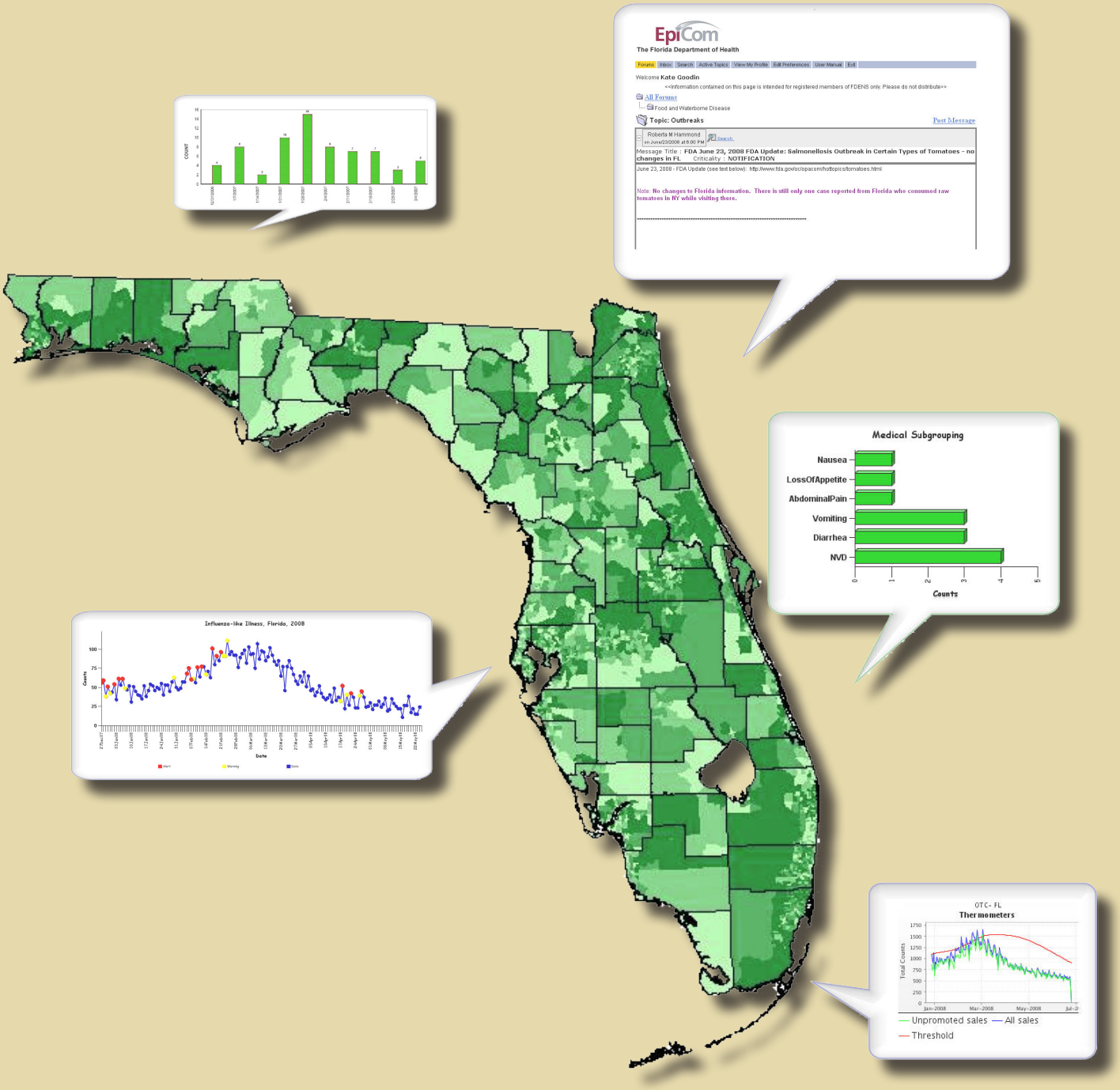
Florida Morbidity Statistics Report 2007



Florida Department of Health
Bureau of Epidemiology

Florida Morbidity Statistics

2007

Florida Department of Health
Division of Disease Control
Bureau of Epidemiology
4052 Bald Cypress Way, Bin # A-12
Tallahassee, Florida 32399-1720
850-245-4401

http://www.doh.state.fl.us/

Florida Morbidity Statistics Report 2007:
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Acknowledgments

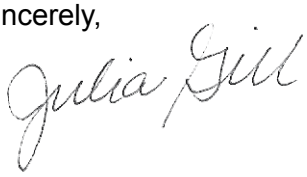
The theme of this year's Florida Morbidity Statistics Report is the development and integration of technology in the Bureau of Epidemiology. The systems that are discussed in the introductory section support disease control efforts by allowing quick access to data and data analysis tools. These efforts would not be possible without collaboration with information technology (IT) professionals within the Florida Department of Health as well as IT professionals within external health systems.

Collaboration is one of the reasons that the Bureau of Epidemiology is so proud of this publication which is produced through the combined efforts of many within as well as outside the Florida Department of Health. One of our most important partnerships outside of the Florida Department of Health is with the physicians, nurses, laboratorians, hospital infection control practitioners and other health care professionals that participate in notifiable disease surveillance. Without their participation, our knowledge of infectious disease epidemiology within the state would be much more limited. Additionally, the Bureau of Epidemiology would like to thank the other program areas within the Florida Department of Health that contributed information to this report including the Bureau of Immunization, Bureau of HIV/AIDS, Bureau of Sexually Transmitted Diseases Prevention and Control, Bureau of Tuberculosis Control and Refugee Health, and the Bureau of Environmental Public Health Medicine. Finally, many thanks are extended to the County Health Department staff and other public health professionals that are involved in notifiable disease surveillance, either through disease control activities, case investigations, data collection, or other essential functions. This year we were pleased to have a record number of County Health Department employees submit summaries to be included in Section 4: Summary of Notable Outbreaks and Case Investigations, 2007.

Tracking these diseases is a cooperative effort which requires all areas of public health to interact and work in a collaborative and efficient way. The goal of this effort is to identify cases where public health action can be taken to prevent and control disease. These actions and responses help to achieve the Florida Department of Health mission to promote, protect and improve the health of all people in Florida.

