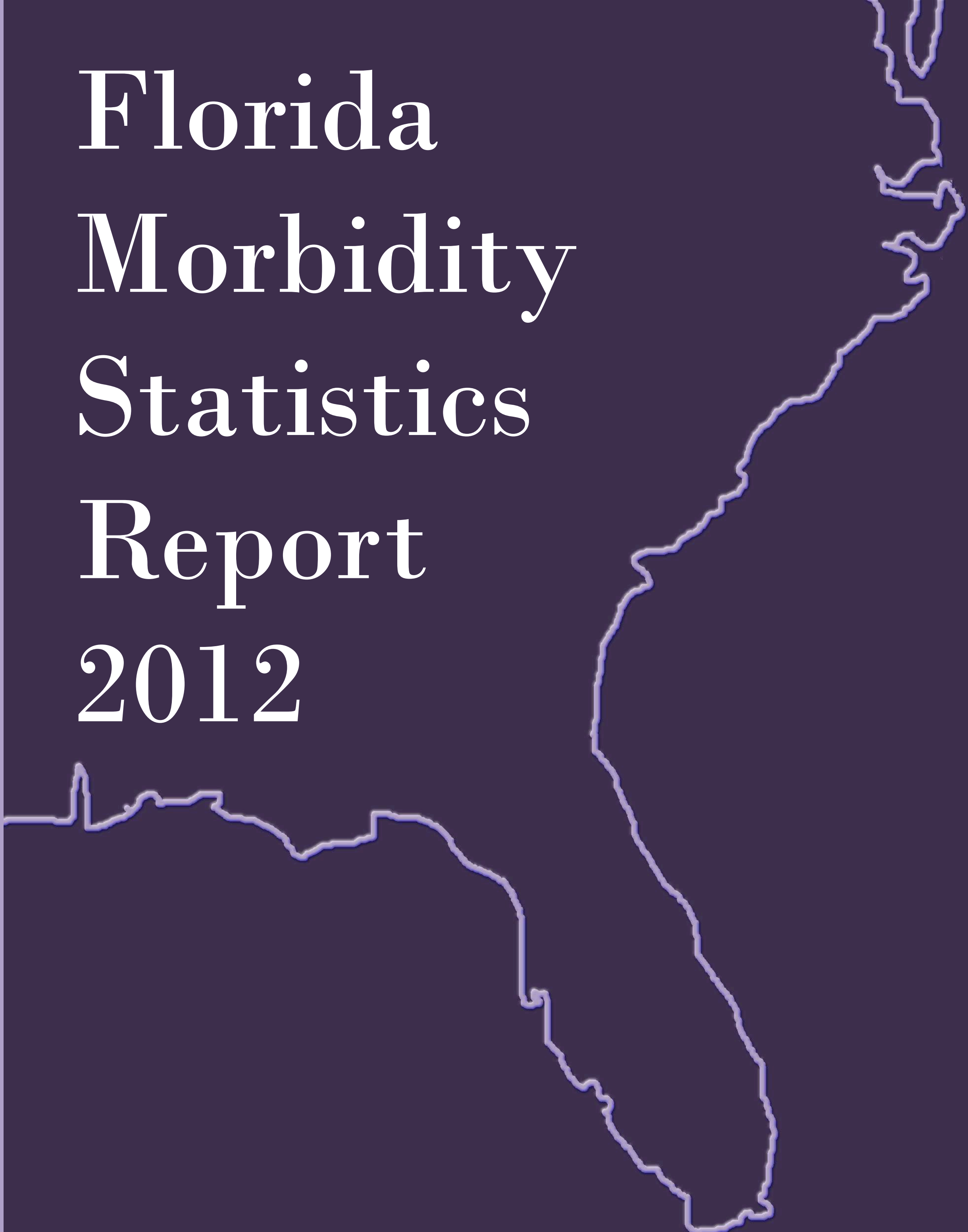
Florida Morbidity Statistics Report 2012



Florida Department of Health
Bureau of Epidemiology

Florida Morbidity Statistics Report

2012

Florida Department of Health
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http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/data-and-publications/index.html

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Introduction

Background

The *Florida Morbidity Statistics Report* is the official record of the occurrence of reportable disease in Florida and this edition marks the fifty-seventh publication since 1945. The data contained here are final, unless otherwise noted. Section 381.003, *Florida Statutes* “The Department shall conduct a communicable disease prevention and control program as part of fulfilling its public health mission.” 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. 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 disease requires diligence in all aspects of public health. Public health partners in 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.

The Bureau of Epidemiology thanks all program areas within the Florida Department of Health that contributed to this report including the sections of Immunization, HIV/AIDS and Hepatitis, Sexually Transmitted Disease and Tuberculosis Control. Finally, many thanks are extended to the county health department 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 and environmental diseases 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* (*FAC*), 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, Chapter 64D-3, *FAC*. 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:

1. 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.

2. Active surveillance entails Department staff regularly contacting hospitals, laboratories and physicians in an effort to identify all cases of a given disease or condition.
3. 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.

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. http://www.cdc.gov/az/a.html.

Centers for Disease Control and Prevention. 1999. Combination Vaccines for Childhood Immunization. *Morbidity and Mortality Weekly Report*, 48(RR05);1-15. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4805a1.htm.

Centers for Disease Control and Prevention. 2012. *Epidemiology and Prevention of Vaccine-Preventable Diseases*, 12th ed. Washington, D.C.: Public Health Foundation. http://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. http://www.cdc.gov/vaccines/pubs/surv-manual/index.html.

Centers for Disease Control and Prevention. 2014. *CDC Health Information for International Travel 2014*. New York: Oxford University Press. http://wwwn.cdc.gov/travel/contentYellowBook.aspx.

Heymann DL (ed). 2008. *Control of Communicable Diseases Manual*. 19th 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. Underreporting
   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 web-based data query system with community tools, health indicators and data queries for public consumption (http://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 November 6, 2013. 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. Reporting Period
   To ensure consistent case counting, the data in this report are aggregated by the date the case was reported to the Bureau of Epidemiology unless otherwise noted. The date of illness onset or the date of diagnosis may not be available for all cases. Cases reported early in 2012 may have actually had onset or been diagnosed in 2011; rarely, cases reported in 2012 may have onset or diagnosis dates prior to 2011. Additionally, cases with illness onset or diagnosis late in 2012 may not have been reported to the Bureau of Epidemiology by the end of the 2012 reporting year, and thus would not be included in this report. The reporting year is defined by the standard reporting weeks 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 52 weeks in 2012. The data in this report are consistent with national surveillance data published weekly by CDC. 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. Diseases that use different dates to aggregate data in this report have an explanation of what date is used in the disease-specific chapter.

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 in line with national case definitions where appropriate (*Surveillance Case Definitions for Select Reportable Diseases in Florida*, available at http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/index.html). Case classifications are reviewed at the state level for many diseases. Following CDC *Morbidity and Mortality Weekly Report* (MMWR) print criteria (available at http://www.cdc.gov/nndss/script/downloads.aspx), only confirmed and probable cases have been included for all diseases (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 2012 as a result of position statements approved by the Council of State and Territorial Epidemiologists (CSTE) in 2011.

Summary of case definition changes effective January 2012:

a. Amebic Encephalitis: removed the suspect case classification for *Naegleria fowleri* causing Primary Amebic Meningoencephalitis (PAM); removed the probable case classification for *Balamuthia mandrillaris* disease; removed the suspect case classification for *Acanthamoeba* disease (excluding keratitis); added a new case definition to capture *Acanthamoeba* keratitis.

b. Hepatitis A: added symptoms to the clinical case definition.

c. Acute hepatitis B: added symptoms to the clinical case definition; revised laboratory criteria to specify ALT levels >100 units per liter in the absence of jaundice; removed clinically acute disease as a requirement <u>if</u> the patient has a documented negative hepatitis B virus antigen laboratory test result followed within six months by a positive test result <u>and</u> no previous diagnosis of chronic hepatitis B.

d. Chronic hepatitis B: clarified that only one laboratory result of the three laboratory tests that meet the criteria for diagnosis of hepatitis B virus infection is required to meet the case definition.

e. Acute hepatitis C: added symptoms to the clinical case definition; removed clinically acute disease as a requirement <u>if</u> the patient has a documented negative hepatitis C virus antibody laboratory test result followed within six months by a positive test result.

f. Vibriosis: revised to include any infection that meets the clinical description where a species of the family Vibrionaceae (formerly included only species of the genus *Vibrio*) is isolated from a clinical specimen.

g. Cryptosporidiosis: clarified laboratory evidence section for confirmed and probable case classifications; removed clinical evidence requirement to meet the confirmed and probable case classification.

h. Melioidosis: removed clinical evidence requirement to meet the confirmed case definition; added a probable case definition that relies on clinical, supportive laboratory and epidemiologic evidence.

i. Mumps: removed epidemiologic link as an acceptable alternative to laboratory confirmation for confirmed cases; defined clinically compatible illness for probable and suspect cases; expanded “epidemiologic link” for probable cases to include membership in a group/community defined by public health during an outbreak.

j. Ricin toxin poisoning: added confirmed and probable case classification criteria; removed the suspect classification; added detection of ricin in environmental samples and detection of urinary ricinine to laboratory evidence.

k. Carbon monoxide poisoning: clarified that the case definition applies to acute carbon monoxide poisoning; revised formatting.

l. Acute pesticide-related illness and injury: clarified that the case definition applies to acute pesticide-related illness and injury; revised the clinical description and case classification criteria and overall formatting.

5. Assigning Cases to Counties
Cases are assigned to Florida counties based on the county of residence at the time of the disease identification. Cases are assigned to their county of residence 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 counted as Florida cases

and 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 web-based data query system with community tools, health indicators and data queries for public consumption (http://www.floridacharts.com/charts/default.aspx). Population estimates within CHARTS are provided by the Florida Department of Healthv 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 November 6, 2013. 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 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 Hemorrhagic Fever - 06101

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

   d. Ehrlichiosis/Anaplasmosis
      Ehrlichiosis/Anaplasmosis, HGA (*A. phagocytophilum*) - 08381
      Ehrlichiosis/Anaplasmosis, HME (*E. chaffeensis*) - 08382
      Ehrlichiosis/Anaplasmosis (*E. ewingii*) - 08383
      Ehrlichiosis/Anaplasmosis, Undetermined - 08384

   e. Encephalitis, Other (Non-Arboviral)
      Encephalitis (Other, Non-Arboviral) - 03236
      Encephalitis (Varicella) - 05200 (EXPIRED)
      Encephalitis (Herpes) - 05430 (EXPIRED)
      Encephalitis (Influenza) - 48780 (EXPIRED)
      Encephalitis (Measles) - 05500 (EXPIRED)
      Encephalitis (Mumps) - 07220 (EXPIRED)
      Encephalitis (Other) - 32390 (EXPIRED)

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

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

h. Meningococcal Disease
   Meningococcal Disease - 03630
   Meningitis (*N. meningitidis*) - 03600 (EXPIRED)
   Meningococcemia, Disseminated - 03620 (EXPIRED)

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

j. Poliomyelitis
   Poliomyelitis, Nonparalytic - 04520
   Poliomyelitis - 04590

k. Q Fever
   Q Fever, Acute - 08301
   Q Fever, Chronic - 08302
   Q Fever - 08300 (EXPIRED)

l. Shiga Toxin-Producing *E. coli* Infection
   Shiga Toxin-Producing *E. coli* (STEC) Infection - 00800
   Shiga Toxin-Producing *E. coli* (STEC) Infection, O157:H7 - 41601 (EXPIRED)
   Shiga Toxin-Producing *E. coli* (STEC) Infection, Non-O157 - 41602 (EXPIRED)

m. St. Louis Encephalitis Virus Disease
   St. Louis Encephalitis Virus Neuroinvasive Disease - 06230
   St. Louis Encephalitis Virus Non-Neuroinvasive Disease - 06231

n. Typhus Fever
   Typhus Fever, Epidemic (*R. prowazekii*) - 08000
   Typhus Fever, Endemic (*R. typhi* or *R. felis*) - 08100
   Typhus Fever - 08190 (EXPIRED)

o. Venezuelan Equine Encephalitis Virus Disease
   Venezuelan Equine Encephalitis Virus Neuroinvasive Disease - 06620
   Venezuelan Equine Encephalitis Virus Non-Neuroinvasive Disease - 06621

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

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

r. Western Equine Encephalitis Virus Disease
   Western Equine Encephalitis Virus Neuroinvasive Disease - 06210
   Western Equine Encephalitis Virus Non-Neuroinvasive Disease - 06211

Summary of Key Disease Trends in 2012

Sexually transmitted diseases (STDs), HIV, and AIDS are the most common reportable diseases in Florida, particularly among 15 to 54-year-olds. Chlamydia incidence has been increasing over the past 10 years, with almost 78,000 cases reported in Florida in 2012. As chlamydia has increased, the number of gonorrhea cases has consistently decreased over the past 10 years. A shift in treatment guidelines and recommendations for screening of women under the age of 25 contributed to the decrease in gonorrhea cases. The incidence of HIV and AIDS has also decreased over the last 10 years, though HIV increased slightly in 2011 and 2012. Syphilis incidence has remained relatively stable for the past 10 years, but has been increasing slightly since 2009, with a 7.5% increase in 2012 compared to the past five years.

In the mid-1980s, tuberculosis (TB) re-emerged as a public health threat in the U.S. The number of cases of TB in Florida has decreased every year since 1994. The incidence in 2012 decreased 23.4% 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. As a consequence, the proportion of all Florida TB cases that are made up of people born in a foreign country has grown to half of all TB cases in 2012.

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. Incidence continued to be high in 2012, particularly for salmonellosis and shigellosis. Historically, shigellosis has a cyclic temporal pattern with large, community-wide outbreaks, frequently involving daycare centers, every 2-3 years. Shigellosis activity increased in 2010 and 2011, but started decreasing in 2012. Incidence of other enteric diseases remained relatively stable in 2012.

Despite high vaccine coverage in Florida, vaccine-preventable diseases (VPDs) continued to occur. In 2012, VPD incidence decreased substantially overall in Florida compared to 2011. While both meningococcal disease and varicella decreased slightly, there was a sharp increase in reported pertussis cases in 2012, with the highest number of cases reported in 10 years and an 84% increase in cases compared to 2011. Pertussis has been increasing in Florida and nationally over the past 10 years, despite routine vaccine use. Acute hepatitis A and hepatitis B incidence has declined drastically over the past decade, likely due to increased vaccination coverage, however both increased slightly in 2012 compared to 2011. This was the first increase in acute hepatitis B in 10 years.

Arboviral diseases continued to be a threat in Florida in 2012. Lyme disease, transmitted by ticks, remained relatively stable with 60% of the infections likely acquired in other states (primarily in the Northeast and upper Midwest U.S.). West Nile virus (WNV) disease cases increased dramatically in 2012, with the second highest number of cases reported since the virus was introduced in 2001 in Florida. In Florida, cases were focused in Duval County and the Panhandle. 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. Imported malaria cases decreased substantially in 2012, and no infections were acquired in Florida. Dengue fever cases increased in 2012, and three isolated cases of locally-acquired dengue fever were identified in Miami-Dade (2) and Osceola (1) counties. Dengue virus infections were primarily acquired in Central America and the Caribbean, which is consistent with past years.

Chronic hepatitis continues to account for a large bulk of infectious disease burden in Florida with over 15,000 confirmed and probable cases reported annually. In 2012, the rate of reported newly diagnosed chronic hepatitis C cases was higher than any previous year. Overall, the highest rates occurred among people 45 to 64 years old, with these rates remaining stable since 2008. In contrast, the rate of chronic hepatitis C new diagnoses has continued to increase since 2005 among people aged 20 to 34 years. This trend is seen in acute hepatitis C cases as well. The majority of new hepatitis C infections in Florida are due to injection drug use (IDU). Nationally and in Florida, the dual increases in hepatitis C incidence and IDU among young adults has been associated with the proliferation of highly addictive prescription opioid painkillers.

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.

List of Reportable Diseases/Conditions in Florida, 2012

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; or any laboratory licensed under chapter 483 that diagnoses or suspects the existence of a disease of public health significance shall immediately report the fact to the Department of Health." County health departments serve as the Department's representative in this reporting requirement. Furthermore, Section 381.0031 (4) 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 listed in subsection (2)…". This list reflects diseases and conditions that were reportable in 2012. Updates may be made in future years; *Florida Morbidity Statistics Reports* for subsequent years will reflect changes in the list.

Acquired Immunodeficiency Syndrome (AIDS)
Amebic encephalitis
Anthrax
Arsenic poisoning
Botulism
Brucellosis
California serogroup virus disease (neuroinvasive and non-neuroinvasive)
Campylobacteriosis
Cancer (except non-melanoma skin cancer, and including benign and borderline intracranial and CNS tumors)
Carbon monoxide poisoning
Chancroid
Chlamydia
Cholera
Ciguatera fish poisoning
Congenital anomalies
Conjunctivitis (in neonates $\leq$14 days old)
Creutzfeldt-Jakob disease
Cryptosporidiosis
Cyclosporiasis
Dengue
Diphtheria
Eastern equine encephalitis virus disease (neuroinvasive and non-neuroinvasive)
Ehrlichiosis/anaplasmosis
Encephalitis, other (non-arboviral)
Enteric diseases due to:
- *Escherichia coli*, O157:H7
- *Escherichia coli*, other pathogenic *E. coli* including entero-toxigenic, invasive, pathogenic, hemorrhagic, aggregative strains and Shiga toxin producing strains

Giardiasis
Glanders
Gonorrhea
Granuloma inguinale
Haemophilus influenzae, invasive disease
Hansen's Disease (Leprosy)
Hantavirus infection
Hemolytic uremic syndrome
Hepatitis A
Hepatitis B, C, D, E, and G
Hepatitis B surface antigen in pregnant women or children $\leq$24 months old
Herpes simplex virus in infants $\leq$6 months old, anogenital in children $\leq$12 years old
Human immunodeficiency virus (HIV) infection
Human papillomavirus in children $\leq$6 years old, anogenital in children $\leq$12 years old, cancer associated strains
Influenza due to novel or pandemic strains
Influenza-associated pediatric mortality (in children <18 years old)
Lead poisoning
Legionellosis
Leptospirosis
Listeriosis
Lyme disease
Lymphogranuloma venereum
Malaria
Measles
Melioidosis
Meningitis (bacterial, cryptococcal, mycotic)
Meningococcal disease
Mercury poisoning
Mumps
Neurotoxic shellfish poisoning
Pertussis
Pesticide-related illness and injury
Plague
Poliomyelitis
Psittacosis
Q Fever
Rabies (human, animal, possible exposure)
Ricin toxin poisoning
Rocky Mountain spotted fever
Rubella (including congenital)
St. Louis encephalitis virus disease (neuroinvasive and non-neuroinvasive)
Salmonellosis
Saxitoxin poisoning (including paralytic shellfish poisoning)
Severe acute respiratory syndrome-associated *Coronavirus* (SARS-CoV) disease
Shigellosis
Smallpox
Staphylococcus aureus (with intermediate or full resistance to vancomycin)
Staphylococcus aureus, community-associated mortality
Staphylococcus enterotoxin B poisoning
Streptococcal invasive disease (Group A)
Streptococcus pneumoniae, invasive disease
Syphilis
Tetanus
Toxoplasmosis (acute)
Trichinosis
Tuberculosis
Tularemia
Typhoid fever
Typhus fever (epidemic and endemic)
Vaccinia disease
Varicella (including mortality)
Venezuelan equine encephalitis virus disease (neuroinvasive and non-neuroinvasive)
Vibriosis
Viral hemorrhagic fevers (Ebola, Marburg, Lassa, Machupo)
West Nile virus disease (neuroinvasive and non-neuroinvasive)
Western equine encephalitis virus disease (neuroinvasive and non-neuroinvasive)
Yellow fever
Any disease outbreak
Any grouping or clustering of disease

Florida County Boundaries

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

Year	Population
2003	17,074,368
2004	17,476,489
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

Age Group	2012 Population
<1	209,035
1-4	868,895
5-9	1,095,035
10-14	1,130,994
15-19	1,201,681
20-24	1,257,586
25-34	2,352,723
35-44	2,367,106
45-54	2,693,194
55-64	2,447,516
65-74	1,837,950
75-84	1,118,494
85+	462,249
Total	19,042,458

Gender	2012 Population
Female	9,733,064
Male	9,309,394
Race	**2012 Population**
White	14,930,936
Black	3,150,349
Other	961,173
Ethnicity	**2012 Population**
Non-Hispanic	14,629,656
Hispanic	4,412,802
Total	19,042,458

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Section 1

Summary of Selected Reportable Diseases/Conditions

Table 1: Reported Confirmed and Probable Cases and Incidence Rate (per 100,000 Population) of Reportable Diseases/Conditions of Frequent Occurrence, Florida, 2003-2012

Reportable Disease/Condition	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
AIDS[1]	4,390	25.7	5,358	30.7	4,636	25.9	4,836	26.5	3,675	19.9	4,626	24.8	4,046	21.6	3,179	16.9	3,299	17.4	2,775	14.6
Campylobacteriosis	1,056	6.2	1,009	5.8	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
Carbon Monoxide Poisoning	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	43	0.2	172	0.9	85	0.4	69	0.4
Chlamydia[1]	42,382	248.2	42,554	243.5	43,372	242.6	48,929	268.3	57,862	312.8	70,734	379.5	72,932	389.8	74,820	397.5	76,033	401.6	77,890	409.0
Ciguatera Fish Poisoning	7	NA	4	NA	10	NA	32	0.2	29	0.2	53	0.3	49	0.3	20	0.1	48	0.3	30	0.2
Cryptosporidiosis	128	0.8	149	0.9	350	2.0	717	3.9	738	4.0	549	2.9	497	2.7	408	2.2	437	2.3	470	2.5
Cyclosporiasis	14	NA	9	NA	524	2.9	31	0.2	32	0.2	59	0.3	40	0.2	63	0.3	58	0.3	25	0.1
Dengue Fever[2]	16	NA	13	NA	19	NA	20	0.1	46	0.2	33	0.2	55	0.3	195	1.0	71	0.4	124	0.7
Ehrlichiosis/Anaplasmosis[2]	13	NA	7	NA	5	NA	6	NA	21	0.1	12	NA	14	NA	14	NA	26	0.1	28	0.1
Giardiasis	1,132	6.6	1,126	6.4	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
Gonorrhea[1]	18,974	111.1	18,580	106.3	20,225	113.1	23,961	131.4	23,409	126.5	23,231	124.7	20,880	111.6	20,183	107.2	19,692	104.0	19,554	102.7
H. influenzae, Invasive Disease in Children <5 Years Old[2,3]	15	NA	14	NA	21	2.0	16	NA	24	2.2	24	2.1	29	2.5	32	3.0	23	2.2	24	2.2
HIV Infection[1]	7,835	45.9	7,754	44.4	6,971	39.0	6,702	36.8	6,892	37.3	7,898	42.4	5,582	29.8	4,935	26.2	5,100	26.9	5,388	28.3
Hepatitis A	399	2.3	295	1.7	289	1.6	233	1.3	171	0.9	165	0.9	191	1.0	178	0.9	110	0.6	118	0.6
Hepatitis B, Acute	631	3.7	527	3.0	510	2.9	446	2.4	368	2.0	358	1.9	318	1.7	315	1.7	235	1.2	292	1.5
Hepatitis B, Surface Antigen in Pregnant Women[4]	555	16.5	599	17.5	530	15.2	448	12.7	643	18.1	599	16.9	598	17.0	438	12.4	481	13.6	413	11.6
Hepatitis C, Acute	69	0.4	53	0.3	39	0.2	49	0.3	46	0.2	53	0.3	77	0.4	105	0.6	100	0.5	168	0.9
Lead Poisoning	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	916	4.9	742	3.9	864	4.5
Legionellosis	147	0.9	141	0.8	119	0.7	167	0.9	153	0.8	148	0.8	193	1.0	172	0.9	185	1.0	213	1.1
Listeriosis[2]	36	0.2	28	0.2	59	0.3	46	0.3	34	0.2	50	0.3	25	0.1	54	0.3	38	0.2	33	0.2
Lyme Disease	43	0.3	46	0.3	47	0.3	34	0.2	30	0.2	88	0.5	110	0.6	84	0.4	115	0.6	118	0.6
Malaria	92	0.5	93	0.5	68	0.4	61	0.3	56	0.3	65	0.3	93	0.5	139	0.7	99	0.5	59	0.3
Meningitis (Bacterial, Cryptococcal, Mycotic)	158	0.9	128	0.7	127	0.7	162	0.9	135	0.7	199	1.1	210	1.1	183	1.0	192	1.0	191	1.0
Meningococcal Disease[2]	106	0.6	107	0.6	84	0.5	79	0.4	67	0.4	51	0.3	52	0.3	60	0.3	51	0.3	45	0.2
Pertussis	113	0.7	132	0.8	208	1.2	228	1.3	211	1.1	314	1.7	497	2.7	328	1.7	312	1.6	575	3.0
Pesticide-Related Illness and Injury	174	1.0	91	0.5	154	0.9	460	2.5	449	2.4	455	2.4	405	2.2	392	2.1	451	2.4	71	0.4
Rabies, Animal	188	NA	205	NA	201	NA	176	NA	128	NA	138	NA	161	NA	121	NA	120	NA	102	NA
Rabies, Possible Human Exposure	1,051	6.2	1,128	6.5	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
Rocky Mountain Spotted Fever[5]	17	NA	22	0.1	14	NA	21	0.1	19	NA	19	NA	10	NA	13	NA	12	NA	31	0.2
S. pneumoniae, Invasive Disease, Drug-Resistant	606	3.5	581	3.3	614	3.4	774	4.2	726	3.9	792	4.3	779	4.2	816	4.3	645	3.4	457	2.4
S. pneumoniae, Invasive Disease, Drug-Susceptible	201	1.2	606	3.5	598	3.3	620	3.4	622	3.4	704	3.8	701	3.7	693	3.7	679	3.6	531	2.8
Salmonellosis	4,669	27.4	4,276	24.5	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
Shiga Toxin-Producing *E. coli* Infection[2]	72	0.4	78	0.4	114	0.6	38	0.2	47	0.3	65	0.3	94	0.5	85	0.5	103	0.5	93	0.5
Shigellosis	2,845	16.7	965	5.5	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
Streptococcal Invasive Disease, Group A	229	1.3	219	1.3	260	1.5	312	1.7	309	1.7	275	1.5	279	1.5	268	1.4	248	1.3	248	1.3
Syphilis[1]	3,282	19.2	2,964	17.0	2,887	16.2	2,944	16.1	3,927	21.2	4,584	24.6	3,861	20.6	4,077	21.7	4,143	21.9	4,509	23.7
Tuberculosis[1]	1,046	6.1	1,076	6.2	1,094	6.1	1,038	5.7	989	5.3	953	5.1	822	4.4	835	4.4	753	4.0	679	3.6
Varicella	NR	NR	NR	NR	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
Vibriosis (excluding Cholera)[2]	115	0.7	107	0.6	103	0.6	99	0.5	97	0.5	94	0.5	112	0.6	130	0.7	155	0.8	147	0.8
West Nile Virus Disease[2]	94	0.6	45	0.3	22	0.1	3	NA	3	NA	3	NA	3	NA	12	NA	23	0.1	74	0.4

1 For tuberculosis, date counted (date when the suspected diagnosis is confirmed by clinical, radiographic and laboratory testing) is used to determine cases for each year. For tuberculosis and other reportable diseases, the number of cases reported in past years should not change. However, different reconciliation processes are in place for AIDS, chlamydia, gonorrhea, HIV infection and syphilis. 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 Interpreting the Data section.

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

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

5 One case reported in 2010 as Rocky Mountain spotted fever was confirmed as *Rickettsia africae* infection by the Centers for Disease Control and Prevention and is excluded from this table.

NA 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 able to be included in this table.

NR Not Reportable.

Table 2: Reported Confirmed and Probable Cases of Reportable Diseases/Conditions of Infrequent Occurrence, Florida, 2003-2012

Reportable Disease/Condition	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Amebic Encephalitis	NR	NR	NR	NR	NR	NR	3	0	1	0
Anthrax	0	0	0	0	0	0	0	0	1	0
Arsenic Poisoning	NR	NR	NR	NR	NR	NR	9	14	7	5
Botulism, Foodborne	0	0	0	1	0	0	0	0	0	0
Botulism, Infant	0	1	1	0	1	1	1	1	0	1
Botulism, Other	0	2	0	0	0	0	0	0	0	0
Botulism, Wound	0	0	0	0	0	0	0	0	0	0
Brucellosis	10	8	3	5	10	10	9	9	6	17
California Serogroup Virus Disease[1]	0	4	0	1	1	1	0	0	1	0
Cholera	0	0	0	0	0	0	0	4	11	7
Creutzfeldt-Jakob Disease	4	14	17	14	12	23	15	13	16	23
Diphtheria	0	0	0	0	0	0	0	0	0	0
Eastern Equine Encephalitis Virus Disease[1]	2	1	5	0	0	1	0	4	0	2
Encephalitis, Other (Non-Arboviral)[1]	10	8	8	5	18	12	27	15	24	12
Glanders	0	0	0	0	0	0	0	0	0	0
Hansen's Disease (Leprosy)	9	5	2	7	10	10	7	12	11	10
Hantavirus Infection	0	0	0	0	0	0	0	0	0	0
Hemolytic Uremic Syndrome	6	6	20	5	6	5	5	8	4	1
Hepatitis B, Perinatal	2	0	2	6	2	3	0	1	0	1
Hepatitis D	NR	NR	NR	NR	1	0	1	0	0	0
Hepatitis E	NR	NR	NR	NR	1	0	2	1	7	1
Hepatitis G	NR	NR	NR	NR	0	0	1	0	2	0
Leptospirosis	1	1	2	2	1	0	1	2	4	1
Measles	0	1	0	4	5	1	5	1	8	0
Melioidosis	0	0	1	1	0	0	0	0	0	1
Mercury Poisoning	7	10	30	33	24	69	21	12	7	10
Mumps	7	9	8	15	21	16	18	10	11	5
Neurotoxic Shellfish Poisoning	0	0	4	16	1	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	3	1	0	1	0	2	0	0	0	0
Q Fever[1]	6	2	1	8	2	1	1	2	3	1
Rabies, Human	0	1	0	0	0	0	0	0	0	0
Ricin Toxin Poisoning	0	0	0	0	0	0	0	0	0	0
Rubella	0	0	0	1	0	3	0	0	0	0
Rubella, Congenital	0	0	0	0	0	0	0	0	0	0
S. aureus Infection, Intermediate Resistance to Vancomycin	0	0	0	0	1	3	6	1	3	7
S. aureus Infection, Resistant to Vancomycin	0	0	0	0	0	0	0	0	0	0
Saxitoxin Poisoning (Paralytic Shellfish Poisoning)	0	1	0	0	0	0	0	0	0	0
Severe Acute Respiratory Syndrome-Associated Coronavirus	NR	0	0	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0	0	0	0
St. Louis Encephalitis Virus Disease[1]	0	0	0	0	0	0	0	0	0	0
Staphylococcus Enterotoxin B Poisoning	0	0	0	0	0	2	0	0	0	0
Tetanus	3	4	3	2	5	2	0	5	3	4
Toxoplasmosis	31	24	2	4	9	14	4	10	7	8
Trichinellosis	0	0	1	1	0	1	0	0	0	0
Tularemia	0	0	1	0	0	0	1	0	0	0
Typhoid Fever	15	10	11	16	15	18	19	22	8	11
Typhus Fever[1]	0	1	0	2	1	0	1	0	2	0
Vaccinia Disease	0	0	0	0	0	0	0	0	1	0
Venezuelan Equine Encephalitis Virus Disease[1]	0	0	0	0	0	0	0	0	0	0
Viral Hemorrhagic Fever	0	0	0	0	0	0	0	0	0	0
Western Equine Encephalitis Virus Disease[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 Interpreting the Data section.

NR Not Reportable.

Table 3: Reported Confirmed and Probable Cases and Incidence Rate (per 100,000 Population) of Reportable Diseases/Conditions of Frequent Occurrence by Age Group, Florida, 2012

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		Unknown
	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	Number
AIDS	0	NA	0	NA	1	NA	4	NA	29	2.4	166	13.2	592	25.2	756	31.9	774	28.7	342	14.0	95	5.2	16	NA	0	NA	0
Campylobacteriosis	93	44.5	296	34.1	144	13.2	99	8.8	87	7.2	71	5.6	166	7.1	157	6.6	223	8.3	237	9.7	211	11.5	134	12.0	46	10.0	0
Carbon Monoxide Poisoning	2	NA	1	NA	2	NA	2	NA	2	NA	5	NA	6	NA	15	NA	8	NA	6	NA	6	NA	7	NA	7	NA	0
Chlamydia	19	NA	3	NA	4	NA	636	56.2	22,553	1877.0	30,956	2462.0	18,440	783.8	3,717	157.0	1,153	42.8	316	12.9	56	3.0	8	NA	7	NA	22
Ciguatera Fish Poisoning	0	NA	0	NA	1	NA	0	NA	1	NA	2	NA	3	NA	8	NA	12	NA	2	NA	1	NA	0	NA	0	NA	0
Cryptosporidiosis	5	NA	63	7.3	33	3.0	20	1.8	14	NA	27	2.1	53	2.3	42	1.8	50	1.9	54	2.2	46	2.5	44	3.9	19	NA	0
Cyclosporiasis	1	NA	1	NA	0	NA	2	NA	1	NA	3	NA	0	NA	1	NA	6	NA	5	NA	2	NA	3	NA	0	NA	0
Dengue Fever[1]	0	NA	0	NA	1	NA	4	NA	7	NA	8	NA	14	NA	19	NA	22	0.8	21	0.9	21	1.1	7	NA	0	NA	0
Ehrlichiosis/Anaplasmosis[1]	0	NA	0	NA	1	NA	0	NA	0	NA	0	NA	0	NA	5	NA	3	NA	7	NA	9	NA	2	NA	1	NA	0
Giardiasis	15	NA	190	21.9	143	13.1	60	5.3	48	4.0	55	4.4	113	4.8	132	5.6	130	4.8	100	4.1	61	3.3	37	3.3	11	NA	0
Gonorrhea	0	NA	5	NA	2	NA	148	13.1	4,275	355.8	6,735	535.5	5,481	233.0	1,715	72.5	880	32.7	254	10.4	44	2.4	6	NA	2	NA	7
H. influenzae, Invasive Disease in Children <5 Years Old[1]	16	NA	8	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0
HIV Infection	6	NA	4	NA	6	NA	12	NA	184	15.3	714	56.8	1,308	55.6	1,238	52.3	1,236	45.9	521	21.3	135	7.3	23	2.1	1	NA	0
Hepatitis A	0	NA	6	NA	5	NA	1	NA	6	NA	9	NA	20	0.9	15	NA	13	NA	18	NA	9	NA	7	NA	9	NA	0
Hepatitis B, Acute	1	NA	0	NA	0	NA	0	NA	2	NA	3	NA	57	2.4	87	3.7	82	3.0	42	1.7	15	NA	2	NA	1	NA	0
Hepatitis B, Surface Antigen in Pregnant Women[2]	0	NA	0	NA	0	NA	0	NA	10	NA	72	11.7	240	20.6	90	7.5	1	NA	0	NA	0	NA	0	NA	0	NA	0
Hepatitis C, Acute	0	NA	0	NA	0	NA	0	NA	7	NA	33	2.6	66	2.8	27	1.1	25	0.9	9	NA	1	NA	0	NA	0	NA	0
Lead Poisoning	9	NA	133	15.3	23	2.1	33	2.9	22	1.8	88	7.0	160	6.8	157	6.6	147	5.5	61	2.5	24	1.3	4	NA	0	NA	3
Legionellosis	0	NA	0	NA	1	NA	0	NA	0	NA	2	NA	8	NA	18	NA	43	1.6	56	2.3	44	2.4	24	2.1	17	NA	0
Listeriosis[1]	2	NA	0	NA	0	NA	0	NA	0	NA	0	NA	3	NA	2	NA	4	NA	1	NA	11	NA	6	NA	4	NA	0
Lyme Disease	0	NA	3	NA	6	NA	9	NA	5	NA	8	NA	8	NA	6	NA	22	0.8	16	NA	27	1.5	8	NA	0	NA	0
Malaria	0	NA	0	NA	3	NA	0	NA	0	NA	4	NA	19	NA	11	NA	10	NA	9	NA	3	NA	0	NA	0	NA	0
Meningitis (Bacterial, Cryptococcal, Mycotic)	31	14.8	10	NA	5	NA	0	NA	4	NA	5	NA	19	NA	25	1.1	42	1.6	27	1.1	14	NA	9	NA	0	NA	0
Meningococcal Disease[1]	2	NA	0	NA	1	NA	2	NA	6	NA	4	NA	7	NA	2	NA	7	NA	3	NA	5	NA	6	NA	0	NA	0
Pertussis	160	76.5	77	8.9	73	6.7	81	7.2	27	2.2	12	NA	37	1.6	31	1.3	28	1.0	21	0.9	18	NA	8	NA	2	NA	0
Pesticide-Related Illness and Injury	0	NA	10	NA	0	NA	1	NA	3	NA	3	NA	13	NA	11	NA	13	NA	12	NA	2	NA	3	NA	0	NA	0
Rabies, Possible Human Exposure	28	13.4	80	9.2	125	11.4	151	13.4	183	15.2	208	16.5	355	15.1	316	13.4	371	13.8	286	11.7	161	8.8	72	6.4	25	5.4	10
Rocky Mountain Spotted Fever	0	NA	0	NA	0	NA	0	NA	1	NA	0	NA	3	NA	4	NA	6	NA	6	NA	8	NA	2	NA	1	NA	0
S. pneumoniae, Invasive Disease, Drug-Resistant	7	NA	27	3.1	10	NA	2	NA	3	NA	13	NA	20	0.9	38	1.6	78	2.9	77	3.1	69	3.8	64	5.7	49	10.6	0
S. pneumoniae, Invasive Disease, Drug-Susceptible	15	NA	31	3.6	10	NA	3	NA	2	NA	3	NA	35	1.5	33	1.4	99	3.7	118	4.8	80	4.4	52	4.6	50	10.8	0
Salmonellosis	1,317	630.0	1,477	170.0	530	48.4	254	22.5	215	17.9	161	12.8	359	15.3	363	15.3	465	17.3	440	18.0	497	27.0	322	28.8	119	25.7	4
Shiga Toxin-Producing *E. coli* Infection[1]	5	NA	24	2.8	10	NA	6	NA	8	NA	3	NA	9	NA	5	NA	5	NA	7	NA	5	NA	3	NA	3	NA	0
Shigellosis	34	16.3	525	60.4	481	43.9	112	9.9	29	2.4	61	4.9	179	7.6	93	3.9	65	2.4	57	2.3	40	2.2	20	1.8	6	NA	0
Streptococcal Invasive Disease, Group A	4	NA	7	NA	9	NA	3	NA	3	NA	12	NA	24	1.0	26	1.1	29	1.1	46	1.9	38	2.1	28	2.5	19	NA	0
Syphilis	37	17.7	2	NA	0	NA	5	NA	235	19.6	754	60.0	1,208	51.3	1,007	42.5	849	31.5	305	12.5	73	4.0	20	1.8	14	NA	0
Tuberculosis	3	NA	10	NA	10	NA	7	NA	23	1.9	37	2.9	100	4.3	101	4.3	134	5.0	122	5.0	64	3.5	46	4.1	22	4.8	0
Varicella	72	34.4	146	16.8	175	16.0	133	11.8	57	4.7	44	3.5	81	3.4	52	2.2	37	1.4	8	NA	7	NA	2	NA	1	NA	0
Vibriosis (excluding Cholera)[1]	0	NA	3	NA	10	NA	10	NA	6	NA	8	NA	12	NA	17	NA	22	0.8	24	1.0	15	NA	11	NA	9	NA	0
West Nile Virus Disease[1]	0	NA	0	NA	0	NA	1	NA	3	NA	2	NA	6	NA	9	NA	17	NA	18	NA	12	NA	4	NA	2	NA	0

1 For information on what is included in this disease category, see Interpreting the Data section.

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

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

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, 2012

	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 (1,317)	Salmonellosis (1,477)	Salmonellosis (530)	Chlamydia (636)	Chlamydia (22,553)	Chlamydia (30,956)	Chlamydia (18,440)	Chlamydia (3,717)	HIV Infection (1,236)	HIV Infection (521)	Salmonellosis (497)	Salmonellosis (322)	Salmonellosis (119)
2	Pertussis (160)	Shigellosis (525)	Shigellosis (481)	Salmonellosis (254)	Gonorrhea (4,275)	Gonorrhea (6,735)	Gonorrhea (5,481)	Gonorrhea (1,715)	Chlamydia (1,153)	Salmonellosis (440)	Campylobacteriosis (211)	Campylobacteriosis (134)	*S. pneumoniae,* Invasive Disease (99)
3	Campylobacteriosis (93)	Campylobacteriosis (296)	Varicella (175)	Rabies, Possible Exposure (151)	Syphilis (235)	Syphilis (754)	HIV Infection (1,308)	HIV Infection (1,238)	Gonorrhea (880)	AIDS (342)	Rabies, Possible Exposure (161)	*S. pneumoniae,* Invasive Disease (116)	Campylobacteriosis (46)
4	Varicella (72)	Giardiasis (190)	Campylobacteriosis (144)	Gonorrhea (148)	Salmonellosis (215)	HIV Infection (714)	Syphilis (1,208)	Syphilis (1,007)	Syphilis (849)	Chlamydia (316)	*S. pneumoniae,* Invasive Disease (149)	Rabies, Possible Exposure (72)	Rabies, Possible Exposure (25)
5	Syphilis (37)	Varicella (146)	Giardiasis (143)	Varicella (133)	HIV Infection (184)	Rabies, Possible Exposure (208)	AIDS (592)	AIDS (756)	AIDS (774)	Syphilis (305)	HIV Infection (135)	Tuberculosis (46)	Tuberculosis (22)
6	Shigellosis (34)	Lead Poisoning (133)	Rabies, Possible Exposure (125)	Shigellosis (112)	Rabies, Possible Exposure (183)	AIDS (166)	Salmonellosis (359)	Salmonellosis (363)	Salmonellosis (465)	Rabies, Possible Exposure (286)	AIDS (95)	Cryptosporidiosis (44)	Cryptosporidiosis (19)
7	Meningitis, Other (31)	Rabies, Possible Exposure (80)	Pertussis (73)	Campylobacteriosis (99)	Campylobacteriosis (87)	Salmonellosis (161)	Rabies, Possible Exposure (355)	Rabies, Possible Exposure (316)	Rabies, Possible Exposure (371)	Gonorrhea (254)	Syphilis (73)	Giardiasis (37)	Streptococcal Invasive Disease, Group A (19)
8	Rabies, Possible Exposure (28)	Pertussis (77)	Cryptosporidiosis (33)	Pertussis (81)	Varicella (57)	Lead Poisoning (88)	Hepatitis B, Surface Antigen in Pregnant Women (240)	Campylobacteriosis (157)	Campylobacteriosis (223)	Campylobacteriosis (237)	Tuberculosis (64)	Streptococcal Invasive Disease, Group A (28)	Legionellosis (17)
9	*S. pneumoniae,* Invasive Disease (22)	Cryptosporidiosis (63)	Lead Poisoning (23)	Giardiasis (60)	Giardiasis (48)	Hepatitis B, Surface Antigen in Pregnant Women (72)	Shigellosis (179)	Lead Poisoning (157)	*S. pneumoniae,* Invasive Disease (177)	*S. pneumoniae,* Invasive Disease (195)	Giardiasis (61)	Legionellosis (24)	Syphilis (14)
10	Chlamydia (19)	*S. pneumoniae,* Invasive Disease (58)	*S. pneumoniae,* Invasive Disease (20)	Lead Poisoning (33)	AIDS (29)	Campylobacteriosis (71)	Campylobacteriosis (166)	Giardiasis (132)	Lead Poisoning (147)	Tuberculosis (122)	Chlamydia (56)	HIV Infection (23)	Giardiasis (11)

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

Enteric diseases	Sexually transmitted infections	Lead poisoning	Rabies, possible exposure
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, 2012

Selected Reportable Diseases	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Campylobacteriosis	196	135	107	123	164	217	219	216	171	141	140	135
Carbon Monoxide Poisoning	2	4	4	7	8	3	2	6	18	0	11	4
Ciguatera Fish Poisoning	0	2	0	2	0	0	2	11	0	4	2	7
Cryptosporidiosis	36	40	35	38	41	31	36	58	43	43	29	40
Cyclosporiasis	1	0	0	0	3	11	3	2	4	1	0	0
Dengue Fever[2]	6	1	3	1	1	7	16	24	23	16	15	11
Ehrlichiosis/Anaplasmosis[2]	0	4	1	7	4	3	1	1	3	2	2	0
Giardiasis	79	56	91	85	107	87	94	125	100	92	96	83
H. influenzae, Invasive Disease in Children <5 Years Old[2]	1	3	2	4	2	1	0	5	1	1	4	0
Hepatitis A	6	15	7	15	11	9	13	7	7	10	10	8
Hepatitis B, Acute	24	21	26	21	31	27	15	23	28	25	28	23
Hepatitis B, Surface Antigen in Pregnant Women	41	37	34	29	38	36	45	33	31	27	38	24
Hepatitis C, Acute	15	12	8	9	22	10	15	14	22	19	12	10
Lead Poisoning	92	63	50	101	76	55	82	52	71	39	35	148
Legionellosis	18	7	13	9	9	14	24	23	23	28	27	18
Listeriosis[2]	3	3	1	2	4	1	5	3	3	4	1	3
Lyme Disease	11	4	9	2	3	14	26	17	9	11	8	4
Malaria	8	3	4	3	10	5	4	7	4	1	2	8
Meningitis (Bacterial, Cryptococcal, Mycotic)	21	15	16	15	8	11	17	12	14	17	27	18
Meningococcal Disease[2]	5	5	5	5	5	4	5	0	1	3	4	3
Pertussis	39	28	35	71	53	65	77	62	44	44	24	33
Pesticide-Related Illness and Injury	2	10	9	12	5	9	6	4	5	3	5	1
Rabies, Animal[3]	9	10	8	11	11	4	5	10	8	11	8	7
Rabies, Possible Human Exposure[4]	201	191	197	198	218	229	211	204	201	170	183	168
Rocky Mountain Spotted Fever	2	3	1	5	4	2	6	3	2	2	0	1
S. pneumoniae, Invasive Disease, Drug-Resistant	61	50	45	45	34	24	23	21	35	30	51	38
S. pneumoniae, Invasive Disease, Drug-Susceptible	68	60	59	41	42	31	26	23	28	27	69	57
Salmonellosis	279	265	280	363	435	577	602	851	999	1,034	521	317
Shiga Toxin-Producing *E. coli* Infection[2]	6	5	4	5	7	9	8	16	2	11	14	6
Shigellosis	99	117	154	236	239	176	162	166	120	108	76	49
Streptococcal Invasive Disease, Group A	18	17	17	27	17	20	19	22	19	17	28	27
Varicella	88	94	145	102	70	36	41	35	52	56	42	54
Vibriosis (excluding Cholera)[2]	6	2	10	11	12	13	23	20	19	14	10	7
West Nile Virus Disease[2]	0	0	0	0	0	4	10	29	19	10	2	0

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 county health department notified date.
2 For information on what is included in this disease category, see Interpreting the Data section.
3 Month of occurrence is based on the month of laboratory report.
4 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 virus

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

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

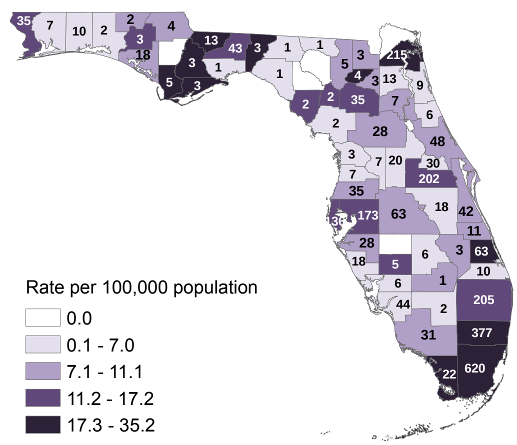
Reason for surveillance: Enhance efforts to prevent HIV transmission, improve allocation of resources for treatment services, and assist in evaluating the impact of public health interventions

Comments: Cases increased in 2004 due to increased CD4 testing statewide. Electronic laboratory reporting delays in late 2007 decreased cases that year (data not shown), while contributing to a spike in 2008. The overall trend of AIDS cases has decreased since 2009.

Summary of Case Demographics

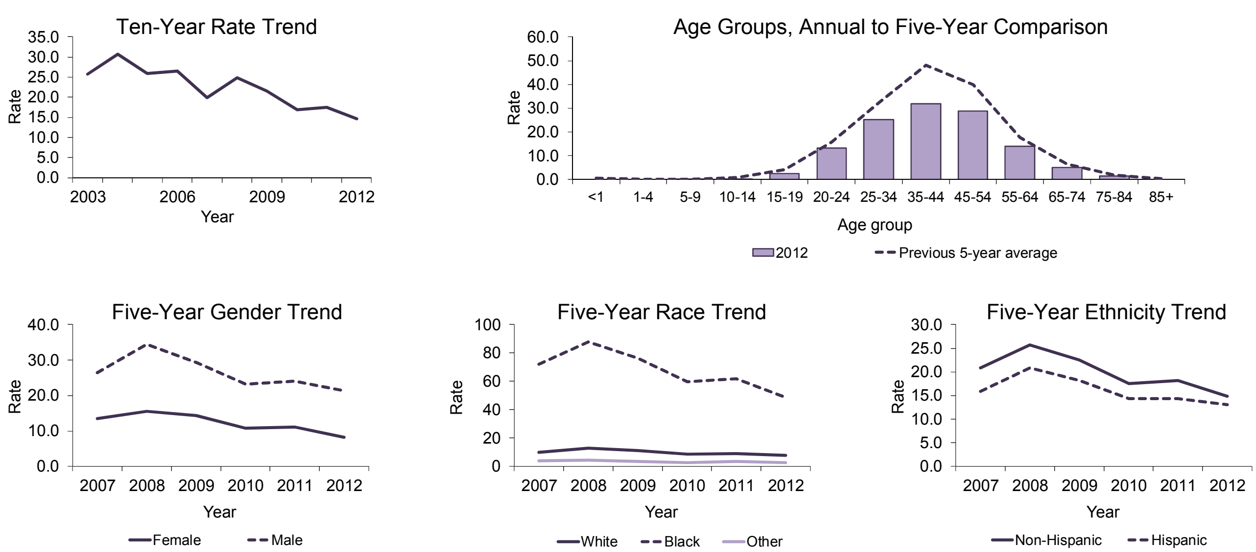
Summary		
Number of cases		2,775
Incidence rate (per 100,000 population)		14.6
Change from 5-year average incidence		-27.6%
Age (in years)		
Mean		43
Median		42
Min-max		(9 - 83)
Gender	**Number (Percent)**	**Rate**
Female	795 (28.6)	8.2
Male	1,980 (71.4)	21.3
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	1,198 (43.3)	8.0
Black	1,540 (55.7)	48.9
Other	28 (1.0)	2.9
Unknown race	9	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	2,183 (79.1)	14.9
Hispanic	578 (20.9)	13.1
Unknown ethnicity	14	

Reported AIDS Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=2,725)



County totals exclude Department of Corrections cases (n=50). Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

Reported AIDS Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Additional Information

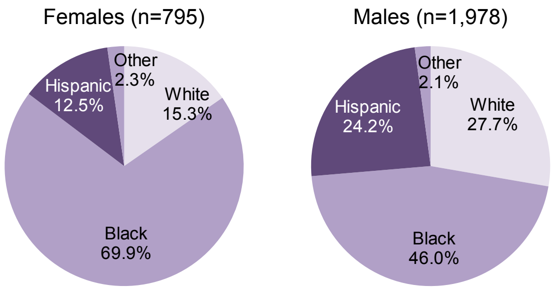
Table 1: Reported Adult (13 Years and Older) AIDS Cases by Gender and Mode of Exposure, Florida, 2012

Mode of exposure	Female cases (n=795)	Male cases (n=1,978)
	Number (percent)	Number (percent)
Men who have sex with men (MSM)	NA	1,201 (60.7)
Heterosexual	685 (86.2)	533 (26.9)
Injection drug user (IDU)	98 (12.3)	144 (7.3)
MSM and IDU	NA	92 (4.7)
Other	12 (1.5)	8 (0.4)
Total	795	1,978

For AIDS cases in men reported in 2012, male-to-male sexual contact (MSM) was the most common risk factor (60.7%), followed by cases with a heterosexual risk (26.9%) (Table 1).

