NR	NR	NR	NR	NR	1
Mumps	8	15	21	16	18	10	11	5	1	1
Neurotoxic Shellfish Poisoning	4	16	1	0	0	0	0	0	0	0
Plague[1]	0	0	0	0	0	0	0	0	0	0
Poliomyelitis[1]	0	0	0	0	0	0	0	0	0	0
Psittacosis (Ornithosis)	0	1	0	2	0	0	0	0	0	1
Q Fever (*Coxiella burnetii*)[1]	1	8	2	1	1	2	3	1	2	1
Rabies, Human	0	0	0	0	0	0	0	0	0	0
Ricin Toxin Poisoning	0	0	0	0	0	0	0	0	1	0
Rubella[1]	0	1	0	3	0	0	0	0	0	0
Saxitoxin Poisoning (Paralytic Shellfish Poisoning)	0	0	0	0	0	0	0	0	3	0
Severe Acute Respiratory Syndrome (SARS)	0	0	0	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0	0	0	0
St. Louis Encephalitis[1]	0	0	0	0	0	0	0	0	0	2
Staphylococcal Enterotoxin B Poisoning	0	0	0	2	0	0	0	0	0	0
Staphylococcus aureus Infection, Intermediate Resistance to Vancomycin (VISA)	0	0	1	3	6	1	3	7	5	4
Staphylococcus aureus Infection, Resistant to Vancomycin (VRSA)	0	0	0	0	0	0	0	0	0	0
Tetanus	3	2	5	2	0	5	3	4	5	2
Trichinellosis (Trichinosis)	1	1	0	1	0	0	0	0	0	0
Tularemia (*Francisella tularensis*)	1	0	0	0	1	0	0	0	1	1
Typhoid Fever (*Salmonella* Serotype Typhi)	11	16	15	18	19	22	8	11	11	13
Typhus Fever[1]	0	2	1	0	1	0	2	0	0	0
Vaccinia Disease	0	0	0	0	0	0	1	0	0	0
Venezuelan Equine Encephalitis[1]	0	0	0	0	0	0	0	0	0	0
Viral Hemorrhagic Fever[1]	0	0	0	0	0	0	0	0	0	0
West Nile Virus Disease[1]	22	3	3	3	3	12	23	74	7	17
Western Equine Encephalitis[1]	0	0	0	0	0	0	0	0	0	0
Yellow Fever	0	0	0	0	0	0	0	0	0	0

1 For information on what is included in this disease category, see the paragraph on Florida Disease Codes in Merlin within Interpreting the Data in the Introduction (page ix).

NR Not reportable.

Note that changes in disease case definitions can affect case counts over time. For information on case definition changes that affected case counts, refer to the disease-specific chapters in Section 2.

Table 3: Reported Confirmed and Probable Cases and Incidence Rates (Per 100,000 Population) of Reportable Diseases/Conditions of Frequent Occurrence by Age Group1, Florida, 2014

Reportable Disease/Condition	<1 years		1-4 years		5-9 years		10-14 years		15-19 years		20-24 years		25-34 years		35-44 years		45-54 years		55-64 years		65-74 years		75-84 years		85+ years	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
AIDS	4	--	1	--	1	--	4	--	16	--	137	10.4	543	22.2	528	22.5	681	25.2	358	13.9	78	4.0	18	--	1	--
Campylobacteriosis	92	42.4	310	35.0	127	11.2	100	8.7	116	9.7	108	8.2	208	8.5	195	8.3	234	8.7	270	10.5	249	12.8	135	11.8	51	10.3
Carbon Monoxide Poisoning	0	--	5	--	3	--	0	--	6	--	5	--	18	--	21	0.9	38	1.4	34	1.3	14	--	5	--	8	--
Chikungunya Fever	1	--	5	--	3	--	14	--	11	--	13	--	54	2.2	72	3.1	84	3.1	91	3.5	58	3.0	32	2.8	4	--
Chlamydia	10	--	0	--	3	--	603	52.6	20,753	1740.0	33,484	2552.0	22,455	917.1	4,734	201.8	1,578	58.5	478	18.6	72	3.7	11	--	1	--
Ciguatera Fish Poisoning	0	--	1	--	1	--	3	--	1	--	1	--	6	--	17	--	11	--	14	--	4	--	4	--	0	--
Creutzfeldt-Jakob Disease (CJD)	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	5	--	5	--	6	--	8	--	0	--
Cryptosporidiosis	52	24.0	480	54.1	243	21.5	129	11.3	68	5.7	106	8.1	290	11.8	225	9.6	104	3.9	82	3.2	73	3.7	37	3.2	16	--
Cyclosporiasis	0	--	0	--	0	--	0	--	0	--	1	--	3	--	3	--	12	--	7	--	4	--	2	--	1	--
Dengue Fever[2]	0	--	0	--	1	--	5	--	2	--	1	--	7	--	22	0.9	18	--	21	0.8	11	--	4	--	0	--
Ehrlichiosis[2]	0	--	0	--	1	--	1	--	0	--	0	--	0	--	3	--	4	--	5	--	7	--	4	--	4	--
Giardiasis, Acute	28	12.9	225	25.4	117	10.3	46	4.0	47	3.9	61	4.6	125	5.1	112	4.8	163	6.0	104	4.0	97	5.0	30	2.6	10	--
Gonorrhea	0	--	2	--	5	--	142	12.4	3,628	304.2	6,927	528.0	6,447	263.3	2,133	90.9	1,169	43.3	406	15.8	73	3.7	10	--	1	--
HIV Infection	10	--	2	--	2	--	6	--	150	12.6	697	53.1	1,367	55.8	891	38.0	935	34.6	426	16.5	102	5.2	23	2.0	2	--
Haemophilus influenzae Invasive Disease in Children <5 Years Old[2,3]	16	--	16	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
Hepatitis A	0	--	1	--	2	--	3	--	7	--	4	--	17	--	19	--	12	--	19	--	13	--	5	--	5	--
Hepatitis B, Acute	0	--	0	--	0	--	0	--	4	--	6	--	84	3.4	144	6.1	103	3.8	44	1.7	17	--	5	--	1	--
Hepatitis B, Surface Antigen in Pregnant Women[4]	0	--	0	--	0	--	0	--	6	--	79	12.3	324	26.7	100	8.4	1	--	0	--	0	--	0	--	0	--
Hepatitis C, Acute	0	--	0	--	0	--	0	--	4	--	27	2.1	83	3.4	41	1.7	22	0.8	5	--	1	--	0	--	0	--
Lead Poisoning	8	--	133	15.0	28	2.5	26	2.3	15	--	54	4.1	102	4.2	116	4.9	111	4.1	53	2.1	14	--	7	--	2	--
Legionellosis	0	--	0	--	0	--	0	--	1	--	0	--	11	--	15	--	59	2.2	59	2.3	46	2.4	60	5.3	29	5.8
Listeriosis[2]	2	--	0	--	0	--	0	--	0	--	1	--	2	--	7	--	2	--	5	--	13	--	11	--	6	--
Lyme Disease	0	--	4	--	16	--	10	--	6	--	5	--	17	--	12	--	12	--	28	1.1	32	1.6	13	--	0	--
Malaria	0	--	0	--	2	--	0	--	1	--	7	--	13	--	8	--	9	--	6	--	5	--	1	--	0	--
Meningitis, Bacterial or Mycotic	54	24.9	1	--	2	--	3	--	2	--	2	--	6	--	8	--	16	--	18	--	10	--	9	--	1	--
Meningococcal Disease	4	--	6	--	1	--	1	--	4	--	3	--	9	--	6	--	5	--	3	--	6	--	0	--	2	--
Pertussis	193	88.9	132	14.9	99	8.7	100	8.7	54	4.5	12	--	38	1.6	30	1.3	26	1.0	19	--	10	--	6	--	0	--
Pesticide-Related Illness and Injury, Acute[5]	0	--	0	--	0	--	1	--	1	--	7	--	18	--	10	--	16	--	13	--	9	--	0	--	0	--
Rabies, Possible Exposure	54	24.9	105	11.8	168	14.8	144	12.6	201	16.9	258	19.7	523	21.4	403	17.2	472	17.5	340	13.2	221	11.3	87	7.6	18	--
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis[2]	0	--	1	--	0	--	1	--	1	--	1	--	4	--	1	--	4	--	8	--	4	--	4	--	0	--
Salmonellosis	1,092	503.2	1,217	137.3	460	40.6	234	20.4	171	14.3	196	14.9	370	15.1	335	14.3	457	16.9	499	19.4	492	25.2	360	31.5	136	27.3
Shiga Toxin-Producing *Escherichia coli* (STEC) Infection[2]	5	--	34	3.8	16	--	6	--	7	--	5	--	16	--	7	--	5	--	5	--	8	--	2	--	1	--
Shigellosis	41	18.9	762	85.9	741	65.4	164	14.3	61	5.1	89	6.8	223	9.1	109	4.6	92	3.4	46	1.8	45	2.3	13	--	10	--
Streptococcus pneumoniae Invasive Disease, Drug-Resistant	15	--	45	5.1	15	--	2	--	4	--	3	--	14	--	26	1.1	56	2.1	67	2.6	59	3.0	52	4.6	33	6.6
Streptococcus pneumoniae Invasive Disease, Drug-Susceptible	5	--	24	2.7	16	--	4	--	3	--	9	--	21	0.9	26	1.1	59	2.2	89	3.5	62	3.2	46	4.0	37	7.4
Syphilis	49	22.6	0	--	0	--	3	--	238	20.0	960	73.2	1,854	75.7	1,306	55.7	1,164	43.1	404	15.7	103	5.3	26	2.3	5	--
Tuberculosis	3	--	12	--	3	--	5	--	21	1.8	47	3.6	72	2.9	92	3.9	126	4.7	106	4.1	57	2.9	34	3.0	17	--
Varicella (Chickenpox)	51	23.5	113	12.8	136	12.0	77	6.7	47	3.9	27	2.1	46	1.9	29	1.2	24	0.9	7	--	4	--	8	--	1	--
Vibriosis (Excluding Cholera)[2]	0	--	3	--	14	--	8	--	7	--	8	--	13	--	20	0.9	23	0.9	26	1.0	26	1.3	16	--	2	--

1 Age is unknown for 14 chlamydia cases, two gonorrhea cases, and one rabies, possible exposure case.
2 For information on what is included in this disease category, see the paragraph on Florida Disease Codes in Merlin within Interpreting the Data in the Introduction (page ix).
3 Rate is per 100,000 children <5 years old.
4 Rate is per 100,000 women aged 15-44 years.
5 Acute pesticide-related illness and injury counts include suspect cases, unlike other diseases in this report.
— Not applicable. Rates calculated for less than 20 cases are unreliable and therefore are not included in this table. Rates for hepatitis B surface antigen in pregnant women are only calculated for women aged 15-44 years.

Note that this table includes all diseases from Table 1 except animal rabies.

Table 4: Top 10 Reported Confirmed and Probable Cases of Reportable Diseases/Conditions by Age Group, Florida, 2014

	Age Group												
Rank	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Salmonellosis (Count: 1,092) (Rate: 503.2)	Salmonellosis (Count: 1,217) (Rate: 137.3)	Shigellosis (Count: 741) (Rate: 65.4)	Chlamydia (Count: 603) (Rate: 52.6)	Chlamydia (Count: 20,753) (Rate: 1,740.1)	Chlamydia (Count: 33,484) (Rate: 2,552.1)	Chlamydia (Count: 22,455) (Rate: 917.1)	Chlamydia (Count: 4,734) (Rate: 201.8)	Chlamydia (Count: 1,578) (Rate: 58.4)	Salmonellosis (Count: 499) (Rate: 19.4)	Salmonellosis (Count: 492) (Rate: 25.2)	Salmonellosis (Count: 360) (Rate: 31.5)	Salmonellosis (Count: 136) (Rate: 27.3)
2	Pertussis (Count: 193) (Rate: 88.9)	Shigellosis (Count: 762) (Rate: 85.9)	Salmonellosis (Count: 460) (Rate: 40.6)	Salmonellosis (Count: 234) (Rate: 20.4)	Gonorrhea (Count: 3,628) (Rate: 304.2)	Gonorrhea (Count: 6,927) (Rate: 528.0)	Gonorrhea (Count: 6,447) (Rate: 263.3)	Gonorrhea (Count: 2,133) (Rate: 90.9)	Gonorrhea (Count: 1,169) (Rate: 43.3)	Chlamydia (Count: 478) (Rate: 18.6)	Campylobacteriosis (Count: 249) (Rate: 12.8)	Campylobacteriosis (Count: 135) (Rate: 11.8)	*S. pneumoniae* Invasive Disease (Count: 70) (Rate: 14.1)
3	Campylobacteriosis (Count: 92) (Rate: 42.4)	Cryptosporidiosis (Count: 480) (Rate: 54.1)	Cryptosporidiosis (Count: 243) (Rate: 21.4)	Shigellosis (Count: 164) (Rate: 14.3)	Syphilis (Count: 238) (Rate: 20.0)	Syphilis (Count: 960) (Rate: 73.2)	Syphilis (Count: 1,854) (Rate: 75.7)	Syphilis (Count: 1,306) (Rate: 55.7)	Syphilis (Count: 1,164) (Rate: 43.1)	HIV Infection (Count: 426) (Rate: 16.5)	Rabies, Possible Exposure (Count: 221) (Rate: 11.3)	*S. pneumoniae* Invasive Disease (Count: 98) (Rate: 8.6)	Campylobacteriosis (Count: 51) (Rate: 10.3)
4	Meningitis, Bacterial or Mycotic (Count: 54) (Rate: 24.9)	Campylobacteriosis (Count: 310) (Rate: 35.0)	Rabies, Possible Exposure (Count: 168) (Rate: 14.8)	Rabies, Possible Exposure (Count: 144) (Rate: 12.6)	Rabies, Possible Exposure (Count: 201) (Rate: 16.9)	HIV Infection (Count: 697) (Rate: 53.1)	HIV Infection (Count: 1,367) (Rate: 55.8)	HIV Infection (Count: 891) (Rate: 38.0)	HIV Infection (Count: 935) (Rate: 34.6)	Gonorrhea (Count: 406) (Rate: 15.8)	*S. pneumoniae* Invasive Disease (Count: 121) (Rate: 6.2)	Rabies, Possible Exposure (Count: 87) (Rate: 7.6)	Legionellosis (Count: 29) (Rate: 5.8)
5	Rabies, Possible Exposure (Count: 54) (Rate: 24.9)	Giardiasis, Acute (Count: 225) (Rate: 25.4)	Varicella (Chickenpox) (Count: 136) (Rate: 12.0)	Gonorrhea (Count: 142) (Rate: 12.4)	Salmonellosis (Count: 171) (Rate: 14.3)	Rabies, Possible Exposure (Count: 258) (Rate: 19.7)	AIDS (Count: 543) (Rate: 22.2)	AIDS (Count: 528) (Rate: 22.5)	AIDS (Count: 681) (Rate: 25.2)	Syphilis (Count: 404) (Rate: 15.7)	Syphilis (Count: 103) (Rate: 5.3)	Legionellosis (Count: 60) (Rate: 5.3)	Rabies, Possible Exposure (Count: 18) --
6	Cryptosporidiosis (Count: 52) (Rate: 24.0)	Lead Poisoning (Count: 133) (Rate: 15.0)	Campylobacteriosis (Count: 127) (Rate: 11.2)	Cryptosporidiosis (Count: 129) (Rate: 11.3)	HIV Infection (Count: 150) (Rate: 12.6)	Salmonellosis (Count: 196) (Rate: 14.9)	Rabies, Possible Exposure (Count: 523) (Rate: 21.4)	Rabies, Possible Exposure (Count: 403) (Rate: 17.2)	Rabies, Possible Exposure (Count: 472) (Rate: 17.5)	AIDS (Count: 358) (Rate: 13.9)	HIV Infection (Count: 102) (Rate: 5.2)	Cryptosporidiosis (Count: 37) (Rate: 3.2)	Tuberculosis (Count: 17) --
7	Varicella (Chickenpox) (Count: 51) (Rate: 23.5)	Pertussis (Count: 132) (Rate: 14.9)	Giardiasis, Acute (Count: 117) (Rate: 10.3)	Campylobacteriosis (Count: 100) (Rate: 8.7)	Campylobacteriosis (Count: 116) (Rate: 9.7)	AIDS (Count: 137) (Rate: 10.4)	Salmonellosis (Count: 370) (Rate: 15.1)	Salmonellosis (Count: 335) (Rate: 14.3)	Salmonellosis (Count: 457) (Rate: 16.9)	Rabies, Possible Exposure (Count: 340) (Rate: 13.2)	Giardiasis, Acute (Count: 97) (Rate: 5.0)	Tuberculosis (Count: 34) (Rate: 3.0)	Cryptosporidiosis (Count: 16) --
8	Syphilis (Count: 49) (Rate: 22.6)	Varicella (Chickenpox) (Count: 113) (Rate: 12.7)	Pertussis (Count: 99) (Rate: 8.7)	Pertussis (Count: 100) (Rate: 8.7)	Cryptosporidiosis (Count: 68) (Rate: 5.7)	Campylobacteriosis (Count: 108) (Rate: 8.2)	Hepatitis B, Surface Antigen in Pregnant Women (Count: 324) (Rate: 26.7)	Cryptosporidiosis (Count: 225) (Rate: 9.6)	Campylobacteriosis (Count: 234) (Rate: 8.7)	Campylobacteriosis (Count: 270) (Rate: 10.5)	AIDS (Count: 78) (Rate: 4.0)	Chikungunya Fever (Count: 32) (Rate: 2.8)	Giardiasis, Acute (Count: 10) --
9	Shigellosis (Count: 41) (Rate: 18.9)	Rabies, Possible Exposure (Count: 105) (Rate: 11.8)	*S. pneumoniae* Invasive Disease (Count: 31) (Rate: 2.7)	Varicella (Chickenpox) (Count: 77) (Rate: 6.7)	Shigellosis (Count: 61) (Rate: 5.1)	Cryptosporidiosis (Count: 106) (Rate: 8.1)	Cryptosporidiosis (Count: 290) (Rate: 11.8)	Campylobacteriosis (Count: 195) (Rate: 8.3)	Giardiasis, Acute (Count: 163) (Rate: 6.0)	*S. pneumoniae* Invasive Disease (Count: 156) (Rate: 6.1)	Cryptosporidiosis (Count: 73) (Rate: 3.7)	Giardiasis, Acute (Count: 30) (Rate: 2.6)	Shigellosis (Count: 10) --
10	Giardiasis, Acute (Count: 28) (Rate: 12.9)	*S. pneumoniae* Invasive Disease (Count: 69) (Rate: 7.8)	Lead Poisoning (Count: 28) (Rate: 2.5)	Giardiasis, Acute (Count: 46) (Rate: 4.0)	Pertussis (Count: 54) (Rate: 4.5)	Shigellosis (Count: 89) (Rate: 6.8)	Shigellosis (Count: 223) (Rate: 9.1)	Hepatitis B, Acute (Count: 144) (Rate: 6.1)	Tuberculosis (Count: 126) (Rate: 4.7)	Tuberculosis (Count: 106) (Rate: 4.1)	Gonorrhea (Count: 73) (Rate: 3.7)	Syphilis (Count: 26) (Rate: 2.3)	Carbon Monoxide Poisoning (Count: 8) --

— Not applicable. Rates calculated for less than 20 cases are unreliable and therefore are not included in this table.

Table 4 includes the top 10 diseases based on frequency of report by age group. These diseases are grouped by color into a few general disease categories:

Enteric Diseases	Sexually Transmitted Diseases	Environmental Poisonings	Vector-Borne Diseases
Vaccine-Preventable Diseases	HIV/AIDS	Tuberculosis	Invasive Bacterial Diseases

Table 5: Reported Confirmed and Probable Cases of Reportable Diseases/Conditions of Frequent Occurrence by Month of Occurrence[1], Florida, 2014

Selected Reportable Diseases	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Campylobacteriosis	178	160	183	184	195	229	242	188	167	152	164	153
Carbon Monoxide Poisoning	22	8	11	9	10	7	16	12	10	14	16	22
Chikungunya Fever	0	0	1	2	37	77	75	61	80	76	22	11
Ciguatera Fish Poisoning	0	5	0	0	9	0	6	18	10	3	6	6
Creutzfeldt-Jakob Disease (CJD)	1	1	3	2	2	3	0	3	0	3	4	2
Cryptosporidiosis	39	36	34	43	39	106	308	490	428	219	78	85
Cyclosporiasis	1	1	0	1	1	14	9	4	2	0	0	0
Dengue Fever[2]	12	3	1	3	1	14	13	11	12	8	4	10
Ehrlichiosis[2]	0	2	2	5	6	11	1	0	0	2	0	0
Giardiasis, Acute	67	78	99	98	99	82	128	129	108	111	77	89
Haemophilus influenzae Invasive Disease in Children <5 Years Old[2]	3	2	6	2	5	2	3	1	1	3	1	3
Hepatitis A	11	10	10	12	10	9	7	9	7	7	5	10
Hepatitis B, Acute	27	32	31	38	34	32	32	35	41	37	33	36
Hepatitis B, Surface Antigen in Pregnant Women	42	47	63	46	46	43	47	32	34	51	29	30
Hepatitis C, Acute	13	12	17	31	14	16	11	15	9	19	8	18
Lead Poisoning	59	43	30	31	45	43	78	89	52	46	70	83
Legionellosis	15	20	18	25	18	31	30	27	31	27	20	18
Listeriosis[2]	3	0	3	2	2	2	7	8	6	8	6	2
Lyme Disease	6	4	4	2	15	24	45	30	11	3	9	2
Malaria	4	1	2	3	8	8	8	6	2	3	3	4
Meningitis, Bacterial or Mycotic	10	9	11	16	12	14	10	10	7	8	8	17
Meningococcal Disease	6	2	4	2	8	3	1	1	8	6	5	4
Pertussis	65	61	58	58	83	111	89	44	29	36	26	59
Pesticide-Related Illness and Injury, Acute[3]	8	2	1	1	1	2	1	33	8	15	2	1
Rabies, Animal[4]	6	10	4	9	11	1	5	11	9	9	3	16
Rabies, Possible Exposure[5]	185	227	220	262	276	250	295	292	233	264	227	264
Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis[2]	0	1	5	3	4	2	8	2	2	0	0	2
Salmonellosis	327	207	297	307	485	500	742	726	804	810	413	401
Shiga Toxin-Producing *Escherichia coli* (STEC) Infection[2]	9	11	9	8	10	18	17	5	8	5	10	7
Shigellosis	97	158	247	275	313	263	193	155	143	265	158	129
Streptococcus pneumoniae Invasive Disease, Drug-Resistant	46	72	70	50	30	28	11	9	10	10	19	36
Streptococcus pneumoniae Invasive Disease, Drug-Susceptible	68	84	54	35	32	19	13	6	12	14	14	50
Varicella (Chickenpox)	47	52	69	50	63	35	29	36	66	34	38	51
Vibriosis (Excluding Cholera)[2]	3	5	9	14	20	16	33	19	23	17	4	3

1 The earliest date associated with the case was used to determine month of occurrence, unless otherwise noted. Dates associated with cases include illness onset date, diagnosis date, laboratory report date, and the date local health office was notified.

2 For information on what is included in this disease category, see the paragraph on Florida Disease Codes in Merlin within Interpreting the Data in the Introduction (page ix).

3 Acute pesticide-related illness and injury counts include suspect cases, unlike other diseases in this report.

4 Month of occurrence is based on the month of laboratory report.

5 Month of occurrence is based on the month of exposure.

Note that this table includes all diseases from Table 1 except AIDS, chlamydia, gonorrhea, HIV infection, syphilis, and tuberculosis.

Section 2

Data Summaries for Selected Reportable Diseases/Conditions of Frequent Occurrence

AIDS

Disease Facts

Cause: HIV

Type of illness: Decreased immune system function allows opportunistic infections and tumors to develop that do not usually affect people who have healthy immune systems

Transmission: Anal or vaginal sex; blood exposure (e.g., sharing drug needles, receiving infected blood transfusion [rare due to donor screening]); or from mother to child during pregnancy, delivery or breast-feeding

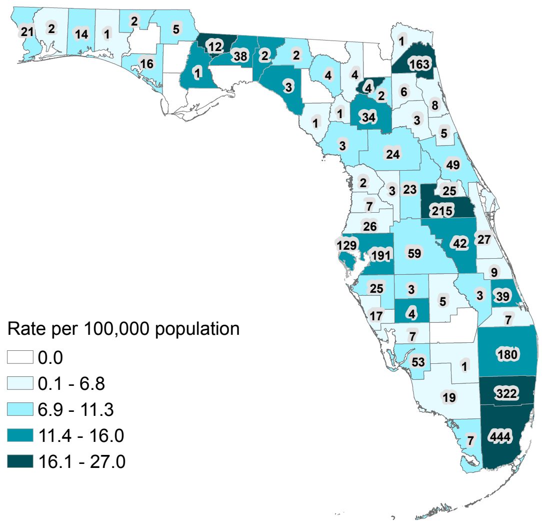
Reason for surveillance: Enhance efforts to prevent HIV transmission, improve allocation of resources for treatment services, and assist in evaluating the impact of public health interventions

Comments: The expansion of electronic laboratory reporting in 2007 and 2012 led to artificial peaks in newly reported cases in 2008 and 2013. AIDS cases in 2014 dropped by 20% from the previous year. Expanded efforts to link and retain people in care may have contributed to the decrease.

Summary of Case Demographics

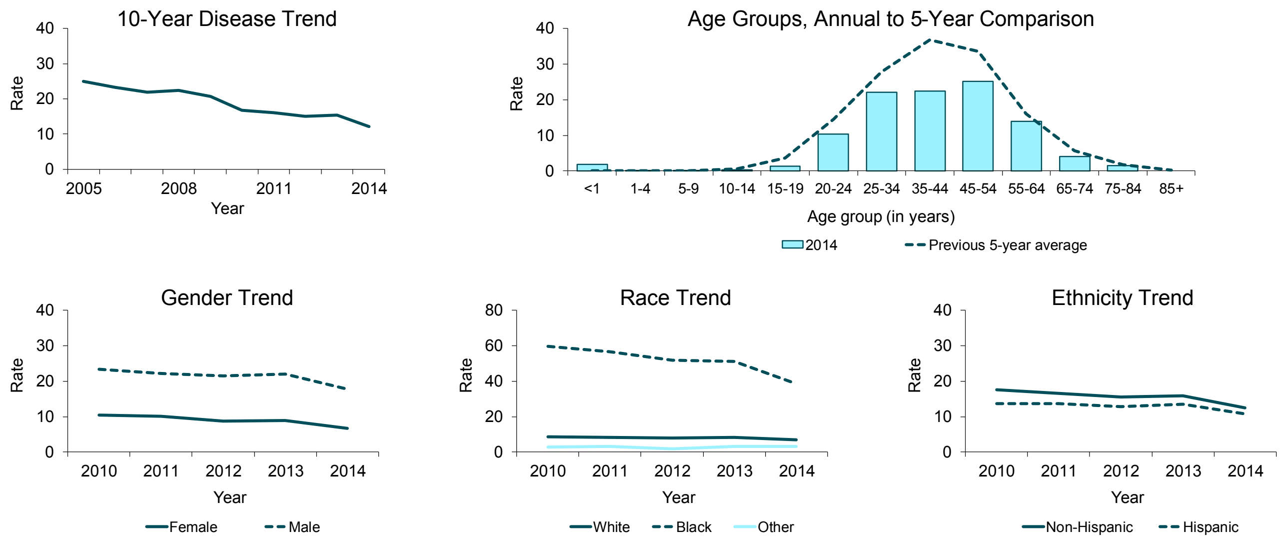
Summary			
Number of cases			2,370
Incidence rate (per 100,000 population)			12.1
Change from 5-year average incidence			-27.6%
Age (in years)			
Mean			43
Median			43
Min-max			0 - 86
Gender	**Number**	**(Percent)**	**Rate**
Female	675	(28.5)	6.8
Male	1,695	(71.5)	17.7
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	1,061	(45.1)	6.9
Black	1,260	(53.6)	38.6
Other	31	(1.3)	3.1
Unknown race	18		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	1,857	(78.7)	12.5
Hispanic	502	(21.3)	10.7
Unknown ethnicity	11		

Reported AIDS Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=2,370)



County totals exclude Department of Corrections cases (n=45).
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported AIDS Incidence Rates Per 100,000 Population
by Year, Age, Gender, Race, and Ethnicity, Florida



Additional Information

For AIDS cases, men are disproportionately impacted compared to women. In 2014 cases reported in adult men, male-to-male sexual contact was the most common risk factor (64.6%), followed by heterosexual contact (25.1%).

In 2014, blacks were over-represented among AIDS cases, accounting for 44.2% of adult cases among men and 67.8% of the adult cases among women.

For information on HIV, please see the HIV chapter within this section (page 43).

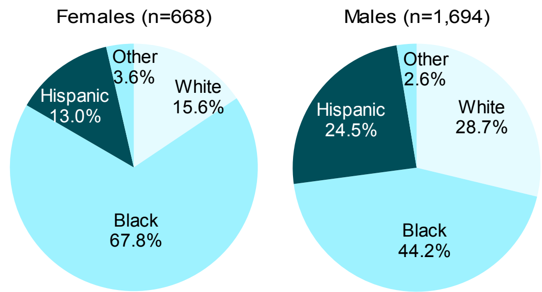
Please visit the AIDS Surveillance website to access additional information at www.FloridaHealth.gov/diseases-and-conditions/aids/surveillance/index.html.

To locate services across the state please visit www.FloridaHealth.gov/diseases-and-conditions/aids/index.html.

Reported Adult (13 Years and Older) AIDS Cases by Gender and Mode of Exposure, Florida, 2014

Mode of exposure	Females cases (n=668)	Males cases (n=1,694)
	Number (percent)	Number (percent)
Men who have sex with men (MSM)	NA	1,095 (64.6)
Heterosexual	576 (86.2)	425 (25.1)
Injection drug user (IDU)	82 (12.3)	111 (6.6)
MSM and IDU	NA	58 (3.4)
Other	10 (1.5)	5 (0.3)
Total	668	1,694

Reported Adult (13 Years and Older) AIDS Cases by Gender and Race/Ethnicity, Florida, 2014



Campylobacteriosis

Disease Facts

Cause: *Campylobacter* bacteria

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; including person-to-person, animal-to-person, foodborne, and waterborne

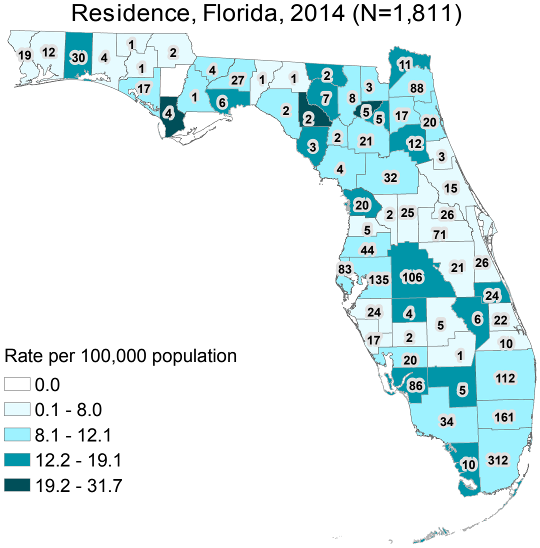
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: The use of culture-independent diagnostic testing for *Campylobacter* has increased sharply in recent years. Florida changed the campylobacteriosis surveillance case definition in January and July 2011 to adapt to this change, increasing the number of reported cases. Due to the change in the surveillance case definition, there were approximately seven months in 2011 when positive enzyme immunoassay (EIA) tests were included as part of the probable case definition.

Summary of Case Demographics

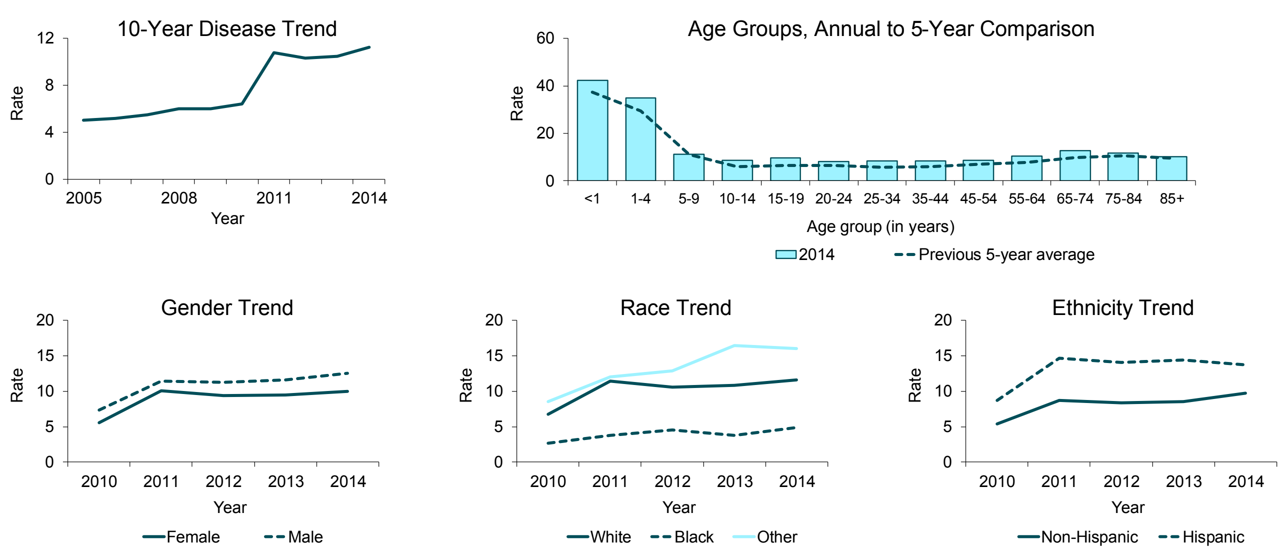
Summary			
Number of cases			2,195
Incidence rate (per 100,000 population)			11.2
Change from 5-year average incidence			+27.6%
Age (in years)			
Mean			37
Median			37
Min-max			0 - 96
Gender	**Number**	**(Percent)**	**Rate**
Female	999	(45.5)	10.0
Male	1,196	(54.5)	12.5
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	1,779	(84.8)	11.6
Black	159	(7.6)	4.9
Other	160	(7.6)	16.0
Unknown race	97		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	1,453	(69.4)	9.8
Hispanic	642	(30.6)	13.7
Unknown ethnicity	100		

Reported Campylobacteriosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=1,811)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Campylobacteriosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



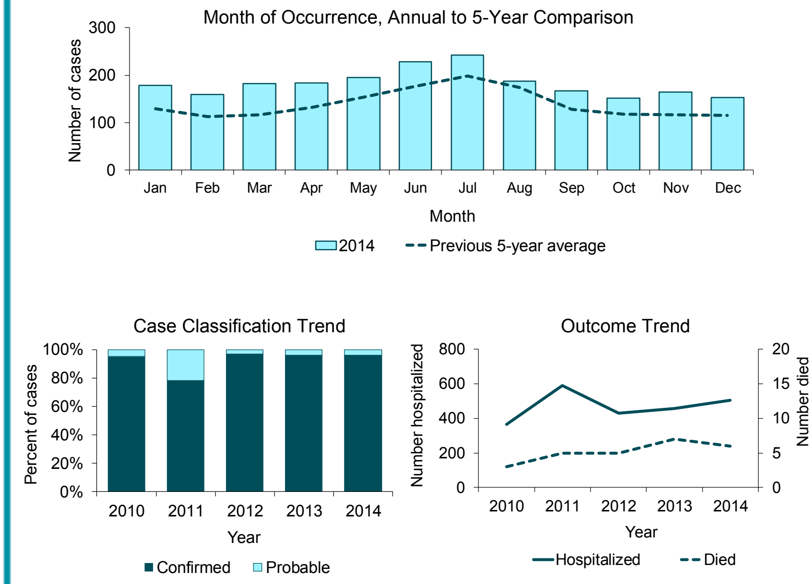
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Campylobacteriosis cases were missing 6.2% of ethnicity data in 2011, 5.1% of race data in 2011, 6.1% of ethnicity data in 2012, 6.2% of race data in 2012, 5.2% of ethnicity data in 2013, and 5.1% of race data in 2013.

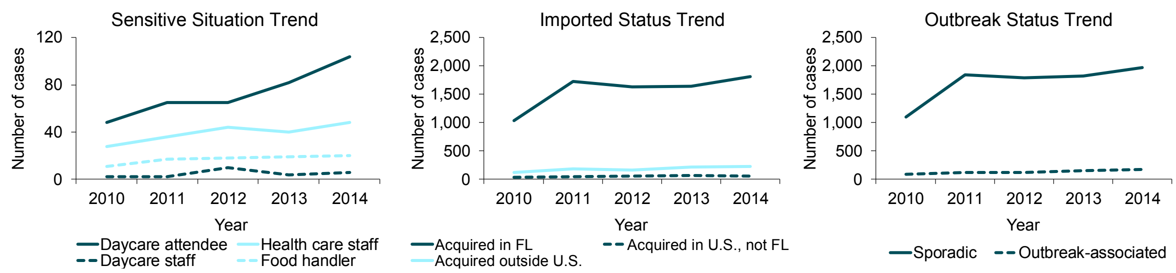
Campylobacteriosis

Summary of Case Factors

Summary	Number
Number of cases	2,195
Case classification	**Number (Percent)**
Confirmed	2,114 (96.3)
Probable	81 (3.7)
Outcome	**Number (Percent)**
Hospitalized	504 (23.0)
Died	6 (0.3)
Sensitive situation	**Number (Percent)**
Daycare attendee	104 (4.7)
Daycare staff	6 (0.3)
Health care staff	48 (2.2)
Food handler	20 (0.9)
Imported status	**Number (Percent)**
Acquired in Florida	1,811 (82.5)
Acquired in the U.S., not Florida	55 (2.5)
Acquired outside the U.S.	233 (10.6)
Acquired location unknown	96 (4.4)
Outbreak status	**Number (Percent)**
Sporadic	1,976 (90.0)
Outbreak-associated	176 (8.0)
Outbreak status unknown	43 (2.0)

Reported Campylobacteriosis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida





Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

There has been an increase in the number of campylobacteriosis cases reported in daycare attendees starting in 2013. There have been no reported campylobacteriosis outbreaks in daycares in 2013 or 2014; outbreak-associated cases were reflective of household clusters. In addition, the distribution of cases in both 2013 and 2014 by age, gender, and county are all consistent with historical trends. This increase in reported cases, while currently unexplained, is being monitored.

Disease Facts

Cause: Carbon monoxide (CO) gas

Type of illness: Common symptoms include headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion; high levels of CO inhalation can cause loss of consciousness and death

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

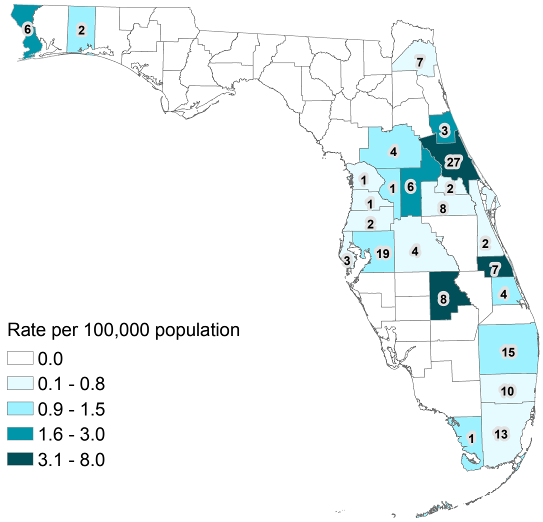
Reason for surveillance: Identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions, measure impact of public health interventions

Comments: CO poisoning became a reportable condition in Florida in late 2008, so only cases from 2009 to 2014 are presented in this report. CO poisonings are more common in people ≥35 years old with no distinct seasonal pattern in Florida. Cases in 2014 peaked in winter months, which is consistent with U.S. trends.

Summary of Case Demographics

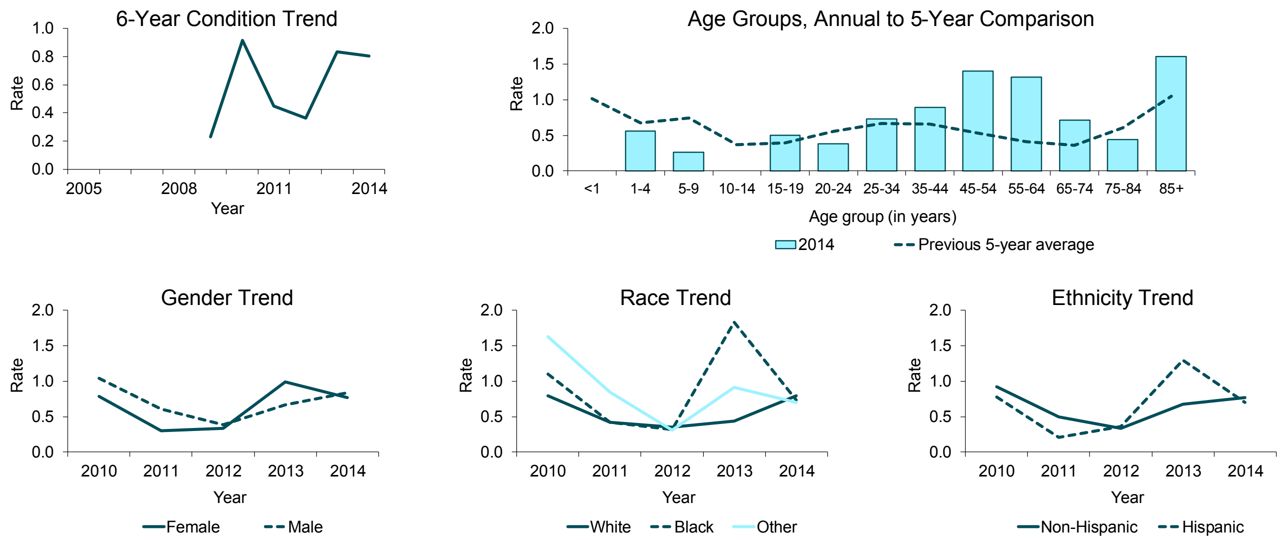
Summary			
Number of cases			157
Incidence rate (per 100,000 population)			0.8
Change from 5-year average incidence			+44.0%
Age (in years)			
Mean			48
Median			51
Min-max			1 - 95
Gender	**Number**	**(Percent)**	**Rate**
Female	77	(49.0)	0.8
Male	80	(51.0)	0.8
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	122	(79.7)	0.8
Black	24	(15.7)	0.7
Other	7	(4.6)	NA
Unknown race	4		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	114	(77.6)	0.8
Hispanic	33	(22.4)	0.7
Unknown ethnicity	10		

Reported Carbon Monoxide Poisoning Cases and Incidence Rates Per 100,000 Population (Restricted to Exposures Occurring in Florida) by County of Residence, Florida, 2014 (N=156)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Carbon Monoxide Poisoning Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



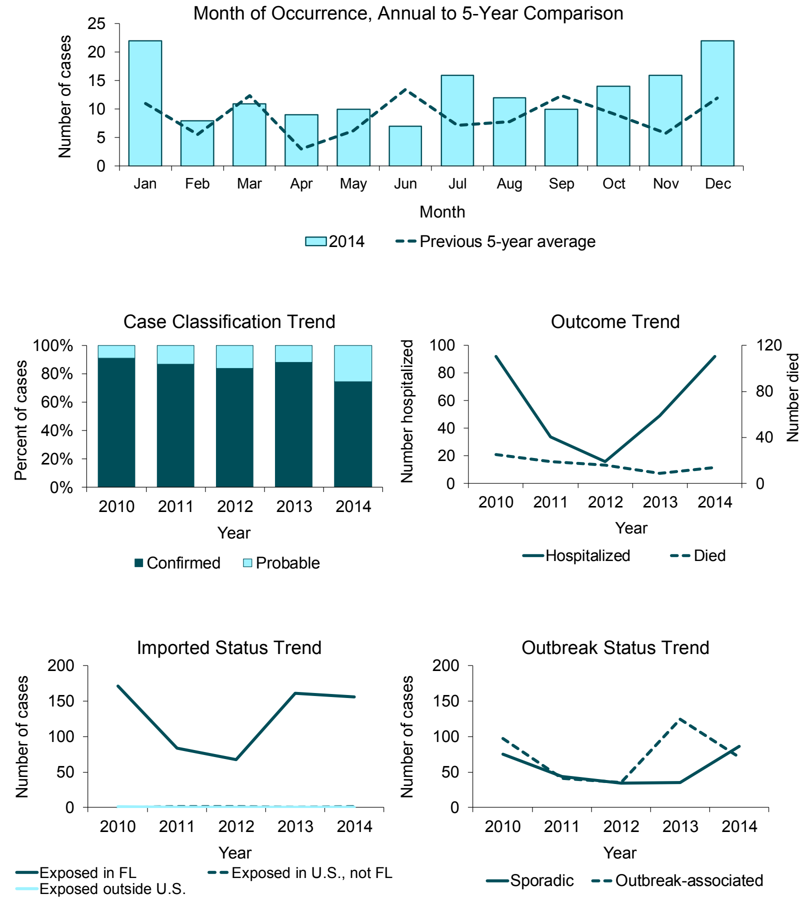
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Carbon monoxide poisoning cases were missing 5.8% of ethnicity data in 2012, 16.8% of race data in 2013, and 6.4% of ethnicity data in 2014.

Carbon Monoxide Poisoning

Summary of Case Factors

Summary	Number
Number of cases	157
Case classification	**Number (Percent)**
Confirmed	117 (74.5)
Probable	40 (25.5)
Outcome	**Number (Percent)**
Hospitalized	92 (58.6)
Died	14 (8.9)
Imported status	**Number (Percent)**
Exposed in Florida	156 (99.4)
Exposed in the U.S., not Florida	1 (0.6)
Exposed outside the U.S.	0 (0.0)
Exposed location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	86 (54.8)
Outbreak-associated	71 (45.2)
Outbreak status unknown	0 (0.0)

Reported Carbon Monoxide Poisoning Cases by Month of Occurrence, Case Classification, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the exposure most likely occurred. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Chikungunya Fever

Disease Facts

Cause: Chikungunya virus

Type of illness: Acute febrile illness with joint and muscle pain, headache, joint swelling, and rash; some symptoms can persist for months to years and relapse can occur

Transmission: Bite of infective mosquito, rarely by blood transfusion or organ transplant

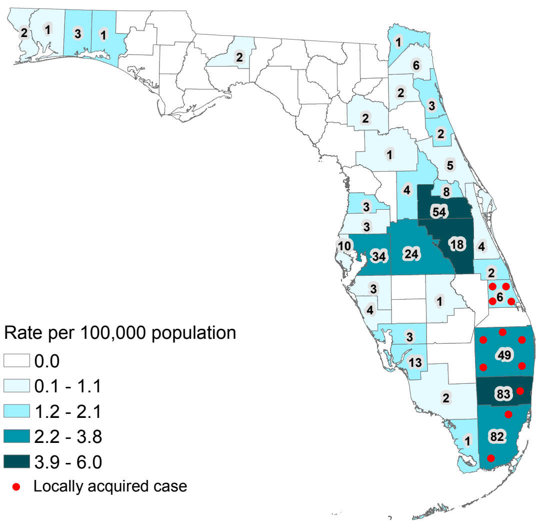
Reason for surveillance: Identify individual cases and implement control measures to prevent endemicity, monitor incidence over time, estimate burden of illness

Comments: The first autochthonous transmission of chikungunya virus in the Americas was reported on the island of St. Martin in December 2013. Since then, local transmission has been identified in countries throughout the Caribbean and the Americas. Prior to 2014, Florida had five imported cases of chikungunya, all of whom had traveled to Asia. Chikungunya fever became reportable in Florida in June 2014.

Summary of Case Demographics

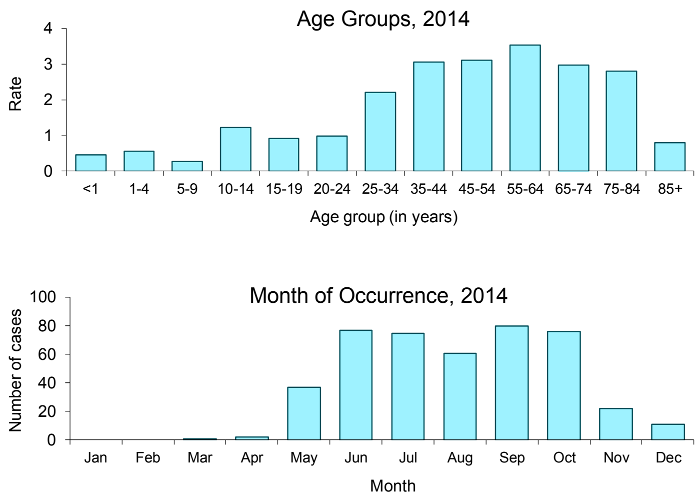
Summary			
Number of cases	442		
Age (in years)			
Mean	49		
Median	50		
Min-max	0 - 98		
Gender	**Number**	**(Percent)**	**Rate**
Female	267	(60.4)	2.7
Male	175	(39.6)	1.8
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	200	(45.8)	1.3
Black	153	(35.0)	4.7
Other	84	(19.2)	8.4
Unknown race	5		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	223	(51.6)	1.5
Hispanic	209	(48.4)	4.5
Unknown ethnicity	10		

Reported Chikungunya Fever Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=442)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Chikungunya Fever Incidence Rates Per 100,000 Population by Year and Cases by Month of Occurrence, Florida

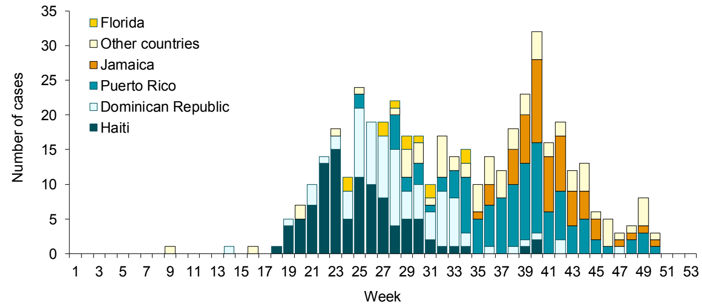


Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the local health office was notified of the case.

Additional Information

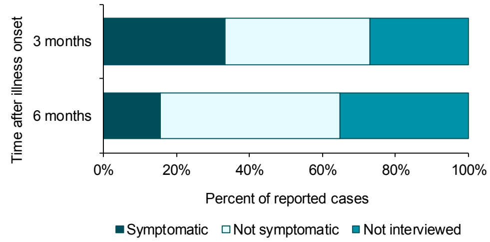
Summary	Number
Number of cases	442
Case classification	**Number (Percent)**
Confirmed	205 (46.4)
Probable	237 (53.6)
Outcome	**Number (Percent)**
Hospitalized	144 (32.6)
Died	0 (0.0)
Imported status	**Number (Percent)**
Acquired in Florida	12 (2.7)
Acquired in the U.S., not Florida	116 (26.2)
Acquired outside the U.S.	312 (70.6)
Acquired location unknown	2 (0.5)
Region where infection acquired	**Number (Percent)**
Central America/Caribbean	288 (67.3)
Puerto Rico (U.S.)	110 (25.7)
South America	19 (4.4)
Virgin Islands (U.S.)	6 (1.4)
Asia	5 (1.2)
Reason for travel	**Number (Percent)**
Visiting friends/relatives	325 (75.6)
Tourism	28 (6.5)
Missionary	21 (4.9)
Previous resident	10 (2.3)
Business	7 (1.6)
Other	7 (1.6)
Unknown	32 (7.4)

Reported Chikungunya Fever Cases by Location Infection Acquired and Week of Onset*, Florida, 2014



* Note that one case reported in 2014 had an onset in 2013 and is excluded from graph.

Reported Chikungunya Fever Cases Symptomatic Status at Three and Six Months After Onset, Florida, 2014



Interpretation:
For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired.

Additional Information

In total, 2,811 chikungunya virus disease cases in the U.S. were reported to the Centers for Disease Control and Prevention in 2014. Florida was the only state to report locally acquired cases. In 2014, 12 cases of locally acquired chikungunya fever were reported in residents of Palm Beach (five cases in July and August), St. Lucie (four cases in July and August), Miami-Dade (two cases in June), and Broward (one case in July) counties. Thirty-three non-Florida residents were also identified with chikungunya fever (note that this report only includes Florida residents in case counts). Both infected residents and non-residents pose a potential chikungunya virus introduction risk. The majority of Florida's imported chikungunya fever cases were acquired in four countries or territories: Puerto Rico (24.8%), Haiti (22.8%), Dominican Republic (19.9%), and Jamaica (13.6%). Initially, imported cases came mainly from Haiti and Dominican Republic then transitioned to predominantly Puerto Rico and Jamaica by the end of August. This pattern corresponds to the virus's spread throughout the Caribbean.

For infections acquired outside Florida, 74% of people indicated their reason for travel was to visit friends and family; this is important information to help direct targeted prevention messaging for dengue, chikungunya, and other emerging diseases in the Caribbean Basin.

Compared to other arboviral diseases like dengue fever, a higher percentage of chikungunya fever cases were in women and non-Hispanic people.

In Africa and Asia, chikungunya virus infections have been reported to cause persistent symptoms including arthralgia and myalgia that last months after infection in some patients. To better understand the long-term impact of chikungunya virus in Florida, cases with onsets in 2014 were interviewed three months after illness onset, and if still symptomatic, again six months after onset. At three months, 147 people (45.5% of the 323 people interviewed) were still symptomatic. Of the 147 people who were symptomatic at three months, 110 (74.8%) were interviewed again at six months, at which time 69 were still symptomatic. Overall, 69 people (24.1% of all those interviewed) were symptomatic at six months after initial illness onset, which supports findings in Africa and Asia.