We hope readers will find this document useful when setting priorities and directions for action at the individual and community levels to improve the health of all Floridians.

Sincerely,



Julia Gill, PhD, MPH
Chief, Bureau of Epidemiology

Florida Morbidity Statistics Report Staff

Editors

Kate Goodin, M.P.H.	Bureau of Epidemiology
Aaron Kite-Powell, M.S.	Bureau of Epidemiology
Janet J. Hamilton, M.P.H.	Bureau of Epidemiology
Richard Hopkins, M.D., M.S.P.H.	Bureau of Epidemiology

Contributing Authors

JoEllen Alvarez, R.N., M.P.H.	Palm Beach County Health Department
David Atrubin, M.P.H.	Hillsborough County Health Department
Taj Azarian, M.P.H.	Duval County Health Department
Rosanna Barrett, M.P.H.	Bureau of Environmental Public Health Medicine
Carina Blackmore, D.V.M., Ph.D.	Bureau of Environmental Public Health Medicine
Dean Bodager, R.S., M.P.A., D.A.A.S	Bureau of Environmental Public Health Medicine
Gayle Bush, R.N.	Volusia County Health Department
Tracinda Bush	Bureau of HIV/AIDS
Pedro Castellon, M.P.H.	Collier County Health Department
Carrie Cerini	Sarasota County Health Department
Adrian Cooksey, M.P.H.	Bureau of Sexually Transmitted Diseases Prevention and Control
Virginia Crandall, R.N., B.S.N., M.P.H.	Citrus County Health Department
Gregory Danyluk, Ph.D, M.P.H.	Seminole County Health Department
John DePasquale, M.D., M.P.H.	Bureau of Epidemiology
Andrea Dopico, M.P.H.	Pinellas County Health Department
Timothy Doyle, M.P.H.	Bureau of Epidemiology
Leah Eisenstein, M.P.H.	Orange County Health Department
Kimberly Fraser, M.P.H.	Hillsborough County Health Department
Mike Friedman, M.P.H.	Bureau of Environmental Public Health Medicine
Kim Geib, M.S.N., A.R.N.P.	Nassau County Health Department
Cynthia Goldstein-Hart , M.P.H., R.E.H.S.	Polk County Health Department
Kate Goodin, M.P.H.	Bureau of Epidemiology
Roberta Hammond, Ph.D., R.S.	Bureau of Environmental Public Health Medicine
Janet J Hamilton, M.P.H.	Bureau of Epidemiology
Terri Harder, B.S.N., R.N.	Collier County Health Department
Richard Hutchinson	Bureau of Environmental Public Health Medicine
Barry Inman, B.A./B.S., C.I.C.	Brevard County Health Department
Diane King, R.N., M.S.P.H.	Palm Beach County Health Department
Aaron Kite-Powell, M.S.	Bureau of Epidemiology
Kim Kossler, M.P.H.	Martin County Health Department
Richard Hopkins, M.D., M.S.P.H.	Bureau of Epidemiology
Tara Hylton, M.P.H.	Bureau of Epidemiology
Robyn Kay, M.P.H.	Bureau of Epidemiology
Becky Lazensky, M.P.H.	Nassau County Health Department
Ryan M. Lowe, M.P.H.	Bureau of Environmental Public Health Medicine
Yvonne Luster-Harvey, M.P.H.	Bureau of Tuberculosis and Refugee Health
Erin O'Connell, M.P.H.	Miami-Dade County Health Department
Scott Pritchard, M.P.H.	Sarasota County Health Department
Lorene Maddox, M.P.H.	Bureau of HIV/AIDS
Kateesha McConnell, M.P.H.	Volusia County Health Department

Catheryn Mellinger, R.N., B.C.	Bureau of Immunization
Pedro Noya-Chaveco, M.P.H.	Miami-Dade County Health Department
Andre Ourso, M.P.H.	Volusia County Health Department
Aimee Pragle, M.S.	Bureau of Environmental Public Health Medicine
Patricia Ragan, Ph.D., M.P.H.	Bureau of Epidemiology
Sergio Rivas	Miami-Dade County Health Department
Samantha Rivers, M.S., M.P.H.	Escambia County Health Department
Andrew Reich, M.S., M.S.P.H.	Bureau of Environmental Public Health Medicine
Roger Sanderson, M.A., B.S.N.	Bureau of Epidemiology
Rebecca Shultz, M.P.H.	Bureau of Environmental Public Health Medicine
Danielle Stanek, D.V.M.	Bureau of Environmental Public Health Medicine
Juan Suarez	Bureau of Environmental Public Health Medicine
Robin Terzagian	Bureau of Environmental Public Health Medicine
Stephanie Thouvenel-Romans, Ph.D.	Escambia County Health Department
Sharleen Traynor, M.P.H.	Charlotte County Health Department
Kathleen Van Zile, R.S., M.P.H.	Bureau of Environmental Public Health Medicine
Ruth Voss, R.N., M.P.H.	Duval County Health Department
Janet Wamnes, M.S.	Bureau of Environmental Public Health Medicine
Emily Wilson, R.S., M.P.H.	Alachua County Health Department
Michael Wydotis	Pasco County Health Department

Introduction

Purpose

The Florida morbidity report is compiled to:

1. summarize annual morbidity from notifiable acute communicable and environmental diseases, and cancer in Florida;
2. describe patterns of disease as an aid in directing future disease prevention and control efforts; and,
3. provide a resource to medical and public health authorities at county, state and national levels.

Report Format

This report is divided into 7 sections:

Section 1: Summary of Selected Notifiable Diseases and Conditions
Section 2: Selected Notifiable Diseases and Conditions
Section 3: Summary of Foodborne Disease
Section 4: Summary of Notable Outbreaks and Case Investigations
Section 5: Abstracts of Recently Published Papers and Reports
Section 6: Summary of Cancer Data
Section 7: Summary of Revisions to Florida's Notifiable Disease Reporting Statute (Chapter 64D-3 *F.A.C.*).