In 2012, blacks were over-represented among AIDS cases, accounting for 46.0% of adult cases among men and 69.9% of the adult cases among women (Figure 1).

Figure 1: Reported Adult (13 Years and Older) AIDS Cases by Gender and Race/Ethnicity, Florida 2012



For information on HIV, please see the HIV chapter within this section (page 33).

Please visit the Bureau of Communicable Diseases' webpage to access additional information at http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/index.html.

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

Campylobacteriosis

Disease Facts

Cause: *Campylobacter* bacteria

Type of illness: Gastroenteritis (diarrhea, vomiting)

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

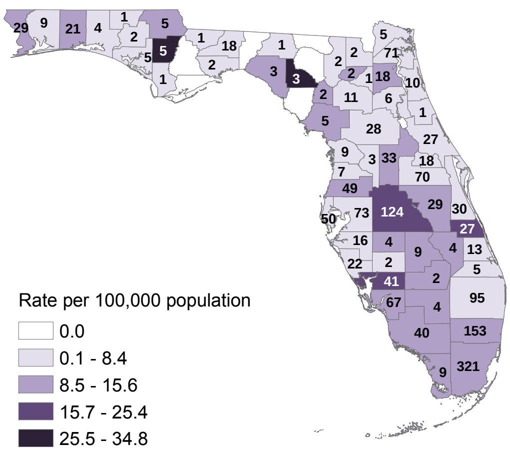
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: The use of culture-independent diagnostic testing for *Campylobacter* has increased significantly 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

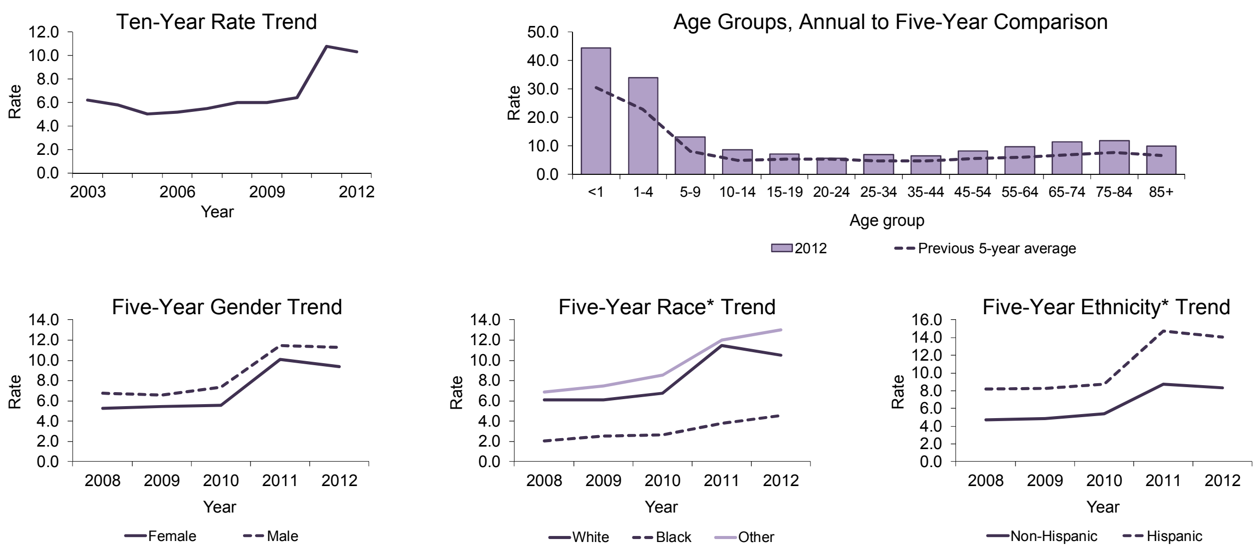
Summary		
Number of cases		1,964
Incidence rate (per 100,000 population)		10.3
Change from 5-year average incidence		+48.6%
Age (in years)		
Mean		36
Median		36
Min-max		0 - 99
Gender	**Number (Percent)**	**Rate**
Female	911 (46.4)	9.4
Male	1,052 (53.6)	11.3
Unknown gender	1	
Race	**Number (Percent)**	**Rate**
White	1,573 (85.4)	10.5
Black	144 (7.8)	4.6
Other	125 (6.8)	13.0
Unknown race	122	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	1,223 (66.3)	8.4
Hispanic	621 (33.7)	14.1
Unknown ethnicity	120	

Reported Campylobacteriosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=1,630)



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

Reported Campylobacteriosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

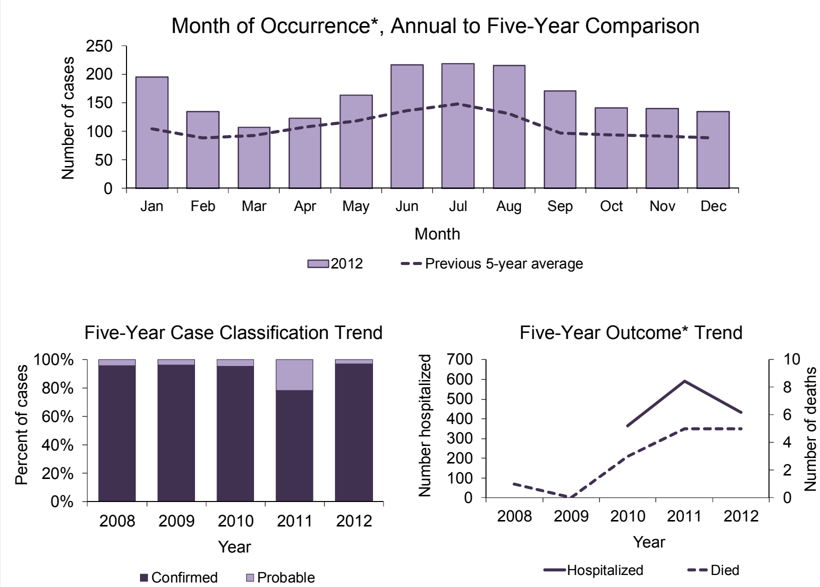


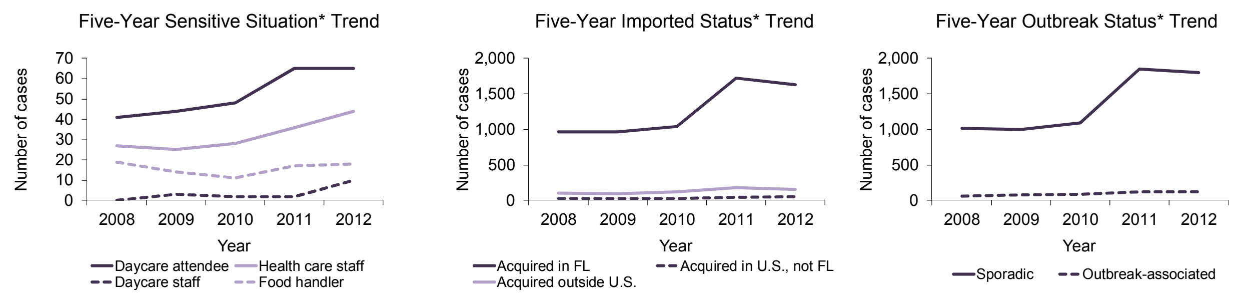
* Note that race and ethnicity trend graphs should be interpreted with caution. For campylobacteriosis, the percent of cases with missing race by year was 8.6% in 2008, 6.6% in 2009, 4.0% in 2010, 5.1% in 2011 and 6.2% in 2012; missing ethnicity by year was 8.7% in 2008, 6.0% in 2009, 4.5% in 2010, 6.3% in 2011 and 6.1% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	1,964
Case Classification	**Number (Percent)**
Confirmed	1,911 (97.3)
Probable	53 (2.7)
Outcome*	**Number (Percent)**
Hospitalized	432 (22.0)
Died	5 (0.3)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	65 (3.3)
Daycare staff	10 (0.5)
Health care staff	44 (2.2)
Food handler	18 (0.9)
Imported Status*	**Number (Percent)**
Acquired in Florida	1,630 (83.0)
Acquired in the U.S., not Florida	55 (2.8)
Acquired outside the U.S.	160 (8.1)
Imported status unknown	119 (6.1)
Outbreak Status*	**Number (Percent)**
Sporadic	1,795 (91.4)
Outbreak-associated	123 (6.3)
Outbreak status unknown	46 (2.3)

Reported Campylobacteriosis Cases by Month of Occurrence*, Case Classification, Outcome*, Sensitive Situation*, Imported Status* and Outbreak Status, 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 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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.

Carbon Monoxide Poisoning

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

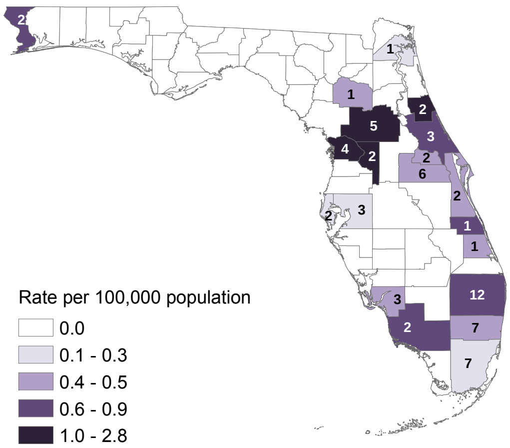
Reason for surveillance: Identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions, measure impact of public health interventions

Comments: CO poisoning became a reportable condition in Florida on November 24, 2008; therefore only cases from 2009 to 2012 are presented in this report. All laboratory results from people with volume fractions ≥9% of carboxyhemoglobin in blood are reportable in Florida.

Summary of Case Demographics

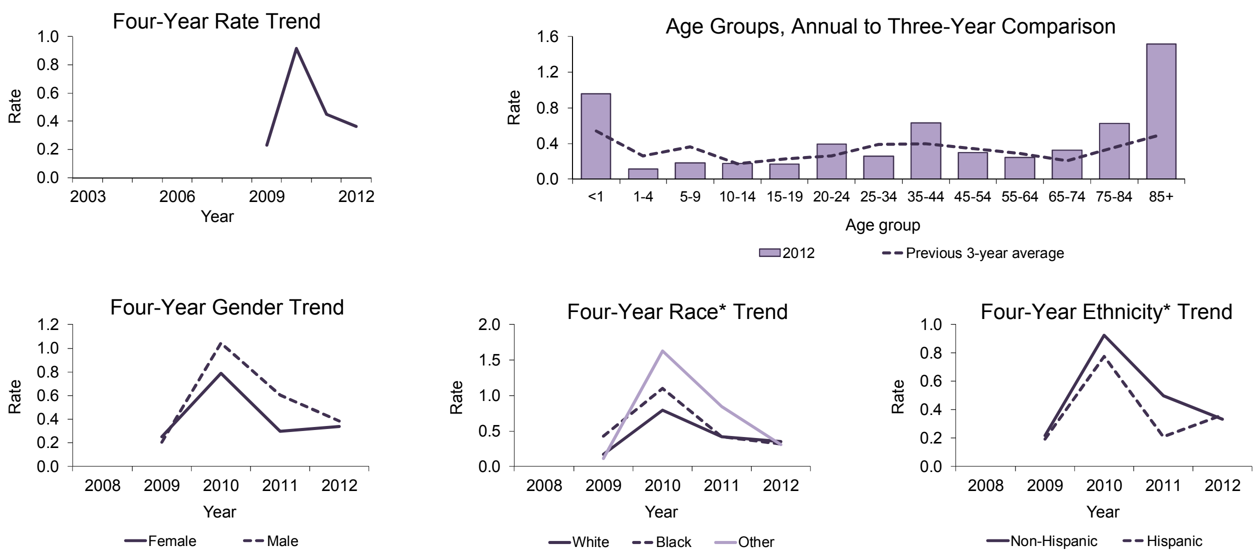
Summary		
Number of cases		69
Incidence rate (per 100,000 population)		0.4
Change from 3-year average incidence		-31.6%
Age (in years)		
Mean		48
Median		44
Min-max		0 - 93
Gender	Number (Percent)	Rate
Female	33 (47.8)	0.3
Male	36 (52.2)	0.4
Unknown gender	0	
Race	Number (Percent)	Rate
White	53 (80.3)	0.4
Black	10 (15.2)	NA
Other	3 (4.5)	NA
Unknown race	3	
Ethnicity	Number (Percent)	Rate
Non-Hispanic	49 (75.4)	0.3
Hispanic	16 (24.6)	NA
Unknown ethnicity	4	

Reported Carbon Monoxide Poisoning Cases and Incidence Rates per 100,000 Population for Only Exposures Occurring in Florida by County of Residence, Florida, 2012 (N=68)



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

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

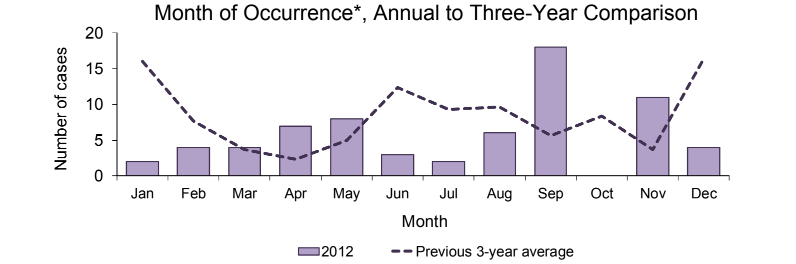


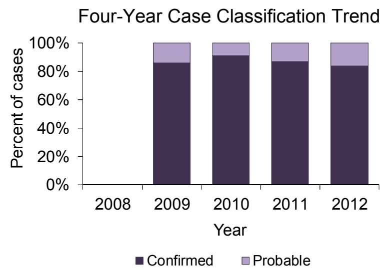
* Note that race and ethnicity trend graphs should be interpreted with caution. For carbon monoxide poisoning, the percent of cases with missing race by year was 7.0% in 2009, 2.9% in 2010, 2.4% in 2011 and 4.3% in 2012; missing ethnicity by year was 7.0% in 2009, 2.3% in 2010, 3.5% in 2011 and 5.8% in 2012.

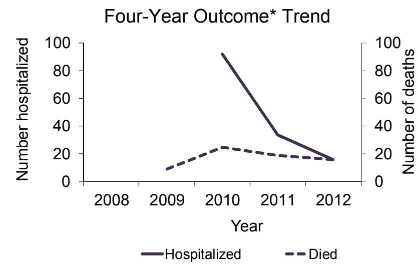
Summary of Case Factors

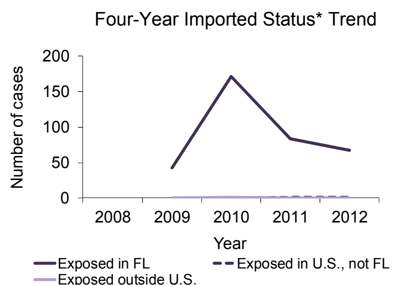
Summary	Number
Number of cases	69
Case Classification	**Number (Percent)**
Confirmed	58 (84.1)
Probable	11 (15.9)
Outcome*	**Number (Percent)**
Hospitalized	16 (23.2)
Died	16 (23.2)
Imported Status*	**Number (Percent)**
Exposed in Florida	68 (98.6)
Exposed in the U.S., not Florida	1 (1.4)
Exposed outside the U.S.	0 (0.0)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	34 (49.3)
Outbreak-associated	35 (50.7)
Outbreak status unknown	0 (0.0)
Exposure Type	**Number (Percent)**
Automobile	30 (43.5)
Generator	14 (20.3)
Fire	11 (15.9)
Fuel burning appliances	4 (5.8)
Other	4 (5.8)
Power tools	3 (4.3)
Grill/stove	1 (1.4)
Unknown	2 (2.9)

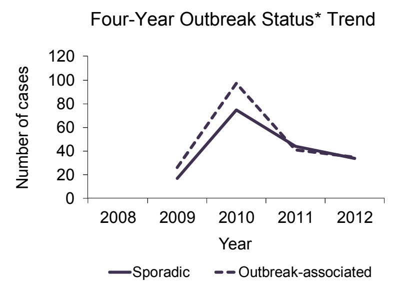
Reported Carbon Monoxide Poisoning Cases by Month of Occurrence*, Case Classification, Outcome*, Imported Status* and Outbreak Status, Florida











* 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 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the exposure most likely occurred. Outbreak-associated indicates that two or more cases are epidemiologically-linked.

Chlamydia

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

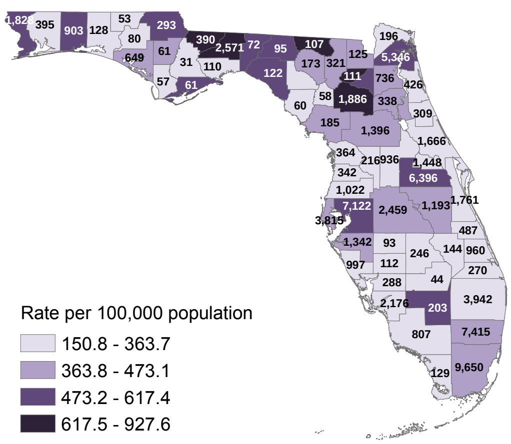
Reason for surveillance: Effective interventions implemented immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Comments: Chlamydia is the most common STD in Florida and the U.S. Incidence is highest among 15 to 24-year-old women, partly due to the existing screening policy to identify infection, which places stronger emphasis on screening/treating women. Severe complications can occur in women, including pelvic inflammatory disease, inability to get pregnant and ectopic pregnancies.

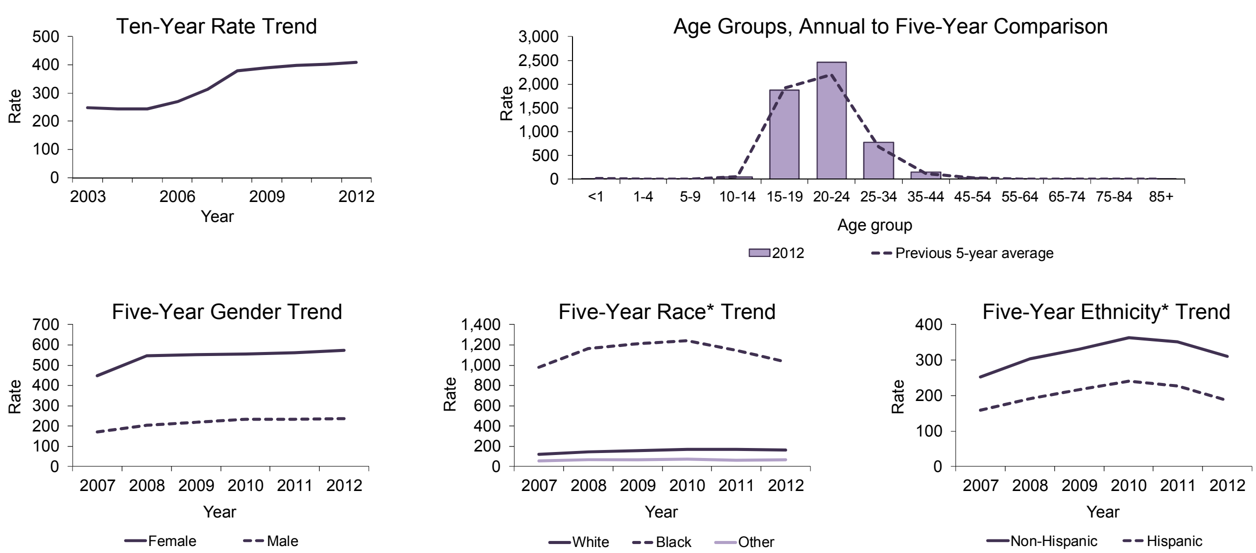
Summary of Case Demographics

Summary		
Number of cases		77,890
Incidence rate (per 100,000 population)		409.0
Change from 5-year average incidence		+8.7%
Age (in years)		
Mean		24
Median		21
Min-max		0 - 100
Gender	**Number (Percent)**	**Rate**
Female	55,806 (71.7)	573.4
Male	22,077 (28.3)	237.1
Unknown gender	7	
Race	**Number (Percent)**	**Rate**
White	24,499 (42.5)	164.1
Black	32,455 (56.3)	1,030.2
Other	673 (1.2)	70.0
Unknown race	20,263	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	45,340 (84.6)	309.9
Hispanic	8,238 (15.4)	186.7
Unknown ethnicity	24,312	

Reported Chlamydia Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=77,890)



Reported Chlamydia Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For chlamydia, the percent of cases with missing race by year was 19.0% in 2008, 16.0% in 2009, 14.0% in 2010, 19.0% in 2011 and 26.0% in 2012; missing ethnicity by year was 27.0% in 2008, 22.0% in 2009, 16.0% in 2010, 20.0% in 2011 and 31.0% in 2012.

Ciguatera Fish Poisoning

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

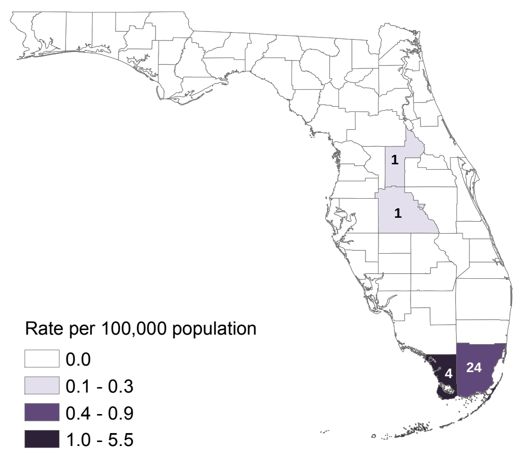
Reason for surveillance: Identify and control outbreaks, identify high-risk products (e.g., barracuda)

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, underreporting 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 grouper.

Summary of Case Demographics

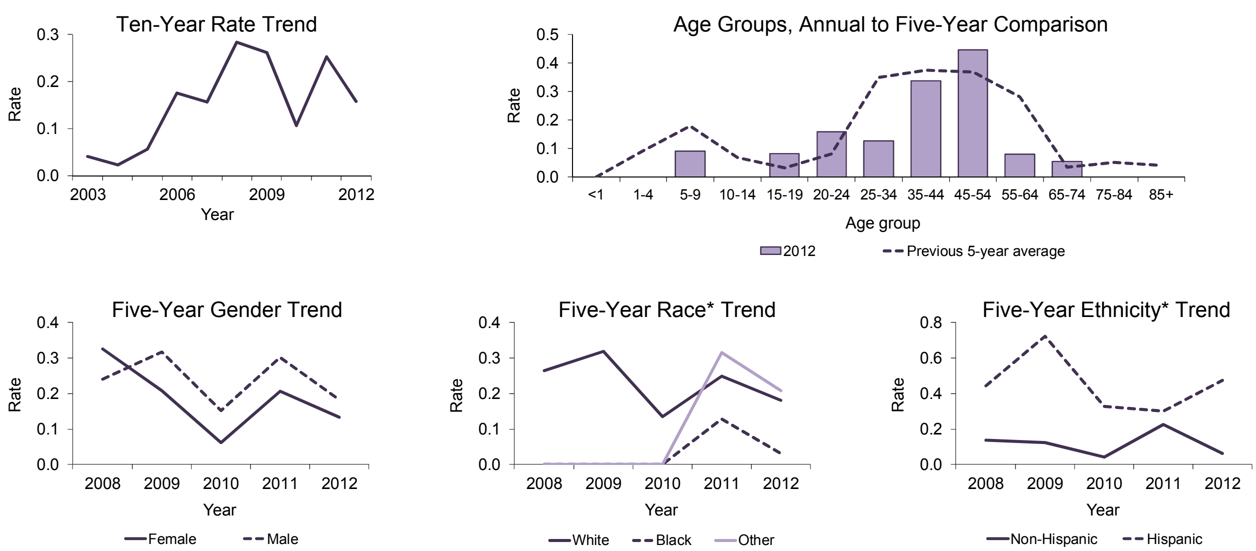
Summary		
Number of cases		30
Incidence rate (per 100,000 population)		0.2
Change from 5-year average incidence		-25.0%
Age (in years)		
Mean		41
Median		44
Min-max		9 - 70
Gender	**Number (Percent)**	**Rate**
Female	13 (43.3)	NA
Male	17 (56.7)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	27 (90.0)	0.2
Black	1 (3.3)	NA
Other	2 (6.7)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	9 (30.0)	NA
Hispanic	21 (70.0)	0.5
Unknown ethnicity	0	

Reported Ciguatera Fish Poisoning Cases and Incidence Rates per 100,000 Population for Only Exposures Occurring in Florida by County of Residence, Florida, 2012 (N=30)



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

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

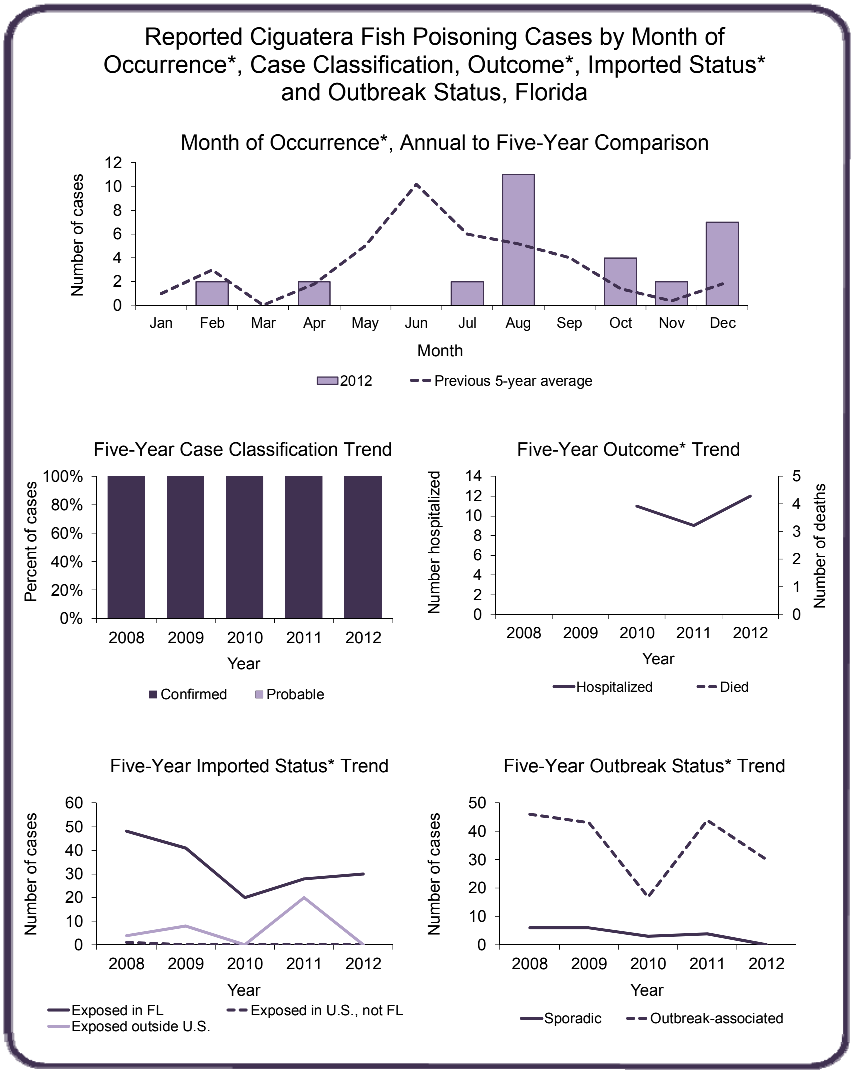


* Note that race and ethnicity trend graphs should be interpreted with caution. For ciguatera fish poisoning, the percent of cases with missing race by year was 26.4% in 2008, 4.1% in 2009, 0.0% in 2010, 8.3% in 2011 and 0.0% in 2012; missing ethnicity by year was 28.3% in 2008, 2.0% in 2009, 0.0% in 2010, 4.2% in 2011 and 0.0% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	30
Case Classification	**Number (Percent)**
Confirmed	30 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	12 (40.0)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Exposed in Florida	30 (100.0)
Exposed in the U.S., not Florida	0 (0.0)
Exposed outside the U.S.	0 (0.0)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	0 (0.0)
Outbreak-associated	30 (100.0)
Outbreak status unknown	0 (0.0)

Note that there is no probable case classification for ciguatera fish poisoning.



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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

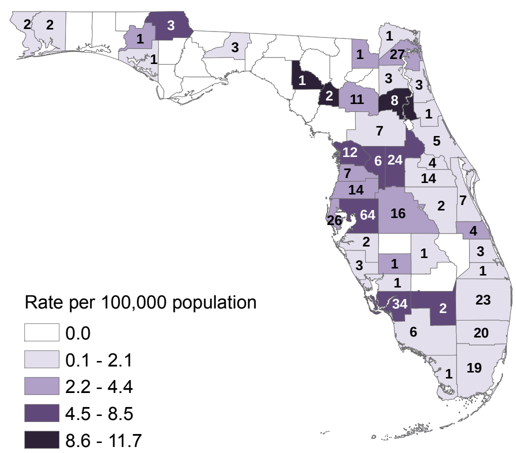
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Comments: Florida changed the cryptosporidiosis surveillance case definition in January 2011. Detection of *Cryptosporidium* antigen by EIA test was removed from the criteria to meet the confirmed case definition and is now used as criteria to meet the probable case definition instead, leading to more cases being classified as probable instead of confirmed.

Summary of Case Demographics

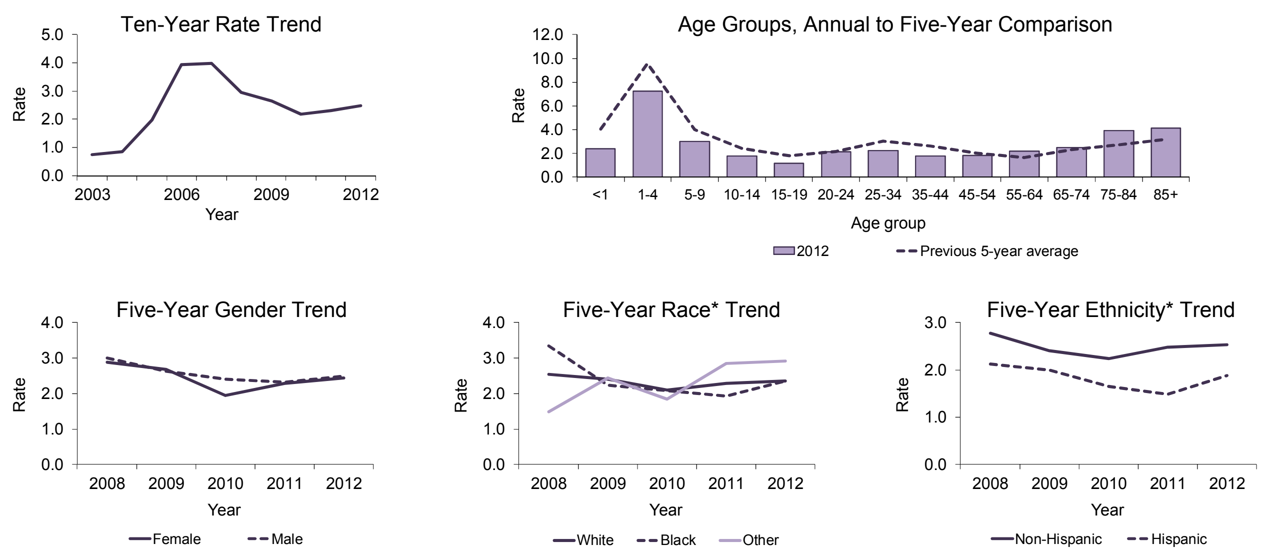
Summary		
Number of cases		470
Incidence rate (per 100,000 population)		2.5
Change from 5-year average incidence		-12.2%
Age (in years)		
Mean		40
Median		39
Min-max		0 - 93
Gender	**Number (Percent)**	**Rate**
Female	238 (50.6)	2.4
Male	232 (49.4)	2.5
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	352 (77.5)	2.4
Black	74 (16.3)	2.3
Other	28 (6.2)	2.9
Unknown race	16	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	371 (81.7)	2.5
Hispanic	83 (18.3)	1.9
Unknown ethnicity	16	

Reported Cryptosporidiosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=399)



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

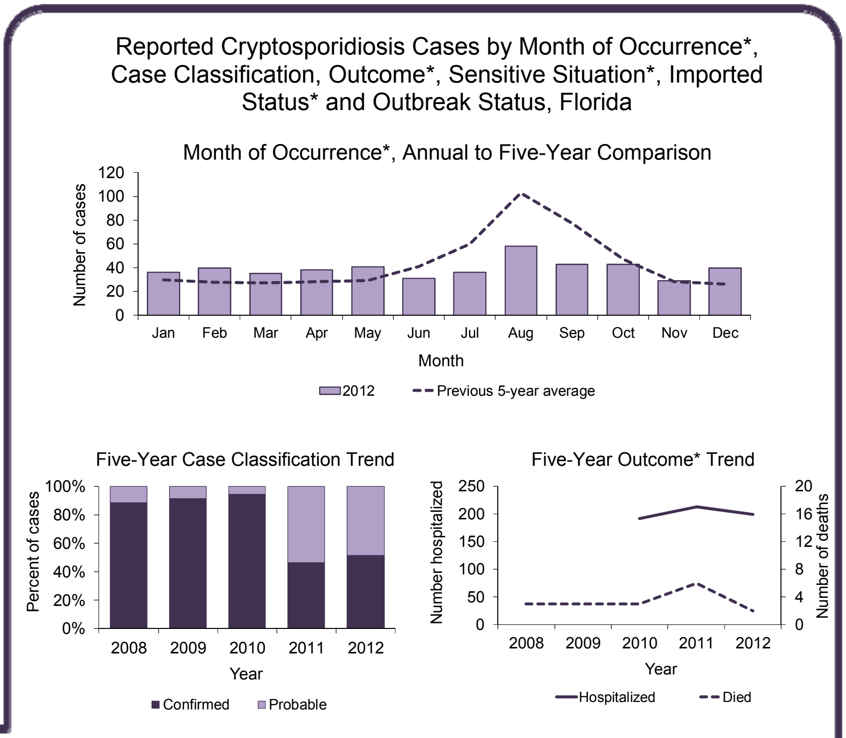
Reported Cryptosporidiosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

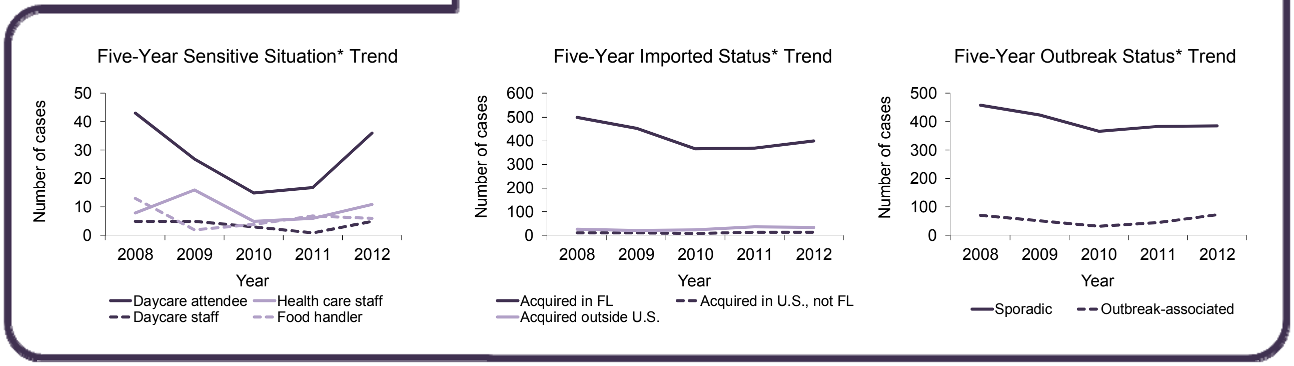


* Note that race and ethnicity trend graphs should be interpreted with caution. For cryptosporidiosis, the percent of cases with missing race by year was 10.9% in 2008, 10.3% in 2009, 3.9% in 2010, 2.3% in 2011 and 3.4% in 2012; missing ethnicity by year was 10.7% in 2008, 12.9% in 2009, 2.7% in 2010, 2.5% in 2011 and 3.4% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	470
Case Classification	**Number (Percent)**
Confirmed	243 (51.7)
Probable	227 (48.3)
Outcome*	**Number (Percent)**
Hospitalized	199 (42.3)
Died	2 (0.4)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	36 (7.7)
Daycare staff	5 (1.1)
Health care staff	11 (2.3)
Food handler	6 (1.3)
Imported Status*	**Number (Percent)**
Acquired in Florida	399 (84.9)
Acquired in the U.S., not Florida	15 (3.2)
Acquired outside the U.S.	34 (7.2)
Imported status unknown	22 (4.7)
Outbreak Status*	**Number (Percent)**
Sporadic	386 (82.1)
Outbreak-associated	74 (15.7)
Outbreak status unknown	10 (2.1)





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Cyclosporiasis

Disease Facts

Cause: *Cyclospora* parasites

Type of illness: Gastroenteritis (diarrhea, vomiting)

Transmission: Fecal-oral; waterborne and foodborne

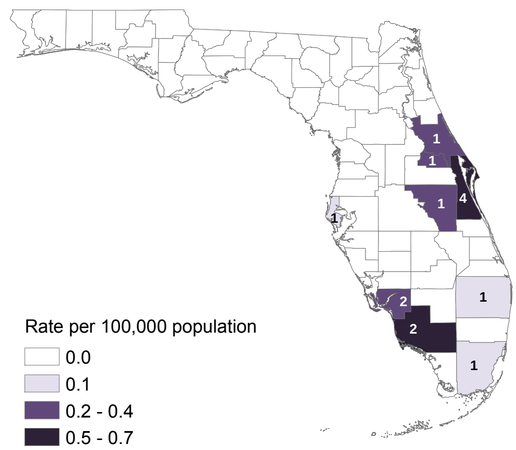
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness

Comments: Incidence has remained relatively stable in recent years. Large peaks in reported cases occur occasionally, and are predominantly caused by large state-wide or multi-state outbreaks. In 2005, a large outbreak due to basil imported from Peru resulted in 592 cases in Florida and other states (see the Summary of Notable Outbreaks and Case Investigations section of the *Florida Morbidity Statistics Report, 1997-2006* for additional information).

Summary of Case Demographics

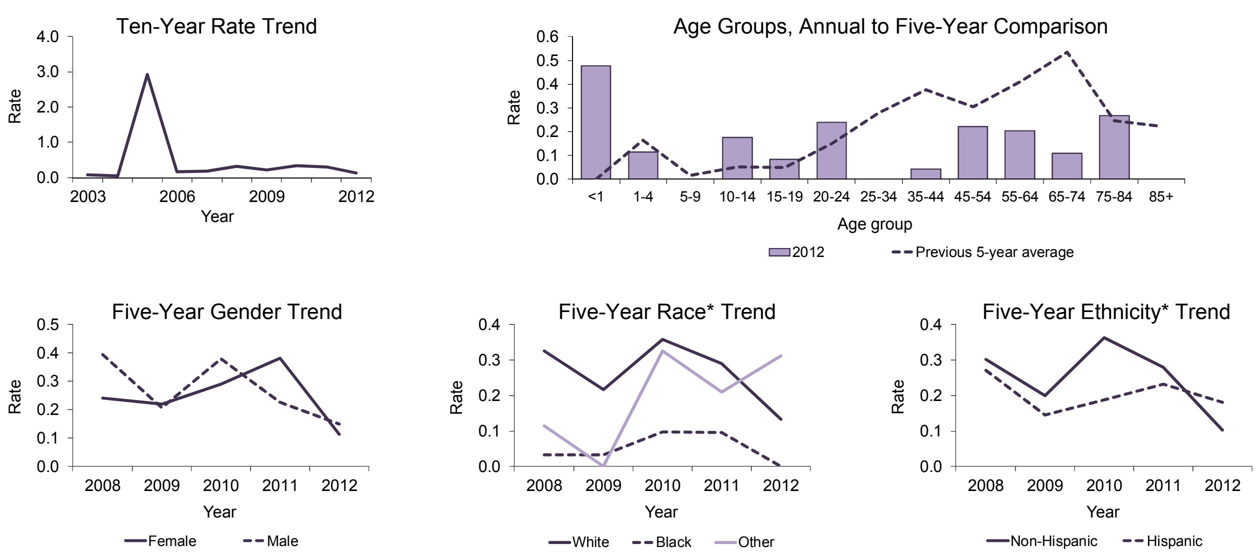
Summary		
Number of cases		25
Incidence rate (per 100,000 population)		0.1
Change from 5-year average incidence		-51.4%
Age (in years)		
Mean		45
Median		52
Min-max		0 - 79
Gender	**Number (Percent)**	**Rate**
Female	11 (44.0)	NA
Male	14 (56.0)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	20 (87.0)	0.1
Black	0 (0.0)	NA
Other	3 (13.0)	NA
Unknown race	2	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	15 (65.2)	NA
Hispanic	8 (34.8)	NA
Unknown ethnicity	2	

Reported Cyclosporiasis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=14)



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

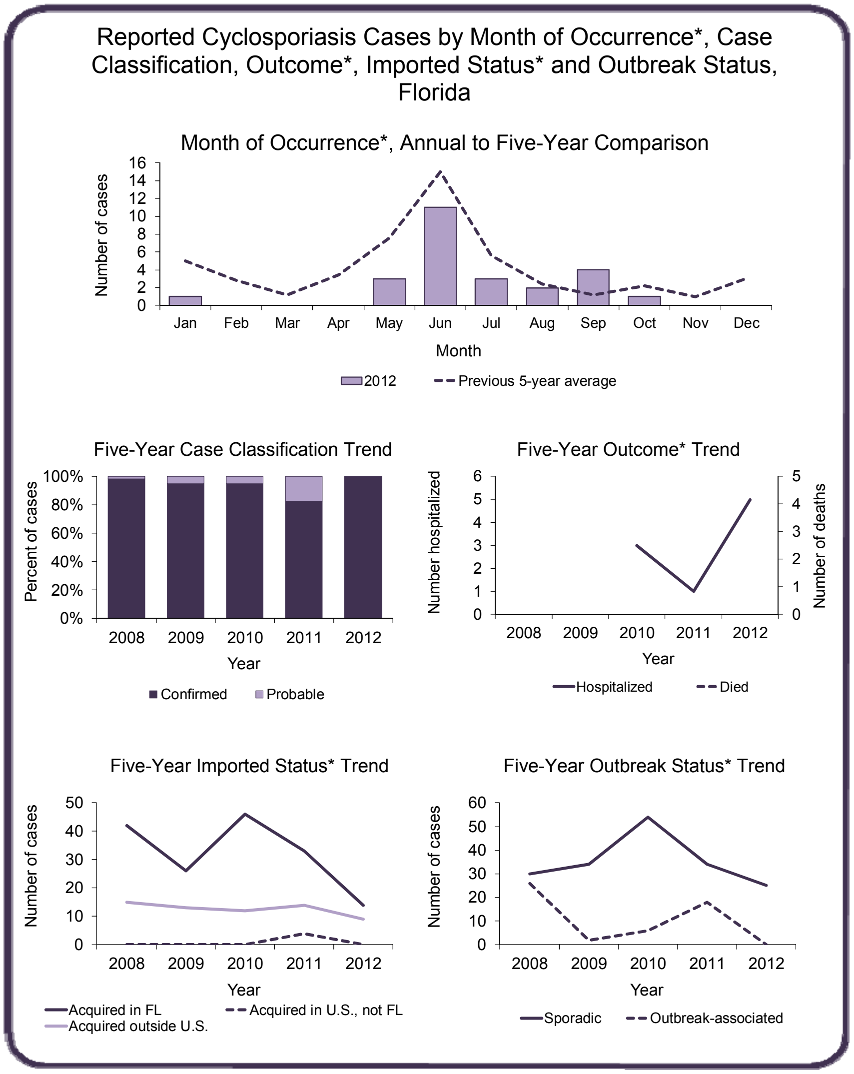
Reported Cyclosporiasis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For cyclosporiasis, the percent of cases with missing race by year was 15.3% in 2008, 17.5% in 2009, 6.3% in 2010, 17.2% in 2011 and 8.0% in 2012; missing ethnicity by year was 6.8% in 2008, 12.5% in 2009, 3.2% in 2010, 12.1% in 2011 and 8.0% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	25
Case Classification	Number (Percent)
Confirmed	25 (100.0)
Probable	0 (0.0)
Outcome*	Number (Percent)
Hospitalized	5 (20.0)
Died	0 (0.0)
Imported Status*	Number (Percent)
Acquired in Florida	14 (56.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	9 (36.0)
Imported status unknown	2 (8.0)
Outbreak Status*	Number (Percent)
Sporadic	25 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)



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Dengue Fever

Disease Facts

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

Type of illness: Acute febrile illness, symptoms include headache, joint pain, muscle aches, rash and eye pain; warning signs for more severe disease (hemorrhagic fever or dengue shock syndrome) include severe abdominal pain, vomiting and mucosal bleeding

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

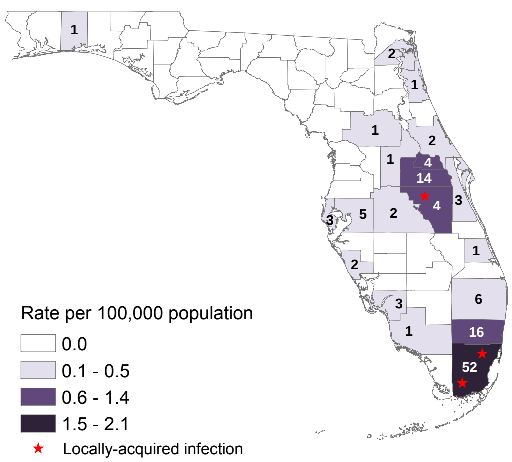
Reason for surveillance: Identify individual cases and implement control measures to prevent endemicity, monitor incidence over time, estimate burden of illness

Comments: An outbreak of locally-acquired dengue fever occurred in Key West in 2009 and 2010. Isolated cases of locally-acquired dengue fever were also identified in 2011 and 2012; three dengue fever cases were acquired in Florida in 2012 (two in Miami-Dade County and one in Osceola County).

Summary of Case Demographics

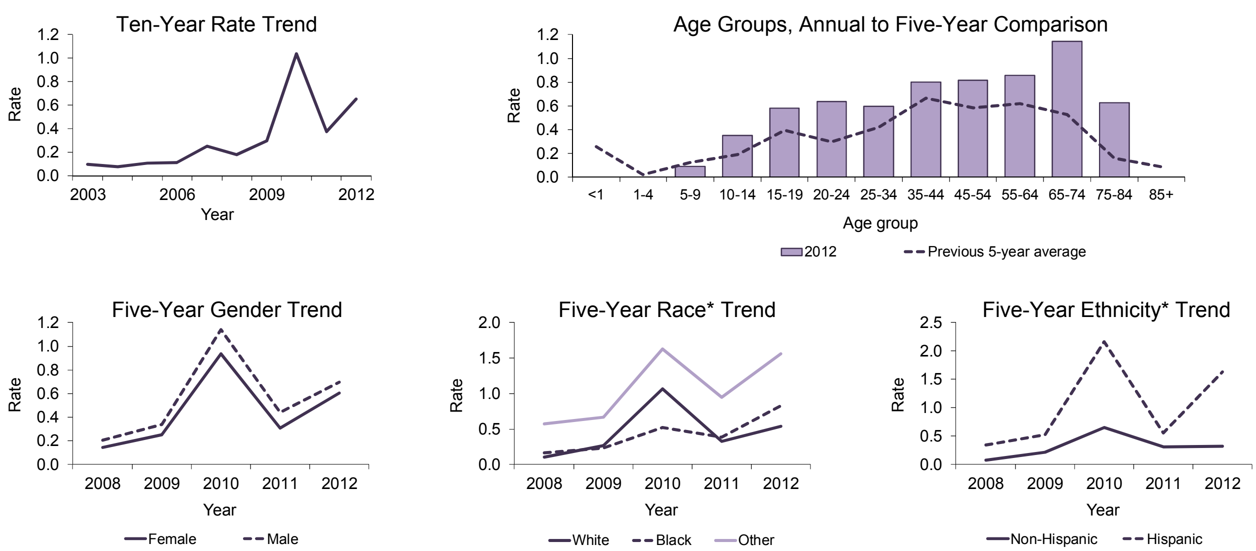
Summary		
Number of cases		124
Incidence rate (per 100,000 population)		0.7
Change from 5-year average incidence		+51.4%
Age (in years)		
Mean		47
Median		48
Min-max		7 - 83
Gender	**Number (Percent)**	**Rate**
Female	59 (47.6)	0.6
Male	65 (52.4)	0.7
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	81 (66.4)	0.5
Black	26 (21.3)	0.8
Other	15 (12.3)	NA
Unknown race	2	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	48 (40.0)	0.3
Hispanic	72 (60.0)	1.6
Unknown ethnicity	4	

Reported Dengue Fever Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=124)



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

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

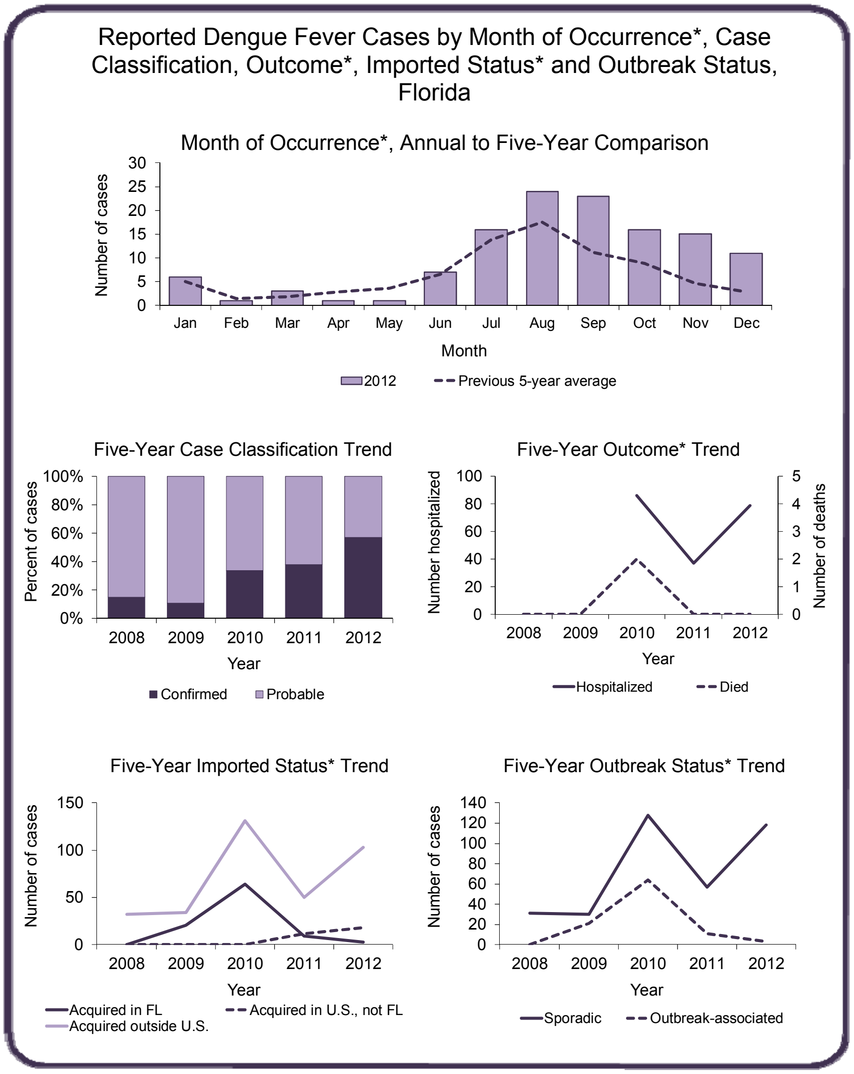


* Note that race and ethnicity trend graphs should be interpreted with caution. For dengue fever, the percent of cases with missing race by year was 21.2% in 2008, 5.5% in 2009, 3.1% in 2010, 2.8% in 2011 and 1.6% in 2012; missing ethnicity by year was 21.2% in 2008, 1.8% in 2009, 4.1% in 2010, 2.8% in 2011 and 3.2% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	124
Case Classification	**Number (Percent)**
Confirmed	71 (57.3)
Probable	53 (42.7)
Outcome*	**Number (Percent)**
Hospitalized	79 (63.7)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	3 (2.4)
Acquired in the U.S., not Florida	18 (14.5)
Acquired outside the U.S.	103 (83.1)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	118 (95.2)
Outbreak-associated	3 (2.4)
Outbreak status unknown	3 (2.4)
Type of Disease	**Number (Percent)**
Dengue fever	123 (99.2)
Dengue hemorrhagic fever	1 (0.8)
Region where Infection Acquired	**Number (Percent)**
Florida	3 (2.4)
Puerto Rico (considered U.S.)	17 (13.7)
Virigin Islands (considered U.S.)	1 (0.8)
Central America/Caribbean	92 (74.2)
Asia	5 (4.0)
South America	4 (3.2)
Africa	1 (0.8)
Europe	1 (0.8)

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 the case's county of residence.