Disease Facts

Cause: *Chlamydia trachomatis* bacteria

Type of illness: Frequently asymptomatic; sometimes abnormal discharge from vagina or penis or burning sensation when urinating

Transmission: Sexually transmitted disease (STD) spread by anal, vaginal, or oral sex and sometimes from mother to child during pregnancy or delivery

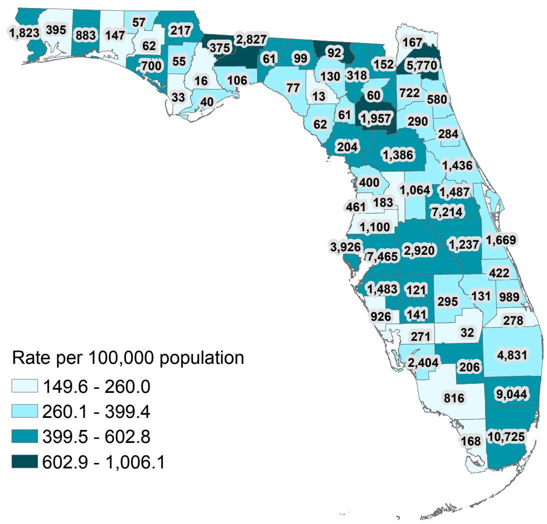
Reason for surveillance: Implement effective interventions immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Comments: Chlamydia is the most commonly reported STD in Florida and the U.S. Incidence is highest among 15- to 24-year-old women (partly due to emphasis on screening/treating women) and black people. Severe complications can occur in women, including pelvic inflammatory disease, infertility, and ectopic pregnancies.

Summary of Case Demographics

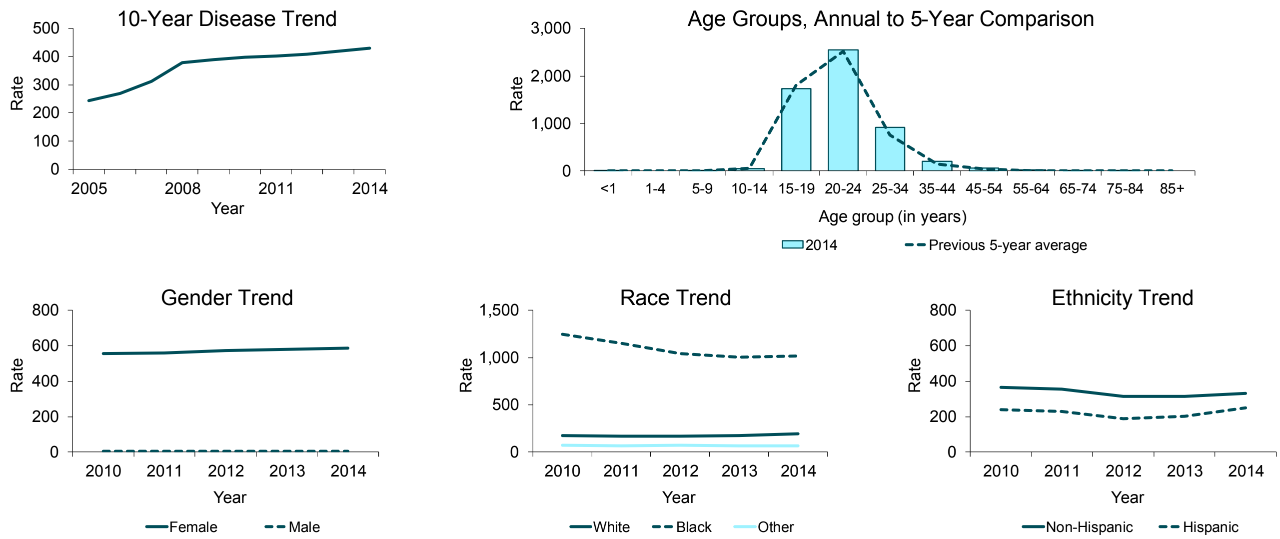
Summary			
Number of cases			84,196
Incidence rate (per 100,000 population)			430.7
Change from 5-year average incidence			+6.8%
Age (in years)			
Mean			24
Median			22
Min-max			0 - 90
Gender	**Number**	**(Percent)**	**Rate**
Female	58,805	(70.0)	588.5
Male	25,252	(30.0)	264.3
Unknown gender	139		
Race	**Number**	**(Percent)**	**Rate**
White	29,718	(46.8)	194.4
Black	33,135	(52.2)	1,015.2
Other	650	(1.0)	65.2
Unknown race	20,693		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	49,528	(80.9)	333.3
Hispanic	11,669	(19.1)	249.0
Unknown ethnicity	22,999		

Reported Chlamydia Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=84,196)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Chlamydia Incidence Rates Per 100,000 Population
by Year, Age, Gender, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Chlamydia cases were missing 15.4% of ethnicity data in 2010, 13.6% of race data in 2010, 18.9% of ethnicity data in 2011, 18.4% of race data in 2011, 30.0% of ethnicity data in 2012, 25.2% of race data in 2012, 31.3% of ethnicity data in 2013, 26.9% of race data in 2013, 27.3% of ethnicity data in 2014, and 24.6% of race data in 2014.

Disease Facts

Cause: Ciguatoxins produced by marine dinoflagellates associated with tropical/subtropical reef fish

Type of illness: Nausea, vomiting, and neurologic symptoms (e.g., tingling fingers or toes, temperature reversal); anecdotal evidence of long-term periodic recurring symptoms

Exposure: Foodborne; consuming fish contaminated with ciguatoxins

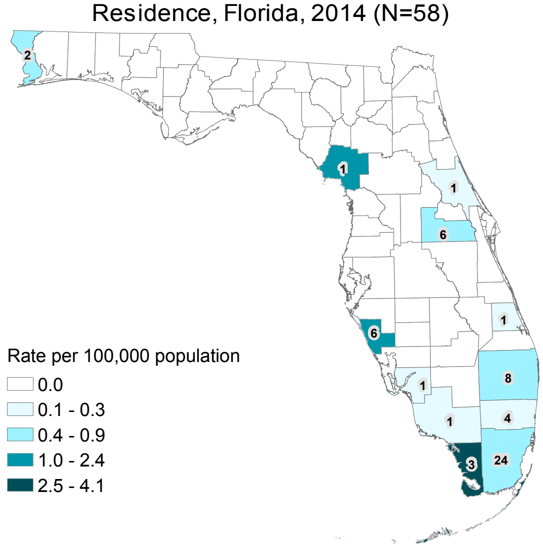
Reason for surveillance: Identify and control outbreaks, identify high-risk products (e.g., barracuda, grouper)

Comments: Outbreaks are usually associated with multiple people sharing an implicated fish. 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. 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.

Summary of Case Demographics

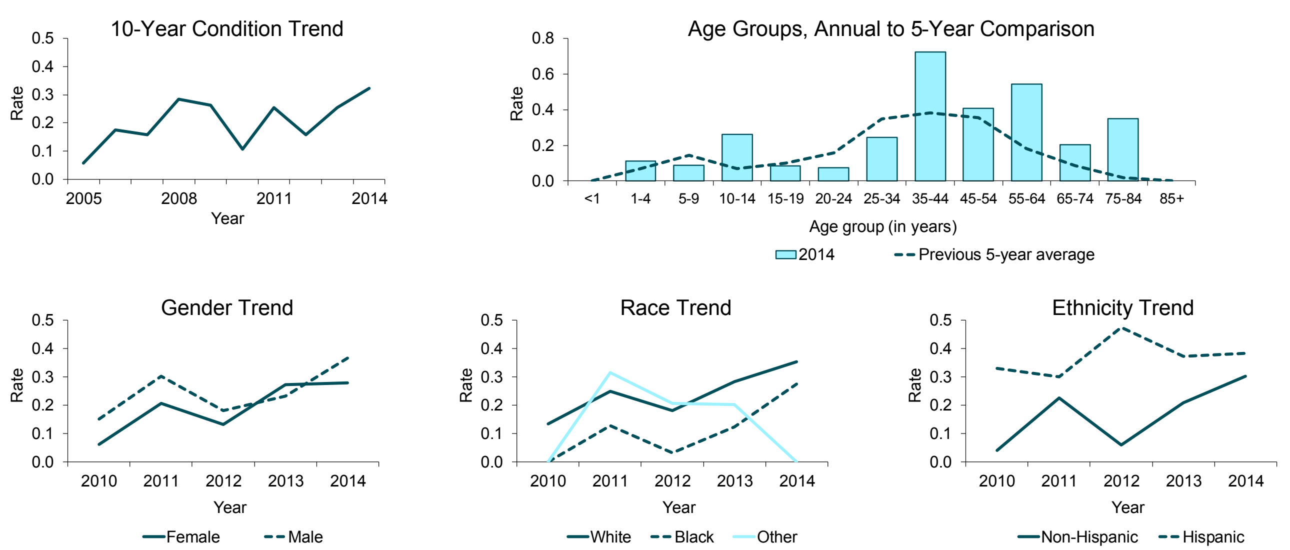
Summary			
Number of cases			63
Incidence rate (per 100,000 population)			0.3
Change from 5-year average incidence			+56.0%
Age (in years)			
Mean			45
Median			45
Min-max			2 - 78
Gender	**Number**	**(Percent)**	**Rate**
Female	28	(44.4)	0.3
Male	35	(55.6)	0.4
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	54	(85.7)	0.4
Black	9	(14.3)	NA
Other	0	(0.0)	NA
Unknown race	0		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	45	(71.4)	0.3
Hispanic	18	(28.6)	NA
Unknown ethnicity	0		

Reported Ciguatera Fish Poisoning Cases and Incidence Rates Per 100,000 Population (Restricted to Exposures Occurring in Florida) by County of Residence, Florida, 2014 (N=58)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Ciguatera Fish Poisoning Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



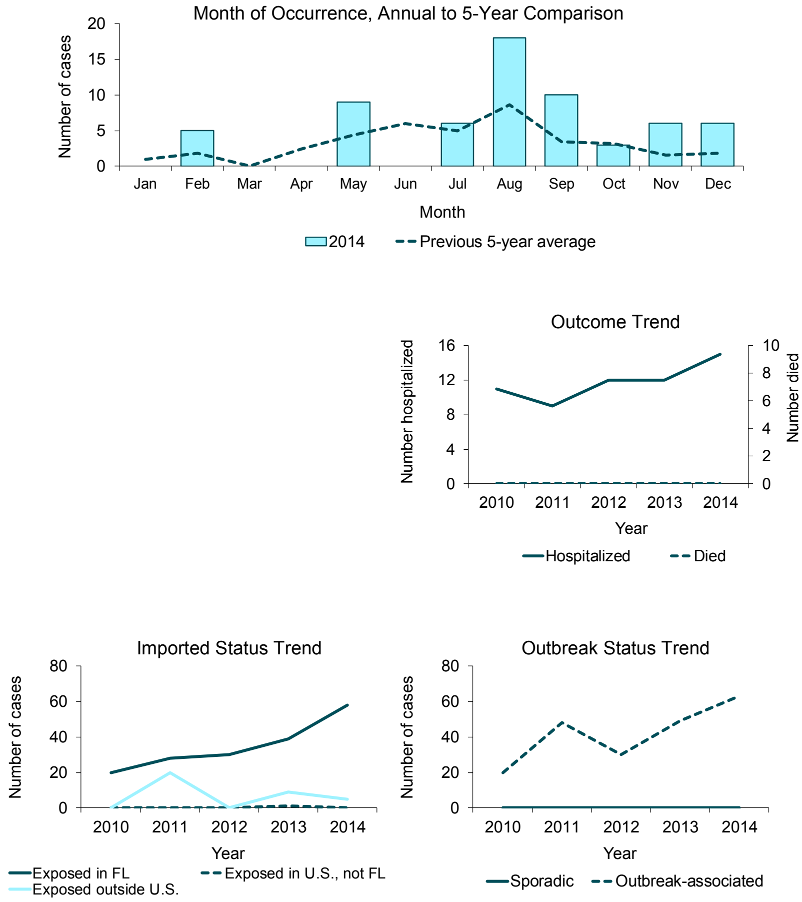
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ciguatera fish poisoning cases were missing 8.3% of race data in 2011.

Summary of Case Factors

Summary	Number
Number of cases	63
Outcome	**Number (Percent)**
Hospitalized	15 (23.8)
Died	0 (0.0)
Imported status	**Number (Percent)**
Exposed in Florida	58 (92.1)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	5 (7.9)
Exposed location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	0 (0.0)
Outbreak-associated	63 (100.0)
Outbreak status unknown	0 (0.0)

A single case of ciguatera fish poisoning is considered an outbreak in Florida because a single case warrants the same investigation as a cluster of cases. See Additional Information for more explanation of outbreaks involving more than one person.

Reported Ciguatera Fish Poisoning Cases by Month of Occurrence, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the exposure most likely occurred. A single case of ciguatera fish poisoning is considered an outbreak.

Additional Information

Among the 63 cases, there were 29 outbreaks, ranging from one case per outbreak to five, with an average of 2.2 cases per outbreak. The 29 outbreaks were associated with eating amberjack (9), grouper (8), barracuda (6), snapper (2), hogfish (1), yellow jack (1), and wahoo (1). One outbreak was associated with an unknown fish species. Outbreaks were more commonly associated with recreationally caught fish.

Cryptosporidiosis

Disease Facts

Cause: *Cryptosporidium* parasites

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; including person-to-person, animal-to-person, waterborne, and foodborne

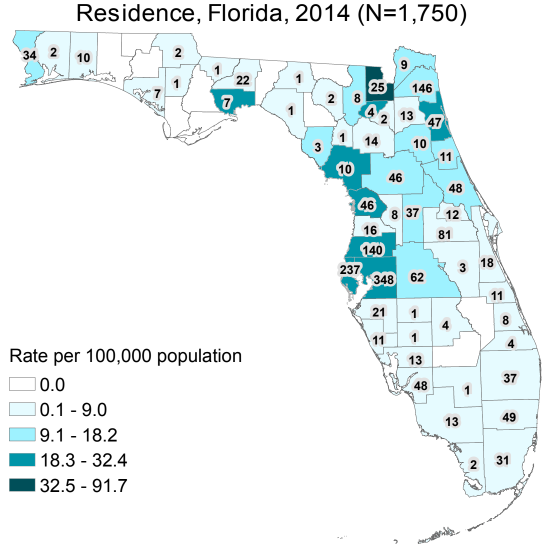
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Comments: 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 cyclic trend. Cases increased starting in 2006 and declined in 2008. Cases increased sharply in 2014 in all genders, races, and ethnicities. The largest concentration of cases was in Hillsborough, Pinellas, and Pasco counties.

Summary of Case Demographics

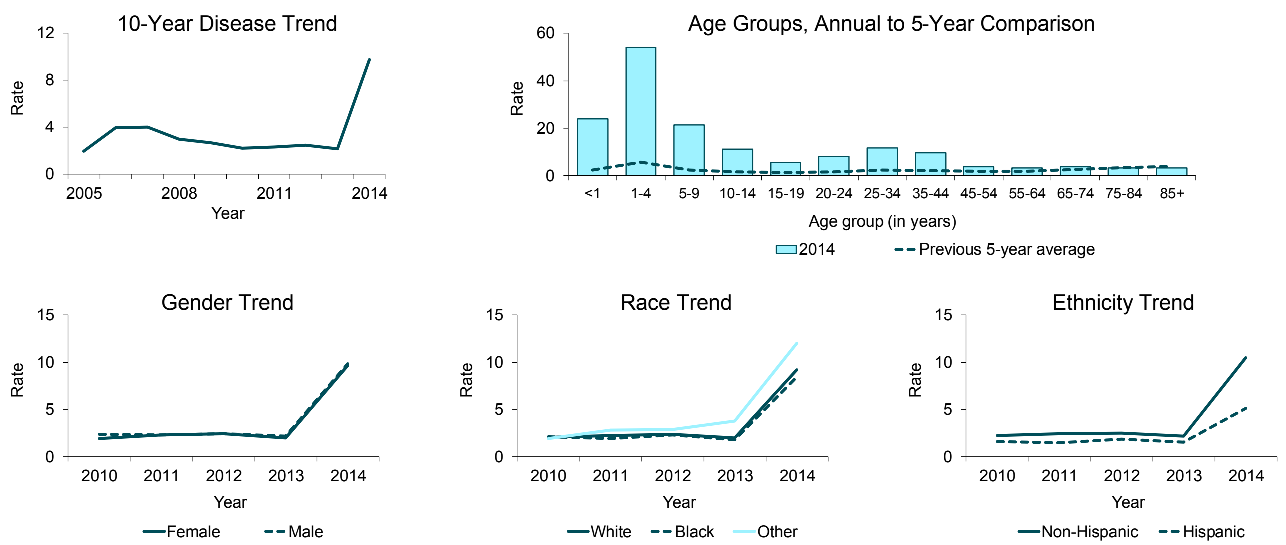
Summary			
Number of cases			1,905
Incidence rate (per 100,000 population)			9.7
Change from 5-year average incidence			+315.9%
Age (in years)			
Mean			23
Median			18
Min-max			0 - 93
Gender	**Number**	**(Percent)**	**Rate**
Female	965	(50.7)	9.7
Male	940	(49.3)	9.8
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	1,410	(78.1)	9.2
Black	276	(15.3)	8.5
Other	120	(6.6)	12.0
Unknown race	99		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	1,555	(86.6)	10.5
Hispanic	240	(13.4)	5.1
Unknown ethnicity	110		

Reported Cryptosporidiosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=1,750)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Cryptosporidiosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



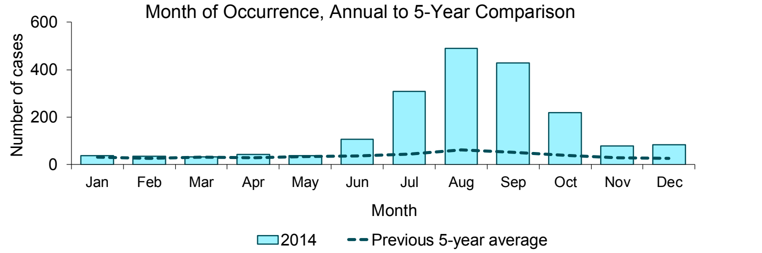
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Cryptosporidiosis cases were missing 5.9% of ethnicity data in 2014 and 5.2% of race data in 2014.

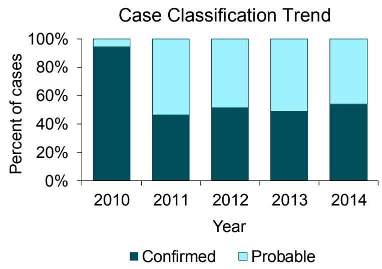
Cryptosporidiosis

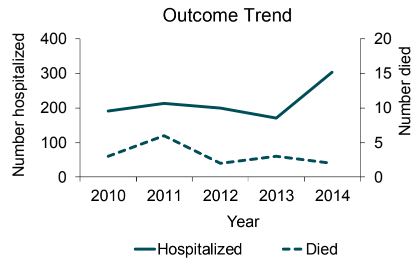
Summary of Case Factors

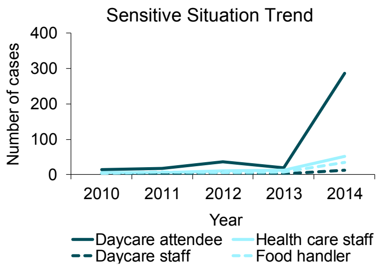
Summary	Number
Number of cases	1,905
Case classification	**Number (Percent)**
Confirmed	1,031 (54.1)
Probable	874 (45.9)
Outcome	**Number (Percent)**
Hospitalized	303 (15.9)
Died	2 (0.1)
Sensitive situation	**Number (Percent)**
Daycare attendee	287 (15.1)
Daycare staff	12 (0.6)
Health care staff	51 (2.7)
Food handler	35 (1.8)
Imported status	**Number (Percent)**
Acquired in Florida	1,750 (91.9)
Acquired in the U.S., not Florida	32 (1.7)
Acquired outside the U.S.	39 (2.0)
Acquired location unknown	84 (4.4)
Outbreak status	**Number (Percent)**
Sporadic	1,144 (60.1)
Outbreak-associated	713 (37.4)
Outbreak status unknown	48 (2.5)

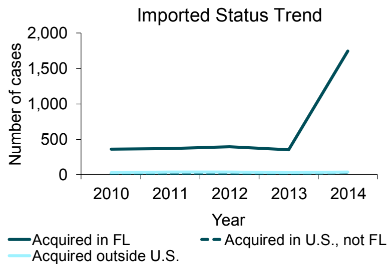
Reported Cryptosporidiosis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida

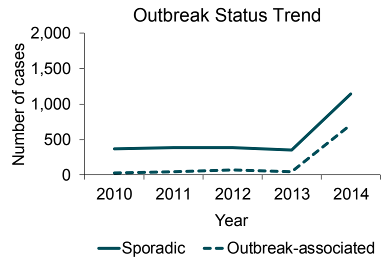












Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

In 2014, the Florida Department of Health investigated six waterborne *Cryptosporidium* outbreaks. These outbreaks included 134 cases associated with swimming pools, a recreational water park, and kiddie pools. Identified contributing factors for these outbreaks included patrons still swimming when ill or within two weeks of being ill, diaper/toddler-aged children using these venues, lack of supplemental disinfection, and malfunctioning or inadequate filtration for recreational water systems. Additional community-wide outbreaks were associated with person-to-person transmission and daycares.

Cyclosporiasis

Disease Facts

Cause: *Cyclospora* parasites

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; foodborne and less commonly waterborne

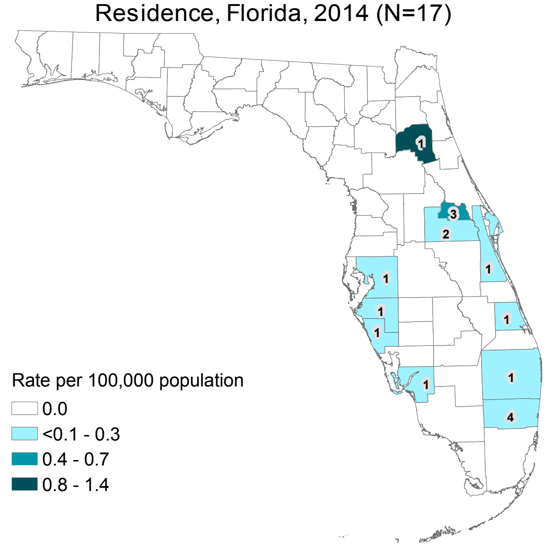
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness

Comments: Incidence is strongly seasonal, peaking in June and July. Large statewide or multistate outbreaks occur occasionally. A large multistate outbreak occurred in 2005 (see the Summary of Notable Outbreaks and Case Investigations section of the *Florida Morbidity Statistics Report, 1997-2006* for additional information). In 2014, another large multistate increase of cyclosporiasis cases involving Florida residents was investigated.

Summary of Case Demographics

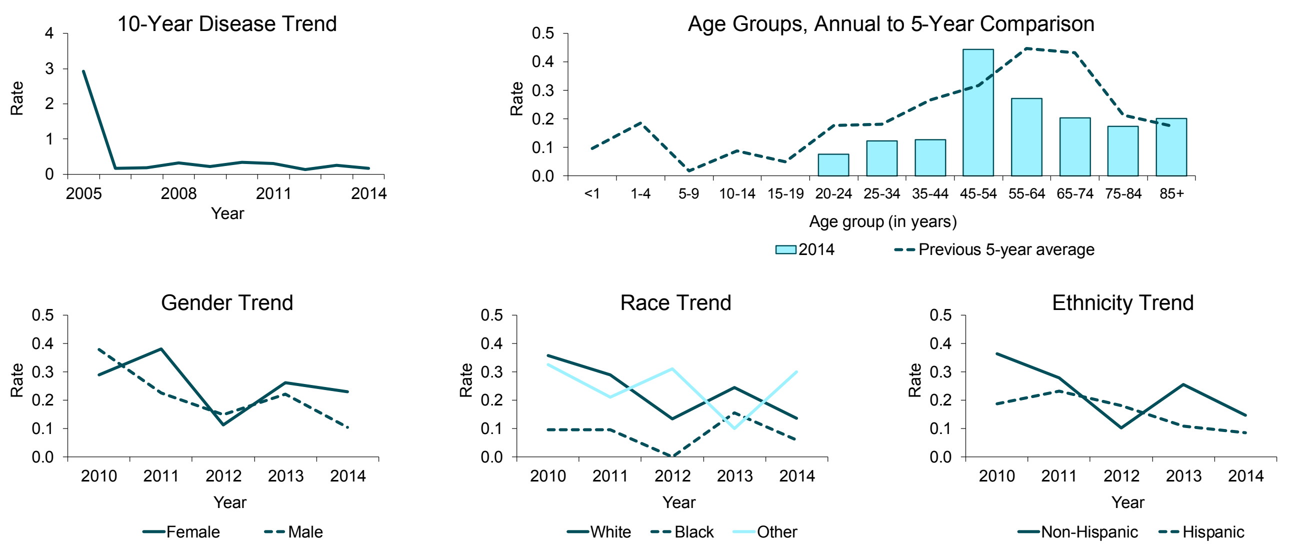
Summary			
Number of cases			33
Incidence rate (per 100,000 population)			0.2
Change from 5-year average incidence			-31.3%
Age (in years)			
Mean			53
Median			52
Min-max			20 - 85
Gender	**Number**	**(Percent)**	**Rate**
Female	23	(69.7)	0.2
Male	10	(30.3)	NA
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	21	(80.8)	0.1
Black	2	(7.7)	NA
Other	3	(11.5)	NA
Unknown race	7		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	22	(84.6)	0.1
Hispanic	4	(15.4)	NA
Unknown ethnicity	7		

Reported Cyclosporiasis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=17)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Cyclosporiasis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



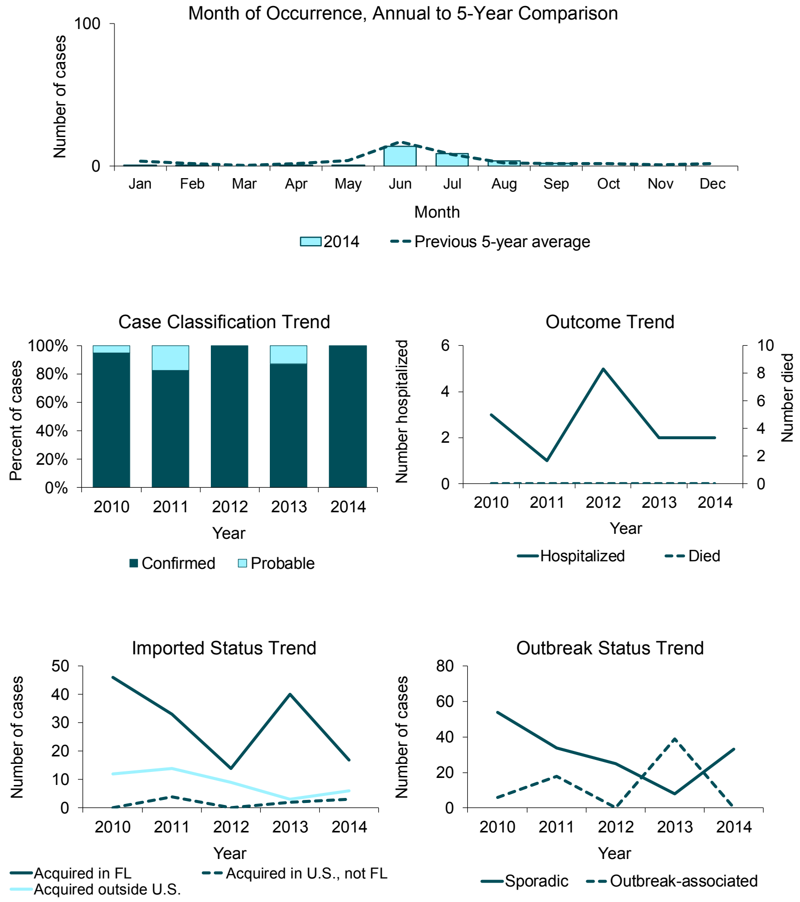
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Cyclosporiasis cases were missing 6.3% of race data in 2010, 12.1% of ethnicity data in 2011, 17.2% of race data in 2011, 8.0% of ethnicity data in 2012, 8.0% of race data in 2012, 8.5% of ethnicity data in 2013, 8.5% of race data in 2013, 21.2% of ethnicity data in 2014, and 21.2% of race data in 2014.

Cyclosporiasis

Summary of Case Factors

Summary	Number
Number of cases	33
Case classification	**Number (Percent)**
Confirmed	33 (100.0)
Probable	0 (0.0)
Outcome	**Number (Percent)**
Hospitalized	2 (6.1)
Died	0 (0.0)
Imported status	**Number (Percent)**
Acquired in Florida	17 (51.5)
Acquired in the U.S., not Florida	3 (9.1)
Acquired outside the U.S.	6 (18.2)
Acquired location unknown	7 (21.2)
Outbreak status	**Number (Percent)**
Sporadic	33 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)

Reported Cyclosporiasis Cases by Month of Occurrence, Case Classification, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

In 2014, the Centers for Disease Control and Prevention (CDC) was notified of 304 people with confirmed *Cyclospora* infections as of August 26, 2014. Of these, 207 (68.1%) had no history of international travel in the two weeks prior to illness. Cases were identified in Arkansas, California, Connecticut, Florida, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, Pennsylvania, New Jersey, New York, Texas, Virginia, Wisconsin, and Washington. Of the 207 cases in people not reporting international travel, 133 (64.3%) were in Texas residents. Epidemiologic and traceback investigations conducted by state and local public health and regulatory officials in Texas and the U.S. Food and Drug Administration indicate that some illnesses among Texas residents were linked to fresh cilantro from Puebla, Mexico. No common vehicle was identified for the remaining cases, including the cases in Florida residents. Note that the Florida cases were not reported as outbreak-associated.

Dengue Fever

Disease Facts

Cause: Dengue viruses (DENV-1, DENV-2, DENV-3, DENV-4)

Type of illness: Acute febrile illness with headache, joint and muscle pain, rash, and eye pain; dengue hemorrhagic fever or dengue shock syndrome symptoms include severe abdominal pain, vomiting, and mucosal bleeding

Transmission: Bite of infective mosquito, rarely by blood transfusion or organ transplant

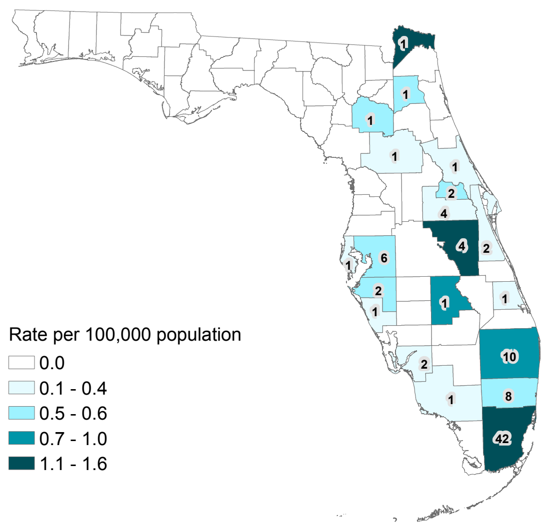
Reason for surveillance: Identify individual cases and implement control measures to prevent endemicity, monitor incidence over time, estimate burden of illness

Comments: An outbreak of locally acquired dengue fever occurred in Monroe County in 2009 and 2010 and in Martin County in 2013. In 2014, there were five unrelated local introductions in Miami-Dade County, resulting in seven locally acquired cases.

Summary of Case Demographics

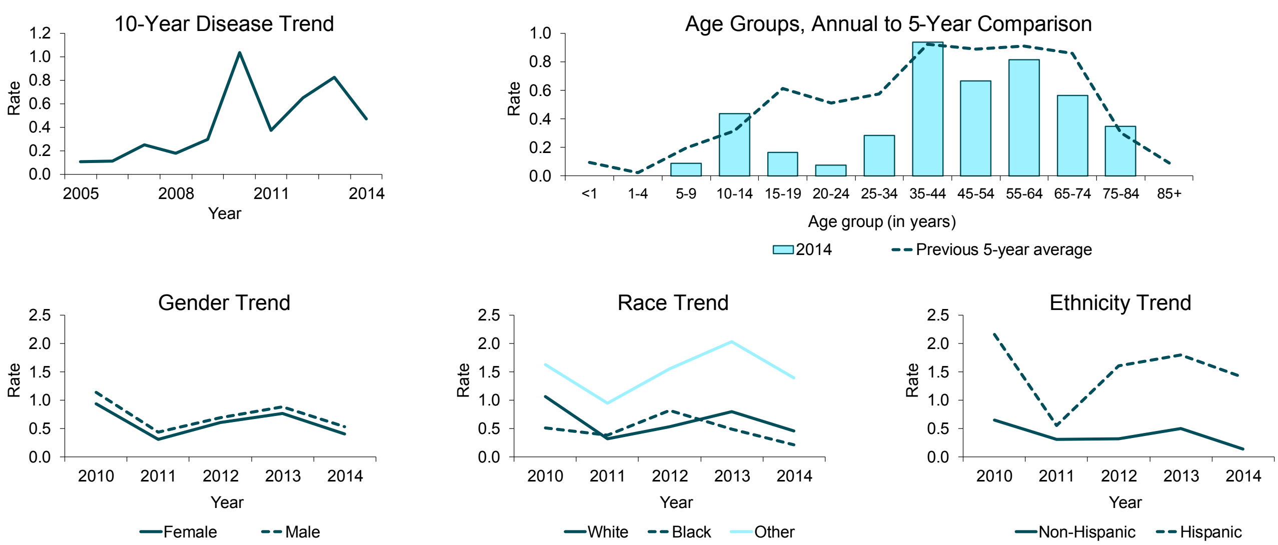
Summary			
Number of cases			92
Incidence rate (per 100,000 population)			0.5
Change from 5-year average incidence			-26.1%
Age (in years)			
Mean			48
Median			50
Min-max			9 - 79
Gender	**Number**	**(Percent)**	**Rate**
Female	41	(44.6)	0.4
Male	51	(55.4)	0.5
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	70	(76.9)	0.5
Black	7	(7.7)	NA
Other	14	(15.4)	NA
Unknown race	1		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	22	(25.0)	0.1
Hispanic	66	(75.0)	1.4
Unknown ethnicity	4		

Reported Dengue Fever Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=92)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Dengue Fever Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



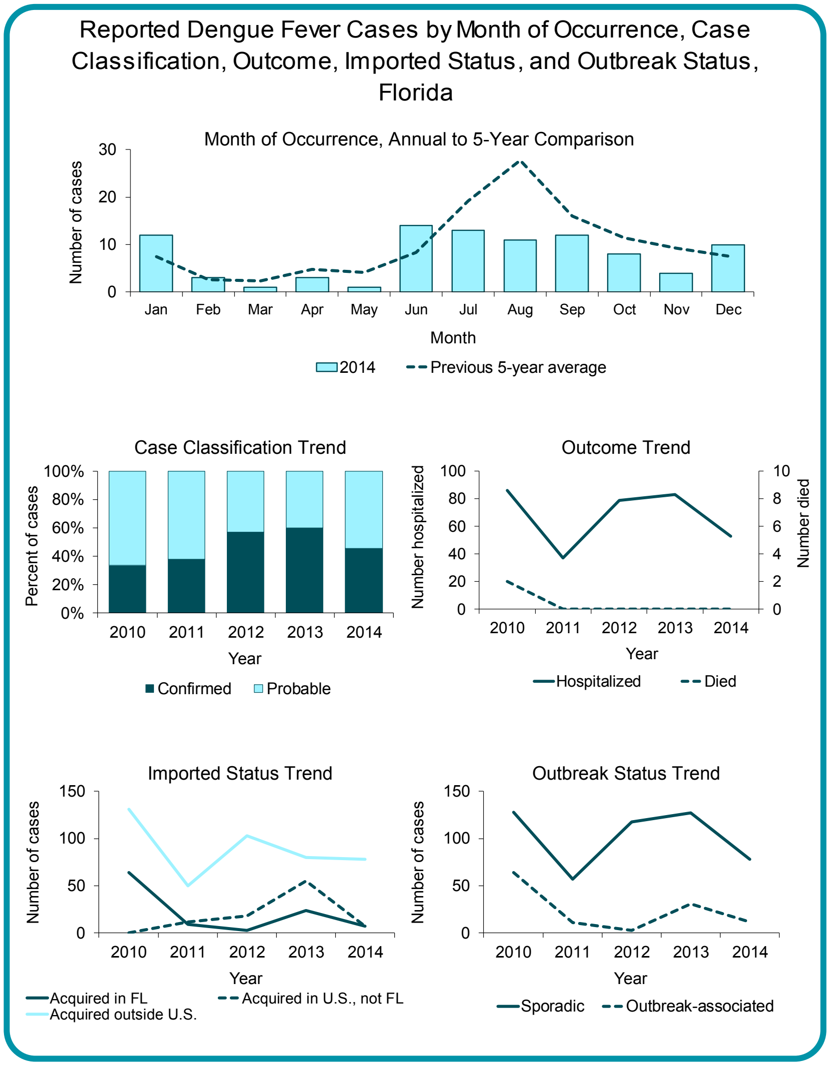
Note that the majority of dengue fever cases are acquired outside of Florida.

Dengue Fever

Summary of Case Factors

Summary	Number
Number of cases	92
Case classification	**Number (Percent)**
Confirmed	42 (45.7)
Probable	50 (54.3)
Outcome	**Number (Percent)**
Hospitalized	53 (57.6)
Died	0 (0.0)
Imported status	**Number (Percent)**
Acquired in Florida	7 (7.6)
Acquired in the U.S., not Florida	7 (7.6)
Acquired outside the U.S.	78 (84.8)
Acquired location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	78 (84.8)
Outbreak-associated	12 (13.0)
Outbreak status unknown	2 (2.2)
Region where infection acquired	**Number (Percent)**
Central America/Caribbean	67 (78.8)
South America	9 (10.6)
Puerto Rico (U.S.)	6 (7.1)
Asia	2 (2.4)
Virgin Islands (U.S.)	1 (1.2)

Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date, or county of exposure instead of county of residence.



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Five sporadic local introductions of dengue fever in Miami-Dade County involved DENV-2 (2), DENV-3 (2), and one unknown type of dengue virus. One of the local introductions resulted in a cluster of three cases in the same household. Nine non-Florida residents were also identified with dengue fever (note that this report only includes Florida residents in case counts). Both infected residents and non-residents pose a potential dengue virus introduction risk. Several people with dengue fever were also co-infected with chikungunya, although most did not report two distinct symptom onset dates.

Ehrlichiosis

Disease Facts

Cause: *Ehrlichia chaffeensis*, *Ehrlichia ewingii*, *Ehrlichia muris*-like bacteria

Type of illness: Common symptoms include fever, headache, fatigue, and muscle aches

Transmission: Tick-borne; bite of infective tick

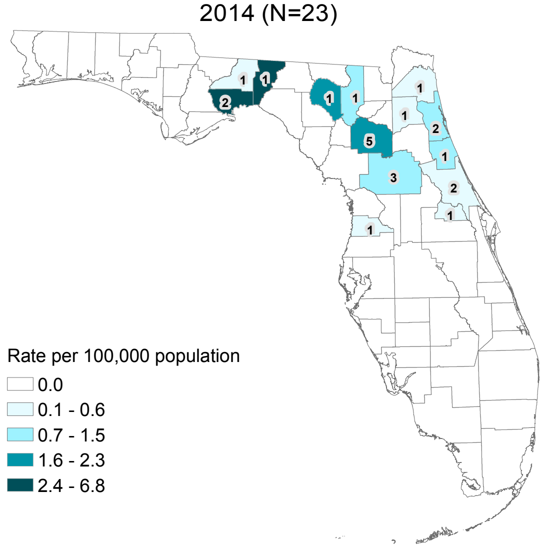
Reason for surveillance: Monitor incidence over time, estimate burden of illness, understand epidemiology of each species, target areas of high incidence for prevention education

Comments: Case numbers were notably elevated suggesting increased activity in 2014. Factors that could contribute to an increase in cases include environmental factors conducive to tick vectors or reservoir hosts. Most infections reported were acquired in Florida, particularly in the north central and east part of the state. All 2014 cases were infections of *E. chaffeensis*. In this year's report, ehrlichiosis and anaplasmosis are now summarized separately as the diseases involve different vectors, ecology, and geographic distribution.

Summary of Case Demographics

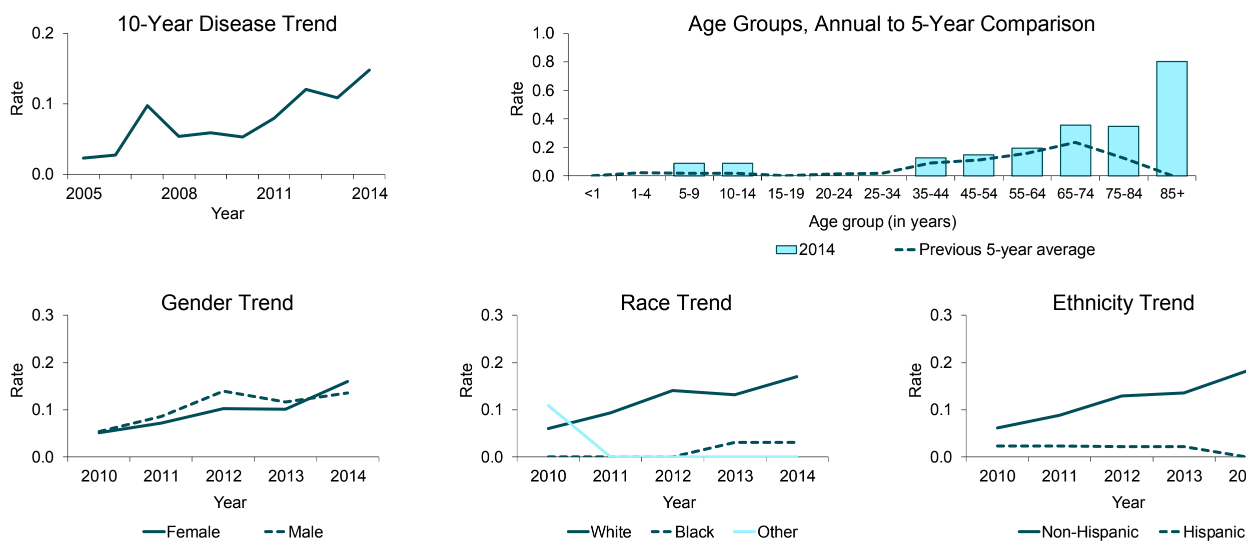
Summary			
Number of cases			29
Incidence rate (per 100,000 population)			0.1
Change from 5-year average incidence			+76.3%
Age (in years)			
Mean			62
Median			65
Min-max			6 - 95
Gender	**Number**	**(Percent)**	**Rate**
Female	16	(55.2)	NA
Male	13	(44.8)	NA
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	26	(96.3)	0.2
Black	1	(3.7)	NA
Other	0	(0.0)	NA
Unknown race	2		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	27	(100.0)	0.2
Hispanic	0	(0.0)	NA
Unknown ethnicity	2		

Reported Ehrlichiosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=23)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Ehrlichiosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Ehrlichiosis cases were missing 6.7% of ethnicity data in 2011, 6.7% of race data in 2011, 13.0% of ethnicity data in 2012, 8.7% of race data in 2012, 6.9% of ethnicity data in 2014, and 6.9% of race data in 2014.

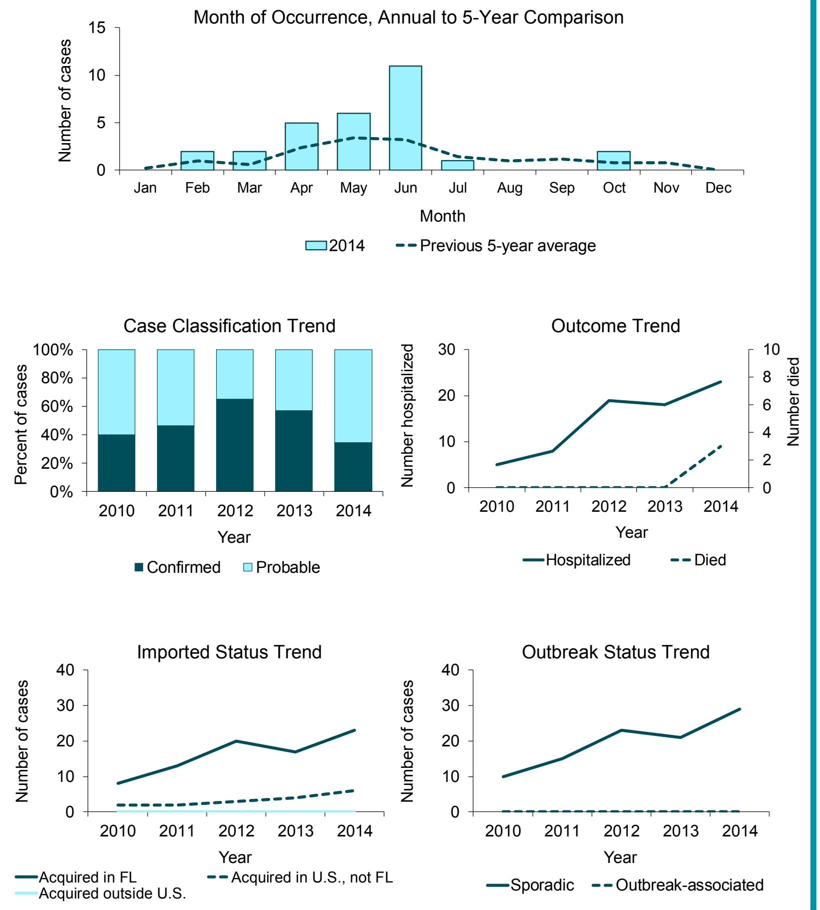
Ehrlichiosis

Summary of Case Factors

Summary	Number
Number of cases	29
Case classification	**Number (Percent)**
Confirmed	10 (34.5)
Probable	19 (65.5)
Outcome	**Number (Percent)**
Hospitalized	23 (79.3)
Died	3 (10.3)
Imported status	**Number (Percent)**
Acquired in Florida	23 (79.3)
Acquired in the U.S., not Florida	6 (20.7)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	29 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)

Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date, or county of exposure instead of county of residence.

Reported Ehrlichiosis Cases by Month of Occurrence, Case Classification, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Ehrlichiosis is a broad term used to describe a group of bacterial pathogens. At least three different *Ehrlichia* species are known to cause human illness in the U.S. Both *E. chaffeensis*, also known as human monocytic ehrlichiosis (HME) and *E. 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, provisionally called *E. muris*-like (EML), has been reported in a small number of cases in Minnesota and Wisconsin, but no tick vector has been identified. Ehrlichiosis cases present with similar symptoms no matter which species is involved, and are indistinguishable by serologic testing. *E. ewingii* and EML are most frequently identified in immunocompromised patients.

Severe illness is most frequent in adults >50 years old. Delays in treatment can also result in severe outcome. Three fatal infections reported in 2014 involved persons >70 years old. A mortality rate over 10% is well above the national mortality rate of 1-2%. Most reported cases (79.3%) were hospitalized. These data suggest that more mild cases may be unrecognized or under-reported.

Giardiasis, Acute

Disease Facts

Cause: *Giardia* parasites

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; including person-to-person, animal-to-person, waterborne, and foodborne

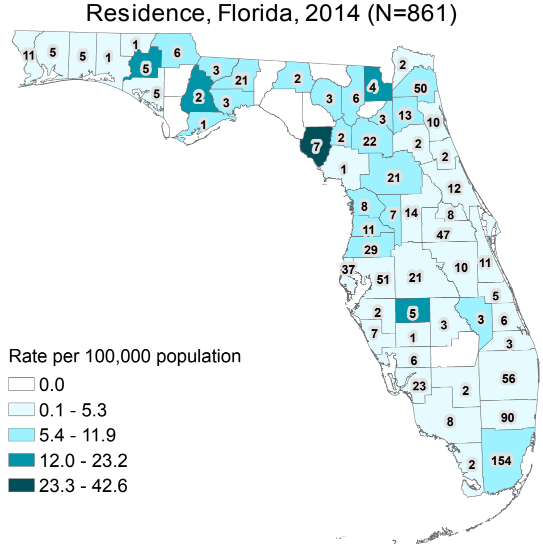
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Comments: 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. The percentage of cases reported in people in sensitive situations (i.e., food handlers, daycares, and health care settings), typically ~10%, decreased in 2013 (7.9%) and returned to a more characteristic level in 2014 (9.6%).

Summary of Case Demographics

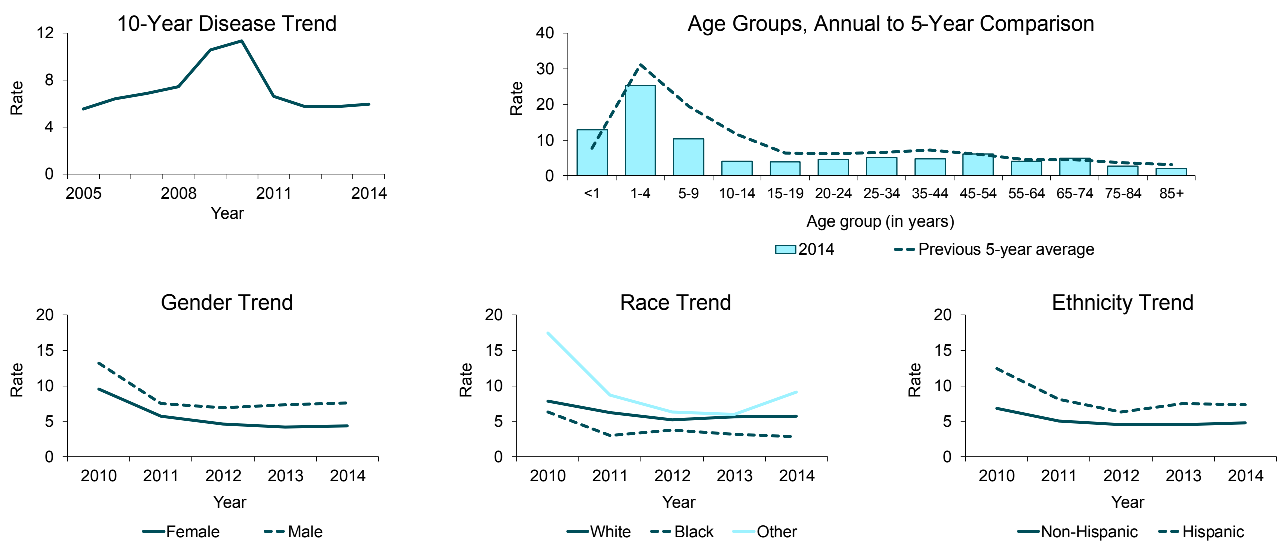
Summary			
Number of cases			1,165
Incidence rate (per 100,000 population)			6.0
Change from 5-year average incidence			-25.7%
Age (in years)			
Mean			31
Median			30
Min-max			0 - 93
Gender	**Number**	**(Percent)**	**Rate**
Female	440	(37.8)	4.4
Male	725	(62.2)	7.6
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	876	(82.7)	5.7
Black	92	(8.7)	2.8
Other	91	(8.6)	9.1
Unknown race	106		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	717	(67.6)	4.8
Hispanic	343	(32.4)	7.3
Unknown ethnicity	105		

Reported Acute Giardiasis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=861)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Acute Giardiasis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

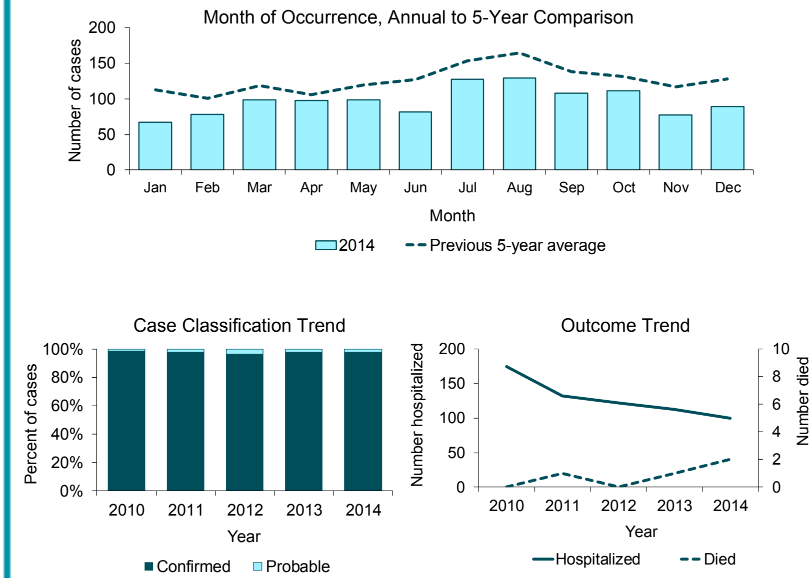


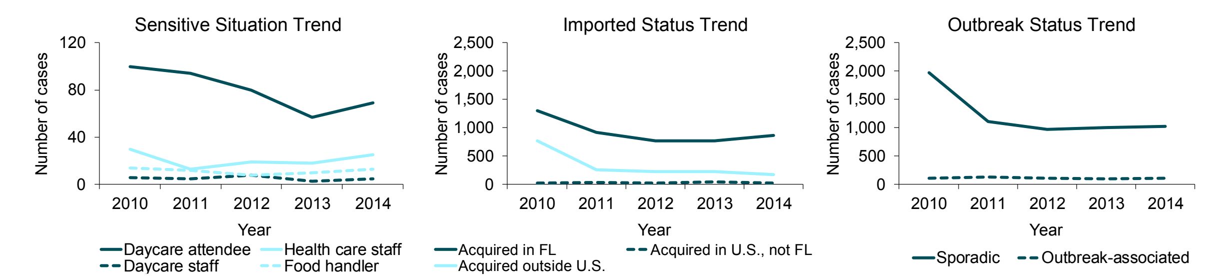
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute giardiasis cases were missing 28.7% of ethnicity data in 2010, 28.6% of race data in 2010, 13.1% of ethnicity data in 2011, 12.4% of race data in 2011, 13.2% of ethnicity data in 2012, 12.4% of race data in 2012, 8.9% of ethnicity data in 2013, 9.3% of race data in 2013, 9.0% of ethnicity data in 2014, and 9.1% of race data in 2014.