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. Data on occurrence of reportable diseases in Florida were obtained through passive and sometimes active surveillance. Reporting suspect and confirmed notifiable diseases or conditions in the State of Florida is mandated under Florida Statute 381.0031, Chapter 64D-3, *Florida Administrative Code* (*F.A.C.*). Persons in charge of laboratories, practitioners, hospitals, medical facilities, schools, nursing homes, state institutions, or other locations providing health services are required to report diseases or conditions and the associated laboratory test results listed in the Table of Notifiable Diseases or Conditions, Chapter 64D-3 *F.A.C.* Reporting test results by a laboratory does not nullify the practitioner's obligation to also 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.

1. Passive surveillance relies on physicians, laboratories, and other health-care providers to report diseases to the Florida Department of Health using a confidential morbidity report form, electronically, by telephone, or by facsimile.
2. Active surveillance entails Florida Department of Health staff regularly contacting hospitals, laboratories and physicians in an effort to identify all cases of a given disease.
3. Increasingly, information about cases of reportable diseases is passed from providers, especially laboratories, to the Florida DOH as electronic records, which occurs automatically.

Interpreting the Data

This report should be interpreted in light of the following limitations:

1. Underreporting
   Evaluations of infectious disease reporting systems have, in general, indicated that the completeness of reporting varies by disease: the less common, more severe reportable diseases such as bacterial meningitis, diphtheria, polio, botulism, anthrax, tuberculosis, and congenital syphilis are more completely reported than the more common but (individually) less severe diseases such as hepatitis A or campylobacteriosis. Variation in reported 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 per 100,000 population unless otherwise specified. Animal rabies is only reported 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 hazardous. To account for these instabilities, all rates in the report based on fewer than 19 events are considered unreliable. This translates into a relative standard error of the rate of 23% or more, which is the cut-off for rate reliability used by the National Center for Health Statistics.

3. Reporting Period
   The data in this report are aggregated by the date the case was reported to the Bureau of Epidemiology for each of the years presented, beginning January 1 and ending December 31. Frequency counts included only cases reported during this time. In some cases diseases reported in 2007 may have onset dates in 2006. For some cases, date of onset or diagnosis may be in a different year than date of report.

4. Case Definition
   Cases are classified as confirmed, probable, or suspected at the local level, using a published set of surveillance case definitions (Surveillance Case Definitions for Select Reportable Diseases in Florida). For cases of selected diseases, these classifications are reviewed at the state level. In this report confirmed and probable cases have been included for all diseases, but no suspected cases have been included.

5. Place of Acquisition of Disease or Condition
   The distribution of cases among Florida counties was determined by the patient's reported county of residence. Cases were allocated to their county of residence regardless of where they became ill or were hospitalized, diagnosed, or exposed. Cases in people whose official residence was outside the state of Florida, but who became ill or were hospitalized or diagnosed in Florida, were not included. These cases were referred through an interstate reciprocal notification system to the state where the patient resided.

6. Population Estimates
   All population estimates are from the Community Health Assessment Resource Tool Set (CHARTS). The CHARTS system receives its estimates from the Florida Legislature's Office of Economic and Demographic Research (EDR). Estimates are updated once per year in the CHARTS system. 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.

7. Incomplete Case Information
   Certain analyses may not include all reportable cases of a specific disease due to incomplete case information. For graphs denoting month of onset, it is important to note that only those cases of disease for which an onset date could be determined are included.

Florida County Boundaries

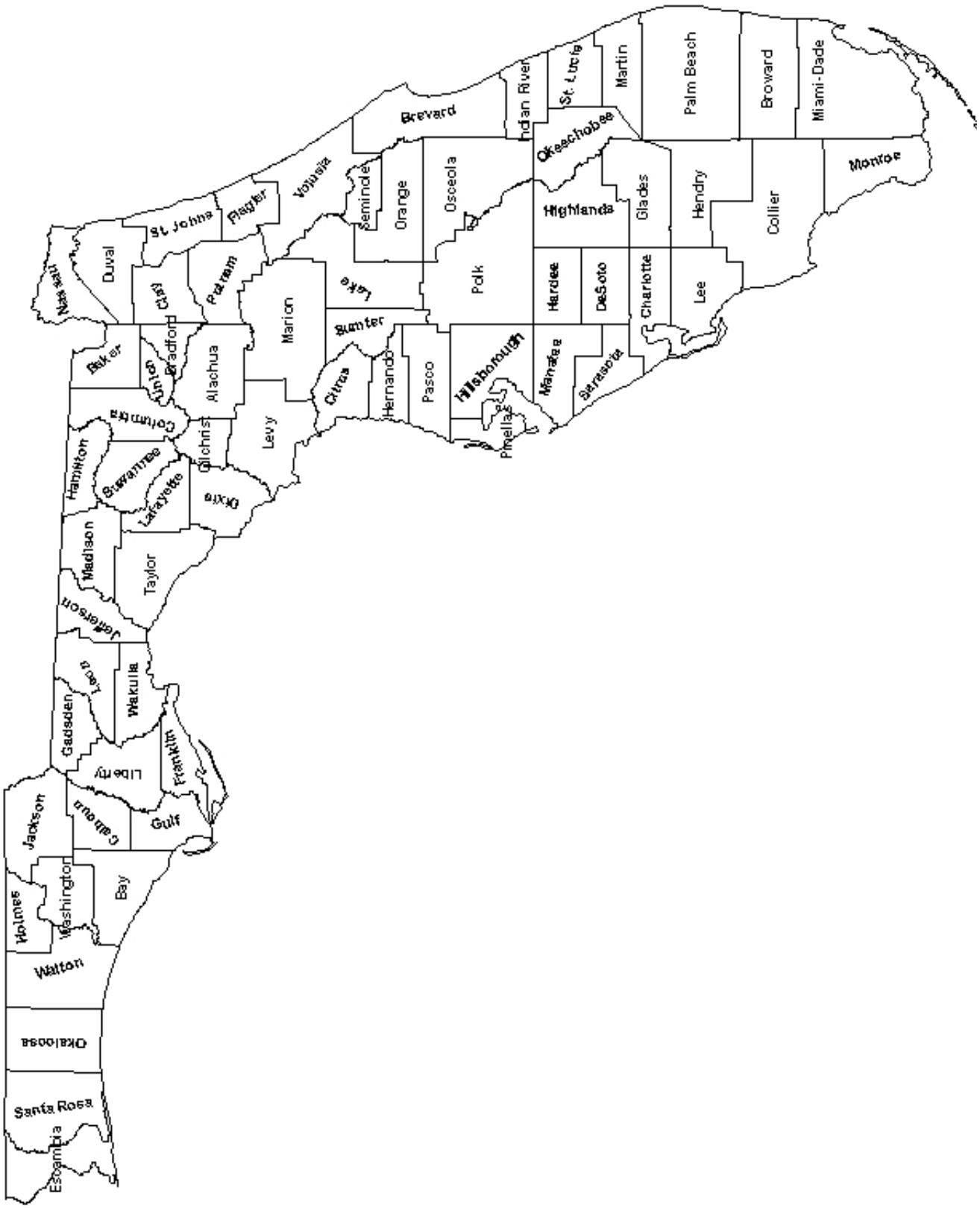


Table A. Florida Population by Year and County, 1998-2007. *(Source – Florida CHARTS; accessed June 2008)*