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Ehrlichiosis/Anaplasmosis

Disease Facts

Cause: *Ehrlichia chaffeensis*, *Ehrlichia ewingii* and *Anaplasma phagocytophilum* bacteria

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

Transmission: Tick-borne; bite of infective tick

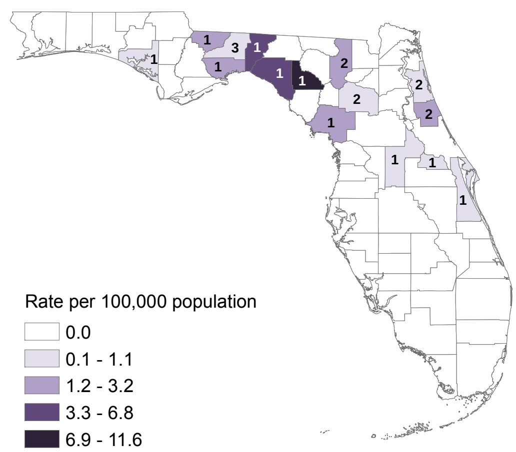
Reason for surveillance: Monitor incidence over time, estimate burden of illness, understand epidemiology of each species, target areas of high incidence for prevention education

Comments: More ehrlichiosis cases were reported in 2012 than any previous year. There is no standardized surveillance program for identifying disease in tick populations in Florida, making it difficult to ascertain why case numbers fluctuate from year to year. Most of the infections were acquired in Florida, particularly in the north central part of the state. Though transmission peaks in the spring, cases are reported year round in Florida.

Summary of Case Demographics

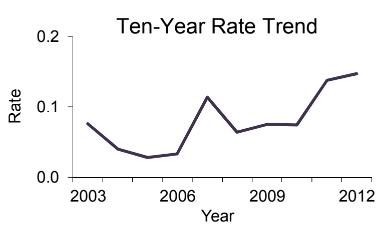
Summary		
Number of cases		28
Incidence rate (per 100,000 population)		0.1
Change from 5-year average incidence		+63.4%
Age (in years)		
Mean		59
Median		64
Min-max		7 - 86
Gender	**Number (Percent)**	**Rate**
Female	12 (42.9)	NA
Male	16 (57.1)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	26 (92.9)	0.2
Black	1 (3.6)	NA
Other	1 (3.6)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	26 (96.3)	0.2
Hispanic	1 (3.7)	NA
Unknown ethnicity	1	

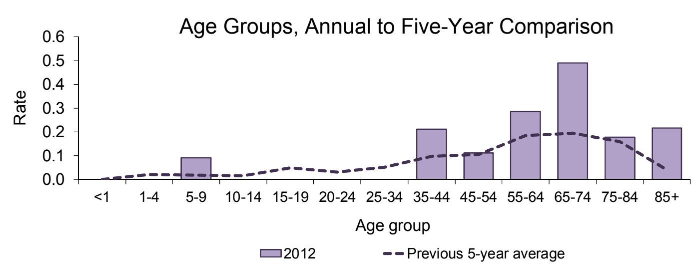
Reported Ehrlichiosis/Anaplasmosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=21)

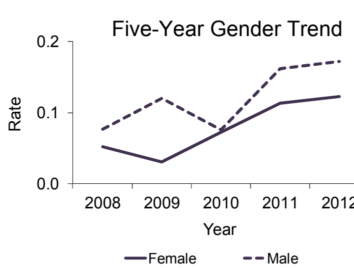


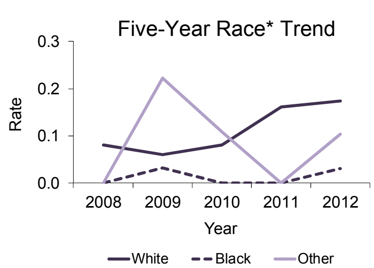
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

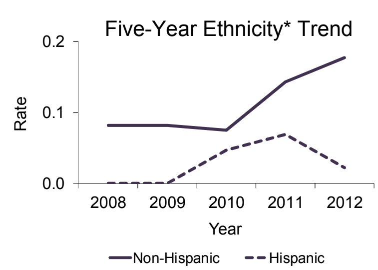
Reported Ehrlichiosis/Anaplasmosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida







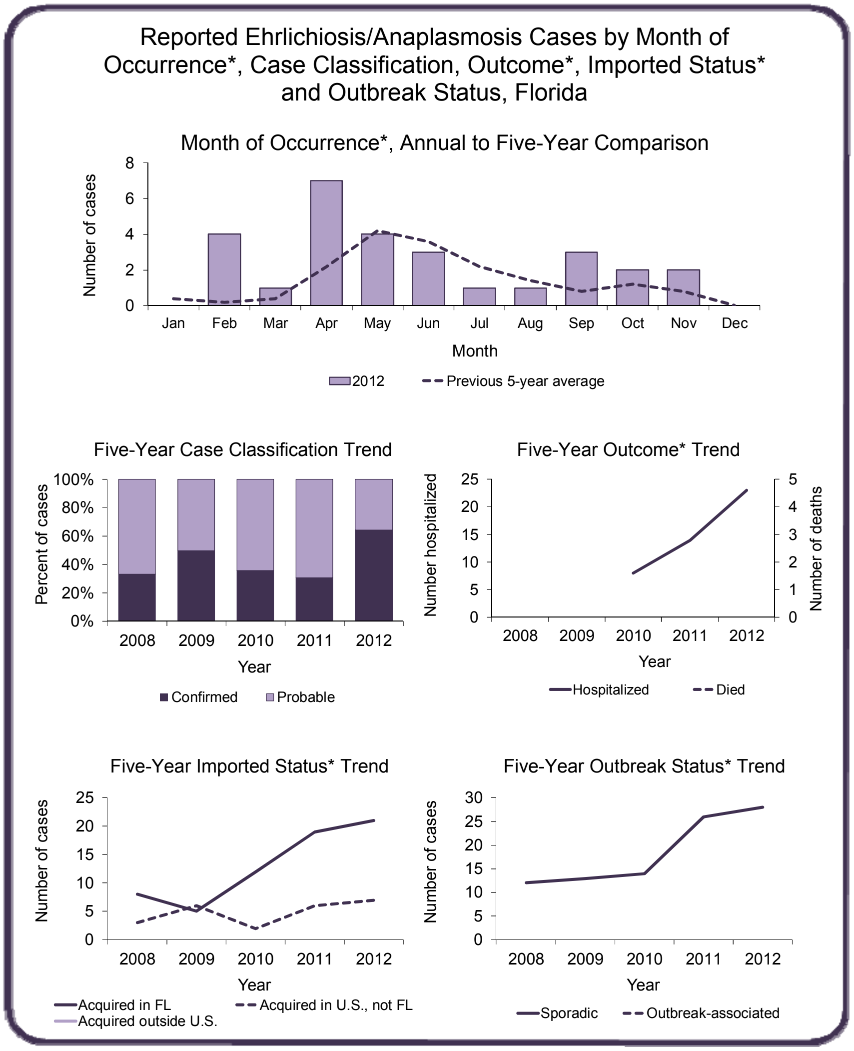




* Note that race and ethnicity trend graphs should be interpreted with caution. For ehrlichiosis/anaplasmosis, the percent of cases with missing race by year was 0.0% in 2008, 14.3% in 2009, 7.1% in 2010, 7.7% in 2011 and 0.0% in 2012; missing ethnicity by year was 0.0% in 2008, 14.3% in 2009, 7.1% in 2010, 7.7% in 2011 and 3.6% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	28
Case Classification	Number (Percent)
Confirmed	18 (64.3)
Probable	10 (35.7)
Outcome*	Number (Percent)
Hospitalized	23 (82.1)
Died	0 (0.0)
Imported Status*	Number (Percent)
Acquired in Florida	21 (75.0)
Acquired in the U.S., not Florida	7 (25.0)
Acquired outside the U.S.	0 (0.0)
Imported status unknown	0 (0.0)
Outbreak Status*	Number (Percent)
Sporadic	28 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)
Type of Infection	Number (Percent)
E. chaffeensis (HME)	23 (82.1)
A. phagocytophilum (HGA)	5 (17.9)
E. ewingii	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 the case's county of residence.

Human illness caused by *Ehrlichia chaffeensis* is referred to as human monocytic ehrlichiosis (HME). It is transmitted by the lone star tick (*Amblyomma americanum*), which is one of the most commonly encountered ticks in the southeastern U.S. Human ewingii ehrlichiosis cases, caused by *Ehrlichia ewingii* transmitted by the lone star tick, present with similar symptoms of HME and are indistinguishable from *E. chaffeensis* by serologic testing. Some cases classified as HME may actually be due to *E. ewingii*. *E. ewingii* has most frequently been identified in immunocompromised patients. Anaplasmosis is a tick-borne bacterial disease caused by *Anaplasma phagocytophilum*. It was previously known as human granulocytotropic ehrlichiosis (HGE) and thought to be caused by another species of *Ehrlichia*, but was later renamed human granulocytotropic anaplasmosis (HGA) when the bacterium classification changed from *Ehrlichia* to *Anaplasma*. HGA is transmitted by *Ixodes* species ticks, such as *Ixodes scapularis*, the black-legged tick that transmits Lyme disease. Unlike HME, most HGA cases reported in Florida are due to infections acquired in the Northeastern and Midwestern U.S.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Giardiasis

Disease Facts

Cause: *Giardia* parasites

Type of illness: Gastroenteritis (diarrhea, vomiting)

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

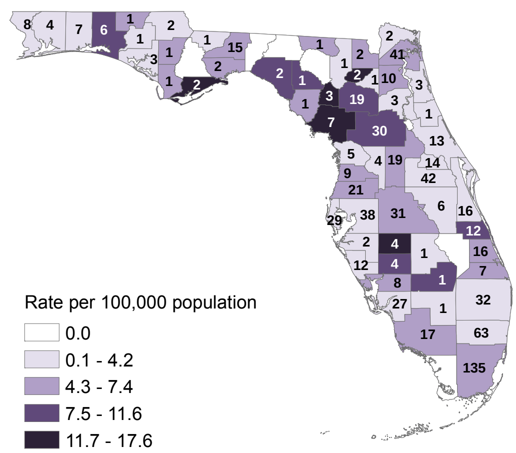
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food/water source, ill food handler), monitor incidence over time, estimate burden of illness

Comments: From August 2008 to January 2011, laboratory-confirmed cases no longer had to be symptomatic to meet the confirmed case definition. In January 2011, the giardiasis surveillance case definition reverted back to requiring a case to be symptomatic to meet the confirmed case definition. The changes in case definition resulted in an increase in reported cases in 2009 and 2010.

Summary of Case Demographics

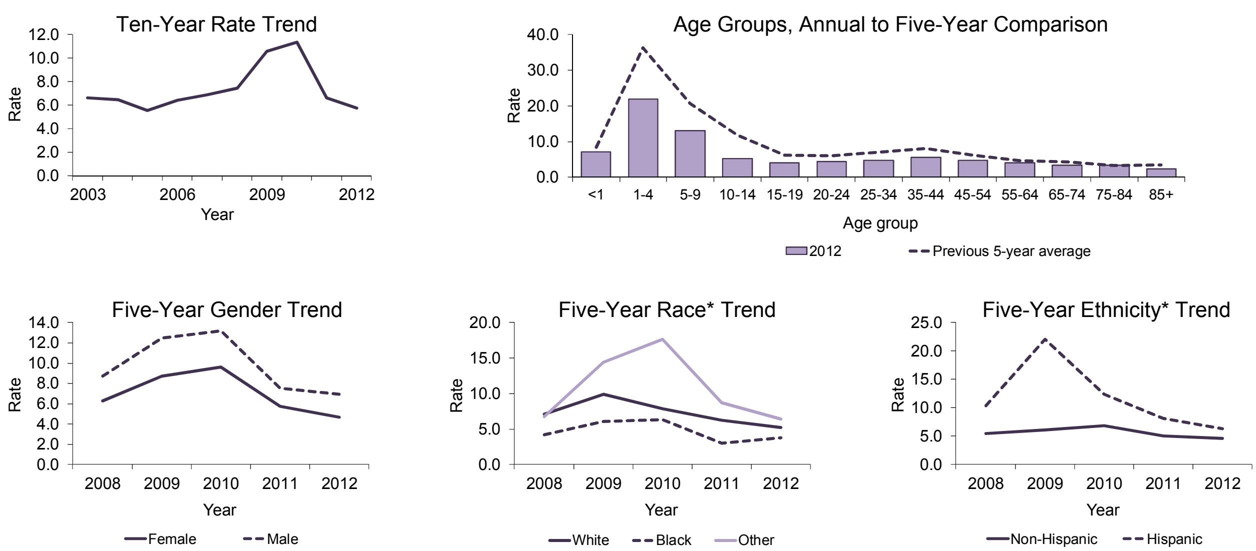
Summary		
Number of cases		1,095
Incidence rate (per 100,000 population)		5.8
Change from 5-year average incidence		-33.0%
Age (in years)		
Mean		30
Median		27
Min-max		0 - 94
Gender	**Number (Percent)**	**Rate**
Female	452 (41.3)	4.6
Male	643 (58.7)	6.9
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	780 (81.3)	5.2
Black	118 (12.3)	3.7
Other	62 (6.5)	6.5
Unknown race	135	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	673 (70.7)	4.6
Hispanic	279 (29.3)	6.3
Unknown ethnicity	143	

Reported Giardiasis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=773)



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

Reported Giardiasis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

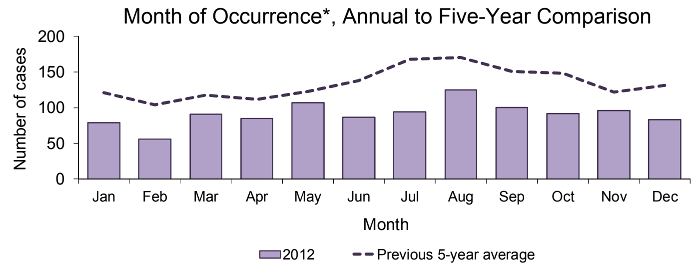


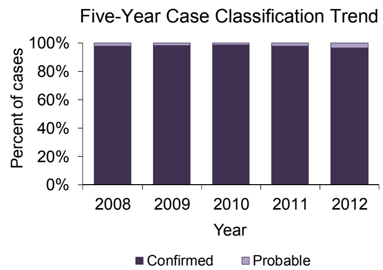
* Note that race and ethnicity trend graphs should be interpreted with caution. For giardiasis, the percent of cases with missing race by year was 11.6% in 2008, 10.4% in 2009, 28.7% in 2010, 12.3% in 2011 and 12.3% in 2012; missing ethnicity by year was 12.5% in 2008, 9.3% in 2009, 28.7% in 2010, 13.1% in 2011 and 13.1% in 2012.

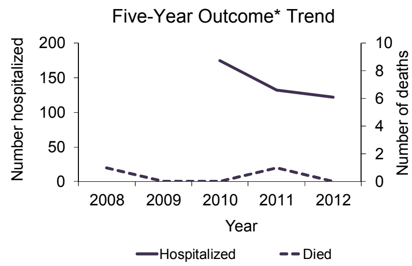
Summary of Case Factors

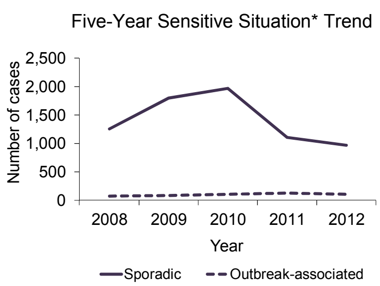
Summary	Number
Number of cases	1,095
Case Classification	**Number (Percent)**
Confirmed	1,058 (96.6)
Probable	37 (3.4)
Outcome*	**Number (Percent)**
Hospitalized	122 (11.1)
Died	0 (0.0)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	80 (7.3)
Daycare staff	8 (0.7)
Health care staff	19 (1.7)
Food handler	8 (0.7)
Imported Status*	**Number (Percent)**
Acquired in Florida	773 (70.6)
Acquired in the U.S., not Florida	31 (2.8)
Acquired outside the U.S.	232 (21.2)
Imported status unknown	59 (5.4)
Outbreak Status*	**Number (Percent)**
Sporadic	970 (88.6)
Outbreak-associated	108 (9.9)
Outbreak status unknown	17 (1.6)

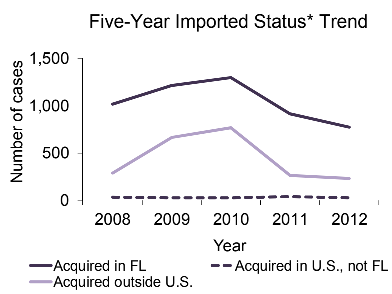
Reported Giardiasis Cases by Month of Occurrence*, Case Classification, Outcome*, Sensitive Situation*, Imported Status* and Outbreak Status, Florida

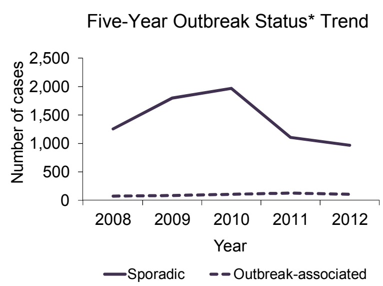












* Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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

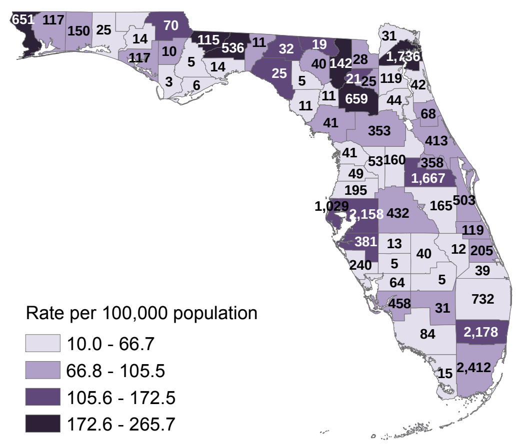
Reason for surveillance: Effective interventions implemented immediately for every case, monitor incidence over time, estimate burden of illness, evaluate treatment and prevention programs

Comments: Incidence is highest among 20 to 24-year-olds, followed closely by 15 to 19-year-olds. The number of cases and rate of gonorrhea have declined nationally and in Florida in the past five years. A shift in treatment guidelines and recommendations for screening of women under the age of 25 likely contributed to the decrease in cases.

Summary of Case Demographics

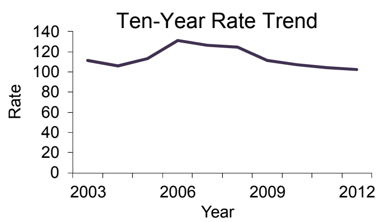
Summary		
Number of cases		19,554
Incidence rate (per 100,000 population)		102.7
Change from 5-year average incidence		-10.6%
Age (in years)		
Mean		27
Median		24
Min-max		1 - 87
Gender	**Number (Percent)**	**Rate**
Female	9,613 (49.2)	98.8
Male	9,941 (50.8)	106.8
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	5,523 (31.8)	37.0
Black	11,689 (67.4)	371.0
Other	131 (0.8)	13.6
Unknown race	2,211	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	13,690 (88.6)	93.6
Hispanic	1,760 (11.4)	39.9
Unknown ethnicity	4,104	

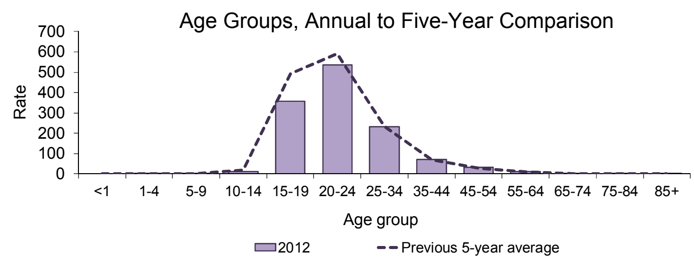
Reported Gonorrhea Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=19,554)

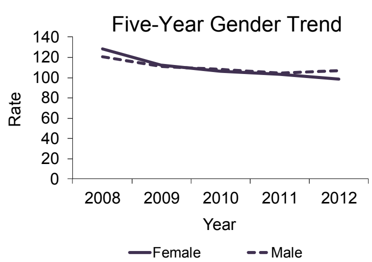


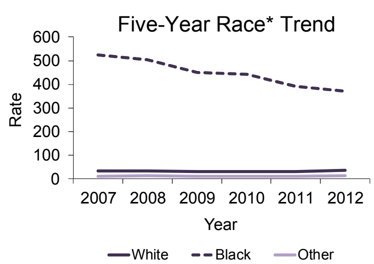
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

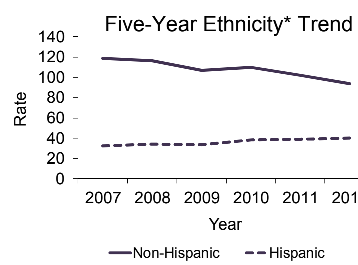
Reported Gonorrhea Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida











* Note that race and ethnicity trend graphs should be interpreted with caution. For gonorrhea, the percent of cases with missing race by year was 12.0% in 2008, 12.0% in 2009, 9.0% in 2010, 13.0% in 2011 and 11.0% in 2012; missing ethnicity by year was 21.0% in 2008, 19.0% in 2009, 13.0% in 2010, 16.0% in 2011 and 21.0% in 2012.

H. 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, 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

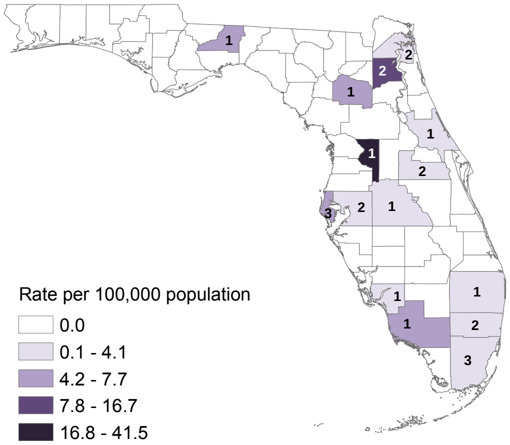
Reason for surveillance: Identify and control outbreaks, monitor incidence over time, monitor effectiveness of immunization programs and vaccines

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. Three Hib cases were reported in 2012, compared to zero cases in 2011 and four cases in 2010.

Summary of Case Demographics

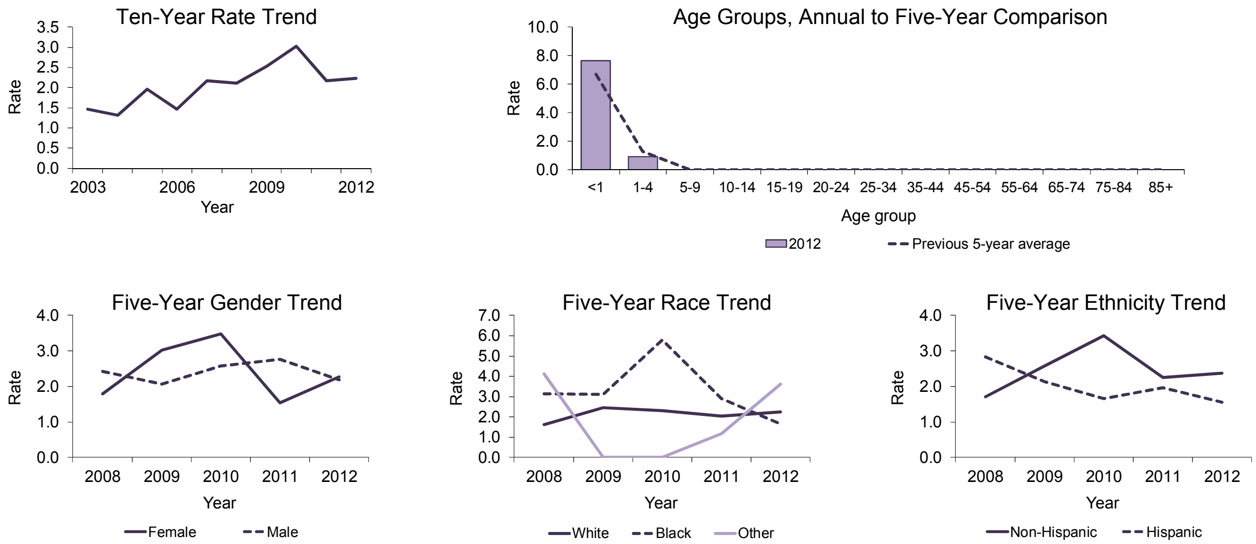
Summary		
Number of cases		24
Incidence rate (per 100,000 population)		2.2
Change from 5-year average incidence		-7.2%
Age (in years)		
Mean		1
Median		<1
Min-max		0 - 3
Gender	**Number (Percent)**	**Rate**
Female	12 (50.0)	NA
Male	12 (50.0)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	17 (70.8)	NA
Black	4 (16.7)	NA
Other	3 (12.5)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	18 (78.3)	NA
Hispanic	5 (21.7)	NA
Unknown ethnicity	1	

Reported *H. influenzae*, Invasive Disease Cases in Children <5 Years Old and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=24)



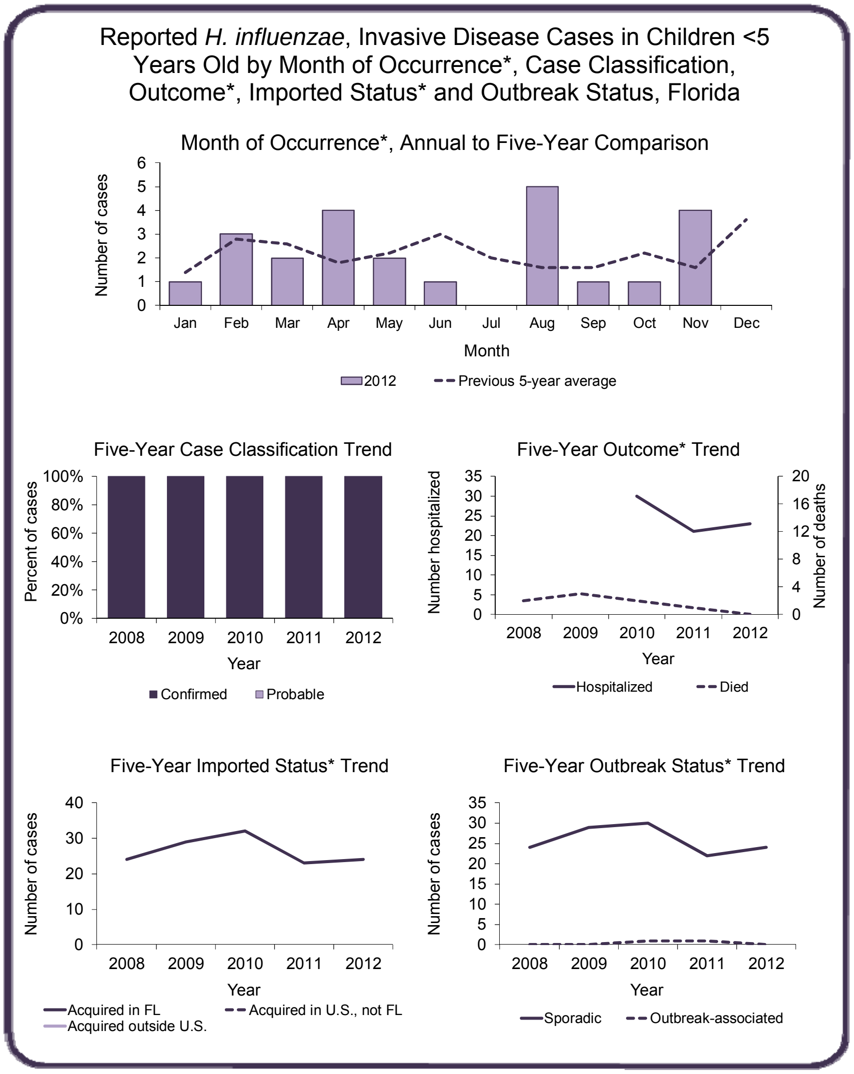
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

Reported *H. influenzae*, Invasive Disease Cases in Children <5 Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Summary of Case Factors

Summary	Number
Number of cases	24
Case Classification	**Number (Percent)**
Confirmed	24 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	23 (95.8)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	24 (100.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	24 (100.0)
Outbreak-associated	0 (0.0)
Outbreak status unknown	0 (0.0)



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

HIV Infection

Disease Facts

Cause: HIV virus

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) or from mother to child during pregnancy, delivery, or breast-feeding

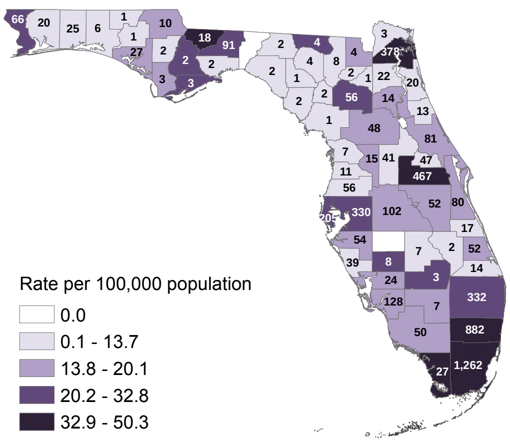
Reason for surveillance: Enhance efforts to prevent HIV transmission, improve allocation of resources for treatment services, and assist in evaluating the impact of public health interventions

Comments: Enhanced reporting laws in 2006 and expansion of electronic laboratory reporting in 2007 led to an artificial peak in newly diagnosed HIV infections in 2007 and an increase in reported HIV infection cases in 2008, followed by decreases in 2009 and 2010. New HIV infection cases began to rise in 2011 and continued to increase in 2012.

Summary of Case Demographics

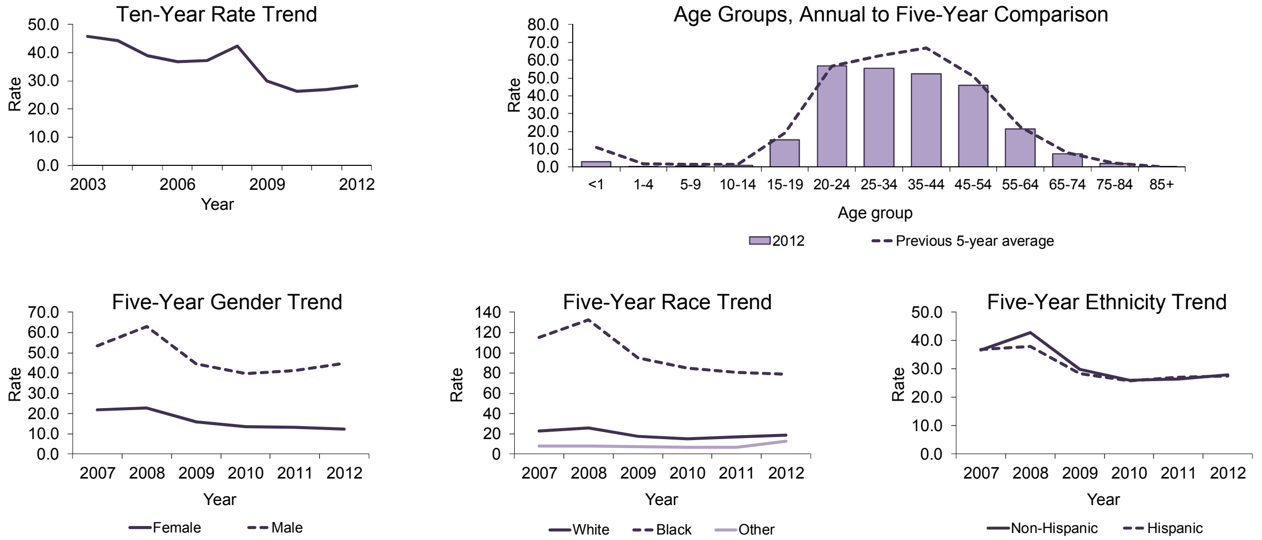
Summary		
Number of cases		5,388
Incidence rate (per 100,000 population)		28.3
Change from 5-year average incidence		-13.0%
Age (in years)		
Mean		39
Median		39
Min-max		0 - 85
Gender	**Number (Percent)**	**Rate**
Female	1,208 (22.4)	12.4
Male	4,180 (77.6)	44.9
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	2,753 (51.3)	18.4
Black	2,488 (46.4)	79.0
Other	125 (2.3)	13.0
Unknown race	22	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	4,093 (77.2)	28.0
Hispanic	1,211 (22.8)	27.4
Unknown ethnicity	84	

Reported HIV Infection Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=5,266)



County totals exclude cases identified while incarcerated (n=122). Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

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



Additional Information

Table 1: Reported Adult (13 Years and Older) HIV Infection Cases by Gender and Mode of Exposure, Florida, 2012

Mode of exposure	Female cases (n=1,200) Number (percent)	Male cases (n=4,168) Number (percent)
Men who have sex with men (MSM)	NA	3,110 (74.6)
Heterosexual	1,089 (90.8)	804 (19.3)
Injection drug user (IDU)	100 (8.3)	156 (3.7)
MSM and IDU	NA	93 (2.2)
Other	11 (0.9)	5 (0.1)
Total	1,200	4,168

Figure 1: Reported Adult (13 Years and Older) HIV Infection Cases by Gender and Race/Ethnicity, Florida 2012

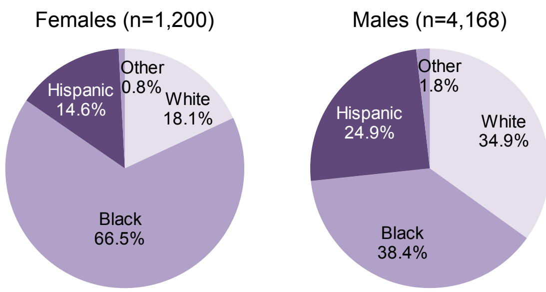
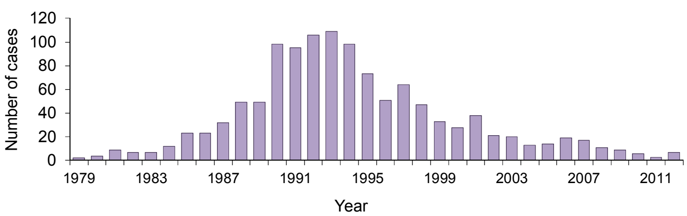


Figure 2: Reported Perinatal HIV Infection Cases by Year of Birth, Florida, 1979-2012



HIV infection cases tend to represent a more current picture of the AIDS epidemic. For HIV infection cases in men reported in 2012, male-to-male sexual contact (MSM) was the most common risk factor (74.6%), followed by cases involving heterosexual risk (19.3%) (Table 1).

In 2012, HIV infection cases by race and ethnicity are more evenly distributed among men compared to women; 66.5% of infected adult women are black (Figure 1).

From 1979 to 2012, 1,197 perinatally-infected babies were born in Florida (Figure 2). The birth of HIV-infected babies rose from 1979 through 1993. In April 1994, the U.S. Public Health Service released guidelines for zidovudine (ZDV) also known as azidothymidine (AZT), used 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 pregnancy. 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 been accompanied by a decrease in the number of perinatally HIV-infected infants and is responsible for the 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 (TOPWA) 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 93.6% decline in perinatally-infected births in Florida from 109 cases in 1993 to 7 cases in 2012 (note that one of the seven cases born in 2012 was not recognized until 2013 and is not included in other HIV infection case counts in this report).

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

Please visit the Bureau of Communicable Diseases' webpage to access additional information at http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/index.html.

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

Hepatitis A

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; person-to-person

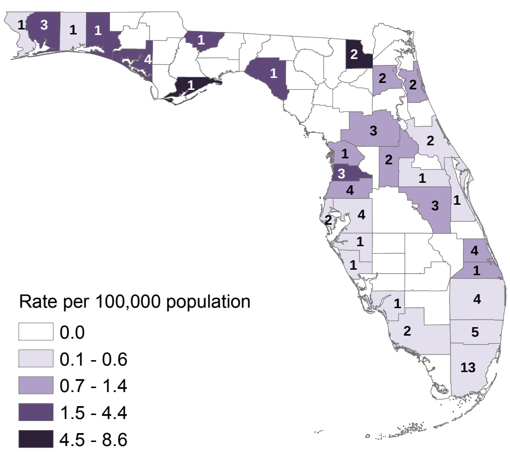
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor effectiveness of immunization programs

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 (31.4% in 2012).

Summary of Case Demographics

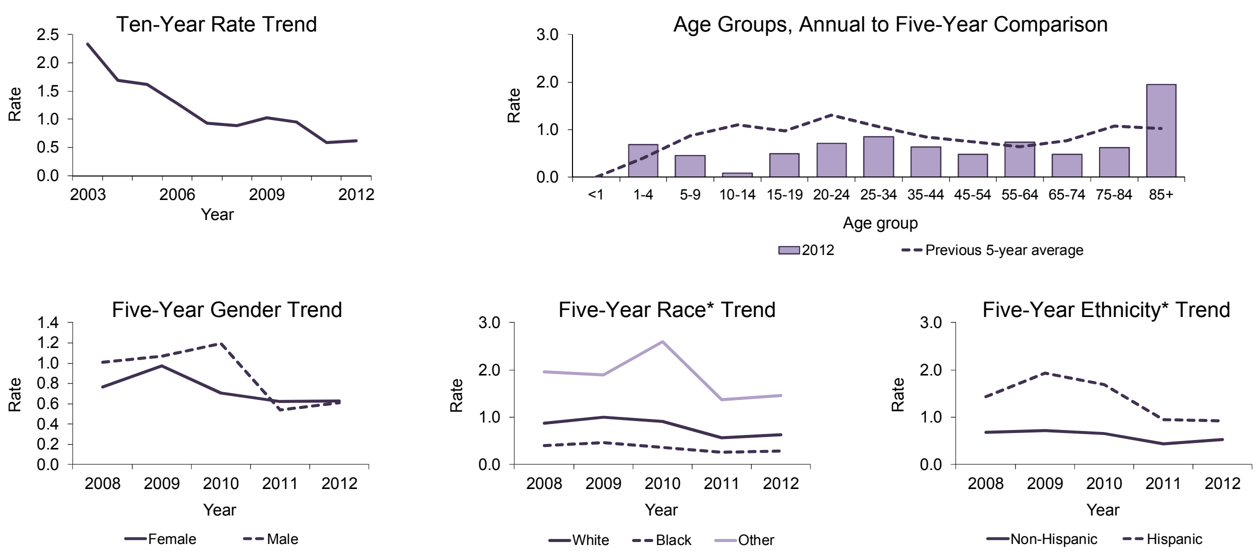
Summary		
Number of cases		118
Incidence rate (per 100,000 population)		0.6
Change from 5-year average incidence		-28.8%
Age (in years)		
Mean		45
Median		44
Min-max		3 - 95
Gender	**Number (Percent)**	**Rate**
Female	61 (51.7)	0.6
Male	57 (48.3)	0.6
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	95 (80.5)	0.6
Black	9 (7.6)	NA
Other	14 (11.9)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	77 (65.3)	0.5
Hispanic	41 (34.7)	0.9
Unknown ethnicity	0	

Reported Hepatitis A Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=77)



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

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

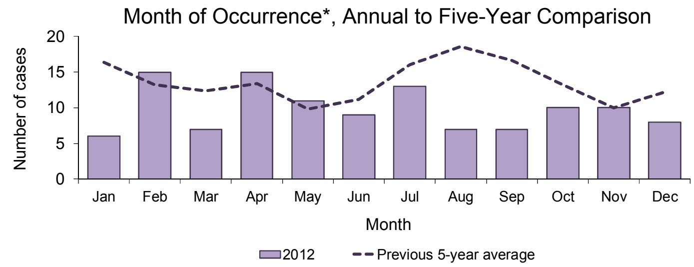


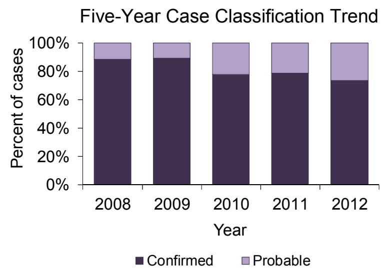
* Note that race and ethnicity trend graphs should be interpreted with caution. For hepatitis A, the percent of cases with missing race by year was 4.8% in 2008, 6.3% in 2009, 4.5% in 2010, 3.6% in 2011 and 0.0% in 2012; missing ethnicity by year was 4.8% in 2008, 3.7% in 2009, 5.6% in 2010, 3.6% in 2011 and 0.0% in 2012.

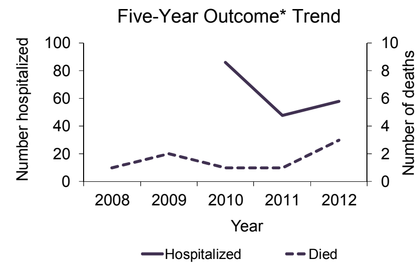
Summary of Case Factors

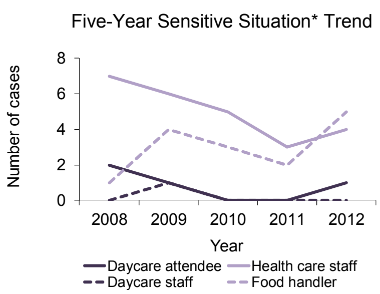
Summary	Number
Number of cases	118
Case Classification	Number (Percent)
Confirmed	87 (73.7)
Probable	31 (26.3)
Outcome*	Number (Percent)
Hospitalized	58 (49.2)
Died	3 (2.5)
Sensitive Situation*	Number (Percent)
Daycare attendee	1 (0.8)
Daycare staff	0 (0.0)
Health care staff	4 (3.4)
Food handler	5 (4.2)
Imported Status*	Number (Percent)
Acquired in Florida	77 (65.3)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	37 (31.4)
Imported status unknown	4 (3.4)
Outbreak Status*	Number (Percent)
Sporadic	112 (94.9)
Outbreak-associated	6 (5.1)
Outbreak status unknown	0 (0.0)

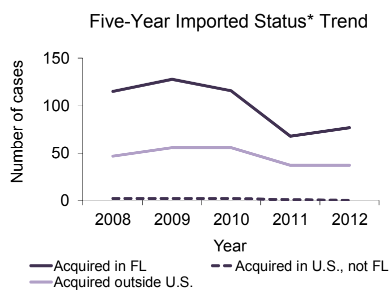
Reported Hepatitis A Cases by Month of Occurrence*, Case Classification, Outcome*, Sensitive Situation*, Imported Status* and Outbreak Status, Florida

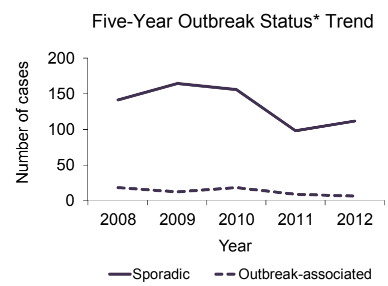












* Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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.

Hepatitis B, Acute

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

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

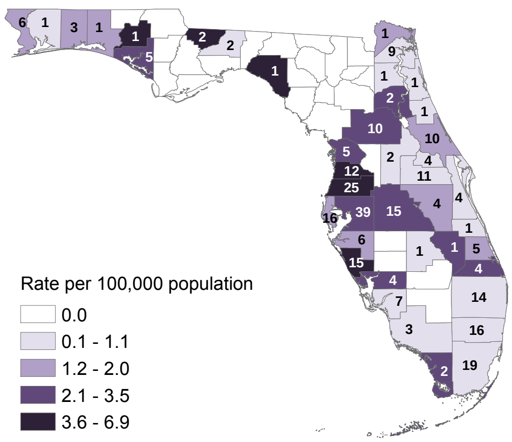
Reason for surveillance: Enhance efforts to prevent HBV transmission, identify and prevent outbreaks, improve allocation of resources for treatment services, assist in evaluating the impact of public health interventions, monitor effectiveness of immunization programs and vaccines

Comments: Hepatitis B is a vaccine-preventable disease. Incidence has declined steadily over the last decade likely due to increased use of vaccine, however the number of cases increased in 2012 for the first time in 10 years. Approximately 5% of acute HBV infections progress to chronic infections.

Summary of Case Demographics

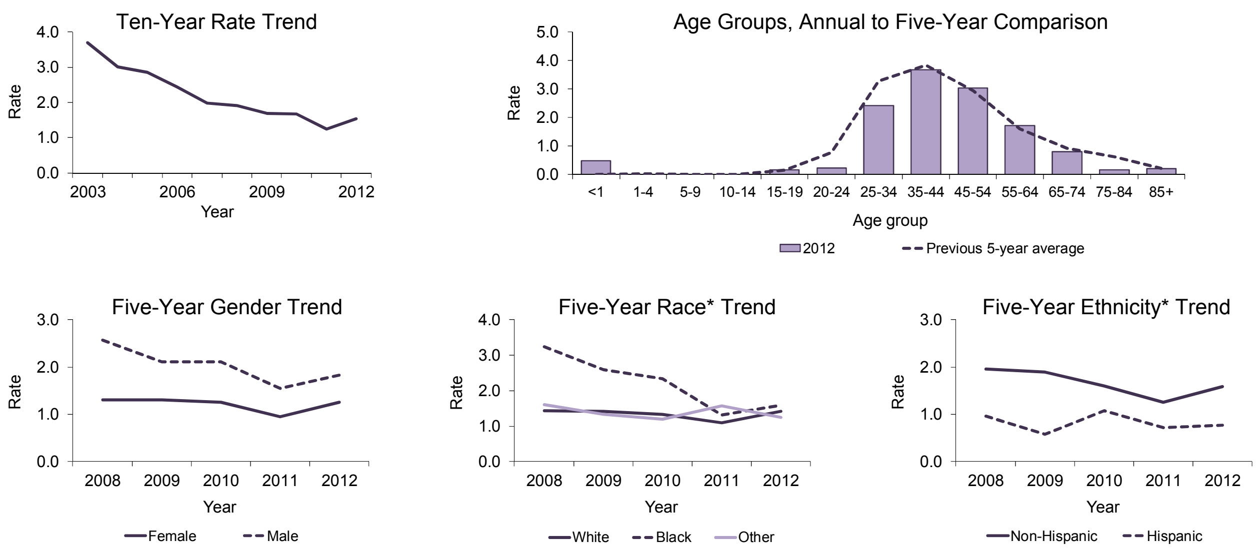
Summary		
Number of cases		292
Incidence rate (per 100,000 population)		1.5
Change from 5-year average incidence		-9.8%
Age (in years)		
Mean		45
Median		44
Min-max		0 - 88
Gender	**Number (Percent)**	**Rate**
Female	122 (41.8)	1.3
Male	170 (58.2)	1.8
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	211 (77.3)	1.4
Black	50 (18.3)	1.6
Other	12 (4.4)	NA
Unknown race	19	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	233 (87.3)	1.6
Hispanic	34 (12.7)	0.8
Unknown ethnicity	25	

Reported Acute Hepatitis B Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=292)



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

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



* Note that race and ethnicity trend graphs should be interpreted with caution. For acute hepatitis B, the percent of cases with missing race by year was 9.5% in 2008, 5.3% in 2009, 10.8% in 2010, 7.2% in 2011 and 6.5% in 2012; missing ethnicity by year was 9.2% in 2008, 5.7% in 2009, 11.4% in 2010, 8.5% in 2011 and 8.6% in 2012.

Summary of Case Factors

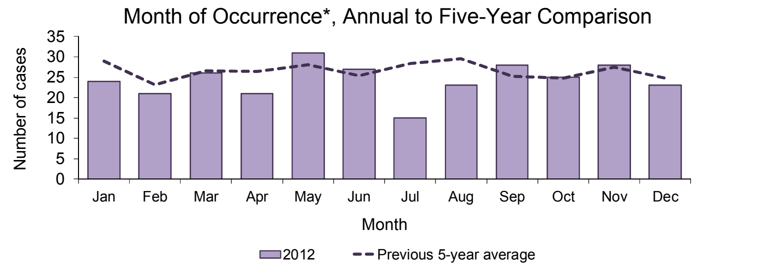
Summary	Number
Number of cases	292
Case Classification	**Number (Percent)**
Confirmed	247 (84.6)
Probable	45 (15.4)
Outcome*	**Number (Percent)**
Hospitalized	203 (69.5)
Died	3 (1.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	245 (83.9)
Acquired in the U.S., not Florida	4 (1.4)
Acquired outside the U.S.	5 (1.7)
Imported status unknown	38 (13.0)
Outbreak Status*	**Number (Percent)**
Sporadic	263 (90.1)
Outbreak-associated	12 (4.1)
Outbreak status unknown	17 (5.8)

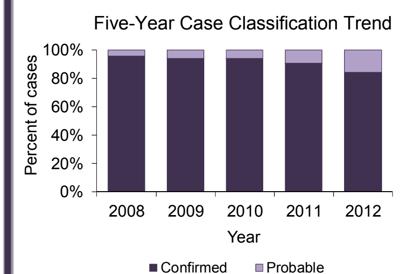
The number of reported hepatitis B cases increased for the first time in the last 10 years. The increase was seen in both genders, blacks and whites, but not in Hispanics.