Summary of Case Factors

Summary	Number
Number of cases	1,165
Case classification	**Number (Percent)**
Confirmed	1,142 (98.0)
Probable	23 (2.0)
Outcome	**Number (Percent)**
Hospitalized	100 (8.6)
Died	2 (0.2)
Sensitive situation	**Number (Percent)**
Daycare attendee	69 (5.9)
Daycare staff	5 (0.4)
Health care staff	25 (2.1)
Food handler	13 (1.1)
Imported status	**Number (Percent)**
Acquired in Florida	861 (73.9)
Acquired in the U.S., not Florida	30 (2.6)
Acquired outside the U.S.	178 (15.3)
Acquired location unknown	96 (8.2)
Outbreak status	**Number (Percent)**
Sporadic	1,030 (88.4)
Outbreak-associated	107 (9.2)
Outbreak status unknown	28 (2.4)

Reported Acute Giardiasis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida





Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Gonorrhea

Disease Facts

Cause: *Neisseria gonorrhoeae* bacteria

Type of illness: Frequently asymptomatic; sometimes abnormal discharge from vagina or penis or burning sensation when urinating

Transmission: Sexually transmitted disease (STD) spread by anal, vaginal, or oral sex and sometimes from mother to child during pregnancy or delivery

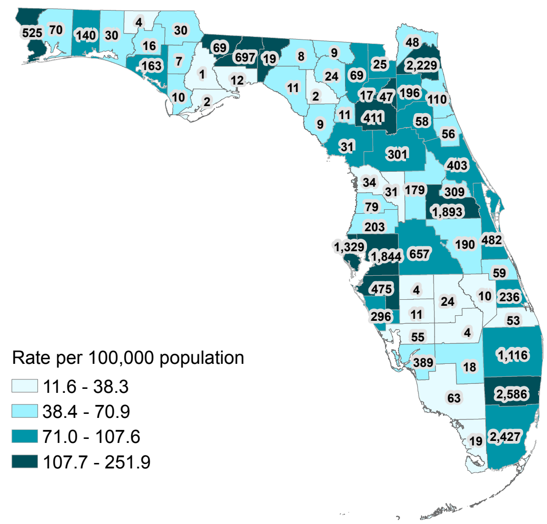
Reason for surveillance: Implement effective interventions immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Comments: Incidence is highest among 20- to 24-year-olds, followed by 15- to 19-year-olds. Although incidence increased nationally from 2013 to 2014, Florida cases decreased slightly. A shift in treatment guidelines and recommendations for screening women <25 years old likely contributed to the long term decrease in cases.

Summary of Case Demographics

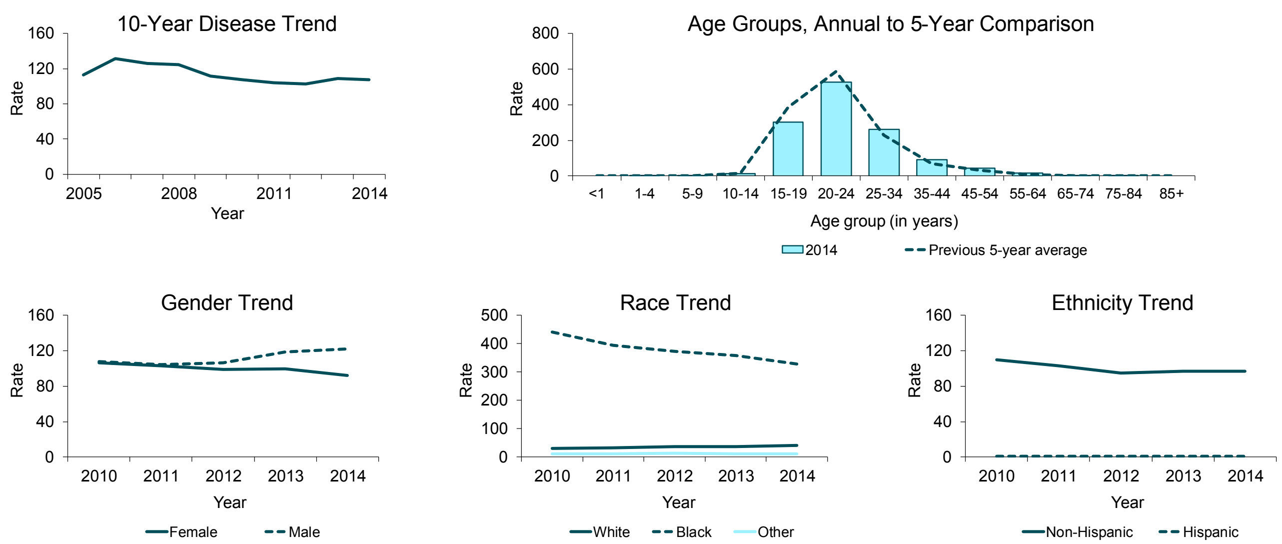
Summary			
Number of cases			20,945
Incidence rate (per 100,000 population)			107.1
Change from 5-year average incidence			+0.2%
Age (in years)			
Mean			27
Median			24
Min-max			2 - 88
Gender	**Number**	**(Percent)**	**Rate**
Female	9,227	(44.1)	92.3
Male	11,692	(55.9)	122.4
Unknown gender	26		
Race	**Number**	**(Percent)**	**Rate**
White	6,266	(36.6)	41.0
Black	10,745	(62.7)	329.2
Other	122	(0.7)	12.2
Unknown race	3,812		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	14,372	(86.9)	96.7
Hispanic	2,169	(13.1)	46.3
Unknown ethnicity	4,404		

Reported Gonorrhea Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=20,945)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Gonorrhea Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Gonorrhea cases were missing 12.4% of ethnicity data in 2010, 9.1% of race data in 2010, 15.0% of ethnicity data in 2011, 12.3% of race data in 2011, 19.8% of ethnicity data in 2012, 10.8% of race data in 2012, 24.1% of ethnicity data in 2013, 18.9% of race data in 2013, 21.0% of ethnicity data in 2014, and 18.2% of race data in 2014.

Haemophilus influenzae Invasive Disease in Children <5 Years Old

Disease Facts

Cause: *Haemophilus influenzae* bacteria

Type of illness: Can present as pneumonia, bacteremia, septicemia, meningitis, epiglottitis, septic arthritis, cellulitis, or purulent pericarditis; less frequently endocarditis and osteomyelitis

Transmission: Person-to-person; inhalation of infective respiratory tract droplets or direct contact with infective respiratory tract secretions

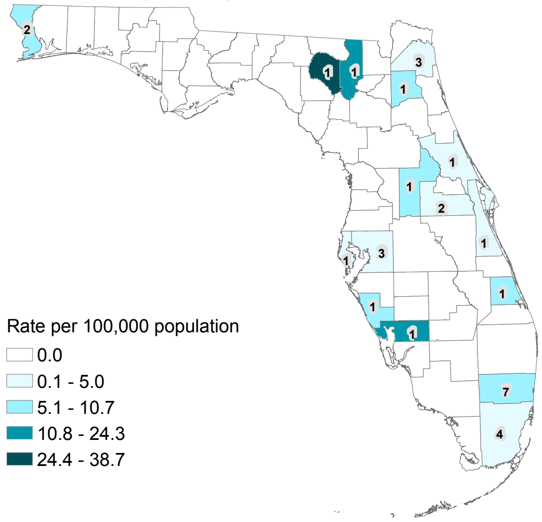
Reason for surveillance: Identify and control outbreaks, monitor incidence over time, monitor effectiveness of immunization programs and vaccines

Comments: *H. influenzae* serotype b (Hib) is a vaccine-preventable disease. Meningitis and septicemia due to Hib in children <5 years old have almost been eliminated since the introduction of effective Hib conjugate vaccines. Four Hib cases in children <5 were reported in 2014, compared to one in 2013, and three in 2012.

Summary of Case Demographics

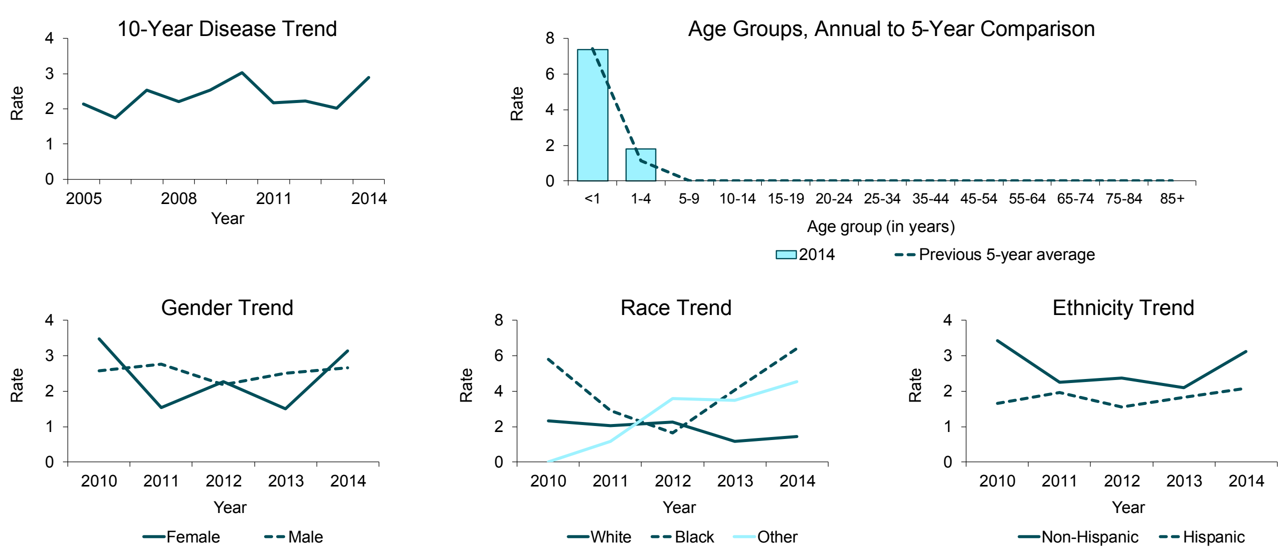
Summary			
Number of cases			32
Incidence rate (per 100,000 population)			2.9
Change from 5-year average incidence			+21.1%
Age (in years)			
Mean			1
Median			1
Min-max			0 - 4
Gender	**Number**	**(Percent)**	**Rate**
Female	17	(53.1)	NA
Male	15	(46.9)	NA
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	11	(35.5)	NA
Black	16	(51.6)	NA
Other	4	(12.9)	NA
Unknown race	1		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	24	(77.4)	3.1
Hispanic	7	(22.6)	NA
Unknown ethnicity	1		

Reported *H. influenzae* Invasive Disease in Children <5 Years Old Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=31)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

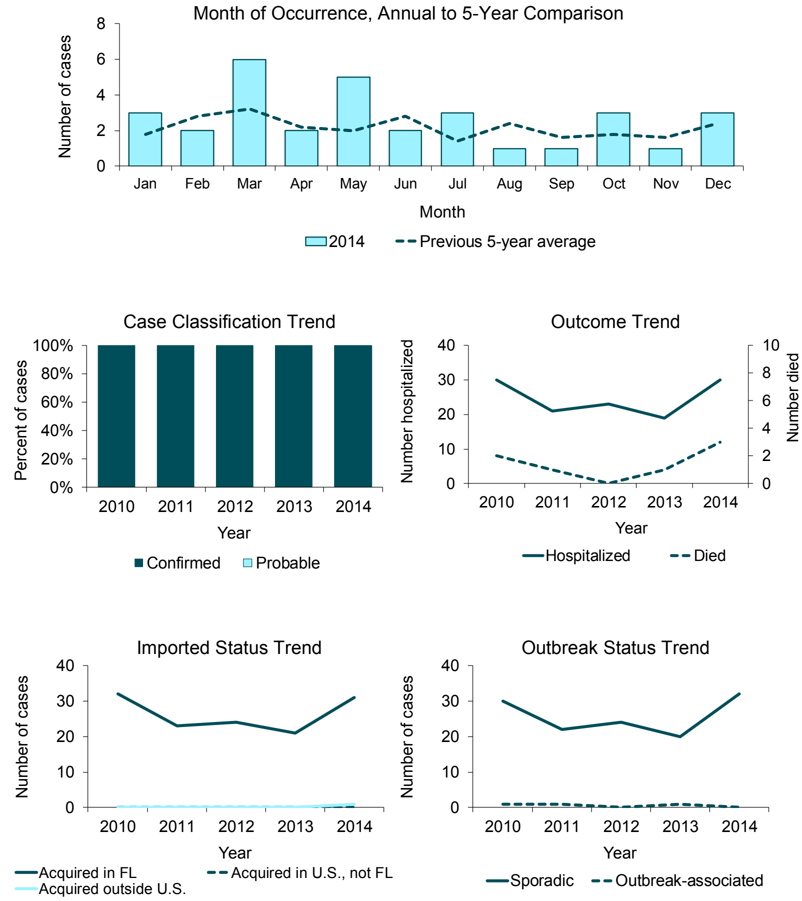
Reported *H. influenzae* Invasive Disease in Children <5 Years Old Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Summary of Case Factors

Summary	Number
Number of cases	32
Case classification	**Number (Percent)**
Confirmed	32 (100.0)
Probable	0 (0.0)
Outcome	**Number (Percent)**
Hospitalized	30 (93.8)
Died	3 (9.4)
Imported status	**Number (Percent)**
Acquired in Florida	31 (96.9)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	1 (3.1)
Acquired location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	32 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)

Reported *H. influenzae* Invasive Disease in Children <5 Years Old Cases by Month of Occurrence, Case Classification, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Disease Facts

Cause: Hepatitis A virus (HAV)

Type of illness: Inflammation of the liver; sometimes asymptomatic; symptoms can include fever, malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice

Transmission: Fecal-oral; including person-to-person, foodborne, and waterborne

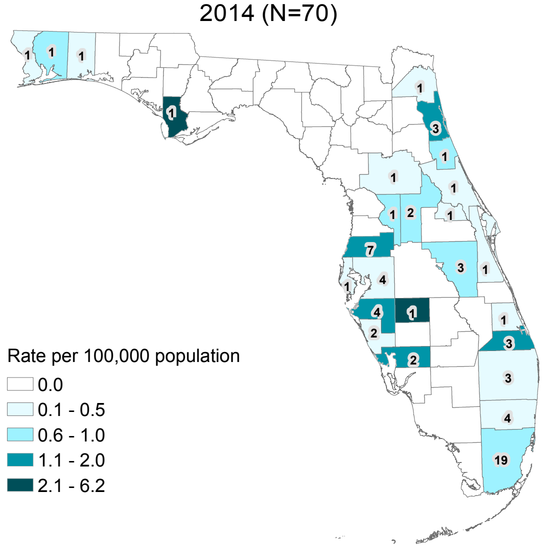
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor effectiveness of immunization programs

Comments: Hepatitis A is a vaccine-preventable disease. Incidence has continued to decline in Florida as well as nationally, likely due to increased use of the hepatitis A vaccine and recommendations to vaccinate as part of the routine childhood immunization schedule. A large portion of infections are acquired while traveling in other countries where routine immunizations are not required (31.8% in 2014).

Summary of Case Demographics

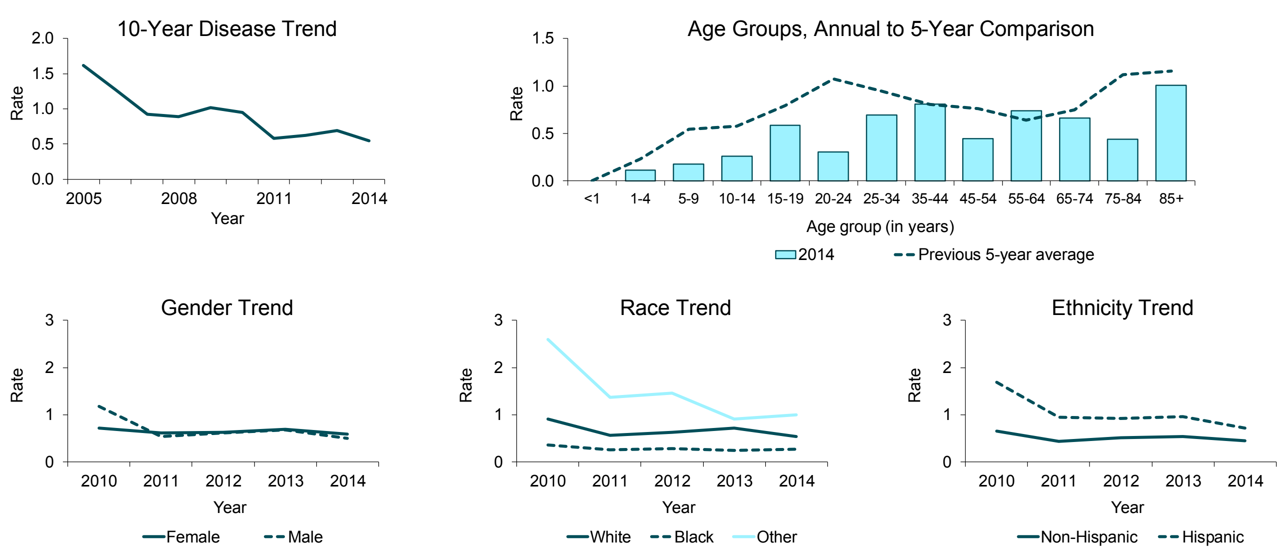
Summary			
Number of cases			107
Incidence rate (per 100,000 population)			0.5
Change from 5-year average incidence			-29.0%
Age (in years)			
Mean			47
Median			50
Min-max			4 - 92
Gender	**Number**	**(Percent)**	**Rate**
Female	59	(55.1)	0.6
Male	48	(44.9)	0.5
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	83	(81.4)	0.5
Black	9	(8.8)	NA
Other	10	(9.8)	NA
Unknown race	5		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	68	(66.7)	0.5
Hispanic	34	(33.3)	0.7
Unknown ethnicity	5		

Reported Hepatitis A Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=70)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Hepatitis A Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



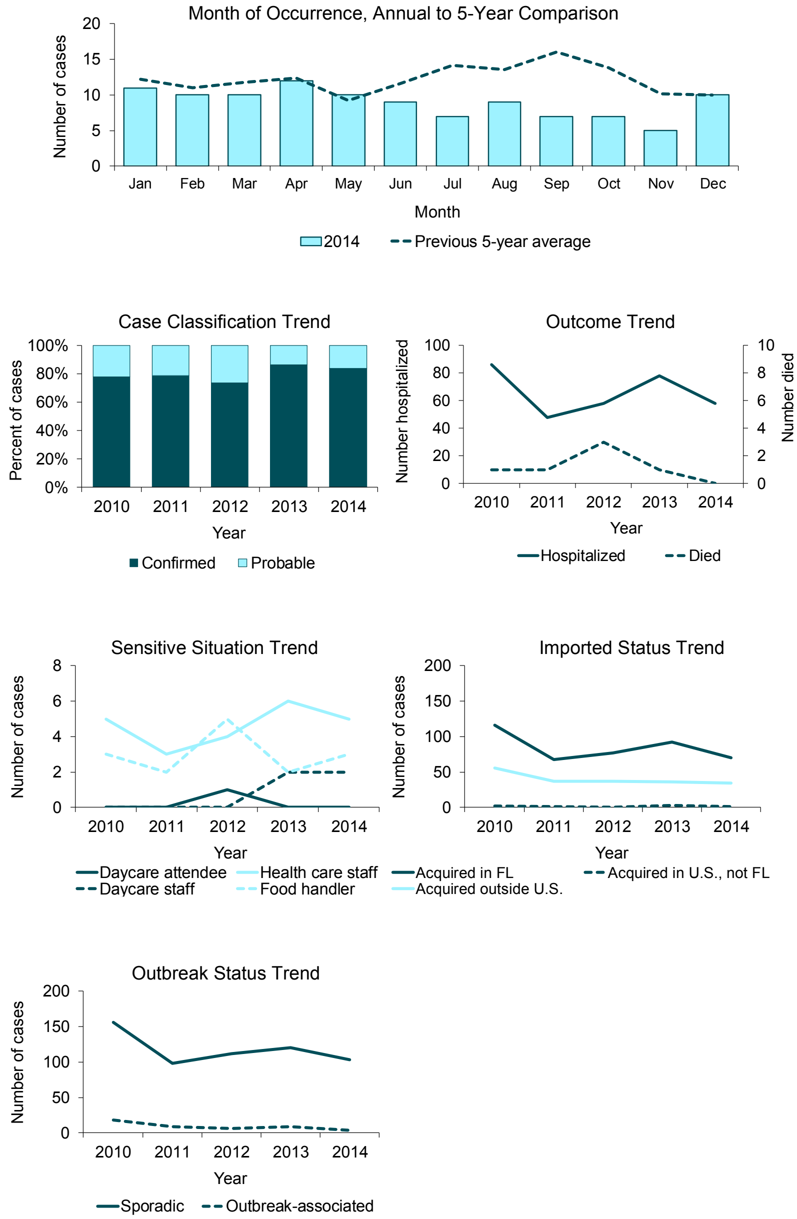
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis A cases were missing 5.6% of ethnicity data in 2010, 6.8% of ethnicity data in 2013, and 5.3% of race data in 2013.

Hepatitis A

Summary of Case Factors

Summary	Number
Number of cases	107
Case classification	**Number (Percent)**
Confirmed	90 (84.1)
Probable	17 (15.9)
Outcome	**Number (Percent)**
Hospitalized	58 (54.2)
Died	0 (0.0)
Sensitive situation	**Number (Percent)**
Daycare attendee	0 (0.0)
Daycare staff	2 (1.9)
Health care staff	5 (4.7)
Food handler	3 (2.8)
Imported status	**Number (Percent)**
Acquired in Florida	70 (65.4)
Acquired in the U.S., not Florida	1 (0.9)
Acquired outside the U.S.	34 (31.8)
Acquired location unknown	2 (1.9)
Outbreak status	**Number (Percent)**
Sporadic	103 (96.3)
Outbreak-associated	4 (3.7)
Outbreak status unknown	0 (0.0)
Region where infection acquired	**Number (Percent)**
Central America/Caribbean	19 (54.3)
South America	8 (22.9)
Asia	7 (20.0)
Other U.S. state	1 (2.9)

Reported Hepatitis A Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

In 2014, there were no reported multistate outbreaks of hepatitis A. Four cases of hepatitis A were associated with two outbreaks. In one outbreak, sexual contact resulted in transmission from one person to another. In the second outbreak, close personal contact resulted in transmission from one person to another.

Disease Facts

Cause: Hepatitis B virus (HBV)

Type of illness: Inflammation of the liver; sometimes asymptomatic; symptoms can include malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice; ~5% of infections become chronic

Transmission: Blood exposure (e.g., sharing drug needles), anal or vaginal sex, percutaneous exposure (e.g., tattooing, needle sticks), or from mother to child during pregnancy or delivery

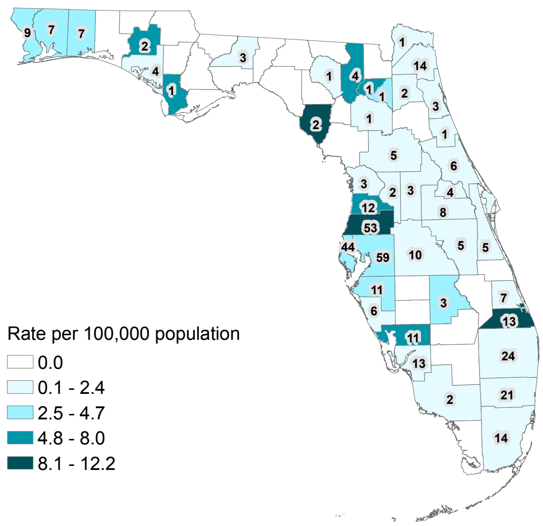
Reason for surveillance: Enhance efforts to prevent HBV transmission, identify and prevent outbreaks, improve allocation of resources for treatment services, assist in evaluating the impact of public health interventions, monitor effectiveness of immunization programs

Comments: Hepatitis B is a vaccine-preventable disease. Incidence declined over the last decade due to increased vaccination. An enhanced surveillance project in 2012 has led to an increase in cases identified.

Summary of Case Demographics

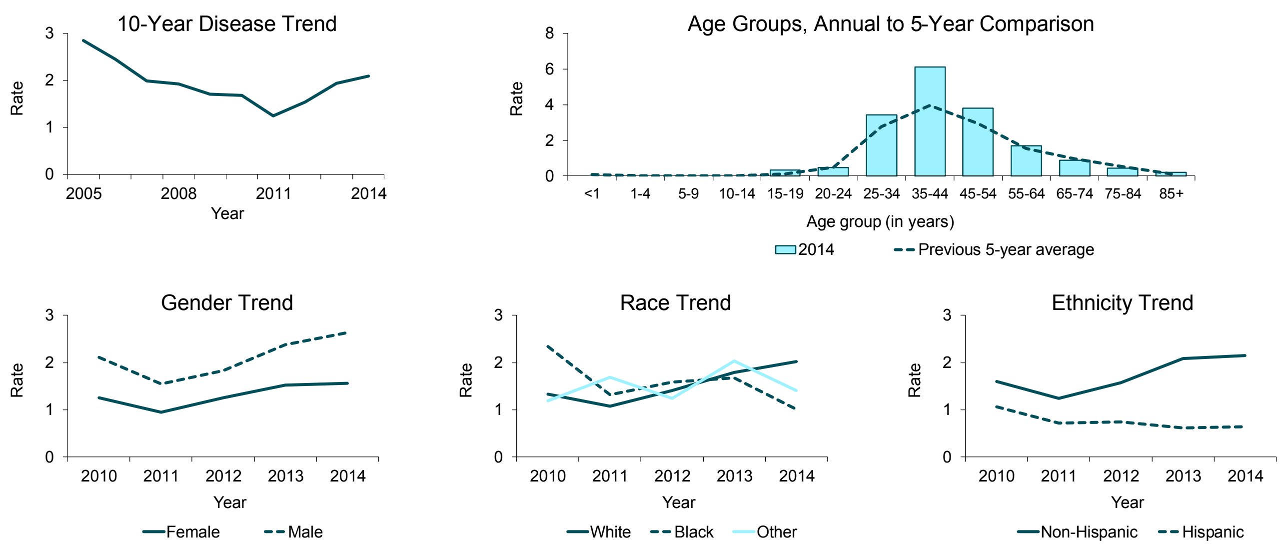
Summary			
Number of cases			408
Incidence rate (per 100,000 population)			2.1
Change from 5-year average incidence			+29.0%
Age (in years)			
Mean			44
Median			42
Min-max			19 - 90
Gender	**Number**	**(Percent)**	**Rate**
Female	156	(38.2)	1.6
Male	252	(61.8)	2.6
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	309	(86.8)	2.0
Black	33	(9.3)	1.0
Other	14	(3.9)	NA
Unknown race	52		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	319	(91.4)	2.1
Hispanic	30	(8.6)	0.6
Unknown ethnicity	59		

Reported Acute Hepatitis B Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=408)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Acute Hepatitis B Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis B cases were missing 11.7% of ethnicity data in 2010, 10.8% of race data in 2010, 9.4% of ethnicity data in 2011, 7.2% of race data in 2011, 9.9% of ethnicity data in 2012, 6.5% of race data in 2012, 10.1% of ethnicity data in 2013, 7.7% of race data in 2013, 14.5% of ethnicity data in 2014, and 12.7% of race data in 2014.

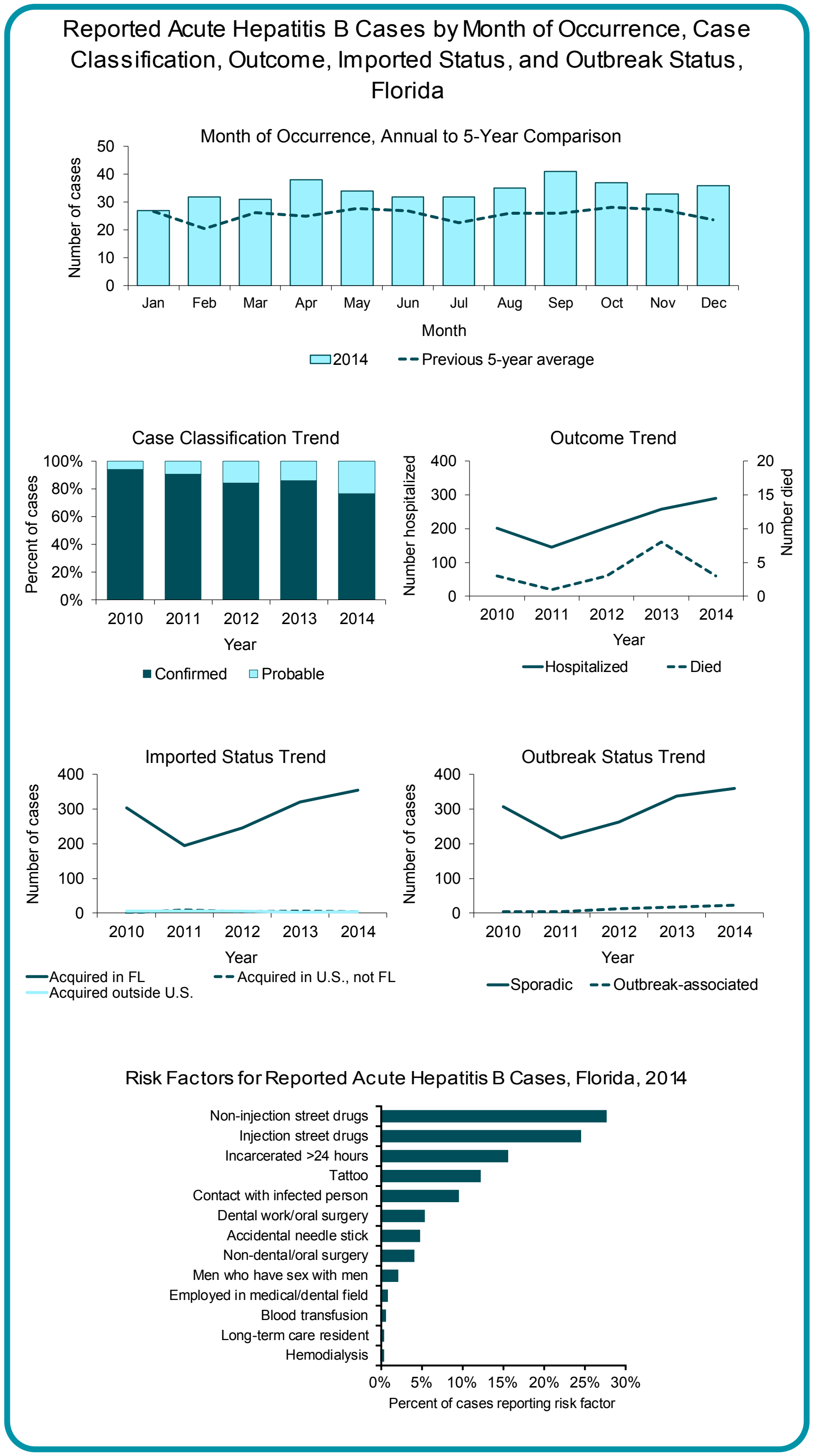
Summary of Case Factors

Summary	Number
Number of cases	408
Case classification	**Number (Percent)**
Confirmed	313 (76.7)
Probable	95 (23.3)
Outcome	**Number (Percent)**
Hospitalized	290 (71.1)
Died	3 (0.7)
Imported status	**Number (Percent)**
Acquired in Florida	354 (86.8)
Acquired in the U.S., not Florida	4 (1.0)
Acquired outside the U.S.	4 (1.0)
Acquired location unknown	46 (11.3)
Outbreak status	**Number (Percent)**
Sporadic	360 (88.2)
Outbreak-associated	22 (5.4)
Outbreak status unknown	26 (6.4)

The number of reported acute hepatitis B cases continued to slowly increase in 2014, partially due to an enhanced surveillance project focusing on chronic hepatitis in young adults implemented in 2012. Additionally, laboratory reporting requirements were updated in July 2014 for laboratories participating in electronic laboratory reporting to include all negative hepatitis results, allowing counties to correctly identify more acute cases. The increase was seen in non-Hispanic white men and women.

Of the 22 outbreak-associated cases, 12 cases were epidemiologically linked to another case by sexual contact (7), personal contact (3), household contact (1), and unknown contact (1). The remaining six cases classified as outbreak-associated were later determined to be sporadic.

In 2014, 397 cases (97.3%) were investigated and 281 cases (68.9%) were interviewed to determine possible risk factors. Risk factors reported are shown to the right. Note that a person can report multiple risk factors. New infections are most frequently associated with drug use, likely leading to sharing of injection equipment or risky sexual behaviors.



Interpretation:
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Hepatitis B, Surface Antigen in Pregnant Women

Disease Facts

Cause: Hepatitis B virus (HBV)

Type of illness: Acute or chronic illness; infection is identified when a woman tests positive for hepatitis B surface antigen (HBsAg) during pregnancy, regardless of symptoms; up to 90% of perinatal infections become chronic

Transmission: Anal or vaginal sex, blood exposure (e.g., sharing drug needles), percutaneous exposure (e.g., tattooing, needle sticks), or from mother to child during pregnancy or delivery

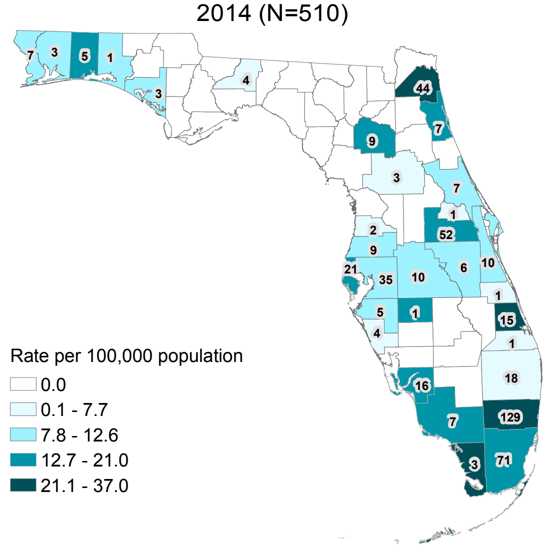
Reason for surveillance: Identify individual cases and implement control measures to prevent HBV transmission from mother to baby; evaluate effectiveness of screening programs

Comments: Hepatitis B is a vaccine-preventable disease. Identification of HBsAg in pregnant women allows for appropriate treatment of their infants, significantly reducing the infants' risk of contracting HBV. In the U.S., Asians have a high HBsAg carrier rate (7-16%) and account for most infections in the "other" race category.

Summary of Case Demographics

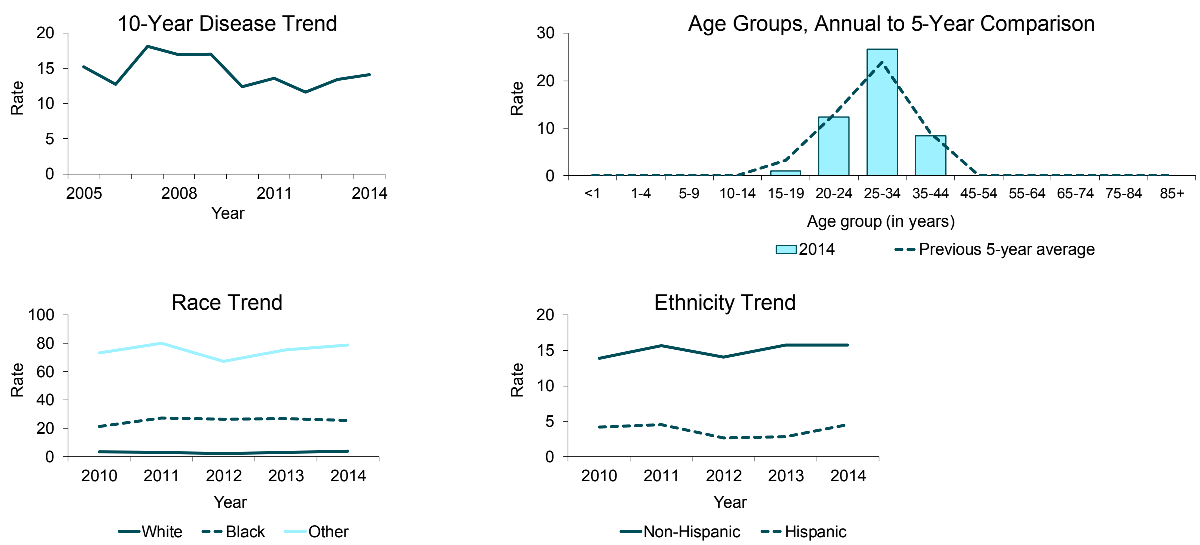
Summary			
Number of cases			510
Incidence rate (per 100,000 population)			14.1
Change from 5-year average incidence			+3.6%
Age (in years)			
Mean			30
Median			30
Min-max			15 - 45
Gender	**Number**	**(Percent)**	**Rate**
Female	510	(100.0)	14.1
Male	NA	NA	NA
Unknown gender	NA		
Race	**Number**	**(Percent)**	**Rate**
White	104	(22.2)	3.9
Black	188	(40.1)	25.7
Other	177	(37.7)	78.8
Unknown race	41		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	411	(89.9)	15.8
Hispanic	46	(10.1)	4.5
Unknown ethnicity	53		

Reported Hepatitis B Surface Antigen in Pregnant Women Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=510)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Hepatitis B Surface Antigen in Pregnant Women Incidence Rates Per 100,000 Population by Year, Age, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Hepatitis B surface antigen in pregnant women cases were missing 8.2% of ethnicity data in 2010, 6.6% of race data in 2010, 6.4% of ethnicity data in 2011, 5.6% of ethnicity data in 2012, 8.7% of ethnicity data in 2013, 6.8% of race data in 2013, 10.4% of ethnicity data in 2014, and 8.0% of race data in 2014.

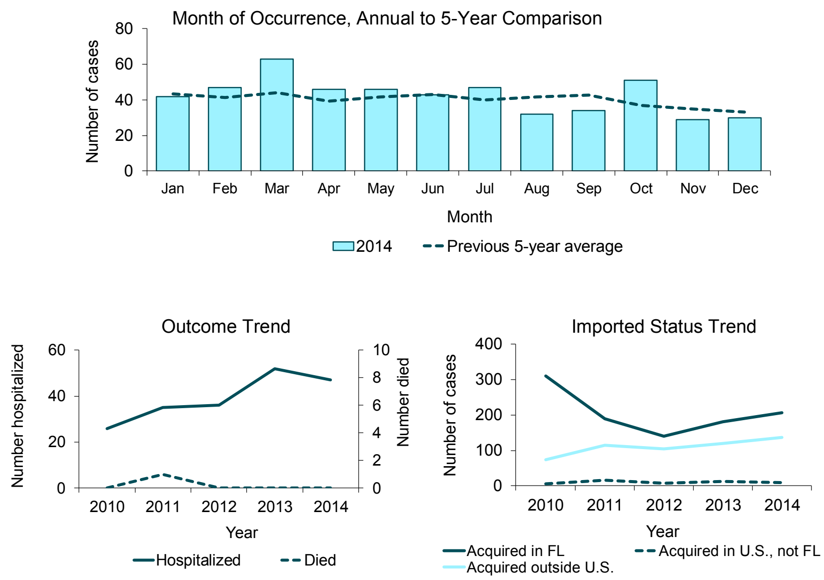
Hepatitis B, Surface Antigen in Pregnant Women

Summary of Case Factors

Summary	Number
Number of cases	510
Outcome	**Number (Percent)**
Hospitalized	47 (9.2)
Died	0 (0.0)
Imported status	**Number (Percent)**
Acquired in Florida	206 (40.4)
Acquired in the U.S., not Florida	9 (1.8)
Acquired outside the U.S.	137 (26.9)
Acquired location unknown	158 (31.0)

According to the 2013 National Immunization Survey, the estimated HBV vaccination coverage for birth dose administered from birth through 3 days of age was 74.2% ± 1.4 in the U.S. and 58.0% ± 8.3 in Florida.

Reported Hepatitis B Surface Antigen in Pregnant Women Cases by Month of Occurrence, Outcome, and Imported Status, Florida



Interpretation:
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Disease Facts

Cause: Hepatitis C virus (HCV)

Type of illness: Inflammation of the liver; sometimes asymptomatic; symptoms can include fever, malaise, loss of appetite, nausea, vomiting, abdominal discomfort, and jaundice

Transmission: Blood exposure, with most infections occurring due to sharing injection drug equipment; rarely by anal or vaginal sex or from mother to child during pregnancy or delivery

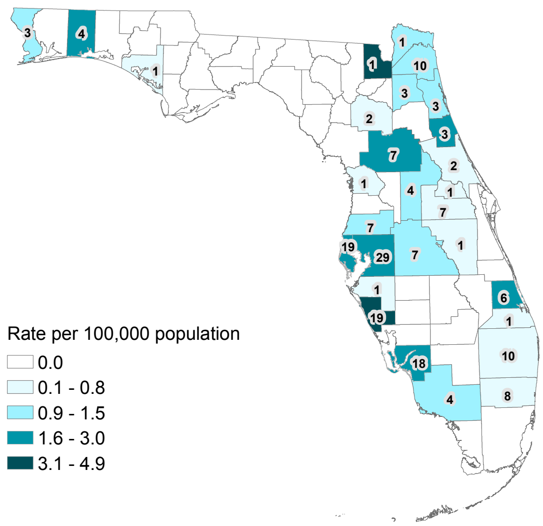
Reason for surveillance: Enhance efforts to prevent HCV transmission, identify and prevent outbreaks, improve allocation of resources for treatment services, assist in evaluating the impact of public health interventions and screening programs

Comments: The increase in cases is due to a change in case definition (2008), an enhanced surveillance project focusing on chronic infections in young adults (2012), and changes in risk behaviors in young adults.

Summary of Case Demographics

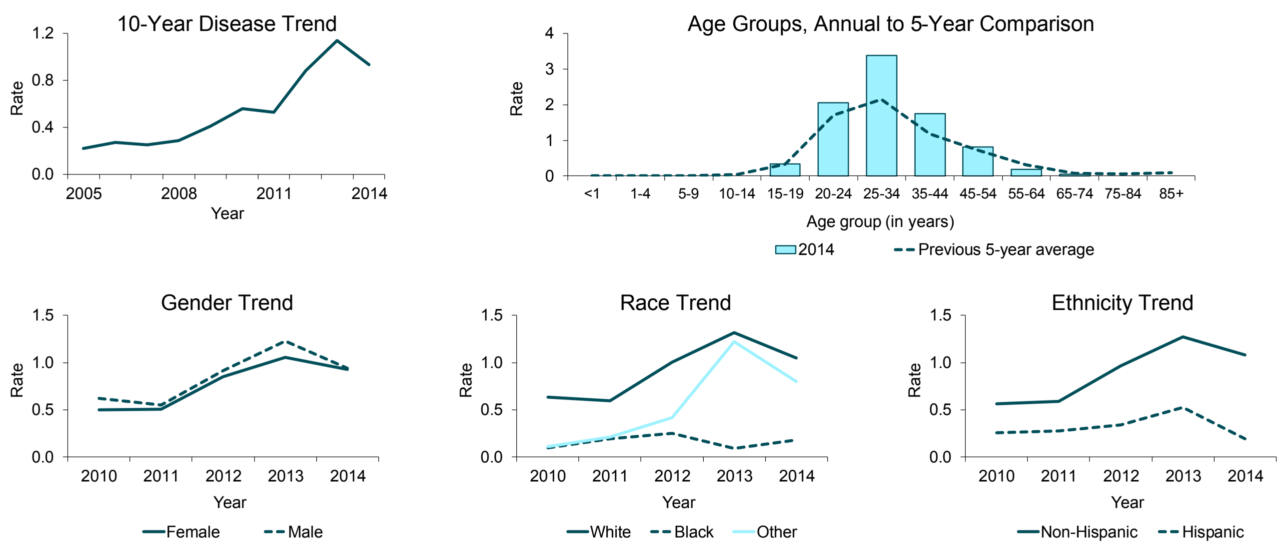
Summary			
Number of cases			183
Incidence rate (per 100,000 population)			0.9
Change from 5-year average incidence			+33.0%
Age (in years)			
Mean			34
Median			31
Min-max			17 - 66
Gender	**Number**	**(Percent)**	**Rate**
Female	93	(50.8)	0.9
Male	90	(49.2)	0.9
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	160	(92.0)	1.0
Black	6	(3.4)	NA
Other	8	(4.6)	NA
Unknown race	9		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	161	(94.7)	1.1
Hispanic	9	(5.3)	NA
Unknown ethnicity	13		

Reported Acute Hepatitis C Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=183)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Acute Hepatitis C Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

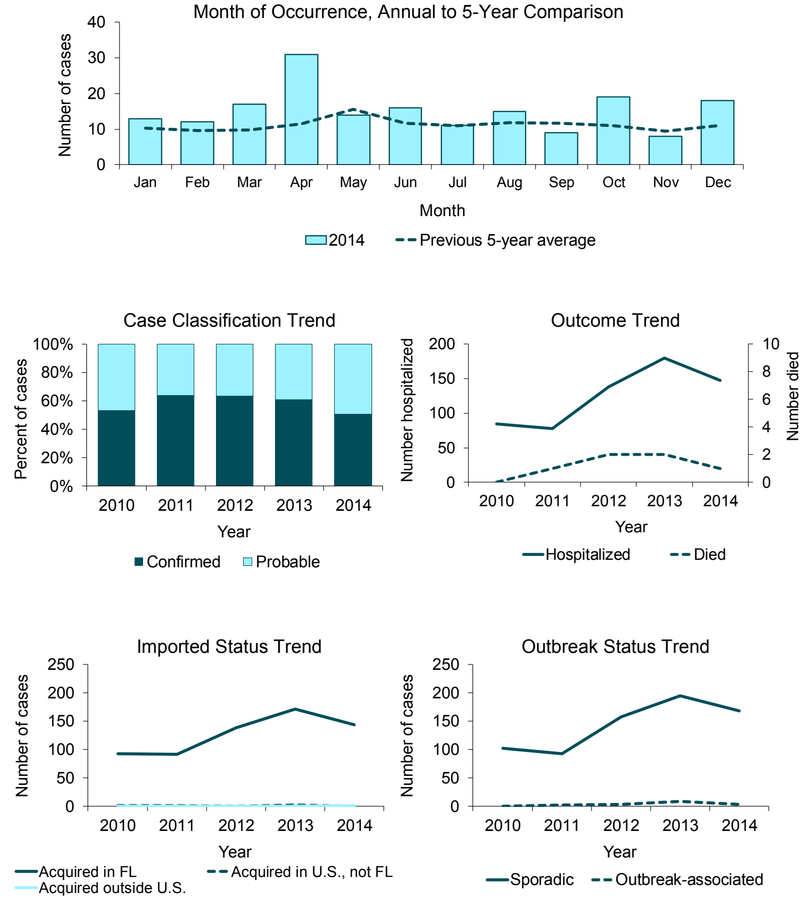


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Acute hepatitis C cases were missing 12.4% of ethnicity data in 2010, 7.6% of race data in 2010, 7.1% of ethnicity data in 2012, and 7.1% of ethnicity data in 2014.

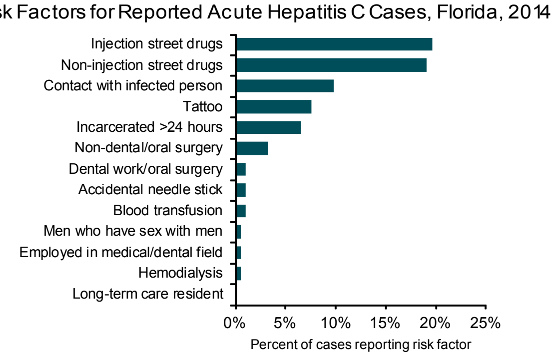
Summary of Case Factors

Summary	Number
Number of cases	183
Case classification	**Number (Percent)**
Confirmed	93 (50.8)
Probable	90 (49.2)
Outcome	**Number (Percent)**
Hospitalized	148 (80.9)
Died	1 (0.5)
Imported status	**Number (Percent)**
Acquired in Florida	144 (78.7)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	1 (0.5)
Acquired location unknown	38 (20.8)
Outbreak status	**Number (Percent)**
Sporadic	169 (92.3)
Outbreak-associated	4 (2.2)
Outbreak status unknown	10 (5.5)

Reported Acute Hepatitis C Cases by Month of Occurrence, Case Classification, Outcome, Imported Status, and Outbreak Status, Florida



Risk Factors for Reported Acute Hepatitis C Cases, Florida, 2014



Variation in identified disease incidence at the local level likely reflects differences in the true incidence of disease and differences in the vigor with which surveillance is performed. Conducting surveillance for acute hepatitis C is difficult because acute infection is differentiated from chronic infection only by the presence of acute clinical symptoms. Most acute cases are identified only when symptoms warrant hospitalization. The majority of >22,000 hepatitis C reports received by the Florida Department of Health (DOH) each year are from laboratories and do not include symptom information. Additional follow-up is required to determine if they represent acute or chronic infection or repeated testing of a person previously reported. Not all local health offices have the resources to conduct these investigations due to the large volume of laboratory results received. As a result, there is variation in the number of acute hepatitis C cases identified by county.

In 2012, DOH implemented an enhanced surveillance project focusing on chronic hepatitis in young adults. In July 2014, reporting requirements were updated for laboratories participating in electronic laboratory reporting to include all negative hepatitis results, allowing counties to correctly identify more acute cases. In 2014, 182 cases (99.5%) were investigated and 98 cases (53.8%) were interviewed to determine possible risk factors. Risk factors reported are shown above. Note that a person can report multiple risk factors. Injection drug use and non-injection drug use were the most commonly reported risk factors. New infections of viral hepatitis are frequently associated with drug use, likely due to sharing of injection equipment or risky sexual behaviors.

Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Disease Facts

Cause: HIV

Type of illness: Flu-like illness at primary infection, causes severe damage to immune system leading to AIDS

Transmission: Anal or vaginal sex; blood exposure (e.g., sharing drug needles, receiving infected blood transfusion [rare due to donor screening]); or from mother to child during pregnancy, delivery, or breast-feeding

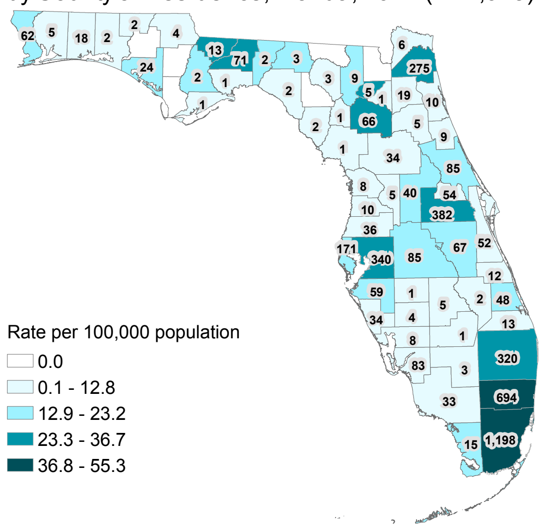
Reason for surveillance: Enhance efforts to prevent HIV transmission, improve allocation of resources for treatment services, and assist in evaluating the impact of public health interventions

Comments: The expansion of electronic laboratory reporting in 2007 and 2012 led to artificial peaks in newly reported cases in 2008 and 2013. HIV infection cases in 2014 increased 4% from the previous year. Statewide increases in infected white and Hispanic men who have sex with men contributed to the increase in 2014.

Summary of Case Demographics

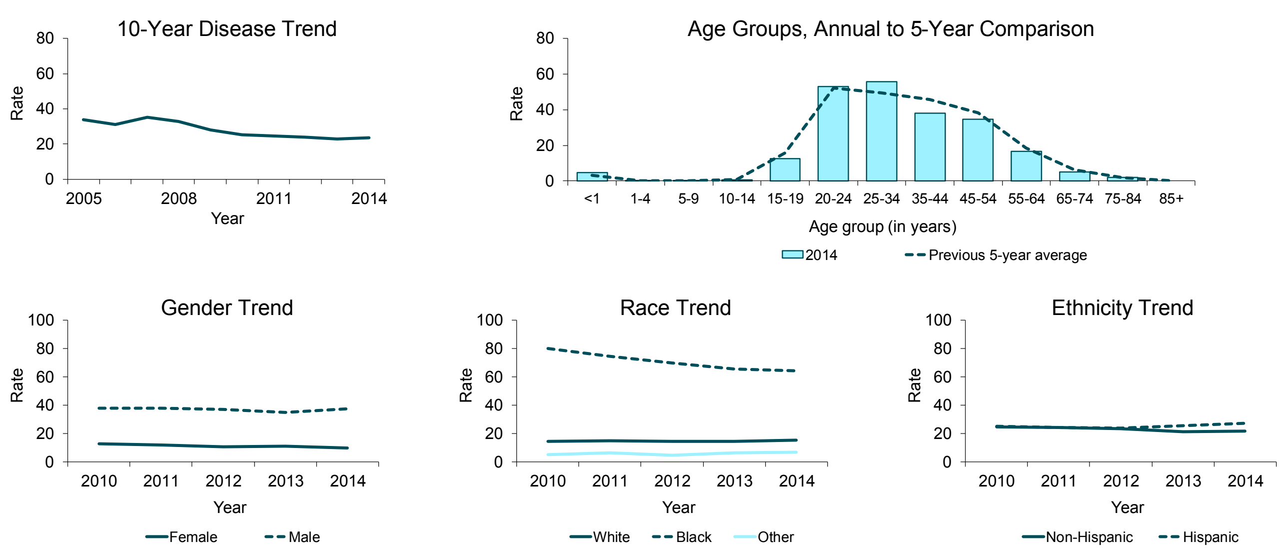
Summary			
Number of cases			4,613
Incidence rate (per 100,000 population)			23.6
Change from 5-year average incidence			-5.1%
Age (in years)			
Mean			38
Median			35
Min-max			0 - 88
Gender	**Number**	**(Percent)**	**Rate**
Female	1,007	(21.8)	10.1
Male	3,606	(78.2)	37.7
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	2,389	(52.3)	15.6
Black	2,107	(46.1)	64.6
Other	70	(1.5)	7.0
Unknown race	47		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	3,268	(71.8)	22.0
Hispanic	1,281	(28.2)	27.3
Unknown ethnicity	64		

Reported HIV Infection Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=4,613)



County totals exclude Department of Corrections cases (n=87).
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported HIV Infection Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Additional Information

HIV infection cases tend to represent a more current picture of the AIDS epidemic as they are indicative of recent exposure. For HIV infection cases in men reported in 2014, male-to-male sexual contact was the most common risk factor (76.7%), followed by heterosexual contact (18.0%).

In 2014, HIV infection cases by race and ethnicity were more evenly distributed among adult men compared to adult women; 65.8% of infected adult women were black.

From 1979 to 2014, 1,220 perinatally infected newborns were born in Florida. The number of HIV-infected babies rose from 1979 through 1993. In April 1994, the U.S. Public Health Service released guidelines for use of zidovudine (ZDV), also known as azidothymidine (AZT), to reduce perinatal HIV transmission. Beginning in October 1996, Florida law required the offering of HIV testing to pregnant women, resulting in more HIV-positive women being offered ZDV during their pregnancies. Enhanced perinatal surveillance systems have documented increased use of ZDV among exposed infants and HIV-infected mothers at the prenatal, intrapartum, delivery and neonatal stages.