County	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
State Total	15,011,697	15,309,968	15,679,606	16,074,896	16,412,296	16,772,201	17,164,199	17,613,368	18,018,497	18,440,700	18,762,014
Alachua	205,414	208,156	213,346	219,239	224,397	229,524	232,110	237,374	241,858	244,648	248,637
Baker	20,801	20,782	21,498	22,388	22,641	23,105	23,472	24,069	23,980	25,216	25,765
Bay	141,889	144,693	147,075	148,692	150,748	152,818	155,414	159,108	162,499	166,160	168,350
Bradford	25,368	25,496	25,767	26,110	26,136	26,649	27,084	27,865	28,195	28,685	29,150
Brevard	454,738	461,493	469,515	478,541	487,131	497,429	510,622	524,046	534,596	545,460	555,003
Broward	1,515,711	1,551,039	1,590,361	1,631,445	1,654,923	1,673,972	1,706,363	1,730,580	1,746,603	1,755,392	1,770,651
Calhoun	12,538	12,611	12,863	13,038	13,101	13,286	13,491	13,636	14,011	14,192	14,550
Charlotte	133,308	135,610	139,032	142,357	145,481	149,486	152,865	158,006	153,788	161,731	165,585
Citrus	111,629	113,914	116,208	118,689	121,078	123,704	126,475	129,822	133,472	137,690	140,938
Clay	128,654	133,044	137,357	141,331	144,161	151,746	157,325	164,868	171,118	178,922	186,248
Collier	217,914	229,929	242,408	254,571	267,632	281,148	295,848	309,369	320,859	327,945	334,631
Columbia	53,088	54,314	55,446	56,683	57,354	58,537	59,218	60,821	61,744	64,052	65,786
Dade	2,152,720	2,179,945	2,219,329	2,262,902	2,292,316	2,320,465	2,354,404	2,388,138	2,432,276	2,442,170	2,469,223
Desoto	29,333	30,389	31,436	32,404	32,741	32,959	33,912	34,220	32,391	33,353	33,896
Dixie	12,946	13,152	13,559	13,883	14,154	14,530	14,768	15,054	15,482	15,715	15,882
Duval	746,515	758,691	767,860	782,691	797,566	813,817	829,937	843,772	865,965	883,875	902,361
Escambia	285,819	288,240	292,937	294,911	297,321	300,421	304,165	308,068	303,240	310,617	312,682
Flagler	42,474	44,897	47,559	50,620	53,881	58,004	62,511	71,004	80,559	90,663	94,889
Franklin	9,626	9,669	9,710	9,871	9,974	10,250	10,530	10,682	10,909	12,082	12,278
Gadsden	44,582	45,011	45,312	45,070	45,419	46,073	46,600	46,965	47,883	48,380	49,235
Gilchrist	12,937	13,554	13,980	14,533	14,759	15,140	15,637	16,016	16,303	16,812	17,226
Glades	9,867	10,090	10,407	10,595	10,624	10,675	10,759	10,763	10,743	10,849	11,120
Gulf	13,201	13,204	13,559	14,785	15,101	15,290	15,691	16,235	16,543	16,565	16,889
Hamilton	12,187	12,472	12,831	13,457	13,792	13,952	14,039	14,346	14,319	14,571	14,751
Hardee	25,601	26,215	26,543	26,952	27,021	27,474	27,434	27,898	27,277	27,240	27,622
Hendry	33,687	34,533	35,608	36,300	36,256	36,174	36,739	37,800	38,610	38,870	39,879
Hernando	123,377	126,176	128,733	131,298	133,497	137,613	141,574	146,118	152,049	158,441	163,401
Highlands	82,484	84,012	85,892	87,676	88,373	89,343	90,770	92,456	93,807	97,336	99,165
Hillsborough	934,544	950,947	978,079	1,005,808	1,034,164	1,062,140	1,085,318	1,114,774	1,137,583	1,171,585	1,197,176
Holmes	17,934	18,011	18,371	18,620	18,713	18,746	18,983	19,027	19,189	19,525	19,476
Indian River	105,148	107,231	110,142	113,755	116,291	118,884	121,887	127,831	130,849	136,546	140,675
Jackson	45,244	45,734	46,050	46,998	47,534	47,963	49,218	48,891	49,883	50,286	50,627