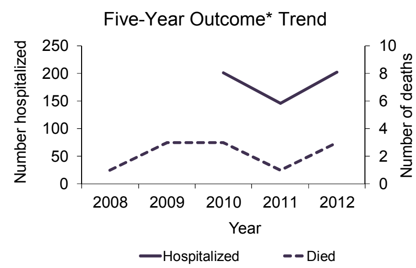
An increase was seen in the number of outbreak-associated hepatitis B cases for the first time in five years. The 11 outbreak-associated cases were each linked to one other case; four sexual links (with one case linked to a 2010 case) and one household link. Both the increase in cases and outbreak-associated cases can likely be attributed to improved reporting and surveillance as more providers report laboratory results electronically.

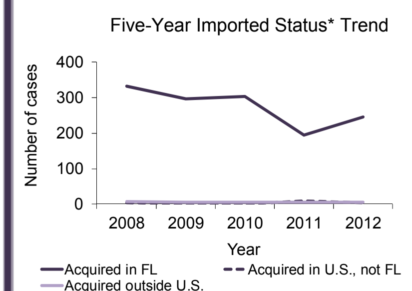
Reported risk factors for the 217 cases (74.3%) that were interviewed are shown to the right. Note that a person can report multiple risk factors. New infections of viral hepatitis are most frequently attributed to drug use, likely leading to sharing of injection equipment or risky sexual behaviors.

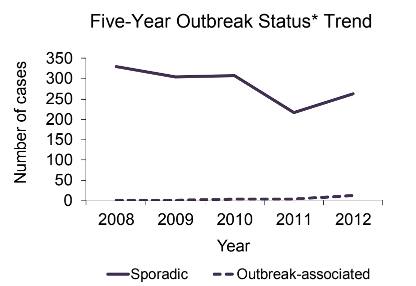
Reported Acute Hepatitis B Cases by Month of Occurrence*, Case Classification, Outcome*, Imported Status* and Outbreak Status, Florida



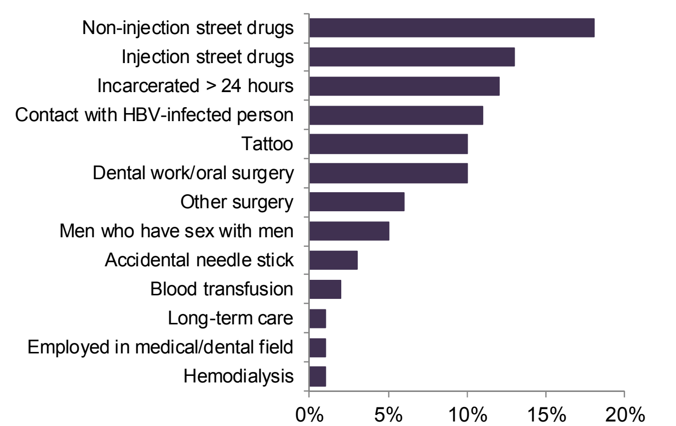








Risk Factors for Reported Acute Hepatitis B Cases, Florida, 2012



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

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

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

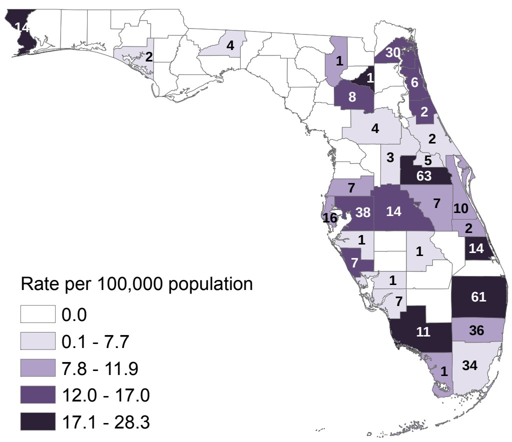
Reason for surveillance: Identify individual cases and implement control measures to prevent HBV transmission from mother to baby; evaluate effectiveness of screening programs

Comments: Hepatitis B is a vaccine-preventable disease. Most infections are identified through routine screening programs of pregnant women. Identification of HBsAg in pregnant women allows for appropriate treatment of their infants, significantly reducing the infants' risk of contracting HBV. Of those infants infected perinatally, as many as 90% become chronically infected.

Summary of Case Demographics

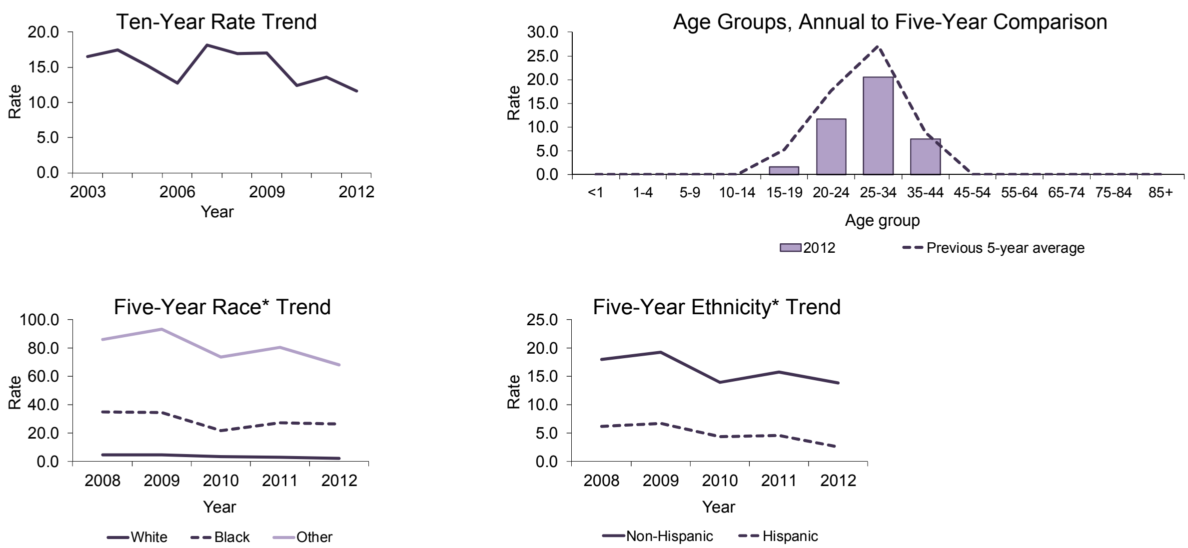
Summary		
Number of cases		413
Incidence rate (per 100,000 population)		11.6
Change from 5-year average incidence		-25.7%
Age (in years)		
Mean		30
Median		30
Min-max		15 - 47
Gender	**Number (Percent)**	**Rate**
Female	413 (100.0)	11.6
Male	NA	NA
Unknown gender	NA	
Race	**Number (Percent)**	**Rate**
White	55 (14.0)	2.1
Black	189 (48.0)	26.5
Other	150 (38.1)	68.3
Unknown race	19	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	360 (93.5)	13.9
Hispanic	25 (6.5)	2.6
Unknown ethnicity	28	

Reported Hepatitis B Surface Antigen in Pregnant Women Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=413)



Note that rates based on less than 20 cases are not reliable and should be interpreted with caution. Rate is per 100,000 women aged 15-44 years.

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

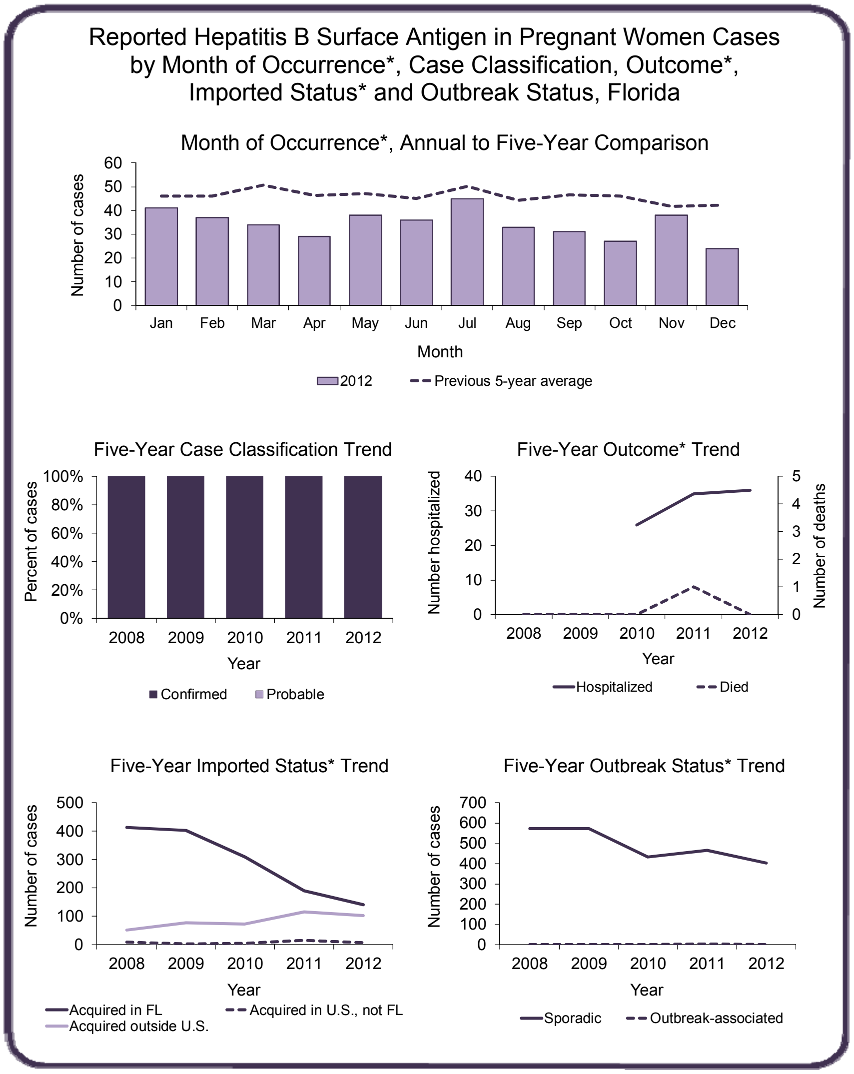


* Note that race and ethnicity trend graphs should be interpreted with caution. For hepatitis B surface antigen in pregnant women, the percent of cases with missing race by year was 8.7% in 2008, 6.0% in 2009, 5.9% in 2010, 4.2% in 2011 and 4.6% in 2012; missing ethnicity by year was 11.2% in 2008, 5.9% in 2009, 7.3% in 2010, 5.4% in 2011 and 6.8% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	413
Case Classification	**Number (Percent)**
Confirmed	413 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	36 (8.7)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	141 (34.1)
Acquired in the U.S., not Florida	8 (1.9)
Acquired outside the U.S.	104 (25.2)
Imported status unknown	160 (38.7)
Outbreak Status*	**Number (Percent)**
Sporadic	403 (97.6)
Outbreak-associated	0 (0.0)
Outbreak status unknown	10 (2.4)

Note that there is no probable case classification for hepatitis surface antigen in pregnant women.



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Hepatitis C, Acute

Disease Facts

Cause: Hepatitis C virus (HCV)

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

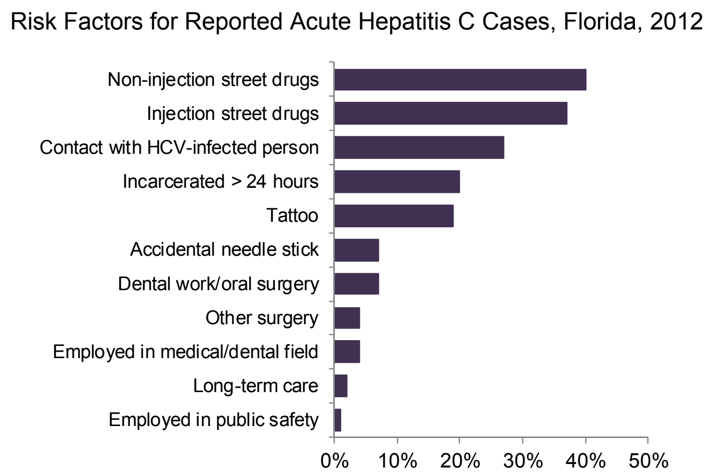
Transmission: Blood exposure, with most infections occurring due to sharing injection drug equipment; rarely from mother to child during pregnancy or delivery or by anal or vaginal sex

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

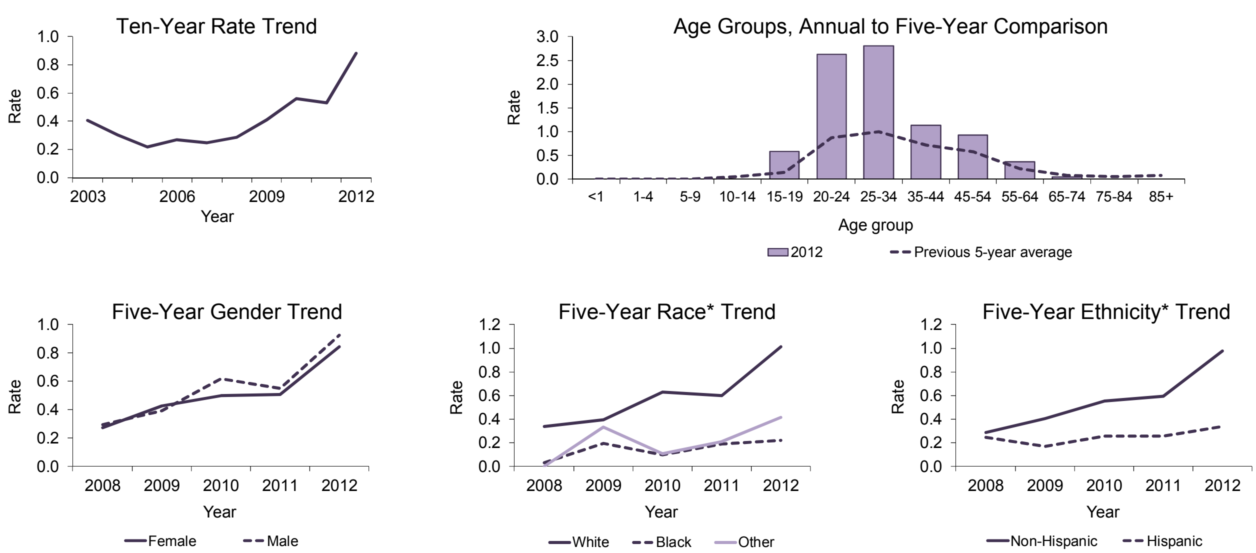
Comments: The acute hepatitis C surveillance case definition changed in 2008, leading to more cases being classified as confirmed compared to previous reporting years.

Summary of Case Demographics

Summary		
Number of cases		168
Incidence rate (per 100,000 population)		0.9
Change from 5-year average incidence		+115.2%
Age (in years)		
Mean		34
Median		30
Min-max		16 - 72
Gender	**Number (Percent)**	**Rate**
Female	82 (48.8)	0.8
Male	86 (51.2)	0.9
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	151 (93.2)	1.0
Black	7 (4.3)	NA
Other	4 (2.5)	NA
Unknown race	6	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	143 (90.5)	1.0
Hispanic	15 (9.5)	NA
Unknown ethnicity	10	



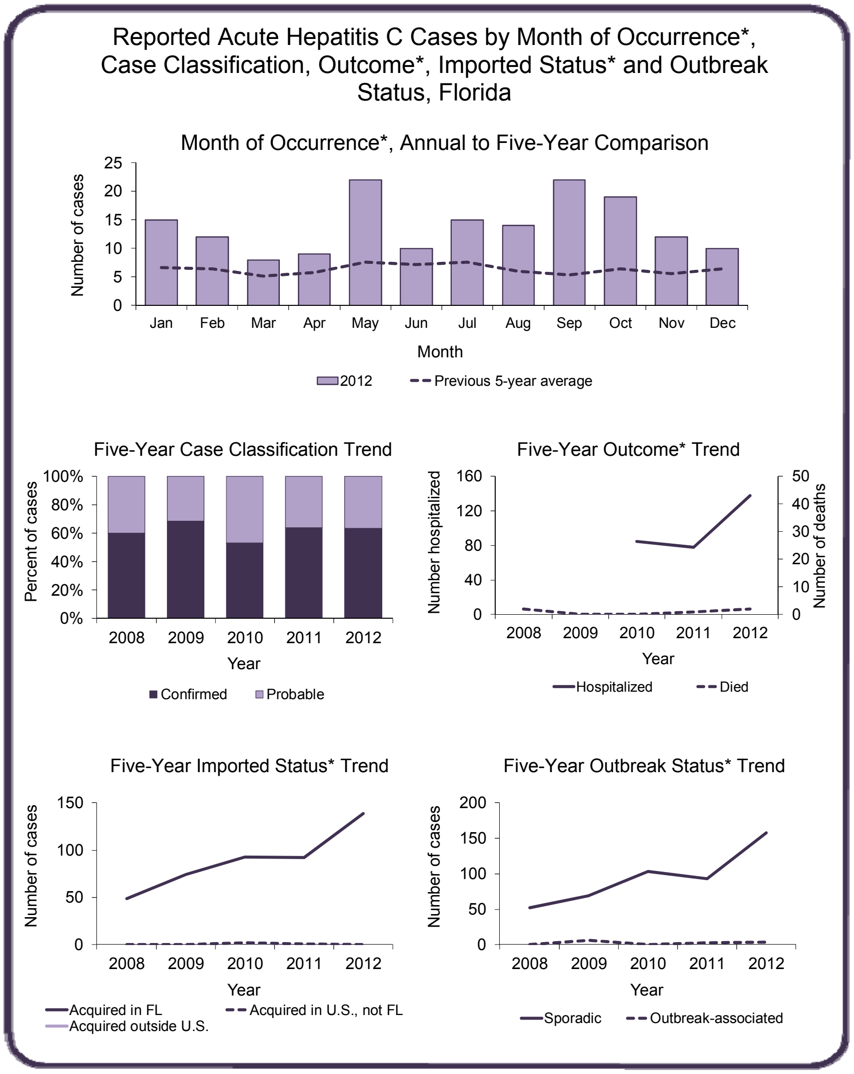
Reported Acute Hepatitis C Incidence Rate per 100,000 Population
by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For acute hepatitis C, the percent of cases with missing race by year was 3.8% in 2008, 13.0% in 2009, 7.6% in 2010, 3.0% in 2011 and 3.6% in 2012; missing ethnicity by year was 1.9% in 2008, 14.3% in 2009, 12.4% in 2010, 2.0% in 2011 and 6.0% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	168
Case Classification	Number (Percent)
Confirmed	107 (63.7)
Probable	61 (36.3)
Outcome*	Number (Percent)
Hospitalized	138 (82.1)
Died	2 (1.2)
Imported Status*	Number (Percent)
Acquired in Florida	139 (82.7)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	0 (0.0)
Imported status unknown	29 (17.3)
Outbreak Status*	Number (Percent)
Sporadic	158 (94.0)
Outbreak-associated	4 (2.4)
Outbreak status unknown	6 (3.6)



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. Conducting surveillance for acute hepatitis C has been difficult because no serologic marker for acute infection is available. Acute infection is differentiated from chronic infection by the presence of clinical symptoms and most acute cases (81% in 2012) are identified only when those symptoms warrant hospitalization. Hepatitis C is reportable by health care providers, however the majority of hepatitis laboratory results sent to the Florida Department of Health (DOH) come from large reference laboratories. These reports do not include symptom information and require additional follow up to determine if they represent acute infection, chronic infection, or repeated testing of a person who was previously reported. Not all counties 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 received a small amount of funds to conduct enhanced surveillance of hepatitis C in young adults aged 18 to 30 years. Fourteen counties participated in the project from March 1-July 31. The most common risk factor identified in those cases was injection drug use, specifically injection of prescription opioids. Also in 2012, CDC recommended that all persons born between 1945 and 1965 be screened for hepatitis C. The increased testing and surveillance in 2012 allowed DOH to identify the most acute HCV cases in the past ten years. The risk factors reported by the 114 cases (67.9%) that were interviewed are shown on the previous page.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

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

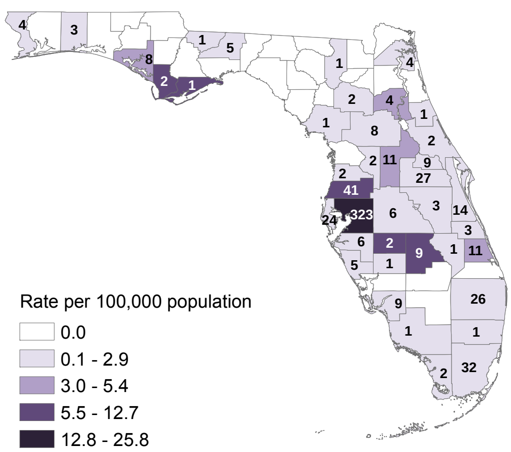
Reason for surveillance: Estimate burden among children, ensure follow-up care for identified cases, prevent new cases and exacerbation of illness, help target future public health interventions

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 2012 are presented in this report. Lead poisoning is most often identified in children as part of routine screening.

Summary of Case Demographics

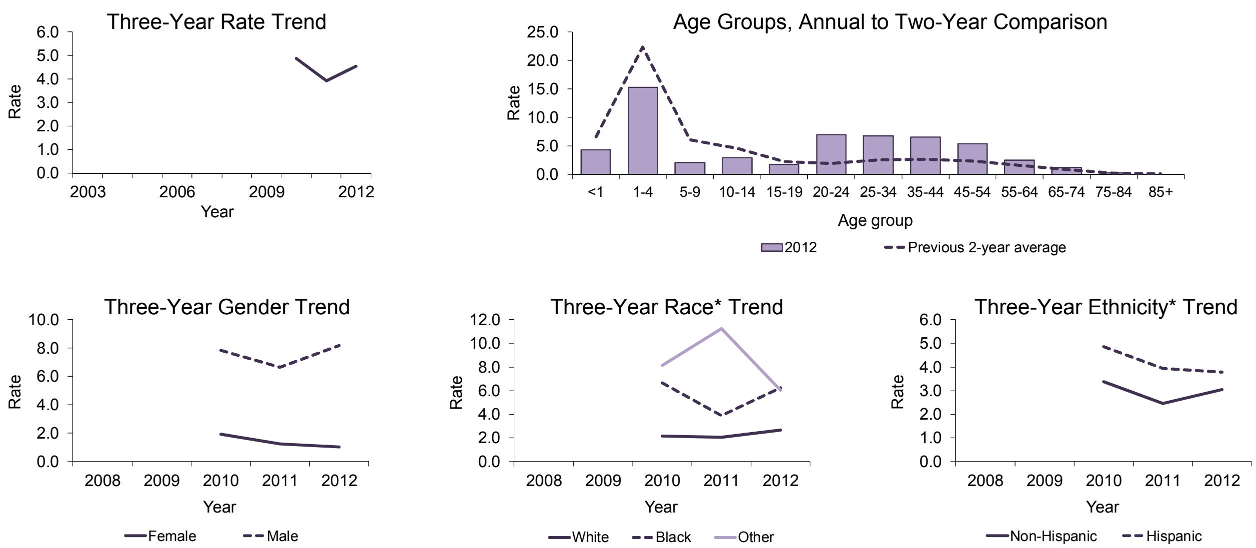
Summary		
Number of cases		864
Incidence rate (per 100,000 population)		4.5
Change from 2-year average incidence		+35.0%
Age (in years)		
Mean		31
Median		32
Min-max		0 - 82
Gender	**Number (Percent)**	**Rate**
Female	101 (11.7)	1.0
Male	761 (88.3)	8.2
Unknown gender	2	
Race	**Number (Percent)**	**Rate**
White	396 (60.8)	2.7
Black	197 (30.3)	6.3
Other	58 (8.9)	6.0
Unknown race	213	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	447 (72.8)	3.1
Hispanic	167 (27.2)	3.8
Unknown ethnicity	250	

Reported Lead Poisoning Cases and Incidence Rates per 100,000 Population for Only Exposures Occurring in Florida by County of Residence, Florida, 2012 (N=618)



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

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

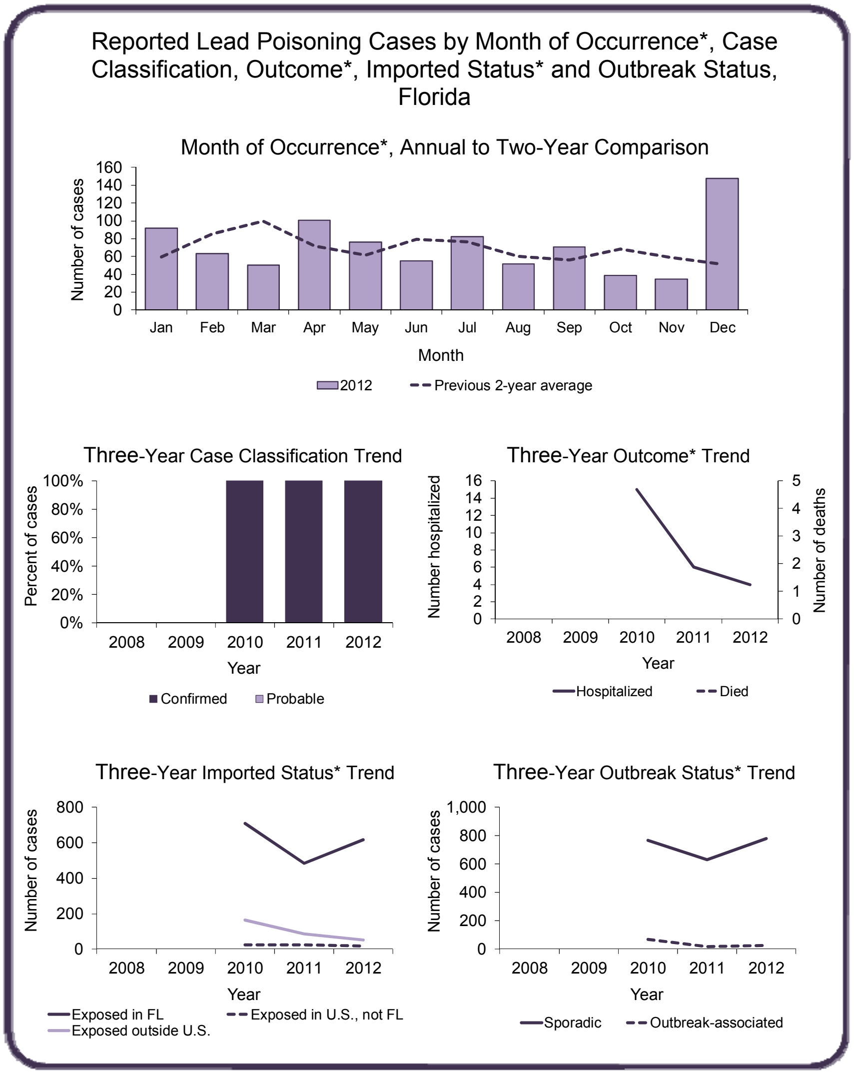


* Note that race and ethnicity trend graphs should be interpreted with caution. For lead poisoning, the percent of cases with missing race by year was 34.1% in 2010, 27.6% in 2011 and 24.7% in 2012; missing ethnicity by year was 23.6% in 2010, 28.4% in 2011 and 28.9% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	864
Case Classification	**Number (Percent)**
Confirmed	864 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	4 (0.5)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Exposed in Florida	618 (71.5)
Exposed in the U.S., not Florida	18 (2.1)
Exposed outside the U.S.	53 (6.1)
Imported status unknown	175 (20.3)
Outbreak Status*	**Number (Percent)**
Sporadic	782 (90.5)
Outbreak-associated	27 (3.1)
Outbreak status unknown	55 (6.4)

Note that there is no probable case classification for lead poisoning.



In 2012, the Centers for Disease Control and Prevention (CDC) defined a new reference level of 5 micrograms per deciliter (µg/dL) to identify people with elevated blood lead levels. In Florida, the surveillance case definition remains unchanged at ≥10 µg/dL.

The incidence of lead poisoning is highest in 1 to 4-year-olds, as routine lead screening is recommended by the CDC for children in this age group who are Medicaid-enrolled or eligible, foreign-born or otherwise identified as high-risk. The incidence rate of lead poisoning is much higher in men than women; this difference is mostly due to adult occupational cases of lead poisoning. Differences by gender among children are not observed. The large number of cases reported in Hillsborough County are primarily due to occupational screening.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome categories are not mutually exclusive, and most cases do not fall into any of these categories. Imported status refers to where the exposure most likely occurred. Outbreak-associated indicates that two or more cases are epidemiologically-linked.

Legionellosis

Disease Facts

Cause: *Legionella* bacteria

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

Transmission: Airborne; inhalation of aerosolized water contaminated with *Legionella* bacteria

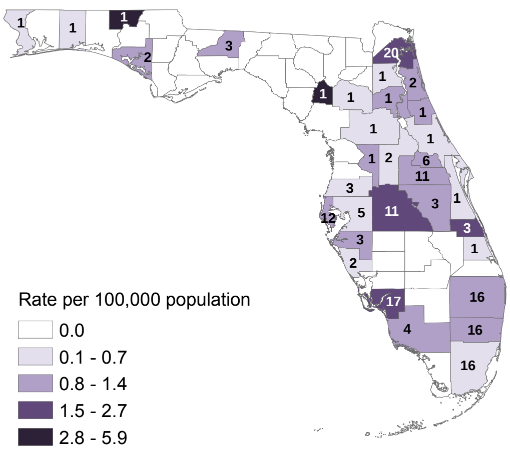
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated hot tubs, decorative fountains), monitor incidence over time, estimate burden of illness

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 water used for drinking and showering.

Summary of Case Demographics

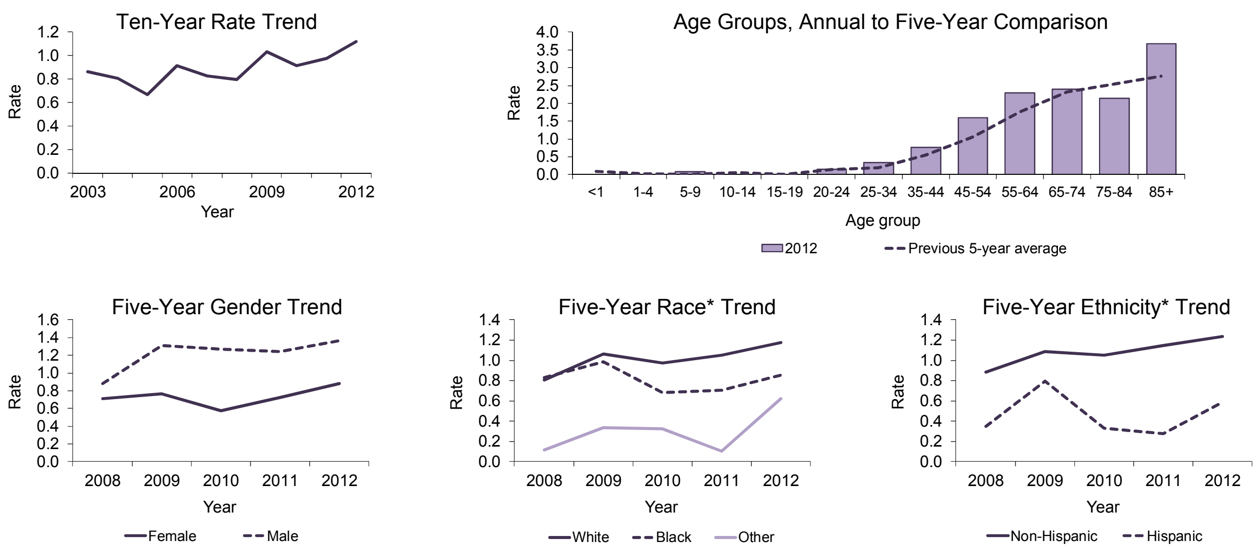
Summary		
Number of cases		213
Incidence rate (per 100,000 population)		1.1
Change from 5-year average incidence		+22.9%
Age (in years)		
Mean		61
Median		60
Min-max		9 - 91
Gender	**Number (Percent)**	**Rate**
Female	86 (40.4)	0.9
Male	127 (59.6)	1.4
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	176 (84.2)	1.2
Black	27 (12.9)	0.9
Other	6 (2.9)	NA
Unknown race	4	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	181 (87.4)	1.2
Hispanic	26 (12.6)	0.6
Unknown ethnicity	6	

Reported Legionellosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=170)



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

Reported Legionellosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

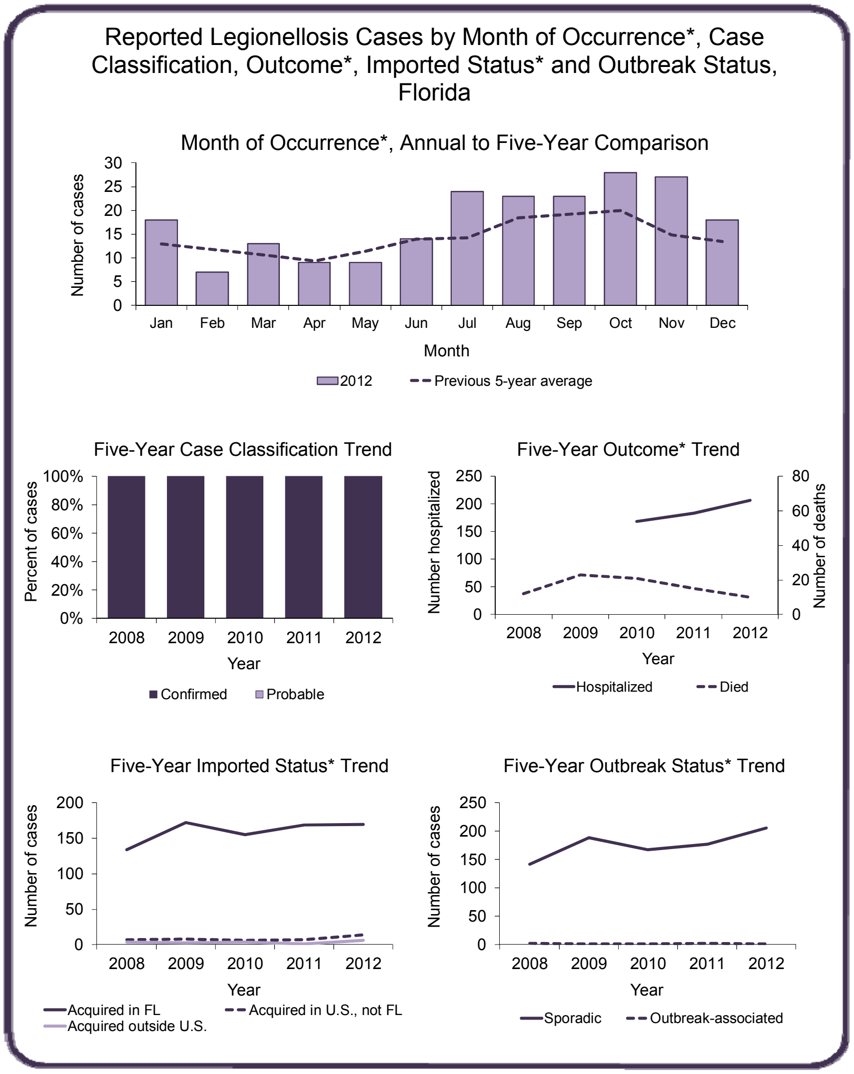


* Note that race and ethnicity trend graphs should be interpreted with caution. For legionellosis, the percent of cases with missing race by year was 2.0% in 2008, 1.6% in 2009, 2.3% in 2010, 3.2% in 2011 and 1.9% in 2012; missing ethnicity by year was 3.4% in 2008, 1.0% in 2009, 2.9% in 2010, 2.7% in 2011 and 2.8% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	213
Case Classification	**Number (Percent)**
Confirmed	213 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	207 (97.2)
Died	10 (4.7)
Imported Status*	**Number (Percent)**
Acquired in Florida	170 (79.8)
Acquired in the U.S., not Florida	14 (6.6)
Acquired outside the U.S.	6 (2.8)
Imported status unknown	23 (10.8)
Outbreak Status*	**Number (Percent)**
Sporadic	206 (96.7)
Outbreak-associated	1 (0.5)
Outbreak status unknown	6 (2.8)

Note that there is no probable case classification for legionellosis.



In Florida, sporadic cases of both Legionnaires' disease and Pontiac fever (two distinct presentations of legionellosis) are monitored. One Florida resident was linked to an outbreak of Legionnaires' disease in Chicago associated with exposure to a decorative fountain in a Chicago hotel. The Florida resident attended a conference at the identified hotel prior to the onset of symptoms.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

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; transmitted to infants during pregnancy

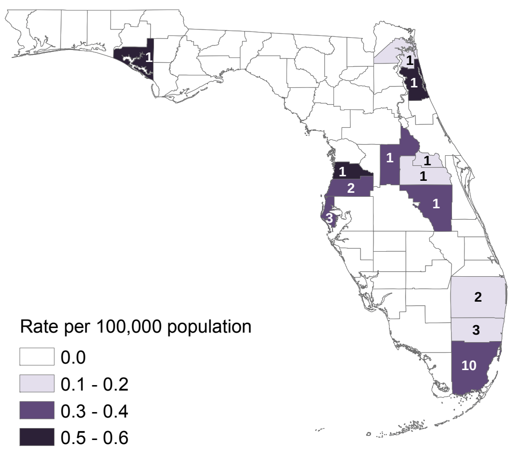
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product), monitor incidence over time, estimate burden of illness, reduce stillbirths

Comments: Listeriosis primarily affects older adults and people with weakened immune systems, pregnant women and newborns. Infection during pregnancy can cause fetal loss, preterm labor, stillbirths and illness or death in newborn infants.

Summary of Case Demographics

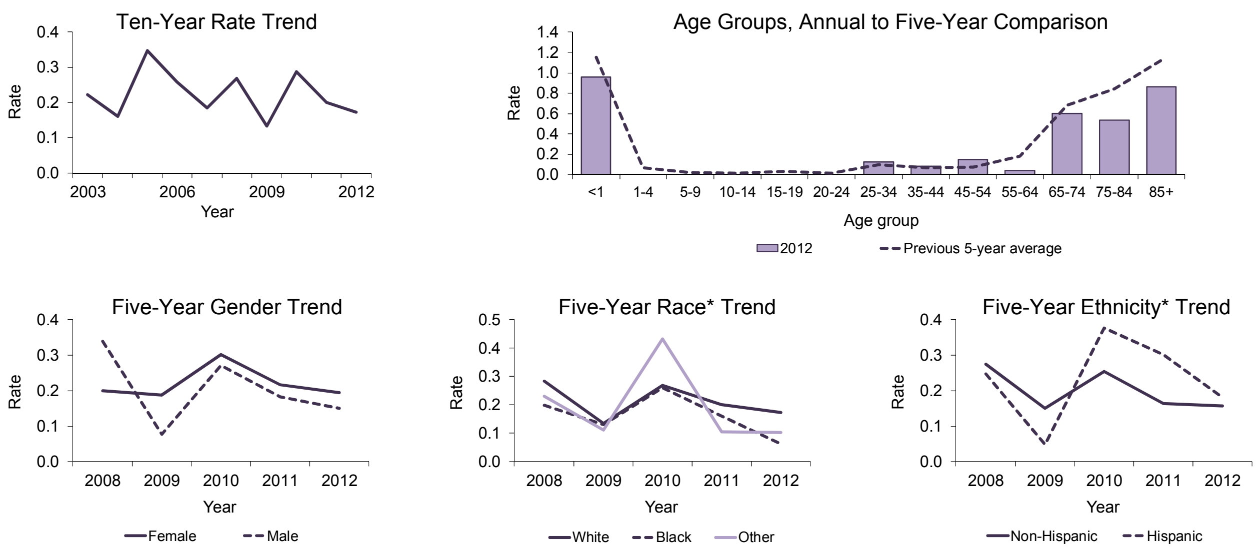
Summary		
Number of cases		33
Incidence rate (per 100,000 population)		0.2
Change from 5-year average incidence		-17.5%
Age (in years)		
Mean		62
Median		68
Min-max		0 - 97
Gender	**Number (Percent)**	**Rate**
Female	19 (57.6)	NA
Male	14 (42.4)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	26 (89.7)	0.2
Black	2 (6.9)	NA
Other	1 (3.4)	NA
Unknown race	4	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	23 (74.2)	0.2
Hispanic	8 (25.8)	NA
Unknown ethnicity	2	

Reported Listeriosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=28)



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

Reported Listeriosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

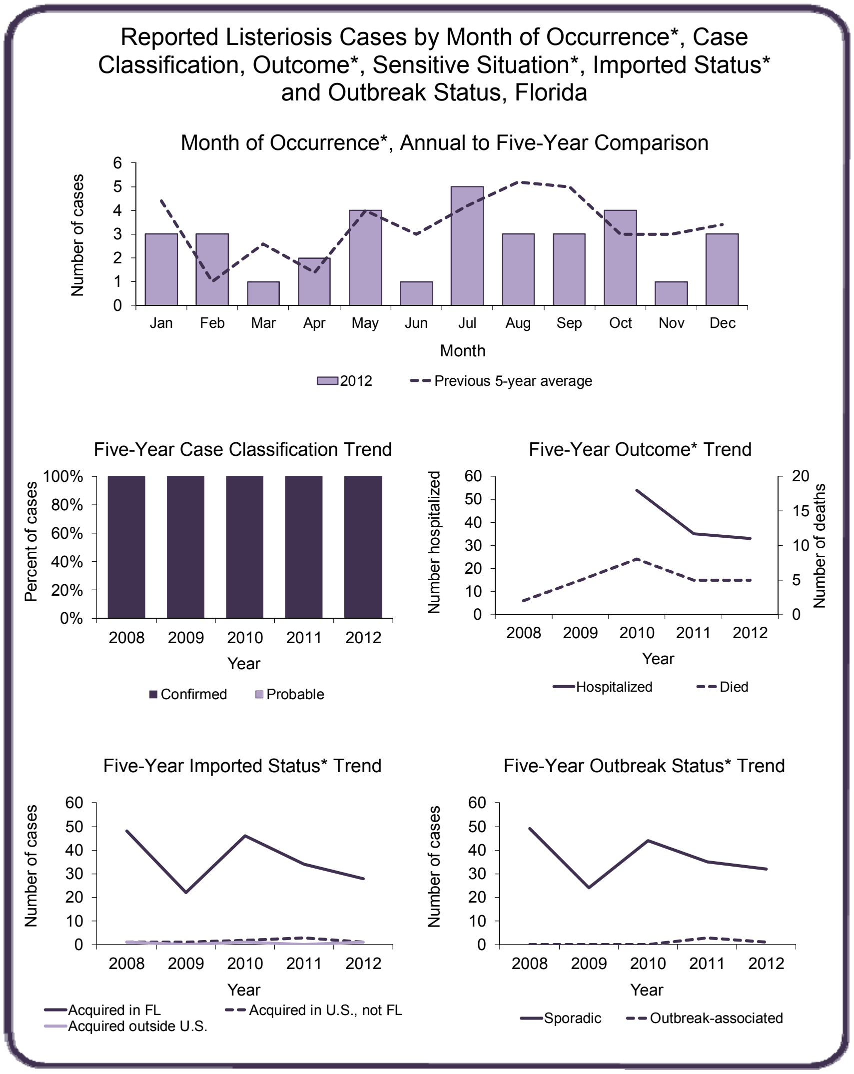


* Note that race and ethnicity trend graphs should be interpreted with caution. For listeriosis, the percent of cases with missing race by year was 0.0% in 2008, 0.0% in 2009, 3.7% in 2010, 5.3% in 2011 and 12.1% in 2012; missing ethnicity by year was 0.0% in 2008, 4.0% in 2009, 1.9% in 2010, 2.6% in 2011 and 6.1% in 2012.

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	33 (100.0)
Died	5 (15.2)
Imported Status*	Number (Percent)
Acquired in Florida	28 (84.8)
Acquired in the U.S., not Florida	1 (3.0)
Acquired outside the U.S.	1 (3.0)
Imported status unknown	3 (9.1)
Outbreak Status*	Number (Percent)
Sporadic	32 (97.0)
Outbreak-associated	1 (3.0)
Outbreak status unknown	0 (0.0)

Note that there is no probable case classification for listeriosis.



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Lyme Disease

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

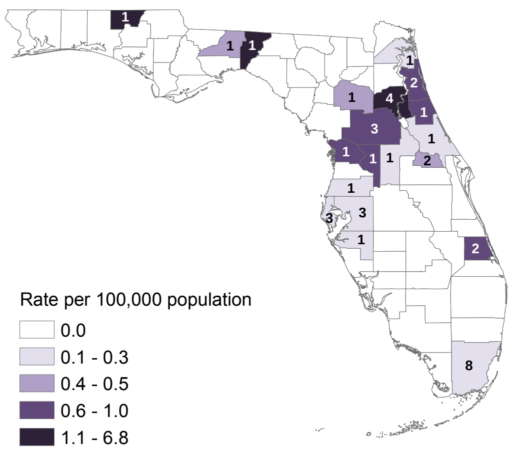
Reason for surveillance: Monitor incidence over time, estimate burden of illness and degree of endemicity, target areas of high incidence for prevention education

Comments: A case definition change in 2008 expanding the acceptable laboratory criteria contributes significantly to the increase in cases starting in 2008. Although Lyme disease is endemic in Florida, most cases (~65-85%) are imported from other states, primarily the Northeast and Midwest U.S.

Summary of Case Demographics

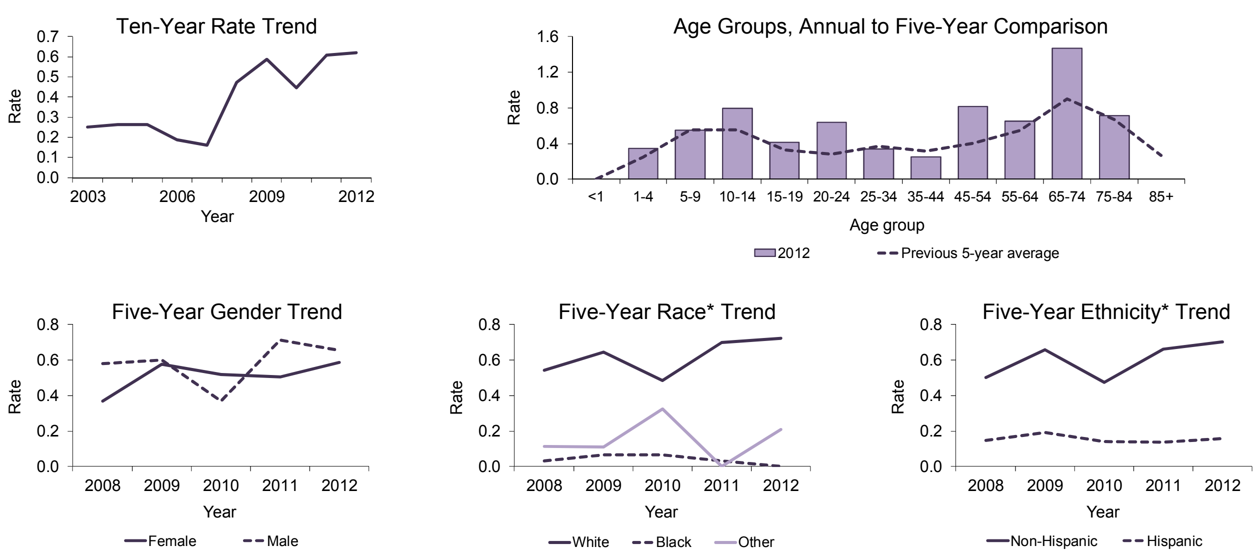
Summary		
Number of cases		118
Incidence rate (per 100,000 population)		0.6
Change from 5-year average incidence		+34.7%
Age (in years)		
Mean		46
Median		52
Min-max		2 - 84
Gender	**Number (Percent)**	**Rate**
Female	57 (48.3)	0.6
Male	61 (51.7)	0.7
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	108 (98.2)	0.7
Black	0 (0.0)	NA
Other	2 (1.8)	NA
Unknown race	8	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	103 (93.6)	0.7
Hispanic	7 (6.4)	NA
Unknown ethnicity	8	

Reported Lyme Disease Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=39)



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

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



* Note that race and ethnicity trend graphs should be interpreted with caution. For Lyme disease, the percent of cases with missing race by year was 6.8% in 2008, 10.9% in 2009, 8.3% in 2010, 8.7% in 2011 and 6.8% in 2012; missing ethnicity by year was 10.2% in 2008, 5.5% in 2009, 10.7% in 2010, 10.4% in 2011 and 6.8% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	118
Case Classification	**Number (Percent)**
Confirmed	67 (56.8)
Probable	51 (43.2)
Outcome*	**Number (Percent)**
Hospitalized	13 (11.0)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	39 (33.1)
Acquired in the U.S., not Florida	71 (60.2)
Acquired outside the U.S.	2 (1.7)
Imported status unknown	6 (5.1)
Outbreak Status*	**Number (Percent)**
Sporadic	115 (97.5)
Outbreak-associated	3 (2.5)
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 the case's county of residence.

Reported Lyme Disease Cases by Month of Occurrence*, Case Classification, Outcome*, Imported Status* and Outbreak Status, 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 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Malaria

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

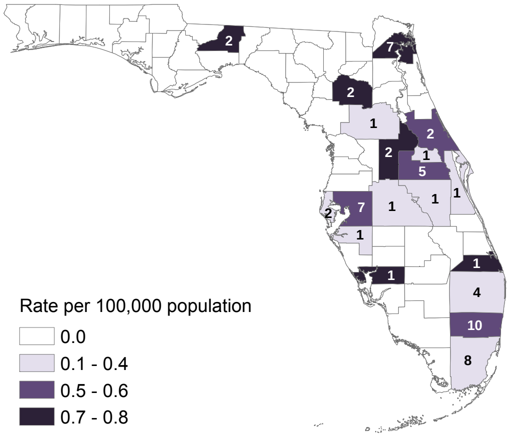
Reason for surveillance: Identify individual cases and implement control measures to prevent endemicity, monitor incidence over time, estimate burden of illness

Comments: There were no Florida-acquired malaria infections reported in 2012. All infections were associated with travel abroad to countries with endemic transmission (primarily African countries). The last malaria case possibly acquired in Florida was reported in 2010. The patient had frequent domestic airline travel, but had not recently been in any airports that received direct flights from malaria-endemic countries.