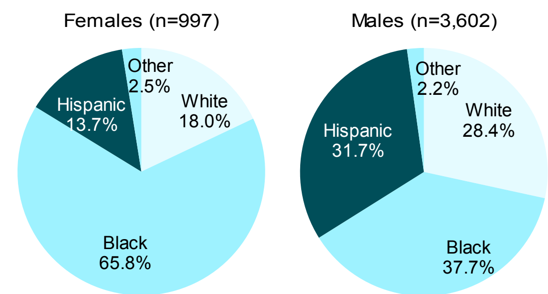
In the past few years, the use of other medical therapies, including protease inhibitors, has supplemented the use of ZDV for both infected mothers and their babies. The use of these medical therapies has resulted in a dramatic decline in perinatally acquired HIV/AIDS since 1994. Other initiatives in Florida have also contributed to the reduction in perinatal cases, including Targeted Outreach to Pregnant Women Act programs, the assignment of perinatal nurses to the most heavily impacted counties, social marketing and provider education. Combined, these successful initiatives have resulted in a 94.5% decline in perinatally infected newborns in Florida from 109 cases in 1993 to six cases in 2014.

For information on AIDS, please see the AIDS chapter within this section (page 11).

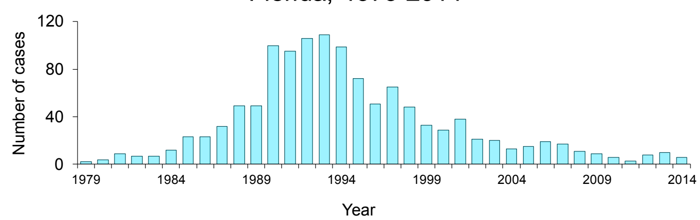
Reported Adult (13 Years and Older) HIV Infection Cases by Gender and Mode of Exposure, Florida, 2014

Mode of exposure	Females cases (n=0,997) Number (percent)	Males cases (n=3,602) Number (percent)
Men who have sex with men (MSM)	NA	2,761 (76.7)
Heterosexual	894 (89.7)	649 (18.0)
Injection drug user (IDU)	98 (9.8)	101 (2.8)
MSM and IDU	NA	88 (2.4)
Other	5 (0.5)	3 (0.1)
Total	997	3,602

Reported Adult (13 Years and Older) HIV Infection Cases by Gender and Race/Ethnicity, Florida, 2014



Reported Perinatal HIV Infection Cases by Year of Birth, Florida, 1979-2014



Please visit the AIDS Surveillance website to access additional information at www.FloridaHealth.gov/diseases-and-conditions/aids/surveillance/index.html.

To locate services across the state please visit www.FloridaHealth.gov/diseases-and-conditions/aids/index.html.

Lead Poisoning

Disease Facts

Cause: Lead

Type of illness: Wide range of adverse health effects, from difficulty learning, sluggishness, and fatigue to seizures, coma, and death

Exposure: Most commonly ingestion of paint dust in houses built prior to elimination of lead in paints in 1978 for children; occupational exposure for adults

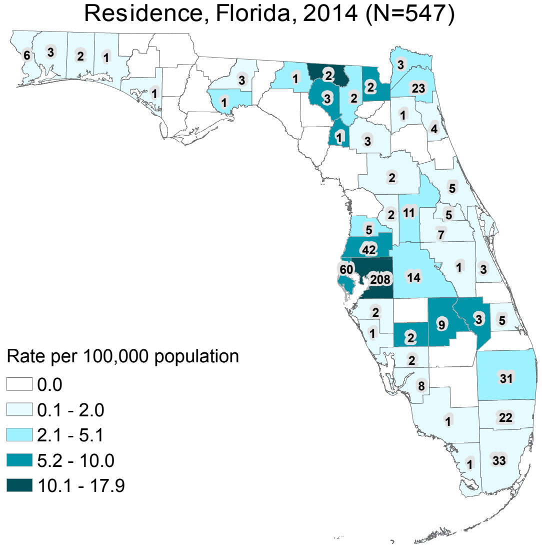
Reason for surveillance: Estimate burden among children, ensure follow-up care for identified cases, prevent new cases and exacerbation of illness, help target future public health interventions

Comments: Prior to 2010, lead poisoning case data were primarily stored outside the state's reportable disease surveillance system, therefore only cases from 2010 to 2014 are presented in this report. Lead poisoning is most often identified in children as part of routine screening.

Summary of Case Demographics

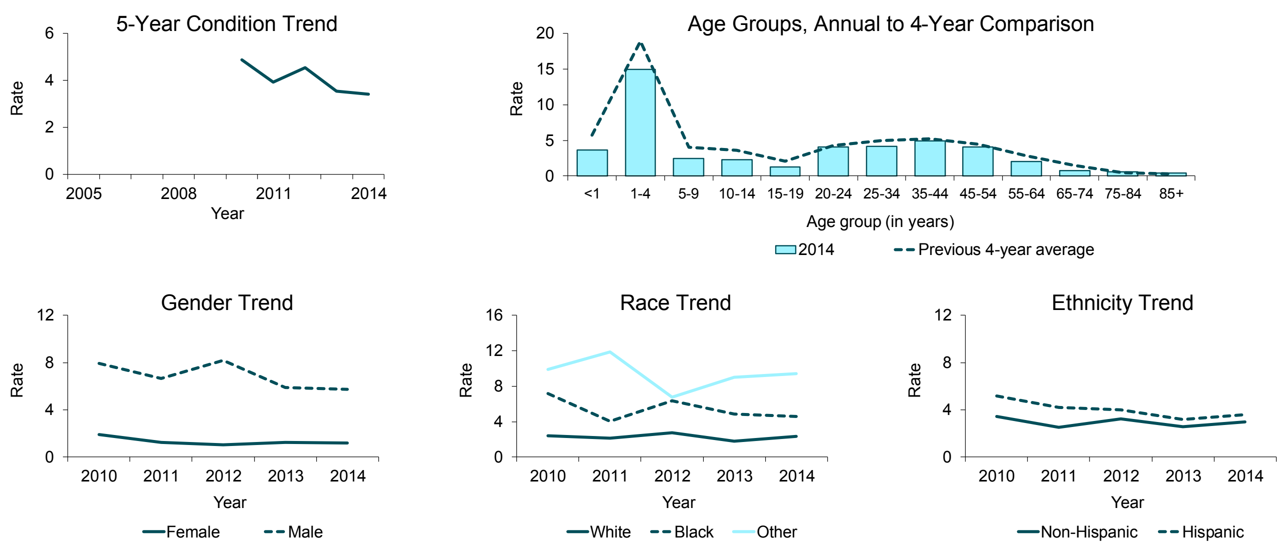
Summary			
Number of cases			669
Incidence rate (per 100,000 population)			3.4
Change from 4-year average incidence			-18.8%
Age (in years)			
Mean			30
Median			31
Min-max			0 - 89
Gender	**Number**	**(Percent)**	**Rate**
Female	120	(17.9)	1.2
Male	549	(82.1)	5.7
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	358	(59.5)	2.3
Black	150	(24.9)	4.6
Other	94	(15.6)	9.4
Unknown race	67		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	444	(72.4)	3.0
Hispanic	169	(27.6)	3.6
Unknown ethnicity	56		

Reported Lead Poisoning Cases and Incidence Rates Per 100,000 Population (Restricted to Exposures Occurring in Florida) by County of Residence, Florida, 2014 (N=547)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Lead Poisoning Incidence Rates Per 100,000 Population
by Year, Age, Gender, Race, and Ethnicity, Florida



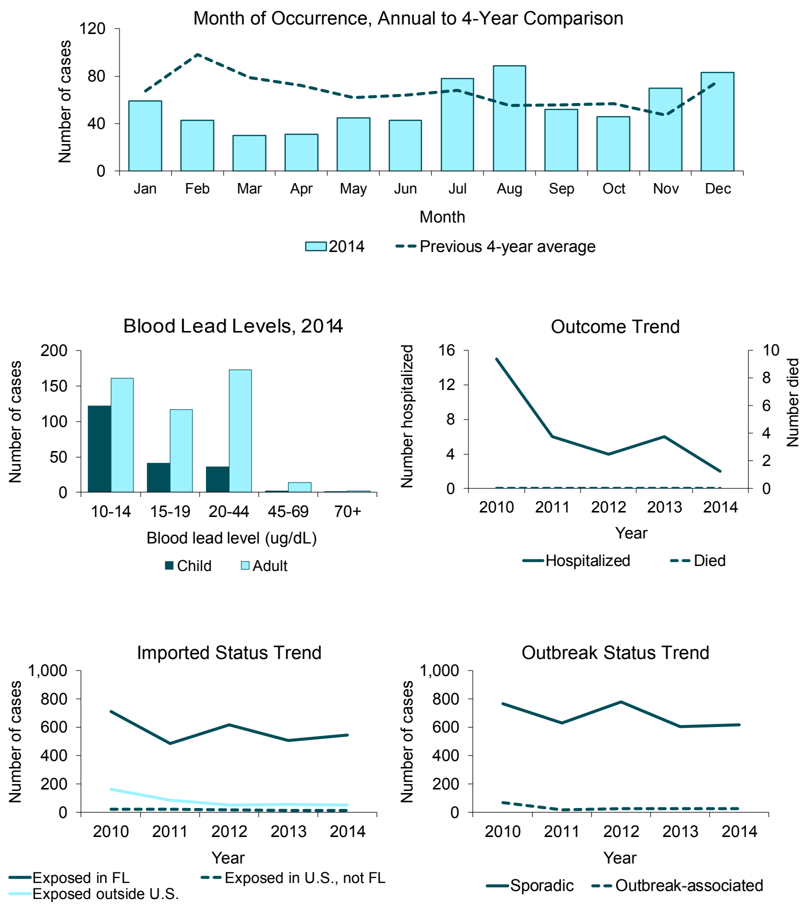
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lead poisoning cases were missing 21.4% of ethnicity data in 2010, 27.3% of race data in 2010, 25.6% of ethnicity data in 2011, 24.9% of race data in 2011, 25.0% of ethnicity data in 2012, 21.6% of race data in 2012, 23.6% of ethnicity data in 2013, 23.6% of race data in 2013, 8.4% of ethnicity data in 2014, and 10.0% of race data in 2014.

Lead Poisoning

Summary of Case Factors

Summary	Number
Number of cases	669
Outcome	**Number (Percent)**
Hospitalized	2 (0.3)
Died	0 (0.0)
Imported status	**Number (Percent)**
Exposed in Florida	547 (81.8)
Exposed in the U.S., not Florida	14 (2.1)
Exposed outside the U.S.	52 (7.8)
Exposed location unknown	56 (8.4)
Outbreak status	**Number (Percent)**
Sporadic	618 (92.4)
Outbreak-associated	28 (4.2)
Outbreak status unknown	23 (3.4)
Age group	**Number (Percent)**
<6 (young child)	153 (22.9)
6-15 (child)	49 (7.3)
16+ (adult)	467 (69.8)

Reported Lead Poisoning Cases by Month of Occurrence, Blood Lead Level, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the exposure most likely occurred. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Additional Information

In Florida, a blood lead level (BLL) ≥10 µg/dL meets the surveillance case definition for lead poisoning. Lead poisoning is most common in children <6 years old, partially due to recommended testing in this age group for children who are Medicaid-enrolled or eligible, foreign-born or otherwise identified as high-risk. Children in this age group are more likely to put lead-contaminated hands, toys, or paint chips in their mouths making them more vulnerable to lead poisoning than older children. Most children with lead poisoning have BLLs in the 10-14 µg/dL range.

Occupations such as battery manufacturing and recycling, scrap metal recycling, and automotive and radiator repair are the main causes of lead poisoning in adults. Common non-occupational exposures are shooting firearms; remodeling, renovating, or painting; retaining bullets from gunshot wounds; and lead casting. Lead poisoning is much more common in men than women as they are more likely to have these occupations and hobbies. Compared to children, adults have much higher BLLs, peaking in the 24-44 µg/dL range. Hillsborough, Pinellas, and Pasco counties have a high rate of lead poisoning cases due to the number of battery recycling plants and metal recycling plants located in those counties.

Legionellosis

Disease Facts

Cause: *Legionella* bacteria

Type of illness: Common symptoms include fever, muscle pain, cough, and pneumonia

Transmission: Airborne; inhalation of aerosolized water containing the bacteria

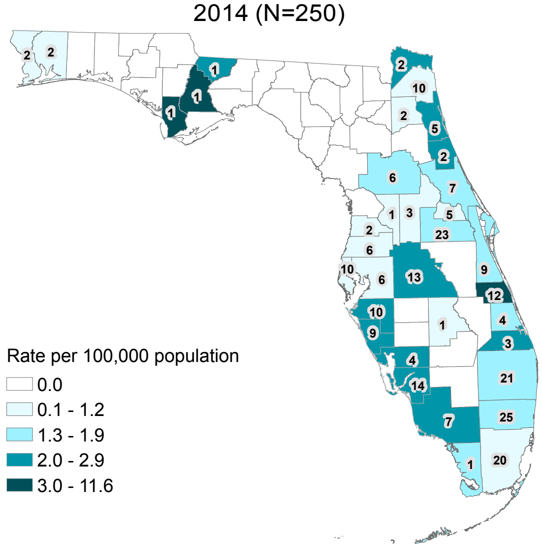
Reason for surveillance: Identify and control outbreaks, identify and mitigate common reservoirs, monitor incidence over time, estimate burden of illness

Comments: The elderly and those with weakened immune systems are at highest risk for developing disease. Environmental assessments are conducted for outbreaks to determine the source; recently identified sources in Florida and the U.S. include decorative fountains, hot tubs, cooling towers (air-conditioning units for large buildings), and potable water systems. Increasing incidence in Florida is consistent with the increase observed nationally over the past decade.

Summary of Case Demographics

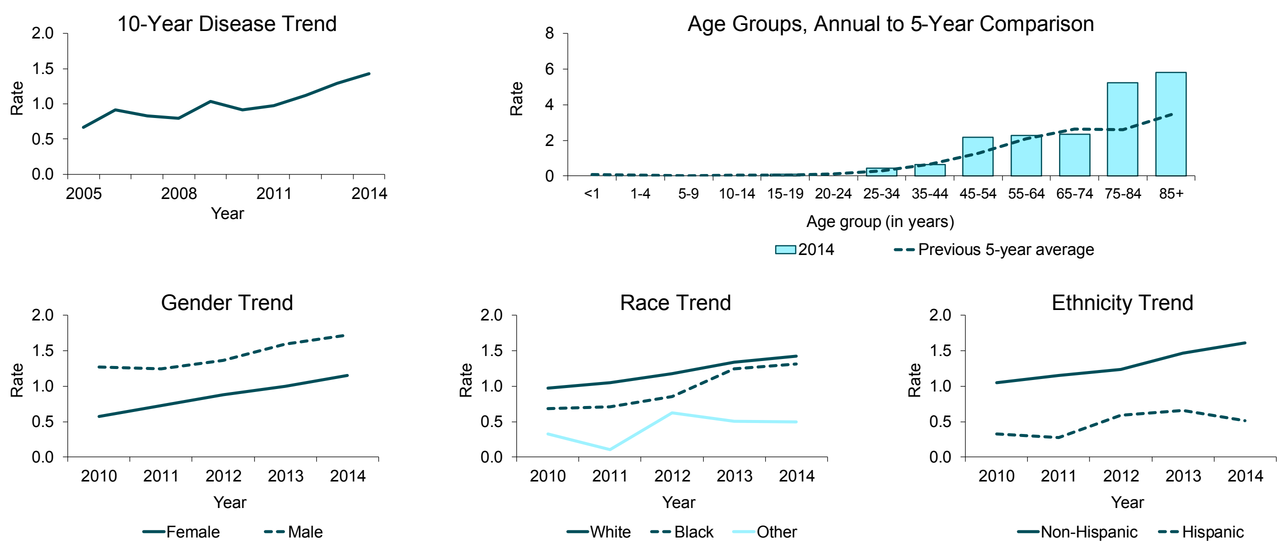
Summary			
Number of cases			280
Incidence rate (per 100,000 population)			1.4
Change from 5-year average incidence			+34.2%
Age (in years)			
Mean			64
Median			63
Min-max			19 - 96
Gender	**Number**	**(Percent)**	**Rate**
Female	115	(41.1)	1.2
Male	165	(58.9)	1.7
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	218	(82.0)	1.4
Black	43	(16.2)	1.3
Other	5	(1.9)	NA
Unknown race	14		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	240	(90.9)	1.6
Hispanic	24	(9.1)	0.5
Unknown ethnicity	16		

Reported Legionellosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=250)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Legionellosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



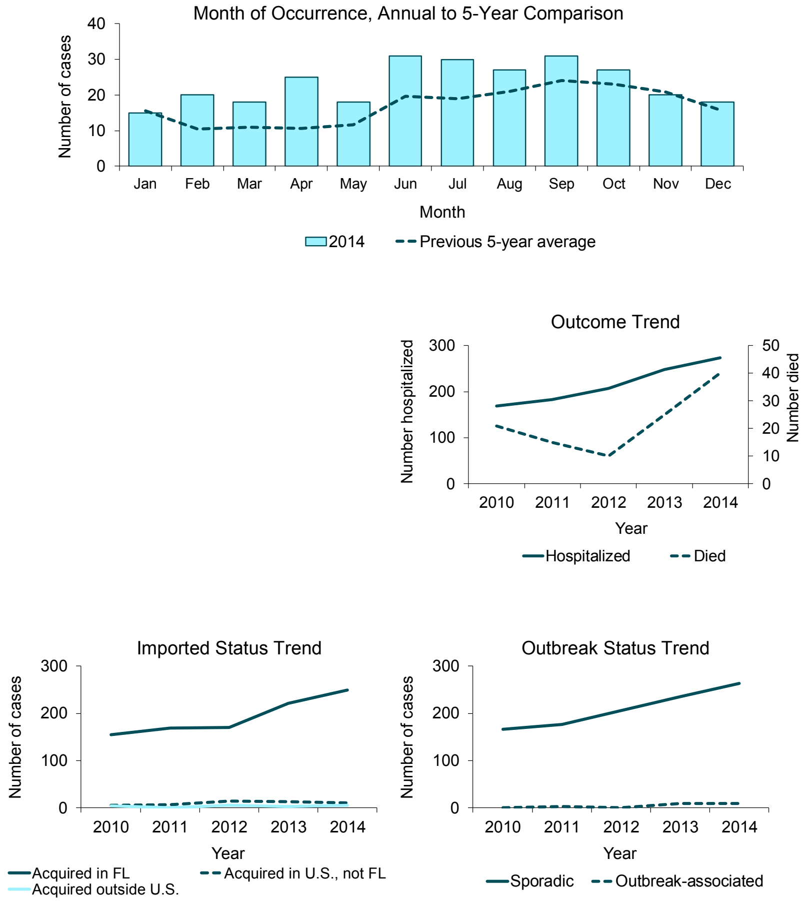
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Legionellosis cases were missing 5.7% of ethnicity data in 2014.

Legionellosis

Summary of Case Factors

Summary	Number
Number of cases	280
Outcome	**Number (Percent)**
Hospitalized	274 (97.9)
Died	40 (14.3)
Imported status	**Number (Percent)**
Acquired in Florida	250 (89.3)
Acquired in the U.S., not Florida	11 (3.9)
Acquired outside the U.S.	6 (2.1)
Acquired location unknown	13 (4.6)
Outbreak status	**Number (Percent)**
Sporadic	263 (93.9)
Outbreak-associated	10 (3.6)
Outbreak status unknown	7 (2.5)

Reported Legionellosis Cases by Month of Occurrence, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Additional Information

In Florida, sporadic cases of both Legionnaires' disease and Pontiac fever (two distinct presentations of legionellosis) are monitored. Four outbreaks were identified in 2014. These outbreaks involved a hotel, correctional institution, a hospital, and an assisted living facility. Building water systems were identified as the source of all the outbreaks.

Listeriosis

Disease Facts

Cause: *Listeria monocytogenes* bacteria

Type of illness: Most people infected with *Listeria* have “invasive” infection, in which the bacteria has spread beyond the gastrointestinal tract; initial illness is often characterized by fever and diarrhea

Transmission: Foodborne; can be transmitted to fetus during pregnancy

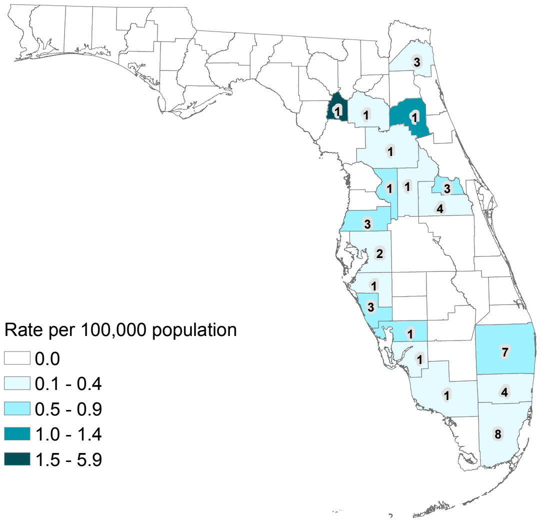
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness, reduce stillbirths

Comments: Listeriosis primarily affects pregnant women, newborns, and older adults or people with weakened immune systems. Infection during pregnancy can cause fetal loss, preterm labor, stillbirths, and illness or death in newborn infants. Incidence is usually slightly higher in women than in men, but was substantially higher in women in 2014.

Summary of Case Demographics

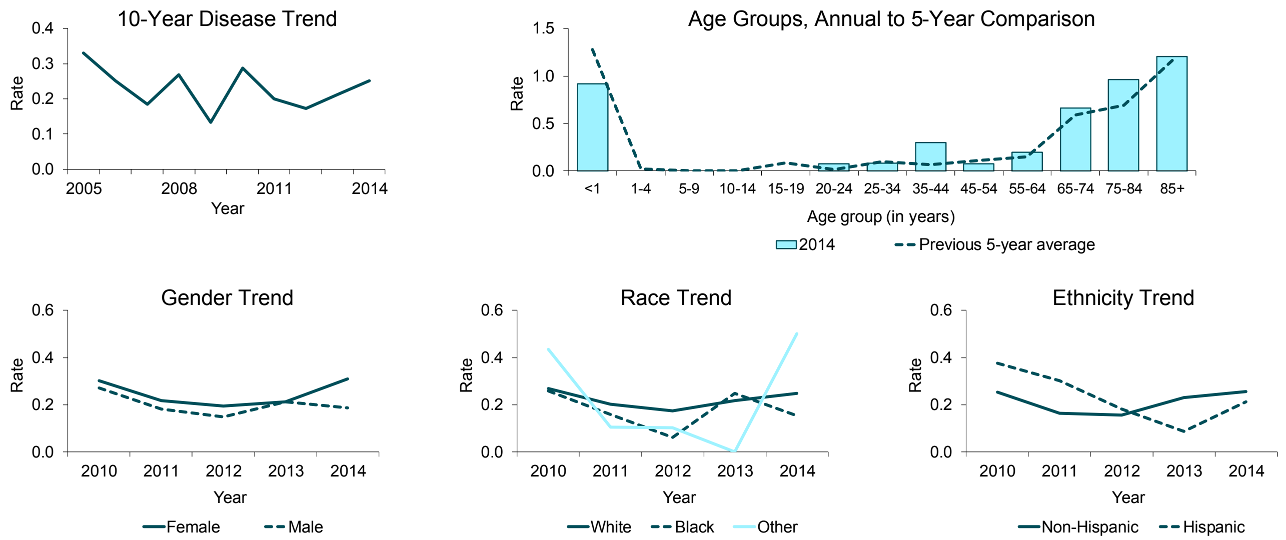
Summary			
Number of cases			49
Incidence rate (per 100,000 population)			0.3
Change from 5-year average incidence			+24.5%
Age (in years)			
Mean			63
Median			71
Min-max			0 - 96
Gender	**Number**	**(Percent)**	**Rate**
Female	31	(63.3)	0.3
Male	18	(36.7)	NA
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	38	(79.2)	0.2
Black	5	(10.4)	NA
Other	5	(10.4)	NA
Unknown race	1		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	38	(79.2)	0.3
Hispanic	10	(20.8)	NA
Unknown ethnicity	1		

Reported Listeriosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=47)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Listeriosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

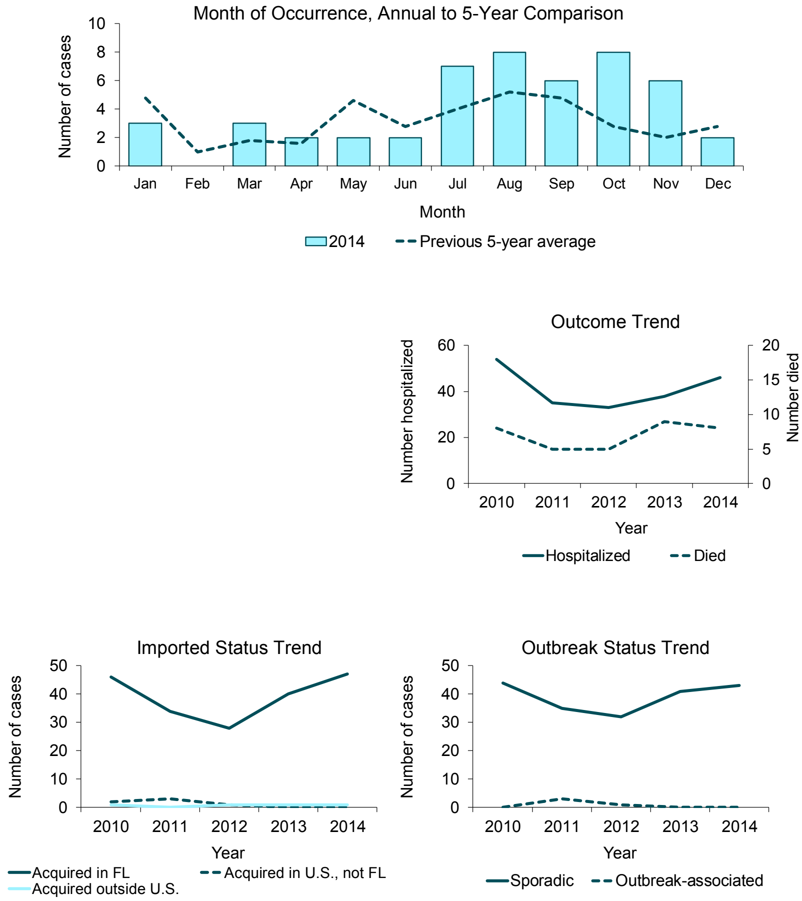


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Listeriosis cases were missing 5.3% of race data in 2011, 6.1% of ethnicity data in 2012, 12.1% of race data in 2012, and 7.3% of ethnicity data in 2013.

Summary of Case Factors

Summary	Number
Number of cases	49
Outcome	**Number (Percent)**
Hospitalized	46 (93.9)
Died	8 (16.3)
Imported status	**Number (Percent)**
Acquired in Florida	47 (95.9)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	1 (2.0)
Acquired location unknown	1 (2.0)
Outbreak status	**Number (Percent)**
Sporadic	43 (87.8)
Outbreak-associated	0 (0.0)
Outbreak status unknown	6 (12.2)

Reported Listeriosis Cases by Month of Occurrence, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Three cases in Florida residents were linked to two different multistate outbreaks after being reported. One of these multistate outbreaks was linked to recalled cheeses. No vehicle was identified in the other outbreak. Unfortunately, information about these cases was not updated after being reported to reflect the outbreak association.

Disease Facts

Cause: *Borrelia burgdorferi* bacteria

Type of illness: Acute illness or late manifestation; common acute symptoms include fever, headache, fatigue, and erythema migrans (characteristic bull's-eye rash); late manifestation symptoms can include Bell's palsy, severe joint pain and swelling, and shooting pain

Transmission: Tick-borne; bite of infective tick

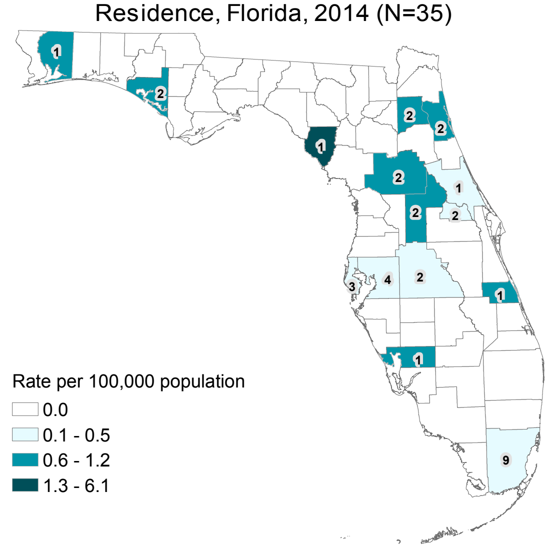
Reason for surveillance: Monitor incidence over time, estimate burden of illness and degree of endemicity, target areas of high incidence for prevention education

Comments: Lyme disease is the most common tick-borne disease in the U.S. A case definition change in 2008 expanding the acceptable laboratory criteria contributes significantly to the increase in cases starting in 2008. Other contributing factors include increased incidence, recognition, and geographic distribution.

Summary of Case Demographics

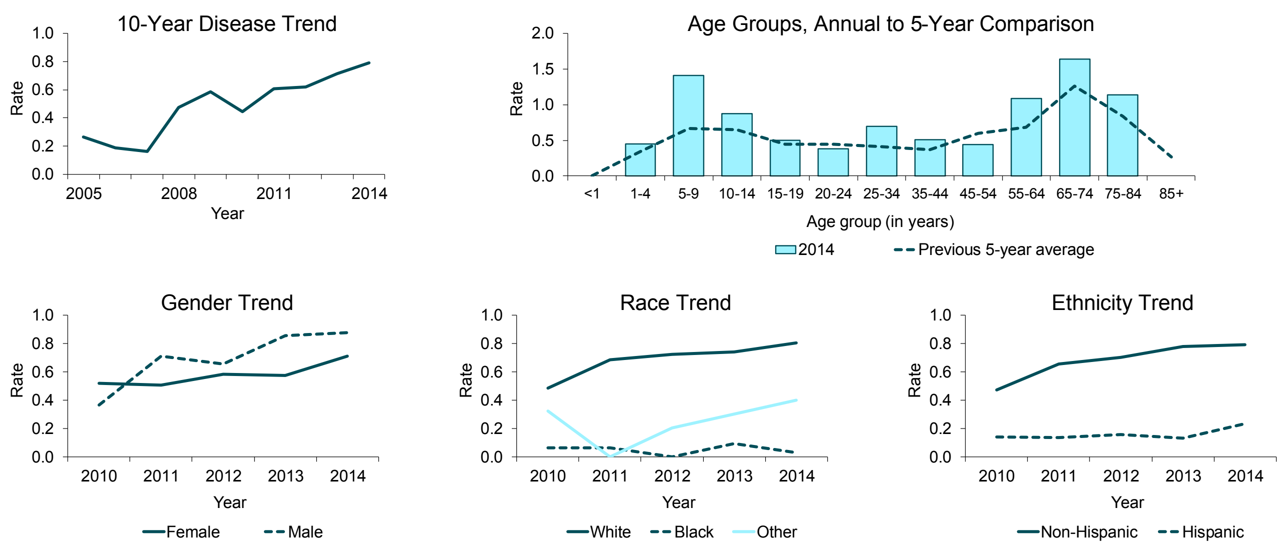
Summary			
Number of cases			155
Incidence rate (per 100,000 population)			0.8
Change from 5-year average incidence			+33.2%
Age (in years)			
Mean			45
Median			51
Min-max			1 - 83
Gender	**Number**	**(Percent)**	**Rate**
Female	71	(45.8)	0.7
Male	84	(54.2)	0.9
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	123	(96.1)	0.8
Black	1	(0.8)	NA
Other	4	(3.1)	NA
Unknown race	27		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	118	(91.5)	0.8
Hispanic	11	(8.5)	NA
Unknown ethnicity	26		

Reported Lyme Disease Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=35)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Lyme Disease Incidence Rates Per 100,000 Population
by Year, Age, Gender, Race, and Ethnicity, Florida



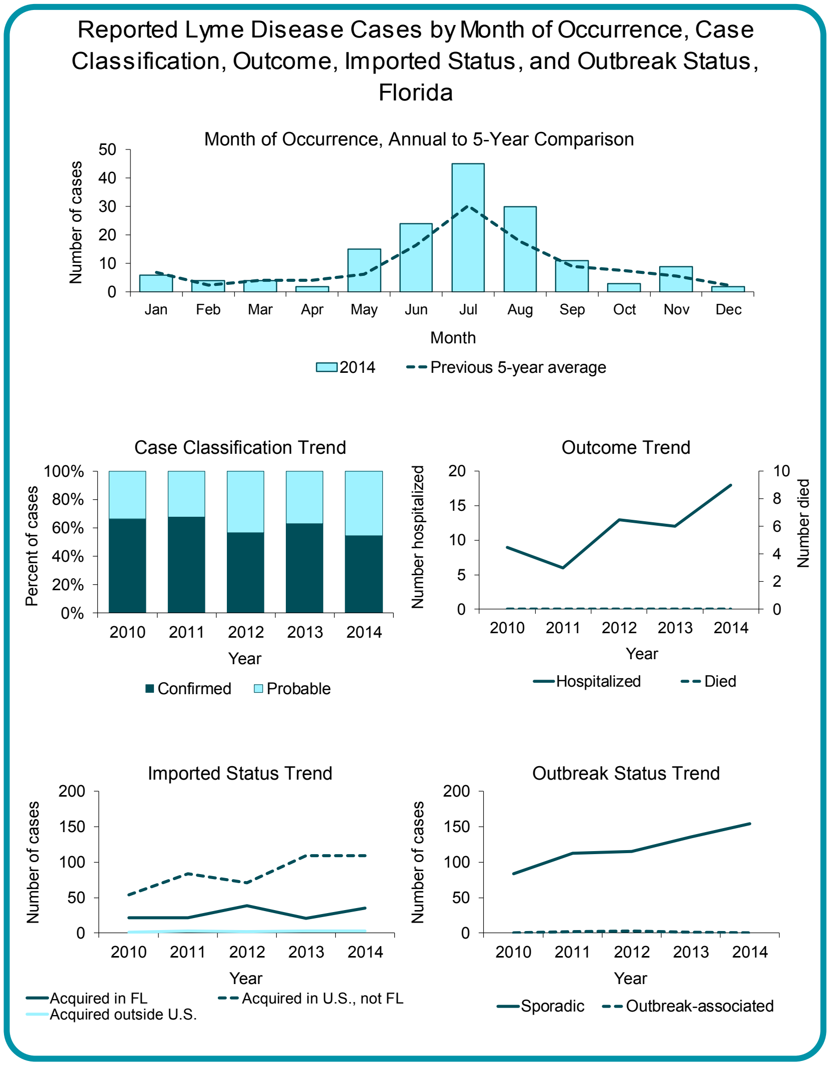
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Lyme disease cases were missing 10.7% of ethnicity data in 2010, 8.3% of race data in 2010, 11.3% of ethnicity data in 2011, 9.6% of race data in 2011, 6.8% of ethnicity data in 2012, 6.8% of race data in 2012, 12.3% of ethnicity data in 2013, 14.5% of race data in 2013, 16.8% of ethnicity data in 2014, and 17.4% of race data in 2014.

Note that the majority of Lyme disease cases are acquired outside of Florida.

Summary of Case Factors

Summary	Number
Number of cases	155
Case classification	**Number (Percent)**
Confirmed	85 (54.8)
Probable	70 (45.2)
Outcome	**Number (Percent)**
Hospitalized	18 (11.6)
Died	0 (0.0)
Imported status	**Number (Percent)**
Acquired in Florida	35 (22.6)
Acquired in the U.S., not Florida	109 (70.3)
Acquired outside the U.S.	3 (1.9)
Acquired location unknown	8 (5.2)
Outbreak status	**Number (Percent)**
Sporadic	154 (99.4)
Outbreak-associated	0 (0.0)
Outbreak status unknown	1 (0.6)

Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date, or county of exposure instead of county of residence.



Interpretation:
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Additional Information

Erythema migrans rash associated with acute Lyme disease may also be seen with southern tick-associated rash illness (STARI), although chronic symptoms are not reported with STARI. There is also increased recognition of post-treatment Lyme disease syndrome which is managed symptomatically and with lifestyle modifications. In 2014, incidence increased in both the young and elderly, particularly those in the 5-9-year-old and 65-74-year-old age groups, and more hospitalizations were reported. Similar to past years, most cases (70.3%) were imported from other states, primarily the Northeast and upper Midwest U.S.

Disease Facts

Cause: *Plasmodium vivax, P. falciparum, P. malariae, P. ovale* parasites

Type of illness: Uncomplicated or severe illness; common symptoms include high fever with chills, rigor, sweats, headache, nausea, and vomiting

Transmission: Bite of infective mosquito; rarely by blood transfusion or organ transplant

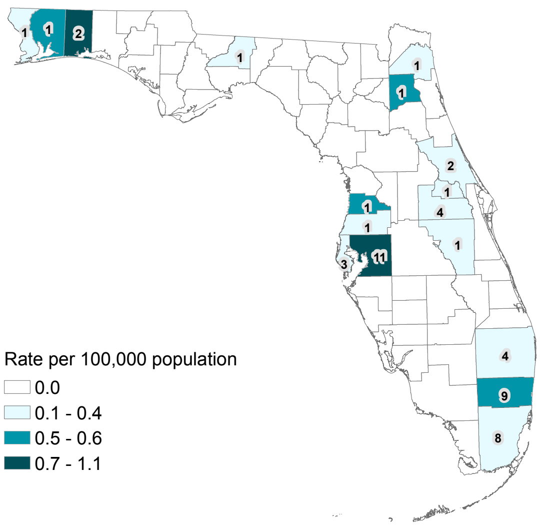
Reason for surveillance: Identify individual cases and implement control measures to prevent endemicity, monitor incidence over time, estimate burden of illness

Comments: There were no Florida-acquired malaria infections reported in 2014. All infections were associated with travel abroad to countries with endemic transmission (primarily African countries). Imported malaria cases peaked in 2010 after the January 2010 earthquake in Haiti resulted in an influx of Haitians in Florida, but decreased from 2011 to 2014. The last malaria case possibly acquired in Florida was reported in 2010.

Summary of Case Demographics

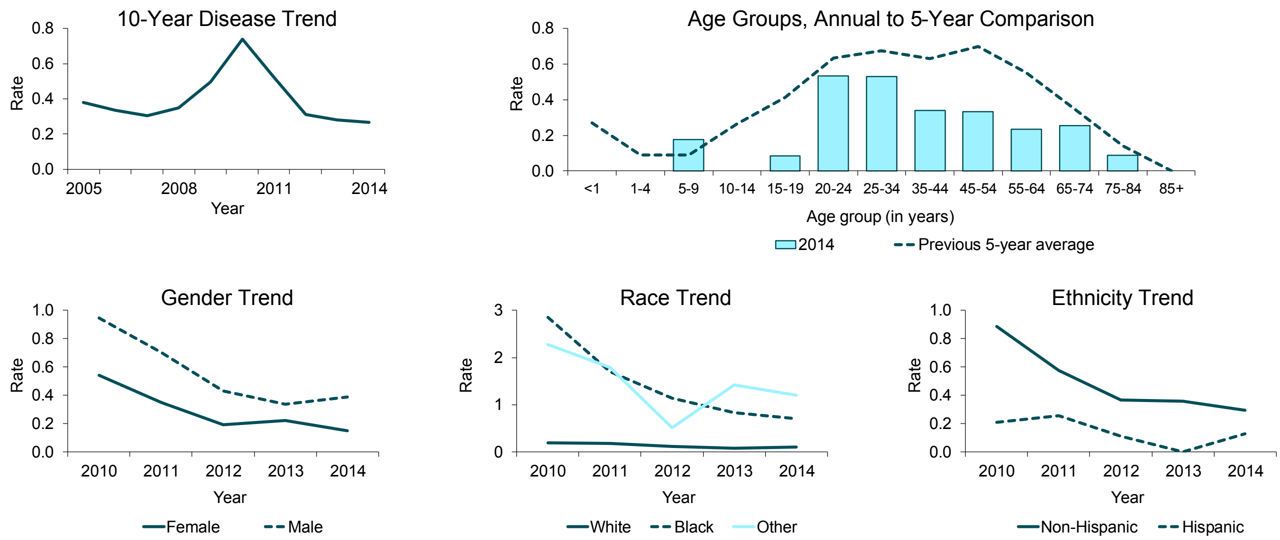
Summary			
Number of cases	52		
Incidence rate (per 100,000 population)	0.3		
Change from 5-year average incidence	-43.3%		
Age (in years)			
Mean	41		
Median	36		
Min-max	5 - 82		
Gender	**Number**	**(Percent)**	**Rate**
Female	15	(28.8)	NA
Male	37	(71.2)	0.4
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	17	(32.7)	NA
Black	23	(44.2)	0.7
Other	12	(23.1)	NA
Unknown race	0		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	44	(88.0)	0.3
Hispanic	6	(12.0)	NA
Unknown ethnicity	2		

Reported Malaria Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=52)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Malaria Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Note that the majority of malaria cases are acquired outside of Florida.

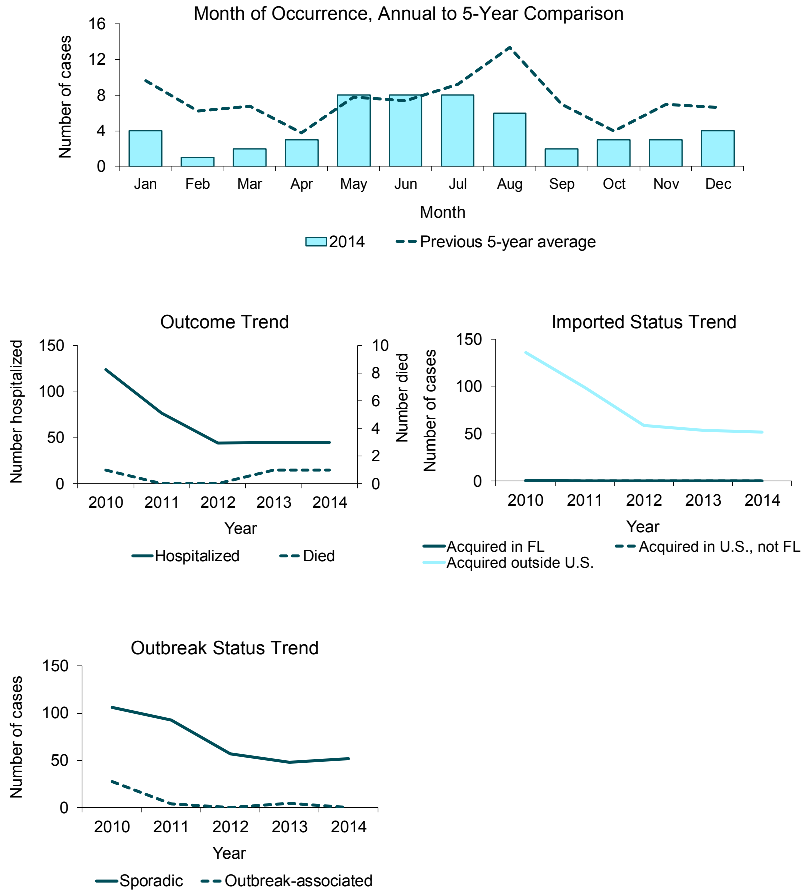
Malaria

Summary of Case Factors

Summary	Number
Number of cases	52
Outcome	**Number (Percent)**
Hospitalized	45 (86.5)
Died	1 (1.9)
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 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	52 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)
Region where infection acquired	**Number (Percent)**
Africa	36 (69.2)
Asia	8 (15.4)
Central America/Caribbean	4 (7.7)
South America	4 (7.7)

Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date, or county of exposure instead of county of residence.

Reported Malaria Cases by Month of Occurrence, Outcome, Imported Status, and Outbreak Status, Florida



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

In 2014, there was one death associated with *Plasmodium falciparum* infection that involved a person who traveled to West Africa and did not take anti-malarial prophylaxis. Although not a factor in this malaria death, due to the West African Ebola virus disease (EVD) outbreak and similarities in symptoms in early EVD and malaria illness, there were concerns nationwide about delays in diagnosis and treatment of malaria patients. In 2014, 15 non-Florida residents were diagnosed with malaria in Florida (note that this report only includes Florida residents in case counts). Both infected residents and non-residents pose a potential malaria introduction risk.

Disease Facts

Cause: *Neisseria meningitidis* bacteria

Type of illness: Neurological (meningitis) or bloodstream infections (septicemia) most common

Transmission: Person-to-person; direct contact or inhalation of respiratory droplets from nose or throat of colonized or infected person

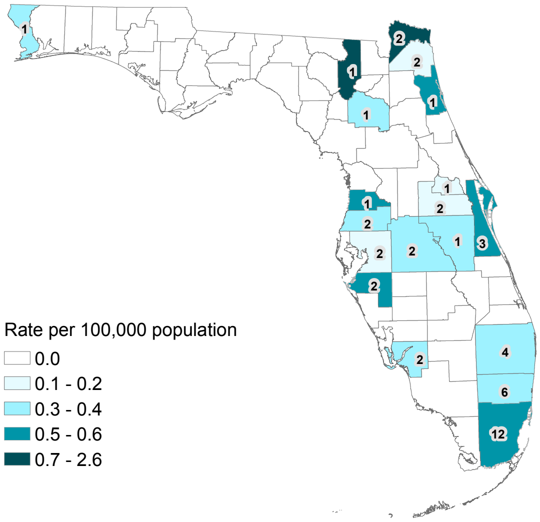
Reason for surveillance: Immediate public health actions are taken in response to every suspected meningococcal disease case to prevent secondary transmission; monitor effectiveness of immunization programs and vaccines

Comments: Five *N. meningitidis* serogroups cause almost all invasive disease (A, B, C, Y and W). Vaccines provide protection against serogroups A, B, C, Y, and W. In 2014, the proportion of infections caused by serogroup W decreased, but the serogroup continued to cause a greater proportion of cases nationwide.

Summary of Case Demographics

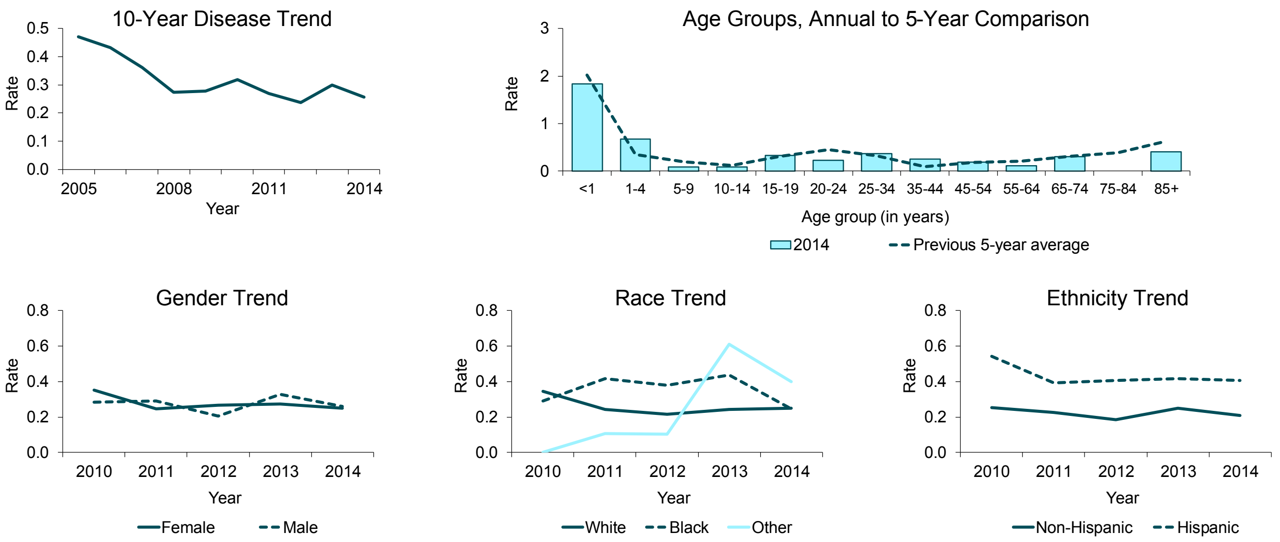
Summary			
Number of cases			50
Incidence rate (per 100,000 population)			0.3
Change from 5-year average incidence			-8.8%
Age (in years)			
Mean			33
Median			29
Min-max			0 - 88
Gender	**Number**	**(Percent)**	**Rate**
Female	25	(50.0)	0.3
Male	25	(50.0)	0.3
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	38	(76.0)	0.2
Black	8	(16.0)	NA
Other	4	(8.0)	NA
Unknown race	0		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	31	(62.0)	0.2
Hispanic	19	(38.0)	NA
Unknown ethnicity	0		

Reported Meningococcal Disease Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=48)



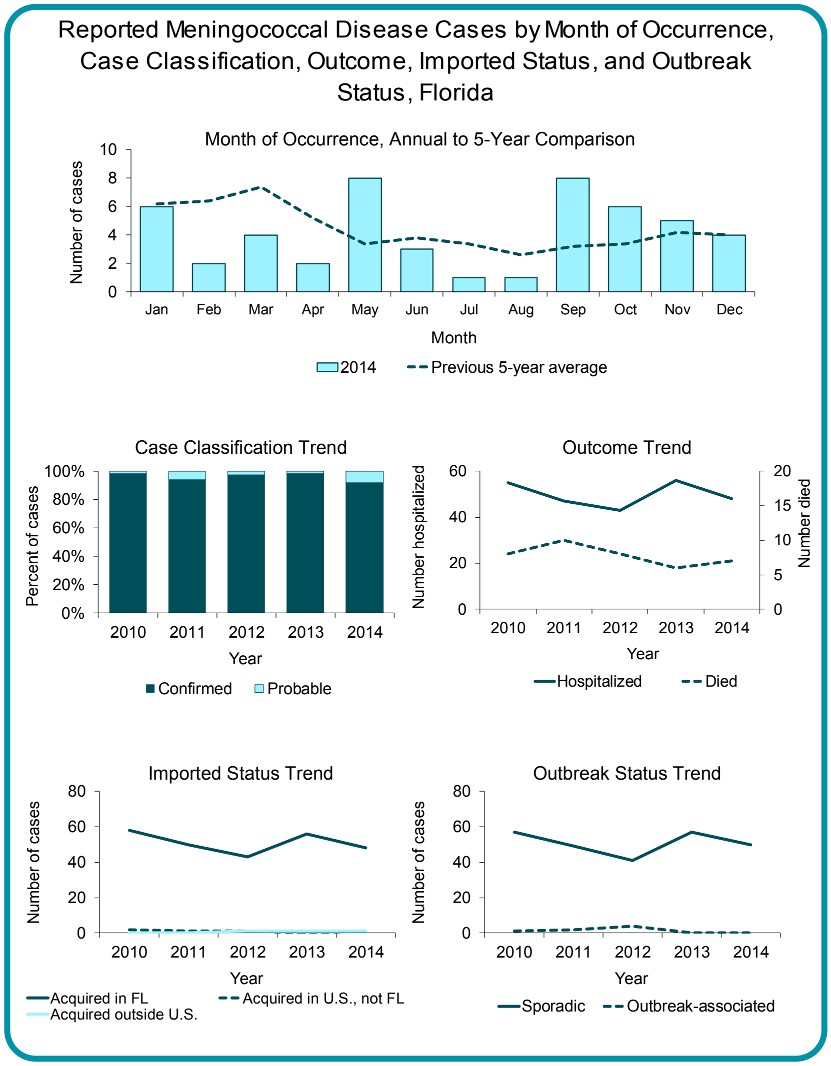
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Meningococcal Disease Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Summary of Case Factors

Summary	Number
Number of cases	50
Case classification	**Number (Percent)**
Confirmed	46 (92.0)
Probable	4 (8.0)
Outcome	**Number (Percent)**
Hospitalized	48 (96.0)
Died	7 (14.0)
Imported status	**Number (Percent)**
Acquired in Florida	48 (96.0)
Acquired in the U.S., not Florida	1 (2.0)
Acquired outside the U.S.	1 (2.0)
Acquired location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	50 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)
Serogroup	**Number (Percent)**
Group B	14 (28.0)
Group W	14 (28.0)
Group C	8 (16.0)
Group Y	6 (12.0)
Non-groupable	1 (2.0)
Unknown	7 (14.0)



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Beginning in late 2008, a dominant clone of *N. meningitidis* serogroup W emerged in south Florida. This *N. meningitidis* clone has caused the majority of invasive meningococcal disease cases in south Florida over the past eight years and has also caused an increase in invasive meningococcal disease in the region. In 2014, the clone caused sporadic infections in central Florida counties, possibly indicating an expanding geographic distribution. For additional information on the initial cluster, please see the article below.

Doyle TJ, Mejia-Echeverry A, Fiorella P, Leguen F, Livengood J, Kay R, et al. 2010. Cluster of Serogroup W135 Meningococci, Southeastern Florida, 2008–2009. *Emerging Infectious Diseases*, 16(1):113-115. Available at wwwnc.cdc.gov/eid/article/16/1/09-1026_article.

Disease Facts

Cause: *Bordetella pertussis* bacteria

Type of illness: Respiratory infection; early symptoms last 1-2 weeks and include runny nose, low-grade fever, mild cough, and apnea; progresses to paroxysmal cough or “whoop” with posttussive vomiting and exhaustion

Transmission: Person-to-person; inhalation of infective, aerosolized respiratory tract droplets

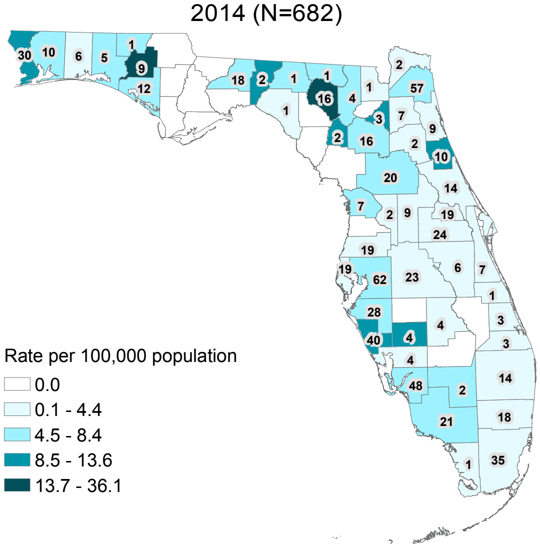
Reason for surveillance: Identify cases for treatment to prevent death, identify and prevent outbreaks, limit transmission in settings with infants or others who may transmit to infants, monitor effectiveness of immunization programs and vaccines

Comments: Pertussis incidence has increased nationwide since the 1980s. There was sharp increase in incidence in Florida in 2012 and 2013, however cases decreased slightly in 2014. Incidence remained highest in infants <1 year old and 42.7% of all cases reported in 2014 were outbreak-associated.