County	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Jefferson	13,063	13,237	13,307	12,874	13,107	13,329	13,618	14,110	14,265	14,390	14,528
Lafayette	6,649	6,653	6,703	7,061	7,076	7,245	7,394	7,559	8,064	8,092	8,242
Lake	190,097	196,543	204,152	212,823	222,988	233,622	242,919	254,246	265,716	279,583	288,807
Lee	405,640	417,030	430,644	444,151	459,278	481,014	499,387	526,157	555,874	594,219	621,401
Leon	227,612	232,476	236,658	240,631	245,070	249,744	256,921	265,258	272,749	272,573	273,460
Levy	31,713	32,845	33,759	34,626	35,325	36,197	36,856	37,691	38,136	39,277	40,223
Liberty	6,806	6,772	6,967	7,045	7,145	7,165	7,248	7,372	7,623	7,784	7,791
Madison	18,182	18,370	18,596	18,775	18,878	18,974	19,183	19,564	19,738	19,846	19,988
Manatee	246,838	252,397	259,039	265,701	272,342	279,366	288,888	297,037	306,557	309,952	317,646
Marion	238,739	244,918	253,235	260,407	265,629	273,602	284,232	295,550	307,646	317,755	326,958
Martin	119,230	122,482	124,952	127,430	129,415	132,009	135,280	138,329	141,871	142,859	144,340
Monroe	79,850	79,738	79,875	79,721	80,850	81,030	80,473	81,336	82,628	80,055	79,203
Nassau	52,308	53,727	56,022	58,037	59,452	61,643	63,523	65,478	66,019	68,662	69,904
Okaloosa	161,597	164,531	167,880	171,264	174,228	178,036	182,020	186,744	189,766	193,668	197,536
Okeechobee	34,562	34,932	35,452	35,998	36,211	36,715	37,377	38,153	37,752	38,821	39,137
Orange	816,075	835,119	864,197	906,000	936,749	962,531	989,962	1,021,215	1,050,939	1,087,172	1,112,158
Osceola	148,603	154,021	166,024	174,107	182,202	197,901	213,723	228,755	237,659	259,521	268,595
Palm Beach	1,051,581	1,077,422	1,107,053	1,137,532	1,160,977	1,190,653	1,218,508	1,249,598	1,272,335	1,290,600	1,299,341
Pasco	322,705	329,192	337,348	346,882	354,196	364,900	378,085	392,507	410,758	427,594	436,787
Pinellas	901,901	909,434	917,331	923,308	930,602	935,274	941,435	944,966	948,925	947,122	945,437
Polk	455,930	464,207	475,268	487,183	498,011	504,381	514,247	531,472	545,064	570,067	584,133
Putnam	69,091	69,527	70,029	70,532	70,929	71,481	72,114	73,435	73,897	74,549	74,914
Saint Johns	109,055	113,097	118,249	124,613	129,880	135,467	141,216	151,114	159,168	167,553	175,384
Saint Lucie	181,316	185,250	189,330	194,062	199,390	205,396	213,614	228,480	243,061	263,319	274,213
Santa Rosa	106,800	111,025	115,333	118,605	122,252	125,947	129,842	134,761	137,245	142,004	142,456
Sarasota	309,333	314,418	319,980	328,135	335,428	341,784	350,664	360,214	370,123	381,828	389,285
Seminole	340,527	347,636	357,714	368,231	380,763	389,549	396,934	405,565	413,937	422,288	427,131
Sumter	44,533	47,684	50,539	54,203	58,083	61,979	63,522	67,221	75,660	84,687	90,750
Suwannee	32,591	33,423	34,226	35,091	35,744	35,815	37,479	37,863	38,319	39,008	39,780
Taylor	18,887	19,102	19,264	19,297	19,594	19,878	20,794	20,977	21,395	21,696	22,616
Union	12,716	13,071	13,335	13,473	13,660	13,786	13,793	14,752	15,135	15,160	15,816
Volusia	420,574	427,865	436,218	445,676	453,840	462,377	473,185	486,874	497,224	505,317	509,464
Wakulla	19,417	20,787	21,917	23,150	23,936	24,340	25,141	25,692	27,193	28,727	29,548
Walton	35,830	37,275	39,387	40,990	43,270	46,052	47,472	51,167	54,218	56,199	57,418
Washington	20,068	20,508	20,850	21,069	21,516	21,702	21,987	22,534	23,255	23,179	23,877

Table B. Florida Population by Age Group, 2007

Age Group in Years	Population
< 1	222,955
1-4	891,819
5-9	1,146,029
10-14	1,179,377
15-19	1,214,911
20-24	1,206,669
25-34	2,275,868
35-44	2,548,694
45-54	2,651,032
55-64	2,193,057
65-74	1,582,395
75-84	1,184,051
85+	465,157
Total	**18,762,014**

Table C. Florida Population by Gender, 2007

Gender	Population
Male	9,184,752
Female	9,577,262
Total	**18,762,014**

Table D. Florida Population by Race, Aggregated to White and Non-White, 2007

Race	Population
White	15,139,870
Non-White	3,622,144
Total	**18,762,014**

List of Reportable Diseases/Conditions in Florida, 2007

Section 381.0031 (1,2), Florida Statutes, provides that "Any practitioner, licensed in Florida to practice medicine, osteopathic medicine, chiropractic, naturopathy, or veterinary medicine, who 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, this Section provides that "Periodically the Department shall issue a list of diseases determined by it to be of public health significance…and shall furnish a copy of said list to the practitioners…". This list reflects updates made in November, 2006.

Acquired Immune Deficiency Syndrome (AIDS)
Anthrax
Botulism
Brucellosis
California Serogroup Virus (neuroinvasive and non-neuroinvasive)
Campylobacteriosis
Cancer (except non melanoma skin cancer, and including benign and borderline intracranial and CNS tumors)
Chancroid
Chlamydia
Cholera
Ciguatera Fish Poisoning (Ciguatera)
Clostridium perfringens, epsilon toxin (disease due to)
Congenital Anomalies
Conjunctivitis (in neonates ≤ 14 days old)
Creutzfeldt-Jakob Disease (CJD)
Cryptosporidiosis
Cyclosporiasis
Dengue
Diphtheria
Eastern Equine Encephalitis Virus Disease (neuroinvasive and non-neuroinvasive)
Ehrlichiosis [human granulocytic (HGE), human monocytic (HME), human other or unspecified agent]
Encephalitis, Other (non-arboviral)
Enteric diseases due to:
    Escherichia coli, O157:H7
    Escherichia coli, Other (known serotypes)
Giardiasis (acute)
Glanders
Gonorrhea
Granuloma inguinale
Haemophilus influenzae (meningitis and invasive disease)
Hansen's Disease (Leprosy)
Hantavirus Infection
Hemolytic Uremic Syndrome
Hepatitis A
Hepatitis B, C, D, E, and G
Hepatitis B Surface Antigen (HBsAg) Positive in a Pregnant Woman or a Child ≤ 24 Months of Age
Herpes Simplex Virus (HSV) [in Infants to 6 months of age; anogenital in children ≤ 12 yrs]
Human Immunodeficiency Virus (HIV)
Human Papillomavirus (HPV) [in children ≤ 6 years; anogenital in children ≤ 12 yrs, cancer associated strains]
Influenza Due to Novel or Pandemic Strains
Influenza-associated Pediatric Mortality (in persons aged < 18 yrs)
Lead Poisoning
Legionellosis
Leptospirosis
Listeriosis
Lyme Disease
Lymphogranuloma venereum (LGV)
Malaria
Measles (Rubeola)
Melioidosis
Meningitis (bacterial, cryptococcal, mycotic)
Meningococcal Disease (includes meningitis and meningococcemia)
Mercury Poisoning
Mumps
Neurotoxic Shellfish Poisoning
Pertussis
Pesticide-Related Illness and Injury
Plague
Poliomyelitis
Psittacosis (Ornithosis)
Q Fever
Rabies (human, animal)
Rabies (possible exposure)
Ricin toxicity
Rocky Mountain Spotted Fever
Rubella (including congenital)
St. Louis Encephalitis (SLE) 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, VISA, VRSA)
Staphylococcus Enterotoxin B
Streptococcal Disease (invasive, Group A)
Streptococcus pneumoniae (invasive disease)
Syphilis
Tetanus
Toxoplasmosis (acute)
Trichinosis
Tuberculosis
Tularemia
Typhoid Fever
Typhus Fever (epidemic and endemic)
Vaccinia Disease
Varicella
Varicella Mortality
Venezuelan Equine Encephalitis Virus Disease (neuroinvasive and non-neuroinvasive)
Vibriosis (*Vibrio* infections)
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