Summary of Case Demographics

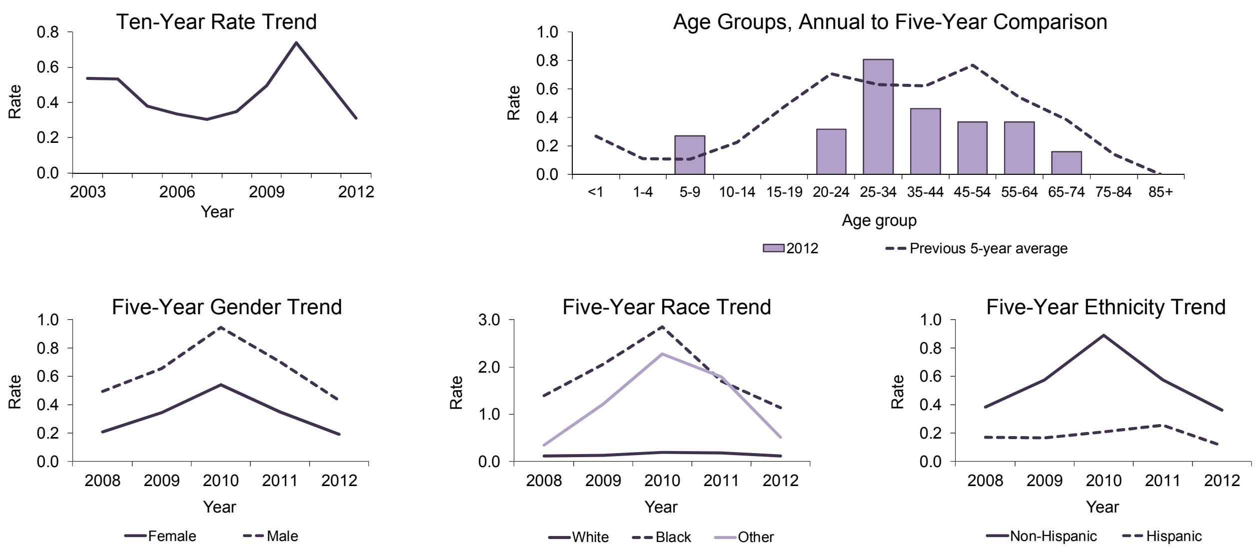
Summary		
Number of cases		59
Incidence rate (per 100,000 population)		0.3
Change from 5-year average incidence		-35.5%
Age (in years)		
Mean		40
Median		40
Min-max		6 - 74
Gender	**Number (Percent)**	**Rate**
Female	19 (32.2)	NA
Male	40 (67.8)	0.4
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	18 (30.5)	NA
Black	36 (61.0)	1.1
Other	5 (8.5)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	53 (91.4)	0.4
Hispanic	5 (8.6)	NA
Unknown ethnicity	1	

Reported Malaria Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=59)



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

Reported Malaria Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

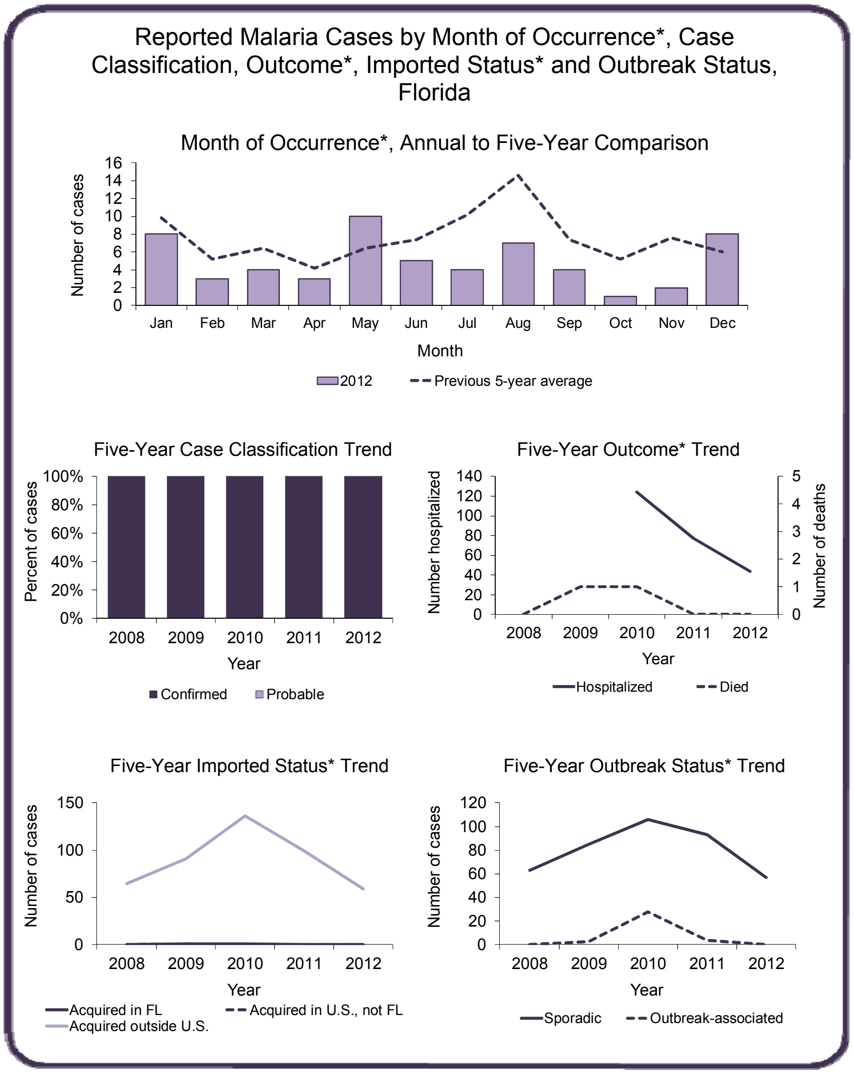


Summary of Case Factors

Summary	Number
Number of cases	59
Case Classification	**Number (Percent)**
Confirmed	59 (100.0)
Probable	0 (0.0)
Outcome*	**Number (Percent)**
Hospitalized	44 (74.6)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	0 (0.0)
Acquired in the U.S., not Florida	0 (0.0)
Acquired outside the U.S.	59 (100.0)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	57 (96.6)
Outbreak-associated	0 (0.0)
Outbreak status unknown	2 (3.4)
Region where Infection Acquired	**Number (Percent)**
Africa	37 (62.7)
Central America/Caribbean	18 (30.5)
Asia	3 (5.1)
South America	1 (1.7)

Note that there is no probable case classification for malaria.

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 the case's county of residence.



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Meningococcal Disease

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

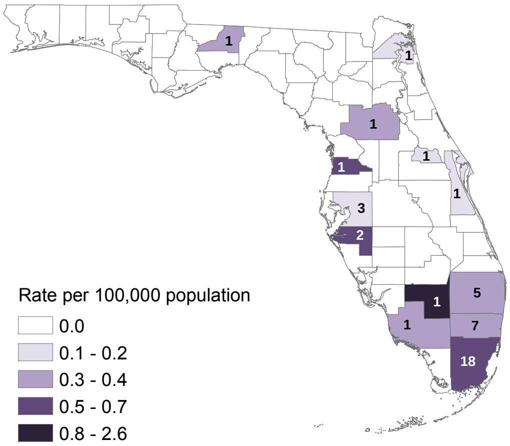
Reason for surveillance: Immediate public health actions are taken in response to every suspected meningococcal disease case to prevent secondary transmission, monitor effectiveness of immunization programs and vaccines

Comments: Five *N. meningitidis* serogroups cause almost all invasive disease (A, B, C, Y and W135). Vaccines provide protection against serogroups A, C, Y and W135. In 2012, an unusually high proportion of infections were due to serogroup W135 in Florida, primarily in Miami-Dade County.

Summary of Case Demographics

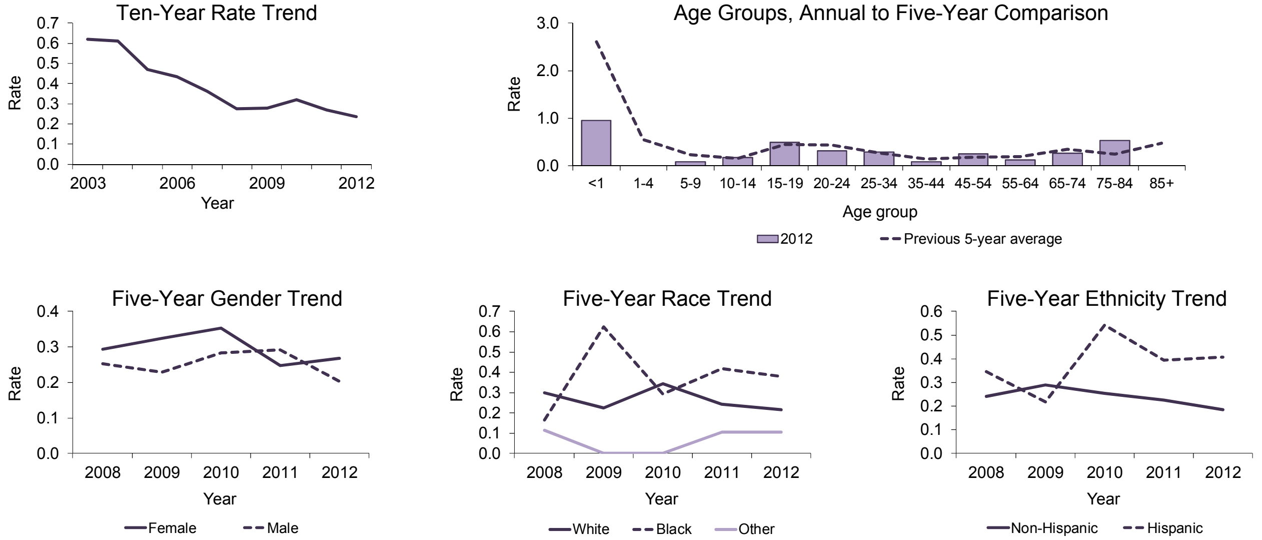
Summary		
Number of cases		45
Incidence rate (per 100,000 population)		0.2
Change from 5-year average incidence		-21.2%
Age (in years)		
Mean		41
Median		41
Min-max		0 - 82
Gender	**Number (Percent)**	**Rate**
Female	26 (57.8)	0.3
Male	19 (42.2)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	32 (71.1)	0.2
Black	12 (26.7)	NA
Other	1 (2.2)	NA
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	27 (60.0)	0.2
Hispanic	18 (40.0)	NA
Unknown ethnicity	0	

Reported Meningococcal Disease Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=43)



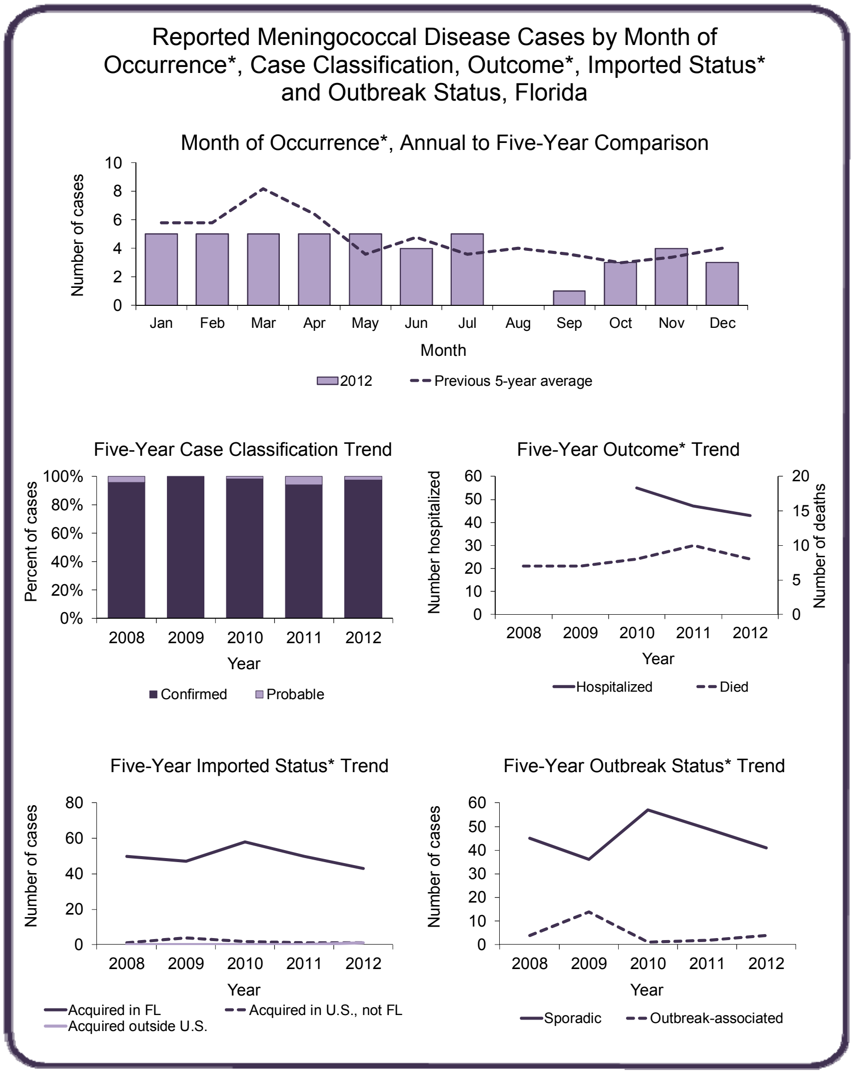
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

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



Summary of Case Factors

Summary	Number
Number of cases	45
Case Classification	**Number (Percent)**
Confirmed	44 (97.8)
Probable	1 (2.2)
Outcome*	**Number (Percent)**
Hospitalized	43 (95.6)
Died	8 (17.8)
Imported Status*	**Number (Percent)**
Acquired in Florida	43 (95.6)
Acquired in the U.S., not Florida	1 (2.2)
Acquired outside the U.S.	1 (2.2)
Imported status unknown	0 (0.0)
Outbreak Status*	**Number (Percent)**
Sporadic	41 (91.1)
Outbreak-associated	4 (8.9)
Outbreak status unknown	0 (0.0)
Serogroup	**Number (Percent)**
Group W135	22 (48.9)
Group C	11 (24.4)
Group B	5 (11.1)
Group Y	5 (11.1)
Non-groupable	1 (2.2)
Unknown	1 (2.2)



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Pertussis

Disease Facts

Cause: *Bordetella pertussis* bacteria

Type of illness: Runny nose, mild fever, mild cough, paroxysmal cough or “whoop”, posttussive vomiting, shortness of breath and apnea

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

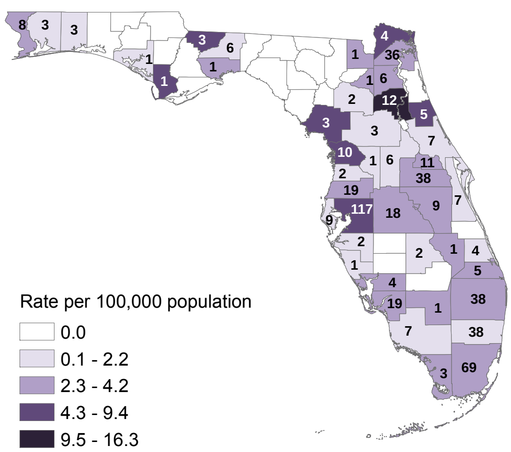
Reason for surveillance: Identify cases for treatment to prevent death, identify and prevent outbreaks, limit transmission in settings with infants or others who may transmit to infants, monitor effectiveness of immunization programs and vaccines

Comments: Pertussis incidence has increased in Florida and the U.S. in the past 10 years, despite routine vaccine use, partially due to waning immunity from childhood vaccines. Infants are at greatest risk for getting pertussis and having severe complications, including death.

Summary of Case Demographics

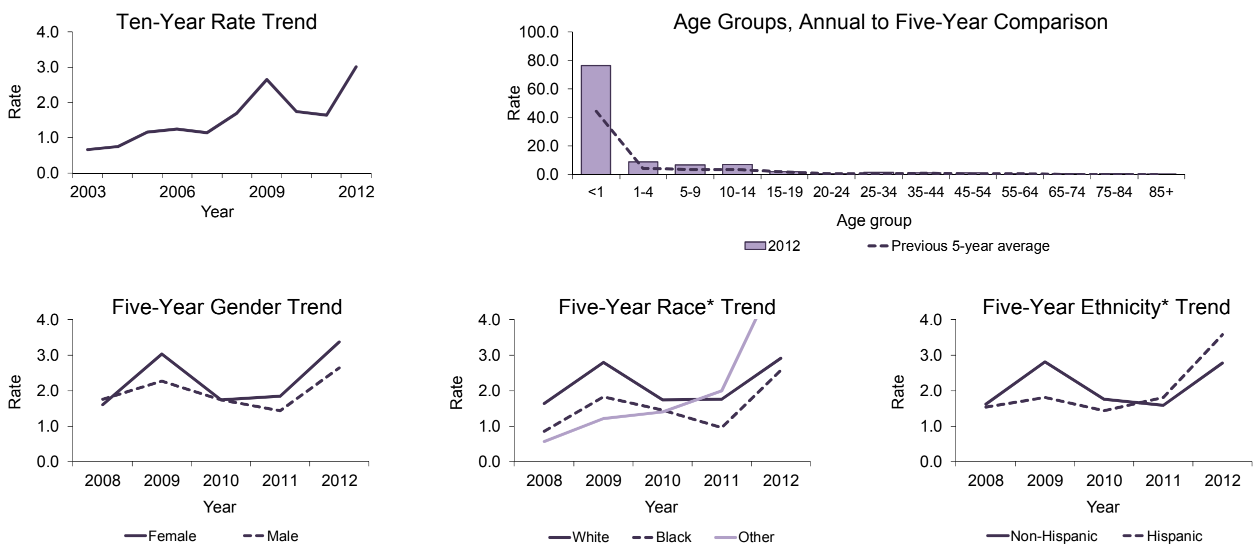
Summary		
Number of cases		575
Incidence rate (per 100,000 population)		3.0
Change from 5-year average incidence		+70.6%
Age (in years)		
Mean		16
Median		9
Min-max		0 - 98
Gender	Number (Percent)	Rate
Female	329 (57.2)	3.4
Male	246 (42.8)	2.6
Unknown gender	0	
Race	Number (Percent)	Rate
White	435 (76.4)	2.9
Black	81 (14.2)	2.6
Other	53 (9.3)	5.5
Unknown race	6	
Ethnicity	Number (Percent)	Rate
Non-Hispanic	408 (72.1)	2.8
Hispanic	158 (27.9)	3.6
Unknown ethnicity	9	

Reported Pertussis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=547)



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

Reported Pertussis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

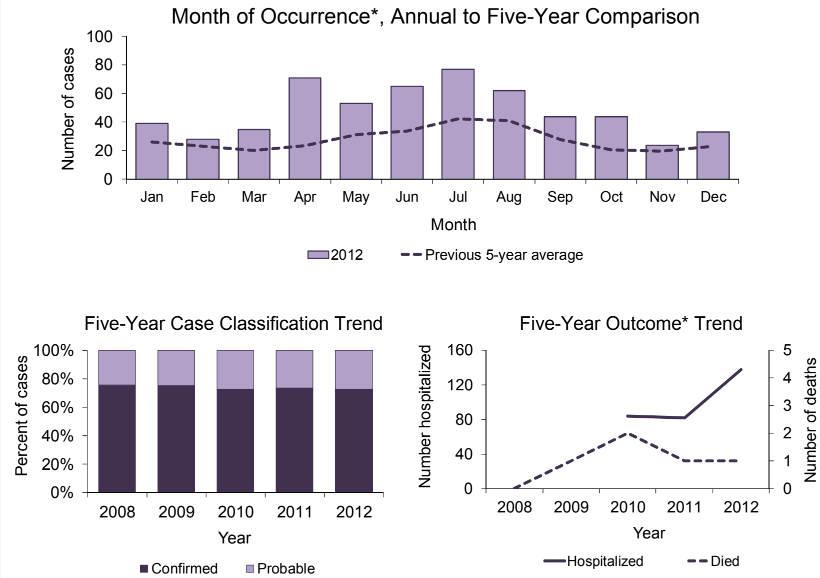


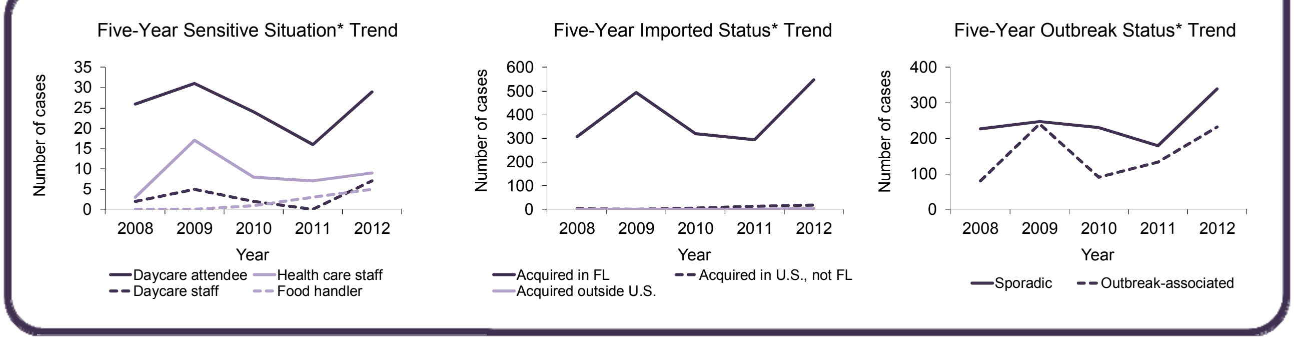
* Note that race and ethnicity trend graphs should be interpreted with caution. For pertussis, the percent of cases with missing race by year was 13.1% in 2008, 3.6% in 2009, 4.0% in 2010, 0.3% in 2011 and 1.0% in 2012; missing ethnicity by year was 5.1% in 2008, 2.4% in 2009, 3.4% in 2010, 0.6% in 2011 and 1.6% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	575
Case Classification	**Number (Percent)**
Confirmed	419 (72.9)
Probable	156 (27.1)
Outcome*	**Number (Percent)**
Hospitalized	138 (24.0)
Died	1 (0.2)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	29 (5.0)
Daycare staff	7 (1.2)
Health care staff	9 (1.6)
Food handler	5 (0.9)
Imported Status*	**Number (Percent)**
Acquired in Florida	547 (95.1)
Acquired in the U.S., not Florida	20 (3.5)
Acquired outside the U.S.	4 (0.7)
Imported status unknown	4 (0.7)
Outbreak Status*	**Number (Percent)**
Sporadic	340 (59.1)
Outbreak-associated	233 (40.5)
Outbreak status unknown	2 (0.3)

Reported Pertussis Cases by Month of Occurrence*, Case Classification, Outcome*, Sensitive Situation*, Imported Status* and Outbreak Status, 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 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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. There was a large increase in reported pertussis cases in 2012, 40.5% of which were outbreak-associated. The majority of pertussis outbreak-associated cases reported in 2012 were among household members or close contacts, with the exception of an outbreak in Putnam County associated with a church.

Pesticide-Related Illness and Injury

Disease Facts

Cause: Pesticides

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

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

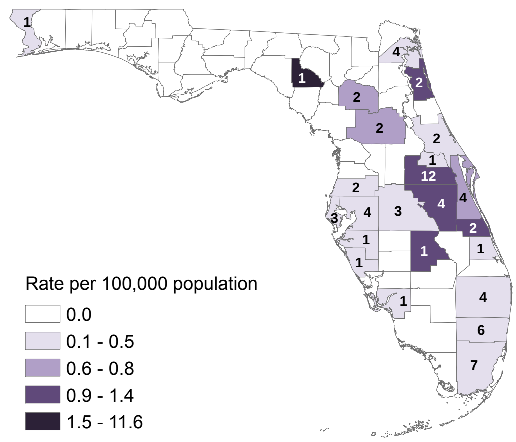
Reason for surveillance: Identify and mitigate persistent sources of exposure, identify populations at risk, evaluate trends in environmental conditions and occupational exposure, improve administration and proper use of pesticides to reduce exposure

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 substantially decreased number of cases reported in 2012.

Summary of Case Demographics

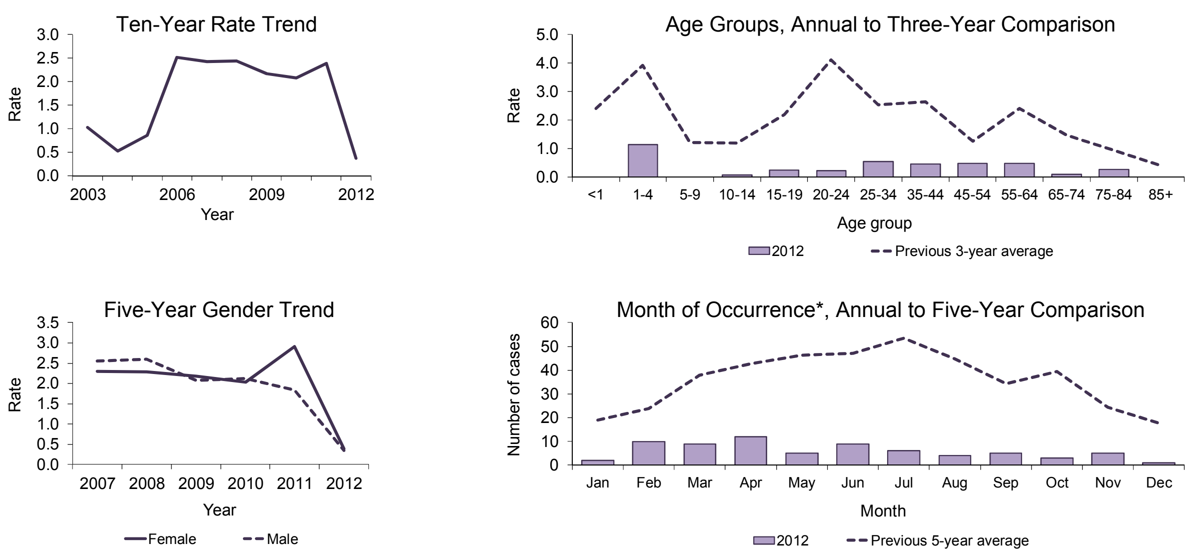
Summary		
Number of cases		71
Incidence rate (per 100,000 population)		0.4
Change from 5-year average incidence		-83.8%
Age (in years)		
Mean		38
Median		40
Min-max		1 - 78
Gender	**Number (Percent)**	**Rate**
Female	38 (53.5)	0.4
Male	33 (46.5)	0.4
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	52 (75.4)	0.3
Black	9 (13.0)	0.3
Other	8 (11.6)	0.8
Unknown race	2	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	57 (83.8)	0.4
Hispanic	11 (16.2)	0.2
Unknown ethnicity	3	

Reported Pesticide-Related Illness and Injury Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=71)



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

Reported Pesticide-Related Illness and Injury Incidence Rate 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 county health department was notified of the case.

Note that race and ethnicity were not collected for the majority of cases reported prior to 2012 and are therefore not presented here.

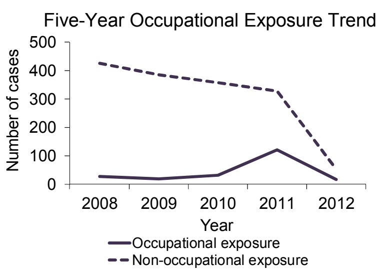
Additional Information

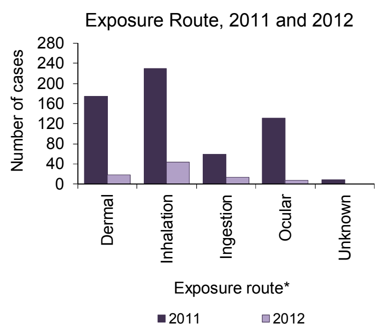
Reported Pesticide-Related Illness and Injury Incidence Cases by Heath Effects*, Severity of Illness, and Activity at Time of Exposure, Florida, 2010-2013

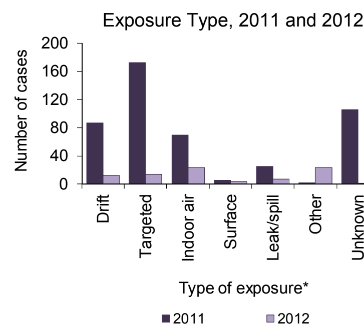
Category	2010	2011	2012
Health Effects*	Number (Percent)	Number (Percent)	Number (Percent)
Respiratory	108 (27.6)	143 (31.7)	45 (63.4)
Gastrointestinal	121 (30.9)	152 (33.7)	40 (56.3)
Neurological	103 (26.3)	173 (38.4)	39 (54.9)
Ocular	149 (38.0)	172 (38.1)	23 (32.4)
Dermal	93 (23.7)	131 (29.0)	12 (16.9)
Severity of Illness	Number (Percent)	Number (Percent)	Number (Percent)
Low	311 (79.3)	367 (81.4)	44 (62.0)
Moderate	70 (17.9)	79 (17.5)	22 (31.0)
High	9 (2.3)	5 (1.1)	4 (5.6)
Death	2 (0.5)	0 (0.0)	1 (1.4)
Activity at Time of Exposure	Number (Percent)	Number (Percent)	Number (Percent)
Applying pesticide	238 (60.7)	154 (34.2)	18 (25.4)
Routine indoor living	21 (5.4)	73 (16.2)	22 (31.0)
Routine outdoor living	6 (1.5)	67 (14.9)	4 (5.6)
Routine work or activity not related to pesticide exposure	6 (1.5)	7 (1.6)	14 (19.7)
Other	9 (2.3)	6 (1.3)	12 (16.9)
Unknown	112 (28.6)	144 (31.9)	1 (1.4)
Total	392	451	71

* Cases must report two or more health effects, therefore percentages will not total 100%.

Reported Pesticide-Related Illness and Injury Incidence Cases by Occupational Exposure, Exposure Route* and Exposure Type*, Florida







* Note that there may be multiple exposure types and routes 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 treated surface (e.g., plant material, carpets, or 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).

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: Bite of rabid animal (infected saliva in direct contact with blood or mucous membrane)

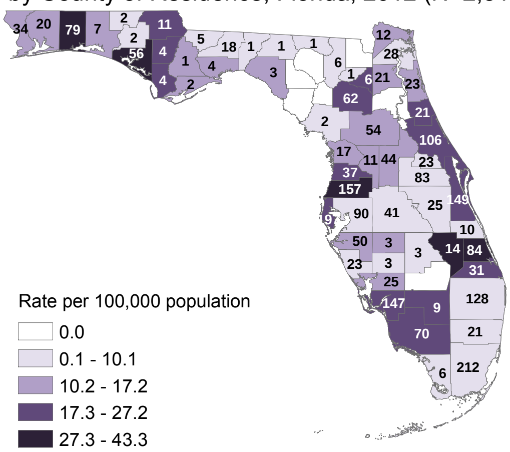
Reason for surveillance: Identify and mediate sources of exposure, ensure effective preventative measures are implemented

Comments: Incidence of human exposures to animals for which post-exposure prophylaxis (PEP) is recommended has increased since case reporting was initiated, possibly due to improved reporting, increased exposures to possibly rabid animals, increased inappropriate or unnecessary use of PEP or a combination of factors. The last case of human rabies acquired in Florida was in 1948.

Summary of Case Demographics

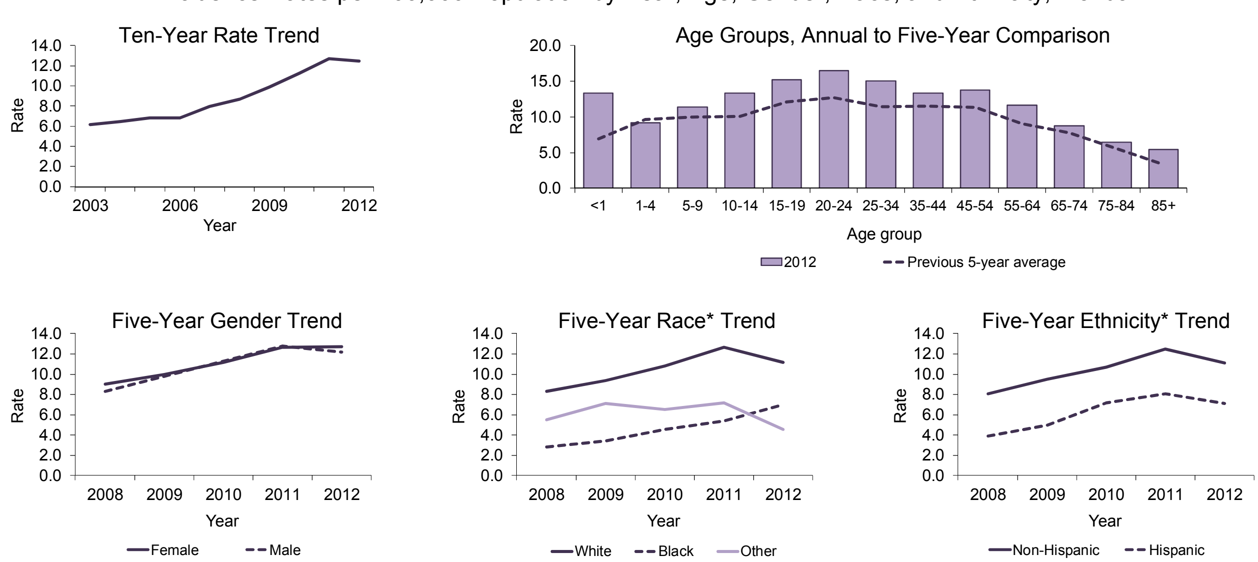
Possible Rabies Exposures where PEP was Recommended		
Number of cases		2,371
Incidence rate (per 100,000 population)		12.5
Change from 5-year average incidence		+23.3%
Age (in years)		
Mean		37
Median		36
Min-max		0 - 100
Gender	Number (Percent)	Rate
Female	1,236 (52.1)	12.7
Male	1,135 (47.9)	12.2
Unknown gender	0	
Race	Number (Percent)	Rate
White	1,670 (86.3)	11.2
Black	221 (11.4)	7.0
Other	44 (2.3)	4.6
Unknown race	436	
Ethnicity	Number (Percent)	Rate
Non-Hispanic	1,625 (83.8)	11.1
Hispanic	313 (16.2)	7.1
Unknown ethnicity	433	

Reported Possible Rabies Where Post-Exposure Prophylaxis was Recommended and Incidence Rates per 100,000 Population for Only Exposures Occurring in Florida by County of Residence, Florida, 2012 (N=2,310)



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

Reported Possible Rabies Exposures Where Post-Exposure Prophylaxis was Recommended and Incidence Rates per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For rabies, possible human exposure, the percent of cases with missing race by year was 16.3% in 2008, 16.4% in 2009, 14.7% in 2010, 12.0% in 2011 and 18.4% in 2012; missing ethnicity by year was 17.7% in 2008, 14.0% in 2009, 12.1% in 2010, 9.8% in 2011 and 18.3% in 2012.

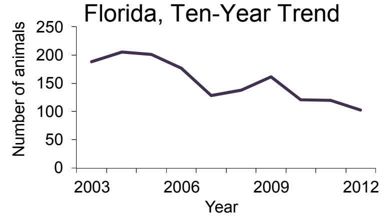
Additional Information

The animals most frequently diagnosed with rabies in Florida are unvaccinated cats, raccoons, bats and foxes. Rabies is endemic in the raccoon and bat populations of Florida. Rabies frequently spreads from raccoons, and occasionally bats, into 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. Of the 2,371 possible exposures where PEP was recommended, only 157 exposures (6.6%) resulted in an animal being tested. A total of 103 laboratory-confirmed rabid animals were reported in 2012.

Animal Rabies	
Number of cases	102
Change from 5-year average cases	-23.7%

Laboratory-Confirmed Rabid Animals
Florida, Ten-Year Trend

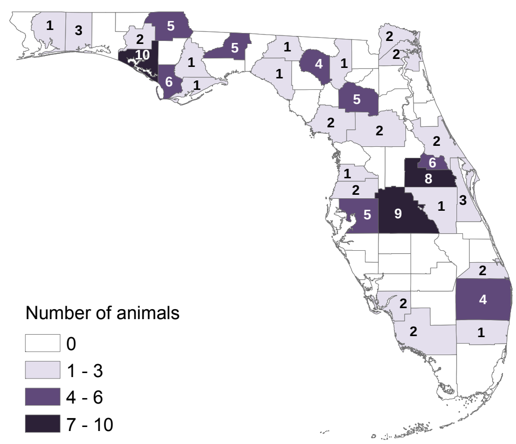


Laboratory-Confirmed Rabid Animals
by Type of Animal, Florida, 2012

Type of Animal	2011 Number (Percent)	2012 Number (Percent)
Racoon	79 (66.4)	59 (57.8)
Bat	18 (15.1)	14 (13.7)
Fox	6 (5)	11 (10.8)
Cat	11 (9.2)	8 (7.8)
Bobcat	2 (1.7)	3 (2.9)
Dog	1 (0.8)	2 (2)
Horse	1 (0.8)	2 (2)
Skunk	1 (0.8)	2 (2)
Coyote	0 (0)	1 (1)
Total*	119	102

* One laboratory-confirmed animal that was reported in 2011 was actually tested in July 2010 and is excluded from this table.

Laboratory-Confirmed Rabid Animals
by County, Florida, 2012



Rocky Mountain Spotted Fever (RMSF)

Disease Facts

Cause: *Rickettsia rickettsii* bacteria

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

Transmission: Tick-borne; bite of infective tick

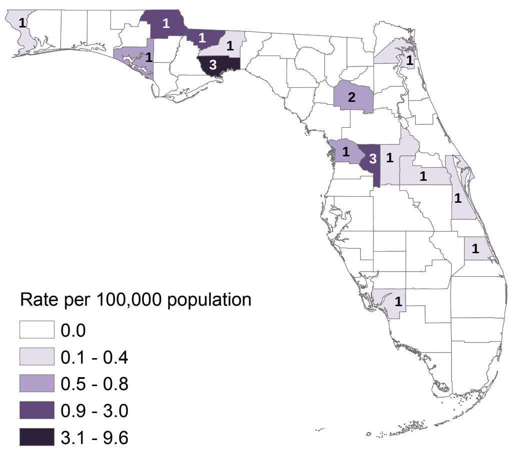
Reason for surveillance: Monitor incidence over time, estimate burden of illness, monitor geographical and temporal occurrence, target areas of high incidence for prevention education

Comments: RMSF incidence has increased markedly in recent years in Florida, possibly to increased disease awareness and reporting. 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.

Summary of Case Demographics

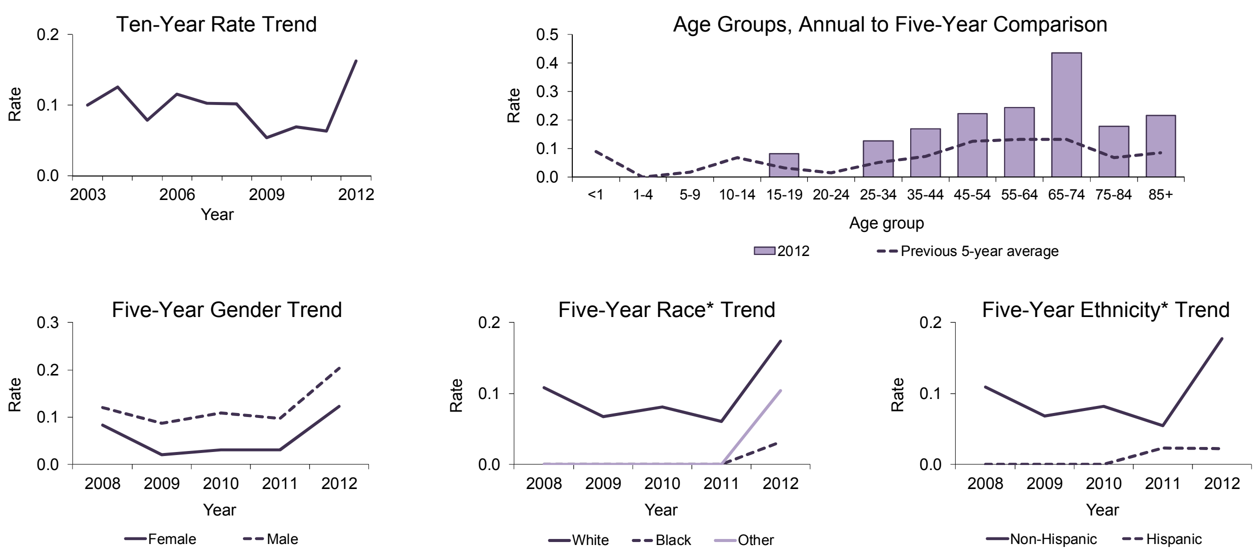
Summary		
Number of cases		31
Incidence rate (per 100,000 population)		0.2
Change from 5-year average incidence		+103.5%
Age (in years)		
Mean		55
Median		57
Min-max		19 - 89
Gender	**Number (Percent)**	**Rate**
Female	12 (38.7)	NA
Male	19 (61.3)	NA
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	26 (92.9)	0.2
Black	1 (3.6)	NA
Other	1 (3.6)	NA
Unknown race	3	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	26 (96.3)	0.2
Hispanic	1 (3.7)	NA
Unknown ethnicity	4	

Reported Rocky Mountain Spotted Fever Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=20)



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

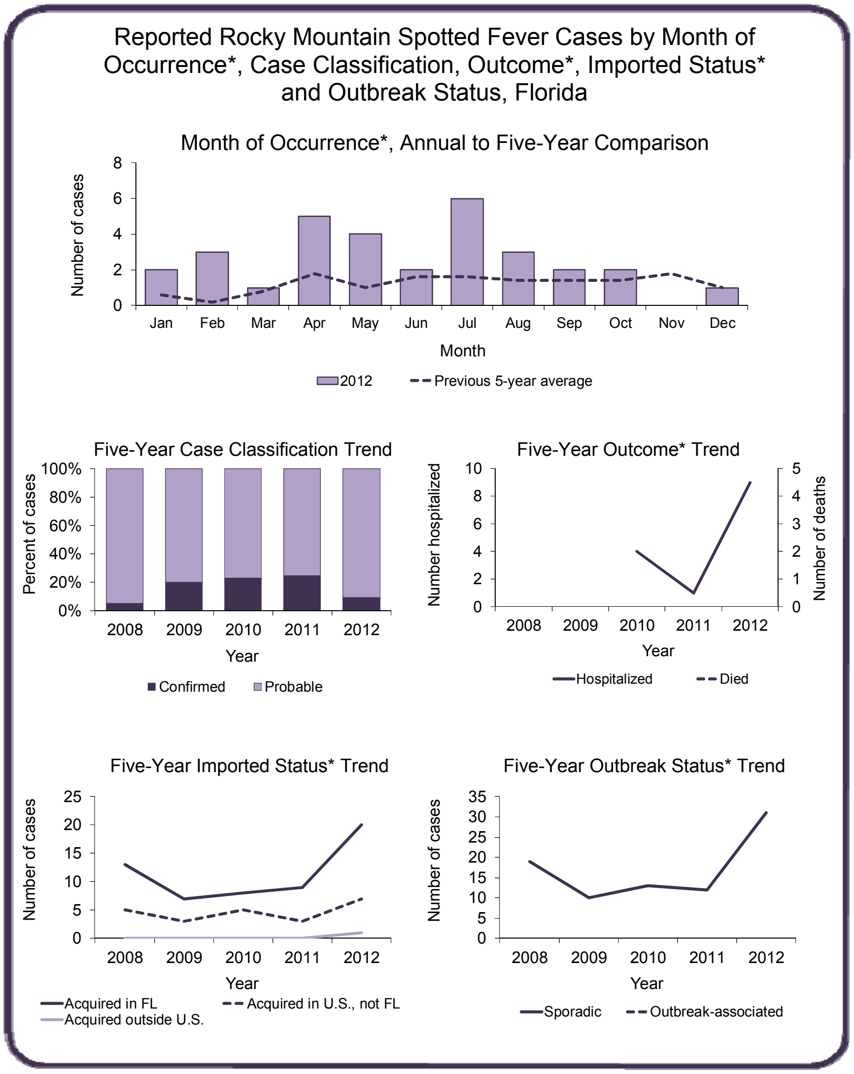
Reported Rocky Mountain Spotted Fever Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For Rocky Mountain spotted fever, the percent of cases with missing race by year was 15.8% in 2008, 0.0% in 2009, 7.7% in 2010, 25.0% in 2011 and 9.7% in 2012; missing ethnicity by year was 15.8% in 2008, 0.0% in 2009, 7.7% in 2010, 25.0% in 2011 and 12.9% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	31
Case Classification	**Number (Percent)**
Confirmed	3 (9.7)
Probable	28 (90.3)
Outcome*	**Number (Percent)**
Hospitalized	9 (29.0)
Died	0 (0.0)
Imported Status*	**Number (Percent)**
Acquired in Florida	20 (64.5)
Acquired in the U.S., not Florida	7 (22.6)
Acquired outside the U.S.	1 (3.2)
Imported status unknown	3 (9.7)
Outbreak Status*	**Number (Percent)**
Sporadic	31 (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 the case's county of residence.

Across the U.S., an estimated 90% of the rickettsial disease cases are from RMSF. Human antibodies to spotted fever rickettsial species such as *R. parkeri*, *R. amblyommii*, *R. africae* and *R. conorii* are known to cross-react with serologic tests for the RMSF organism *R. rickettsii*. In addition, commercial antibody testing to differentiate other spotted fever rickettsial infections (SFRs) from RMSF is currently limited. This may be one explanation for apparent changes in RMSF incidence, disease severity and geographic distribution over time. National reporting criteria for RMSF were expanded to include all spotted SFRs in 2010, but as of 2012, the Florida surveillance case definition was limited to RMSF. Due to cross reactivity, other SFRs may be reported as RMSF. In 2012, all 31 reported cases had positive serology for RMSF at commercial laboratories, although there were three infections with eschar lesions, which is indicative of an SFR other than RMSF. Additional testing by the Centers for Disease Control and Prevention to determine the *Rickettsia* species was not done on these three cases.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

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, waterborne and foodborne

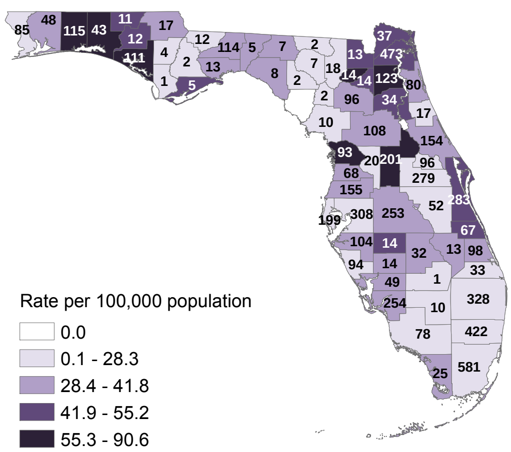
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: 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

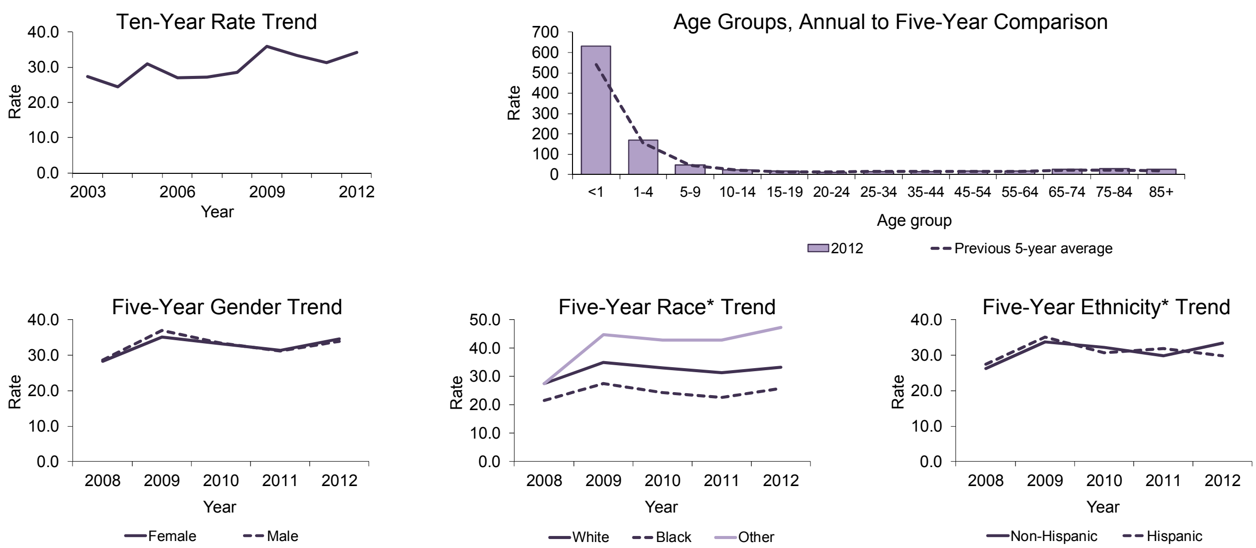
Summary		
Number of cases		6,523
Incidence rate (per 100,000 population)		34.3
Change from 5-year average incidence		+9.5%
Age (in years)		
Mean		25
Median		9
Min-max		0 - 100
Gender	**Number (Percent)**	**Rate**
Female	3,366 (51.6)	34.6
Male	3,153 (48.4)	33.9
Unknown gender	4	
Race	**Number (Percent)**	**Rate**
White	4,978 (79.7)	33.3
Black	816 (13.1)	25.9
Other	454 (7.3)	47.2
Unknown race	275	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	4,896 (78.8)	33.5
Hispanic	1,321 (21.2)	29.9
Unknown ethnicity	306	

Reported Salmonellosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=6,041)



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

Reported Salmonellosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

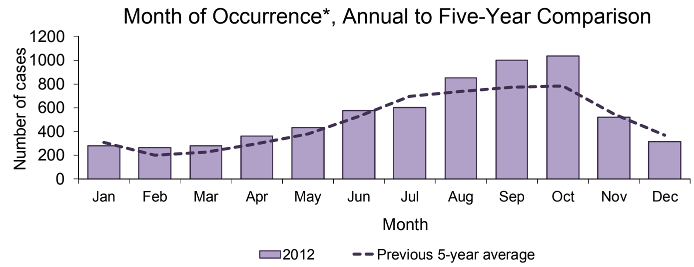


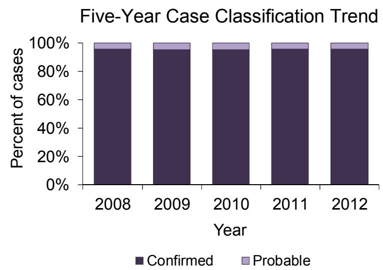
* Note that race and ethnicity trend graphs should be interpreted with caution. For salmonellosis, the percent of cases with missing race by year was 7.0% in 2008, 5.2% in 2009, 3.9% in 2010, 2.5% in 2011 and 4.2% in 2012; missing ethnicity by year was 7.2% in 2008, 5.5% in 2009, 4.3% in 2010, 2.9% in 2011 and 4.7% in 2012.