Summary of Case Demographics

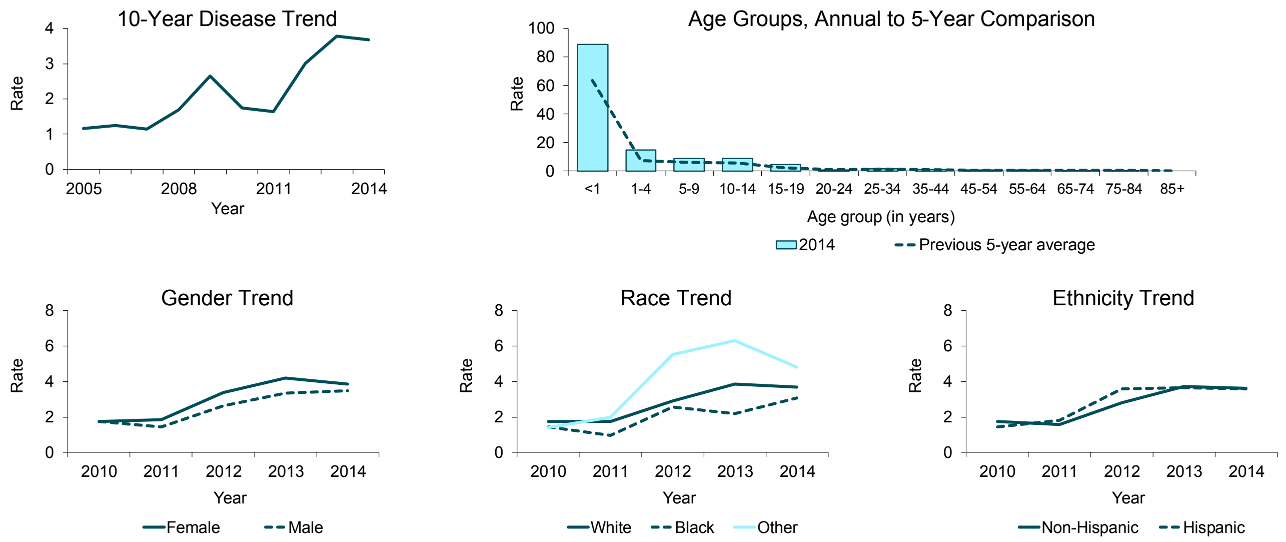
Summary			
Number of cases			719
Incidence rate (per 100,000 population)			3.7
Change from 5-year average incidence			+43.1%
Age (in years)			
Mean			13
Median			6
Min-max			0 - 82
Gender	**Number**	**(Percent)**	**Rate**
Female	386	(53.7)	3.9
Male	333	(46.3)	3.5
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	563	(79.2)	3.7
Black	100	(14.1)	3.1
Other	48	(6.8)	4.8
Unknown race	8		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	539	(76.2)	3.6
Hispanic	168	(23.8)	3.6
Unknown ethnicity	12		

Reported Pertussis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=682)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Pertussis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



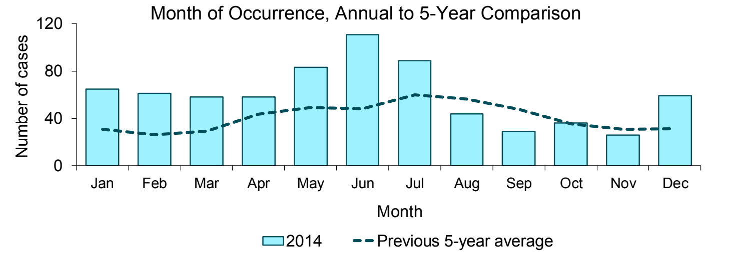
Section 2: Data Summaries for Selected Reportable Diseases/Conditions of Frequent Occurrence

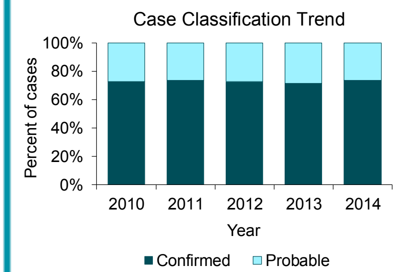
Pertussis

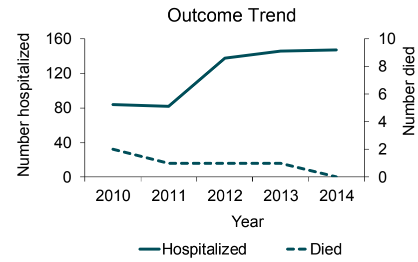
Summary of Case Factors

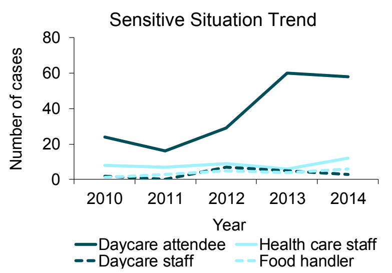
Summary	Number
Number of cases	719
Case classification	**Number (Percent)**
Confirmed	531 (73.9)
Probable	188 (26.1)
Outcome	**Number (Percent)**
Hospitalized	147 (20.4)
Died	0 (0.0)
Sensitive situation	**Number (Percent)**
Daycare attendee	58 (8.1)
Daycare staff	3 (0.4)
Health care staff	12 (1.7)
Food handler	6 (0.8)
Imported status	**Number (Percent)**
Acquired in Florida	682 (94.9)
Acquired in the U.S., not Florida	25 (3.5)
Acquired outside the U.S.	4 (0.6)
Acquired location unknown	8 (1.1)
Outbreak status	**Number (Percent)**
Sporadic	408 (56.7)
Outbreak-associated	307 (42.7)
Outbreak status unknown	4 (0.6)

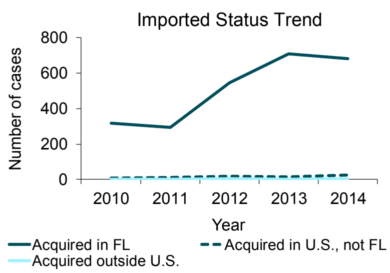
Reported Pertussis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida

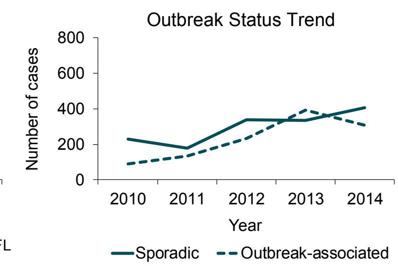












Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Older adults often have milder infections and serve as the reservoirs and sources of infection for infants and young children. The highest rate of pertussis is in infants <1 year old who are too young to be vaccinated, underscoring the importance of pregnant women and family members of infants getting vaccinated to protect infants from exposure. One dose of Tdap (tetanus, diphtheria, pertussis) vaccine became a requirement for children entering, attending, or transferring to the seventh grade during the 2009-2010 school year.

The number of pertussis cases that were outbreak-associated decreased from 392 (53.6%) in 2013 to 307 (42.7%) in 2014. The majority of outbreak-associated cases in 2014 remained among household members or close contacts, with the exception of an outbreak in a Leon County child care center involving 18 cases.

Pesticide-Related Illness and Injury, Acute

Disease Facts

Cause: Pesticides

Type of illness: Respiratory, gastrointestinal, neurological, dermal, etc., depending on the agent

Exposure: Depends on agent; dermal, inhalation, and ingestion are most common

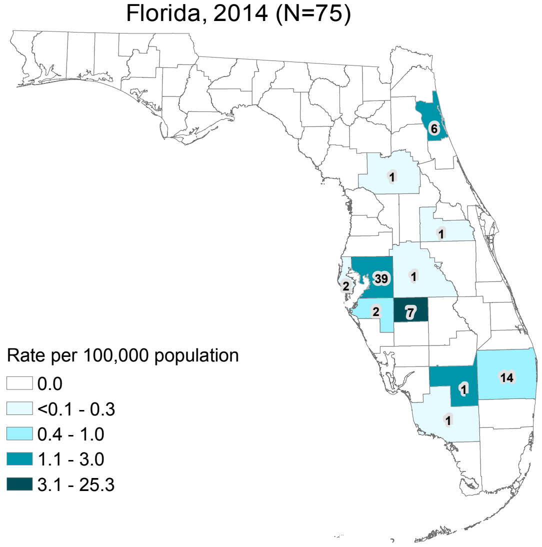
Reason for surveillance: Identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions and occupational exposure, improve administration and proper use of pesticides to reduce exposure

Comments: Starting in January 2012, suspect sporadic cases (i.e., not part of a cluster) and suspect cases associated with non-occupational exposures (typically limited household exposures) were no longer reportable, resulting in a substantially decreased number of cases reported in 2012. Note that suspect cases are included in acute pesticide-related illness and injury case counts and rates in this report.

Summary of Case Demographics

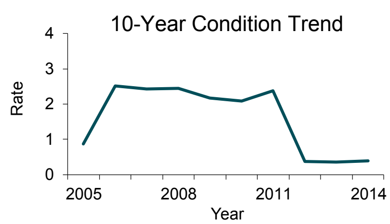
Summary			
Number of cases			75
Incidence rate (per 100,000 population)			0.4
Change from 5-year average incidence			-73.9%
Age (in years)			
Mean			44
Median			45
Min-max			10 - 72
Gender	**Number**	**(Percent)**	**Rate**
Female	39	(52.0)	0.4
Male	36	(48.0)	0.4
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	61	(83.6)	0.4
Black	1	(1.4)	NA
Other	11	(15.1)	NA
Unknown race	2		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	46	(63.9)	0.3
Hispanic	26	(36.1)	0.6
Unknown ethnicity	3		

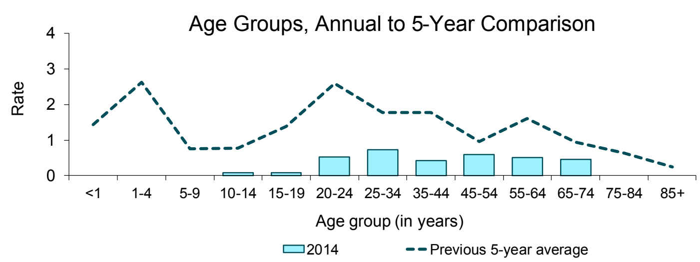
Reported Acute Pesticide-Related Illness and Injury Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=75)

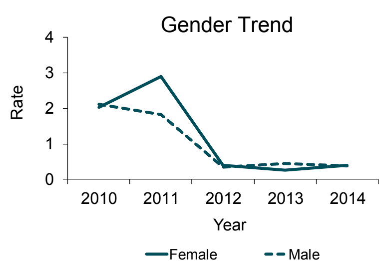


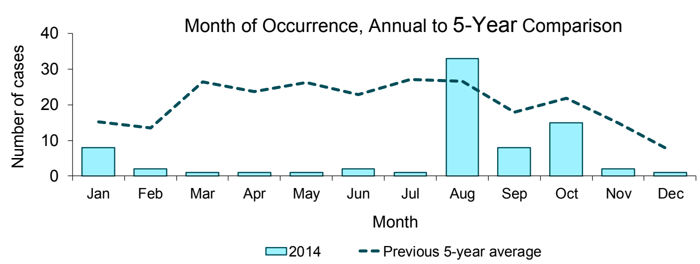
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Acute Pesticide-Related Illness and Injury Incidence Rates Per 100,000 Population by Year, Age, Gender, and Month of Occurrence, Florida





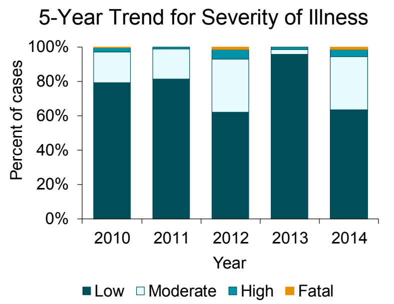


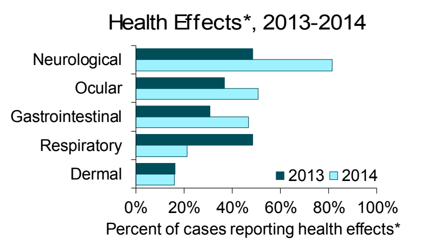


Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the local health office was notified of the case.

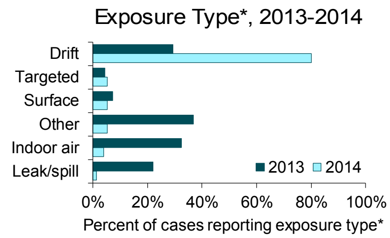
Additional Information

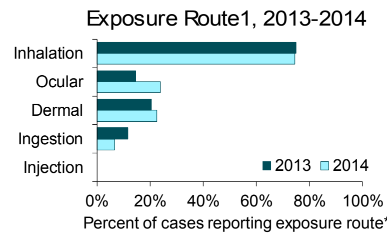
Reported Acute Pesticide-Related Illness and Injury Cases by Severity of Illness and Health Effects*, Florida

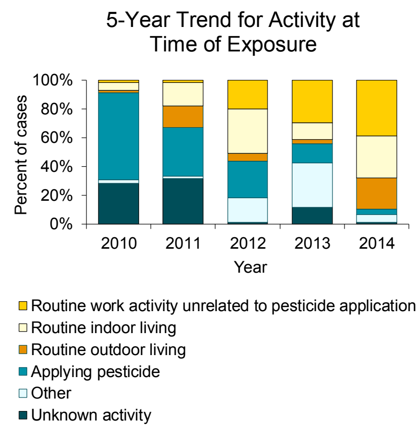




Reported Acute Pesticide-Related Illness and Injury Cases by Exposure Type*, Exposure Route*, Occupational Exposure, and Type of Activity at Time of Exposure, Florida







* Note that there may be multiple exposure types and routes for one case, and multiple categories of health effects may be reported for one case.

Definitions of exposure types:

- Drift: Person was exposed via the movement of pesticides away from the treatment site.
- Targeted: Person was exposed to an application of a pesticide material released at the target site, and not carried from the target site by air.
- Indoor air: Person was exposed via indoor air contamination (this includes residential, commercial and greenhouse indoor air).
- Surface: Person was exposed via contact with pesticide residues on a treated surface (e.g., plant material, carpets, a treated animal) or entry into an outdoor treated area.
- Leak/spill: Person was exposed to a leak or spill of pesticide material (e.g., from a leaking container or equipment, flood waters, emergency response).

Additional Information

In 2014, most cases experienced neurological symptoms (e.g. headache, weakness, dizziness) and had low severity of illness following pesticide exposure. One death was reported related to pesticide exposure. Most cases were exposed by inhaling pesticide (74.7%) and many were exposed while doing routine indoor or outdoor activities (38.7%). The majority (65.3%) of cases were related to two drift incidents in Hillsborough and Palm Beach counties. In September 2014, 36 suspect cases of pesticide-related illness and injury were reported in Hillsborough County residents related to Paladin odor, a soil fumigant with dimethyl disulfide (DMDS) as the active ingredient. In October 2014, 13 farmworkers in Palm Beach County were exposed to Baythroid® XL after a drift occurred from a fumigation airplane while working in a celery field. All 13 were classified as confirmed cases of pesticide-related illness and injury.

Rabies, Animal and Possible Human Exposure

Disease Facts

Cause: Rabies virus

Type of illness in humans: Fever, headache, insomnia, confusion, hallucinations, increase in saliva, difficulty swallowing, and fear of water; death usually occurs within days of symptom onset

Transmission: Infectious saliva or nervous tissue in contact with open wound or mucous membrane via bite

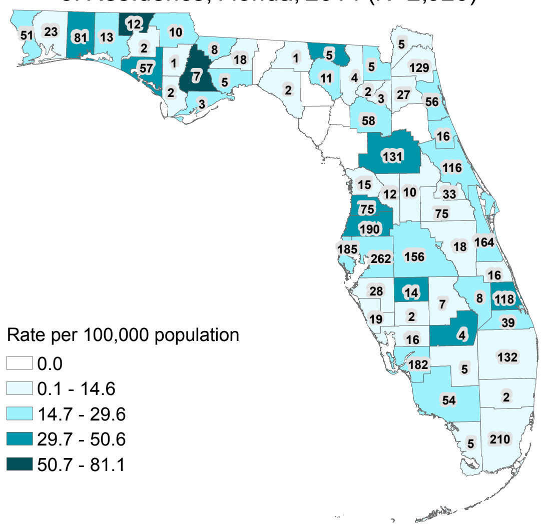
Reason for surveillance: Identify and mediate sources of exposure, evaluate adherence to guidance on rabies post-exposure prophylaxis (PEP)

Comments: 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. Reasons for the increase could include more animal bites, lack of rabies PEP training, and decreased local resources to find and confine or test biting animals.

Summary of Case Demographics

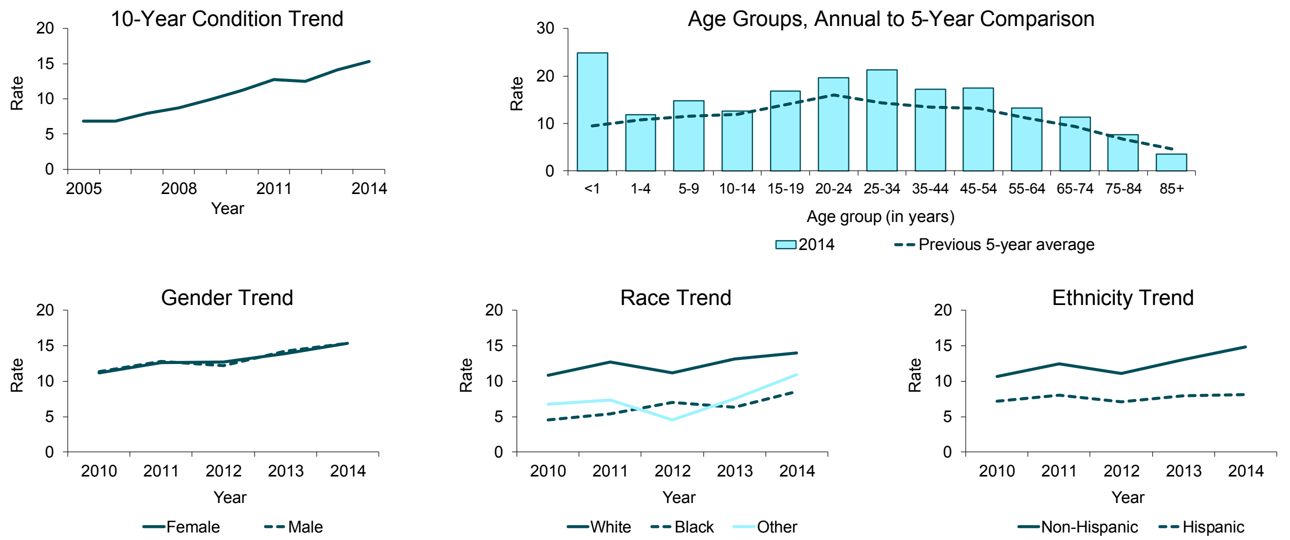
Possible human exposure to rabies			
Number of cases with PEP recommended			2,995
Incidence rate (per 100,000 population)			15.3
Change from 5-year average incidence			+26.8%
Age (in years)			
Mean			37
Median			36
Min-max			0 - 93
Gender	**Number**	**(Percent)**	**Rate**
Female	1,530	(51.1)	15.3
Male	1,465	(48.9)	15.3
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	2,138	(84.7)	14.0
Black	278	(11.0)	8.5
Other	108	(4.3)	10.8
Unknown race	471		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	2,208	(85.3)	14.9
Hispanic	382	(14.7)	8.2
Unknown ethnicity	405		

Reported Possible Human Exposure to Rabies and Incidence Rates Per 100,000 Population (Restricted to Exposures Occurring in Florida) by County of Residence, Florida, 2014 (N=2,920)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Possible Human Exposure to Rabies Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



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 12.1% of ethnicity data in 2010, 14.7% of race data in 2010, 9.8% of ethnicity data in 2011, 12.0% of race data in 2011, 18.3% of ethnicity data in 2012, 18.3% of race data in 2012, 15.8% of ethnicity data in 2013, 16.8% of race data in 2013, 13.5% of ethnicity data in 2014, and 15.7% of race data in 2014.

Additional Information

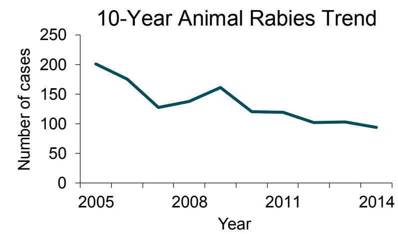
The last case of human rabies acquired in Florida was in 1948. The animals most frequently diagnosed with rabies in Florida are raccoons, bats, unvaccinated cats, and foxes. Rabies is endemic in the raccoon and bat populations of Florida. Rabies frequently spreads from raccoons, and occasionally bats, to other animal species such as foxes and cats.

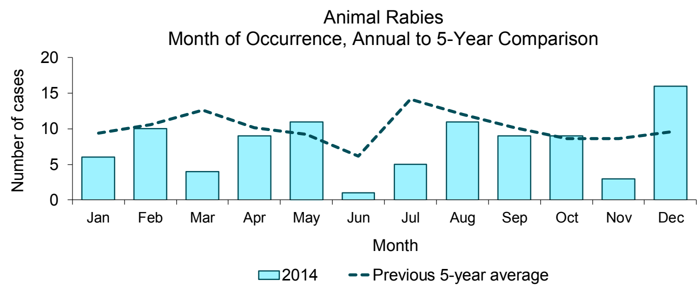
Laboratory testing for animal rabies is only done when animals potentially expose (e.g., bite) humans or domestic animals, thus these data do not necessarily correlate with the true prevalence of rabies by animal species in Florida. A total of 94 laboratory-confirmed rabid animals were reported in 2014, which was a 22.6% decrease from the previous 5-year average.

Case counts in this report may differ from those found in other rabies reports as different criteria are used to assemble the data. Other reports use the calendar year, while this report uses report year. For additional information on calendar year versus report year, please see the paragraph on Determining How Cases are Counted: Reporting Period and Reporting Dates within Interpreting the Data in the Introduction (page vii). Note that one cat and one raccoon tested positive during the overlap of calendar year 2013 and report year 2014 and therefore are included in this *2014 Florida Morbidity Statistics Report*.

Although the total number of rabid animals decreased in 2014, the total number of rabid domestic animals increased from 2013 including rabid cats (16), dogs (2), and a horse (1). 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 and dogs against rabies infection, and rabies vaccination is required by state law for these animals.

Reported Animal Rabies
by Year, Month of Occurrence, Animal, and County, Florida

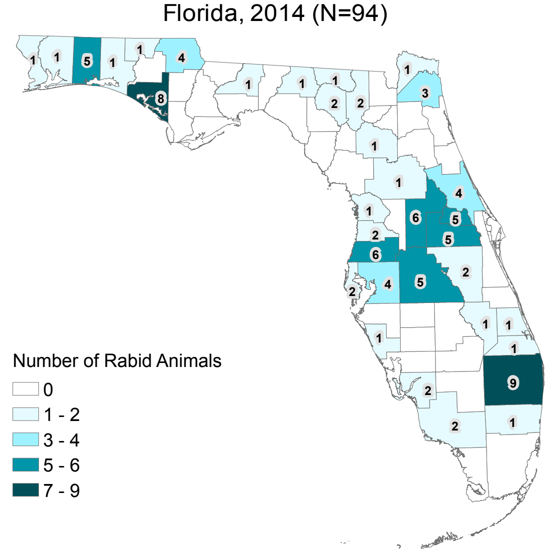




Laboratory-Confirmed Rabid Animals by Type of Animal, Florida, 2013 and 2014

Type of animal	2013 Number (Percent)	2014 Number (Percent)
Raccoon	70 (68.0)	51 (54.3)
Bat	19 (18.4)	19 (20.2)
Cat	8 (7.8)	16 (17.0)
Fox	2 (1.9)	5 (5.3)
Dog	0 (0.0)	2 (2.1)
Horse	0 (0.0)	1 (1.1)
Bobcat	2 (1.9)	0 (0.0)
Skunk	2 (1.9)	0 (0.0)
Total	103	94

Laboratory-Confirmed Rabid Animals by County, Florida, 2014 (N=94)



Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis

Disease Facts

Cause: Certain *Rickettsia* bacteria, most commonly *R. rickettsia*, *R. parkeri*, *R. africae*, *R. conorii*

Type of illness: Fever, headache, abdominal pain, vomiting, and muscle pain; rash develops in 80% of cases

Transmission: Tick-borne; bite of infective tick

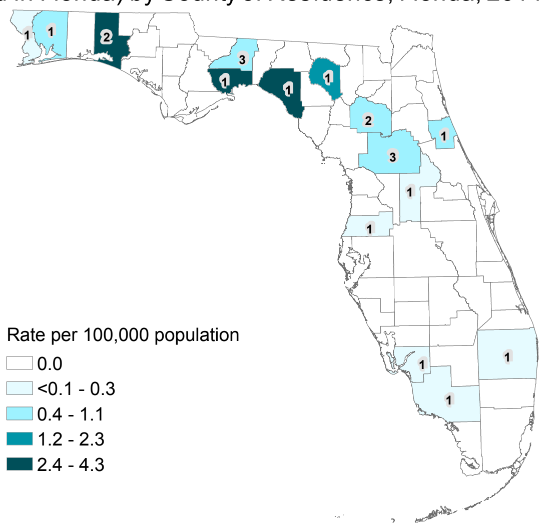
Reason for surveillance: Monitor incidence over time, estimate burden of illness, monitor geographical and temporal occurrence, target areas of high incidence for prevention education

Comments: Most infections are acquired within Florida, primarily in the northern and central regions of the state. Cases are reported year-round without distinct seasonality, though peak transmission typically occurs during the summer months. The principal tick vectors in Florida are the American dog tick (*Dermacentor variabilis*) and the Gulf Coast tick (*Amblyomma maculatum*).

Summary of Case Demographics

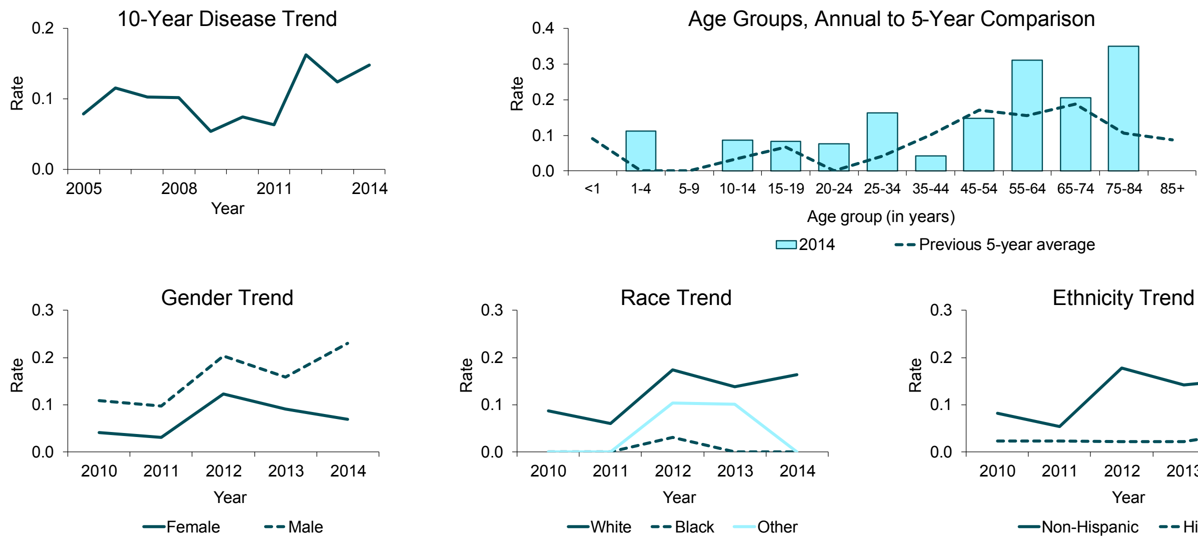
Summary			
Number of cases			29
Incidence rate (per 100,000 population)			0.1
Change from 5-year average incidence			+55.1%
Age (in years)			
Mean			51
Median			56
Min-max			4 - 79
Gender	**Number**	**(Percent)**	**Rate**
Female	7	(24.1)	NA
Male	22	(75.9)	0.2
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	25	(100.0)	0.2
Black	0	(0.0)	NA
Other	0	(0.0)	NA
Unknown race	4		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	23	(92.0)	0.2
Hispanic	2	(8.0)	NA
Unknown ethnicity	4		

Reported Rocky Mountain Spotted Fever and Spotted Fever Rickettsiosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=21)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Rocky Mountain Spotted Fever Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

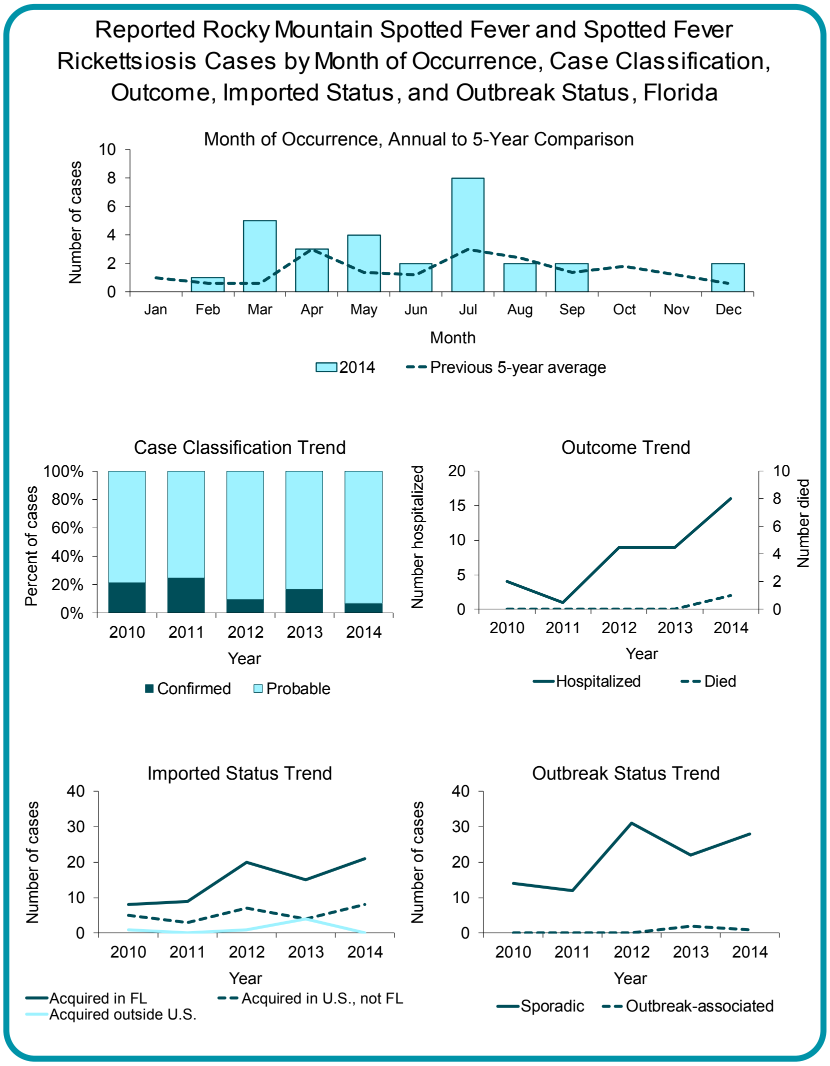


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Rocky Mountain spotted fever and spotted fever rickettsiosis cases were missing 7.1% of ethnicity data in 2010, 7.1% of race data in 2010, 25.0% of ethnicity data in 2011, 25.0% of race data in 2011, 12.9% of ethnicity data in 2012, 9.7% of race data in 2012, 8.3% of ethnicity data in 2013, 8.3% of race data in 2013, 13.8% of ethnicity data in 2014, and 13.8% of race data in 2014.

Summary of Case Factors

Summary	Number
Number of cases	29
Case classification	**Number (Percent)**
Confirmed	2 (6.9)
Probable	27 (93.1)
Outcome	**Number (Percent)**
Hospitalized	16 (55.2)
Died	1 (3.4)
Imported status	**Number (Percent)**
Acquired in Florida	21 (72.4)
Acquired in the U.S., not Florida	8 (27.6)
Acquired outside the U.S.	0 (0.0)
Acquired location unknown	0 (0.0)
Outbreak status	**Number (Percent)**
Sporadic	28 (96.6)
Outbreak-associated	1 (3.4)
Outbreak status unknown	0 (0.0)

Case counts and rates from this report may differ from those found in other vector-borne disease reports as different criteria are used to assemble the data. Other reports may use illness onset date instead of report date, or county of exposure instead of county of residence.



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

In addition to Rocky Mountain spotted fever (RMSF), several other tick-borne species of *Rickettsia* are known to cause human infections. These species are grouped under spotted fever rickettsiosis (SFR). In 2010, the national reporting criteria were expanded to include both RMSF and other SFR. Florida adopted this change in June 2014. 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*. In addition, commercial antibody testing to differentiate other SFRs from RMSF is currently limited. The probable case definition lacks specificity and most cases are never confirmed. Only 2 cases were confirmed in 2014; it is difficult to draw meaningful conclusions about case patterns given the low specificity of the probable case definition.

One death attributed to an aortic aneurysm 11 days after onset was reported in a 77-year-old man. It is unknown if RMSF/SFR infection directly contributed to the death. One case classified as outbreak-associated was later determined to be sporadic.

Salmonellosis

Disease Facts

Cause: *Salmonella* bacteria (excluding *Salmonella* serotype Typhi, which causes typhoid fever and is described in Section 3: Narratives for Selected Reportable Diseases/Conditions of Infrequent Occurrence)

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; including person-to-person, animal-to-person, foodborne, and waterborne

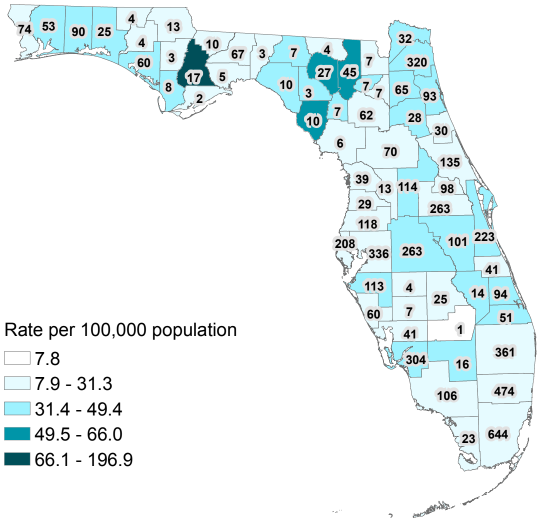
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: In recent years, Florida has had the highest number and one of the highest rates of salmonellosis cases of any state in the U.S. Salmonellosis rates are very high in <1-year-olds and decrease dramatically with age. The seasonal pattern is very strong, peaking in late summer.

Summary of Case Demographics

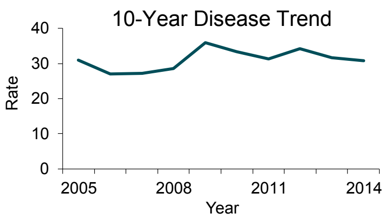
Summary			
Number of cases			6,019
Incidence rate (per 100,000 population)			30.8
Change from 5-year average incidence			-7.6%
Age (in years)			
Mean			28
Median			15
Min-max			0 - 97
Gender	**Number**	**(Percent)**	**Rate**
Female	3,219	(53.5)	32.2
Male	2,800	(46.5)	29.3
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	4,643	(79.0)	30.4
Black	709	(12.1)	21.7
Other	524	(8.9)	52.5
Unknown race	143		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	4,334	(74.3)	29.2
Hispanic	1,499	(25.7)	32.0
Unknown ethnicity	186		

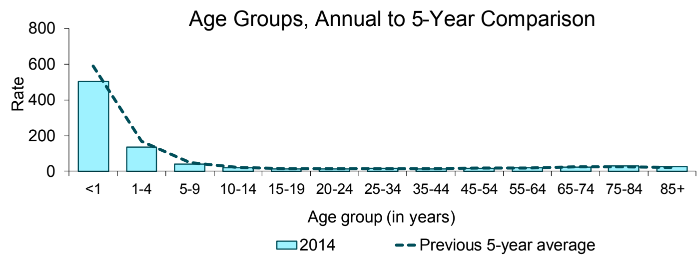
Reported Salmonellosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=5,597)

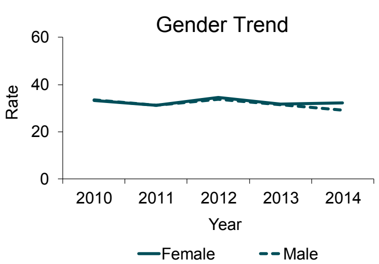


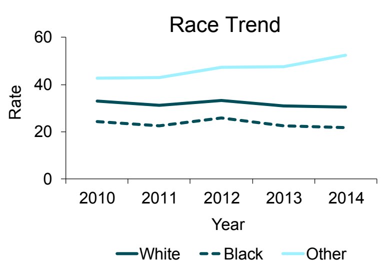
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

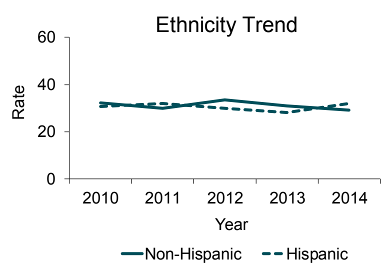
Reported Salmonellosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida









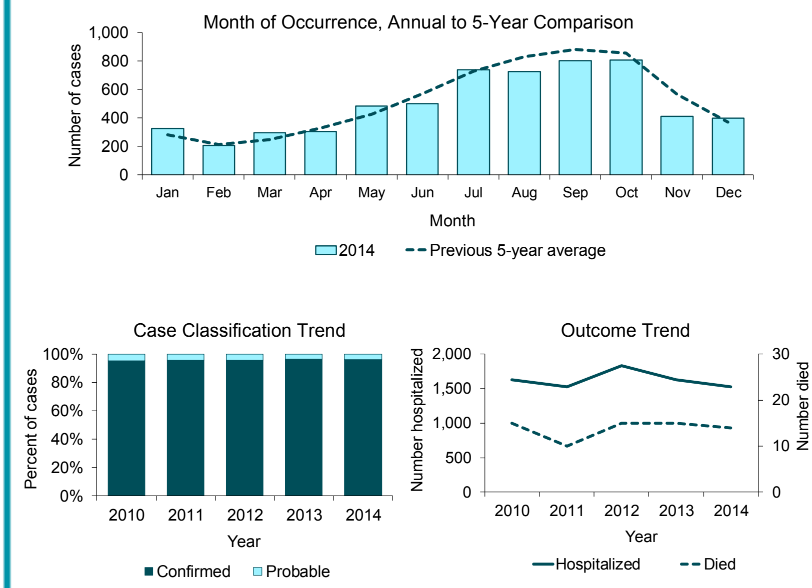


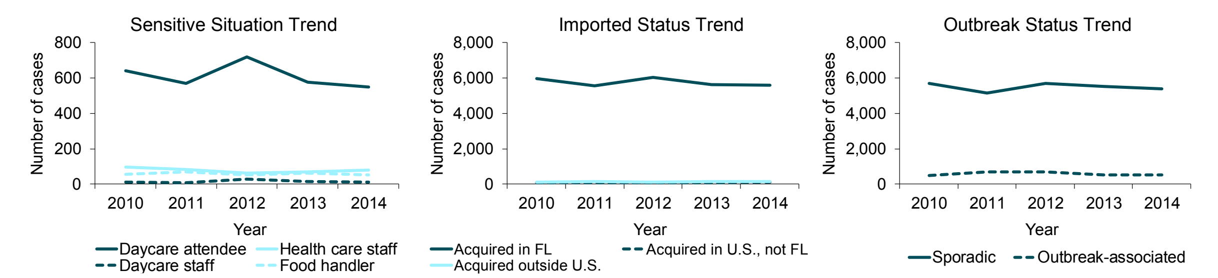
Salmonellosis

Summary of Case Factors

Summary	Number
Number of cases	6,019
Case classification	**Number (Percent)**
Confirmed	5,794 (96.3)
Probable	225 (3.7)
Outcome	**Number (Percent)**
Hospitalized	1,526 (25.4)
Died	14 (0.2)
Sensitive situation	**Number (Percent)**
Daycare attendee	548 (9.1)
Daycare staff	11 (0.2)
Health care staff	79 (1.3)
Food handler	52 (0.9)
Imported status	**Number (Percent)**
Acquired in Florida	5,597 (93.0)
Acquired in the U.S., not Florida	101 (1.7)
Acquired outside the U.S.	138 (2.3)
Acquired location unknown	183 (3.0)
Outbreak status	**Number (Percent)**
Sporadic	5,397 (89.7)
Outbreak-associated	536 (8.9)
Outbreak status unknown	86 (1.4)

Reported Salmonellosis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida





Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Additional Information

Most outbreak-associated cases are due to household clusters; however, some outbreak-associated cases are part of national or multistate outbreaks linked to particular food items. In 2014, Florida had 65 outbreak-associated cases that were part of 37 different multistate outbreaks.

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

Disease Facts

Cause: Shiga toxin-producing *Escherichia coli* (STEC) bacteria

Type of illness: Gastroenteritis (diarrhea, vomiting); less frequently hemolytic uremic syndrome (HUS)

Transmission: Fecal-oral; including person-to-person, animal-to-person, waterborne and foodborne

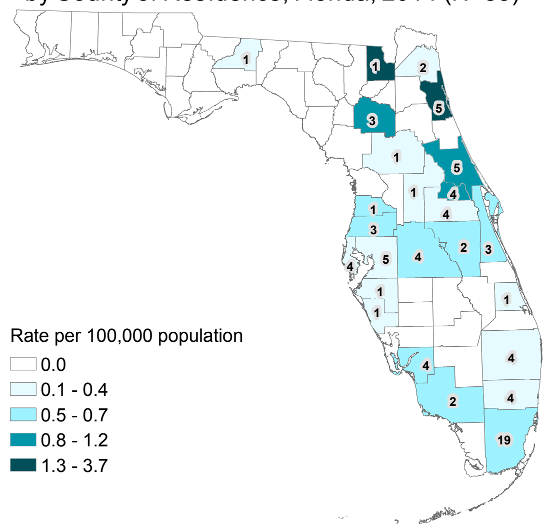
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: Incidence varied considerably over the past 10 years. STEC infection typically peaks in late spring and early summer. Incidence is highest in children <5 years old, a group shown to be particularly vulnerable to STEC infection. STEC incidence in women increased steadily from 2010 to 2013; but decreased in 2014 to a rate similar to men.

Summary of Case Demographics

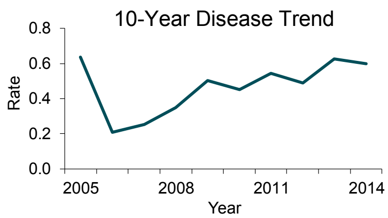
Summary			
Number of cases			117
Incidence rate (per 100,000 population)			0.6
Change from 5-year average incidence			+14.5%
Age (in years)			
Mean			22
Median			14
Min-max			0 - 91
Gender	**Number**	**(Percent)**	**Rate**
Female	61	(52.1)	0.6
Male	56	(47.9)	0.6
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	88	(81.5)	0.6
Black	10	(9.3)	NA
Other	10	(9.3)	NA
Unknown race	9		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	72	(69.2)	0.5
Hispanic	32	(30.8)	0.7
Unknown ethnicity	13		

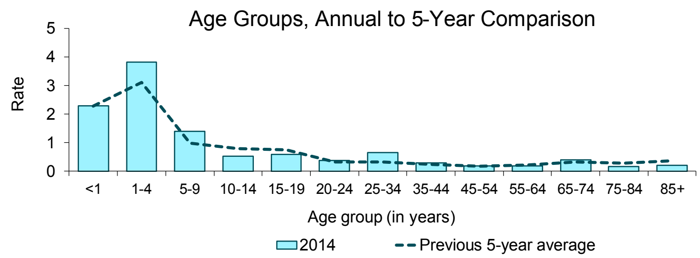
Reported Shiga Toxin-Producing *E. coli* Infection Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=85)

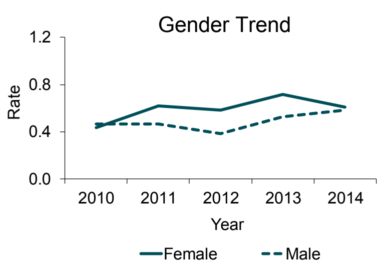


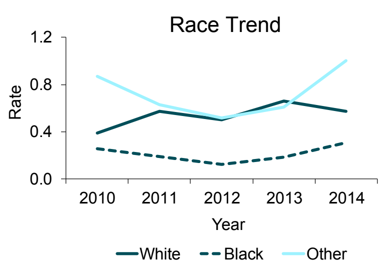
Note that rates based on <20 cases are not reliable and should be interpreted with caution.

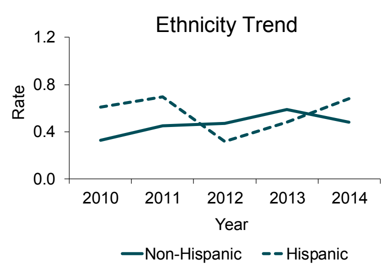
Reported Shiga Toxin-Producing *E. coli* Infection Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida











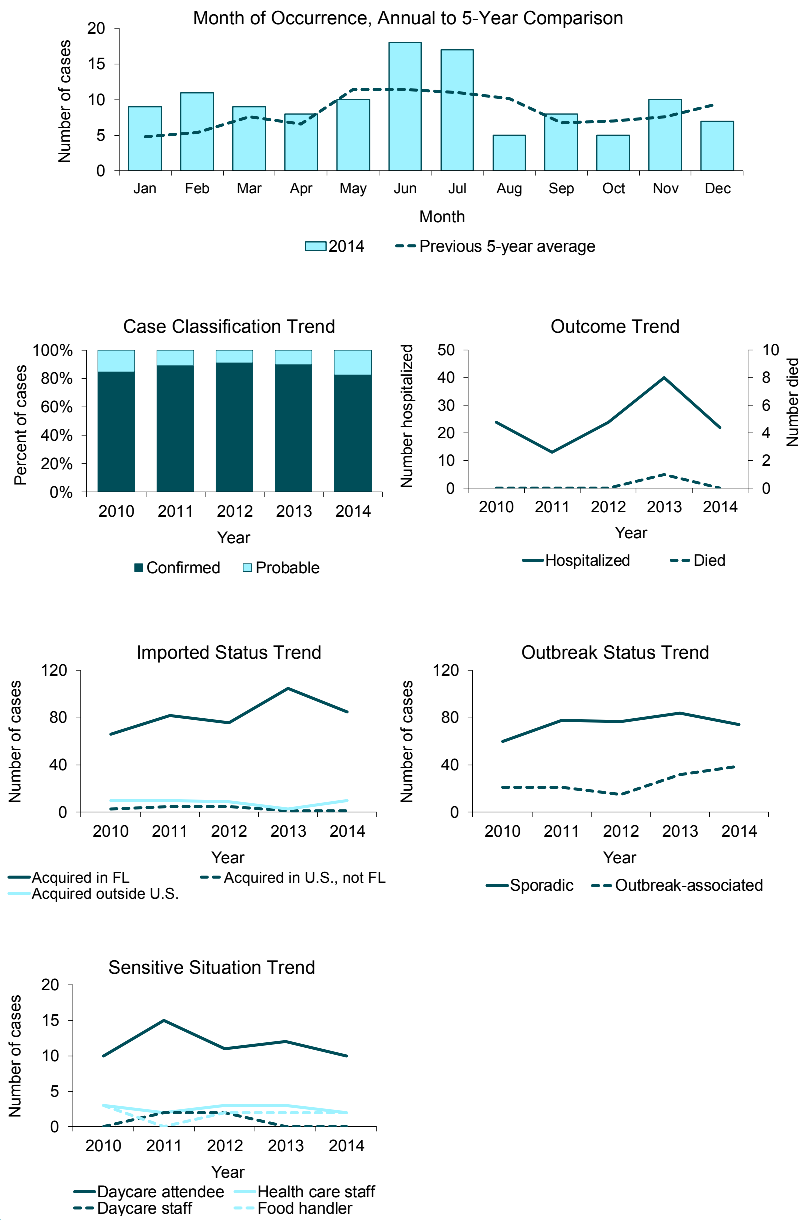
Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Shiga toxin-producing *E. coli* infection cases were missing 12.9% of ethnicity data in 2010, 12.9% of race data in 2010, 6.8% of ethnicity data in 2011, 5.8% of race data in 2011, 10.8% of ethnicity data in 2012, 9.7% of race data in 2012, 9.9% of ethnicity data in 2013, 7.4% of race data in 2013, 11.1% of ethnicity data in 2014, and 7.7% of race data in 2014.

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

Summary of Case Factors

Summary	Number
Number of cases	117
Case classification	**Number (Percent)**
Confirmed	97 (82.9)
Probable	20 (17.1)
Outcome	**Number (Percent)**
Hospitalized	22 (18.8)
Died	0 (0.0)
Sensitive situation	**Number (Percent)**
Daycare attendee	10 (8.5)
Daycare staff	0 (0.0)
Health care staff	2 (1.7)
Food handler	2 (1.7)
Imported status	**Number (Percent)**
Acquired in Florida	85 (72.6)
Acquired in the U.S., not Florida	1 (0.9)
Acquired outside the U.S.	10 (8.5)
Acquired location unknown	21 (17.9)
Outbreak status	**Number (Percent)**
Sporadic	74 (63.2)
Outbreak-associated	39 (33.3)
Outbreak status unknown	4 (3.4)
Serogroup	**Number (Percent)**
O157	34 (35.1)
O111	15 (15.5)
O26	12 (12.4)
O103	10 (10.3)
O145	4 (4.1)
O45	1 (1.0)
Other	9 (9.3)
Not typeable	12 (12.4)

Reported Shiga Toxin-Producing *E. coli* Infection Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida



While O157 remains the most common serogroup identified in STEC infections, the top six non-O157 serogroups (O26, O45, O103, O111, O121, O145) are being increasingly identified due to advances in laboratory testing technology.

Most outbreak-associated cases are due to household clusters; however, some cases are part of national or multistate outbreaks linked to particular food items. In 2014, Florida did not have any cases that were part of Florida or multistate outbreaks. Outbreak-associated cases were reflective of household clusters.

Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak- associated indicates that two or more cases are epidemiologically linked.

Shigellosis

Disease Facts

Cause: *Shigella* bacteria

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; including person-to-person, foodborne, and waterborne

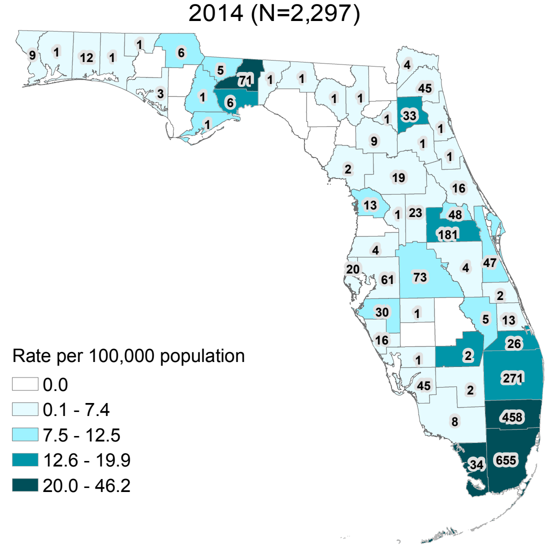
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., ill daycare attendee), monitor incidence over time, estimate burden of illness

Comments: Shigellosis has a cyclic temporal pattern with large, community-wide outbreaks, frequently involving daycare centers, occurring every 3-5 years. Shigellosis incidence is highest in children aged 1 to 9 years and black people. A large portion of cases are outbreak-associated, primarily due to outbreaks in daycare centers. Consistent with Florida's cyclical pattern, shigellosis incidence increased substantially in 2014, with a rate similar to the last large peak in 2011.