Selected Florida Department of Health Contacts

Division of Disease Control

Bureau of Epidemiology	(850) 245-4401 (accessible 24/7)
Bureau of Immunization	(850) 245-4342
Bureau of HIV/AIDS	(850) 245-4334
Bureau of Sexually Transmitted Diseases Control and Prevention	(850) 245-4303
Bureau of Tuberculosis and Refugee Health	(850) 245-4350

Division of Environmental Health

Bureau of Environmental Public Health Medicine	(850) 245-4277

Public Health Disease Surveillance Developments in the Bureau of Epidemiology

Public health surveillance is defined as “the ongoing systematic collection, analysis, interpretation, and dissemination of data regarding health-related events for use in public health action to reduce morbidity and mortality and to improve health”(1). Public health surveillance systems provide the fundamental data and tools that the epidemiologist uses as the scientific basis for making informed decisions. The purpose of this summary is to briefly describe recent public health surveillance system developments in the Bureau of Epidemiology.

Florida Statute 381.0031 gives the Department of Health the responsibility to control communicable diseases and conditions which may significantly affect public health. One way this goal is achieved is by monitoring those diseases and conditions that have been identified as having a significant impact on the health of the State, through a high incidence or severe disease outcomes. Four key items are assessed when determining if a disease or condition is of public health significance and needs to be placed on the list of notifiable diseases for public health surveillance: 1) there will be an urgent public health response to every individual case; 2) there will be an urgent public health response to clusters or outbreaks of the disease; 3) there is information that needs to be collected about occurrence and exposures to design prevention programs; 4) or there is information that needs to be collected to assess effectiveness of control programs. Careful evaluation is important as making a disease or condition notifiable is not the only manner in which to conduct surveillance.

If a disease or condition is deemed appropriate to be placed under public health surveillance as a reportable disease, it is included in the *Diseases or Conditions to Be Reported* section of *Florida Administrative Code (F.A.C.)* Chapter, 64D-3.029. Health care professionals who operate within the State of Florida, and certain licensed health care facilities like hospitals and laboratories, are responsible for complying with the Rule and must report cases, or suspected cases, of those diseases under public health surveillance to the Florida Department of Health (FDOH).

The majority of notifiable disease reports come from hospital infection control practitioners and clinical laboratories. The methods of reporting and reporting time frames are slightly different for practitioners and laboratories; also, there is a slight variation in the diseases or conditions that are reportable for each group (a complete explanation of the reporting requirements can be viewed in the *F.A.C.* 64D-3.028, through 64D-3.033).

In addition to the two main sources, notifiable disease case reports are also received from many other sources including physicians, blood banks, school nurses, hospices, assisted living facilities, nursing homes, charitable groups, daycare center operators, cruise operators, and private citizens, etc. These groups also partner with the FDOH to conduct other important public health surveillance activities for non-notifiable disease surveillance such as the Florida Sentinel Physician Influenza Surveillance Network. This program plays a vital role in monitoring influenza surveillance activity each season and is designed to detect the start, peak, and wane of the influenza season. (For more information about influenza surveillance please visit http://www.doh.state.fl.us/disease_ctrl/epi/htopics/flu/index.htm)

Integration of Technology for Notifiable Disease Surveillance

Prior to January, 2001 paper copies of morbidity reports were received by the Bureau of Epidemiology from each of the County Health Department (CHD) offices on a weekly basis. Staff at the Bureau of Epidemiology then entered the case data as well as any laboratory testing information into an electronic database that was managed using EpiInfo software. The paper-based notifiable surveillance system was inadequate for meeting the needs of modern surveillance activities particularly in a state with over 18 million residents. The process was slow, time consuming, and error prone. It led to errors with data entry and required state staff to contact the CHD office with questions about their submissions. Eliminating duplicate reporting of cases was difficult.

Beginning in February 2000, the Bureau of Epidemiology worked with an outside contractor to design and develop an electronic system for managing the surveillance and reporting process of notifiable disease reports. This system was called Merlin, and after a brief pilot period, was available for use by all the 67 counties in January, 2001. Merlin is a person-centric surveillance system, making it is easy to see if there are multiple disease occurrences for one individual over time. Merlin allows for the electronic entry of patient information, case information, laboratory data, interview questions, and other pertinent data. Once data is entered into the system the data associated with a case are immediately available to all staff with access to the Merlin system including those at the State Health Office. This system allows for more timely reporting from the CHD to the Bureau of Epidemiology, and subsequently, data transmission from the Bureau of Epidemiology to the Centers for Disease Control and Prevention. Each CHD has electronic access to all of their cases including those previously reported. This allows for easy case updating when new information is obtained. Merlin also has built in analysis and visualization functions that help to summarize and display notifiable disease data on a zip code, county, and state level as well as by time. Merlin continues to evolve as new features and functionality are added and the process flow is improved.

Major modules developed since Merlin's initial implementation handle data related to lead poisoning, perinatal hepatitis B, rabies, electronic laboratory reporting and disease outbreaks. Merlin interfaces with the Food- Water- and Vectorborne Surveillance System (FWVSS) operated by the Division of Environmental Health by providing a daily data feed.