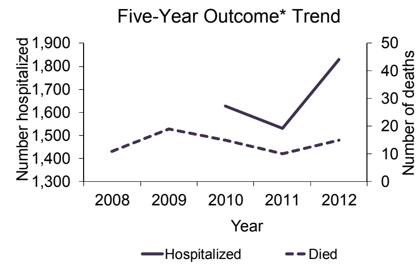
Summary of Case Factors

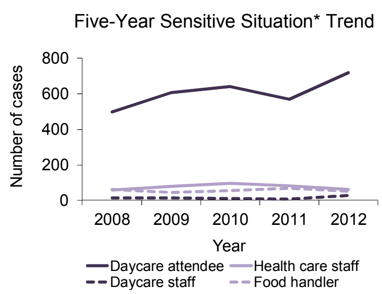
Summary	Number
Number of cases	6,523
Case Classification	**Number (Percent)**
Confirmed	6,249 (95.8)
Probable	274 (4.2)
Outcome*	**Number (Percent)**
Hospitalized	1,829 (28.0)
Died	15 (0.2)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	720 (11.0)
Daycare staff	28 (0.4)
Health care staff	62 (1.0)
Food handler	53 (0.8)
Imported Status*	**Number (Percent)**
Acquired in Florida	6,041 (92.6)
Acquired in the U.S., not Florida	93 (1.4)
Acquired outside the U.S.	114 (1.7)
Imported status unknown	275 (4.2)
Outbreak Status*	**Number (Percent)**
Sporadic	5,707 (87.5)
Outbreak-associated	709 (10.9)
Outbreak status unknown	107 (1.6)

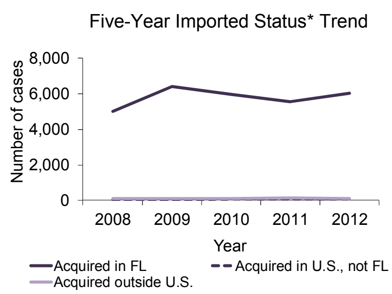
Reported Salmonellosis Cases by Month of Occurrence*, Case Classification, Outcome*, Sensitive Situation*, Imported Status* and Outbreak Status, Florida

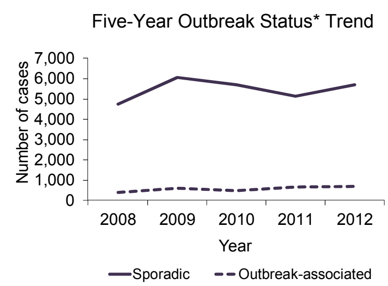












* Occurrence is determined by the earliest date associated with the case, which is most frequently the date of onset, but can also be the diagnosis date, the laboratory report date or the date the county health department was notified of the case. For outcome, a case can be included in the hospitalized 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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.

Shiga Toxin-Producing *E.* 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

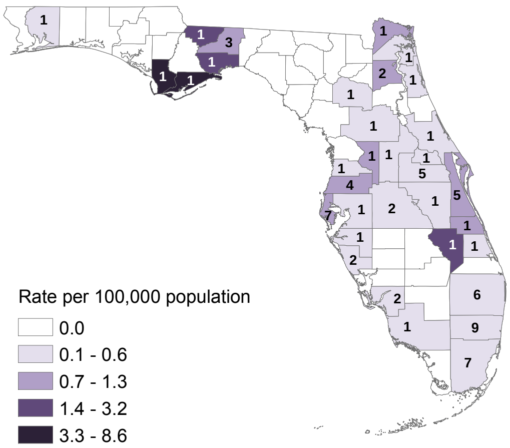
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., contaminated food product, ill food handler), monitor incidence over time, estimate burden of illness

Comments: Incidence varies considerably over the past 10 years. STEC infection typically peaks in late spring and early summer; in 2012, the largest number of cases were seen in August, September and October. STEC infection incidence is highest in children <5 years old, a group shown to be particularly vulnerable to STEC infection. STEC incidence in women has increased steadily over the past five years, surpassing that of men in 2010 and remaining higher since.

Summary of Case Demographics

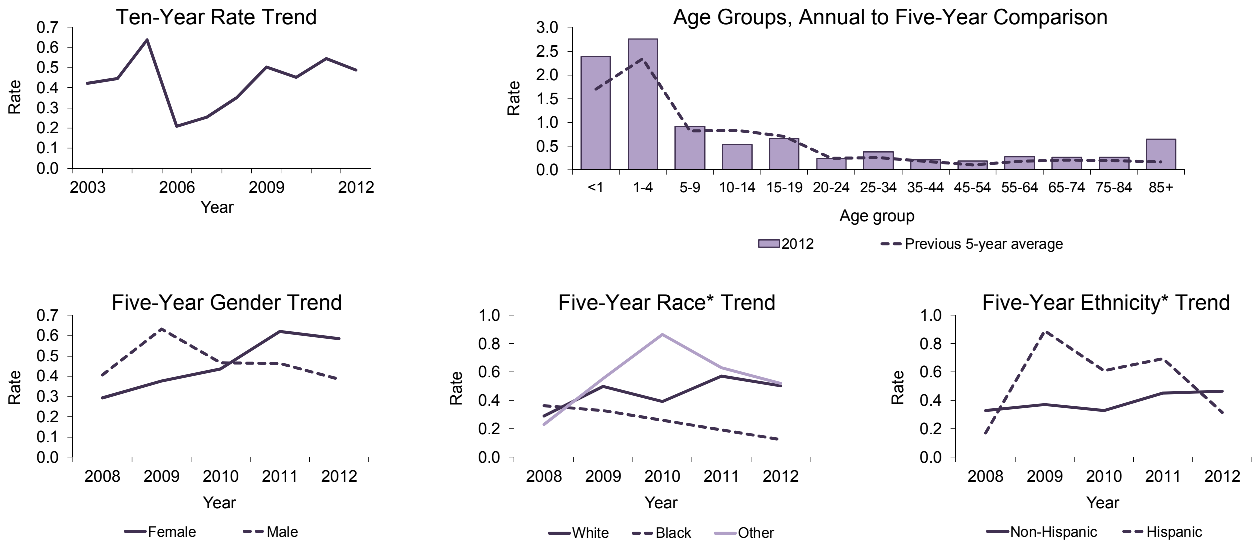
Summary		
Number of cases		93
Incidence rate (per 100,000 population)		0.5
Change from 5-year average incidence		+16.3%
Age (in years)		
Mean		26
Median		16
Min-max		0 - 89
Gender	**Number (Percent)**	**Rate**
Female	57 (61.3)	0.6
Male	36 (38.7)	0.4
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	75 (89.3)	0.5
Black	4 (4.8)	NA
Other	5 (6.0)	NA
Unknown race	9	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	68 (82.9)	0.5
Hispanic	14 (17.1)	NA
Unknown ethnicity	11	

Reported Shiga Toxin-Producing *E. coli* Infection Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=76)



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

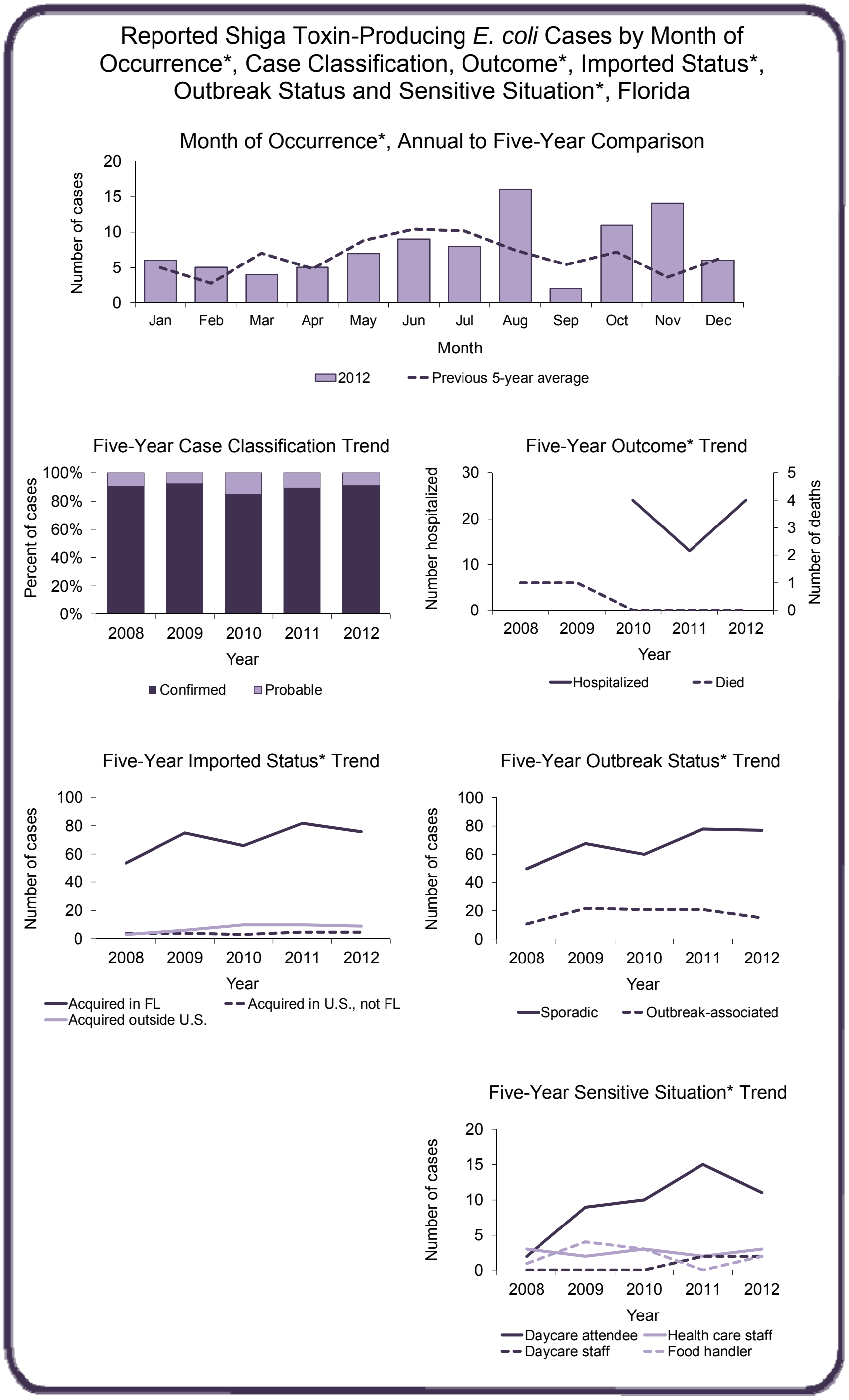
Reported Shiga Toxin-Producing *E. coli* Infection Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For Shiga toxin-producing *E. coli* infection, the percent of cases with missing race by year was 13.8% in 2008, 5.3% in 2009, 12.9% in 2010, 5.8% in 2011 and 9.7% in 2012; missing ethnicity by year was 15.4% in 2008, 3.2% in 2009, 12.9% in 2010, 6.8% in 2011 and 11.8% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	93
Case Classification	**Number (Percent)**
Confirmed	85 (91.4)
Probable	8 (8.6)
Outcome*	**Number (Percent)**
Hospitalized	24 (25.8)
Died	0 (0.0)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	11 (11.8)
Daycare staff	2 (2.2)
Health care staff	3 (3.2)
Food handler	2 (2.2)
Imported Status*	**Number (Percent)**
Acquired in Florida	76 (81.7)
Acquired in the U.S., not Florida	5 (5.4)
Acquired outside the U.S.	9 (9.7)
Imported status unknown	3 (3.2)
Outbreak Status*	**Number (Percent)**
Sporadic	77 (82.8)
Outbreak-associated	15 (16.1)
Serotypes of Confirmed Cases	**Number (Percent)**
O157:H7	31 (36.5)
O103:H2	11 (12.9)
O157	6 (7.1)
O26:H11	5 (5.9)
O111:non-motile	5 (5.9)
O157:non-motile	4 (4.7)
O69:H11	3 (3.5)
O118:H16	3 (3.5)
O145:non-motile	2 (2.4)
O103:H11	1 (1.2)
O121:H19	1 (1.2)
O1:H20	1 (1.2)
O71:H7	1 (1.2)
O74:H52	1 (1.2)
O76:H19	1 (1.2)
O88:H25	1 (1.2)
O130:H11	1 (1.2)
O141:H49	1 (1.2)
O174:H21	1 (1.2)
O174:non-motile	1 (1.2)
O178:H19	1 (1.2)
O rough:H8	1 (1.2)
O rough:non-motile	1 (1.2)
O not typeable:H7	1 (1.2)



* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome and 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, waterborne and foodborne

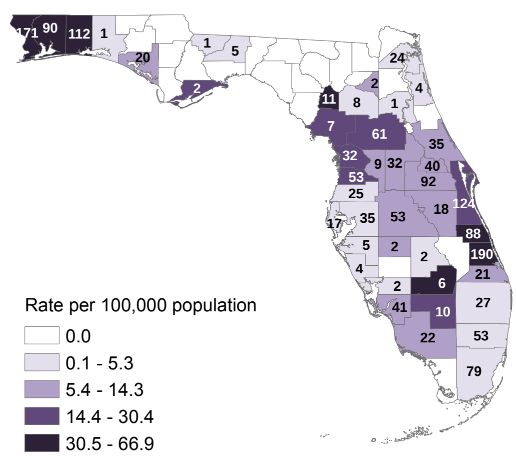
Reason for surveillance: Identify and control outbreaks, identify and mitigate common sources (e.g., ill daycare attendee), monitor incidence over time, estimate burden of illness

Comments: Shigellosis incidence was high in Florida in 2012. Historically, shigellosis has a cyclic temporal pattern with large, community-wide outbreaks, frequently involving daycare centers, every 2-3 years. Consistent with this trend, shigellosis incidence is highest in children aged 1 to 4 years and 5 to 9 years and a large portion of cases are outbreak-associated. Shigellosis activity increased in 2010 and 2011, but started decreasing in 2012.

Summary of Case Demographics

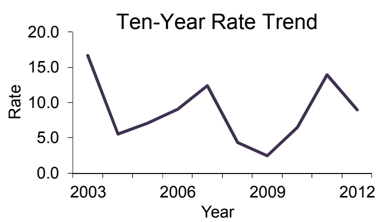
Summary		
Number of cases		1,702
Incidence rate (per 100,000 population)		8.9
Change from 5-year average incidence		+13.1%
Age (in years)		
Mean		16
Median		7
Min-max		0 - 95
Gender	**Number (Percent)**	**Rate**
Female	887 (52.1)	9.1
Male	815 (47.9)	8.8
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	1,183 (70.6)	7.9
Black	408 (24.3)	13.0
Other	85 (5.1)	8.8
Unknown race	26	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	1,272 (76.0)	8.7
Hispanic	401 (24.0)	9.1
Unknown ethnicity	29	

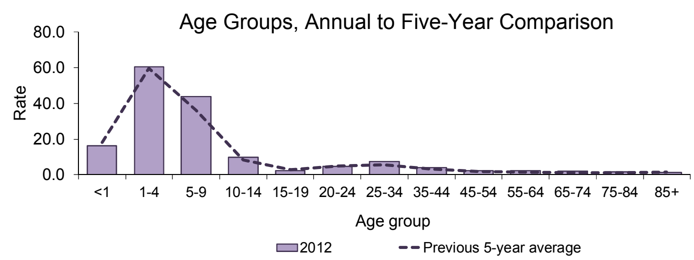
Reported Shigellosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=1,637)

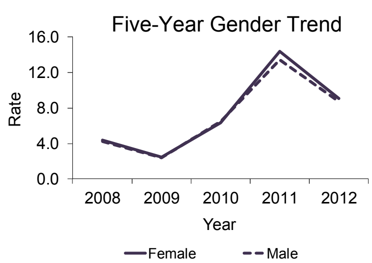


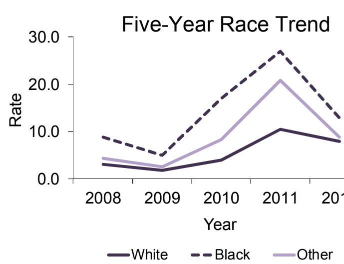
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

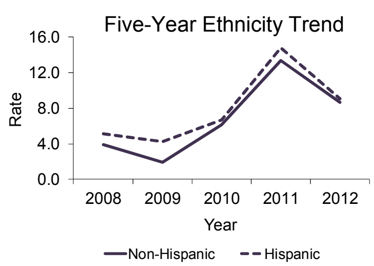
Reported Shigellosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida





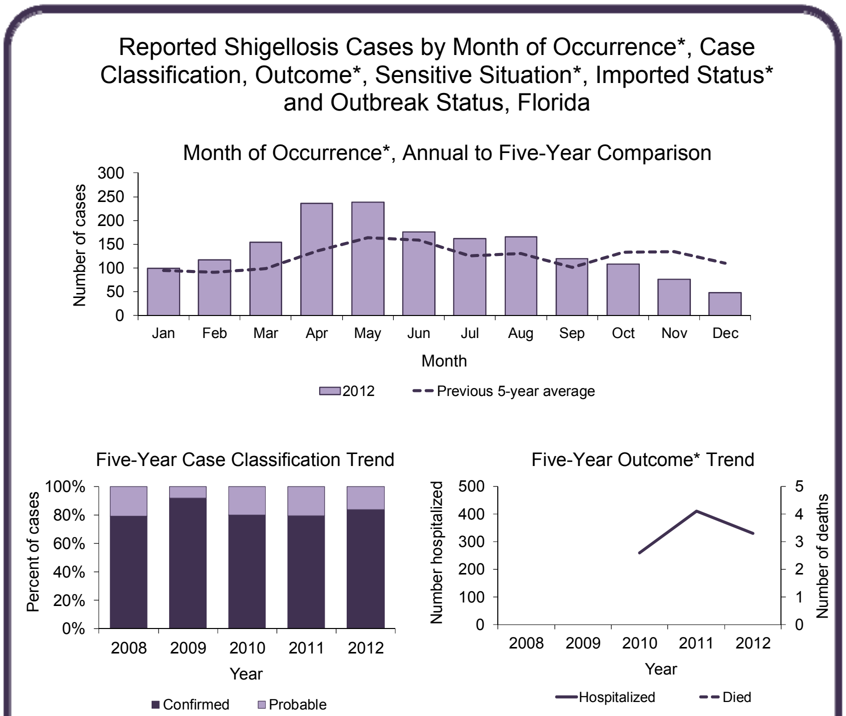


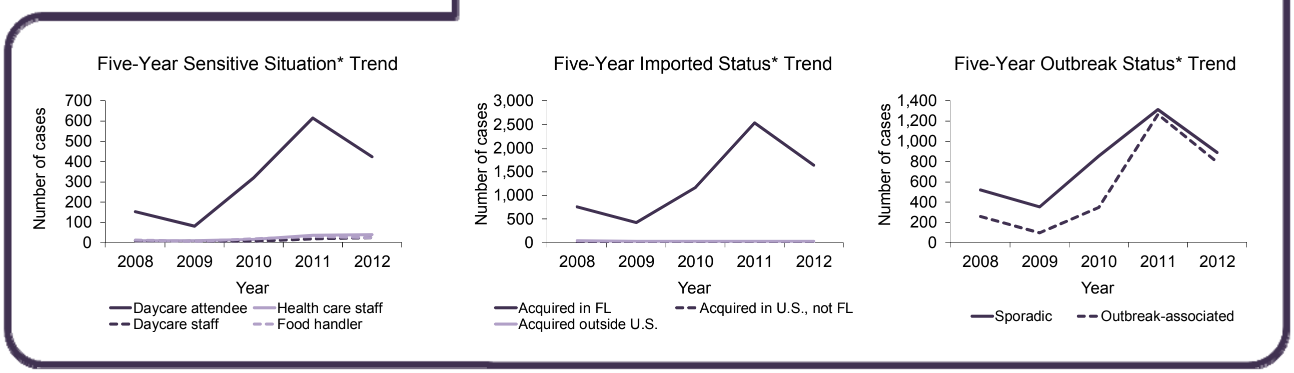




Summary of Case Factors

Summary	Number
Number of cases	1,702
Case Classification	**Number (Percent)**
Confirmed	1,433 (84.2)
Probable	269 (15.8)
Outcome*	**Number (Percent)**
Hospitalized	331 (19.4)
Died	0 (0.0)
Sensitive Situation*	**Number (Percent)**
Daycare attendee	423 (24.9)
Daycare staff	24 (1.4)
Health care staff	40 (2.4)
Food handler	25 (1.5)
Imported Status*	**Number (Percent)**
Acquired in Florida	1,637 (96.2)
Acquired in the U.S., not Florida	11 (0.6)
Acquired outside the U.S.	35 (2.1)
Imported status unknown	19 (1.1)
Outbreak Status*	**Number (Percent)**
Sporadic	892 (52.4)
Outbreak-associated	792 (46.5)
Outbreak status unknown	18 (1.1)





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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 child during pregnancy or delivery

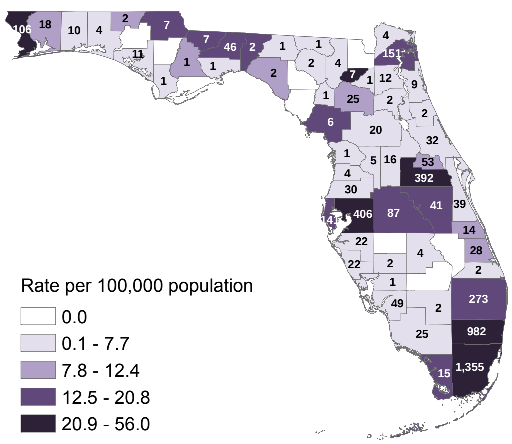
Reason for surveillance: Effective interventions implemented immediately for every case to prevent further transmission, monitor trends, evaluate effectiveness of control programs

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). Incidence is highest in blacks, men and adults aged 20-54 years. Men who have sex with men (MSM) 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

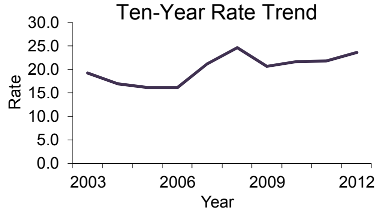
Summary		
Number of cases		4,509
Incidence rate (per 100,000 population)		23.7
Change from 5-year average incidence		+7.6%
Age (in years)		
Mean		37
Median		35
Min-max		0 - 98
Gender	**Number (Percent)**	**Rate**
Female	912 (20.2)	9.4
Male	3,595 (79.8)	38.6
Unknown gender	2	
Race	**Number (Percent)**	**Rate**
White	2,276 (54.3)	15.2
Black	1,867 (44.5)	59.3
Other	52 (1.2)	5.4
Unknown race	314	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	2,948 (71.8)	20.2
Hispanic	1,159 (28.2)	26.3
Unknown ethnicity	402	

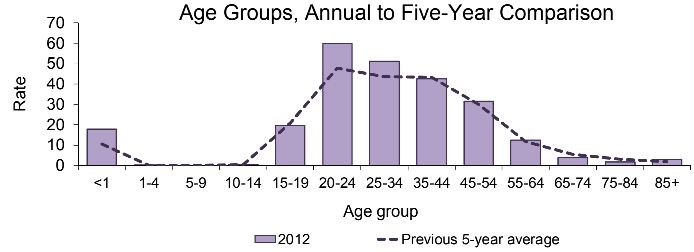
Reported Syphilis Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=4,509)

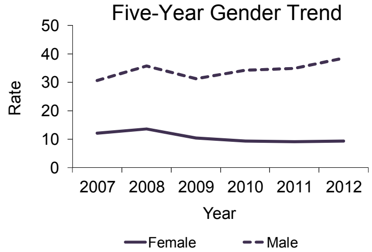


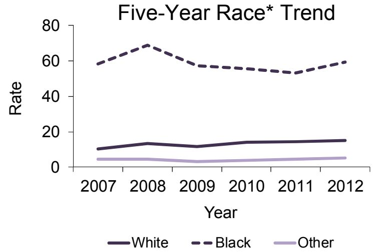
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

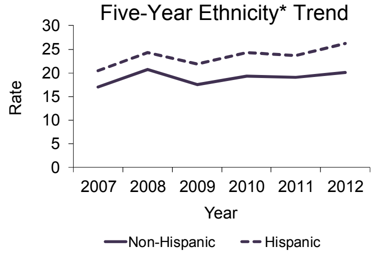
Reported Syphilis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida











* Note that race and ethnicity trend graphs should be interpreted with caution. For syphilis, the percent of cases with missing race by year was 11.0% in 2008, 9.0% in 2009, 5.0% in 2010, 7.0% in 2011 and 7.0% in 2012; missing ethnicity by year was 13.0% in 2008, 10.0% in 2009, 6.0% in 2010, 8.0% in 2011 and 9.0% in 2012.

Tuberculosis (TB)

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 TB

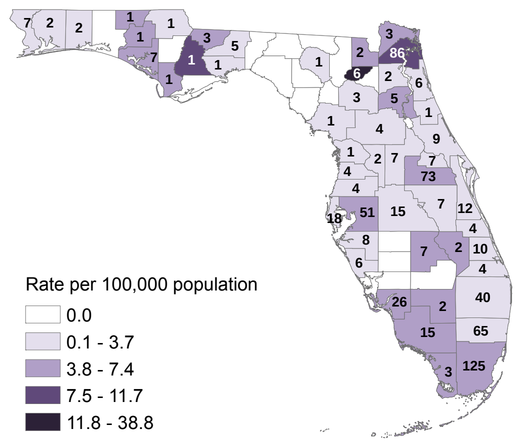
Reason for surveillance: Effective interventions implemented immediately for every case to prevent further transmission, monitor directly observed therapy programs, evaluate trends

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 2012. Medically underserved and low-income populations, including racial and ethnic minorities, such as blacks and other races, have high rates of TB exposure and infection.

Summary of Case Demographics

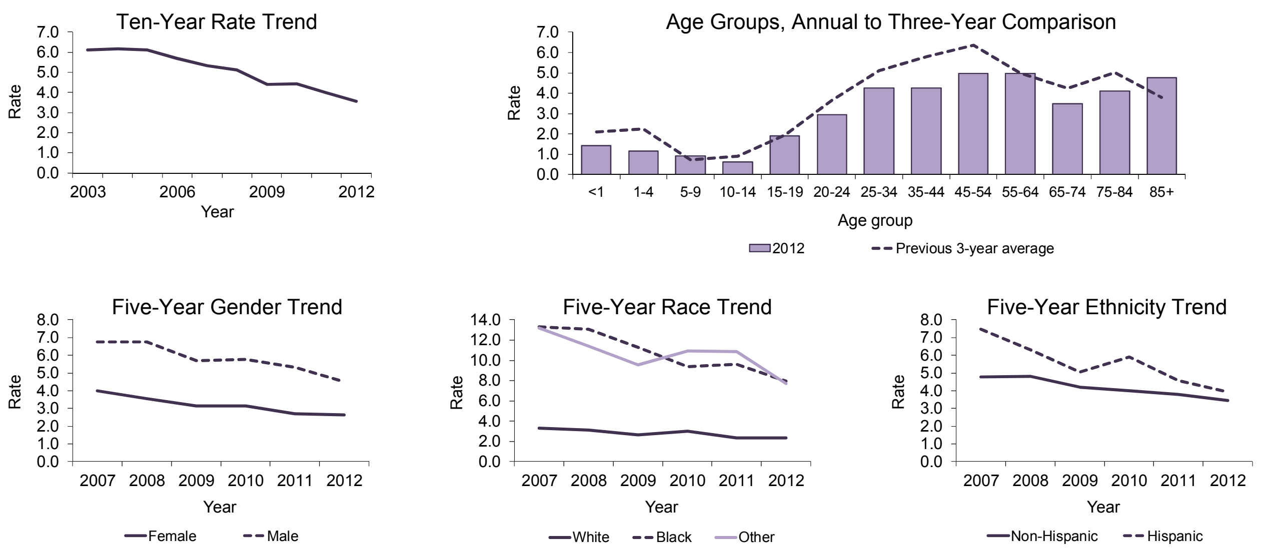
Summary		
Number of cases		679
Incidence rate (per 100,000 population)		3.6
Change from 5-year average incidence		-23.4%
Age (in years)		
Mean		48
Median		49
Min-max		0 - 98
Gender	**Number (Percent)**	**Rate**
Female	258 (38.0)	2.7
Male	421 (62.0)	4.5
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	355 (52.3)	2.4
Black	250 (36.8)	7.9
Other	74 (10.9)	7.7
Unknown race	0	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	506 (74.5)	3.5
Hispanic	173 (25.5)	3.9
Unknown ethnicity	0	

Counted Tuberculosis Cases and Incidence Rates per 100,000 Population by County of Residence, Florida, 2012 (N=679)

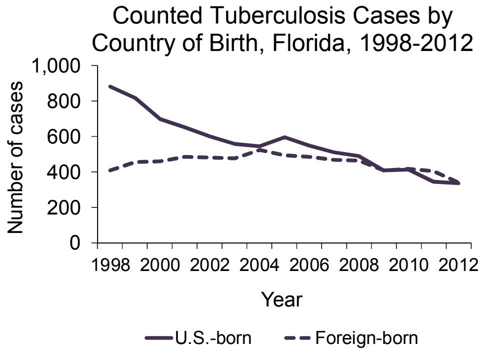


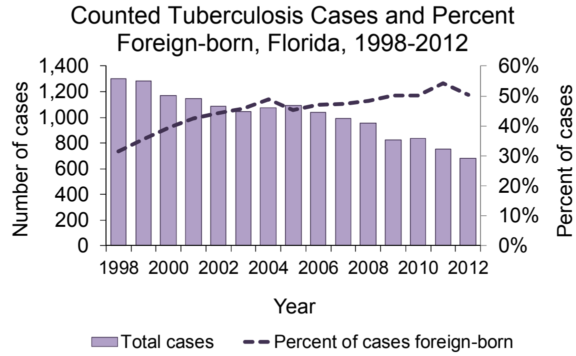
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

Counted Tuberculosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida

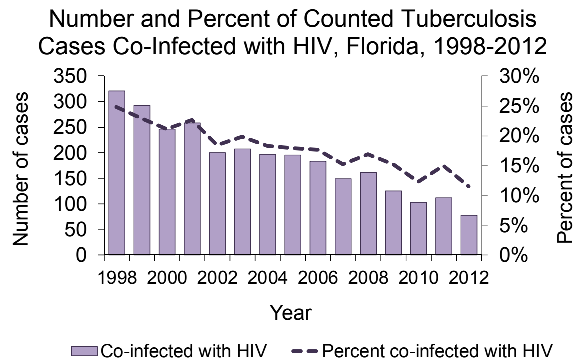


Additional Information





The rate of TB in U.S.-born people in Florida has been decreasing faster than the rate among foreign-born people. Being born in a country where TB is prevalent is one of the most significant risk factors for later developing TB, and now 50% of the total cases counted in Florida are among the foreign-born.



TB and HIV co-infection has been declining modestly but steadily over time in Florida. In 2012, 11% of TB cases were co-infected with HIV. HIV infection is the biggest risk factor for developing active TB disease following infection.

Varicella

Disease Facts

Cause: Varicella-zoster virus (VZV)

Type of illness: Common symptoms include blister-like 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 zoster lesions of people infected with VZV

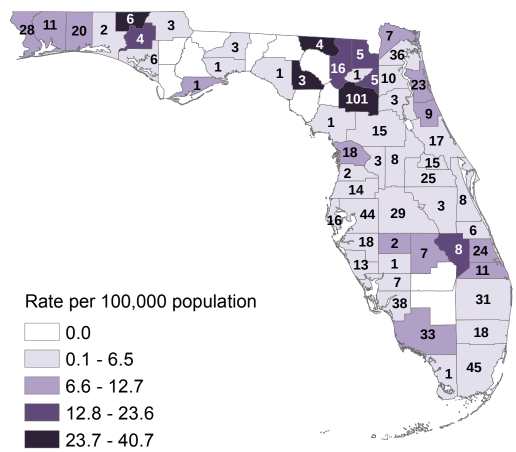
Reason for surveillance: Identify and control outbreaks, monitor effectiveness of immunization programs and vaccines, monitor trends and severe outcomes

Comments: Varicella 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. Most cases occur in winter and spring with the highest prevalence in school-aged children, most likely due to school contact. Households outbreaks are common.

Summary of Case Demographics

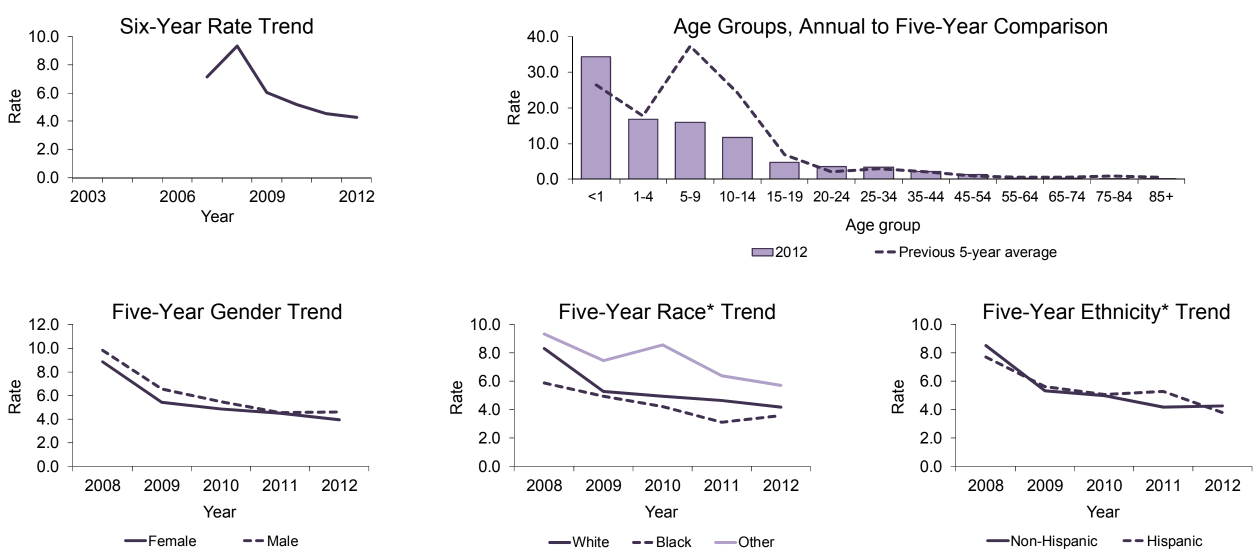
Summary		
Number of cases		815
Incidence rate (per 100,000 population)		4.3
Change from 5-year average incidence		-33.5%
Age (in years)		
Mean		15
Median		10
Min-max		0 - 86
Gender	Number (Percent)	Rate
Female	386 (47.4)	4.0
Male	429 (52.6)	4.6
Unknown gender	0	
Race	Number (Percent)	Rate
White	625 (78.8)	4.2
Black	113 (14.2)	3.6
Other	55 (6.9)	5.7
Unknown race	22	
Ethnicity	Number (Percent)	Rate
Non-Hispanic	627 (79.0)	4.3
Hispanic	167 (21.0)	3.8
Unknown ethnicity	21	

Reported Varicella Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=790)



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

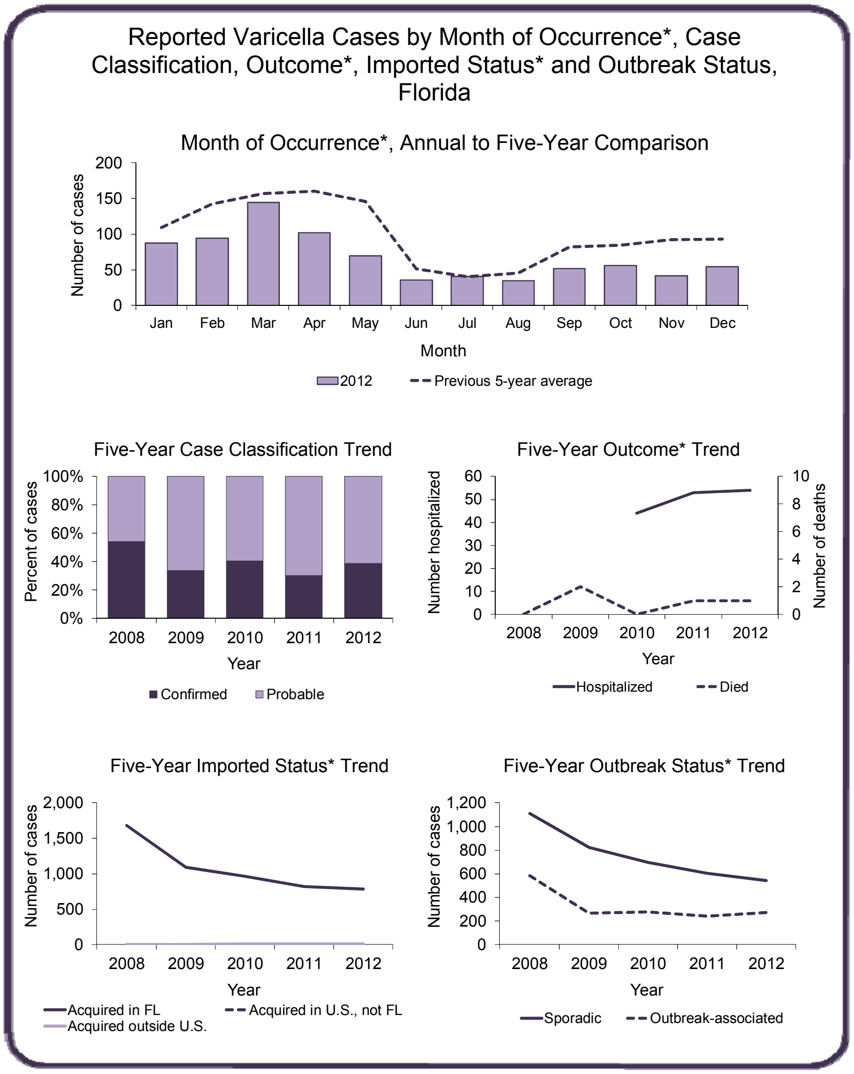
Reported Varicella Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For varicella, the percent of cases with missing race by year was 14.5% in 2008, 11.2% in 2009, 3.4% in 2010, 1.4% in 2011 and 2.7% in 2012; missing ethnicity by year was 10.4% in 2008, 10.0% in 2009, 3.2% in 2010, 2.2% in 2011 and 2.6% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	815
Case Classification	Number (Percent)
Confirmed	317 (38.9)
Probable	498 (61.1)
Outcome*	Number (Percent)
Hospitalized	54 (6.6)
Died	1 (0.1)
Imported Status*	Number (Percent)
Acquired in Florida	790 (96.9)
Acquired in the U.S., not Florida	3 (0.4)
Acquired outside the U.S.	8 (1.0)
Imported status unknown	14 (1.7)
Outbreak Status*	Number (Percent)
Sporadic	542 (66.5)
Outbreak-associated	272 (33.4)
Outbreak status unknown	1 (0.1)



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Vibriosis

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, wound infections from direct contact with seawater where the bacteria naturally live

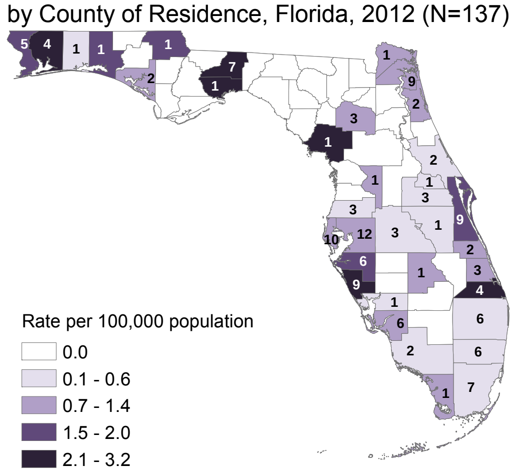
Reason for surveillance: Identify sources of transmission (e.g., shellfish collection area) and mitigate source, monitor incidence over time, estimate burden of illness

Comments: In Florida, *Vibrio* infections usually occur through contact of broken skin with seawater where *Vibrio* species are endemic or ingestion of contaminated product (e.g., raw oysters). Incidence rates are typically higher in summer months when exposure to seawater is more common and warmer water is conducive to bacterial growth.

Summary of Case Demographics

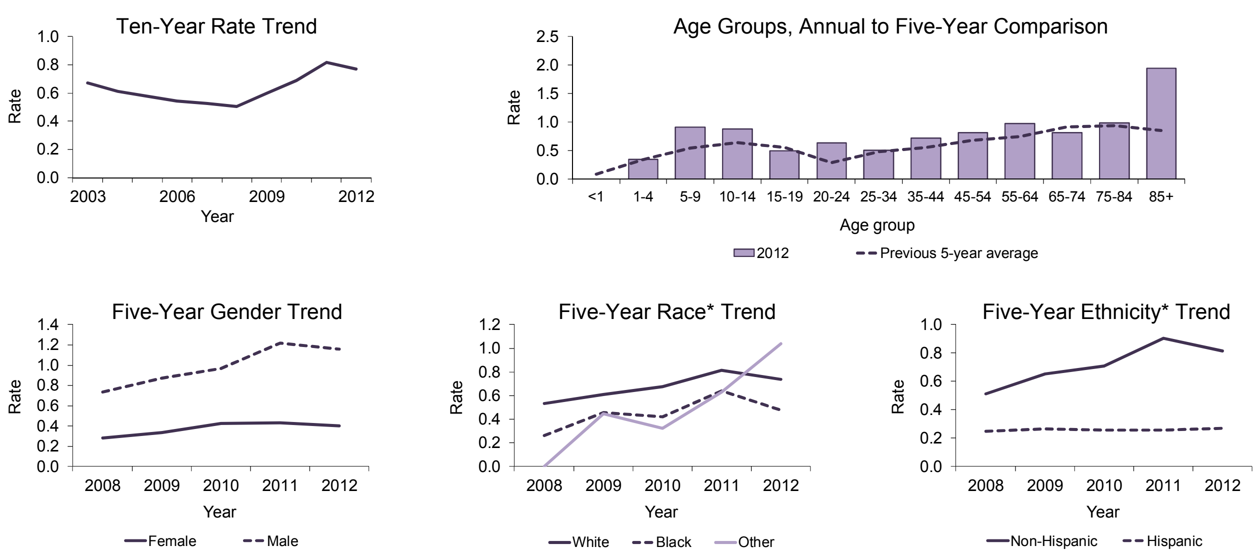
Summary		
Number of cases		147
Incidence rate (per 100,000 population)		0.8
Change from 5-year average incidence		+22.5%
Age (in years)		
Mean		46
Median		47
Min-max		2 - 93
Gender	**Number (Percent)**	**Rate**
Female	39 (26.5)	0.4
Male	108 (73.5)	1.2
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	110 (81.5)	0.7
Black	15 (11.1)	NA
Other	10 (7.4)	NA
Unknown race	12	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	119 (90.8)	0.8
Hispanic	12 (9.2)	NA
Unknown ethnicity	16	

Reported Vibriosis Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=137)



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

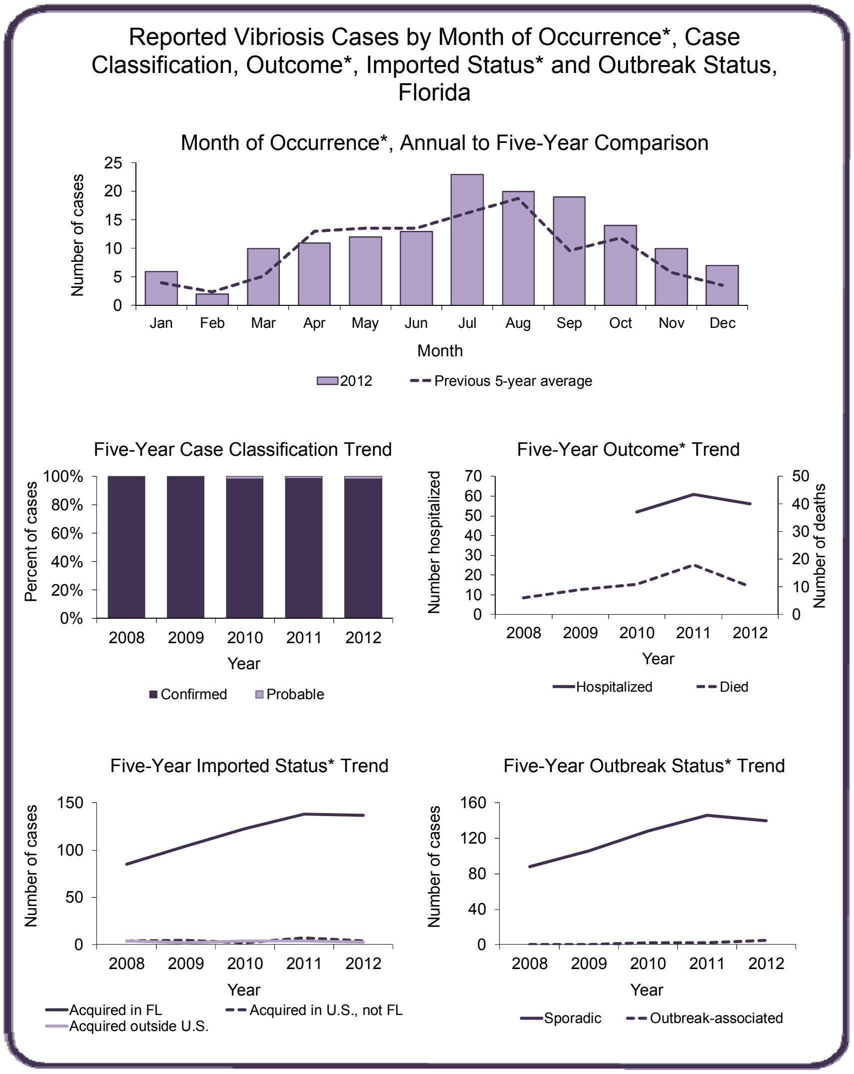
Reported Vibriosis Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



* Note that race and ethnicity trend graphs should be interpreted with caution. For vibriosis, the percent of cases with missing race by year was 7.4% in 2008, 3.6% in 2009, 10.8% in 2010, 5.2% in 2011 and 8.2% in 2012; missing ethnicity by year was 9.6% in 2008, 5.4% in 2009, 12.3% in 2010, 7.7% in 2011 and 10.9% in 2012.

Summary of Case Factors

Summary	Number
Number of cases	147
Case Classification	**Number (Percent)**
Confirmed	145 (98.6)
Probable	2 (1.4)
Outcome*	**Number (Percent)**
Hospitalized	56 (38.1)
Died	10 (6.8)
Imported Status*	**Number (Percent)**
Acquired in Florida	137 (93.2)
Acquired in the U.S., not Florida	4 (2.7)
Acquired outside the U.S.	3 (2.0)
Imported status unknown	3 (2.0)
Outbreak Status*	**Number (Percent)**
Sporadic	140 (95.2)
Outbreak-associated	5 (3.4)
Outbreak status unknown	2 (1.4)
Species	**Number (Percent)**
V. alginolyticus	57 (38.8)
V. parahaemolyticus	42 (28.6)
V. vulnificus	26 (17.7)
V. cholerae, non-O1	7 (4.8)
V. fluvialis	5 (3.4)
V. mimicus	4 (2.7)
V. hollisae	1 (0.7)
Other *Vibrio*	5 (3.4)



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Additional Information

Vibrio vulnificus can cause particularly severe disease, with about 50% of bloodstream infections being fatal. Of the 26 cases reported in 2012, all were hospitalized and nine (34.6%) died, accounting for nine (90.0%) of the 10 deaths in people with vibriosis. *V. vulnificus* infections typically occur in people who have chronic liver disease, a history of alcoholism, or are immunocompromised. Of the 26 cases, 24 (92.3%) had underlying medical conditions. Of the people that died, five (55.6%) reported consumption of raw oysters, three (33.3%) had wounds with exposure to seawater, and one (11.1%) had multiple exposures. Like other vibriosis cases, most *V. vulnificus* infections occur in the summer, in white, non-Hispanic men.

West Nile Virus Disease

Disease Facts

Cause: West Nile virus (WNV)

Type of illness: Acute febrile illness; common symptoms are headache, joint pain, muscle pain, rash; <1% will develop encephalitis or meningitis

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

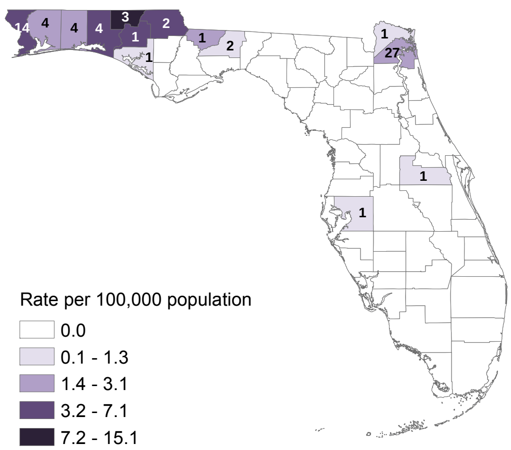
Reason for surveillance: Identify areas where WNV is being transmitted to target public education on prevention, prevent outbreaks, monitor incidence over time, estimate burden of illness

Comments: WNV disease was introduced to Florida in 2001. The highest number of cases was reported in 2003, followed by 2012. WNV disease is established as a seasonal epidemic in summer and fall in Florida, as well as nationally. However, in Florida the risk of infection is year-round.

Summary of Case Demographics

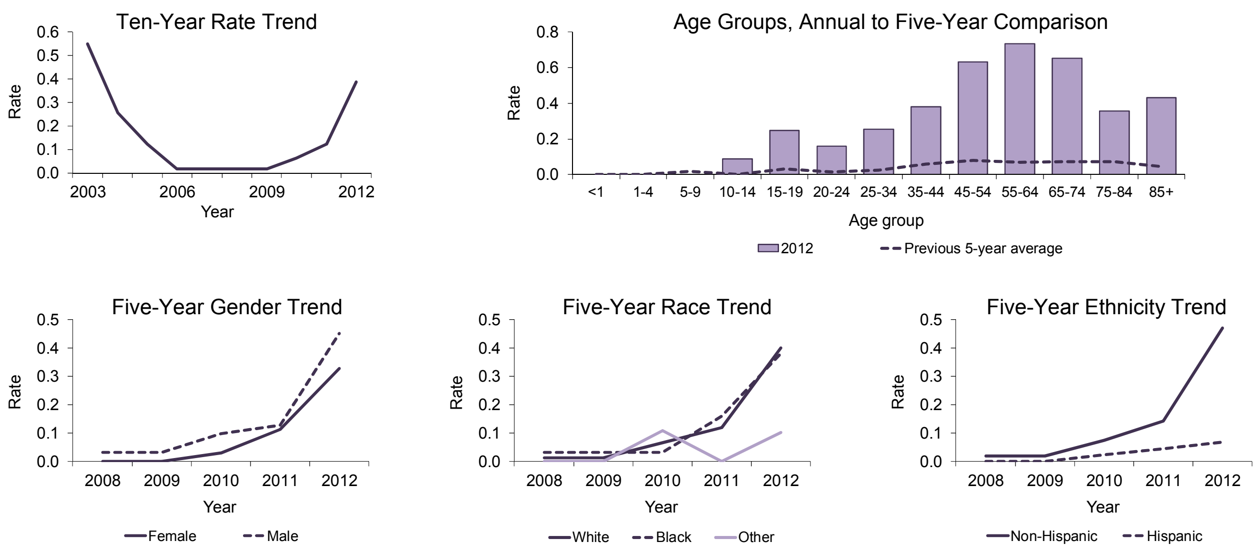
Summary		
Number of cases		74
Incidence rate (per 100,000 population)		0.4
Change from 5-year average incidence		+677.2%
Age (in years)		
Mean		53
Median		54
Min-max		12 - 93
Gender	**Number (Percent)**	**Rate**
Female	32 (43.2)	0.3
Male	42 (56.8)	0.5
Unknown gender	0	
Race	**Number (Percent)**	**Rate**
White	60 (82.2)	0.4
Black	12 (16.4)	NA
Other	1 (1.4)	NA
Unknown race	1	
Ethnicity	**Number (Percent)**	**Rate**
Non-Hispanic	69 (95.8)	0.5
Hispanic	3 (4.2)	NA
Unknown ethnicity	2	

Reported West Nile Virus Disease Cases and Incidence Rates per 100,000 Population for Only Infections Acquired in Florida by County of Residence, Florida, 2012 (N=66)



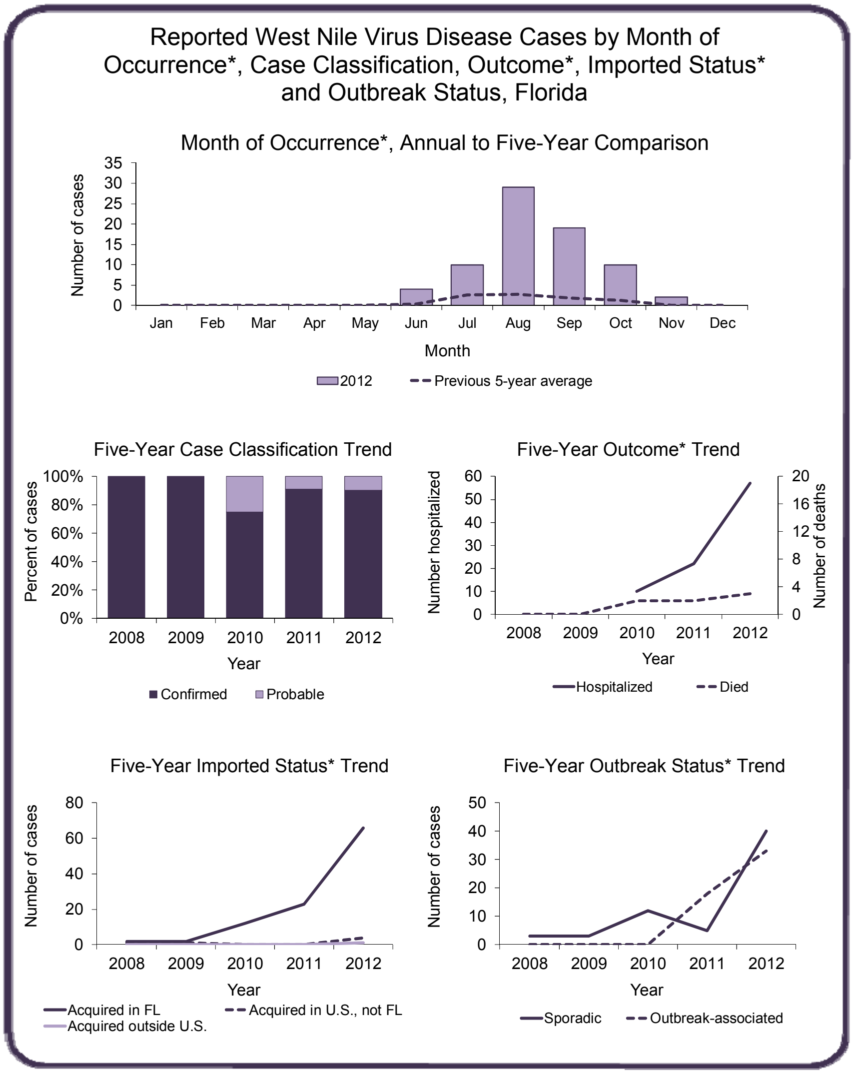
Note that rates based on less than 20 cases are not reliable and should be interpreted with caution.