Summary of Case Demographics

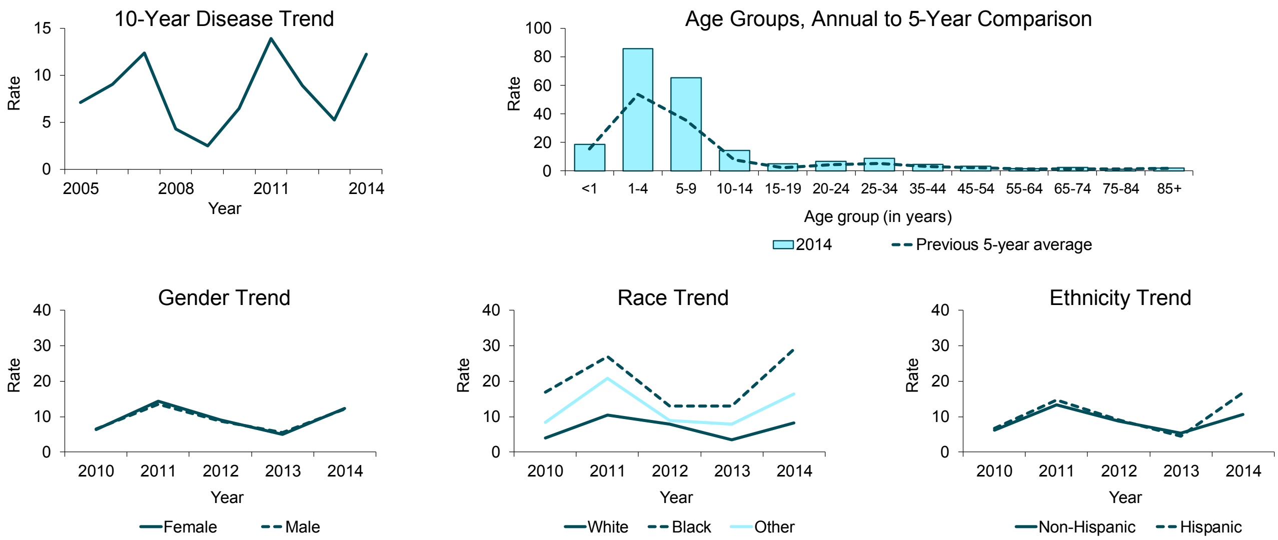
Summary			
Number of cases			2,396
Incidence rate (per 100,000 population)			12.3
Change from 5-year average incidence			+65.5%
Age (in years)			
Mean			14
Median			6
Min-max			0 - 100
Gender	**Number**	**(Percent)**	**Rate**
Female	1,229	(51.3)	12.3
Male	1,167	(48.7)	12.2
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	1,267	(53.3)	8.3
Black	948	(39.8)	29.0
Other	164	(6.9)	16.4
Unknown race	17		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	1,589	(67.0)	10.7
Hispanic	784	(33.0)	16.7
Unknown ethnicity	23		

Reported Shigellosis Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=2,297)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Shigellosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

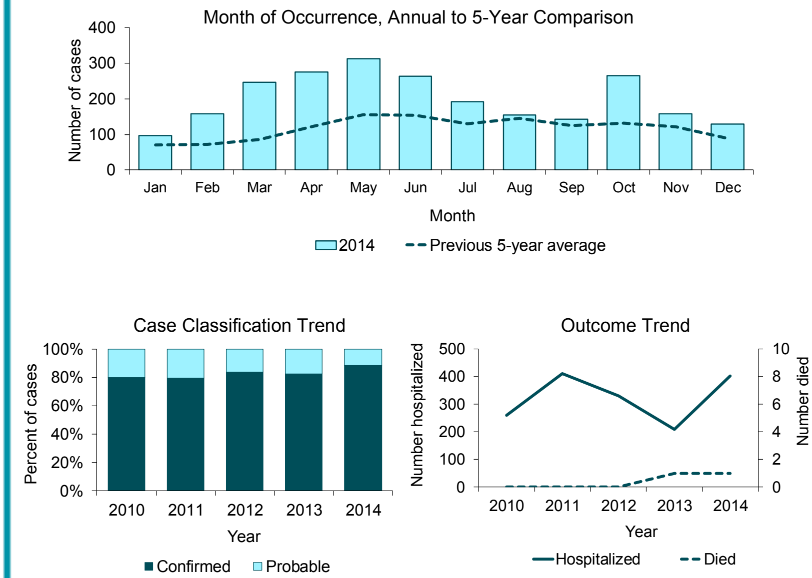


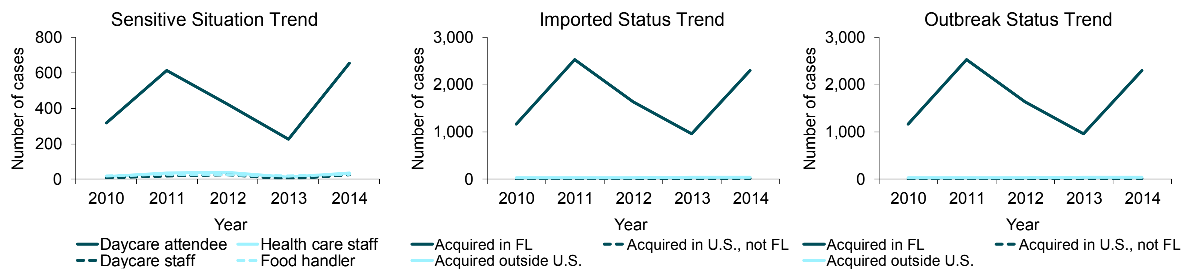
Shigellosis

Summary of Case Factors

Summary	Number
Number of cases	2,396
Case classification	**Number (Percent)**
Confirmed	2,126 (88.7)
Probable	270 (11.3)
Outcome	**Number (Percent)**
Hospitalized	402 (16.8)
Died	1 (0.0)
Sensitive situation	**Number (Percent)**
Daycare attendee	654 (27.3)
Daycare staff	26 (1.1)
Health care staff	37 (1.5)
Food handler	30 (1.3)
Imported status	**Number (Percent)**
Acquired in Florida	2,297 (95.9)
Acquired in the U.S., not Florida	22 (0.9)
Acquired outside the U.S.	44 (1.8)
Acquired location unknown	33 (1.4)
Outbreak status	**Number (Percent)**
Sporadic	1,724 (72.0)
Outbreak-associated	641 (26.8)
Outbreak status unknown	31 (1.3)

Reported Shigellosis Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida





Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Additional Information

Antibiotic or antimicrobial resistance is the ability of microbes to resist the effects of drugs, decreasing the likelihood that those drugs will kill the microbe. Most *Shigella* infections are self-limited and do not require antibiotic treatment. *Shigella* resistance to antibiotics is a growing concern worldwide due to how easily *Shigella* is spread between people. In the U.S., most *Shigella* is already resistant to ampicillin and trimethoprim/sulfamethoxazole, making ciprofloxacin the first drug of choice to treat *Shigella* infections. Globally, *Shigella* resistance is increasing and is believed to have been introduced to the U.S. by international travelers. Large clusters of ciprofloxacin-resistant *Shigella* infections have been identified recently in Massachusetts, California, and Pennsylvania. No multidrug-resistant *Shigella* isolates have been documented in Florida to date. More information on multidrug-resistant *Shigella* and antimicrobial resistance in general is available at www.cdc.gov/drugresistance/about.html.

Syphilis

Disease Facts

Cause: *Treponema pallidum* bacteria

Type of illness: Sores on genitals, anus or mouth, or a rash on the body

Transmission: Sexually transmitted disease (STD) spread by anal, vaginal, or oral sex and sometimes from mother to infant during pregnancy or delivery

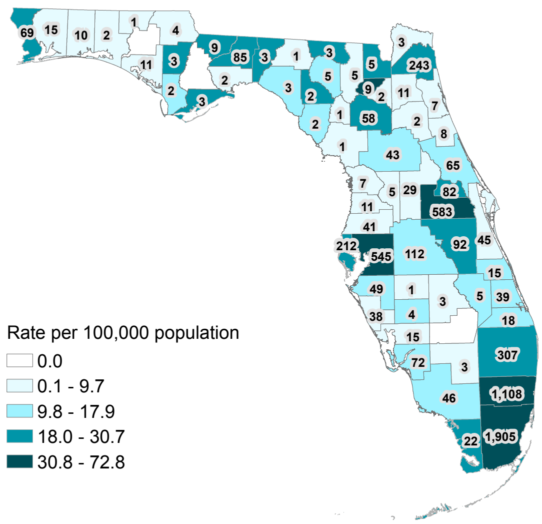
Reason for surveillance: Implement effective interventions immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Comments: Syphilis is separated into early syphilis (i.e., syphilis <1 year duration; the infectious stage) and late or latent syphilis (i.e., syphilis diagnosed >1 year after infection). Rates are higher in men than in women. Men who have sex with men have a higher incidence of early syphilis than non-MSM men and are also more likely to be co-infected with HIV.

Summary of Case Demographics

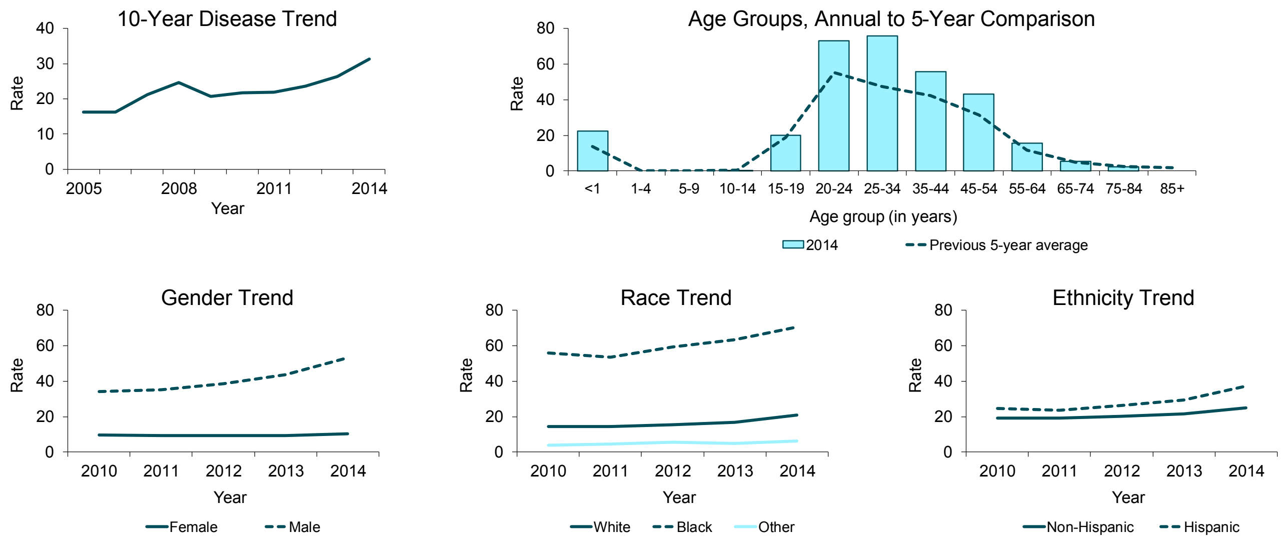
Summary			
Number of cases			6,112
Incidence rate (per 100,000 population)			31.3
Change from 5-year average incidence			+37.0%
Age (in years)			
Mean			36
Median			34
Min-max			0 - 88
Gender	**Number**	**(Percent)**	**Rate**
Female	1,028	(16.8)	10.3
Male	5,083	(83.2)	53.2
Unknown gender	1		
Race	**Number**	**(Percent)**	**Rate**
White	3,203	(57.5)	21.0
Black	2,300	(41.3)	70.5
Other	64	(1.1)	6.4
Unknown race	545		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	3,690	(67.9)	24.8
Hispanic	1,744	(32.1)	37.2
Unknown ethnicity	678		

Reported Syphilis Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=6,112)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Syphilis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Syphilis cases were missing 5.3% of ethnicity data in 2010, 5.0% of race data in 2010, 7.7% of ethnicity data in 2011, 6.4% of race data in 2011, 8.2% of ethnicity data in 2012, 6.5% of race data in 2012, 10.9% of ethnicity data in 2013, 8.5% of race data in 2013, 11.1% of ethnicity data in 2014, and 8.9% of race data in 2014.

Tuberculosis

Disease Facts

Cause: *Mycobacterium tuberculosis* bacteria

Type of illness: Usually respiratory (severe cough, pain in chest), but can affect all parts of the body including kidneys, spine, or brain

Transmission: Person-to-person; inhalation of aerosolized droplets from people with active tuberculosis (TB)

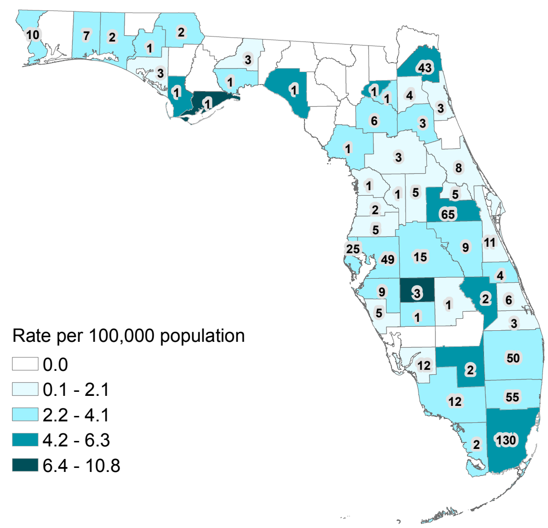
Reason for surveillance: Implement effective interventions immediately for every case to prevent further transmission, monitor directly observed therapy prevention programs, evaluate trends

Comments: TB continues to be a public health threat in Florida; however incidence has been declining over the past decade, and continued to decline in 2014. Medically underserved and low-income populations, including racial and ethnic minorities, have high rates of TB exposure and infection. In most countries, TB incidence is twice as high in men as in women. Incidence of TB in Florida is also much higher in men than women.

Summary of Case Demographics

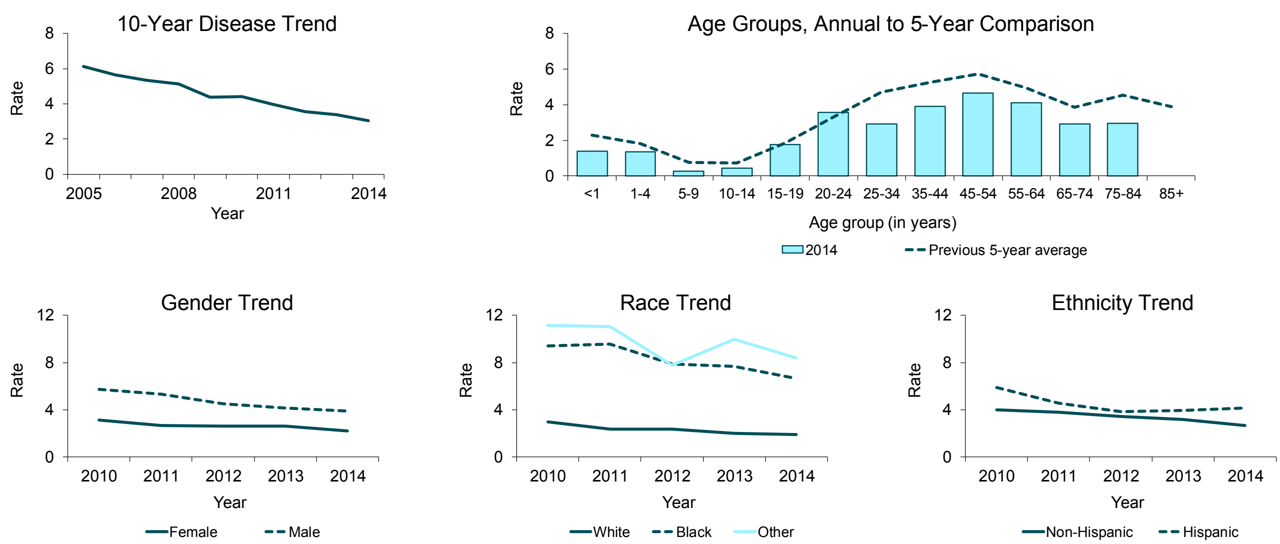
Summary			
Number of cases			595
Incidence rate (per 100,000 population)			3.0
Change from 5-year average incidence			-22.9%
Age (in years)			
Mean			47
Median			48
Min-max			0 - 95
Gender	**Number**	**(Percent)**	**Rate**
Female	220	(37.0)	2.2
Male	375	(63.0)	3.9
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	293	(49.2)	1.9
Black	218	(36.6)	6.7
Other	84	(14.1)	8.4
Unknown race	0		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	400	(67.2)	2.7
Hispanic	195	(32.8)	4.2
Unknown ethnicity	0		

Reported Tuberculosis Cases and Incidence Rates Per 100,000 Population by County of Residence, Florida, 2014 (N=595)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Tuberculosis Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



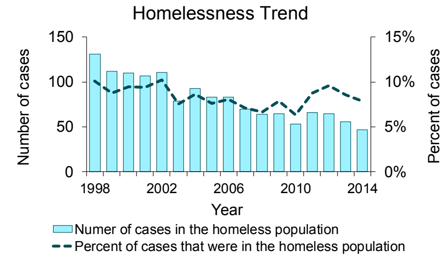
Additional Information

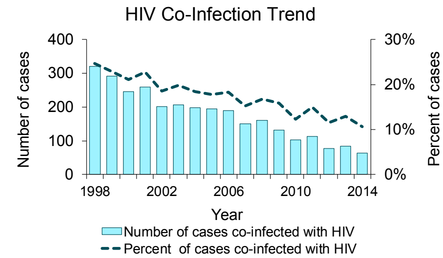
People experiencing homelessness are at increased risk for disease and are a focus for TB prevention and control efforts in Florida. Since 1998, the total number of TB cases among the homeless population in Florida has decreased by over 50%; however, in the same time period the percent of people with TB who are homeless has remained relatively stable. In 2014, 7.9% of TB cases were in the homeless population.

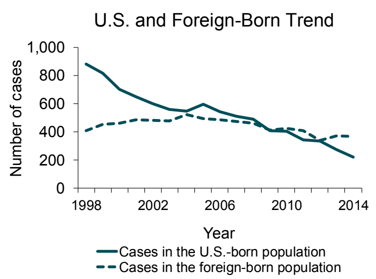
TB and HIV co-infection has been declining modestly but steadily over time in Florida. In 2014, 10.6% of TB cases were co-infected with HIV. Untreated HIV infection remains the biggest risk factor for developing active TB disease following infection with TB and is a focus for TB prevention and control efforts in Florida.

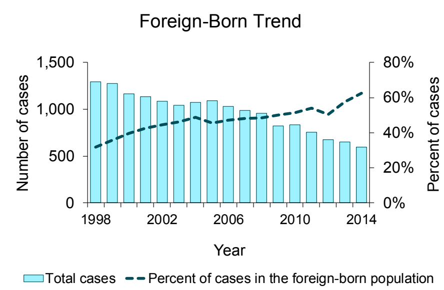
The rate of TB in the U.S.-born population in Florida has been decreasing faster than the rate among the foreign-born population. Being born in a country where TB is prevalent is one of the most significant risk factors for developing TB and is a focus for TB prevention and control efforts in Florida. In 2014, 62.4% of the total cases counted in Florida were in the foreign-born population. The most common countries of origin in 2014 included Haiti, Mexico, Cuba, and the Philippines, accounting for 175 (47.2%) of 371 cases identified in foreign-born people.

Reported Tuberculosis by Homeless Status, HIV Co-Infection, and Foreign-Born Status, Florida









Varicella (Chickenpox)

Disease Facts

Cause: Varicella-zoster virus (VZV)

Type of illness: Common symptoms include vesicular rash, itching, tiredness, and fever

Transmission: Person-to-person; contact with or inhalation of aerosolized, infective respiratory tract droplets or secretions, or direct contact with vesicular lesions of people infected with VZV

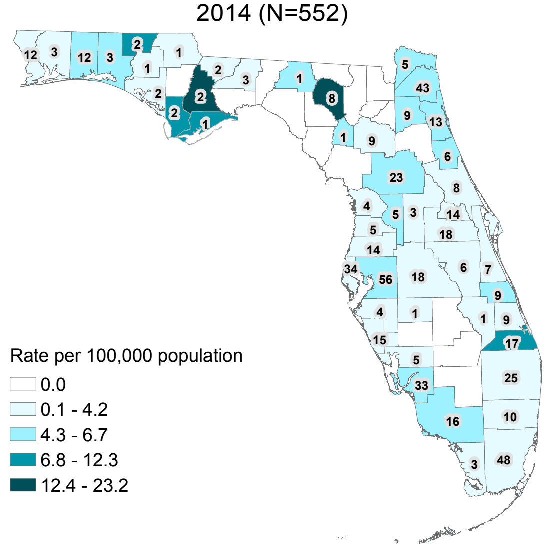
Reason for surveillance: Identify and control outbreaks, monitor effectiveness of immunization programs and vaccines, monitor trends and severe outcomes

Comments: Varicella (chicken pox) is a classic childhood disease that is now vaccine-preventable. It became reportable in Florida in late 2006 and has shown a steady decrease in incidence since 2008, due to effective vaccination programs. Beginning with the 2008-2009 school year, children entering kindergarten were required to receive two doses of varicella vaccine.

Summary of Case Demographics

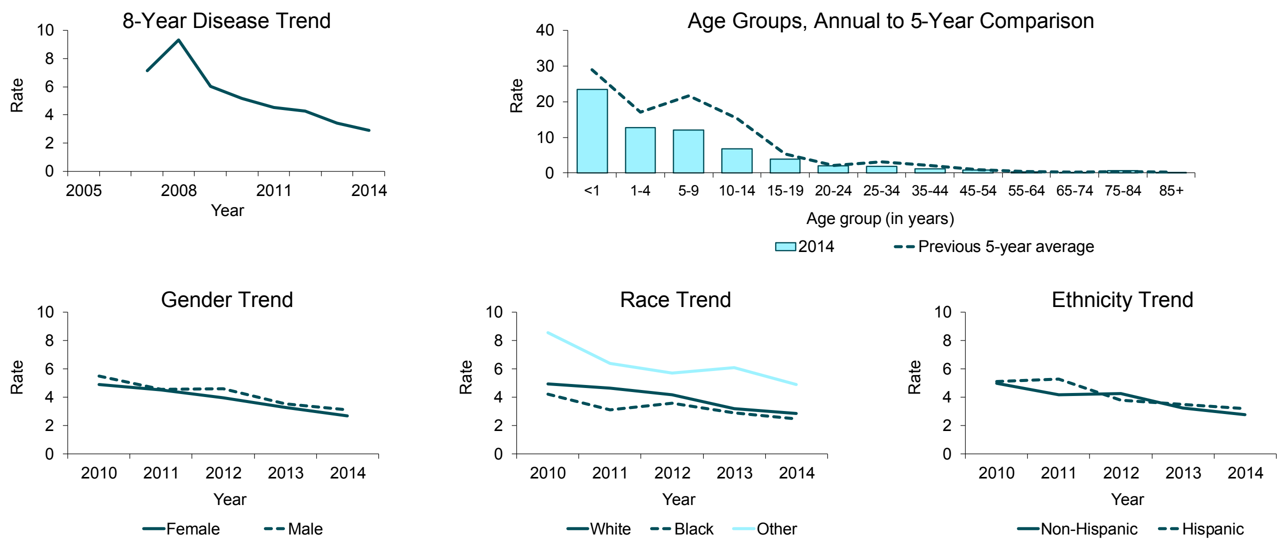
Summary			
Number of cases			570
Incidence rate (per 100,000 population)			2.9
Change from 5-year average incidence			-37.8%
Age (in years)			
Mean			15
Median			9
Min-max			0 - 90
Gender	**Number**	**(Percent)**	**Rate**
Female	271	(47.5)	2.7
Male	299	(52.5)	3.1
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	437	(77.1)	2.9
Black	81	(14.3)	2.5
Other	49	(8.6)	4.9
Unknown race	3		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	414	(73.4)	2.8
Hispanic	150	(26.6)	3.2
Unknown ethnicity	6		

Reported Varicella Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=552)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Varicella Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

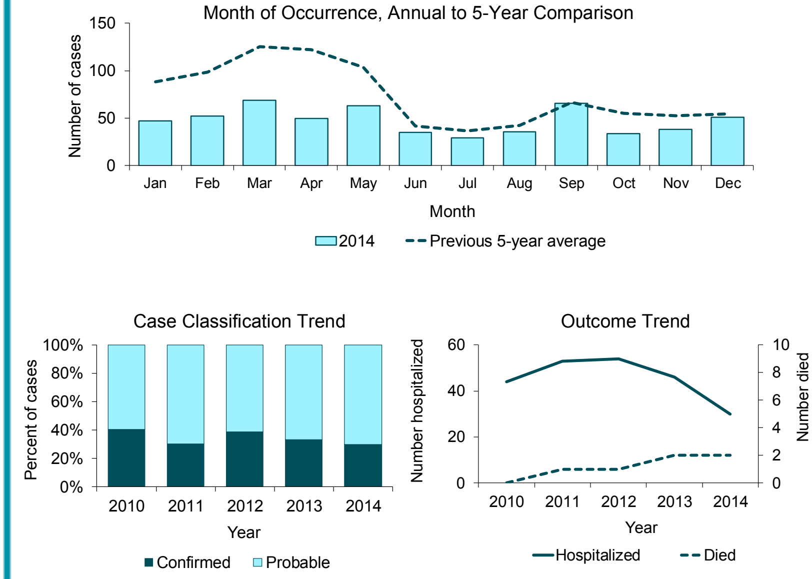


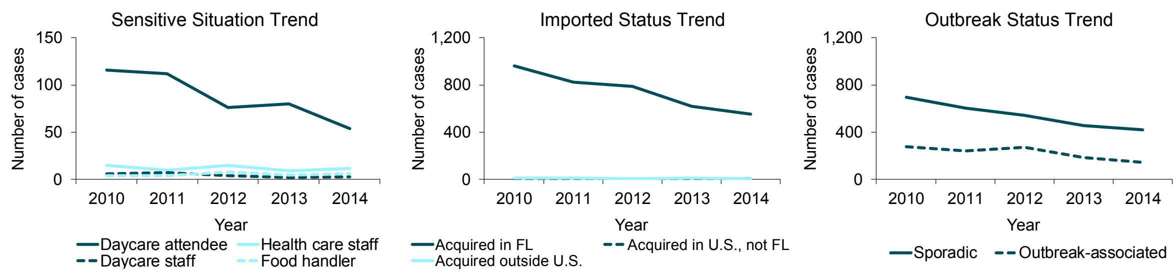
Varicella (Chickenpox)

Summary of Case Factors

Summary	Number
Number of cases	570
Case classification	**Number (Percent)**
Confirmed	170 (29.8)
Probable	400 (70.2)
Outcome	**Number (Percent)**
Hospitalized	30 (5.3)
Died	2 (0.4)
Sensitive situation	**Number (Percent)**
Daycare attendee	54 (9.5)
Daycare staff	3 (0.5)
Health care staff	12 (2.1)
Food handler	6 (1.1)
Imported status	**Number (Percent)**
Acquired in Florida	552 (96.8)
Acquired in the U.S., not Florida	6 (1.1)
Acquired outside the U.S.	6 (1.1)
Acquired location unknown	6 (1.1)
Outbreak status	**Number (Percent)**
Sporadic	422 (74.0)
Outbreak-associated	143 (25.1)
Outbreak status unknown	5 (0.9)

Reported Varicella Cases by Month of Occurrence, Case Classification, Outcome, Sensitive Situation, Imported Status, and Outbreak Status, Florida





Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Sensitive situation categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the infection was most likely acquired. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Additional Information

Most cases of varicella occur in winter and spring with the highest incidence in school-aged children. Of the 143 outbreak-associated cases identified, most were household clusters, though a few were clusters in schools with <5 cases. One death was reported in an 80-year-old man testing positive for VZV, but the death certificate did not identify varicella as cause or contributing factor to death.

Vibriosis (Excluding Cholera)

Disease Facts

Cause: *Vibrio* species bacteria (see following page for list of species included)

Type of illness: Gastroenteritis (diarrhea, vomiting), bacteremia, septicemia, wound infection, cellulitis; other common symptoms include low-grade fever, headache, and chills

Transmission: Foodborne, waterborne, and wound infections from direct contact with seawater where the bacteria naturally live or direct contact with marine wildlife

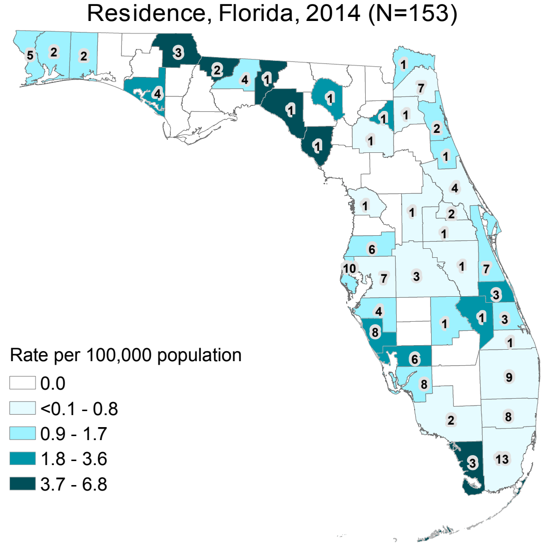
Reason for surveillance: Identify sources of transmission (e.g., shellfish collection area) and mitigate source, monitor incidence over time, estimate burden of illness

Comments: *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 decreased slightly in 2014 compared to 2013. Incidence is consistently much higher in men than women.

Summary of Case Demographics

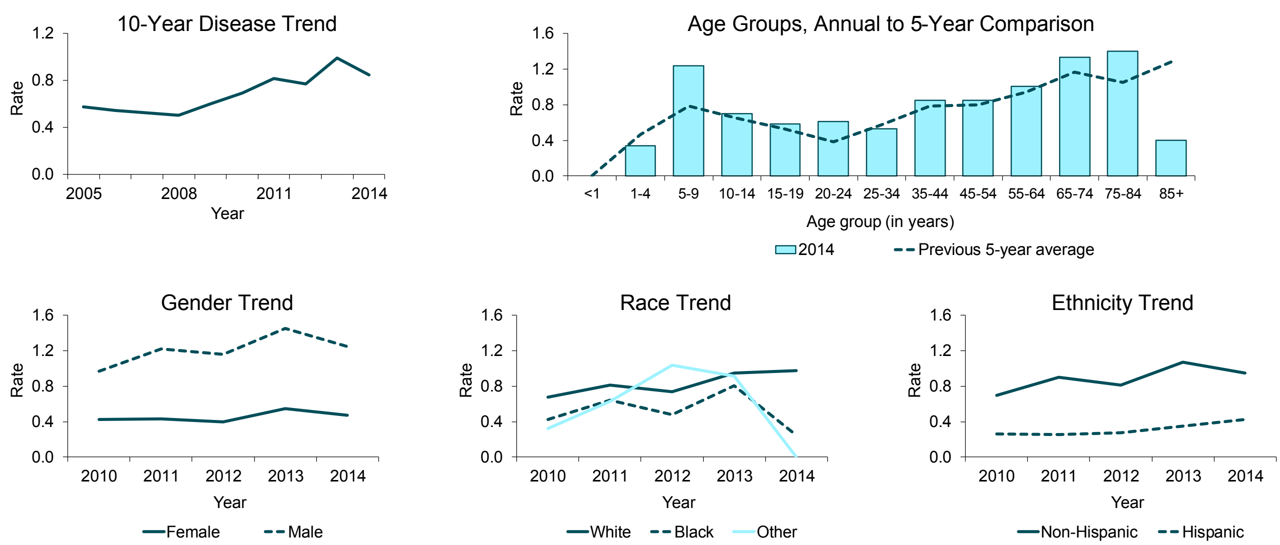
Summary			
Number of cases			166
Incidence rate (per 100,000 population)			0.8
Change from 5-year average incidence			+9.8%
Age (in years)			
Mean			46
Median			51
Min-max			3 - 86
Gender	**Number**	**(Percent)**	**Rate**
Female	47	(28.3)	0.5
Male	119	(71.7)	1.2
Unknown gender	0		
Race	**Number**	**(Percent)**	**Rate**
White	149	(94.9)	1.0
Black	8	(5.1)	NA
Other	0	(0.0)	NA
Unknown race	9		
Ethnicity	**Number**	**(Percent)**	**Rate**
Non-Hispanic	141	(87.6)	0.9
Hispanic	20	(12.4)	0.4
Unknown ethnicity	5		

Reported Vibriosis (Excluding Cholera) Cases and Incidence Rates Per 100,000 Population (Restricted to Infections Acquired in Florida) by County of Residence, Florida, 2014 (N=153)



Note that rates based on <20 cases are not reliable and should be interpreted with caution.

Reported Vibriosis (Excluding Cholera) Incidence Rates Per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

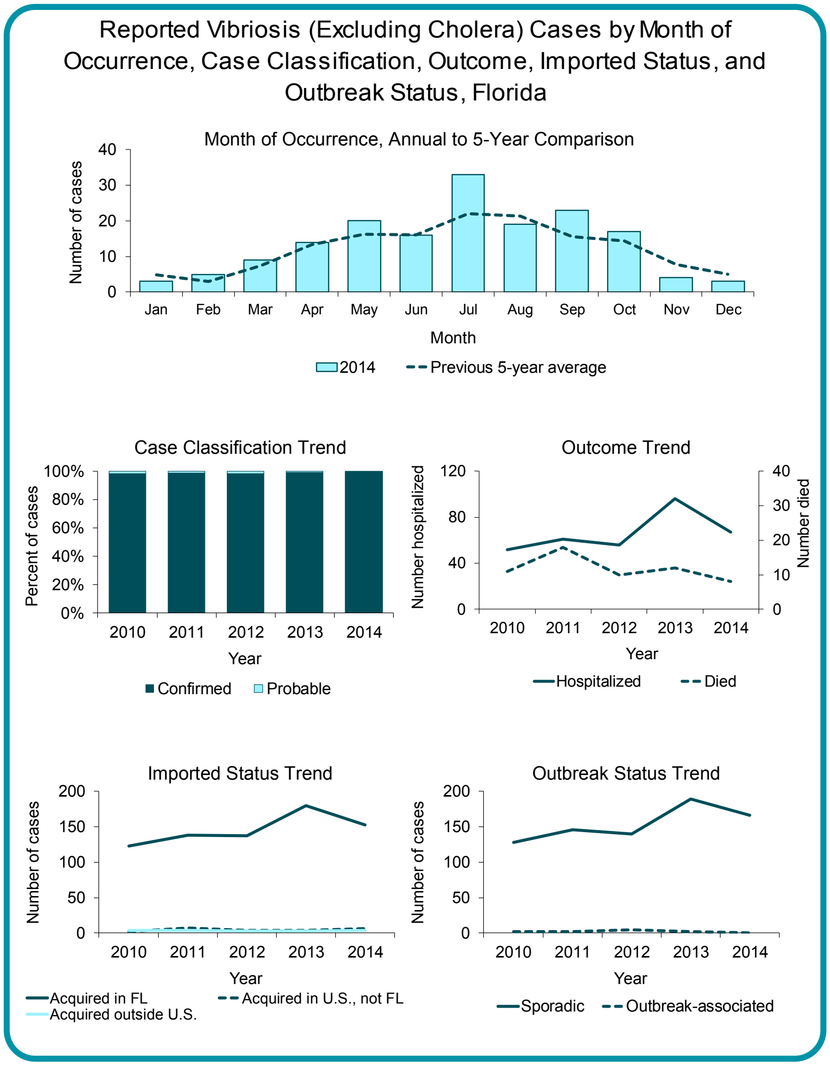


Note that trend graphs should be interpreted with caution when more than 5% of data are missing. Vibriosis (excluding cholera) cases were missing 13.1% of ethnicity data in 2010, 10.8% of race data in 2010, 7.7% of ethnicity data in 2011, 5.2% of race data in 2011, 10.9% of ethnicity data in 2012, 8.2% of race data in 2012, 8.9% of ethnicity data in 2013, 6.3% of race data in 2013, and 5.4% of race data in 2014.

Vibriosis (Excluding Cholera)

Summary of Case Factors

Summary	Number
Number of cases	166
Case classification	**Number (Percent)**
Confirmed	166 (100.0)
Probable	0 (0.0)
Outcome	**Number (Percent)**
Hospitalized	67 (40.4)
Died	8 (4.8)
Imported status	**Number (Percent)**
Acquired in Florida	153 (92.2)
Acquired in the U.S., not Florida	6 (3.6)
Acquired outside the U.S.	4 (2.4)
Acquired location unknown	3 (1.8)
Outbreak status	**Number (Percent)**
Sporadic	166 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)
Type of infection	**Number (Percent)**
Vibrio alginolyticus	66 (39.8)
Vibrio vulnificus	32 (19.3)
Vibrio parahaemolyticus	30 (18.1)
Vibrio cholerae Type Non-O1	11 (6.6)
Vibrio fluvialis	8 (4.8)
Vibrio mimicus	7 (4.2)
Grimontia hollisae	2 (1.2)
Other *Vibrio* species	10 (6.0)



Interpretation:
Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date, or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized count as well as the death count. Hospitalized status means that a person was hospitalized at the time of their illness, though the hospitalization may not necessarily have been due to the illness. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Imported status refers to where the infection was most likely acquired. Outbreak-associated indicates that two or more cases are epidemiologically linked.

Additional Information

In 2014, the most commonly reported *Vibrio* infection was *V. alginolyticus*, accounting for 39.8% of cases. This was an increase from 2013, in which only 25.7% of cases were associated with that species. The number of infections of *V. vulnificus* and *V. parahaemolyticus* decreased in 2014 compared to 2013. *V. vulnificus* can cause particularly severe disease, with about 50% of bloodstream infections being fatal. Of the 32 cases due to *V. vulnificus* in 2014, 27 (84.4%) were hospitalized and seven (21.9%) died, accounting for seven of the eight deaths. The eighth death was in a person co-infected with *V. vulnificus* and *V. parahaemolyticus*. *V. vulnificus* infections typically occur in people who have chronic liver disease, a history of alcoholism, or are immunocompromised. Of the 32 cases, 28 (87.5%) had underlying medical conditions. Of the eight people who died from vibriosis, two (25%) reported consuming seafood or having exposure to seafood drippings, three (37.5%) had a wound with seawater exposure, and three (37.5%) had other or unknown exposures.

Section 3

Narratives for Selected Reportable Diseases/Conditions of Infrequent Occurrence

Anaplasmosis

Anaplasmosis is a tick-borne bacterial disease caused by *Anaplasma phagocytophilum*. It was previously known as human granulocytotropic ehrlichiosis (HGE), but was later renamed human granulocytic anaplasmosis (HGA) when the bacterium genus was changed from *Ehrlichia* to *Anaplasma*. Typical symptoms of anaplasmosis include fever, headache, chills, and muscle aches. More severe infections can be seen in those who are immunosuppressed. Anaplasmosis is transmitted to humans by tick bites primarily from *Ixodes scapularis*, the black-legged tick, and *I. pacificus*, the western black-legged tick. Unlike ehrlichiosis, most HGA cases reported in Florida are due to infections acquired in the Northeastern and Midwestern U.S. Surveillance for anaplasmosis is intended to monitor incidence over time, estimate burden of illness, understand the epidemiology of each species, and target areas of high incidence for prevention education.

Anaplasmosis was grouped with ehrlichiosis in previous reports, but is summarized separately in the *2014 Florida Morbidity Statistics Report* due to its different vectors, ecology, and geographic distribution. In Florida, less than 12 anaplasmosis cases are reported each year. Seven cases were reported in 2014; five were confirmed cases and two were probable, based on the type of laboratory test results available. Two cases were hospitalized, but no deaths were reported. Four cases were in women, three were in men. Six cases were in non-Hispanic white people; race and ethnicity were unknown for one person. Ages ranged from 55 to 83 years old (average age was 67 years, median was 64 years). Cases were reported in residents of Brevard, Broward, Collier, Hillsborough, Manatee, Pinellas, and Sumter counties. All seven cases were interviewed. Infections were acquired in Massachusetts (2), New Hampshire (2), Wisconsin (2), and Arkansas (1) which is consistent with historical trends.

Brucellosis

Brucellosis is a systemic illness caused by several species of *Brucella* bacteria that can cause a range of symptoms in humans that may include fever, sweats, headaches, back pain, weight loss, and weakness. Brucellosis can also cause long-lasting or chronic symptoms that include recurrent fevers, joint pain, and fatigue. These bacteria are primarily transmitted among animal reservoirs, but people can be exposed when they come into contact with infected animals or animal products contaminated with the bacteria. Laboratorians can be at risk for exposure to *Brucella* species while working with human or animal cultures. Human infections in Florida are most commonly associated with exposure to feral swine infected with *Brucella suis*. Dogs and domestic livestock may also be infected with *B. suis*. Although dogs and dolphins may be infected with their own *Brucella* species, human illness is not commonly associated with them. Outside the U.S., unpasteurized milk products from infected goats, sheep, and cattle infected with *B. melitensis* and *B. abortus* are important sources of human infections. Brucellosis is reportable to public health authorities because there are a number of public health actions that can be taken to help reduce incidence of this infection. These actions include identifying populations at risk to allow for targeted prevention outreach; increasing health care provider awareness for earlier diagnosis and treatment of infected persons; intervening early and providing prophylaxis to prevent laboratory exposure-related infections from developing; detecting potentially contaminated products including food, transfusion, and organ transplant products; and detecting and responding to a bioterrorist event.

Over the past 10 years, between 3 and 17 brucellosis cases were reported annually in Florida residents. In 2014, three sporadic cases were reported in Florida residents; two were confirmed, one was probable. The two confirmed cases were both culture-positive for *B. suis*. A fourth case was identified in a non-Florida resident from Mexico (note that this report only includes Florida residents in case counts). Two of the three Florida residents were hospitalized, but no deaths were reported. All three Florida resident cases were in non-Hispanic white men, aged 23, 65, and 70. Cases occurred throughout the year, as is expected for a disease with an extended incubation period (up to several months) and the potential to cause chronic illness. Cases were reported in residents of Osceola, St. Lucie, and Volusia counties. All three cases were interviewed, and all three infections were acquired in Florida. Pig hunting was the likely route of exposure for all three Florida residents. Exposure for the non-resident case was attributed to ingesting raw milk products while in Mexico.

In addition to human brucellosis cases, four dogs tested positive for *B. suis* in 2014. In December 2013, a brucellosis case was reported in 1-year-old child in Polk County. Three dogs linked to that child were positive for *B. suis* by serology in 2014. The Florida Department of Agriculture and Consumer Services also identified a *Brucella*-positive pig at the farm and both parents were avid hog hunters. A second event in 2014 involved one dog that was culture-positive for *B. suis*. No human illnesses were associated with this dog. In addition, 26 laboratorians reported exposures to *B. suis* culture isolates in 2014 (15 high-risk exposures and 9 low-risk exposures). Four of those exposures were associated with the positive culture from the dog.

Hansen's Disease (Leprosy)

Hansen's disease, commonly known as leprosy, is a bacterial disease of the skin and peripheral nerves caused by *Mycobacterium leprae*. Approximately 95% of people are resistant to infection. Those who do develop clinical illness can experience a wide range of clinical manifestations, but typically develop symptoms related to the skin, peripheral nerves, and nasal mucosa. Although the mode of transmission of Hansen's disease is not clearly defined, most investigators believe *that M. leprae* is usually spread person-to-person in respiratory droplets following extended close contact with an infected person, such as living in the same household. The incubation period is typically years, making it difficult to determine the source of infection. Some armadillos in the southern U.S. are naturally infected with *M. leprae*; it is not clear if armadillos are simply sentinels or true reservoirs of the bacteria. It is possible to get infected through contact with armadillos, but the risk is low. Transmission of Hansen's disease in the U.S. is rare. Most U.S. cases occur in immigrants, typically from Asia, the Asian Pacific Islands, and Latin America where the disease is endemic. Surveillance for Hansen's disease is intended to facilitate early diagnosis and appropriate treatment by an expert in order to minimize permanent nerve damage and prevent further transmission.

In Florida, less than 12 Hansen's disease cases are reported each year. Ten cases were reported in 2014, all of which were laboratory-confirmed cases. The median time from symptom onset to laboratory diagnosis was 38 months, including two cases with symptoms reported more than 10 years prior to diagnosis. None of the people were known to be hospitalized and no deaths were reported. No cases were outbreak-associated. Three of the cases were in women and seven were in men; nine cases were in non-Hispanic white people and one was in a Hispanic white person. Ages ranged from 45 to 75 years old (average age was 63 years, median was 67 years). Cases were reported in residents of Brevard (3), Polk (2), Volusia (2), Clay (1), Miami-Dade (1), and Orange (1) counties. No linkages between the cases were identified. Eight of the cases were interviewed. Five infections were reported as acquired in Florida (in Polk, Volusia, Clay, Miami-Dade, and Orange county residents). Of the 10 people with known travel history, only two reported international travel (Ecuador, Iceland, and Italy), including one person who was born in Ecuador. One of the infected people recalled direct contact with armadillos; three people reported seeing but not touching armadillos. The origin of the remaining seven infections was unknown.

Mercury Poisoning

Mercury is a naturally occurring element distributed in the environment as a result of both natural and man-made processes. There are three forms of mercury (i.e., elemental or metallic mercury, organic mercury compounds, inorganic mercury compounds), each with unique characteristics and potential health threats. Mercury exposures are typically due to ingestion of mercury or inhalation of mercury vapors. Forms of mercury most likely encountered by the general public include elemental mercury vapor (found in some thermometers and dental amalgam), methylmercury, ethylmercury (found in some medical preservatives), and inorganic mercury (mercuric salts). Methylmercury is created when microorganisms in the environment convert inorganic mercury into its organic form, which can build up in the environment and accumulate in fish and marine mammals. Methylmercury is the most likely source of mercury leading to adverse health effects in the general population and can cause impaired neurological development; impaired peripheral vision; disturbed sensations (e.g., “pins and needles feelings” usually in the hands, feet, and around the mouth); lack of coordinated movements; impaired speech, hearing, and walking; and muscle weakness. Surveillance for mercury poisoning is important to determine if there is a source of mercury exposure of public health concern (e.g., fish, broken thermometer, dental amalgams), prevent further or continued exposure through remediation or elimination of sources when possible, and to inform the public about how to reduce the risk of exposure.

The mercury poisoning case definition changed in late 2008 to require symptoms related to mercury poisoning, so the number of cases decreased starting in 2009. An average of 10 cases per year have been reported since 2009 (ranging from 21 cases in 2009 to five cases in 2013); 15 cases were reported in 2014. All 15 cases were sporadic and laboratory-confirmed in urine (≥10 micrograms per liter [μg/L]) or whole blood (≥10 μg/L). No one was hospitalized and no deaths were reported. Eight cases were in women and seven were in men. Nine cases were in non-Hispanic white people, two were in non-Hispanic black people, one was in a non-Hispanic person of other race, and one person’s race and ethnicity were unknown. Ages ranged from 37 to 78 years old (average age was 58 years, median was 63 years). Cases were reported in residents of Palm Beach (6), Collier (2), Pinellas (2), Gadsden (1), Miami-Dade (1), Pasco (1), and Sarasota (1) counties. Fourteen people were directly interviewed, and risk factor data were collected from the reporting physician for the remaining person. Fourteen people were exposed in Florida and one was exposed in Massachusetts. All people reported fish consumption within a month of illness identification. Two people reported having dental amalgam as another possible source of mercury exposure.

Staphylococcus aureus **Infection, Intermediate Resistance to Vancomycin**

Staphylococcus aureus is a type of bacteria commonly found on the skin and in the noses of healthy people. Most *S. aureus* infections are minor, but sometimes serious or fatal bloodstream infections, wound infections, or pneumonia can occur. *S. aureus* is also an important cause of health care-associated infections, especially among chronically ill patients who have recently had invasive procedures or who have indwelling medical devices. *S. aureus* is transmitted person-to-person by direct contact. *S. aureus*, commonly found among health care workers, is spread by hands that become contaminated by contact with colonized or infected patients; colonized or infected body sites of the health care workers themselves; or devices, items, or other environmental surfaces contaminated with body fluids containing *S. aureus*.

Methicillin-resistant *S. aureus* (MRSA) is typically resistant to many antibiotics and has become more common in the last decade. Consequently, physicians rely heavily on vancomycin as the primary antibiotic for treating patients with serious MRSA infections and thus, resistance to vancomycin limits the available treatment options for MRSA. Vancomycin-intermediate *S. aureus* (VISA) and vancomycin-resistant *S. aureus* (VRSA) have acquired intermediate or complete resistance to vancomycin. VISA emerges when a patient with preexisting MRSA infection or colonization is exposed to repeated vancomycin use and the *S. aureus* strain develops a thicker cell wall. This resistance mechanism is not transferrable to susceptible strains. In contrast, VRSA emerges when a strain of *S. aureus* acquires the *vanA* gene from a vancomycin-resistant *Enterococcus* (VRE) organism. Recent exposure to vancomycin is not necessary. This type of gene-mediated resistance is theoretically transferable to susceptible strains or organisms, so there is potential for person-to-person transmission. No VRSA infection has ever been detected in Florida. Surveillance for VISA and VRSA is intended to identify infected people, evaluate their risk factors for infection, assess the risk of a patient transmitting infection to others, and to prevent such transmission. Additionally, it is important to track the emergence of a relatively new and rare clinically important organism.

Typically, between one and seven VISA cases are reported in Florida annually. Four cases were reported in 2014, all of which were sporadic and laboratory-confirmed. All four cases were hospitalized and one person died, though not necessarily from VISA infection (the person had multiple co-morbidities). One case was in a woman and three were in men; two cases were in non-Hispanic white people and two were in non-Hispanic black people. Ages ranged from 34 to 79 years old (average age was 60 years, median was 64 years). Cases were reported in residents of Manatee (2), Clay (1), and St. Lucie (1) counties. All cases were investigated, though only one case was able to be interviewed.

Typhoid Fever

Typhoid fever is a systemic illness caused by *Salmonella enterica* serotype Typhi (*Salmonella* Typhi) bacteria. People with typhoid fever typically have a sustained high fever and may also experience weakness, stomach pains, headache, loss of appetite, or rash. Typhoid fever can be severe. *Salmonella* Typhi lives only in humans. People get typhoid fever after eating food or drinking beverages that have been handled by a person who is shedding *Salmonella* Typhi in their stool or when sewage contaminated with *Salmonella* Typhi bacteria gets into the water used for drinking or washing food. Typhoid fever is common in most parts of the world except in industrialized regions such as the U.S., Canada, Western Europe, Australia, and Japan. Good sanitation and aggressive case follow-up help prevent typhoid fever from becoming endemic in industrialized regions. Surveillance for typhoid fever is intended to determine if there is a source of infection of public health concern (e.g., an infected food handler or contaminated commercially distributed food product) and to stop transmission from such a source, assess the risk of infected people transmitting infection to others and prevent such transmission, and identify other unrecognized cases.

Typically, between 10 and 20 typhoid fever cases are reported in Florida residents annually, with incidence peaking in summer months. Approximately 80% of infections are acquired in other countries where the disease is endemic. Thirteen cases were reported in 2014, all of which were sporadic, laboratory-confirmed cases. Eleven people were hospitalized, but no deaths were reported. Five cases were in females and eight were in males. All cases were in non-Hispanic; six were in Asian/ Pacific Islanders, two were white, two were black, and three were people of other races. Ages ranged from 8 to 75 years old (average age was 34 years, median was 35 years). Cases were reported in residents of Broward (2), Palm Beach (2), Alachua (1), Brevard (1), Collier (1), Manatee (1), Miami-Dade (1), Nassau (1), Orange (1), Pasco (1), and Sarasota (1) counties. All 13 cases were interviewed; 12 infections were acquired outside of the U.S. in India (7), Haiti (2), Bangladesh (1), Pakistan (1), and the Philippines (1). One infection was acquired in Florida (Nassau County resident).

West Nile Virus Disease

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. People infected with WNV can experience a wide range of symptoms. Approximately 80% of those infected show no clinical symptoms, 20% have mild symptoms (headache, fever, pain, fatigue), and less than 1% suffer from the neuroinvasive form of illness, which may involve meningitis and encephalitis and can cause irreversible neurological damage, paralysis, coma or death. Several species of *Culex* mosquitoes, animals (particularly wild birds and horses), and humans are all documented hosts for WNV. People become infected when they are bitten by a mosquito infected with WNV. WNV can also be transmitted to humans via contaminated blood transfusions and less frequently through organ transplantation. Since 2003, all blood donations are screened for the presence of WNV prior to transfusion. Symptoms typically appear from 2 to 14 days after the exposure. People spending large amounts of time outside (due to occupation, hobbies or homelessness) or not using insect repellant or other forms of prevention are at higher risk of becoming infected. Surveillance for WNV disease is important to identify areas where WNV is being transmitted to target prevention education for the public, monitor incidence over time, and estimate the burden of illness.

The incidence of WNV disease in Florida varies greatly from year to year but the incidence consistently peaks between July and September. The largest number of cases (94) was reported in 2003; from 2006 to 2009, only three cases were reported each year. Incidence peaked again in 2012 with 74 reported cases, then decreased in 2013 to seven cases. Seventeen cases were reported in 2014, of which 12 were neuroinvasive. All cases were sporadic, 16 were confirmed and one was probable, meaning that less supportive laboratory evidence was available. Fifteen people were hospitalized and one person died. Six cases were in women and eleven were in men. All cases were in non-Hispanic people; one person was black and the remaining 16 people were white. Ages ranged from 7 to 80 years old (average age was 46 years, median was 43 years). Cases were reported in residents of Escambia (4), Volusia (4), Duval (2), Alachua (1), Clay (1), Leon (1), Marion (1), Monroe (1), Pasco (1), and Polk (1) counties. Consistent with past years, cases occurred in July (1), August (8), September (6), and October (2). All 17 infected people were interviewed. One infection was acquired in the Bahamas and the remaining 16 infections were acquired in Florida.

Asymptomatic WNV infections do occur, though they do not meet the Florida surveillance case definitions. Four asymptomatic infections in blood donors were identified in Florida residents in 2014. Asymptomatic blood donors were reported from Duval (September), Polk (November), Santa Rosa (July), and St. Johns (September) counties. An additional blood donor was initially identified through the blood screening process and later developed non-neuroinvasive symptoms, meeting the case definition. Also of interest, two cases of St. Louis encephalitis (SLE) were identified in Duval County residents in 2014. Similar to WNV, SLE virus is a flavivirus with the same mosquito vectors and it is hypothesized that WNV may have replaced SLEV in Florida and other parts of the U.S. These were the first cases of SLE reported in Florida since 2003. For more information about these SLE cases, please see Section 4: Notable Outbreaks and Case Investigations.

Section 4

Notable Outbreaks and Case Investigations

Notable Outbreaks and Case Investigations

In Florida, any disease outbreak in a community, hospital or institution, as well as any grouping or clustering of patients having similar disease, symptoms, syndromes or etiological agents that may indicate the presence of an outbreak is reportable as per Florida Administrative Code Chapter 64D-3. Selected outbreaks or case investigations of public health importance that occurred in 2014 are briefly summarized in this section.

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Non-Infectious Agents

Bacterial Diseases

Brucella suis: Pediatric Brucellosis (Polk County)

Background: *Brucella suis* is endemic in feral swine in Florida. Transmission of *B. suis* from pigs to other animals including cattle, dogs, and horses has also been reported in Florida. The bacteria can be transmitted by entering the body via skin wounds or mucous membranes through contact with infected animals. The infection often localizes in the reproductive tract of animals, making infertility, fetal loss, and unhealthy newborns common. Infections in people and animals frequently involve bone and joints. On December 11, 2013, the Florida Department of Health in Polk County (DOH-Polk) received notification from a local hospital of a suspect *Brucella* blood culture collected December 10 from a 21-month-old girl. The investigation continued into 2014 when testing of animals on the property was conducted.

Methods: A DOH-Polk epidemiologist requested medical records from the physician and conducted numerous interviews with the girl's parents to determine if the infection met the surveillance case definition criteria for brucellosis and to identify the most likely exposure. Because *B. suis* in livestock is a reportable condition for the Florida Department of Agriculture and Consumer Services, a livestock investigation, including testing of domestic cattle and swine, was conducted concurrently. Testing of the family members was conducted by the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) and the Centers for Disease Control and Prevention (CDC). Samples from pet dogs were collected by the owner's veterinarian and the Polk County Animal Control veterinarian and submitted to a commercial laboratory and CDC.