The Merlin Outbreak Module (MOM) is a tool for documenting and analyzing outbreaks and unusual disease occurrences investigated by county health department epidemiology programs and the State Health Office. The MOM is highly integrated with the surveillance module so there is a ready exchange of records from surveillance application to outbreak module. The MOM facilitates more complete outbreak reporting, provides a tool to CHDs to guide and train staff in outbreak investigation and epidemiology, provides a drop-in surveillance tool using the statewide central database and provides a simple way for state staff to assist counties to manage outbreaks. The MOM has been evaluated against Public Health Information Network (PHIN) early event detection standards and additional enhancements are planned for release in fall 2008.

EpiCom (described below) serves as an information-sharing and alert network for epidemiologists and their partners, accessible to users outside the DOH firewall. Following PHIN guidance, Merlin and EpiCom systems now function with a seamless user interface. Integration of Merlin and EpiCom has de-segregated the data collection and data dissemination through the creation of a single portal to report diseases and receive information. System enhancements include a seamless user interface for Merlin and EpiCom, single sign-on feature, email alerting features to notify state surveillance staff of case investigations of all associated case activities and rapid paperless case reporting from users beyond the DOH firewall.

A major addition to the FDOH surveillance systems, including Merlin, is electronic laboratory reporting (ELR). ELR is part of a national initiative that allows public and private clinical labs, including those serving multiple states, to report laboratory results indicative of cases of notifiable diseases to their respective State Health Departments in a standardized electronic format. This eliminates the need for laboratories to fax or mail paper copies of lab results to public health agencies, and the need for most manual data entry. Paper laboratory reports have several disadvantages: they are slow to arrive at the appropriate office, and time consuming to process and route appropriately. Duplicates may be sent because the laboratory reports to the State Office as well as the County Office, and they require manual data entry by health department staff into the electronic system which is time consuming and another opportunity for data entry errors. ELR mitigates many of these problems and in particular increases the timeliness of reporting by the laboratories to the CHDs. Any delay in reporting leads to increases in the time to implement disease control measures leading to greater opportunity for additional infections to occur.

In a recent evaluation of reporting timeliness conducted by the Bureau of Epidemiology, it was observed that the implementation of ELR will shorten the interval between the time laboratory results are completed and when they are reported to the CHD from five days to one for salmonellosis, from four days to one for shigellosis, and from three days to one for hepatitis A. The evaluation indicated there will be no change in reporting timeliness for meningococcal disease reporting. This is largely due to the fact that meningococcal disease is required to be reported by telephone upon first suspicion (prior to confirmatory diagnosis), and is already reported very quickly.

Another recent addition to Merlin is the use of Electronic Case Reporting (ECR). This module provides Infection Control Practitioners (ICP) at participating hospitals around Florida the ability to report cases of notifiable diseases electronically as opposed to calling their local CHD or faxing in a form. This reduces duplicate data entry and facilitates for more complete reporting by the ICPs because they are able to upload documents such as laboratory results and history and physicals. This system began its pilot period in 2007.

Integration of Technology for Other Disease Surveillance Activities

The Bureau of Epidemiology (BOE) conducts other surveillance activities in addition to notifiable disease surveillance. The BOE supports a robust respiratory disease surveillance program. This includes surveillance for influenza and respiratory syncytial virus (RSV). The Pneumonia and Influenza Mortality Surveillance System became operational in January 2007. Twenty-three of Florida's 67 most populous counties participate in this system, representing approximately 85% of Florida's population and deaths. This surveillance system is a partnership between the Office of Vital Statistics and the Bureau of Epidemiology. Each week, a user from each of the participating vital statistics offices logs into EpiGateway (described below) and enters data related to the number of deaths due to pneumonia and/or influenza that occurred in that county for the past week, total and by age group. This data is then used to model the expected number of deaths and the actual number of deaths. The system is used for monitoring the time, magnitude, and duration of seasonal epidemics and will be used to monitor the magnitude of mortality during a pandemic. Data analysis displays are available through the same interface used for data entry.

A statewide respiratory syncytial virus (RSV) surveillance system was implemented in Florida in 1999 to support clinical decision-making for RSV prophylaxis of premature infants. RSV infections usually occur during the late fall, winter, or early spring months. Data collected by the Florida RSV surveillance system from 1999 to the present time provides the ability to identify geographical regions where high infection rates also occur during the summer months. Data are collected weekly by the BOE from sentinel hospitals throughout Florida. Each site reports the total number of RSV tests performed and

the total number positive via email or fax. Regional and statewide data are made available to public health professionals, health care providers and the public via a website http://www.doh.state.fl.us/disease_ctrl/epi/RSV/rsv.htm. The current process is labor intensive as it requires manual data entry and analysis by the BOE staff. A module has been developed that allows the reporting and analysis of RSV test data via the EpiGateway system. Facilities participating in this system will immediately be able to access data summaries for their facility as well as regional and state-level data displays. This sub-component of the EpiGateway application is expected to be available for use by participants from around the state in the fall of 2008.

In October of 2007, the Bureau of Epidemiology implemented a standard statewide syndromic surveillance system called the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). This system was originally designed by the Walter Reed Army Institute of Research for use in a military context. System development and distribution is currently managed by the Johns Hopkins University Applied Physics Laboratory. ESSENCE uses automated processes to collect the earliest available pre-diagnostic clinical data (a patient's chief complaint) from hospital emergency rooms across the state, and automatically categorizes chief complaint text into clinical syndromes. Various analyses are then performed on the syndrome categories that are designed to determine whether the current number of observations are more than expected based on a historical baseline. The underlying goals of this surveillance are to improve the timeliness of disease outbreak detection, to help characterize health problems in natural disaster settings, to assist with influenza-like illness surveillance, and to provide general situational awareness. Data from the notifiable disease surveillance system, Merlin, will be integrated into the ESSENCE system. This module will enable analysis and visualization of notifiable disease data via ESSENCE and will include mapping functionality utilizing GIS.