Reported West Nile Virus Disease Incidence Rate per 100,000 Population by Year, Age, Gender, Race, and Ethnicity, Florida



Summary of Case Factors

Summary	Number
Number of cases	74
Case Classification	**Number (Percent)**
Confirmed	67 (90.5)
Probable	7 (9.5)
Outcome*	**Number (Percent)**
Hospitalized	57 (77.0)
Died	3 (4.1)
Imported Status*	**Number (Percent)**
Acquired in Florida	66 (89.2)
Acquired in the U.S., not Florida	4 (5.4)
Acquired outside the U.S.	1 (1.4)
Imported status unknown	3 (4.1)
Outbreak Status*	**Number (Percent)**
Sporadic	40 (54.1)
Outbreak-associated	33 (44.6)
Outbreak status unknown	1 (1.4)
Type of Disease	**Number (Percent)**
Non-neuroinvasive	21 (28.4)
Neuroinvasive	53 (71.6)



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 the case's county of residence.

The peak in human WNV disease cases occurred in 2003. After the 2003 peak, the number of human cases gradually decreased over the years from 2004 to 2009 until case numbers started increasing in 2010. Dry environmental conditions and herd immunity in bird populations may have contributed to the low number of cases from 2006 to 2009.

Since the introduction of WNV in 2001, 2012 represents the second highest year of record for WNV disease in Florida and nationally. In Florida, cases were focused in Duval County and the Panhandle, particularly Escambia County. These two counties carried the heaviest disease burden, accounting for 62% of the 2012 cases. 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.

* 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. Note that hospitalization status is not available prior to 2010. Deaths include all people with the illness who died, though the death may not necessarily have been due to the illness. Outcome 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.

Section 3

Narratives for Selected Reportable Diseases/Conditions of Infrequent Occurrence

Arsenic Poisoning

Arsenic is an element that naturally occurs in many minerals, usually in conjunction with sulfur and metals. Most arsenic-induced toxicity in humans is due to exposure to inorganic arsenic. Organic arsenic found in fish is not believed to be toxic. Acute ingestion of toxic amounts of inorganic arsenic typically causes severe gastrointestinal symptoms (e.g., vomiting, abdominal pain and diarrhea), which may lead rapidly to dehydration and shock. Different clinical manifestations may follow, including dysrhythmias, altered mental status and multisystem organ failure leading to death. Common sources of potential arsenic exposure are chromated copper arsenate (CCA)-treated wood, tobacco smoke, certain agricultural pesticides, and some homeopathic and naturopathic preparations and folk remedies. In addition, arsenic is a naturally occurring contaminant found in water in certain areas of Florida, affecting (unregulated) private drinking wells. Surveillance for arsenic poisoning is important to identify sources of intoxication of public health concern (e.g., a water source, workplace exposure, homeopathic medicines, exposure to CCA-treated wood), to prevent further or continued exposure to those sources and when the source of intoxication appears to pose a risk to only a few people, to inform those people how they can reduce their risk of exposure.

Arsenic poisoning became reportable in Florida in November 2008. Since then, between 7 and 14 cases have been reported each year; only five cases were reported in 2012, all of which were sporadic and laboratory-confirmed. Two cases were hospitalized, but no deaths were reported. Two cases were in women, the other three were in men; two cases were in non-Hispanic white people, one case was in a white Hispanic person and two cases were in people of unknown race and ethnicity. Ages ranged from 29 to 79 years old (average age was 57 years, median was 65 years). Cases were reported in Alachua (1), Bay (2), Escambia (1), Pasco (1) counties. All cases were interviewed; one person's possible exposure was in Illinois (homeopathic medicine); the remaining exposures were in Florida. Two people with Florida exposures reported smoking. No other risk factors were reported.

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 and physical weakness. Brucellosis can also cause long lasting or chronic symptoms that include recurrent fevers, joint pain and fatigue. These bacteria are primarily passed among animals, but people can get the disease when they are in contact with infected animals or animal products contaminated with the bacteria. Animals that are most commonly infected in Florida include feral swine, dogs and dolphins. Outside the U.S., unpasteurized milk products from infected goats, sheep and cattle 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; early intervention and prophylaxis to prevent laboratory exposure-related infections; early detection of potentially contaminated products including food, transfusion, and organ transplant products; and early detection and response to a bioterrorist event.

Since 2002, 3 to 10 brucellosis cases were reported annually in Florida residents. In 2012, 17 cases were reported, 16 of which were interviewed, 13 of which were confirmed and none of which were outbreak-associated. Eleven cases were hospitalized, but no deaths were reported. Sixteen cases were in white men (four of which were Hispanic) and one case was in a black man. Ages ranged from 19 to 69 years old (average age was 37 years, median was 31 years). 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 Brevard (3), Hendry (3), Palm

Beach (2), Calhoun (1), Miami-Dade (1), Hardee (1), Jackson (1), Osceola (1), Polk (1), Sarasota (1), Seminole (1) and St. Lucie (1) counties. Two men acquired their infections in Mexico; both were culture-positive for *B. melitensis* and reported eating unpasteurized milk products or slaughtering livestock. One person who was culture-positive for *B. suis* had mental health issues and did not know where or how he acquired his infection. The remaining 14 men acquired their infections in Florida; 10 were culture-positive for *B. suis* and four were positive by serologic testing. Of the 14 men infected in Florida, 13 reported hunting feral swine or other direct swine or raw meat contact. One man did not have direct swine contact but reported a large number of feral swine regularly being in his yard, and sustained a significant cut on a lawn mower blade while working in the yard. He also had outside pets. Interestingly, the U.S. Department of Agriculture reported an increased number of *Brucella* positive feral swine in 2012.

Cholera

Cholera is an acute bacterial infection caused by toxigenic *Vibrio cholerae* serogroups O1 and O139. People with cholera can experience a wide range of symptoms, from asymptomatic infection to severe diarrheal illness. Approximately 5-10% of infections cause severe disease, characterized by acute, profuse, watery diarrhea that can lead to rapid fluid loss and hypovolemic shock. Additional symptoms of severe illness may include vomiting, tachycardia, loss of skin turgor, muscle cramps, dry mucous membranes, hypotension and thirst. Without treatment, seizures, coma, and death can occur within hours. Humans are the only documented natural host, but free-living *V. cholerae* organisms can exist in the aquatic environment. People get cholera after ingesting contaminated water or food, particularly raw or undercooked shellfish. Cholera is rare in the U.S. and other industrialized nations, but its incidence has continued to increase globally since 2005. Surveillance for cholera is intended to determine if there is a source of infection of public health concern (e.g., contaminated commercially distributed food product) and to stop transmission from such a source, identify populations at risk of infection so as to provide targeted prevention outreach and monitor trends in the epidemiology of toxigenic *V. cholerae* serogroups O1 and O139.

In Florida, cholera is typically associated with history of travel to an area with epidemic cholera. Imported cases were seen in the early 1990s following the onset of the Latin American cholera epidemic. No cases were reported for more than a decade in Florida prior to the onset of the Haiti cholera epidemic in October 2010. Florida has approximately 241,000 Haitian-born residents, representing almost half of the Haitian-born population in the U.S., so imported cases were anticipated. Four cholera cases were reported in 2010, eleven cases in 2011, and seven cases in 2012. All seven cases reported in 2012 were culture-confirmed; five people were hospitalized but no deaths were reported. Six of the cases were interviewed. All infections were acquired in Haiti (6) or the Dominican Republic (1) and considered part of the ongoing epidemic in Hispañiola. Four cases were in non-Hispanic black women, two cases were in non-Hispanic black men and one case was in a white Hispanic man. Ages ranged from 23 to 78 years old (average age was 52 years, median was 61 years). Cases were reported in residents of Miami-Dade (3), Broward (2), Orange (1) and St. Lucie (1) counties. Cases occurred in April (1), May (2), June (1), August (1) and October (2).

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*. People with Hansen’s disease can experience a wide range of clinical manifestations, but typically develop symptoms related to the skin, peripheral nerves and the mucosa of the upper airway. Although the mode of transmission of Hansen’s disease is not clearly defined, most investigators think that *M. leprae* is usually spread from person to person in respiratory droplets. Some armadillos in the southern U.S. are naturally infected with Hansen's disease. It is possible to get infected through contact with armadillos, but the risk is low and not well understood. Transmission of Hansen’s disease in the U.S. is rare, with about 200 cases reported each year, and most U.S. cases occur in immigrants, typically from Asia, the Asian Pacific Islands and Latin America. 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 transmission from infected people.

In Florida, between 7 and 12 Hansen's disease cases are reported each year. Ten cases were reported in 2012, all of which were sporadic, laboratory-confirmed cases. No hospitalizations or deaths were reported, and all 10 people were interviewed. Seven cases were in white non-Hispanic men, two cases were in white non-Hispanic women and one case was in a white Hispanic man. Ages ranged from 30 to 83 years old (average age was 57 years, median was 60 years). Cases were reported in residents of Brevard (5), Hillsborough (2), Orange (1), Osceola (1) and Polk (1) counties. No linkages between the Brevard County cases were identified. Two infections were reported as acquired in Florida (in Hillsborough and Brevard county residents), two were reported as acquired outside the U.S. (Mexico and Korea) and the origin of the remaining six cases was unknown. Two men reported exposure to armadillos, a possible source of infection. One man killed an armadillo 5-6 years prior to onset and one man reported extensive contact with armadillo feces, urine and blood in Florida and Georgia.

Mercury Poisoning

Mercury is a naturally occurring element whose distribution in the environment is the result of both natural and man-made processes. There are three categories of mercury (elemental or metallic mercury, organic mercury compounds and inorganic mercury compounds), each with unique characteristics and potential toxic effects. 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 (found in fish and marine mammals), 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 to cause 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; impairment of speech, hearing and walking; and muscle weakness. Surveillance for mercury poisoning is important to determine if there is a source of intoxication of public health concern (e.g., fish, broken thermometer, dental amalgams), to prevent further or continued exposure to those sources and when the source of intoxication appears to pose a risk to only a few people, to inform those people how they can reduce their risk of exposure.

The number of mercury poisoning cases reported in Florida varies by year from a high of 69 cases in 2008 to a low of seven cases in 2011. One of the main reasons for the decrease in the number of cases after 2008 was a change in case definition. Ten cases were reported in 2012, all of which were sporadic and laboratory-confirmed in urine (≥10 micrograms per liter [µg/L]), whole blood (≥10 µg/L) or hair (≥5 µg/L). Only one person was hospitalized and no deaths were reported. Four cases were in white non-Hispanic men, three were in white non-Hispanic women, one was in a white Hispanic man, one was in a man of unknown race and ethnicity and one was in a woman of unknown race and ethnicity. Ages ranged from 21 to 81 years old (average age was 51 years, median was 48 years). Cases were reported in residents of Martin (2), Miami-Dade (2), Brevard (1), Broward (1), Indian River (1), Palm Beach (1), Sarasota (1) and St. Johns (1) counties. Eight of the cases were interviewed. One person was exposed in Venezuela; the other nine people were exposed in Florida. Nine of the cases were in people reporting fish consumption within a month of illness identification. One person reported eating ≤12 ounces of fish per week, one person reported 18 to 30 ounces per week, three people reported 36 to 60 ounces per week, one person reported 66 to 90 ounces per week, one person reported ≥126 ounces per week and two people did not report the amount of fish consumption. One person did not report any high-risk exposures for mercury poisoning.

Mumps

Mumps is a vaccine-preventable disease caused by the mumps virus. Mumps typically starts with a few days of fever, headache, muscle aches, tiredness and loss of appetite, followed by swelling of salivary glands. Before a routine vaccination program was introduced in the U.S., mumps was a common illness in infants, children and young adults. Most people have now been vaccinated in the U.S. and the disease has become rare. Mumps is only found in humans, and is spread by droplets of saliva or mucus from the mouth, nose or throat of an infected person, usually when the person coughs, sneezes or talks. Surveillance for mumps is important to identify infected people and prevent them from transmitting the infection to others by isolating the infected person and identifying and vaccinating any susceptible people. It is also important to educate potentially exposed people about the signs and symptoms of mumps to facilitate early diagnosis and reduce the risk of further transmission. Surveillance data are used to evaluate prevention programs and vaccine effectiveness.

In Florida, between 10 and 20 mumps cases are typically reported each year. In 2012, only five cases were reported; all sporadic, four of which were confirmed, one of which was probable. One case was hospitalized and no deaths were reported. Three cases were in women, two were in men. Three cases occurred in white people, two of whom were Hispanic. Two cases occurred in people of other races. Four of the five cases were interviewed. Two infections were acquired in other countries (India and Malaysia) and three infections were acquired in Florida. Four people (aged 4, 26, 48 and 54 years) had at least one dose of mumps-containing vaccine, but one person (aged 43 years) was unvaccinated. Cases were reported in residents of Brevard, Duval, Miami-Dade, Palm Beach and Seminole counties. Four of the cases occurred during winter months (November, December, January and February) and one case occurred in August.

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

Staphylococcus aureus are common bacteria 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 infection, especially among chronically ill patients who have recently had invasive procedures or who have indwelling medical devices. *S. aureus* is transmitted from person to person by direct contact. *S. aureus* is spread via hands, especially among health care workers, which may 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. Consequently, physicians rely on vancomycin as the primary antibiotic for treating patients with serious MRSA infections. 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 relatively new and rare clinically-difficult organisms.

Typically, between one and six VISA cases are reported in Florida annually. Seven cases were reported in 2012, more than any previous year, all of which were sporadic and laboratory-confirmed. All cases were investigated. Three cases were non-Hispanic white men, one case was in a Hispanic white man, one case was in a non-Hispanic white woman, one case was in a black man and one case was in a man of other race. Patient age ranged from 50 to 74 years old (average age was 61 years, median was 62 years). Five cases were hospitalized and two cases died, though not necessarily from their VISA infection. Six cases had a history of vancomycin treatment for an infection prior to the isolation of VISA. One patient’s history was unknown. The cases were reported by different facilities in six counties, Duval (2), Bay (1), Hernando (1), Hillsborough (1), Miami-Dade (1) and Palm Beach (1).

Tetanus

Tetanus is a life-threatening but vaccine-preventable disease caused by the toxin produced by *Clostridium tetani* bacteria. Another name for tetanus is "lockjaw" because it often causes a person's neck and jaw muscles to lock, making it hard to open the mouth or swallow. Other symptoms may include headache, muscle spasms, painful muscle stiffness all over the body, seizures, fever and sweating, high blood pressure and fast heart rate. Tetanus can be prevented through immunization and is rare in the U.S. Nearly all cases of tetanus are among people who have never received a tetanus vaccine or adults who do not stay up-to-date on their 10-year booster shots. Unlike other vaccine-preventable diseases, tetanus is not spread from person to person. *Clostridium tetani* bacteria are found in high concentrations in soil and animal excrement and people can become infected when contaminated soil, dust or manure enter the body through breaks in the skin (usually cuts or puncture wounds caused by contaminated objects). Tetanus is under surveillance to collect information on the temporal, geographic and demographic occurrence to facilitate its prevention and control.

Typically, two to five tetanus cases are reported in Florida residents each year. Four cases were reported in 2012, all of which were sporadic and classified as probable. There are no clinical laboratory tests that can confirm tetanus infection. Due to the lack of confirmatory testing, there is no confirmed case definition for tetanus. Three of the four cases were hospitalized, but no deaths were reported. Two cases were in men and two cases were in women; three cases were in white Hispanic people, and one case was in a white non-Hispanic person. Ages ranged from 38 to 70 years old (average age was 57 years, median was 60 years). Cases were reported in Hernando, Lee, Marion and Miami-Dade counties. The two men sustained puncture wounds from nails, one woman sustained a puncture wound from a palm frond that remained embedded for several days, and one woman had a compound fracture of the lower leg after a fall outside.

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. *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, 10 to 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. Eleven cases were reported in 2012, all of which were confirmed and interviewed, none of which were outbreak-associated. Eight people were hospitalized, but no deaths were reported. Five of the 11 cases were in Asian/Pacific Islanders, two in blacks, two in white Hispanics and two in people of other races (one of whom was Hispanic). Seven of the cases were in women. Ages ranged from 3 to 59 years old (average age was 30 years, median was 38 years). Cases were reported in residents of Broward (3), Miami-Dade (3), Palm Beach (2), Alachua (1), Collier (1) and Orange (1) counties. Nine infections were acquired in other countries (four in India, and one each in Bangladesh, Guatemala, Haiti, Pakistan and the Philippines). Two infections were acquired in Florida (Miami-Dade and Collier county residents) and no source infection was identified for either case. One case was identified in a health care worker who was excluded from work until three negative stool specimens were obtained.

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 2012 are briefly summarized in this section.

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Viral Diseases

Non-infectious Agents

Other or Unknown Etiology

Bacterial Diseases

Bordetella pertussis: Outbreak in a Daycare, Collier County

Background: On May 14, 2012, the Epidemiology Program at the Florida Department of Health in Collier County (DOH-Collier) received a positive *Bordetella pertussis* polymerase chain reaction (PCR) electronic laboratory report for a 3-month old infant. The infant attended daycare in a rural community.

Methods: DOH-Collier contacted family members and staff at the daycare facility to identify close contacts. Close contacts were defined as people having direct face-to-face contact with the infant or people within three feet of the infant for more than six hours a day. Immunization records were reviewed for all close contacts. All infants in the classroom were evaluated at a local clinic and area medical providers were notified that a child in the community had pertussis.

Results: All 10 infants in the classroom were up-to-date on vaccinations. Thirty-two close contacts received antibiotic prophylaxis including parents, siblings, classmates, teachers and medical providers. Two symptomatic classmates were excluded and DTaP/Tdap vaccine was administered to close contacts per the American Academy of Pediatrics recommendations, including 24 caregivers at the daycare facility. On May 21, seven days after the investigation started, secondary transmission of pertussis was confirmed. A local pediatrician reported a 15-month-old child tested positive for pertussis by PCR. Investigation determined the child was in the same daycare classroom as the index case. Antibiotic prophylaxis was recommended for four close contacts.

Conclusions and Recommendations: All children and staff in daycare should maintain up-to-date immunization against pertussis. Symptomatic attendees and staff should be excluded from daycare centers. Local medical providers in the community should order appropriate testing (PCR) when pertussis is suspected.

Bordetella pertussis: Pertussis and Tuberculosis Co-Infection, Seminole County

Background: On July 26, 2012, a 19-year-old man presented to Florida Department of Health in Seminole County (DOH-Seminole) Epidemiology Program with a nonspecific cough with duration of one week. The patient was identified as a contact to a recent pertussis cluster of four cases within a family. During the epidemiology interview, the patient recalled coughing up blood during the previous year, weight loss of 10 to 12 pounds and night sweats; consequently the patient was immediately referred to the DOH-Seminole tuberculosis clinic for evaluation and was diagnosed as a case of active tuberculosis.

Methods: Nasopharyngeal (NP) and sputum specimens were collected and tested for pertussis and tuberculosis, respectively, by the Bureau of Public Health Laboratories in Jacksonville.

Results: The NP specimen tested positive for pertussis by polymerase chain reaction (PCR), while the sputum specimen tested positive for tuberculosis, initially as an acid-fast bacillus smear, and later by PCR and culture. No additional epidemiologically-linked pertussis cases were identified. On July 30, the patient began the standard rifampin, isoniazid, pyrazinamide and ethambutol treatment regimen for tuberculosis. Tuberculin skin tests were administered to 16 contacts, and five were identified as positive for latent tuberculosis infection (LTBI). No additional active tuberculosis cases were identified.

Conclusions and Recommendations: An active tuberculosis case was identified as part of a pertussis cluster investigation. Antibiotic prophylaxis was recommended to high-risk pertussis contacts regardless of immunization status. Information on pertussis vaccination was distributed to households within the neighborhood where the family cluster was identified. The five people identified with LTBI began prophylactic treatment with isoniazid.

***Brucella melitensis*: A Case of Brucellosis With Laboratory Exposures, Miami-Dade County**

Background: On Sunday, May 20, 2012, the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade) was notified of laboratory personnel potentially exposed to suspect *Brucella* blood culture isolates from a local hospital. Brucellosis was not suspected at the time of exposure. The following day, the hospital infection preventionists (IP) notified DOH-Miami-Dade Epidemiology Disease Control and Immunization Services of a suspected case of brucellosis in a 21-year-old man. A collaborative investigation with the IP, hospital laboratory, Bureau of Public Health Laboratories (BPHL) in Miami and Jacksonville and DOH-Miami-Dade was initiated. The patient was admitted on May 10 for rectal bleeding and severe back pain that was present for more than six weeks. Other symptoms included night sweats and nausea. The patient reported going deer and pig hunting without the use of proper protective clothing when handling the animals. He also confirmed recent travel to Mexico and consumption of soft cheeses. The patient was treated with rifampin and doxycycline and advised to follow up with an infectious disease physician. On June 1, 2012, laboratorians at BPHL in Jacksonville identified the infecting organism as *Brucella melitensis*.

Methods: Potentially exposed laboratory personnel were assessed utilizing Centers for Disease Control and Prevention (CDC) guidelines. The hospital worked with the BPHL in Miami to collect and submit serology samples from exposed people collected on day 0 (baseline) and 6, 12, 18 and 24 weeks post-exposure. Samples were then sent to CDC for *Brucella* microagglutination testing (MAT).

Results: A total of nine laboratorians were identified as exposed; four (44%) high-risk exposures and five (56%) low-risk exposures. Fever watch for six months was recommended for all those exposed. Eight of the exposed people accepted post-exposure prophylaxis (PEP). One person with high-risk exposures refused PEP and subsequently developed a detectable *Brucella* MAT titer (1:40 inconclusive), although no clinical illness developed. No other laboratorians developed detectable *Brucella* MAT titers and none of the exposed laboratorians developed symptoms of brucellosis.

Conclusions and Recommendations: The patient was most likely infected by consumption of contaminated soft cheeses in Mexico. Education was provided to the hospital on proper laboratory safety precautions. Clinicians should remember to ask animal contact and travel history questions, especially when assessing patients with fever of unknown origin. Laboratory personnel should be informed when submitting samples from suspect cases of brucellosis.

***Burkholderia pseudomallei*: Fatal Melioidosis Infection in a Resident With Travel to Trinidad, Orange County**

Background: On October 18, 2012, the Florida Department of Health in Orange County (DOH-Orange) Epidemiology Program received notification of a blood culture isolate that tested positive for *Burkholderia pseudomallei* by polymerase chain reaction (PCR) at the Bureau of Public Health Laboratories (BPHL) in Tampa. The patient, a 58-year-old man residing in Orange County, was hospitalized locally following illness onset in Trinidad. DOH-Orange requested the patient's medical records and contacted the hospital laboratory management to assess laboratorian exposure to clinical specimens.

Methods: DOH-Orange provided the facility with Centers for Disease Control and Prevention (CDC) guidance on assessment of exposed laboratory workers. A line list of exposed laboratory workers was requested. Sixteen laboratory workers were designated as low or high risk, depending on type of exposure and co-morbidities. All exposed laboratory workers were instructed to self-monitor for fever for 21 days and to submit serum samples for *B. pseudomallei* indirect hemagglutination assay at CDC. Prophylactic antibiotic treatment was recommended for all people in the high-risk exposure category.

Results: The patient's family reported that he had been undergoing cancer-related chemotherapy before traveling to Trinidad on September 25, where the patient became ill on October 2. The patient continued to deteriorate and expired on October 18. *B. pseudomallei* confirmation of the isolate by CDC was received on October 22. Follow-up with laboratory management identified a lack of adherence to the CDC exposure evaluation guidelines. Employee exposures were re-evaluated and eight workers were identified as having been exposed to the patient's clinical specimens.

Conclusions and Recommendations: Six of eight laboratory workers were identified as being at high risk and were prescribed doxycycline as post-exposure prophylaxis. Three serology results were inconclusive, although none demonstrated an antibody titer indicative of a recent infection. All remaining specimens tested negative (<1:40 antibody titer) and no secondary illness was identified among the laboratory employees.

Capnocytophaga canimorsus: Resident With Sepsis, Duval County

Background: *Capnocytophaga canimorsus* are bacteria found in the normal oral cavity flora of dogs and cats. This organism can be difficult to culture and speciate, and can cause septicemia, meningitis, endocarditis and ocular infections in at-risk people. Populations at risk for infection include people who are asplenic, over 50 years of age or who have a history of alcohol abuse or other underlying disease conditions. Infection typically is associated with animal bites or licking and other animal exposures. This case report describes an infection of *C. canimorsus* in a 29-year-old man, reported on April 16, 2012, to the Florida Department of Health in Duval County (DOH-Duval) Epidemiology Program as a suspect case of meningococcal disease.

Methods: DOH-Duval initiated an investigation and coordinated information and updates through the infection preventionist and the infectious disease physician at the hospital. Risk factor information was obtained from interviewing the patient's parent. The Bureau of Public Health Laboratories (BPHL) in Tampa performed speciation of the isolate.

Results: The patient was transported to the emergency department via emergency medical services on April 15 with a one-day history of bizarre behavior, altered mental status, nausea and vomiting. Upon arrival, the patient was intubated and admitted to the intensive care unit with overwhelming sepsis, multiple organ system failure and disseminated intravascular coagulation. On April 17, a preliminary blood culture from the patient identified Gram negative bacilli. On May 15, BPHL in Tampa identified *C. canimorsus.* An interview with the patient's parents found that the patient had six dogs; however no animal bites were reported. No underlying risk factors for infection were identified. As a result of this infection, the patient had bilateral below-the-knee amputation and bilateral hand amputation from gangrene, and may require plastic surgery. The patient was hospitalized for 67 days and received additional inpatient rehabilitation treatment for 20 days.

Conclusions and Recommendations: This serious infection is uncommon but may be underreported due to challenges in isolation and speciation of this organism. Health care providers should routinely obtain animal contact information from patients with a disease of unknown etiology, and also be aware that this particular zoonotic pathogen can occasionally cause illness in those without the usual risk factors. Having public health laboratory capacity is important for accurate speciation of uncommon pathogens.

Klebsiella pneumoniae: Outbreak of Carbapenem-Resistant *Klebsiella pneumoniae* Infection in an Acute-Care Hospital, Charlotte County

Background: Carbapenem-resistant *Klebsiella pneumoniae* (CRKP) is an emerging threat in medical facilities. *Klebsiella pneumoniae*, a member of the Enterobacteriaceae family, is found in the normal flora of the mouth, skin and intestines. It is a common cause of opportunistic infections. The treatment options for CRKP are limited and those infected have an increased risk of severe outcomes, including death. In October 2012, eight CRKP infections detected in September were reported to the Florida Department of Health in Charlotte County by an acute-care hospital. The hospital had not previously detected CRKP. An investigation was initiated to enhance surveillance, characterize the outbreak and develop specific infection prevention recommendations.

Methods: A case was defined as a patient with CRKP identified by culture. Active case finding was performed by reviewing microbiology records from September 2011 to February 2013. Active surveillance culture (ASC) of rectal swabs was initiated in November 2012; first from all inpatients, then biweekly among patients on the unit (28 beds) where infected or colonized patients were cohorted. Pulsed-field gel electrophoresis (PFGE) was performed for available CRKP isolates at the Bureau of Public Health Laboratories. Interventions to prevent transmission included contact isolation, cohorting of cases along with dedicated nursing staff and medical equipment, repeated staff education, evaluations of procedures common among cases and monitoring of isolation precautions.

Results: From September 2012 to February 2013, 22 cases were detected by clinical culture (17) or ASC (5). The initial positive clinical culture sites include urine (10), respiratory sites (6) and an abscess (1). Three patients had CRKP detected in the blood. Seven (40%) of the 17 patients with positive clinical cultures died. Common factors identified among the 22 cases included being older than 60 years (20); undergoing endoscope procedures (18); being a woman (14) and having coronary heart disease (10), hypertension (9) or renal failure (7). Eighteen of 22 CRKP isolates were indistinguishable by PFGE. CRKP prevalence in the cohort unit was reduced from 21% in November 2012 to 9% in February 2013. Retrospective review of microbiology records identified three additional patients with CRKP identified from clinical cultures in May and June of 2012, but these cases were not associated with the initial outbreak.

Conclusions and Recommendations: The implementation of enhanced infection control interventions and active surveillance cultures successfully controlled this outbreak. Enhanced surveillance through 2013 has continued to identify sporadic CRKP cases and the hospital has continued to respond aggressively, including implementing strict contact precautions, educating employees, screening epidemiologically-linked patients and communicating within the facility. Routine laboratory-based surveillance for carbapenem-resistant Enterobacteriaceae and coordination between clinical and laboratory staff is essential to ensure prompt recognition and appropriate infection control measures are applied.

Mycobacterium fortuitum: Cluster of *Mycobacterium fortuitum* Infections Following Injections by an Unlicensed Practitioner, Palm Beach County

Background: On December 3, 2012, the Florida Department of Health in Palm Beach (DOH-Palm Beach) was notified of two patients hospitalized in one facility with gluteal abscesses. *Mycobacterium fortuitum* was cultured from both wounds. *M. fortuitum*, a species of rapidly growing mycobacteria, are found world-wide in soil, dust, rivers, lakes and tap water. These organisms can cause human infections such as local skin disease, osteomyelitis, joint infections and eye infections. Both patients had similar histories of being given injections in the buttocks with silicone for cosmetic purposes. The injections were given by an unlicensed medical practitioner operating out of a local hotel.

Methods: Active surveillance at area hospitals was initiated to identify additional cases. Patients were interviewed and medical records reviewed. Findings were shared with a joint task force comprised of the DOH Medical Quality Assurance Non-Licensed Practitioner Unit and local law enforcement.

Results: Two additional cases were identified at other hospitals; both patients had similar histories and positive wound cultures for *M. fortuitum*. Ages ranged from 29 to 31 years old; two were women and two were men. The length of hospital stays ranged from 24 to 47 days. Patients reported painful, bleeding, oozing wounds and swollen lymph nodes. All were treated with antibiotics, drainage and surgery. Post-hospital care follow-up consisted of daily wound care services. Three of four patients were interviewed by law enforcement. All had found the practitioner by word of mouth. Multiple injections were received over a period of weeks. Identifying information for the practitioner was obtained, including several aliases and disguises.

Conclusions and Recommendations: The joint task force investigation resulted in the apprehension and arrest of the unlicensed practitioner. He later pleaded guilty and was sentenced to eight years in prison. Information was distributed in the community about risks associated with use of unlicensed practitioners. Breaches in infection control are more likely outside of licensed health care facilities.

Mycobacterium leprae: Hansen's Disease in a Resident Without Significant Travel, Osceola County

Background: Hansen's disease, or leprosy, is a chronic infection of the skin, peripheral nerves and upper airways caused by the bacterium *Mycobacterium leprae*. Approximately 95% of humans are not susceptible to infection and transmission requires prolonged contact with an infected person. The disease is considered to be of low endemicity in the U.S., although Florida has many migrants from high-endemicity countries in South America, Africa and Asia. In 2011, a strain of *M. leprae* was reported in both people and nine-banded armadillos in the southeastern U.S. On February 17, 2012, the Florida Department of Health in Osceola County (DOH-Osceola) received a call from a local organization reporting suspected Hansen's disease in one of their employees.

Methods: DOH-Osceola interviewed the patient and communicated frequently with the National Hansen's Disease Clinical Center (NHDCC) for guidance and treatment options. Histologic examination and polymerase chain reaction (PCR) testing was provided by the NHDCC.

Results: The patient was a 61-year-old white man who was seen by a dermatologist due to skin lesions of 10 months duration on his trunk, arms, legs and back. A biopsy from a lesion was collected, and the patient was referred to an infectious disease physician. The man was an avid hunter who hunted mainly in Florida, but also in Georgia. He noted multiple exposures to armadillos including urine, feces and blood while hunting in Florida. There was no recent international travel reported. The biopsy identified moderately large numbers of acid-fast organisms within histiocytes consistent with borderline lepromatous Hansen's disease. A skin lesion smear showed acid-fast bacilli and blood tested using the QuantiFERON® TB Gold Test was negative. The patient was evaluated by an infectious disease doctor at DOH-Osceola, and continued to receive medication for treatment of Hansen's disease. DOH-Osceola coordinated an educational session with NHDCC for the patient's co-workers along with answers to frequently asked questions. On March 15, PCR testing was positive for *M. leprae* DNA.

Conclusions: Early diagnosis and treatment of Hansen's disease is recommended to prevent severe clinical manifestations and limit further spread. Hunters should use impermeable gloves and other protective clothing to prevent direct contact with bodily fluids of wild game to prevent exposure to infectious agents that animals may harbor.

Neisseria meningitidis: Characterization of a W135 Meningococcal Disease Outbreak, Miami-Dade County

Background: *Neisseria meningitidis* bacteria can cause severe infections, including meningitis and bloodstream infections. Historically in Florida and the U.S., the most common *Neisseria meningitidis* serogroups have been B, C and Y. In 2007, only two of the 67 Florida meningococcal disease cases were serogroup W135. Meningococcal disease in Miami-Dade County was characterized by a predominance of serogroup B until the end of 2008. Starting in December 2008, cases caused by serogroup W135 increased substantially and one clone has become predominant in the county. In 2012, 17 laboratory-confirmed meningococcal disease cases were reported to the Florida Department of Health in Miami-Dade County (DOH-Miami-Dade); 13 (76%) were identified as serogroup W135. A review of cases infected with serogroup W135 reported in 2012 was undertaken to clinically and epidemiologically characterize the outbreak.

Methods: Medical histories were reviewed and analyzed by demographic, behavioral, clinical and epidemiological characteristics. Case-based surveillance information from the Bureau of Epidemiology web-based reporting system database (Merlin) and DOH-Miami-Dade Epidemiology, Disease Control and Immunization Services case investigation spreadsheets were compared. A confirmed case was defined as a clinically compatible person with isolation of *N. meningitidis* serogroup W135 from a normally sterile site or from skin scrapings of purpuric lesions in accordance with DOH surveillance case definitions.

Results: Of the 13 confirmed cases infected with serogroup W135, four (31%) occurred in winter months. Ages ranged from 0 to 82 years old, with more cases among 20 to 30-year-olds and people over 70 years of age. Eight cases (62%) were in women and eight (62%) were in white Hispanics. Cases were clustered in the northeast region of the county and most did not work, were retired or disabled. Five people (39%) reported smoking and four (31%) reported marijuana use. For all 13 cases, *N. meningitidis* was isolated from blood; no one presented with meningeal signs, and 10 people (77%) had atypical symptoms. Fever was the most common sign among the cases.

Conclusions and Recommendations: Health care providers should consider meningococcal disease during initial assessment of febrile illness regardless of accompanying symptoms. Future changes to vaccine recommendations should take into consideration the continued dominance of this serogroup in Miami-Dade County.

Salmonella Serotype Javiana: A Foodborne *Salmonella* Serotype Javiana Outbreak Associated With a Birthday Party Celebration, Lake County

Background: On October 28, 2012, the Florida Department of Health in Lake County was notified by an emergency department of 10 people who presented with severe diarrhea, fever, nausea and vomiting and were admitted for treatment. All people had attended a private birthday party on October 27, consuming a variety of foods and drinks. An outbreak investigation team was assembled with epidemiology, environmental health and laboratory personnel from local and state resources.

Methods: A customized questionnaire was administered to all people who attended the birthday party or consumed leftovers. A case was defined as a person with laboratory confirmation of *Salmonella* or who experienced diarrhea or vomiting within 48 hours of consuming food from the birthday party. Environmental health and epidemiology team members interviewed the two food preparers to collect data on source and methods of preparing, transporting and serving food. Leftover chicken and rice were collected and submitted to the Bureau of Public Health Laboratories (BPHL) for pathogen analysis. The treating hospitals collected stool samples for analysis and shipped isolates to BPHL for pulsed-field gel electrophoresis (PFGE).

Results: Forty-three (96%) of the 45 people who attended the birthday party or consumed leftovers met the case definition. Onset dates ranged from October 27-29. Forty cases (93%) were hospitalized from one to five days (median three days). Clinical samples and leftover chicken and rice yielded *Salmonella* Javiana with indistinguishable PFGE patterns. Bivariate statistical analysis indicated that chicken, potato salad, rice and beans were associated with illness. Five (12%) of the 43 ill people only ate leftover chicken prior to illness. During the investigation, the food preparers reported chicken preparation procedures that could have been conducive to the growth of pathogenic bacteria such as *Salmonella*. However, without knowing the actual temperatures and amount of time chicken was kept at those temperatures during the lengthy cooking, transportation and holding process described, it is not possible to determine precisely where the breach of safe time and temperature practices occurred.

Conclusions and Recommendations: The reported preparation procedures of the chicken could have led to this outbreak. Pathogens causing foodborne disease outbreaks can be controlled by basic food preparation and handling measures recommended for eating establishments. Potentially hazardous foods must be maintained at prescribed temperatures for established time periods to prevent the growth and harboring of pathogenic bacteria during periods of preparation, storage and display.

Salmonella Serotype Newport: Cluster of Salmonellosis Cases Associated With a Cultural Festival, Sarasota County

Background: The Florida Department of Health in Sarasota County (DOH-Sarasota) identified an increase in reported salmonellosis cases in March 2012. Interviews identified a common exposure at the Venice Italian-American Festival which was held from February 23-26. In response to this increase in cases, an outbreak investigation was initiated to identify additional cases, assess the food handling practices of the implicated vendor and control the outbreak.

Methods: The Tri-Agency Foodborne Illness Survey/Complaint Form was used to interview patients with salmonellosis and other ill people. DOH-Sarasota environmental staff attempted to identify and interview the implicated vendor regarding food handling practices. *Salmonella* isolates were forwarded to the Bureau of Public Health Laboratories (BPHL) for pulsed-field gel electrophoresis (PFGE). A case was defined as a person who attended the cultural festival from February 23-26 and became ill with vomiting, diarrhea or both after eating from the Greek food stand.

Results: Eight people met the case definition. Onset dates ranged from February 27-28. Three cases (38%) were hospitalized and one (13%) visited an emergency room. Five cases (63%) were in women, and ages ranged from 37 to 80 years old with a median of 60.5 years. Five clinical samples were positive for *Salmonella* serogroup C2; three of these isolates were forwarded to the BPHL and were identified as *Salmonella* serotype Newport with indistinguishable PFGE patterns. DOH-Sarasota environmental staff interviewed the vendor and identified improper practices for thawing and cooking chicken. The vendor reported cooking chicken to a temperature of 150°F instead of 165°F for 15 seconds.

Conclusions and Recommendations: Based on the epidemiological and environmental assessment, this cluster of *Salmonella* cases was most likely associated with consuming undercooked chicken from a single food vendor at the festival. To prevent future outbreaks, vendors should follow prescribed food safety practices and procedures to reduce the risk of foodborne disease. Frequent hand washing and cooking food to the proper temperatures is recommended.

Shigella flexneri: Shigella flexneri Infections Among HIV-Positive Men, Duval County

Background: In March 2012, the Florida Department of Health in Duval County identified three cases of *Shigella flexneri* infections with similar risk factors and demographics. These were all reported in 25 to 30-year-old black HIV-positive men. A study was undertaken to determine risk factors and the prevalence of *S. flexneri* infections among men who have sex with men (MSM).

Methods: Risk factors, exposure data and length of hospitalization were gathered through interviews and medical chart reviews of reported cases. Specimens were submitted to the Bureau of Public Health Laboratories for pulsed-field gel electrophoresis (PFGE) and one isolate was sent to the Centers for Disease Control and Prevention (CDC) for serotyping.

Results: By the end of 2012, 18 *Shigella* confirmed infections were reported, 13 (72%) of which were *S. flexneri.* Of the 13 people infected with *S. flexneri*, 10 (77%) were black and 11 (85%) were men. Ages ranged from two to 47 years old with nine (69%) 18 to 35 years old. Only two cases were reported in children, a 2-year-old girl and a 3-year-old girl. Ten cases (77%) were in men with a history of either HIV infection or MSM. PFGE was conducted on six specimens collected from four adult men (three isolates from 2012 and one isolate from January 2013) and two children; all PFGE patterns matched. CDC testing on the January 2013 isolate determined the isolate was serotype 2a (11:3,4). The 3-year-old girl had contact with a sick uncle and was presumed to be a secondary case; no other epidemiologic links were identified during the investigation.

Conclusions and Recommendations: Cases of shigellosis in this cluster were primarily among young African American males with a history of HIV infection or MSM who required hospitalization for their symptoms. No epidemiologic link could be determined through the interviews. Future activities include investigating whether chronic carriage is a factor and whether detailed interviews conducted by an experienced STD investigator might result in epidemiologic links.

Shigella sonnei: Community-Wide Shigellosis Outbreak, St. Lucie County

Background: The Florida Department of Health in St. Lucie County Epidemiology Division identified and investigated a substantial community-wide increase in reported shigellosis cases from January through August 2012.

Methods: All shigellosis cases were investigated; increased surveillance efforts were continued during and after the noted increase of shigellosis.

Results: From January 1 to August 31, 2012, a total of 185 shigellosis cases were reported, investigated and interviewed. All positive laboratory results identified *Shigella sonnei*. Two schools and 13 daycare centers were investigated due to reported increases in gastrointestinal illness, absenteeism and laboratory-confirmed shigellosis cases. Epidemiological links were found among multiple household settings, elementary schools and daycare centers. Many of the school attendees were also household contacts of daycare center attendees or staff. Transmission among household members, daycares, after care programs and elementary schools was followed by secondary transmission to other facilities (e.g. food service, patient care).

Conclusions and Recommendations: Community-wide increases in shigellosis tend to be cyclic, occurring every two to three years, and difficult to control in part due to the short incubation period and hand-to-mouth behavioral practices of small children. Information on disease control and prevention was provided to people using various methods, including presentations, posting resources on websites and e-mails. Collaboration with community partners was essential for the implementation and reinforcement of prevention and control measures. Enforcing prevention and control measures (including exclusion criteria) can be challenging during an outbreak or in sensitive situations. Collaborating with community partners and sharing information via different methods can assist with efficiently disseminating important disease prevention messages and recommendations during an outbreak situation.

Parasitic or Mycotic Diseases

Cryptosporidium species: Household Outbreak of *Cryptosporidium* and Suspected Shiga Toxin-Producing *Escherichia coli* Associated With Ill Calves, Citrus County

Background: On October 10, 2012, the Florida Department of Health in Citrus County received a report of three laboratory-confirmed cryptosporidiosis cases in one family from a local hospital. An investigation was initiated to verify the existence of an outbreak, identify the source of the infection and prevent additional illnesses.

Methods: Interviews were conducted with family members and a veterinarian. Stool specimens were sent to the Bureau of Public Health Laboratories (BPHL) and the Centers for Disease Control and Prevention (CDC).

Results: The family received a pair of 1-week-old calves on September 26. Two days later, both calves had onset of diarrhea; cryptosporidiosis was suspected by the veterinarian and treatment was initiated, but the calves subsequently died. From October 4-8, all family members (two adults and two children) had onset of diarrhea, vomiting and fever. Stool specimens were collected for culture and ova and parasite testing. *Cryptosporidium* was detected in specimens from three family members (mother and children). In addition, both children also tested positive for Shiga toxin by enzyme immunoassay, which was confirmed by BPHL. Cultures were negative for Shiga toxin-producing *E. coli* at the CDC. The 27-year-old mother was admitted to the hospital for dehydration. The infections were treated with metronidazole and nitazoxanide.

Conclusions and Recommendations: This outbreak was caused by direct contact with ill calves and lapses in routine prevention measures. Cryptosporidiosis is a common infection in calves and contact with pre-weaned calves is a known risk factor for human illness. Co-infections with other potential zoonotic enteric pathogens can also occur, as suspected in this case. Recommendations for infection prevention and environmental cleaning and disinfection were provided. As a result of this outbreak, Florida Department of Health is coordinating with the Florida Department of Agriculture and Consumer Services to develop outreach materials for organizations involved with selling young calves.

Exserohilum rostratum: Nationwide Outbreak of Fungal Infections Associated With Contaminated Methylprednisolone Injections, Epidemiology in Florida

Background: On September 28, 2012, the Centers for Disease Control and Prevention (CDC) notified the Florida Department of Health (DOH) that eight clinics in five counties had received preservative-free methylprednisolone acetate (pf-MPA) from the New England Compounding Center that was ultimately implicated as the cause of a national outbreak with 749 cases of fungal infection in 20 states, including meningitis; spinal, paraspinal and joint infections; and stroke. DOH cooperated with CDC, the Food and Drug Administration (FDA) and DOH Medical Quality Assurance in investigating and controlling the outbreak in Florida.

Methods: The CDC outbreak case definition was used. Medical records from clinics receiving implicated product were reviewed for people who were exposed to pf-MPA and who were symptomatic in order to evaluate their case status. The pf-MPA manufacturer and lot number used during each procedure was not normally documented in the clinics' medical records; therefore, exposure was determined by comparing patient treatment dates with the shipment dates of the implicated pf-MPA lots. Active and passive surveillance was implemented to identify all exposed patients and cases of fungal infection. An incident command structure was activated with DOH as the lead agency. Clinical specimens from probable cases were sent to the CDC for laboratory analysis via the Bureau of Public Health Laboratories.

Results: In Florida, 1,055 people were potentially exposed to contaminated pf-MPA. Twenty-five cases were identified, with an attack rate of 2.4%. Eighteen cases (72%) were exposed in Marion County and seven (28%) in Escambia County. Six cases (24%) were laboratory-confirmed as fungal infections; two were *Exserohilum rostratum*, one was a *Cladosporium* species, one was a *Coelomycetes* species and two had immunohistochemical evidence of fungi in clinical specimens. Twenty additional cases met the probable case definition. Thirteen cases (52%) were in women. Ages ranged from 28 to 87 years old (median age was 64 years). The median time from last injection with pf -MPA to symptom onset was 17 days (the range was 0 to 197 days). Primary symptoms at onset were headache (88%), stiff neck (64%), and fever (36%). Comorbidities were common. Three cases (12%) also had a stroke. Seven deaths (28%) occurred among cases, three of which were attributed to fungal meningitis. All cases that died received an epidural injection with implicated pf-MPA. Long-term sequelae and late illness onset from this type of infection and exposure are unknown.

Conclusions and Recommendations: Compounding pharmacies are not regulated by the FDA and this investigation adds to the abundance of published literature on outbreaks associated with contaminated medication from such pharmacies. Comprehensive medical record documentation, including the lot numbers of medication given, is necessary to ensure the safety of injectable medications.

Viral Diseases

Hepatitis B Virus: Perinatal Transmission of Hepatitis B Infection, Polk County

Background: Hepatitis B virus (HBV) causes an infection of the liver that increases the risk of chronic liver disease and hepatocellular carcinoma. When transmitted to an infant during birth, the risk of chronic infections and resulting liver damage is increased. As a result of the use of effective screening and post-exposure prophylaxis, perinatal transmission of HBV from infected mothers is rare in Florida and the U.S. On May 9, 2011, a pregnant woman who was positive for hepatitis B surface antigen (HBsAg) was reported to the Florida Department of Health in Polk County (DOH-Polk). An investigation was conducted to provide prevention education and ensure post-exposure prophylaxis was administered to the newborn.

Methods: The investigation included medical record reviews and interviews with the mother and medical providers.

Results: During prenatal care screening, the mother tested positive for HBsAg, and it was learned that she was diagnosed with HBV as a child. DOH-Polk notified the birthing facility to ensure that prophylaxis would be given following delivery and according to recommended guidelines. The mother was educated regarding transmission, prevention and treatment, and was given a list of physicians who could provide follow-up care for her chronic HBV infection. As recommended, the infant received hepatitis B immune globulin (HBIG) and HBV vaccine within 12 hours of birth, and two additional doses of HBV vaccine at one and six months of age. Post-vaccination testing obtained at nine and 11 months of age was positive for HBsAg, confirming a perinatal HBV infection.

Conclusions and Recommendations: A major cause of unsuccessful immunoprophylaxis is intra-uterine infection before HBIG and HBV vaccine can be administered, as suspected in this case. A high level of HBV DNA in pregnant women is the main risk factor for intra-uterine infection. The mother had not received follow-up care from a liver specialist to quantify HBV DNA and determine if she was an appropriate candidate for anti-viral treatment. When managed by a practitioner skilled in treating HBV, intra-uterine transmission of HBV may be prevented.

Herpes B Virus: Macaque Monkey Bite, Martin County

Background: Martin County Animal Control reported to the Florida Department of Health in Martin County (DOH-Martin) that a pet macaque monkey attacked his owner on August 15, 2012. The victim sustained extensive wounds and was transported to the emergency room for treatment. Macaque monkeys have a high prevalence of herpes B virus infection. This herpes virus generally causes no or mild symptoms in macaques, but has an 80% mortality rate in people if untreated. Herpes B virus is shed intermittently in bodily secretions from infected macaques, and is most likely to be shed during times of stress. It is not possible to conclusively determine that a macaque is not infected with herpes B virus.