Results: The girl had a recent history of upper respiratory illness with fever that resolved approximately December 3, followed by the onset of a limp and pain in her right leg on December 5. She was seen at an emergency department on December 7 and again on December 10 when her fever returned. Blood culture isolates submitted by the hospital laboratory were positive for *Brucella* species by polymerase chain reaction on December 13 at BPHL-Tampa. No laboratory exposures were reported. On December 16, the isolate was reported presumptive positive for *B. suis* and was sent to CDC where the species was confirmed. The girl was admitted for treatment following a diagnosis of brucellosis. The family lived on a farm where they had at least three cows, two domestic pigs, two chickens, and five dogs. Wild swine also had access to the property. In the few months preceding her illness, one of the domestic pigs had piglets. In addition, one of the hunting dogs had a litter of puppies, all of whom died soon after birth. The parents regularly hunted wild swine with two of their dogs but denied dressing the swine or eating hog meat. The child's mother reported that the girl had no recent travel, did not consume raw milk or undercooked meat products, and did not have any contact with swine, but reported occasional contact with the dogs. The parents reported no symptoms of brucellosis, and both tested negative by *Brucella* microagglutination testing conducted at CDC. One sow and three of five dogs, including the hunting dog that had recently lost its pups, had positive blood titers for *Brucella* antibodies, indicating past exposure. Four dogs were euthanized, including all the animals that tested positive. Post-mortem oral (4), vaginal (2), and testicle (1) biopsies were negative for *Brucella*.

Conclusions and Recommendations: The girl's parents were provided with brucellosis prevention information for hunters. Brucellosis is endemic in feral swine in Florida and can spread to humans and domestic animals in close contact with them. The risk for transmission from infected pets to people is not well characterized; however, most confirmed infections of *B. suis* in Florida report direct contact with feral swine.

Clostridium difficile: Outbreak in a Rehabilitation Facility/Nursing Home (Okaloosa County)

Background: *Clostridium difficile* is a spore-forming, Gram-positive anaerobic bacillus that produces two exotoxins: toxin A and toxin B. It is a common cause of antibiotic-associated diarrhea. *C. difficile* infections (CDI) are among the most serious health care complications that impact the nursing home population. These infections can result in malnutrition, increased frailty, and in some cases, hospitalizations and death. On April 8, 2014, the Florida Department of Health in Okaloosa County (DOH-Okaloosa) was contacted by the Director of Nursing at a local rehabilitation center/ nursing home to report that 5 of 102 female residents (5%) had severe diarrhea, three of whom also had fever. Illness onsets ranged from February 7 through April 4. The five residents were all bedridden and three of the five were in private, adjacent rooms before symptom onset. The remaining two residents were immediately moved to private rooms after testing positive for *C. difficile* toxin by enzyme immunoassay (EIA).

Methods: DOH-Okaloosa obtained pertinent past medical histories for each patient, including recent antibiotic use and past episodes of CDI. The DOH Health Care-Associated Infection Prevention Program Manager was consulted and provided CDI-specific guidance to share with the facility. DOH-Okaloosa also recommended that any newly symptomatic residents be isolated in their rooms and that a cleaning and disinfection in-service education be completed. Active surveillance was conducted for two weeks following the date of the last reported onset of symptoms.

Results: All five patient specimens tested positive for *C. difficile* A/B toxin by EIA and were negative for other enteric bacteria by stool culture. All five residents were taking various antibiotics before symptom onset. Four of the residents were treated for *C. difficile* with vancomycin and one resident refused treatment and received supportive care in isolation. Three of the four treated residents recovered, and one patient died due to causes unrelated to CDI. Through the course of the investigation, DOH-Okaloosa learned that the facility had a policy that nurses may use an alcohol-based hand sanitizer between patients and are only required to wash hands with soap and water after every third patient.

Conclusions and Recommendations: Toxigenic cultures are considered the gold standard for detection of CDI, and should be performed if there is a suspicion of a CDI outbreak in a health care facility. Using positive EIA test results can lead to the unnecessary treatment of people with nontoxigenic *C. difficile* colonization. To prevent the spread of *C. difficile* within the facility, DOH-Okaloosa emphasized that alcohol-based sanitizers are not effective against *C. difficile* spores, and the facility agreed to implement a hand-washing protocol between every patient. DOH-Okaloosa also recommended the use of a sporicidal disinfectant with appropriate contact time to eliminate *C. difficile* spores from fomites and surfaces.

Clostridium tetani: Probable Case in an Unvaccinated Woman (Pinellas County)

Background: Tetanus is caused by a toxin produced by the *Clostridium tetani* bacterium. The bacteria are common in the environment in soil, dust, and manure, and enter the body through broken skin. The infection can be severe, and 10-20% of cases are fatal. Infections are rare in the U.S. due to widespread use of vaccine. On January 10, 2014, the Florida Department of Health in Pinellas County (DOH-Pinellas) was notified by a local hospital of a suspect case of tetanus in a 39-year-old woman.

Methods: A probable case of tetanus is defined as an acute illness with muscle spasms or hypertonia and a diagnosis of tetanus by a health care provider in the absence of a more likely diagnosis. There is no confirmed case definition for tetanus as there are no laboratory tests available for diagnosis. Upon notification, DOH-Pinellas initiated an investigation, immediately reviewing the woman’s medical records and conducting an interview with the woman to determine exposures.

Results: During the interview, the woman reported that near the end of December 2013, she cut her left index finger on a rusty box cutter while working as maintenance staff at a local racetrack. She washed the wound with soap and water, covered it with a bandage, and returned to work. One to two weeks later, she gradually began to experience muscle spasms in her left ankle, and then her abdomen and back. She also reported muscle stiffness in her jaw, vomiting, dysphagia, and fatigue. Her last tetanus shot was 18 years earlier. The woman was diagnosed based on clinical presentation, as culturing *C. tetani* has low sensitivity and was not performed. She was hospitalized for two days and treated with tetanus immunoglobulin (TIG) and tetanus toxoid (TTV).

Conclusions and Recommendations: During a one-month follow-up interview, the woman continued to report muscle spasms and vomiting, and it was recommended that she see an infectious disease doctor. The woman was unable to be reached for a one-year follow-up interview. Patients with any new wound and an unknown vaccine history should be evaluated by a health care provider to be evaluated for post exposure prophylaxis with TTV or TIG. This case emphasizes the importance of adults remaining up to date on their tetanus booster shots, which should be received every 10 years.

Francisella tularensis: Imported Case of Tularemia (Polk County)

Background: While tularemia cases were regularly reported in rabbit hunters in Florida up until the 1960s, activity declined through the 1980s, possibly due in part to decreased popularity of rabbit hunting. Since then, sporadic cases identified in Florida are often due to infection from exposure in other locations where it is endemic (e.g., midwestern, western, and northeastern U.S. states). Transmission occurs most frequently through contact with infected animals or via tick bite, and less commonly, fly bites. Laboratory and environmental transmission are also possible. On September 30, 2014, the Florida Department of Health in Polk County (DOH-Polk) was notified that the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) had received a wound culture isolate from a Polk County clinical laboratory that tested positive for *Francisella tularensis* by polymerase chain reaction (PCR).

Methods: DOH-Polk interviewed the man to determine relevant epidemiologic information, including where exposure likely occurred. The director of the clinical laboratory that initially received the specimen was also interviewed. Confirmatory testing was performed at BPHL-Tampa.

Results: The 61-year-old infected man presented to an urgent care clinic on September 24 with an infected insect bite on the inner part of his right foot, an enlarged lymph node in the right groin, and a history of recent subjective fever. Other symptoms included headache, myalgia, conjunctival irritation, and sore throat. The physician collected a wound swab for culture and prescribed sulfamethoxazole/trimethoprim. On September 26, the man returned to the clinic with worsening pain and cellulitis, and the wound was cleaned and dressed. He was advised to return to the clinic on October 1 following receipt of the positive laboratory results for *F. tularensis* and was prescribed doxycycline for treatment of tularemia. The man's work involved travel throughout the U.S., and he believed he received the bite from an unknown insect during a brief stop for truck repairs near Colorado Springs, Colorado in mid-September. The bite was noticed at the time as it was itching. Fever began approximately 5 days later, and the wound on his foot became more painful and inflamed in the following days. He was asked about other possible exposures and travel to other states, but he denied having contact with rabbits or exposure to ticks or insects at any other time or location. Laboratory exposures were also assessed, and two laboratory technicians were identified as having worked with the specimen, although no high-risk exposure was reported. They were prescribed doxycycline as prophylaxis.

Conclusions and Recommendations: Colorado experienced increased tularemia activity in 2014. Recent travel history should always be obtained as part of the standard patient interview. Tularemia prevention recommendations include wearing gloves when handling wildlife or wild game, wearing insect repellant, and avoiding running over the carcasses of dead animals with lawn mowers. Although aerosol transmission can occur in laboratories, the incubation period is short (less than two weeks) and the standard recommendation is to monitor for fever (and treat with doxycycline if fever does develop) unless a high-risk exposure has occurred.

***Legionella pneumophila*: Legionellosis Outbreak at a Nursing Home (Orange County)**

Background: On July 8, 2014, the Florida Department of Health in Orange County (DOH-Orange) was notified of a single case of legionellosis with onset of illness on June 20 in a man who had been in a nursing home during the entire exposure period, indicating the exposure occurred at the nursing home. On August 12, the same nursing home notified DOH-Orange of two additional cases of legionellosis. Upon confirmation of the diagnoses, an outbreak investigation was initiated immediately.

Methods: Syndromic and reportable disease surveillance data were reviewed to identify any additional cases and active case finding was conducted at the facility to determine the scope of the outbreak. Environmental assessments were conducted to determine the potential source of the outbreak and make remediation recommendations. Environmental samples were collected by DOH-Orange and a private remediation company for testing. A case of legionellosis was defined as a resident, staff member, or visitor who was at the nursing home during the exposure period who subsequently developed clinically compatible illness (e.g., fever >100°F, myalgia, cough) and had laboratory evidence of *Legionella pneumophila* infection (e.g., culture, urine antigen, antibody titer) diagnosed between June 20 and December 1, 2014.

Results: Three cases were determined to be part of the outbreak with no new cases identified through active and passive surveillance efforts. All cases were in men aged 69, 82, and 88 years old. The cases had been admitted to the nursing home at least two months prior to onset of symptoms and had not exited the nursing home in the 10 days prior to the onset of symptoms. Symptom onsets occurred on June 20, July 13, and August 7. Two cases were hospitalized as a result of the *Legionella* infection. The nursing home building had two units, and all three men resided in Unit A during the 10 days prior to symptom onset. The men were moved into the unit on March 18, March 12, and June 2, 2014.

The environmental assessment found that residents were transferred to the recently constructed nursing home in two waves beginning in December 2013 and finishing in February/March 2014. The second wave of residents were described as those with the most severe morbidities. Unit A, where the three infected men resided, was the latter unit to be filled. Before the completion of construction of the nursing home, the contract company stated that they had flushed and chlorine shocked the plumbing; however, no documentation supporting this remediation effort were provided.

Environmental samples collected by DOH-Orange were negative for *L. pneumophilia*. Samples collected by the private remediation company identified *L. pneumophilia* throughout the plumbing system in the facility.

Conclusions and Recommendations: This outbreak of three cases of legionellosis was associated with exposure to the water system at a newly constructed nursing home. The common exposure identified was residence in the same living unit with showers and sinks where water can aerosolize. Water samples collected in July 2014 from the nursing home plumbing system were culture positive for *L. pneumophila*. Extensive environmental assessment data collected during the outbreak investigation indicated conditions existed that could support the growth of the microbial biofilm environments preferred by *Legionella* bacteria as well as promote the harborage and survival of *Legionella* bacteria. DOH-Orange provided written recommendations on August 22 and September 3 to the nursing home infection control and engineering staff to support previous verbal recommendations for preventing the harborage and growth of *Legionella* in the facility's plumbing water system and guiding environmental monitoring and *Legionella* testing during the outbreak timeframe to reduce the risk of continued disease transmission.

Mycobacterium tuberculosis: Large Tuberculosis Contact Investigation Involving Two Hospitals (Okaloosa County)

Background: On June 3, 2014, the Florida Department of Health in Okaloosa County (DOH-Okaloosa) was notified by the Infection Practitioner (IP) of a local hospital (Hospital A) that four nurses who worked in the same unit had tuberculin skin test conversions from March through May of 2014. The IP identified a 62-year-old man as the suspect index tuberculosis (TB) case through a retrospective medical record review. Examination of the man's clinical notes identified that he was recently hospitalized at two different hospitals (Hospitals A and B) for a total of 2.5 months and died in April 2014. Preliminary diagnoses did not include TB; therefore, no infection control precautions were taken. Contact investigations at each hospital, in addition to a community contact investigation, were initiated to identify, evaluate, and treat hospital employees, hospital patients, and community contacts of the index case who may have been exposed to infectious TB.

Methods: An Incident Command System (ICS) structure was mobilized within DOH-Okaloosa to maintain operational control and ensure communication throughout the different facets of the investigation. The Centers for Disease Control and Prevention's *Guide for the Investigation of Contacts of Persons With Infectious Tuberculosis* was used as a resource for contact investigations. Contacts were prioritized for testing based on the frequency and duration of contact with the suspect index case, involvement in high-risk medical procedures with the case, age, and immune status. A customized data collection form was created in Epi Info™ 7 to collect demographic information, previous TB testing results, exposure information, and field notes.

Results: The investigation identified 244 exposed hospital contacts and seven exposed community contacts who required testing. Of the exposed contacts from both hospitals, 239 (98%) were tested for TB or had a documented TB test >12 weeks after exposure. Two new skin test conversions were found through the contact investigation at Hospital A, both of whom were assigned to the same floor as the original four nurses identified at Hospital A; no conversions were identified at Hospital B. Two of the seven community contacts tested positive for TB exposure; one contact was treated for latent TB infection, and the other was treated for TB disease.

Conclusions and Recommendations: Providers in areas considered as low risk for TB should remain vigilant and consider TB in their differential diagnoses in patients with cavitary lesions on chest x-ray and other symptoms of TB. When potential TB transmission is identified in multiple settings, early mobilization of an ICS structure is essential for maintaining organization and ensuring communication between various arms of a multifaceted investigation. Although not typically used by DOH for TB contact investigations, Epi Info™ 7 was a useful tool for organizing and managing the vast amounts of data collected. Most importantly, cultivating and maintaining relationships among local health office staff, local IPs, and community partners is vital to the early detection and mitigation of diseases and outbreaks.

Neisseria meningitidis: Imported Pediatric Meningococcal Disease (Lee County)

Background: Meningococcal disease is caused by *Neisseria meningitidis* bacteria. The bacteria can be transmitted through the exchange of respiratory secretions and can cause severe illness. The Florida Department of Health in Lee County (DOH-Lee) was notified of a suspect meningococcal disease case on July 17, 2014, by a local children's hospital. The child was not a Lee County resident, but a traveler visiting from Ireland, who had arrived in Lee County on July 11.

Methods: DOH-Lee initiated an investigation to confirm the case and identify potential contacts. A confirmed case was defined as a clinically compatible illness in a person with isolation of *N. meningitidis* from a sterile site. DOH-Lee conducted interviews with the child's family and hospital staff to identify travel history and close contacts for post-exposure prophylaxis (PEP). An isolate was forwarded to the Bureau of Public Health Laboratories in Jacksonville (BPHL-Jacksonville) for serogrouping and subsequently forwarded to the Centers for Disease Control and Prevention (CDC) for multilocus sequence typing (MLST).

Results: The child was brought to the emergency department on July 17 with a history of fever, vomiting, and purpuric rash. The child was intubated for several days before recovering from the illness. DOH-Lee identified 19 close contacts in the U.S. who needed PEP, including 10 family members and nine health care workers. Interviews also identified six neighbors in Ireland who were in contact with the case during the incubation period. The Bureau of Epidemiology contacted the Ireland Department of Public Health (IDPH) to notify them of the need for PEP for these people. On July 20, DOH-Lee was notified by the hospital that blood cultures were positive for *N. meningitidis*. BPHL-Jacksonville later confirmed *N. meningitidis* serogroup B. The older sibling of the case had been diagnosed with meningococcal disease 18 months prior in Ireland, and the current case had received prophylaxis at that time. In coordination with IDPH, CDC confirmed the *N. meningitidis* isolated from the case had the same MLST profile as the sibling's isolate from the previous year.

Conclusions and Recommendations: Rapid response and interviews with the family were essential to ascertaining a detailed travel history and list of close contacts. International cooperation was key to ensuring all contacts received PEP in a timely fashion. Further laboratory analysis and international coordination by CDC also determined the same strain of *N. meningitidis* was responsible for the siblings' infections, though they occurred 18 months apart. The source of the infection for the siblings is unknown due to the potential role of asymptomatic carriage and transmission from colonized persons.

Salmonella Braenderup: Outbreak Linked to a Food Truck, Lee County

Background: On July 16, 2014, the Florida Department of Health in Lee County (DOH-Lee) was notified of a salmonellosis (*Salmonella* group C) case in a man who had been hospitalized. He reported consuming food from a local food truck with a friend who was also ill but did not seek medical attention. On July 17, the Regional Environmental Epidemiologist noted the same food truck was referenced in a separate 72-hour food history complaint. On July 18, a third complaint was received from a family of five that reported similar symptoms of gastrointestinal illness with exposure to the same food truck. In response to these incidents, a foodborne illness complaint investigation was initiated.

Methods: DOH-Lee conducted interviews with all ill people, queried the reportable disease surveillance system for additional *Salmonella* group C cases, and reviewed the foodborne illness complaint log for people reporting similar exposure to the food truck. All specimens were forwarded to the Bureau of Public Health Laboratories (BPHL) for serotyping and pulsed-field gel electrophoresis (PFGE) analysis. An environmental assessment of the food truck was scheduled with the Florida Department of Business and Professional Regulation. A confirmed case was defined as any person with laboratory-confirmed *Salmonella* infection who consumed food from the mobile food truck on July 11 or July 12. A suspected case was defined as a person experiencing diarrhea within 72 hours after consuming food from the mobile food truck on July 11 or July 12.

Results: Of the 14 interviews conducted, 12 people met the case definition (six confirmed, six suspected). The incubation period ranged from 8.5 to 70 hours with a median of 24 hours. The duration of illness ranged from three to seven days with a median of six days. Ages ranged from 4 to

46 years with a median of 29 years, and 8 cases (67%) were in men. The 12 people consumed a variety of different tacos and most consumed more than one kind of taco. This was the only common exposure identified among cases. BPHL confirmed the six *Salmonella* group C isolates as *Salmonella* serotype Braenderup with an indistinguishable PFGE pattern (JBPX01.0002). The environmental assessment found inadequate hand washing practices, insufficient cold and hot holding time and temperature practices, and an improperly functioning reach-in cooler. No ill employees were identified in the two weeks before the outbreak and no food handlers tested positive for enteric pathogens.

Conclusion and Recommendations: Based on the epidemiological data and the environmental assessment, this cluster of salmonellosis cases was associated with food from the local food truck. Some limitations to this investigation included a lack of controls, limited food exposure data, lack of recall of specific food exposures, inconsistent responses based on various interviewers' techniques, lack of implicated foods available for analysis, and a language barrier during interviews with some sick people and employees of the food truck. A strength of this investigation was DOH-Lee working with local hospitals to quickly obtain case information and rapidly submit isolates to the BPHL for serotyping and PFGE analysis.

***Staphylococcus aureus* enterotoxin: Foodborne Outbreak at a Holiday Lunch Buffet (Orange County)**

Background: On December 10, 2014, a request for multiple ambulances needed at a commercial building was broadcast via the mass casualty incident notification system. The Florida Department of Health in Orange County (DOH-Orange) was notified by their preparedness partners about the incident. The request for ambulances occurred following a catered holiday luncheon. Initial reports indicated that 25 people had been transported via ambulance to area emergency departments for symptoms of severe nausea, vomiting, and diarrhea. An outbreak investigation was immediately initiated.

Methods: Questionnaires were administered to the attendees of the luncheon in a cohort study. Environmental assessments were conducted at the caterer's commissary, home, and the complex where the holiday luncheon occurred. Clinical and food samples were collected for analysis by the Centers for Disease Control and Prevention (CDC). Additional case finding was conducted by querying syndromic data, review of routine complaints received by DOH, querying Florida Poison Information Center Network calls, and posting a notice on EpiCom (Florida's moderated outbreak communication system and moderated message board). A case was defined as a person who became ill with diarrhea or vomiting within 24 hours following consumption of food from the catered holiday lunch buffet at the office building between 11:30 a.m. and 1:00 p.m. on December 10.

Results: A total of 141 people met the case definition. People ranged in age from 20 to 64 years with a median of 41 years, and 87 cases (62%) were in women. Incubation periods ranged from 22 minutes to 23.5 hours with a median of 4.3 hours. The most frequently reported symptoms among cases were watery diarrhea (87%), abdominal cramps (77%), and nausea (77%). Among study participants, food items that were associated with a statistically significant increased risk of becoming ill with gastrointestinal illness included white turkey meat (risk ratio=2.76, 95% confidence interval [CI] [1.58-4.80]), gravy (risk ratio=1.88, 95% CI [1.24-2.84]), and devil chocolate cake (risk ratio=1.44, 95% CI [1.10-1.89]). With only 36 ill study participants reporting consumption of the devil chocolate cake, this food item by itself was not determined to have caused the outbreak. The environmental assessment found that the caterer prepared all of the foods for the event, except the salad, at the commissary from December 7 to 10 with assistance from the caterer's spouse. Storing a large amount of food in a small cooler and limited hot holding capacity likely led to temperature abuse of the implicated foods. Environmental contamination from shared workspace at the commissary was possible. Six stool specimens tested positive at CDC for *Staphylococcus aureus*, and one was culture-positive for *Bacillus cereus*. The dark turkey meat, white turkey meat, and ham were also culture-positive for *S. aureus* and *B. cereus*.

Conclusion and Recommendations: This outbreak of gastrointestinal illness was caused by *S. aureus* toxins in the turkey prepared and served by personnel of the catering company at the holiday lunch buffet at the office building on December 10. The presence of *S. aureus* toxin in the turkey, statistically significant association of illness with consumption of turkey, and the thermal abuse of the turkey after the initial roasting process and before the end of the holiday lunch buffet supports this conclusion. Contamination with *B. cereus* of the turkey, ham, and green beans served at the holiday lunch buffet also contributed to the illnesses. However, the degree to which illnesses were caused by each identified pathogen could not be determined. Cross-contamination of food items before, during, or following the holiday lunch buffet cannot be ruled out, which may have led to multiple food items acting as an outbreak causative vehicle or distortion of the true relationship.

Undetermined: Fatal Case of Suspected Meningococcal Disease in a Child (St. Lucie County)

Background: On December 19, 2014, the Florida Department of Health in St. Lucie County (DOH-St. Lucie) was notified by the medical examiner's (ME) office of an 8-year-old boy with suspected meningococcal disease. According to the ME, meningococcal disease was suspected based on probable sepsis, findings of Waterhouse-Friderichsen syndrome (hemorrhagic adrenal glands), early signs of meningitis during the autopsy, and a history of a "blotchy" red rash. The case had no known underlying medical conditions and initially presented to a local emergency department (ED) on December 17 with fever (103 °F), vomiting, nausea, and fatigue, and was discharged with anti-nausea/vomiting medications. He returned to the local ED in the early morning of December 19 severely dehydrated, confused, and in metabolic acidosis and shock. Blood cultures were collected before administering intravenous (IV) ceftriaxone. A spinal tap was not performed. He was transferred to another local hospital, intubated, and admitted to the pediatric intensive care unit where he received IV fluids, vancomycin, and cefepime. Despite rescue efforts, he died a few hours after arrival from cardiopulmonary arrest with a disposition of probable severe sepsis and severe metabolic acidosis. Based on the clinical presentation and rapid deterioration, the ME's findings, and consultations with the Bureau of Epidemiology, an investigation was initiated for suspected meningococcal disease.

Methods: DOH-St. Lucie led a rapid investigation and comprehensive response including obtaining medical records; completing an interview with the mother of the case; identifying and notifying close contacts at risk; recommending antibiotic prophylaxis as appropriate; coordinating advanced laboratory testing with the Bureau of Public Health Laboratories (BPHL) and the Centers for Disease Control and Prevention (CDC); and communicating with family members, the ME office, health care providers, school contacts and parents.

Results: The child had no reported history of recent travel, no reported or identified risk factors, and all recommended immunizations were up to date, including influenza vaccine. Four adult household contacts and five close contacts (two adults and three children) were identified for whom prophylaxis was recommended. All received prophylaxis through their primary care providers or DOH-St. Lucie. In addition, 30 possibly exposed health care workers were identified and provided with prophylaxis through their employee health or risk management programs. Exposures occurred while providing direct patient care, during transport, or resuscitation efforts. Letters and fact sheets were provided to the child's school for notifying parents and staff. DOH-St. Lucie epidemiology staff and an on-call nurse were available after hours and throughout the weekend to answer any questions or concerns. General information on diagnosis and treatment of meningococcal disease were also distributed to local health care providers, including the treating hospitals and infection preventionists. No additional cases or symptomatic contacts were identified.

Two sets of blood cultures and urine cultures collected at the EDs showed no growth. The chest x-ray impression was suggestive of viral-like pneumonitis. Post-mortem specimens (cerebral spinal fluid [CSF], blood, and lung tissue) were tested at a local hospital but were reportedly contaminated (i.e., growing multiple organisms including *Streptococcus mitis* and diphtheroids) and no pathogenic organisms were identified. Gram stain on the CSF and lung tissue showed no organisms and lung tissue culture and toxicology results were all negative. Blood and CSF specimens were sent to CDC for bacterial meningitis polymerase chain reaction (PCR) panel testing, and tissue specimens were submitted to the CDC's Infectious Disease Pathology Branch Lab (IDPB). Blood and CSF specimens were negative for *Neisseria meningitidis*, *Haemophilus influenzae*, and *Streptococcus pneumoniae* by real-time PCR. Parvovirus B19 was detected in heart tissue specimens by PCR, though IgM antibodies were negative.

Conclusion and Recommendations: According to CDC, detection of parvovirus B19 IgM antibodies is the best indicator of recent parvovirus B19 infection, as parvovirus DNA can persist in multiple tissues (including heart) for decades following the infection. The etiologic agent that caused this child's death remains unknown. Even though all laboratory tests were negative for *N. meningitidis* and the illness ultimately did not meet the meningococcal disease surveillance case definition, responding to this illness as if it were meningococcal disease was the appropriate precautionary public health response.

Parasitic Diseases

Cryptosporidium species: Multi-County *Cryptosporidium* Outbreak at a Water Park, (Hillsborough County)

Background: During the summer of 2014, more than 500 confirmed cases of cryptosporidiosis were reported in Florida. Of the confirmed cases, 266 (52%) were reported in the Tampa Bay area including Hillsborough, Pinellas, and Pasco counties. Investigations conducted by the Florida Department of Health in Hillsborough County (DOH-Hillsborough) identified that many of the cases had visited a local water park in Tampa. In addition, several surrounding counties notified DOH-Hillsborough that some of their reported cryptosporidiosis cases had also visited the same water park. An investigation was initiated, including two environmental assessments of the identified water park, extensive contact with park management, active case finding, and a news release to the public.

Methods: DOH-Hillsborough investigated cryptosporidiosis cases reported by physicians, clinics, and private citizens in Hillsborough County and additional reports from surrounding local health offices. Active case finding was implemented by posting a notice to EpiCom (Florida's moderated outbreak communication system and moderated message board) and reviewing syndromic data. A confirmed cryptosporidiosis case was defined as a person who visited the identified water park in Tampa from June 1 through September 30, 2014, with a positive *Cryptosporidium* laboratory result. A probable cryptosporidiosis case was defined as a person who visited the water park who had diarrhea, but lacked laboratory evidence of infection. Environmental assessments of the water park were conducted by DOH-Hillsborough.

Results: Analysis of surveillance data identified 30 confirmed and 17 probable cases of cryptosporidiosis among water park visitors. Ages ranged from 6 months to 63 years old with a median of 14.3 years. Illness onset dates ranged from June 24 through September 23. The median incubation period for cases was 6.4 days. Results from the environmental assessment at the water park did not identify any significant violations of current Florida pool code, however a secondary disinfection system was not in place, potentially allowing *Cryptosporidium* oocysts to survive and circulate for extended periods of time. Water chemistry records were reviewed for the past two months for the pools, and all identified fecal accidents were responded to according to Centers for Disease Control and Prevention (CDC) recommendations for eliminating *Cryptosporidium*.

Conclusion and Recommendations: A cryptosporidiosis outbreak associated with a local water park in Hillsborough County occurred during the summer of 2014. Confirmed cases were reported from six Florida counties. Several confirmed cases attended the park while infectious with cryptosporidiosis and were likely the source of at least some of the illness clusters. The facility was following CDC guidelines for pool disinfection after detection of fecal accidents. Recommendations were made to the management to exclude ill people, and consider the use of more effective disinfection methods to reduce the likelihood of transmission at their facility.

Naegleria fowleri: Primary Amebic Meningoencephalitis With International Exposure (Seminole County)

Background: On July 2, 2014, the Bureau of Epidemiology received a report of a suspected case of primary amebic meningoencephalitis (PAM) in an 11-year-old boy being treated in an Orange County hospital. PAM is caused by *Naegleria fowleri*, a free-living ameba. The treating physician requested the release of an investigational medication, miltefosine, from the Centers for Disease Control and Prevention (CDC). In response to the call, an investigation was initiated to determine the exposure source and summarize case findings. The investigation determined the ill person was a resident of Seminole County.

Methods: The Florida Department of Health in Seminole County (DOH-Seminole) obtained medical records from the treating hospital and interviewed the boy's parents and hospital staff to determine exposure details, clinical history, and treatment. Cerebral spinal fluid (CSF) was forwarded to CDC on July 2 by the hospital to confirm the presence of *N. fowleri*.

Results: Exposure history included travel to Costa Rica from June 19 to 27. The boy reported extensive swimming, zip lining, and water slide activities at a resort on June 23. The resort used a natural hot water spring as the water source for these activities. No other fresh water exposures with nasal submersion were reported during the trip. On June 27, the boy experienced headache, nausea, low-grade fever, vomiting, and stiff neck. On June 29, he was admitted to a local hospital with a diagnosis of meningitis, at which time a cerebral spinal fluid (CSF) specimen was negative for all organisms. The boy's condition continued to deteriorate, and he was placed on mechanical ventilation on July 1. Motile amebae were identified in a second CSF specimen on July 2 and the attending physician requested miltefosine. The boy died later that morning. CDC confirmed the presence of *N. fowleri* in CSF by real-time polymerase chain reaction on July 9.

Conclusion and Recommendations: This PAM case in a Seminole County resident very likely resulted from exposure to hot springs in Costa Rica during a family vacation before illness onset on June 27. The physical activities of water sliding and zip lining into the hot springs at the resort likely resulted in water forcefully entering the nasal passages of the case. The family was aware of the risks of *N. fowleri* infections in Florida; however, they were unaware of the risk of infection outside of the U.S. *N. fowleri* thrives in warm temperatures and is commonly found around the world in warm fresh water (like lakes, rivers, and hot springs) and soil.

Plasmodium falciparum: Fatal Case of Malaria (Broward County)

Background: Human malaria is caused by four species of protozoan parasites of the genus *Plasmodium*, including *P. vivax*, *P. falciparum*, *P. malariae*, and *P. ovale*. All four are transmitted via the bite and blood-feeding behavior of mosquitoes in the genus *Anopheles*. Approximately 200 million people worldwide are infected each year, and approximately 500,000 people die from malaria annually. Of the four species causing malaria, *P. falciparum* is the most likely to result in severe infections and may lead to death if not promptly treated. On December 5, 2014, the Florida

Department of Health in Broward County (DOH-Broward) received notification from a hospital about a patient with a blood smear that was positive for malaria. In response to this report, DOH-Broward initiated an investigation.

Methods: DOH-Broward collected medical records from the hospital, interviewed the case, and had blood smears forwarded to the Bureau of Public Health Laboratories in Miami (BPHL-Miami) for confirmation.

Results: The infected person was a 57-year-old black woman who formerly resided in Jamaica. She spent a month in Nigeria working as a missionary, returning on November 22. She visited a local emergency department on December 4 with fever, chills, diarrhea, headache, abdominal pain, and sweats that began that day. A laboratory workup also identified hyperparasitemia (>20%), a low red blood cell count (3.98 million cells per microliter), and thrombocytopenia (33,000 per microliter). She initially claimed to have no recent travel outside the country, possibly due to hyperawareness and fear related to travelers coming from Ebola virus-impacted areas. Preliminary smears done in the hospital on the evening of December 4 demonstrated malaria infection. She was started on quinine and doxycycline and underwent exchange transfusion due to her high level of parasitemia. BPHL-Miami reviewed the blood smears and confirmed the parasite as *P. falciparum* on December 5. In an interview with DOH-Broward on December 5, the woman stated she did not use precautions against mosquito bites. She did not take any malaria chemoprophylaxis during her recent trip but had taken prophylaxis for her previous trips to Nigeria. She had no history of past malaria infections. Over the next few days, her anemia and thrombocytopenia worsened. She went into renal failure and respiratory failure, requiring intubation. She died on December 8 from respiratory and cardiopulmonary arrest.

Conclusions and Recommendations: Anti-malarial prophylaxis is recommended for travelers going to malaria-endemic areas to prevent this serious infection. Due to the women's inaccurate travel history, malaria treatment was not given until the day after she went to the hospital. It is important for malaria treatment to occur as soon as possible, especially in cases of severe malaria. Intravenous artesunate is also available for treatment of severe malaria in consultation with the Centers for Disease Control and Prevention. The use of a rapid diagnostic test for malaria, such as BinaxNOW®, can aid in a preliminary diagnosis. Testing by traditional means, polymerase chain reaction of whole blood or microscopic evaluation of thick and thin peripheral blood smears, is still required to confirm the diagnosis.

Viral Diseases

Enterovirus and Other Pathogens: Response to an Enterovirus D68 Case, Norovirus Outbreak, and a Fatal Meningococcal Disease Case Affecting Two Affiliated Private Schools (Polk County)

Background: On October 7, 2014, the first case of enterovirus D68 (EV-D68) in Florida was identified in a Polk County resident following a positive test result by the Centers for Disease Control and Prevention (CDC). The patient was a 10-year-old girl who attended a private middle school, and who presented to an emergency department on September 9 with a chief complaint of shortness of breath. The girl was hospitalized and released on September 15. A specimen was collected during her stay. On October 9, the Florida Department of Health in Polk County (DOH-Polk) was notified of a gastrointestinal illness outbreak involving 19 students and two staff at a high school affiliated with the middle school. On October 11, DOH-Polk was notified of meningitis in a 17-year-old male student attending the same high school who presented to an emergency department the previous evening with rash, fever, and altered mental status. Gram-negative diplococci were identified and the boy died from suspected meningococcal disease on October 12. Due to publicity surrounding the EV-D68 case, there was concern within the schools' community that the diseases were linked.

Methods: Students and staff with GI illness were interviewed, and stool specimens were collected for testing by the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa). Close contacts of the meningococcal disease case were notified to ensure they had received appropriate antibiotic prophylaxis; none was part of the GI illness outbreak; however, DOH-Polk and the Regional Epidemiologist re-contacted parents of students with GI illness to verify their current health status. A cerebrospinal fluid (CSF) specimen was submitted to CDC for *Neisseria meningitidis* polymerase chain reaction (PCR).

Results: The most common signs and symptoms among students and staff with GI illness included nausea and vomiting (18), diarrhea (12), headache (12), and abdominal cramps (10). No common exposure was identified. One stool specimen tested positive for norovirus genotype I at BPHL-Tampa on October 13. The CSF specimen from the meningitis patient tested positive for *N. meningitidis* serogroup B. All parents who had been re-contacted reported that their children had since recovered.

Conclusions and Recommendations: Close coordination between DOH-Polk, the Bureau of Epidemiology, and BPHL-Tampa allowed for the rapid identification of norovirus as the cause of the GI illness outbreak, and helped DOH-Polk quickly assure members of the schools' community that the outbreak was unrelated to either EV-D68 or meningococcal meningitis.

Chikungunya Virus: First Imported Cases From the Caribbean (Hillsborough, Broward, and Palm Beach Counties)

Background: In December 2013, the first autochthonous transmission of chikungunya virus in the Americas was reported on the island of St. Martin. Since then, local transmission has been identified in countries throughout the Caribbean and the Americas. Prior to 2014, Florida had identified five imported cases of chikungunya fever, all of whom had travel to Asia where the virus is endemic. On May 7, 2014, the Florida Department of Health in Hillsborough County (DOH-Hillsborough) was notified of a possibly imported chikungunya fever case with travel to the Dominican Republic. On May 14, the Florida Department of Health in Broward County (DOH-Broward) was notified of a possible imported chikungunya fever case with travel to Haiti. On May 19, the Florida Department of Health in Palm Beach County (DOH-Palm Beach) was notified of another imported chikungunya fever case with travel to Haiti.

Methods: DOH-Hillsborough, DOH-Broward, and DOH-Palm Beach worked with physicians to collect serum specimens that were sent to the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) and Jacksonville (BPHL-Jacksonville) for testing. DOH-Hillsborough, DOH-Broward, and DOH-Palm Beach also obtained medical records, interviewed patients, and promptly contacted their local mosquito control programs.

Results: The Hillsborough County case was in a 44-year-old woman who traveled to San Cristobal, Dominican Republic. Her first symptoms of headache and myalgia started the day of her return to Florida on May 5 and were followed by fever, rash, arthralgia, and joint effusion. She was hospitalized for seven days. Her acute serum specimen collected May 7 tested positive for chikungunya virus by reverse-transcriptase polymerase chain reaction (PCR) and culture and was equivocal for IgM and IgG antibodies at BPHL. Her convalescent specimen collected May 12 was IgM-positive and IgG-negative at BPHL indicating seroconversion.

The Broward County case was in a 29-year-old woman who traveled to Port-au-Prince, Haiti. She started experiencing fever, myalgia, and joint effusion while still in Haiti on May 5. Her acute serum specimen collected May 13 tested positive for chikungunya virus by PCR and culture, equivocal for IgM antibody and negative for IgG antibody at BPHL. Her convalescent specimen collected May 22 tested positive for IgM and IgG antibodies at BPHL, indicating seroconversion.

The Palm Beach County case was in a 66-year-old man who traveled to Haiti. His symptoms of fever, nausea, and polyarthralgia started on May 15, a day after he returned to Florida. He was hospitalized for four days. His acute serum specimen collected May 16 tested positive for chikungunya virus by PCR and negative for IgM and IgG antibodies. All three cases were exposed while traveling to visit friends and relatives.

Conclusions and Recommendations: These were among the first imported chikungunya fever cases associated with the outbreak in the Caribbean reported in Florida and the U.S. A total of 442 chikungunya fever cases were reported in Florida residents in 2014, of which 12 were locally acquired. Most imported cases in 2014 reported traveling to visit friends and relatives, which is an important but challenging group to effectively target for preventive messaging. Given the large number of travelers between Florida and the Caribbean, it is essential that activity of diseases of public health concern be closely monitored in this region. Maintaining strong relationships between local health offices and local mosquito control is also a critical part of effective surveillance and response to chikungunya and other non-endemic arboviruses.

Chikungunya Virus: First Locally Acquired Cases (Miami-Dade and Palm Beach Counties)

Background: Since the first autochthonous transmission of chikungunya virus in the Americas was reported in 2013, Florida has seen an increase in chikungunya fever cases among travelers returning from endemic areas, particularly the Caribbean and South America. The recent spread of chikungunya virus and the presence of competent mosquito vectors provide the conditions for transmission of the virus in Florida and concern that it will become established as an endemic virus. On June 27, 2014, the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade) was contacted by the Florida Poison Information Center Network about a physician who called regarding a patient with suspected chikungunya fever. On July 11, the Florida Department of Health in Palm Beach County (DOH-Palm Beach) was notified of a suspected secondary dengue infection (i.e., a person previously infected with dengue) via an electronic laboratory report.

Methods: DOH-Miami-Dade and DOH-Palm Beach worked with patients and physicians to collect appropriate specimens, which were sent to the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) and the Centers for Disease Control and Prevention (CDC) for testing. DOH Miami-Dade and DOH-Palm Beach also obtained medical records, interviewed patients, and contacted their local mosquito control programs. DOH-Palm Beach conducted a cluster investigation within a 50-meter radius of their case's residence to identify any additional cases.

Results: The first case was in a 41-year-old woman residing in Miami-Dade County. The case was initially reported to DOH Miami-Dade as imported due to a history of recent travel to an endemic area. She began having polyarthralgia on June 10, followed by fever, rash, and leukopenia on June 13. Upon interview by DOH Miami-Dade epidemiologists, she reported travel to Bali with return May 11, one month before to symptom onset, but no travel to endemic areas during the two-week incubation period. Her acute serum specimen collected June 16 tested positive for chikungunya virus by IgM antibody at BPHL-Tampa and the CDC, positive by reverse-transcriptase polymerase chain reaction (PCR) at BPHL-Tampa, positive by plaque reduction neutralization test (PRNT) at the CDC, and negative for IgG antibody. Her convalescent serum specimen collected July 10 tested positive for IgG antibody demonstrating seroconversion. Miami-Dade Mosquito Control District was notified of the suspect case within 24 hours of when DOH Miami-Dade received initial notification. The spouse of the infected woman tested negative for chikungunya virus and no additional cases were identified following media outreach soliciting additional cases.

The second case involved a 50-year-old man residing in Palm Beach County. His symptoms of fever, arthralgia, rash, leukopenia, and thrombocytopenia started on July 1. He had no international travel during the two weeks prior to onset of symptoms. Although his physician initially suspected dengue fever and ordered dengue virus testing, all potential dengue virus specimens are also tested for chikungunya virus at BPHL. His acute specimen collected July 4 tested positive for chikungunya virus by PCR at BPHL-Tampa and the CDC and negative for chikungunya virus IgM and IgG antibodies at BPHL-Tampa. His convalescent specimen collected July 14 was negative for IgM antibody and positive for IgG antibody at BPHL-Tampa demonstrating a seroconversion. Palm Beach Mosquito Control District was notified of the suspect case within one day of initial notification to DOH-Palm Beach. DOH-Palm Beach interviewed eight people in their cluster investigation; none had experienced a febrile illness in the past three months, and all tested PCR- and antibody-negative for chikungunya virus.

Conclusions and Recommendations: These cases represent the first documented autochthonous transmission of chikungunya virus in the continental U.S. In 2014, Florida reported a total of 12 locally acquired chikungunya fever cases with no sustained transmission. These first two cases would not have been identified as local chikungunya fever cases without detailed interviews to capture accurate travel history and comprehensive testing provided by public health reference laboratories. The Palm Beach case highlights the importance of testing for both chikungunya and dengue viruses if either is suspected. Past experiences responding to local dengue introductions facilitated readiness for response to local chikungunya cases.

Chikungunya Virus: Locally Acquired Chikungunya Fever Field Survey and Response (St. Lucie County)

Background: On July 26, 2014, the Florida Department of Health in St. Lucie County (DOH-St. Lucie) received a call from a local urgent care provider reporting a positive chikungunya virus laboratory report. The 56-year-old woman, a St. Lucie County resident, had no travel outside of Florida in the two weeks prior to symptom onset on July 11. Infection with chikungunya virus was confirmed on July 30. Response efforts led by DOH-St. Lucie with St. Lucie Mosquito Control District (MCD) and multiple other community partners were immediate and extensive.

Methods: An epidemiology investigation was initiated. St. Lucie MCD and the Bureau of Epidemiology were immediately notified of the suspect locally acquired chikungunya fever case. Information on chikungunya fever and laboratory testing information was distributed to providers. In addition, a retrospective record review of emergency department (ED) chief complaint syndromic data from April 28 to July 28 was immediately completed. A press release and mosquito-borne illness advisory were issued on July 30. A local Incident Management Team was activated using the Incident Command System and planning was initiated to conduct community outreach and a chikungunya fever field survey. The purpose of the field survey was to determine the extent of the outbreak, characterize risk factors, and gather information that could be used to prevent further transmission. Two field teams consisting of an interviewer, a phlebotomist, and a Spanish/Creole-speaking translator were assembled, trained, and deployed to complete the field survey and collect specimens for dengue virus and chikungunya virus testing starting on August 4. A second press release was issued on Aug 1, and a reverse-911 call was used to notify residents of the outreach efforts and field survey.

Results: The retrospective record review of syndromic data identified two records of interest; however, once investigated, neither was determined to meet the chikungunya fever surveillance case definition. Public education and information were provided through media outreach while conducting the field survey, and during various community outreach projects. St. Lucie MCD was provided with addresses of residential areas with potential breeding sites. Code Enforcement assisted with clearing breeding sites. All homes visited were given a door hanger package including an informational flyer on chikungunya fever, bug spray, and contact information for DOH-St. Lucie and St. Lucie MCD. On July

28, St. Lucie MCD conducted field inspections to identify mosquito breeding sites and apply control measures. Of the 534 properties inspected, mosquito breeding was identified in 12%, and 3% had adult mosquitoes present. The field survey operations concluded on August 4. Eighteen households were visited by the field teams, of which 16 were occupied. Four households participated, and seven serum specimens were obtained with one person reporting a febrile illness in the past three months. All seven specimens were negative for dengue virus by polymerase chain reaction (PCR), negative for dengue virus IgM antibody, and negative for chikungunya virus IgM and IgG antibodies. About 1/3 of the reverse 911 call attempts connected to a land line phone.

Conclusion/Recommendations: This event and response efforts provided staff and community partners an opportunity to evaluate current response plans and capabilities. It tested local communications, planning, and public information capabilities and also provided an opportunity to collaborate with community partners during an actual event. Overall, staff demonstrated the ability to respond and work together effectively and efficiently and plans, policies, and procedures that required updating or changing were identified. Effective communication and outreach to local partners and the public were identified as critical areas for this event and for a successful response.

Dengue and Chikungunya Viruses: Imported Case of a Co-Infection (Miami-Dade County)

Background: During 2014, both chikungunya and dengue viruses were circulating among countries in the Caribbean basin. Chikungunya virus was recently introduced in the area, while dengue virus was already present. Both viruses can be transmitted by the same species of mosquitoes and have substantial overlap in clinical presentations. On September 19, 2014, the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade) received a positive electronic laboratory report for dengue fever IgM antibody titer.

Methods: DOH-Miami-Dade initiated an investigation and collected medical records from the hospital. An interview was conducted with the infected woman to determine travel history and identify any additional risk factors. DOH-Miami-Dade also informed Miami-Dade Mosquito Control District of the case. The specimen was forwarded to the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) for confirmation. Due to the similar clinical presentation and shared geographic distribution of the two viruses, any specimens submitted to BPHL for chikungunya or dengue testing are routinely tested for both viruses.

Results: The 31-year-old infected woman had recently traveled to Cuba and returned to Miami on August 27. Symptoms started on September 3, and she visited a local emergency department on September 8 with fever, arthralgia, headache, myalgia, rash, and retro-orbital pain but was not hospitalized. On September 26, BPHL-Tampa reported a positive result for dengue virus type 1 by reverse-transcription polymerase chain reaction (RT-PCR). On September 29, BPHL-Tampa reported a positive result for chikungunya virus by RT-PCR, indicating co-infection with two arboviral diseases.

Conclusions and Recommendations: During 2014, several other Florida travelers had serologic evidence of recent infection with both dengue and chikungunya viruses. However, this was the first case to demonstrate evidence of a true co-infection with RT-PCR positive testing for both viruses. This co-infection would not have been identified if BPHL-Tampa had not tested for both viruses, highlighting the value of public health confirmatory testing of specimens due to similar clinical presentation for both diseases. After identification of this co-infection, four additional co-infected people were identified. Providers should consider both dengue fever and chikungunya fever when evaluating suspect cases with travel to areas where both viruses are present. Co-infections are most likely underreported due to incomplete testing, asymptomatic infections, and infected people not seeking health care.

Dengue Virus: Household Cluster of Locally Acquired Cases (Miami-Dade County)

Background: On July 15, 2014, the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade) received notification from a physician about a suspect locally acquired dengue fever case. During the interview, the woman mentioned that one of her housemates had a febrile illness 13 days before her symptom onset. In response to this report, DOH Miami-Dade initiated a larger investigation.

Methods: DOH-Miami-Dade collected medical records from the hospital, interviewed additional household members, and collected convalescent specimens from symptomatic and asymptomatic household members. DOH Miami-Dade also informed Miami-Dade County Mosquito Control District (MCD) of the suspect locally acquired dengue fever cluster. Specimens were forwarded to the Bureau of Public Health Laboratories in Tampa (BPHL-Tampa) for confirmation.

Results: The 49-year-old woman initially identified visited a local emergency department on July 2 with reported symptoms of fever, chills, myalgia, and rash that began on June 29. A laboratory workup also identified leukopenia and thrombocytopenia. Commercial laboratory results were positive for dengue IgG antibody and negative for dengue IgM antibody. On July 21, BPHL-Tampa reported a positive result for dengue virus type 3 by reverse-transcription polymerase chain reaction (RT-PCR). The symptomatic housemate identified during the initial case interview was a 64-year-old woman. She had symptoms of fever, arthralgia, myalgia, rash, and diarrhea, with onset on June 16. She sought medical care but no testing for dengue virus was ordered, and her final diagnosis was a urinary tract infection. Titer results for specimens submitted to BPHL-Tampa were positive for dengue IgM and IgG antibodies for this woman on August 6. On August 11, a third symptomatic housemate was reported to DOH-Miami-Dade and a convalescent specimen was collected that day. The 64-year-old woman had fever and chills starting on June 23 and a laboratory workup also confirmed the presence of leukopenia and thrombocytopenia. BPHL-Tampa reported positive dengue IgM and IgG antibody titers for this woman on August 13. All three women recalled being bitten by mosquitoes at their residence and were provided education on mosquito-borne disease prevention. The house was subdivided into three apartments, and the three infected women lived in two of the apartments. Two asymptomatic housemates were also tested, resulting in at least one person from each apartment being tested, but testing was negative for dengue virus. No additional infected people were identified in the house.

Conclusions and Recommendations: It is important for physicians to consider dengue fever in their differential diagnoses when evaluating febrile illnesses in areas that have had repeated dengue virus introductions. Clusters of illness are quite common with dengue fever because a single infected mosquito can bite and infect multiple people. Both DOH and MCD staff had to visit the residence numerous times during the investigation, requiring additional time and resources as new cases were identified. Asking about similar illnesses in household members and encouraging mosquito bite prevention for suspect cases can help prevent local dengue transmission.

Influenza Virus: Pneumonia Associated With an Influenza A (H3) Outbreak at a Skilled Nursing Facility (Pasco County)

Background: In December 2014, the Florida Department of Health in Pasco County (DOH-Pasco) was notified that 18 (19%) of 95 residents at a skilled nursing facility had radiographic evidence of pneumonia and were being treated with antibiotics. Two residents were hospitalized, one of whom died. DOH-Pasco conducted an investigation to ascertain all cases through active surveillance, identify the etiology, provide infection control guidance, and recommend treatment or prophylaxis.

Methods: An outbreak-associated case was defined as the onset of fever or respiratory illness in a nursing facility resident or staff member from November 29 to December 29. Oropharyngeal swabs were collected from 13 ill residents for respiratory virus testing by polymerase chain reaction at the Bureau of Public Health Laboratories. Characteristics of the resident cohort were analyzed including age, sex, race, room location, tobacco use, pneumococcal vaccination status, underlying chronic diseases, and obesity.

Results: Fifty people, including 44 (46%) residents and six (8%) of 75 staff met the outbreak case definition. The earliest reported onset date was November 29; 34 cases (68%) cases occurred from December 12 to 18. Ages ranged from 31 to 98 years old (mean of 81 years). The most frequently reported signs and symptoms among all cases included congestion (72%), cough (60%), and fever (38%). Antibiotics were prescribed to 36 (72%) people. Nine (20%) ill resident cases were hospitalized. Four (9%) deaths occurred among resident cases. No hospitalizations or deaths occurred among staff. Ten specimens tested positive for influenza A (H3), and three tested positive for respiratory syncytial virus. Prophylactic oseltamivir was offered to exposed people from December 21 to 22. The facility canceled group activities, initiated droplet precautions, and stopped accepting admissions. Additional measures included implementing respiratory precautions for visitors and exclusion of ill staff from work until 24 hours after symptom resolution. No cases were identified after December 21. No characteristics analyzed were associated with illness. Among the 44 ill residents, 19 (43%) had documentation of receipt of influenza vaccination during the 2014–15 influenza season. Among 51 unaffected residents, 33 (65%) had documentation of receipt of influenza vaccination. Neither influenza testing nor prescription of antiviral medications occurred during the initial cluster, which was followed by extensive secondary transmission.

Conclusions and Recommendations: Preventing transmission of influenza viruses within long-term care facilities requires a multifaceted approach that includes yearly vaccination of all residents and health care workers, prompt testing when any resident has signs and symptoms that could be due to influenza, standard and droplet precautions for residents with suspected or confirmed influenza, empirical antiviral treatment of all residents with confirmed or suspected influenza regardless of vaccination status, and antiviral chemoprophylaxis for residents as soon as an influenza outbreak is identified.

Middle East Respiratory Syndrome Coronavirus: First Confirmed Case of MERS in Florida (Orange County)

Background: On May 9, 2014, the Florida Department of Health in Orange County received notification from an infection preventionist at a local hospital of a man under investigation for Middle East respiratory syndrome (MERS). Consultation between public health and hospital officials resulted in testing for MERS coronavirus (MERS-CoV). MERS-CoV was not detected at the Bureau of Public Health Laboratories Tampa (BPHL-Tampa) by polymerase chain reaction (PCR) on a serum specimen collected from the man. After further consultation with the Centers for Disease Control and Prevention (CDC), out of an abundance of caution, the man was kept in isolation and an induced sputum specimen was collected on May 10. On the same day, BPHL-Tampa reported that MERS-CoV was detected in the specimen. The result was confirmed by the CDC on May 11, triggering an investigation of the second reported confirmed MERS case in the U.S.

Methods: An outbreak investigation was initiated, including active and passive surveillance, case identification, contact investigation and exposure classification, isolation, quarantine, the creation of an Epi Info 7™ database to manage data for all identified contacts, clinical specimen collection, and laboratory analysis.