Methods: DOH-Martin conducted patient interviews, provided national guidelines for management of people potentially exposed to herpes B virus to the hospital and arranged sample submission to Bureau of Public Health Laboratories-Miami for rabies testing.

Results: The victim stated that the 9-year-old male macaque monkey was raised as a family pet. However, he was recently caged at home as a result of increasingly aggressive behavior. On August 15, the monkey escaped from his cage and ran towards his owner who was working outside. A friend who was with the victim was forced to shoot and kill the animal in order to get him to release the victim. The patient was brought to the local emergency room for evaluation and treatment of extensive injuries to the wrist, leg and buttocks. Blood was drawn for herpes B virus serology and antivirals were initiated. The patient was then transferred to another hospital for several surgeries to repair tendon and soft tissue damage to his hand. Antivirals were continued during and after discharge from the hospital and herpes B virus serology was repeated after the antivirals were completed. Rabies testing for the monkey was negative. Both serology samples from the victim were negative for herpes B virus. The patient received extensive therapy to restore movement to his arm.

Conclusions and Recommendations: Macaque monkeys do not make suitable pets. Any bite by a macaque monkey should be considered a medical emergency. Good wound cleaning and antivirals should begin immediately. Baseline and post-treatment serology is also recommended.

Influenza Virus: A Cluster of Influenza A 2009 H1N1 Cases at a County Jail, Duval County

Background: In January 2012, the Florida Department of Health in Duval County (DOH-Duval) received a report of a resident at a local jail that was positive by polymerase chain reaction (PCR) for Influenza A, H1N1 2009. The jail nurse reported two residents had entered from the community with symptoms of an influenza-like illness (ILI). Within two days, additional cases of ILI occurred and an investigation was initiated.

Methods: DOH-Duval requested a line list of ill patients. ILI was defined as a patient having fever greater than 100.4ºF plus cough or sore throat. A probable case was defined as a resident of the facility with ILI onset from January 1 to February 14. A confirmed case was defined as a probable case with PCR-confirmed influenza.

Results: Ten people out of 2,818 in this facility met the criteria for ILI, representing an attack rate of 0.35%. Onset dates ranged from January 27 to February 5 and the average duration of illness was 3.5 days. All cases were in men 19 to 39 years old with a median age of 25 years. Nine (90%) of the cases were positive for influenza A by PCR. Seven (78%) of those nine were positive for H1N1 2009. All were treated with Tamiflu®. No residents were hospitalized and all patients were immediately placed on isolation until they had no fever for 24 hours and minimal cough. None of the patients were considered high risk for complications and none had been vaccinated for influenza by the facility.

Conclusions and Recommendations: This cluster originated from community-associated cases of influenza. Jails often have frequent turnover and budget restrictions that limit their ability to provide residents with influenza vaccinations. Health departments should work with jails in their jurisdictions to ensure procedures for prevention are in place, including those to detect and isolate cases of ILI quickly.

Influenza Virus: Respiratory Illness Among International Travel Groups, Orange County

Background: On July 12, 2012, the Florida Department of Health in Orange County (DOH-Orange) received a report that approximately 100 of 600 adolescent international travelers had experienced influenza-like illness (ILI). The teenagers travelled by air in three groups from Paraguay to the Bahamas via Miami on July 2, 4 and 5. The groups later traveled separately to Orlando to lodge at the same resort until July 16, 18 and 19, when they returned to Paraguay.

Methods: DOH-Orange initiated an investigation to describe and control the outbreak and determine the etiology. An ILI case was defined as a member of the traveling group with symptoms of fever, cough, sore throat and dizziness. A line list of the travelers was provided on July 20.

Results: Initial symptom onset was July 10, 2012. Thirty-two people met the ILI case definition and 128 people sought medical care. Tamiflu® was prescribed and completed by all ill people seen at the urgent care center. Two travelers suffered illness serious enough to warrant observation in an urgent care facility and both were positive for influenza A via rapid tests; however, clinical samples were not available to send to the Bureau of Public Health Laboratories (BPHL) for confirmatory analyses. Twelve nasopharyngeal specimens were collected from 11 travelers and submitted to BPHL in Jacksonville for further subtyping. All 12 were confirmed influenza A (H3) by polymerase chain reaction and isolates were forwarded to the Centers for Disease Control and Prevention (CDC). On November 9, 2012, DOH-Orange received results for five of the specimens sent to the CDC; all five were characterized as influenza A H3N2.

Conclusions and Recommendations: The source of the outbreak could not be determined but was caused by influenza A H3N2. DOH recommends a yearly influenza vaccine as the first and most important step in protection against influenza viruses. People who do become ill should limit contact with others to prevent spreading infection and should practice good hand hygiene and respiratory etiquette (cover nose or mouth when sneezing or coughing). Antiviral drugs, such as Tamiflu®, are most effective early in the course of illness (within the first two days) and can shorten the duration of infection and help prevent serious complications.

Norovirus: Foodborne Outbreak Associated With a Country Club Tennis Tournament Utilizing a Caterer, Palm Beach County

Background: On January 19, 2012, the Florida Department of Health in Palm Beach County (DOH-Palm Beach) was notified of a foodborne illness complaint from a Broward County resident who experienced a gastrointestinal illness after eating a meal catered by a Palm Beach County restaurant that delivered a luncheon to a country club after a weekly tennis tournament. Other tennis tournament team members that had eaten at various tournament sites catered by the same restaurant on January 17-18 had become ill with similar symptoms. DOH-Broward, the Department of Business and Professional Regulation (DBPR) and the Regional Environmental Epidemiologist were notified and an outbreak investigation was initiated.

Methods: A customized questionnaire was administered to tennis team members. A case was defined as a person who ate foods at or catered by restaurant "A" on January 17-19 and became ill with diarrhea or vomiting within 43 hours after eating. Stool specimens were requested from ill people for analysis at the Bureau of Public Health Laboratories. An environmental assessment of the restaurant was conducted by DOH-Palm Beach and DBPR on January 20 and 25.

Results: Of 180 people exposed, 141 (78%) met the case definition. Incubation periods ranged from 16 to 43 hours. Ages ranged from 17 to 72 years old. Two stool specimens were submitted and subsequently tested positive for norovirus GI. No specific food vehicle was identified. The environmental assessment indicated that food handlers were not utilizing gloves appropriately, hand washing was lacking and one food preparer reported being ill during January 17-19 with similar symptoms.

Conclusions and Recommendations: This outbreak was linked to restaurant "A" in Palm Beach County that catered several tennis events from January 17-19. The most likely cause of the outbreak was exposure to norovirus GI as a result of poor food handling practices. Restaurants should follow proper hand hygiene protocols and exclude ill food handlers.

Norovirus: Foodborne Outbreak at a Local Restaurant, Manatee County

Background: The Florida Department of Health in Manatee County (DOH-Manatee) was notified on November 27, 2012, of a possible foodborne illness outbreak associated with a local restaurant. Early information identified several different families from the same neighborhood dining at the same restaurant on November 19 that became ill with gastrointestinal symptoms approximately 24 to 72 hours later. In response to this report, an outbreak investigation was initiated to identify the source, the causative agent and to prevent additional cases.

Methods: A standard questionnaire was administered to restaurant guests and staff. A joint environmental assessment of the restaurant was conducted by DOH-Manatee and the Department of Business and Professional Regulation on November 28. Stool specimens were requested for analysis by the Bureau of Public Health Laboratories (BPHL). A case was defined as anyone who consumed food items served at the restaurant on November 19 from 4:00 p.m.to 8:30 p.m. and reported diarrhea or vomiting from November 20-22.

Results: Twenty-one (88%) of 24 identified restaurant attendees met the case definition. Onset of symptoms ranged from 11 to 72 hours after dining at the restaurant. Eleven cases (52%) were women and the average age of cases was 75 years. Ill people did not report any commonalities other than the restaurant exposure and a case-control study did not identify statistically significant food items. Four stool specimens tested positive for norovirus GII by polymerase chain reaction at BPHL. The environmental assessment identified several food items stored at improper temperatures and eight food handlers who were ill with gastrointestinal symptoms; however the onsets of their illnesses were after case onsets.

Conclusions and Recommendations: A foodborne outbreak occurred in association with attendance at a local restaurant in Bradenton on November 19, 2012, with laboratory results positive for norovirus GII. The case-control study did not identify any statistically significant food items to confirm the outbreak source. Ill food handlers should be excluded while symptomatic. Proper hand hygiene and proper food preparation practices should be followed to prevent foodborne illnesses.

Norovirus: Gastrointestinal Outbreak at a Medical Training Facility, Hillsborough County

Background: On April 5, 2012, The Florida Department of Health in Hillsborough County (DOH-Hillsborough) Epidemiology Program was notified of a gastrointestinal outbreak in a group attending a three-day training program at a medical facility in Tampa. Ill people reported diarrhea, vomiting, nausea, abdominal cramping, headache and chills.

Methods: DOH-Hillsborough developed a survey that was e-mailed to all 68 people attending this training with instructions to return the completed surveys via fax. Risk ratios were calculated in an effort to determine the source of the outbreak.

Results: Of the 68 people surveyed, 38 (56%) responded. Of the 38 respondents, 23 (61%) experienced diarrhea or vomiting from April 3-8. The ill reported experiencing symptoms lasting one to three days. Only one stool specimen was collected, but norovirus testing was not done. The risk ratio for people serving themselves ice at the training facility was 2.0 ($p=0.04$, one tail Fisher exact test) indicating that among respondents, those who consumed ice had twice the risk of experiencing diarrhea or vomiting as compared to those who did not. Additionally, interviews indicated that several of the medical training center employees suffered a gastrointestinal illness just prior to the outbreak among this group.

Conclusions and Recommendations: This outbreak was likely caused by norovirus based on the symptoms of the ill, duration of illness, and the fact that norovirus was circulating in Hillsborough County at this time. The reports of ill employees at the facility prior to this outbreak, coupled with the elevated risk of illness among those who consumed ice during the training, suggest that ice or ice serving utensils may have been contaminated. Contaminated ice has been identified as the source of other norovirus outbreaks. The investigation resulted in the medical training facility revising their terminal cleaning procedures, particularly during periods of high norovirus activity, and discontinuing self-service ice.

Puumala Virus: Imported Hantavirus Infection in a Traveler From Germany, Osceola County

Background: On June 10, 2012, the Florida Department of Health in Osceola County (DOH-Osceola) received an electronic laboratory report with positive IgM and IgG antibody titers to hantavirus and a positive IgM and negative IgG antibody titer to Sin Nombre hantavirus from a patient seen at a local hospital. Hantavirus Pulmonary Syndrome (HPS) is a reportable condition in Florida and positive antibody titers do not distinguish between clinical syndromes of Puumala hantavirus and hantavirus pulmonary syndrome. Hantavirus infection is acquired through exposure to feces of infected rodents. It is not endemic to Florida.

Methods: Medical records were requested from the hospital and the patient was interviewed by DOH-Osceola epidemiologists. A serum sample collected June 5 was forwarded to the Centers for Disease Control and Prevention (CDC) for confirmatory testing.

Results: The patient was a 43-year-old man visiting from Germany who arrived in the U.S. on May 27. He had onset of fever, headache and myalgia on May 28, and later developed thrombocytopenia and acute renal failure. Chest radiographs were normal. The medical records stated that the patient had been working on the rodent-infested rooftop of his farmhouse near Hamburg, Germany. A family member reported that there had been 89 identified cases of hantavirus infection in that region of Germany. She also reported that the patient had handled rodent traps at his home. On June 13, CDC reported that the acute serum sample results were indicative of recent Puumala hantavirus infection with a strongly positive Puumala IgM titer (>1:6400) and a weakly positive Puumala IgG response (1:100).

Conclusions and Recommendations: The patient's condition had considerably improved prior to his return to Germany on June 8. Although the case did not meet the 2012 Florida HPS case definition, the investigation identified an imported hantavirus infection with hemorrhagic fever and renal syndrome symptoms in a non-U.S. resident. Control measures and strategies to prevent any type of hantavirus infection focus on reducing the risk of exposure to infected rodents and their nests including eliminating food sources and nesting sites, sealing holes in residences and using rodent control.

Rabies Virus: Stray Puppy Develops Rabies, Palm Beach County

Background: The Florida Department of Health in Palm Beach County Epidemiology Program received a report of a puppy with clinical symptoms compatible with rabies on February 16, 2012. The puppy was a stray Cairn terrier found by a family at a rest stop on the Florida Turnpike on February 3. The puppy appeared to have normal behavior and was friendly. A veterinarian administered a rabies vaccination to the puppy on February 9. On February 14, the puppy started exhibiting symptoms of drooling, decreased activity and lethargy, but was never aggressive. The puppy was seen again by the veterinarian who suspected rabies and reported this to Palm Beach County Animal Care and Control. A rabies direct fluorescent antibody test performed on the brain by the Bureau of Public Health Laboratories in Jacksonville was positive on February 17.

Methods: The animal was euthanized on February 16 due to suspected rabies infection. Starting February 17, interviews were conducted with family members to determine the number of people who were in contact with the rabid puppy during the exposure period, February 4 (10 days prior to symptom onset) to February 16 (the day the animal was euthanized).

Results: Scratches from the puppy reportedly broke the skin on a child's face and arms. The parents of the child reported mucous membrane exposure to saliva while caring for the sick animal. On February 4, two other children had exposure to the puppy's saliva while visiting and playing with the animal. Rabies post-exposure prophylaxis was recommended and initiated for these five people. A rabies booster vaccination and 45-day home quarantine was recommended for another dog in the household that was current on its rabies vaccination. The veterinary office that handled the rabid puppy reported no breaches of infection control precautions. None of the personnel at the office had pre-exposure vaccination for rabies.

Conclusions and Recommendations: A 60-day rabies alert was issued for central Palm Beach County recommending rabies vaccination for domestic animals and alerting the public to the risk of rabies transmission. Appropriate infection control practices and timely reporting by veterinary staff resulted in rapid public health response and no exposures to the veterinary staff. Rabies pre-exposure vaccination is recommended for animal workers in Florida due to endemic rabies in wildlife.

Varicella-Zoster Virus: Varicella Outbreak in Elementary Schools Among Unvaccinated Members of a Religious Group, Alachua County

Background: On February 22, 2012, the Florida Department of Health in Alachua County (DOH-Alachua) received notification of two students with varicella infection from the principal of a private elementary school with predominately unvaccinated students (School 1). An investigation was initiated to determine the existence of an outbreak and prevent additional infections.

Methods: Cases were defined according to the DOH surveillance case definition. The outbreak investigation included enhanced surveillance; interviews with parents, school staff and medical providers; and prevention and control guidance. DOH-Alachua issued a public health emergency order to the board of education to exclude all unvaccinated attendees at affected public schools until documented receipt of a varicella vaccination or until 21 days after exposure.

Results: From January to May, a total of 77 cases were confirmed, 69 (90%) of which were unvaccinated. Ages ranged from 0 to 41 years old, with an average age of 10 years. Clinical specimens, obtained from one child and one adult, tested positive for varicella by polymerase chain reaction at the Bureau of Public Health Laboratories. School 1 had 26 cases in children and School 2 had 25 cases in children and one in an adult; the remaining 25 cases were identified among five other schools (eight cases), a daycare facility (two cases) and household contacts (15 cases). The index case was determined to be an unvaccinated parent of a School 1 attendee with history of travel to India and a rash onset of January 7.

Conclusions and Recommendations: Large social groups of unvaccinated people are at high risk of vaccine-preventable disease outbreaks. During this outbreak, close contact among members of a religious community and the unvaccinated status of many members contributed to sustained disease transmission. The implementation of the exclusion rule likely prevented further disease spread. Wide scale administration of varicella vaccination is the most effective way to reduce the risk of community-wide outbreaks. Vaccination advice for international travel should be emphasized.

Non-Infectious Agents

Carbon Monoxide: A Cluster of Suspected Carbon Monoxide (CO) Poisoning in a Recreational Vehicle, Lake County

Background: On January 23, 2012, the Florida Department of Health in Lake County (DOH-Lake) Epidemiology Program received notification that the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) had detected a cluster of suspected carbon monoxide (CO) poisoning in Lake County. Four members of a family (father, mother and two teenage sons) visited a local hospital on Saturday, January 21, 2012, with complaints of headache, nausea, vomiting, light-headedness and diarrhea.

Methods: All CO poisoning cases are classified based on Florida's surveillance case definition. DOH-Lake contacted the hospital and conducted case interviews to identify possible sources of exposure. Medical records and laboratory results of carboxyhemoglobin (COHb) were used to determine if the patients' levels met the case definition.

Results: The investigation identified that four family members were sleeping in a recreational vehicle (RV) with gas-generated heating when they became ill. All reported that symptoms began seven hours prior to reporting to the hospital for treatment. COHb blood levels did not meet the confirmed case definition for any of the four family members; COHb was 4.7% in the 42-year-old father, 2.1% in the 39-year-old mother, 3.0% in the 18-year-old son and 0.7% in the 16-year-old son. All family members were administered 100% oxygen before blood specimens were drawn, which may explain why COHb levels did not meet the confirmed case definition criteria. All family members were symptom-free before being released from the hospital.

Conclusions and Recommendations: Poisoning with CO by inappropriate use of RV heating was suspected but could not be confirmed because it was not known how long the patients were given oxygen prior to drawing blood for COHb testing. Factors such as smoking status, pre-existing conditions and timing of COHb testing in relation to administration of 100% oxygen therapy affects COHb levels. Inappropriate use of home heating methods such as indoor use of charcoal grills, portable stoves and space heaters have contributed to CO poisonings seen during winter months in Florida. DOH-Lake used this opportunity to educate emergency department (ED) staff on the importance of drawing labs immediately upon arrival at the ED to ensure a more accurate reading of COHb levels. To avoid such incidents, people should not use unvented combustion heaters in enclosed spaces, especially sleeping areas. People should not to burn charcoal inside a house, garage, vehicle, tent or fireplace. All recommendations to help prevent CO poisoning are available at http://www.floridahealth.gov/healthy-environments/carbon-monoxide/index.html.

Clostridium botulinum: Infant Botulism Case, Seminole County

Background: Infant botulism occurs when ingested *Clostridium botulinum* bacteria germinate and produce toxin in the gastrointestinal tract of infants. The Florida Department of Health in Orange County (DOH-Orange) was notified on August 16, 2012, of a possible infant botulism case by a hospital. An investigation was initiated to verify the diagnosis, identify the potential source of the botulism and to prevent additional cases.

Methods: A standard questionnaire was administered to the family of the infant to determine symptom onset and potential exposures. A stool specimen and infant formula were collected and forwarded to the Centers for Disease Control and Prevention (CDC) for analysis. Following state and national protocol, Baby Botulism Immune Globulin (BabyBIG®) was requested from the California Department of Public Health.

Results: On August 11, the infant developed difficulty swallowing and poor feeding behavior, and on August 13 was admitted to the hospital for suspected infant botulism. The family reported that the infant was a Seminole County resident who had been exclusively breast-fed until a week prior to onset of symptoms when the infant had been switched to an infant formula. The parents reported the infant hadn't consumed any honey or corn syrup (known high-risk exposures for infants). The father reported working in a dusty warehouse but reported he showered and changed before handling the infant. No other high-risk exposures were noted. The CDC reported the stool specimen was positive for *C. botulinum* toxin type B. The infant formula was tested and found negative. On August 23 and 24, the infant received BabyBIG®and recovered.

Conclusions and Recommendations: This case of infant botulism was identified and properly treated. No clear source of exposure was identified. The risk factors and vehicles of transmission of *C. botulinum* for most cases remain unclear. *C. botulinum* is found in dust and soil, making case prevention difficult. The bacteria can be found inside homes on floors, carpets and countertops even after cleaning. Consuming honey and corn syrup have been associated with infant botulism and should be avoided for children <1 year old.

Detergents: Outbreak of Eye Injuries Sustained During a Foam Party, Collier County

Background: On May 26, 2012, the Florida Department of Health in Collier County was notified by law enforcement and hospital personnel that approximately 40 people had sought care at local emergency departments because of severe eye irritation and pain. Patients indicated that they attended a foam party, an event where foam is sprayed onto a dance floor while participants dance to music.

Methods: Surveillance for additional cases was conducted by contacting hospitals and ophthalmology offices in Collier and neighboring counties. A case was defined as a person who experienced eye irritation or pain during or after attending the foam party on May 26, 2012, from 11:00 p.m. to 1:45 a.m. Contact information, clinical results and related event information captured in the medical records were abstracted and interviews were attempted for cases and non-cases that attended the party.

Results: Fifty-six cases were identified among 350 estimated attendees, with an approximate attack rate of 16% (complete attendance line lists were not able to be obtained). Of the 56 cases, 46 (82%) were interviewed and 43 (77%) sought medical care. All reported getting foam in their face and 44

(96%) reported direct exposure to their eyes. Symptoms included eye irritation (95%), eye pain (91%), photophobia (71%), decreased visual acuity (81%), chemical conjunctivitis (77%), corneal abrasions (50%) and skin irritation (25%). Onset of symptoms was rapid, with most cases reporting onset between midnight and 3:00 a.m. on the night of the event. The median duration of symptoms was six days (range one hour to 34 days), with seven people still symptomatic at the time of interview (i.e., more than one month after the injury). Of note, 40 interviewed people mentioned a strong soap smell in the air and on their clothes, which in some instances lasted through several cycles of laundering.

Conclusions and Recommendations: Due to the limited ability to detect cases that did not seek medical care, the attack rate of 16% likely underestimates the true number of affected people. Based on duration of symptoms and number of people requiring medical attention, injuries sustained at this event were not minor, and in many cases resulted in long-term injury. Taking safety precautions in events where chemicals are used for entertainment, such as foam parties, is important to help prevent these injuries from occurring.

Diphenylmethane: Citrus Plant Chemical Incident, Martin County

Background: Routine syndromic surveillance efforts identified a cluster of seven chemical-related calls to the Florida Poison Information Center Network (FPICN) on March 7, 2012. Seven workers from a citrus plant presented at an emergency department reporting inhalation exposure to a fruit disinfectant and complained of cough, dizziness, headache, vomiting, stomach pain, sleepiness, rash, eye irritation and nose irritation. The Florida Department of Health in Martin County (DOH-Martin) was notified and initiated an investigation.

Methods: Medical records were reviewed and interviews were conducted with the people identified by FPICN. Information about the exposure and injuries were identified from FPICN calls, medical records and interviews. DOH-Martin worked closely with the Department of Agriculture and Consumer Services (DACS) as they conducted their investigation.

Results: The exposure reportedly occurred around 7:00 p.m. to 7:30 p.m. on March 6, and then again, much worse, around 9:30 p.m. The duration of all clinical effects was less than two hours. The patients were women aged 37 to 62 years old. Ethnicity was available for five workers, all of whom were Hispanic. Four of the seven workers completed a questionnaire and stated that fumes are always present, but were extremely strong on this occasion. Personal protective equipment (PPE) was provided after the exposure, but there was not enough for all workers. Two workers stated they would not provide additional evidence because they feared they would lose their job. The chemical was identified as Vortex, containing diphenylmethane and diisocyanates. The DACS investigation determined that the chemicals were used consistent with manufacturer directions and no violations were documented. The company discontinued use of the product after the investigation.

Conclusions and Recommendations: Although no violations were detected during the DACS investigation, injuries appeared to have resulted from use of the disinfectant in this occupational setting. It is important to take all precautions possible to protect the health of employees working with chemicals, such as providing appropriate PPE. Investigations among minority populations need to consider potential barriers, such as fear of losing one's job, which can result in underreporting.

Orgyia detrita (Live Oak Tussock Moth): Possible Caterpillar-Associated Rash Illness Cluster at a Daycare Center, Duval County

Background: On March 21, 2012, a cluster of rash illnesses was reported to the Florida Department of Health (DOH) in Duval County from a daycare facility. The Duval County daycare facility reported caterpillars in the playground area. An investigation was initiated to determine the cause of the cluster.

Methods: The facility director was interviewed regarding the children's symptoms, varicella vaccinations and playground exposure. Final diagnosis information was collected from the children's pediatricians. The daycare facility provided a picture of the caterpillars on their playgrounds.

Results: Onset dates ranged from February 27 to March 30. Physicians determined the rashes to be caused by varicella, scabies, atopic dermatitis, viral exanthem, insect bites and molluscum contagiosum; the children were treated and excluded accordingly. The rash was mild with flat, pink spots located mostly on the chest and back. The children lacked fever and most recovered overnight. All the affected children had a documented first varicella vaccination. Nineteen symptomatic children were identified among 68 daycare attendees, representing an overall attack rate of 28%. Attack rates varied by playground and age: 63% among children in playground 1, 83% among the one-year-old class, 0% among infants, 25% among the children on playground 2 (exclusively for the two-year-old class), 23% among children on playground 3, 90% among the three-year-old class, 3% among the four-year-old class and 17% of school-aged children. No new cases were reported after the childcare facility was advised to discourage children from having direct contact with the caterpillars. The caterpillars were identified as live oak tussock moths (*Orgyia detrita*).

Conclusions and Recommendations: The rash illness cluster appears to have been associated with direct exposure to tussock moth caterpillars, similar to a previously characterized cluster of afebrile rash illnesses associated with white-marked tussock moth caterpillar exposure in Hillsborough County. Seasonal educational reminders should be provided to daycare facilities and physicians regarding afebrile rashes associated with caterpillar exposure to prevent misdiagnosis, unnecessary treatment and exclusions from daycare facilities.

Other and Unknown Etiology

Prion Protein: Notification of a Case of Creutzfeldt-Jakob Disease, Orange and Seminole Counties

Background: On April 15, 2012, the Florida Department of Health in Orange County (DOH-Orange) Epidemiology Program received a report of a patient with suspected Creutzfeldt-Jakob disease (CJD) admitted to a local hospital. A hospital pathologist reported that histopathology of tissue samples taken during a brain biopsy on April 12, 2012, was consistent with a diagnosis of CJD. The Centers for Disease Control and Prevention (CDC) was notified and an investigation ensued.

Methods: Microbiological and histological analysis of surgical samples was conducted at the hospital laboratory. A cerebrospinal spinal fluid sample was submitted to the National Prion Disease Pathology Surveillance Center (NPDPSC) for testing of the 14–3–3 and tau-proteins.

Results: By April 16, 2012, the patient, who was a resident of Seminole County, experienced progressive encephalopathic unresponsiveness and expired on April 22, 2012. Positive laboratory results were reported on April 16, 2012 from the NPDPSC. Investigation found that the surgical instruments were returned to service following routine sterilization. Routine protocols are inadequate to ensure inactivation of prion infectivity. The hospital disposed of the instruments on-site, but they were subsequently reported stolen from the disposal system.

Conclusions and Recommendations: The hospital elected to close down the pathology laboratory and neurosurgery operating suite until proper decontamination could be completed per CDC guidelines and NPDPSC recommendations and internal standard operating procedures could be reviewed. No exposures were identified among hospital employees; however, instruments used for the biopsy procedure were possibly used in subsequent surgical procedures of seven patients prior to discovery. A hospital advisory group decided that all seven patients would be notified about their possible exposure to CJD in connection with their surgical procedures.

Undetermined: Gastrointestinal Illness Outbreak Associated With a Theme Park Safari Excursion, Orange County

Background: In June 2012, the Florida Department of Health in Orange County received two complaints of gastrointestinal illness following food consumption on the same day at a theme park safari excursion in Central Florida. An investigation was initiated to identify the source, route of transmission and etiologic agent and to prevent additional cases.

Methods: A retrospective cohort study was conducted among safari excursion guests, along with on-site environmental health assessments of the food preparation and safari excursion facilities. A case was defined as a staff member or guest of the safari excursion from June 4-11 who experienced diarrhea or vomiting within six days of attending the safari excursion. Stool samples were analyzed by culture, polymerase chain reaction and electron microscopy.

Results: Of the 617 guests that attended the safari excursion from June 4-11, 351 (57%) were interviewed; 117 interviewees (33%) met the case definition. The highest attack rate (76%) among guests occurred on June 8. Predominant symptoms included abdominal cramps (81%), mucous-containing/watery diarrhea (80%), and fatigue (37%). The average incubation period was 49.7 hours and average illness duration was 5.1 days. A multivariable logistic regression analysis indicated that consuming jicama (odds ratio=2.3, 95% confidence interval: 1.34-3.93) and melon balls (odds ratio=3.63, 95% confidence interval: 1.05-12.59) were statistically associated with illness. The environmental health assessment identified unsanitary food processing equipment, improper hand washing, no hot water at hand washing sinks and improper use of a hand washing sink. All laboratory assays were negative.

Conclusions and Recommendations: Epidemiological and environmental investigations indicated the gastrointestinal illness outbreak was likely transmitted via food and was associated with unsanitary equipment and food handling practices at the theme park safari excursion. Recommendations made to the facility included ill worker exclusion, hand washing education and increased environmental cleaning.

Undetermined: Rash Outbreak at a Department Store, Collier County

Background: On February 27, 2012, the Florida Department of Health in Collier County (DOH-Collier) Epidemiology Program was contacted by an employee from a local department store in Naples, Florida, about employees with skin rashes. Two days later, the DOH-Collier was contacted by a local medical provider who evaluated three department store employees for skin rashes.

Methods: A case was defined as a person employed at the department store who reported onset of a skin rash from January 1 to April 30, 2012. Questionnaires were sent to all 79 staff employed at the store as of April 11, 2012. The store's corporate office contracted a private industrial hygienist to conduct indoor air quality assessments at the store.

Results: A total of 30 employees reported a rash with onset between January and April 2012. Twenty-seven (34%) of the 79 employees completed the questionnaire, 12 (44%) of whom were symptomatic. Rashes were reported by respondent cases on the scalp, neck, arms, back, legs and feet and were described as an itchy red maculopapular rash with burning sensation. Seven (78%) of nine respondent employees who worked in the stockroom reported having rash symptoms compared to only five (28%) of 18 respondents not working in the stockroom ($p=0.04$). Some employees were out of work for days to months due to the severity of the rash; symptoms were severe enough for some employees to seek medical attention. The investigation carried out by the industrial hygienist concluded that particulates and organic compounds in the department store were at or below typical indoor air concentrations, and interior samples collected were at levels well below outside sample levels.

Conclusions and Recommendations: Although results show a statistically significant association between rash and working in the stockroom, they do not prove causation. This investigation was unable to determine the specific cause of the rash identified among 30 employees at a department store in Collier County, Florida.

Section 5

Antimicrobial Resistance Surveillance

Antimicrobial Resistance Surveillance

Antibiotics are one of the most impressive medical achievements of the twentieth century. Unfortunately, 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.

The Florida Department of Health (DOH) conducts surveillance for antibiotic resistance in four microorganisms:

1) Health care providers and laboratories are required to report antibiotic susceptibility testing results for isolates of *Streptococcus pneumoniae* from normally sterile sites, such as blood or cerebrospinal fluid, as well as testing results for isolates of *Staphylococcus aureus* that are not susceptible to vancomycin.
2) Laboratories participating in electronic laboratory reporting are required to report antibiotic susceptibility testing results for all *S. aureus* isolates from normally sterile sites.
3) *Neisseria gonorrhoeae* isolates from the first 25 men with urethral gonorrhea seen each month in one sexually transmitted disease (STD) clinic in Miami are forwarded to the Centers for Disease Control and Prevention (CDC) for susceptibility testing as part of the Gonococcal Isolate Surveillance Project (GISP).
4) Additionally, 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.

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 towards 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 988 *S. pneumoniae* invasive disease cases were reported in 2012; eight (0.8%) did not have antibiotic susceptibility data, most often because the patient died and further testing was not done. Tables 1-3 and Figure 1 include data on the percent of cases susceptible to antibiotics by Clinical and Laboratory Standards Institute (CLSI) groups A-C, age group and geography.

Key points for *S. pneumoniae* data:

- Susceptibility by CLSI groups (Table 1, Figure 1):
    - Group A (appropriate for primary testing and routine reporting): 61 to 72% of isolates were susceptible.
    - Group B (may warrant primary testing, but reported selectively): 82 to 100% of isolates were susceptible.
    - Group C (alternative antibiotics): 89 to 100% of isolates 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.
    - Susceptibility to ofloxacin and cefepime decreased from 2011 to 2012; susceptibility to other Group A and B antibiotics increased.

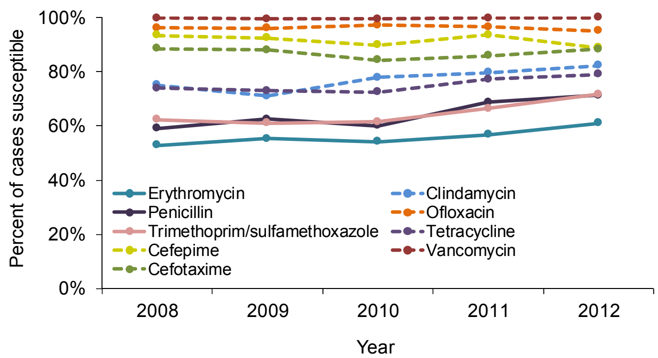
- Susceptibility to selected antibiotics varies by region and age group with no clear trends (Tables 2, 3, Map 1).

Table 1. Number Tested and Percent of *S. pneumoniae* Isolates Susceptible by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1] for Reported Cases of *S. pneumoniae* Invasive Disease, Florida, 2012

CLSI group[1]	Antibiotic name	Number of cases tested	Percent of cases tested		
			Susceptible	Intermediate	Resistant
Group A	Erythromycin	764	61%	1%	38%
	Penicillin	858	71%	11%	17%
	Trimethoprim/sulfamethoxazole	580	72%	8%	20%
Group B	Cefepime	117	89%	9%	3%
	Cefotaxime	433	89%	6%	6%
	Clindamycin	311	82%	1%	17%
	Levofloxacin	693	99%	1%	0%
	Meropenem	235	85%	7%	8%
	Moxifloxacin	198	100%	0%	0%
	Ofloxacin	62	95%	5%	0%
	Tetracycline	475	79%	0%	21%
	Vancomycin	887	100%	0%	0%
Group C	Amoxicillin/clavulanic acid	114	91%	2%	7%
	Amoxicillin	141	91%	4%	6%
	Chloramphenicol	244	96%	0%	4%
	Imipenem	35	89%	11%	0%
	Linezolid	165	99%	0%	1%
	Rifampin	51	100%	0%	0%

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.

Figure 1. Percent of Reported *S. pneumoniae* Invasive Disease Cases Susceptible to Selected Antibiotics in Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups A and B[1], Florida, 2008-2012



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. Prior to 2010, susceptibility results are not available for levofloxacin, moxifloxacin and meropenem and they are not included on this graph.

Map 1. Florida Regions
(see Tables 2 and 5)

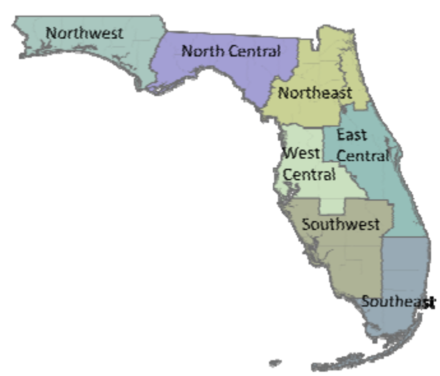


Table 2. Percent of Reported *S. pneumoniae* Invasive Disease Cases Susceptible to Antibiotics by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1] and Region (See Map 1), Florida, 2012

CLSI group[1]	Antibiotic name	Percent of cases susceptible by region (see Figure 2)						
		Northwest (60 cases)	North Central (31 cases)	Northeast (121 cases)	West Central (181 cases)	East Central (187 cases)	Southwest (101 cases)	Southeast (307 cases)
Group A	Erythromycin	53%	57%	58%	66%	60%	62%	61%
	Penicillin	78%	-	64%	66%	65%	79%	77%
	Trimethoprim/sulfamethoxazole	71%	-	74%	66%	76%	63%	72%
Group B	Cefepime	93%	-	85%	-	-	-	-
	Cefotaxime	89%	-	86%	92%	84%	91%	89%
	Clindamycin	87%	-	66%	83%	80%	-	86%
	Levofloxacin	100%	95%	97%	100%	100%	100%	98%
	Meropenem	86%	-	84%	92%	79%	92%	76%
	Moxifloxacin	-	-	-	100%	100%	-	100%
	Ofloxacin	-	-	-	-	95%	-	-
	Tetracycline	89%	-	74%	78%	77%	85%	79%
	Vancomycin	100%	100%	100%	100%	100%	100%	100%

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 <20 isolates were tested for susceptibility to a particular drug.

Table 3. Percent of Reported *S. pneumoniae* Invasive Disease Cases Susceptible to Antibiotics by Clinical and Laboratory Standards Institute (CLSI) Antibiotic Groups[1] and Age Group, Florida, 2012

CLSI group[1]	Antibiotic name	Percent of cases susceptible by age group (in years)					
		<1 (22 cases)	1-4 (58 cases)	5-14 (25 cases)	15-24 (21 cases)	25-64 (498 cases)	65+ (364 cases)
Group A	Erythromycin	71%	67%	74%	-	66%	53%
	Penicillin	80%	63%	71%	47%	73%	71%
	Trimethoprim/sulfamethoxazole	-	58%	80%	-	74%	69%
Group B	Cefepime	-	-	-	-	91%	-
	Cefotaxime	-	-	-	-	90%	88%
	Clindamycin	-	96%	-	-	80%	84%
	Levofloxacin	-	100%	-	-	99%	99%
	Meropenem	-	83%	-	-	86%	83%
	Moxifloxacin	-	100%	100%	-	100%	100%
	Ofloxacin	-	-	-	-	93%	96%
	Tetracycline	-	-	-	-	82%	78%
	Vancomycin	-	-	-	-	100%	100%

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 <20 isolates were tested for susceptibility to a particular drug.

Staphylococcus aureus

Staphylococcus aureus bacteria are commonly found on the skin of healthy people, but have the potential to cause serious disease. About 20% of 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, cephamicins 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 has 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 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.

Key points for *S. aureus* data:

- Overall resistance patterns (Table 4, Figure 2):
    - Susceptibility of isolates to penicillin decreased from 7% in 2008 to 1% in 2012.
    - Resistance to oxacillin (i.e., MRSA) was 48-52%, similar to other β-lactam antibiotics, so 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.

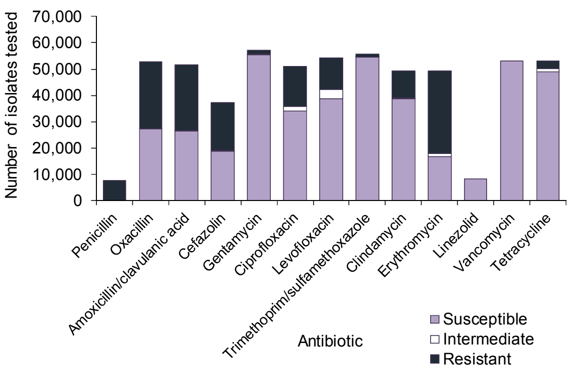
- Geographic patterns (Map 1, Map 2, Table 5):
    - North Florida county residents had the highest proportion of *S. aureus* isolates that were MRSA while south Florida county residents had the lowest.

- Age patterns (Table 6):
    - Susceptibility to most antibiotics did not differ substantially by age group, with a few exceptions.
    - Resistance to oxacillin (i.e., MRSA) was highest in 1 to 4-year-olds.
    - Susceptibility to gentamicin, ciprofloxacin, levofloxacin, trimethoprim/sulfamethoxazole and clindamycin was lowest in people 65 years and older.

Table 4. Number Tested and Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics, Commercial Outpatient Laboratory, Florida, 2008-2012

Antibiotic class	Antibiotic name	2008 Number tested	2008 Percent susceptible	2009 Number tested	2009 Percent susceptible	2010 Number tested	2010 Percent susceptible	2011 Number tested	2011 Percent susceptible	2012 Number tested	2012 Percent susceptible
β-Lactams	Penicillin	54,367	7%	55,486	5%	50,751	4%	32,497	4%	7,586	1%
	Oxacillin	56,263	48%	58,666	50%	56,544	49%	54,817	51%	52,949	52%
	Amoxicillin-clavulanic acid	58,732	48%	60,794	50%	58,079	49%	54,998	51%	51,665	51%
	Cefazolin	58,689	48%	60,733	50%	42,792	47%	39,156	49%	37,199	51%
Non-β-Lactams	Gentamicin	60,805	98%	63,077	97%	60,654	97%	59,084	97%	57,298	97%
	Ciprofloxacin	57,029	73%	24,722	73%	33,639	67%	44,629	68%	51,182	66%
	Levofloxacin	8,526	80%	42,917	74%	57,634	72%	56,949	72%	54,356	71%
	Trimethoprim/sulfamethoxazole	58,989	98%	61,628	98%	59,311	98%	57,573	98%	55,770	98%
	Clindamycin	52,999	83%	54,961	82%	53,166	80%	51,634	79%	49,440	78%
	Erythromycin	15,270	33%	16,493	35%	35,180	32%	51,639	34%	49,446	34%
	Linezolid	15,457	100%	38,267	100%	52,282	100%	34,210	100%	8,279	100%
	Vancomycin	55,947	100%	58,722	100%	56,652	100%	54,876	100%	52,996	100%
	Tetracycline	55,665	95%	58,469	94%	56,461	93%	54,872	93%	53,008	93%

Figure 2. Antibiotic Resistance Patterns of *S. aureus* Isolates for Selected Antibiotics, Commercial Outpatient Laboratory, Florida, 2008-2012



Map 2. Percent of *S. aureus* Isolates that were Oxacillin-Resistant (MRSA) by County of Residence, Commercial Outpatient Laboratory, Florida, 2012

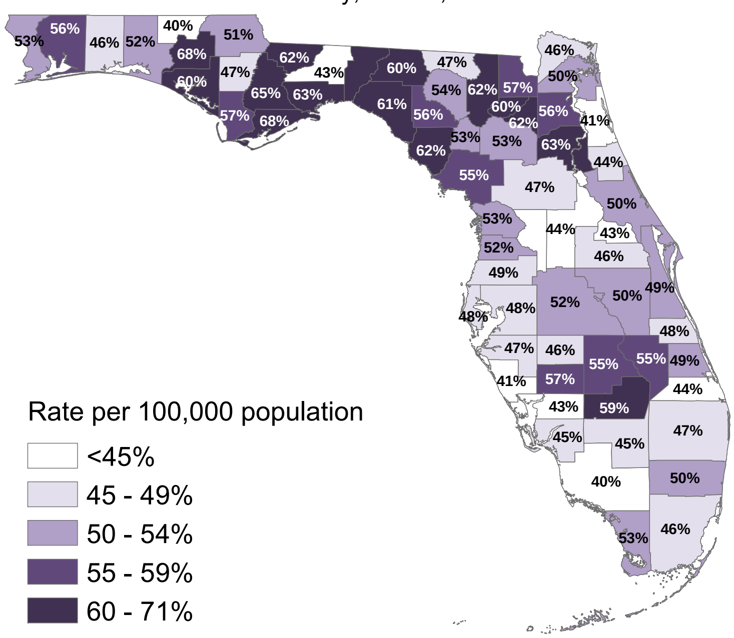


Table 5. Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics by Region (See Map 1), Commercial Outpatient Laboratory, Florida, 2012

Antibiotic class	Antibiotic name	Percent of *S. aureus* isolates susceptible by region (see Figure 2) Northwest (1,172 isolates)	North Central (1,303 isolates)	Northeast (7,452 isolates)	West Central (10,952 isolates)	East Central (9,884 isolates)	Southwest (6,166 isolates)	Southeast (14,373 isolates)
β-Lactams	Penicillin	-	-	-	-	2%	-	0%
	Oxacillin	47%	46%	50%	51%	53%	55%	52%
	Amoxicillin-clavulanic acid	46%	45%	49%	51%	53%	56%	52%
	Cefazolin	45%	45%	49%	51%	52%	55%	53%
Non-β-Lactams	Gentamicin	99%	99%	98%	98%	98%	98%	93%
	Ciprofloxacin	63%	66%	68%	66%	68%	68%	64%
	Levofloxacin	71%	70%	73%	72%	73%	74%	67%
	Trimethoprim/sulfamethoxazole	99%	99%	98%	97%	98%	98%	97%
	Clindamycin	82%	82%	78%	80%	79%	81%	73%
	Erythromycin	31%	28%	33%	34%	35%	37%	33%
	Linezolid	-	-	-	-	100%	-	100%
	Vancomycin	100%	100%	100%	100%	100%	100%	100%
	Tetracycline	93%	93%	94%	94%	94%	94%	89%

- Percent susceptible was suppressed if <50 isolates were tested for susceptibility to a particular drug.

Table 6. Percent of *S. aureus* Isolates Susceptible to Selected Antibiotics by Age Group, Commercial Outpatient Laboratory, Florida, 2012

Antibiotic class	Antibiotic name	Percent of *S. aureus* isolates susceptible by age group (in years) <1 (1,209 isolates)	1-4 (4,672 isolates)	5-14 (6,730 isolates)	15-24 (6,344 isolates)	25-64 (24,249 isolates)	65+ (14,215 isolates)
β-Lactams	Penicillin	1%	0%	0%	0%	0%	1%
	Oxacillin	52%	39%	56%	55%	52%	51%
	Amoxicillin-clavulanic acid	53%	40%	55%	54%	51%	52%
	Cefazolin	51%	40%	54%	53%	51%	53%
Non-β-Lactams	Gentamicin	98%	98%	98%	98%	97%	94%
	Ciprofloxacin	75%	68%	75%	75%	67%	56%
	Levofloxacin	79%	72%	79%	79%	71%	62%
	Trimethoprim/sulfamethoxazole	99%	99%	99%	99%	98%	96%
	Clindamycin	81%	84%	78%	81%	81%	68%
	Erythromycin	33%	24%	35%	35%	35%	34%
	Linezolid	100%	100%	100%	100%	100%	100%
	Vancomycin	100%	100%	100%	100%	100%	100%
	Tetracycline	94%	95%	94%	92%	92%	92%

Neisseria gonorrhoeae

Neisseria gonorrhoeae bacteria grow easily in the warm, moist areas of the reproductive tract, urethra, mouth, throat, eyes and anus and cause the STD gonorrhea. Resistance to several antibiotics over time has challenged the treatment and control of gonorrhea. In the 1970's, the standard treatments, penicillin and tetracycline, were abandoned due to increased resistance to these agents. As recently as 2007, an increase in fluoroquinolone-resistant isolates prompted recommendations for new treatment guidelines supporting the use of cephalosporins, including ceftriaxone and cefixime, for gonococcal infections. In some parts of the world, *N. gonorrhoeae* is now showing potential resistance to cephalosporins, which are the only recommended class of antibiotics left to treat this common infection.

The Gonococcal Isolate Surveillance Project (GISP) was established in 1986 to continuously monitor trends in antimicrobial resistance of *N. gonorrhoeae* across 30 cities in the U.S. The Miami-Dade STD clinic has served as one of 29 GISP sites since 1998. The Miami-Dade GISP site collects specimens each month from symptomatic men and the first 25 *N. gonorrhoeae* isolates are tested by the CDC for susceptibility to penicillin, tetracycline, spectinomycin, ciprofloxacin, ceftriaxone, cefixime and azithromycin.

Key points for *N. gonorrhoeae* (Table 7):

- Resistance to penicillin and tetracycline remained high in 2012 and resistance to ciprofloxacin increased.
- All isolates were susceptible to azithromycin, ceftriaxone, cefixime and spectinomycin in 2012.

Table 7. Percent of *N. gonorrhoeae* Isolates Susceptible to Selected Antibiotics, Miami-Dade Gonococcal Isolate Surveillance Project Site, 2008-2012

Antibiotic name	2008 (259 isolates)	2009 (219 isolates)	2010 (209 isolates)	2011 (166 isolates)	2012 (188 isolates)
Penicillin	87%	88%	79%	81%	81%
Tetracycline	61%	65%	67%	63%	63%
Spectinomycin	100%	100%	100%	100%	100%
Ciprofloxacin	84%	88%	85%	77%	75%
Ceftriaxone	100%	100%	100%	100%	100%
Cefixime	-	100%	100%	100%	100%
Azithromycin	100%	100%	99%	100%	100%

- Isolates were not tested for cefixime susceptibility in 2008.

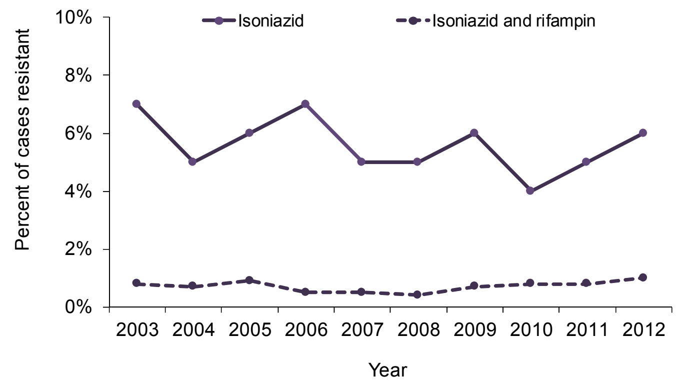
Mycobacterium tuberculosis

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 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.

Key points for *M. tuberculosis* (Figure 3):

- Resistance to isoniazid alone ranged from 4% to 7% over the past 10 years and was 6% in 2012.
- Multidrug-resistant TB remains uncommon given that only 1% of TB cases in 2012 have isolates resistant to both isoniazid and rifampin.

Figure 3. Percent of Counted Tuberculosis Cases Resistant to Isoniazid Alone and Isoniazid and Rifampin, Florida, 2003-2012



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Section 6

2012 Publications and Reports

2012 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-review journals in 2012. Note that DOH authors appear in bold font.

Atrubin D, **Wansbrough L**, **Cruse K**, **Stanek D**, **Blackmore C**. 2012. Caterpillar-Associated Rashes in Children — Hillsborough County, Florida, 2011. *Morbidity and Mortality Weekly Report*, 61 (12);209-211. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a3.htm

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Additional Reports Available Online

Florida Arboviral Disease Reports
http://www.floridahealth.gov/diseases-and-conditions/mosquito-borne-diseases/surveillance.html

Florida Birth Defects Registry Reports
http://www.floridahealth.gov/AlternateSites/FBDR/Data_Research/publications.htm

Florida Cancer Reports
http://www.floridahealth.gov/diseases-and-conditions/cancer/cancer-registry/reports/annual.html

Florida Food and Waterborne Disease Reports
http://www.floridahealth.gov/diseases-and-conditions/food-and-waterborne-disease/fwdp-annual-reports.html

Florida HIV/AIDS Reports
http://www.floridahealth.gov/diseases-and-conditions/aids/surveillance/epi-slide-sets.html

Florida Sexually-Transmitted Disease Reports
http://www.floridahealth.gov/diseases-and-conditions/sexually-transmitted-diseases/std-statistics/

Florida Tick-Borne Disease Reports
http://www.floridahealth.gov/diseases-and-conditions/tick-and-insect-borne-diseases/tick-surveillance.html

Florida Tuberculosis Reports
http://www.floridahealth.gov/diseases-and-conditions/tuberculosis/tb-statistics/

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4052 Bald Cypress Way, Bin #A-12, Tallahassee, FL 32399-1720
http://www.floridahealth.gov

Florida Morbidity Statistics Report:
http://www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/fl-amsr1.html