Results: Investigation determined that the case potentially exposed other people to MERS in four general locations: 1) airplanes during airline travel from Saudi Arabia to Orlando, 2) household contacts and visiting friends, 3) a hospital outpatient waiting room while accompanying a relative for an unrelated medical reason, and 4) an emergency department waiting room where he presented for care and was then evaluated for potential MERS-CoV infection.

In total, 211 contacts were identified, including 32 (15%) close contacts and 179 (85%) non-close contacts. This total excludes airline contacts believed to be located outside Florida at the time of the contact investigation. BPHL-Tampa tested 206 specimens from 65 different contacts; all specimens were negative for MERS-CoV by PCR. In total, 29 clinical specimens were taken from the infected man; four (three sputum and one serum) were positive for MERS-CoV by PCR.
Conclusions and Recommendations: This investigation highlights the critical role that health care and public health practitioners play in considering and confirming MERS-CoV infections in people who develop respiratory symptoms within 14 days after travel to the Arabian Peninsula. Sputum specimens were the most sensitive for detection of MERS-CoV by PCR. The lack of secondary infections in this investigation is significant for future contact investigations. In combination with findings from previous case investigations, refinement of the risk definition for contacts may reduce the burden on public health responders regarding contact identification, follow-up, and laboratory testing.

Norovirus: An Outbreak Among University Fraternity Chapter (Alachua County)

Background: On March 13, 2014, the Florida Department of Health in Alachua County (DOH-Alachua) was notified by a university student health nurse about a cluster of gastrointestinal illnesses among men all belonging to the same fraternity. An outbreak investigation was immediately initiated.

Methods: DOH-Alachua obtained a line list of ill fraternity members and conducted interviews using a standardized questionnaire. A request to submit stool specimens for analysis by the Bureau of Public Health Laboratories (BPHL) was made to the ill people. An outbreak case was defined as any fraternity member reporting diarrhea or vomiting from March 7 to March 20. DOH-Alachua conducted an environmental assessment of the fraternity's food services.

Results: A total of 19 people met the outbreak case definition out of a total of 160 active fraternity members (12% attack rate). Ages ranged from 19 to 21 years old, with a median age of 19 years. All cases were in men. The duration of illness ranged from 8 to 44 hours with a median of 24 hours. Predominant symptoms included diarrhea, nausea, and vomiting. One man sought medical attention. Interviews identified that the index case had returned from his weeklong spring break the day before his illness onset. He reported that a travel companion was ill with similar symptoms during the trip. The two cases with onsets on March 10 were household contacts of the index case. Fraternity activities where person-to-person transmission likely occurred included daily lunch and dinner served at the house, a chapter meeting the evening of March 10, and an evening social event with a sorority March 11. Active case finding at the sorority did not result in identifying additional ill people. Two stool specimens submitted to BPHL were positive for norovirus genotype I. The food service inspection at the fraternity house did not identify any violations.

Conclusions and Recommendations: This outbreak was caused by norovirus genotype I and was likely transmitted person-to-person through close contact. Because healthy fraternity members were not interviewed, the transmission route could not be determined definitively. Rapidly interviewing ill fraternity members (within 24 hours of notification of the outbreak) facilitated high case participation and implementation of gastrointestinal control measure guidelines that minimized further transmission through the fraternity chapter. DOH-Alachua obtained two clinical specimens for pathogen testing and was able to determine the etiological agent of this outbreak. DOH-Alachua inspected kitchen and dining areas and provided education and outreach on hand washing and sanitation to prevent future disease transmission.

Rabies Virus Possible Exposure: Rabid Bat Found in an Elementary School (St. Lucie County)

Background: On October 7, 2014, the Florida Department of Health in St. Lucie County (DOH-St. Lucie) was notified by a school health nurse regarding a bat found in a student's backpack. The student's teacher noticed several students hovering around the child's backpack prompting her to investigate and discover the bat. The bat was submitted to Bureau of Public Health Laboratories in Jacksonville (BPHL-Jacksonville) for rabies testing. On October 8, BPHL-Jacksonville notified DOH-St. Lucie that the bat tested positive for rabies.
Methods: DOH-St. Lucie worked closely with the school health program and school principal to identify anyone who may have had contact with the bat. School surveillance video was used to confirm exposures from the time that students got off the bus to the time that the teacher found the bat in the student's backpack. Exposed students were defined as any child who may have had potential contact with the bat while unsupervised by an adult, or an adult who handled the bat without personal protective equipment. A line list was compiled of people who may have had contact with the rabid bat, including people on the bus, at school, and at home, as well as animal control staff and Humane Society staff.

Results: In total, 24 people (seven adults and 17 children) were identified, interviewed, and evaluated for possible exposure to rabies. Rabies post-exposure prophylaxes (PEP) was recommended for one adult and 15 children. Everyone for whom PEP was recommended completed the rabies PEP series, except for one child whose parent refused after multiple education attempts by DOH-St. Lucie.

Conclusions and Recommendations: Rabies is an acute encephalomyelitis that almost always progresses to coma or death within two to three weeks after the first signs of illness. Rapid incident reporting and testing of this animal ensured rabies PEP could be made promptly available to all those potentially exposed. Use of video footage facilitated identification of potentially exposed children.

St. Louis Encephalitis (SLE) Virus: First Human SLE Cases Identified Since 2003 (Duval County)

Background: Prior to the introduction of West Nile virus (WNV), St. Louis encephalitis (SLE) was the most common mosquito-borne disease reported in people in the U.S. Historically, periodic large outbreaks involving more than 100 people have been reported in Florida, particularly in the Tampa Bay area. Since the introduction of WNV in 2001, SLE outbreaks have not been identified in Florida. Due to the significant cross-reactivity seen among flaviviruses on serological tests, all specimens submitted to the Bureau of Public Health Laboratories (BPHL) for SLE virus (SLEV) testing or WNV testing are tested for both. On September 4, the Florida Department of Health in Duval County (DOH-Duval) received notification from a hospital laboratorian of a serum specimen that tested positive for WNV IgM antibody. In addition, on September 10, DOH-Duval received a commercial laboratory report of a serum specimen that was positive for SLEV IgM antibody by immunofluorescent assay for a second person. DOH-Duval initiated investigations in response to these reports.

Methods: DOH-Duval collected medical records from the hospital, interviewed cases, and facilitated collection of convalescent specimens. DOH-Duval also informed Duval County Mosquito Control District of the suspect locally acquired cases. Specimens were forwarded to the Bureau of Public Health Laboratories in Jacksonville (BPHL-Jacksonville) and Tampa (BPHL-Tampa) for confirmation.

Results: Both cases were classified as neuroinvasive disease. The initially identified WNV IgM antibody result was for a 50-year-old woman who developed fever, headache, paralysis, and stiff neck on August 25. A laboratory workup also identified cerebral spinal fluid (CSF) pleocytosis. Commercial laboratory results for a serum specimen were positive for WNV IgM antibody and negative for WNV

IgG antibody. Both the serum sample and CSF specimens were forwarded to BPHL for confirmation and on September 8, BPHL-Jacksonville reported a positive enzyme-linked immunosorbent assay (ELISA) laboratory result for both WNV and SLEV IgM antibody. Serum neutralization (SN) testing conducted on a convalescent serum specimen sample at BPHL-Tampa confirmed SLEV infection on October 20.

The subsequently identified SLEV IgM antibody result was for a 58-year-old women who had onset of fever, headache, vomiting, and decreased consciousness on August 27. Further testing at BPHL on both acute and convalescent specimens were positive for WNV and SLEV IgM by ELISA on September 24. SN testing on both specimens confirmed SLEV infection on October 13.

Conclusions and Recommendations: These two SLE cases were the first identified in Florida since 2003. As demonstrated by the first case, WNV and SLEV antibodies can cross-react on serologic assays and more specialized tests such as SN may be needed to identify the infecting virus. Research suggests that antibodies for WNV may temporarily protect against SLEV infection in birds. However, since 2011, there have been increases in the number of sentinel chickens testing positive for antibodies to SLEV, suggesting the potential for possible resurgence. Few SLE cases were identified in Duval County previously. Similar to previous cases identified in north Florida, these two cases occurred earlier than the historical September transmission peak seen in central Florida. Testing capacity for SLEV antibody at commercial laboratories has been limited since 2014. However, SLEV testing is still available at BPHL, highlighting the importance of public health laboratory testing capacity and the value of environmental surveillance.

Non-Infectious Agents

Carbon Monoxide Poisoning: A Cluster of Work-Related Carbon Monoxide Poisoning (Duval County)

Background: Carbon monoxide (CO) is an odorless, colorless, and poisonous gas that can cause sudden illness and death if present in sufficient concentration in ambient air. On September 2, 2014, the Florida Department of Health in Duval County (DOH-Duval) identified three people who went to an emergency department (ED) with chief complaints of CO poisoning by reviewing syndromic ED chief complaint data, all of whom were working at the same location at the time of their exposure.

Methods: DOH-Duval initiated an investigation that included reviewing medical records, assessing the work environment, interviewing workers, and coordinating with the Fire and Rescue Department, that measured CO levels.

Results: Three cases of CO poisoning were confirmed in men exposed while at work. Two of the men were electricians installing a new breaker box at a restaurant. The third man exposed at this location was the restaurant corporate maintenance supervisor. Work on the project began at approximately 7:30 p.m. on August 29. Power was shut off at the location, a generator was placed outside the front door, and large lights were placed in the work area. An extension cord was run from the outside generator to the lights and electrical equipment inside, allowing the door to be opened slightly. On August 30, the men developed headaches at approximately 2:30 a.m. and were “very tired”, but they attributed it to having worked a full day and being on call before arriving on the worksite. Later in the morning, the spouse of one electrician called and recognized that his speech was slurred. The spouse came to the worksite and raised awareness about the men’s symptoms and possible CO poisoning. The electrician was taken to the ED the morning of August 30 and was admitted to the hospital with altered mental status, weakness, dizziness, nausea, and confusion. The man’s carboxyhemoglobin (COHb) level was 35%, a critical level. He was placed on a nonrebreather

15-liter oxygen mask and later transferred to a hospital for treatment in a hyperbaric chamber. He received the hyperbaric oxygen treatment, was discharged home, and returned to work on September 2. The headache and fatigue continued and the electrician returned to the ED on September 5. His COHb level at the follow-up visit was 0%, and his blood gasses were approaching normal levels. The other electrician went to the ED on August 30 and the restaurant maintenance supervisor went to the ED on September 3, each with complaints of fatigue and headache. Their COHb levels were 14.3% and 17.3%, respectively. They received oxygen via nonrebreather masks, were observed, and discharged from the hospital. The Fire and Rescue Department measured the CO levels at the worksite at 215 parts per million (ppm), well above the recommended level of 50 ppm. Managers of the electricians and restaurant were called and education was provided to prevent CO poisoning. There were no other reports of CO exposure from the worksite.

Conclusion and Recommendations: Managers of the electricians and restaurant were called and precautions were taken to prevent additional exposures. There were no other reports of CO exposure from the worksite. To prevent CO poisoning from generators, it is important to follow manufacturer’s instructions on safe use of a generator and always use generators outside, more than 20 feet away from home, doors, and windows.

Lead Poisoning: A Household Cluster of Lead Poisoning Cases Due to Take-Home Lead Exposure (Hillsborough County)

Background: Lead poisoning in children can lead to adverse effects that are permanent and irreversible. Lead can settle on skin, hair, and clothes. “Take-home lead” is lead dust carried home on clothes, shoes, or skin of people whose occupations or hobbies involve lead. Take-home lead can cause lead poisoning in household members not directly exposed to occupations or hobbies involving lead. On June 6, 2014, the Florida Department of Health in Hillsborough County (DOH-Hillsborough) was notified of a confirmed lead poisoning case via an electronic laboratory report for a 7-month-old infant with a very high blood lead level (BLL) of 38 micrograms per deciliter (µg/dL).

Methods: A home visit was conducted by DOH-Hillsborough to investigate the infant’s environment. Household members were interviewed during the home visit for information on potential exposures.

Results: The family household included the father, mother, the infant, and two older siblings who were <6 years old. The father worked at a battery recycling plant and was responsible for packaging refined lead after recycling. He indicated that the work area contained a large amount of lead dust that contaminates his clothes and shoes. The home visit identified detectable dust on the father’s work clothes and shoes, as well as in the family’s car and on car seats. No lead-containing paint was detected in the home, which was built in 1983. The father was tested regularly as a part of his job and his most recent BLL at the time of the investigation was 16.6 µg/dL. The two older siblings were tested for lead poisoning, one of whom had a BLL of 16 µg/dL, which meets the surveillance case definition for lead poisoning. DOH-Hillsborough recommended follow-up blood testing within four weeks for the infant and within 12 weeks for the sibling. The infant’s BLL began to decrease, but in August, increased to 41 µg/dL. DOH-Hillsborough visited the pediatrician’s office to discuss chelation therapy to reduce the infant’s BLL and continued to actively follow-up with the family. The infant’s BLL continued to decline over the next three months.

Conclusions and Recommendations: Unlike living in sub-standard housing, take-home lead exposures are preventable. DOH-Hillsborough provided health education on dietary needs and measures to prevent further exposure to take-home lead. Recommendations included safe work practices, correct hygiene practices such as washing and drying of work clothes separately from the children’s clothes, and thoroughly vacuuming and wet cleaning of the car’s interior.

Lysergic Acid Diethylamid (LSD): Exposure Associated With Food (Hillsborough County)

Background: On March 4, 2014, the Florida Department of Health (DOH) Chemical Disease Surveillance Program was sent hospital records for a family that had potential exposure to lysergic acid diethylamid (LSD) from the Florida Department of Health in Hillsborough County (DOH-Hillsborough). The family claimed their illnesses were associated with consumption of a skirt steak purchased from a local grocery store. Information was shared with the DOH Food and Waterborne Disease Program (FWDP) and an investigation was initiated immediately, which included notification of the Florida Department of Agriculture and Consumer Services (FDACS).

Methods: FWDP reviewed all medical records of the family members, and DOH-Hillsborough attempted to interview the family to collect demographic, illness, and exposure information. Information about the suspected product was shared with FDACS to ensure a contaminated product was not in commerce. As this was a meat product, the U.S. Department of Agriculture (USDA) became involved in the investigation (including the USDA Food Safety and Inspection Service [FSIS]). Local law enforcement (LE) went to the family's house to collect food samples. Active case finding continued throughout the investigation. DOH-Hillsborough worked with the local medical examiner's (ME) office to conduct analysis on food samples to confirm the presence of LSD.

Results: A family of five was involved in this outbreak. Each of the five family members was hospitalized for two days and diagnosed with atropine-like nerve agent exposure. The family refused to provide additional details regarding their illness to DOH-Hillsborough. Gas chromatography mass spectrometry (GCMS) conducted by the ME detected LSD in the skirt steak; however, clinical specimens were negative. A second incident possibly associated with a ground beef product was reported on Thursday, March 6; however, laboratory results and an autopsy ruled out the ground beef as the cause of death. No other similar illness reports were received in Florida.

Conclusions and Recommendations: This appears to be a foodborne outbreak associated with the consumption of LSD in skirt steak. LE and DOH could not determine how or who put the illicit drug in the food and analysis of other samples of skirt steak from the same lot were negative for the illicit drug. Therefore, it is hypothesized that this was an isolated incident. The father mentioned other drug use in the past and an incidental contamination could have occurred. A coordinated effort between local, regional, state, and federal entities successfully investigated this incident.

Paladin® (Dimethyl Disulfide): Investigation of Health Effects Potentially Related to Applications (Hillsborough County)

Background: Paladin® is a newly approved soil fumigant that contains dimethyl disulfide (DMDS) as the active ingredient and has a sulfurous odor. Since the odor threshold (7 parts per billion [ppb]) for DMDS is much lower than levels potentially affecting human health (55 ppb), unpleasant odors may occur in and around areas of application. All treated areas must be covered with a plastic tarp for 12 to 21 days to retain the fumigant in the soil to improve efficacy and mitigate odor concerns. In August and September 2014, the Florida Department of Health (DOH) received several complaints of health effects following a strong chemical odor in Hillsborough County. The odor was later confirmed to be from Paladin®. Acute pesticide-related illness and injury is listed as a reportable disease in Florida. DOH in Hillsborough County (DOH-Hillsborough) initiated an investigation to understand better the health effects potentially related to the application of Paladin®.

Methods: Public health investigations included surveillance, interviews, medical record reviews, review of supporting documentation (e.g., partner agency investigation reports), and determination of pesticide-related illness and injury case status according to the Florida surveillance case definition. Locations of the application sites and residential addresses for all interviewed people who indicated home exposure were mapped using Google Earth®.

Results: Among the 33 households contacted in this investigation, DOH-Hillsborough interviewed 66 people complaining of health effects related to the Paladin® application. Of the 66 people interviewed, 43 (65%) met the surveillance case definition criteria for a suspect case of pesticide-related illness and injury, though none met the confirmed or probable criteria. Severity of illness was classified as low for 38 cases and moderate for five cases. The most common symptoms reported by cases included eye pain, throat irritation, nausea, dizziness, headache, and fatigue. The average distance from an application site was 0.74 miles among people who had illnesses classified as suspect and 2.84 miles among people whose illnesses did not meet the surveillance case definition, which was a statistically significant difference ($p=0.001$).

Conclusions and Recommendations: To our knowledge, this is the first report of an investigation of health effects potentially associated with application of Paladin®. Findings from this investigation will help inform activities and preparations taken by DOH for future applications of Paladin®. DOH continues to work with partners to exchange information and prepare for anticipated public concerns and potentially related health effects of Paladin®. DOH-Hillsborough has performed outreach activities to local health care providers to educate them on past issues associated with the application of Paladin®, identification of people with health effects that may be related to Paladin®, and reporting to DOH-Hillsborough for public health investigation. DOH will target public health surveillance activities during Paladin® applications in Hillsborough and other counties.

Section 5

Antimicrobial Resistance Surveillance

Background

Antibiotics are one of the most impressive medical achievements of the twentieth century. However, the continuing emergence and spread of antimicrobial resistance jeopardizes the utility of antibiotics and threatens health globally. Resistant pathogens are often associated with prolonged hospital stays, increased intensity and duration of treatment, and increased mortality.

As of January 2014, the Florida Department of Health (DOH) conducts surveillance for antibiotic susceptibility for three bacteria:

- Health care providers and laboratories must report antibiotic susceptibility testing results for isolates of *Streptococcus pneumoniae* from normally sterile sites, such as blood or cerebrospinal fluid.
- Health care providers and laboratories must report antibiotic susceptibility testing results for isolates of *Staphylococcus aureus* that are not susceptible to vancomycin.
- Laboratories participating in electronic laboratory reporting (ELR) must report antibiotic susceptibility testing results for all *S. aureus* isolates from normally sterile sites.
- Samples for all suspected or confirmed tuberculosis cases are forwarded to the DOH Bureau of Public Health Laboratories for *Mycobacterium tuberculosis* testing; any sample positive for *M. tuberculosis* undergoes a rapid test for isoniazid and rifampin resistance.

Note that Florida previously participated in the Gonococcal Isolate Surveillance Project (GISP), but participation was discontinued in 2014 and those data are no longer included in this report.

In June 2014, DOH expanded surveillance for antibiotic susceptibility for laboratories participating in ELR. These laboratories must report susceptibility testing results for isolates from normally sterile sites for *Acinetobacter baumannii*, *Citrobacter* species, *Enterococcus* species, *Enterobacter* species, *Escherichia coli*, *Klebsiella* species, *Pseudomonas aeruginosa*, and *Serratia* species. Data for these bacteria are not presented because limited data were received during the first reporting year.

A cumulative or community antibiogram can provide useful operational information for the selection of an empiric therapy for a presumptive diagnosis, help track antibiotic resistance patterns of clinically important microorganisms, and detect trends toward antimicrobial resistance.

Streptococcus pneumoniae

Streptococcus pneumoniae causes many clinical syndromes, depending on the site of infection (e.g., otitis media, pneumonia, bacteremia, meningitis, sinusitis, peritonitis, and arthritis). Invasive disease, for reporting purposes, includes cultures obtained from a normally sterile site, such as blood or cerebrospinal fluid.

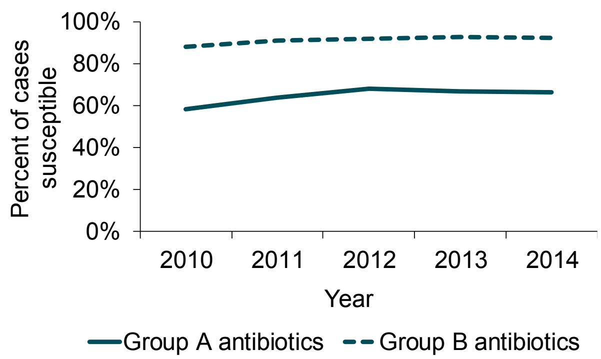
A total of 792 *S. pneumoniae* invasive disease cases were reported to DOH in 2014 by health care providers and laboratories. Of those reported cases, 391 (49%) were classified as drug-resistant cases because they had an isolate that was resistant to at least one antibiotic. Tables 1-4 and Figure 1 include data on the percent of cases with isolates that were susceptible to selected antibiotics by 2014 Clinical and Laboratory Standards Institute (CLSI) groups A-C, age group, and geography. CLSI Group A includes antibiotics that are considered appropriate for inclusion in a routine, primary testing panel, as well as for routing reporting of results for the specific organism groups. Group B includes antibiotics that may warrant primary testing but facilities can decide whether to report results based on specific conditions. Group C includes antibiotics considered to be alternative or supplemental. Susceptibility to Group A antibiotics is lower than susceptibility to Group B antibiotics, but susceptibility to both groups has risen slightly since 2010.

Please note that due to inconsistencies in laboratory reporting formats, meningitis and non-meningitis breakpoints for penicillin and ceftriaxone results cannot be separated. When both a susceptible and resistant result were reported for one of these antibiotics on the same laboratory result, the resistant result was used for analysis.

Key points for *S. pneumoniae* data:

- Susceptibility by CLSI groups (Table 1, Figures 1 and 2):
    - Group A (appropriate for primary testing and routine reporting): the percent of cases with isolates susceptible to Group A antibiotics increased from 59% in 2010 to 67% in 2014.
    - Group B (may warrant primary testing, but reported selectively): the percent of cases with isolates susceptible to Group B antibiotics increased from 88% in 2010 to 93% in 2014.
    - Group C (alternative antibiotics): 63 to 100% of cases had isolates that were susceptible.
    - Note that susceptibility results for Group B and C antibiotics may underestimate the actual susceptibility rates in the community if only those isolates resistant to Group A antimicrobials are tested against Group B or C antibiotics.
    - From 2010 to 2014, susceptibility increased for all antibiotics except meropenem (no change), ofloxacin (decreased from 100% to 99%), and tetracycline (decreased from 97% to 95%).
- Most *S. pneumoniae* invasive disease cases are identified in adults ≥25 years old, so susceptibility data in children is sparse. Susceptibility to individual antibiotics doesn't vary substantially between adults 25-64 years old and adults ≥65 years old (Table 2).
- *S. pneumoniae* invasive disease cases are most common in central and southeastern Florida. Susceptibility varies by antibiotic between regions with little pattern (Table 3).

Figure 1. Percent of Reported *S. pneumoniae* Invasive Disease Cases With Isolates Susceptible to Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups A and B[1], Florida, 2010-2014



Note that this figure includes data from cases that were reported to DOH by health care providers and laboratories as part of mandatory case-based disease reporting.

1 Group A includes antibiotics that CLSI considers appropriate for primary testing and routine reporting and group B includes antibiotics that may warrant primary testing but should be reported selectively.

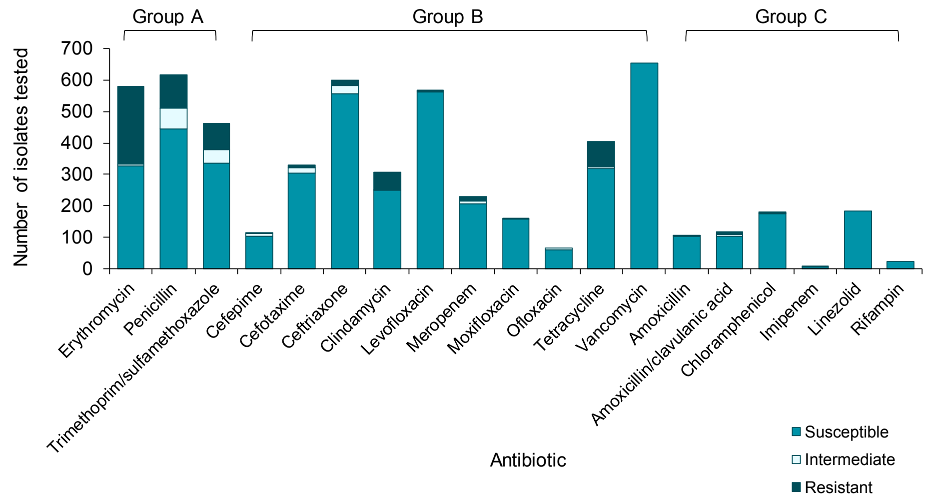
Table 1. Percent of Reported *S. pneumoniae* Invasive Disease Cases With Isolates Susceptible to Selected Antibiotics by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups A and B[1], Florida, 2010-2014

CLSI group[1]	Antibiotic name	5-year trend	Percent of cases with susceptible isolates by year				
			2010 (1,509 cases)	2011 (1,324 cases)	2012 (988 cases)	2013 (1,089 cases)	2014 (792 cases)
Group A	Erythromycin		54%	57%	61%	58%	56%
	Penicillin		60%	69%	72%	72%	72%
	Trimethoprim/sulfamethoxazole		62%	67%	72%	70%	73%
Group B	Cefepime		90%	94%	89%	96%	91%
	Cefotaxime		84%	86%	88%	92%	93%
	Ceftriaxone		89%	91%	91%	93%	93%
	Clindamycin		89%	91%	91%	93%	93%
	Levofloxacin		78%	80%	83%	82%	81%
	Meropenem		100%	99%	99%	99%	99%
	Moxifloxacin		77%	82%	85%	87%	90%
	Ofloxacin		100%	100%	100%	99%	99%
	Tetracycline		97%	97%	95%	96%	94%
	Vancomycin		73%	77%	79%	81%	78%

Note that this table includes data from cases that were reported to DOH by health care providers and laboratories as part of mandatory case-based disease reporting.

1 Group A includes antibiotics that CLSI considers appropriate for primary testing and routine reporting and group B includes antibiotics that may warrant primary testing but should be reported selectively.

Figure 2. Antibiotic Susceptibility Patterns for Reported *S. pneumoniae* Invasive Disease Cases by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1], Florida, 2014



Note that this table includes data from cases that were reported to DOH by health care providers and laboratories as part of mandatory case-based disease reporting.

1 Group A includes antibiotics that CLSI considers appropriate for primary testing and routine reporting, Group B includes antibiotics that may warrant primary testing but should be reported selectively, and Group C includes antibiotics considered to be alternative or supplemental.

Table 2. Percent of Reported *S. pneumoniae* Invasive Disease Cases With Isolates Susceptible to Selected Antibiotics by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1] and Age Group, Florida, 2014

CLSI group[1]	Antibiotic name	Percent of cases with susceptible isolates by age group (in years)					
		<1 (20 cases)	1-4 (69 cases)	5-14 (37 cases)	15-24 (19 cases)	25-64 (358 cases)	65+ (289 cases)
Group A	Erythromycin	--	49%	--	--	59%	55%
	Penicillin	--	64%	--	--	74%	72%
	Trimethoprim/sulfamethoxazole	--	49%	--	--	73%	79%
Group B	Cefepime	--	--	--	--	94%	94%
	Cefotaxime	--	92%	--	--	95%	91%
	Ceftriaxone	--	97%	--	--	92%	94%
	Clindamycin	--	87%	--	--	78%	82%
	Levofloxacin	--	100%	--	--	99%	99%
	Meropenem	--	--	--	--	93%	88%
	Moxifloxacin	--	--	--	--	99%	100%
	Ofloxacin	--	--	--	--	--	--
	Tetracycline	--	78%	--	--	79%	77%
	Vancomycin	--	100%	--	--	100%	100%

Note that this table includes data from cases that were reported to DOH by health care providers and laboratories as part of mandatory case-based disease reporting.

1 Group A includes antibiotics that CLSI considers appropriate for primary testing and routine reporting and Group B includes antibiotics that may warrant primary testing but should be reported selectively.

— Percent susceptible was suppressed if <30 isolates were tested for susceptibility to a particular drug.

Table 3. Percent of Reported *S. pneumoniae* Invasive Disease Cases With Isolates Susceptible to Selected Antibiotics by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1] and Region, Florida, 2014

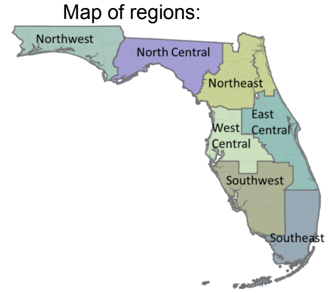
CLSI group[1]	Antibiotic name	Percent of cases with susceptible isolates by region						
		Northwest (75 cases)	North Central (20 cases)	Northeast (94 cases)	West Central (183 cases)	East Central (161 cases)	Southwest (71 cases)	Southeast (188 cases)
Group A	Erythromycin	62%	--	68%	57%	56%	--	50%
	Penicillin	80%	--	76%	65%	73%	85%	68%
	Trimethoprim/sulfamethoxazole	78%	--	75%	74%	72%	--	69%
Group B	Cefepime	98%	--	--	--	--	--	--
	Cefotaxime	93%	--	92%	96%	96%	--	85%
	Ceftriaxone	96%	--	94%	90%	95%	96%	91%
	Clindamycin	96%	--	94%	90%	95%	96%	91%
	Levofloxacin	89%	--	86%	79%	83%	--	76%
	Meropenem	100%	--	100%	99%	98%	100%	99%
	Moxifloxacin	93%	--	87%	--	90%	--	--
	Ofloxacin	--	--	--	98%	100%	--	--
	Tetracycline	--	--	--	--	96%	--	--
	Vancomycin	86%	--	86%	75%	84%	--	69%

Note that this table includes data from cases that were reported to DOH by health care providers and laboratories as part of mandatory case-based disease reporting.

1 Group A includes antibiotics that CLSI considers appropriate for primary testing and routine reporting and group B includes antibiotics that may warrant primary testing but should be reported selectively.

— Percent susceptible was suppressed if <30 isolates were tested for susceptibility to a particular drug.

Map of regions:



Staphylococcus aureus

Staphylococcus aureus bacteria are commonly found on the skin of healthy people, but have the potential to cause serious disease. The Centers for Disease Control and Prevention estimate that one in three healthy people are persistent carriers of *S. aureus*, usually in the nose and on the skin, and over 60% of the population may be intermittent carriers. Methicillin-resistant *S. aureus* (MRSA) is a strain of *S. aureus* that is resistant to all β-lactam antibiotics (including penicillins, cephalosporins, cephamycins, and monobactams) and may also be resistant to other antibiotics. Resistance testing for oxacillin is used to detect methicillin resistance.

Health care providers and laboratories are required to report all infections due to *S. aureus* that are not susceptible to vancomycin; however, DOH does not require health care providers to report individual MRSA infections. In 2008, antibiotic susceptibility testing results for all *S. aureus* isolates became reportable for laboratories participating in electronic laboratory reporting. This electronic laboratory data stream is still being improved and as of the time of this report, not enough data have been successfully submitted for meaningful analysis. In the interim, DOH partnered with one of the largest commercial laboratories in the state and has been receiving antibiotic susceptibility testing results for all *S. aureus* isolates tested there since 2004, which is the source of the data included in this report. Note that only the first isolate per person per 365 days was included in the analysis, per CLSI guidelines. Data collected from this one laboratory may or may not be representative of statewide trends.

Key points for *S. aureus* data:

- Overall resistance patterns (Table 4, Figure 3):
    - Penicillin is not recommended for treating *S. aureus* due to known resistance (excluded here).
    - Susceptibility to β-lactam antibiotics has increased over the past five years, but is still low (51 -54%)
    - Empiric treatment of skin and soft tissue infections with β-lactam antibiotics is not recommended.
    - Susceptibility remained high for gentamycin, trimethoprim/sulfamethoxazole, linezolid, vancomycin, and tetracycline.

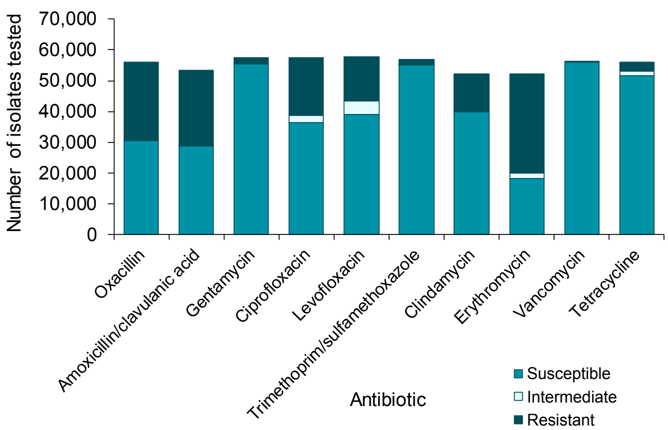
- Susceptibility to most antibiotics varied slightly by age group. Isolates from people aged 65 years and older have slightly reduced susceptibility to gentamicin, ciprofloxacin, levofloxacin, trimethoprim/sulfamethoxazole, and clindamycin (Table 5).
- North Florida had a higher proportion of MRSA isolates while central and south Florida had a lower proportion. This trend has been consistently observed since surveillance started in 2006 (Map 1, Table 6).

Table 4. Number Tested and Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics, Commercial Outpatient Laboratory, Florida, 2010-2014

Antibiotic class	Antibiotic name	5-year trend	2010		2011		2012		2013		2014	
			Number tested	Percent susceptible	Number tested	Percent susceptible	Number tested	Percent susceptible	Number tested	Percent susceptible	Number tested	Percent susceptible
β-Lactams	Oxacillin		56,544	49%	54,817	51%	52,949	52%	51,579	53%	55,990	54%
	Amoxicillin/clavulanic acid		58,079	49%	54,998	51%	51,665	51%	50,178	53%	53,455	54%
	Cefazolin		42,792	47%	39,156	49%	37,199	51%	16,740	52%	717	51%
Non-β-Lactams	Gentamicin		60,654	97%	59,084	97%	57,298	97%	56,032	97%	57,629	96%
	Ciprofloxacin		33,639	67%	44,629	68%	51,182	66%	55,714	66%	57,633	63%
	Levofloxacin		57,634	72%	56,949	72%	54,356	71%	56,151	70%	57,690	68%
	Trimethoprim/sulfamethoxazole		59,311	98%	57,573	98%	55,770	98%	54,468	97%	56,951	97%
	Clindamycin		53,166	80%	51,634	79%	49,440	78%	47,831	78%	52,191	76%
	Erythromycin		35,180	32%	51,639	34%	49,446	34%	47,843	35%	52,192	35%
	Linezolid		52,282	100%	34,210	100%	8,279	100%	189	100%	262	100%
	Vancomycin		56,652	100%	54,876	100%	52,996	100%	51,686	100%	56,097	100%
	Tetracycline		56,461	93%	54,872	93%	53,008	93%	51,678	93%	56,103	92%

Note that this table includes data from a single commercial outpatient laboratory that receives isolates from health care providers across the state.

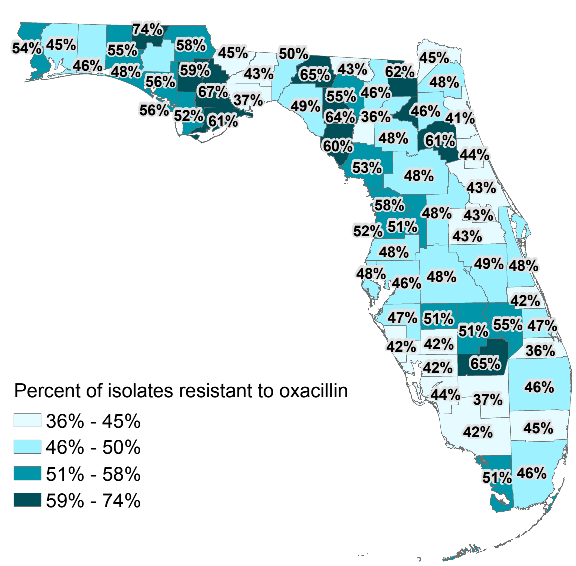
Figure 3. Antibiotic Susceptibility Patterns of *S. aureus* Isolates for Selected Antibiotics, Commercial Outpatient Laboratory, Florida, 2014



Note that this table includes data from a single commercial outpatient laboratory that receives isolates from health care providers across the state.

Cefazolin and linezolid are excluded from this figure due to the small number of isolates tested.

Map 1. Percent of *S. aureus* Isolates That Were Resistant to Oxacillin (MRSA) by County of Residence, Commercial Outpatient Laboratory, Florida, 2014



Note that this table includes data from a single commercial outpatient laboratory that receives isolates from health care providers across the state. Some counties had <30 isolates tested, so the proportion that were resistant to oxacillin is unreliable and should be interpreted with caution: Jefferson (12 isolates tested), Liberty (15 isolates tested), Madison (20 isolates tested), Hamilton (23 isolates tested), Washington (25 isolates tested), and Holmes (27 isolates tested).

Table 5. Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics by Age Group, Commercial Outpatient Laboratory, Florida, 2014

Antibiotic class	Antibiotic name	Age trend	Percent of isolates susceptible by age group (in years) <1 (1,092 isolates)	1-4 (3,856 isolates)	5-14 (6,332 isolates)	15-24 (5,954 isolates)	25-64 (24,684 isolates)	65+ (15,813 isolates)
β-Lactams	Oxacillin		56%	44%	61%	59%	55%	52%
	Amoxicillin/clavulanic acid		56%	43%	60%	58%	54%	53%
	Cefazolin		--	53%	30%	65%	54%	49%
Non-β-Lactams	Gentamicin		99%	98%	98%	98%	97%	94%
	Ciprofloxacin		72%	64%	74%	73%	64%	53%
	Levofloxacin		77%	69%	78%	78%	69%	57%
	Trimethoprim/sulfamethoxazole		99%	99%	99%	99%	98%	94%
	Clindamycin		80%	84%	76%	78%	79%	69%
	Erythromycin		34%	27%	35%	37%	36%	34%
	Linezolid		--	--	--	--	100%	100%
	Vancomycin		100%	100%	100%	100%	100%	100%
	Tetracycline		94%	94%	92%	92%	92%	91%

Note that this table includes data from a single commercial outpatient laboratory that receives isolates from health care providers across the state.

— Percent susceptible was suppressed if <30 isolates were tested for susceptibility to a particular drug.

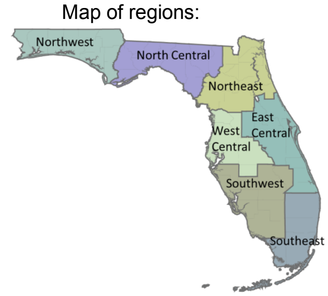
Table 6. Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics by Region, Commercial Outpatient Laboratory, Florida, 2014

Antibiotic class	Antibiotic name	Percent of isolates susceptible by region Northwest (1,302 isolates)	North Central (1,063 isolates)	Northeast (5,993 isolates)	West Central (8,784 isolates)	East Central (7,817 isolates)	Southwest (5,700 isolates)	Southeast (12,844 isolates)
β-Lactams	Oxacillin	49%	52%	52%	52%	56%	56%	54%
	Amoxicillin/clavulanic acid	48%	51%	52%	52%	55%	55%	54%
	Cefazolin	--	--	47%	52%	59%	44%	53%
Non-β-Lactams	Gentamicin	99%	99%	98%	97%	98%	98%	92%
	Ciprofloxacin	59%	66%	65%	62%	64%	63%	62%
	Levofloxacin	68%	72%	70%	67%	69%	67%	66%
	Trimethoprim/sulfamethoxazole	99%	99%	98%	95%	98%	96%	97%
	Clindamycin	81%	83%	78%	79%	77%	78%	72%
	Erythromycin	29%	34%	34%	35%	35%	37%	34%
	Linezolid	--	--	--	--	--	--	100%
	Vancomycin	100%	100%	100%	100%	100%	100%	100%
	Tetracycline	95%	94%	94%	93%	93%	93%	88%

Note that this table includes data from a single commercial outpatient laboratory that receives isolates from health care providers across the state.

— Percent susceptible was suppressed if <30 isolates were tested for susceptibility to a particular drug.

Map of regions:



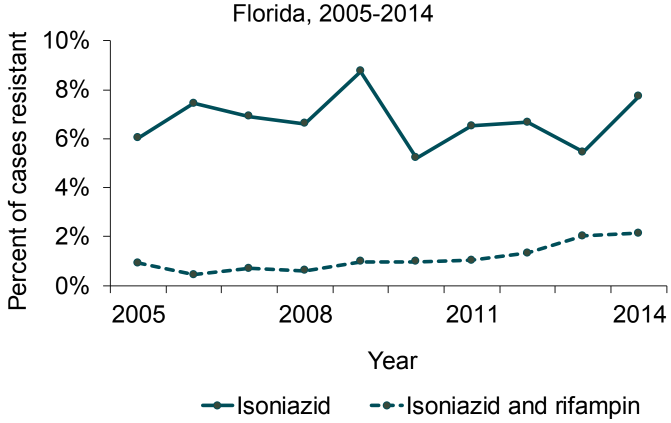
Mycobacterium tuberculosis

Mycobacterium tuberculosis bacteria cause tuberculosis (TB). The bacteria are spread through the air from one person to another and if not treated properly, infections can be fatal. *M. tuberculosis* usually attack the lungs, causing a severe cough and pain in the chest, but can attack any part of the body such as the kidney, spine, and brain. TB drug resistance is a major public health problem that threatens the progress made in TB care and control worldwide. Drug resistance arises due to improper use of antibiotics in chemotherapy of drug-susceptible TB patients. Multidrug-resistant TB is caused by *M. tuberculosis* that is resistant to at least isoniazid and rifampin, the two most potent TB drugs. In 2014, 466 TB cases were tested in Florida for resistance to isoniazid and rifampin.

Key points for *M. tuberculosis* (Figure 4):

- Resistance to isoniazid alone ranged from 5% to 9% over the past 10 years and was 8% (36 cases) in 2014.
- Multidrug-resistant TB remains uncommon but increased slightly in 2014, with 2.1% (10 cases) resistant to both isoniazid and rifampin.

Figure 4. Percent of Counted Tuberculosis Cases With Isolates Resistant to Isoniazid Alone and Isoniazid and Rifampin, Florida, 2005-2014



Note that this table includes data for all suspected or confirmed tuberculosis cases identified in Florida with specimens forwarded to the Bureau of Public Health Laboratories for additional testing.

Section 6

Influenza and Influenza-Like Illness Surveillance

Background

Influenza, or flu, is a respiratory infection caused by a variety of flu viruses. The Centers for Disease Control and Prevention (CDC) estimate that each year, 5-20% of the U.S. population develop illness from influenza, 200,000 are hospitalized, and 3,000 to 49,000 die. Most experts believe that influenza viruses spread mainly by droplets made when infected people cough, sneeze, or talk. Less often, a person might also become infected with influenza by touching a surface or object contaminated with influenza virus then touching their own mouth, eyes, or possibly nose. The best way to prevent influenza is to get vaccinated each year.

Influenza A and B viruses routinely spread through the human population and are responsible for seasonal influenza epidemics each year. Influenza A viruses are more commonly associated with the ability to cause epidemics or pandemics than influenza B. Over the course of a flu season, different subtypes of influenza A and B can circulate and cause illness.

Influenza surveillance is conducted to detect changes in the influenza virus, which helps determine the vaccine composition each year, and prepare for epidemics and pandemics. Surveillance is also conducted to identify unusually severe presentations of influenza; detect outbreaks; and determine the onset, peak, and wane of influenza season to assist with influenza prevention, particularly in high-risk populations like the very young, the elderly, and pregnant women.

Individual cases of influenza are not reportable in Florida, with the exception of novel influenza (a new subtype of influenza) and influenza-associated pediatric deaths. All outbreaks, including those due to influenza or influenza-like illness (ILI), are reportable in Florida. DOH conducts regular surveillance of influenza and ILI using a variety of surveillance systems, including laboratory data and syndromic surveillance. Florida's syndromic surveillance system, ESSENCE-FL, collects chief complaint data from emergency departments (EDs) and urgent care centers (UCCs). During the 2014-15 influenza season, 237 facilities submitted data to ESSENCE-FL, capturing 87% of all ED visits in Florida.

The influenza reporting year is defined by standard reporting weeks as outlined by CDC, where every year has at least 52 reporting weeks and some years have 53; there were 53 weeks in 2014. In Florida, increased surveillance for influenza begins in week 40 (September 28, 2014) of one year and ends in week 20 of the following year (May 23, 2015). Florida produces a weekly report during influenza season (October through May) and a biweekly report during the summer months that summarizes influenza and ILI surveillance data. These reports can be found at www.FloridaHealth.gov/FloridaFlu.

General Trends

The 2014-15 influenza season in the U.S. spanned from late November to early January with a peak in late December. Compared to national trends, influenza activity in Florida increased earlier (in late August and particularly in children), peaked at a similar time (mid-December), and lasted longer.

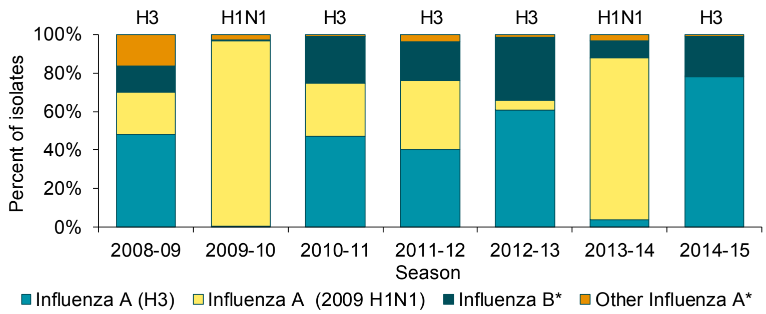
Influenza seasons typically have a predominately circulating strain, which varies by season (Figure 1). Influenza A (H3) was the predominately circulating strain in Florida and nationwide in the 2014-15 season (Figure 2). The previous predominately influenza A (H3) seasons are 2010-11, 2011-12, and 2012-13 (Figure 1).

Figure 1. Predominately Circulating Influenza Strain by Season, 2008-09 to 2014-15, Florida

Influenza A (2009 H1N1)	Influenza A (2009 H1N1)	Influenza A (H3)	Influenza A (H3)	Influenza A (H3)	Influenza A (2009 H1N1)	Influenza A (H3)
2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15

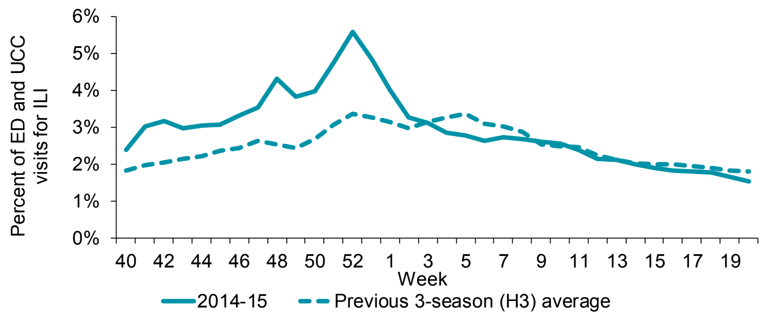
Seasons where influenza A (H3) predominates are typically associated with higher morbidity and mortality, particularly in adults ≥65 years old and children ≤4 years old. The defining characteristic of the 2014-15 season was its increased severity, both nationally and in Florida, even when compared to other predominately influenza A (H3) seasons. The CDC conducts surveillance for laboratory-confirmed influenza-associated hospitalizations in 5 states. The 2014-15 season had the highest recorded rate since surveillance began in 2005, with the majority of hospitalizations occurring in adults ≥65 years old. In Florida, the percent of weekly ED and UCC visits for ILI this season was consistently higher, with a peak percent of ED and UCC ILI visits over 1.5 times higher than the previous 3-season (H3) average peak[1] (Figure 3).

Figure 2: Influenza Subtype by Influenza Season, 2008-09 to 2014-15, Florida



* Note that influenza B lineages include Victoria, Yamagata, and unspecified lineages. Other influenza A strains include (H1) seasonal, (2009 H1N1) equivocal, and unspecified strains. An equivocal test result indicates questionable presence of virus detected.

Figure 3: Percent of Weekly Emergency Department (ED) and Urgent Care Center (UCC) Visits for Influenza-Like Illness (ILI) from ESSENCE-FL (259 Facilities), 2014-15 Season and 3-Season (H3) Average (2010-11, 2011-12, and 2012-13), Florida

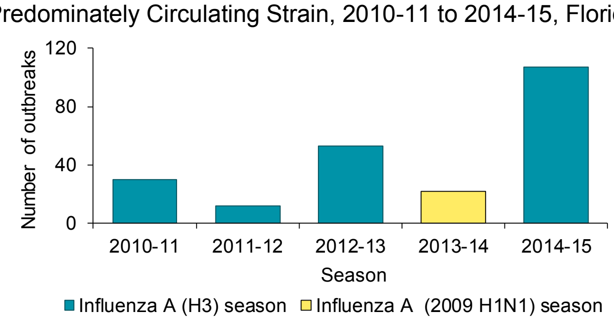


In the spring of 2014, CDC first identified an antigenically drifted influenza A (H3) strain (A/Switzerland/9715293/2013 (H3N2)-like virus) not included in the 2014-15 influenza vaccine formulations. In Florida, 60% of influenza A (H3) specimens sent to CDC for further characterization were antigenically characterized as the drifted strain, compared to 80% nationwide. Widespread circulation of the drifted strain was attributed to reduced protection against influenza infection. Vaccine efficacy was 19% (95% confidence interval of 7-29%), meaning that the frequency of influenza infection necessitating a visit to a health care provider among the vaccinated population was reduced by 19% compared to the unvaccinated population. Higher morbidity and mortality this season in adults ≥65 years old is attributed in part to the low vaccine efficacy in conjunction with the typical high severity of an influenza A (H3) season.

Outbreaks

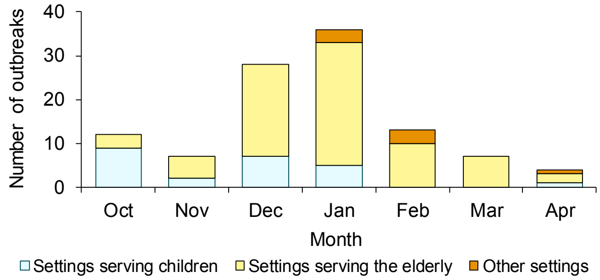
The number of reported outbreaks and the types of outbreak settings vary each season and are indicators of disease severity and population affected (Figure 4). More than three times as many outbreaks were reported in the 2014-15 season (107 outbreaks) than the previous 3-season (H3) average[1] (32 outbreaks). Consistent with other influenza A

Figure 4: Number of Outbreaks by Influenza Season and Predominately Circulating Strain, 2010-11 to 2014-15, Florida



(H3) seasons, the most affected populations in the 2014-15 season were children and the elderly. Outbreaks in settings serving children (daycare facilities, child care facilities, child development centers, schools, head start facilities, and pre-kindergarten facilities) accounted for 22% of outbreaks in the 2014-15 season, compared to the previous 3-season (H3) average[1] of 27% (Figure 5). Outbreaks in settings serving the elderly (assisted living facilities, senior care facilities, nursing homes, and long-term care facilities) accounted for 71% of outbreaks in the 2014-15 season, compared to the previous 3-season (H3) average[1] of 62%. Outbreaks in facilities serving children were reported in the beginning of the season. As the season progressed, outbreaks shifted primarily to facilities serving the elderly. Influenza activity is typically identified in children first, then spreads to other age groups (Figure 5).

Figure 5: Number of Outbreaks by Setting Type* and Month, 2014-15 Season, Florida



* Note that settings serving children include daycare facilities, child care facilities, child development centers, schools, head start facilities, and pre-kindergarten facilities. Settings serving the elderly include assisted living facilities, senior care facilities, nursing homes, and long-term care facilities.

Deaths

Influenza-associated pediatric deaths are reportable in Florida and typically between two and eight deaths are reported each year. Three deaths were reported in children in the 2014-15 season, none of whom had received their seasonal influenza vaccination. Two of the three children also had underlying health conditions.

Although not individually reportable, pneumonia and influenza deaths are monitored through review of data recorded on death certificates. The number of pneumonia and influenza deaths increases with age. There was an increase in deaths in people ≥65 years old in the 2014-15 season when compared to previous influenza A (H3) and influenza A (2009 H1N1) seasons (Table 1).

Table 1: Number of Pneumonia and Influenza Deaths by Age and Season, 2010-11 to 2014-15, Florida

Age group (in years)	5-season trend	Season				
		2010-11	2011-12	2012-13	2013-14	2014-15
0-4		50	37	37	46	25
5-24		64	62	63	56	48
25-64		1,853	1,742	1,970	2,188	2,051
≥65		7,820	7,784	8,681	8,172	9,437

[1] Previous 3-season (H3) average includes the previous three influenza A (H3) seasons, which were 2010-11, 2011-12, and 2012-13.

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Section 7

2014 Publications and Reports

Publications With Florida Department of Health Authors

Below is a list of articles with Florida Department of Health (DOH) authors that were published in peer-reviewed journals in 2014. Note that DOH authors appear in bold font.

Barnett TE, **Forrest JR**, **Porter L**, Curbow BA. 2014. A Multiyear Assessment of Hookah Use Prevalence Among Florida High School Students. *Nicotine & Tobacco Research*, 16(3):373-377.

Barr EM, Moore MJ, Johnson T, **Forrest J**, **Jordan M**. 2014. New Evidence: Data Documenting Parental Support for Earlier Sexuality Education. *Journal of School Health*, 84(1):10-17.

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Griffith J, Blaney D, Shadomy S, Lehman M, Pesik N, Tostenson S, Delaney L, Tiller R, DeVries A, Gomez T, Sullivan M, **Blackmore C**, **Stanek D**, Lynfield R. Investigation of Inhalation Anthrax Case, United States. *Emerging Infectious Diseases*, 20(2):280-283. Available at wwwnc.cdc.gov/eid/article/20/2/13-0021_article.

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