The National Retail Data Monitor (NRDM), another form of syndromic surveillance, has been utilized in Florida since 2003. This system was designed by the University of Pittsburgh's Real-Time Outbreak and Disease Surveillance (RODS) Laboratory. The NRDM is a surveillance tool that collects and analyzes daily over-the-counter (OTC) medication sales from >2,000 retail stores across Florida in an effort to rapidly detect disease outbreaks.

Additional Surveillance Applications and Software

Beyond Merlin, other applications are used within the Florida Department of Health to monitor disease outbreaks, emerging trends, and health issues that need immediate attention. EpiCom provides a secure, threaded, moderated information exchange for reporting and tracking threats and outbreaks and to alert public health officials to such events. Users are able to log on to the system and post information related to outbreaks, potential outbreaks, unusual cases, or other health issues that might be relevant to other users. Content experts, referred to as moderators, review the submissions or "posts" prior to approving them in order to ensure the content is appropriate, no confidentiality rules have been breached, and the post is accurate and timely. EpiCom is a sub application of the Florida Department of Health Emergency Notification System (FDENS) which can contact all or selected users by e-mail, phone, pager, or fax, depending on the urgency of the message. Health care practitioners may request accounts so they can post and read health notifications posted on EpiCom. However, the most frequent users are CHD and State level public health staff.

Another BOE application is EpiGateway. EpiGateway is housed outside of the Department of Health firewall. EpiGateway serves as the single portal for accessing surveillance programs. Programs or systems accessible via EpiGateway include ESSNECE, the Pneumonia and Influenza Mortality Surveillance System, County Influenza Activity Code Reporting System and Electronic Case Reporting. Additionally, a module that will allow for the entry of respiratory disease laboratory surveillance data is being developed and is scheduled to be operational in the fall of 2008.

Future Areas for Development

On the national level, there is great activity in the creation of electronic medical records. Electronic medical records give each patient complete access to all of their health related data through a secure internet-based portal. Electronic medical records provide patients the ability to consolidate their medical information from various physicians, pharmacies, outpatient clinics, rehabilitation centers, etc. into one location. This would also allow patients to see their test results or physician notes as soon as they are entered into the system. Such systems assure that all of a patient's clinical information is available to any of their treating providers. The evolution of these electronic records can support more rapid complete reporting of confirmed or probable cases of reportable diseases to public health officials. The integration of technology would allow for automatic reporting or automatic triggers and reminders for reporting, as well as provision of decision support content for providers.

The integration of current technology into the field of public health has significantly improved the quality of data available to epidemiologists as well as the timeliness of that data. However, the complete reporting of all notifiable diseases that occur in Florida is not assured and the continued development and implementation of technology will help achieve surveillance goals. The intersection of "traditional public health surveillance" methods with new technological capabilities provides the opportunity to focus more clearly on the end user of the systems, data output, and not the flow of how data is captured. System integration enables the best features of each system to be effectively utilized in order to improve public health surveillance and information exchange.

Summary of Selected Notifiable Diseases

Section 1

Table 1.1. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases, Florida, 1998-2007

Selected Notifiable Diseases	Year																			
	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	5,019	32.78	4,969	31.69	4,609	28.67	4,620	28.15	4,675	27.87	4,429	25.80	5,421	30.78	4,755	26.39	4,960	26.92	3,896	20.77
Campylobacteriosis	1,006	6.57	1,034	6.59	1,051	6.54	895	5.45	995	5.93	1,056	6.15	1,009	5.73	894	4.96	941	5.11	1,017	5.42
Chlamydia	24,949	162.96	31,410	200.32	33,390	207.72	37,625	229.25	42,058	250.76	42,381	246.92	42,554	241.60	43,372	240.71	48,955	265.74	57,580	306.90
Cryptosporidiosis	205	1.34	189	1.21	241	1.50	89	0.54	106	0.63	128	0.75	149	0.85	350	1.94	717	3.89	738	3.93
Cyclosporiasis	7	0.05	10	0.06	9	0.06	48	0.29	32	0.19	14	0.08	9	0.05	524	2.91	31	0.17	32	0.17
Enterohemorrhagic *Escherichia coli* O157:H7	62	0.40	71	0.45	98	0.61	46	0.28	69	0.41	48	0.28	74	0.42	112	0.62	29	0.16	37	0.20
Giardiasis	1,677	10.95	1360	8.67	1,532	9.53	1,150	7.01	1,318	7.86	1,132	6.60	1,126	6.39	987	5.48	1,165	6.32	1,268	6.76
Gonorrhea	19,080	124.62	22,797	145.39	22,781	141.72	21,531	131.19	21,348	127.28	18,974	110.54	18,580	105.49	20,225	112.25	23,976	130.15	23,308	124.23
Hemophilus influenzae, Invasive[1]	41	0.27	49	0.31	72	0.45	70	0.43	82	0.49	99	0.58	99	0.56	117	0.65	142	0.77	127	0.68
Hepatitis A	611	3.99	855	5.45	657	4.09	847	5.16	1056	6.30	399	2.32	295	1.67	289	1.60	233	1.26	171	0.91
Hepatitis B (+HBsAg in Pregnant Women)	-	-	252	7.45	512	14.83	437	12.53	631	17.93	555	15.39	599	16.35	530	14.16	448	11.78	644	16.85
Hepatitis B, Acute	516	3.37	551	3.51	610	3.79	502	3.06	543	3.24	631	3.68	527	2.99	510	2.83	446	2.42	368	1.96
Hepatitis C, Acute	-	-	55	0.35	47	0.29	43	0.26	76	0.45	69	0.40	53	0.30	39	0.22	49	0.27	46	0.25
Human Immunodeficiency Virus	6,648	43.42	6,539	41.70	5,788	36.01	5,917	36.05	6,602	39.36	6,198	36.11	5,987	33.99	5,514	30.60	5,224	28.36	6,235	33.23
Legionellosis	50	0.33	29	0.18	54	0.34	97	0.59	85	0.51	147	0.86	141	0.80	119	0.66	167	0.91	153	0.82
Listeriosis[2]	13	0.08	50	0.32	40	0.25	19	0.12	28	0.17	37	0.22	28	0.16	61	0.34	47	0.26	34	0.18
Lyme Disease	77	0.50	60	0.38	57	0.35	57	0.35	77	0.46	43	0.25	46	0.26	47	0.26	34	0.18	30	0.16
Malaria	96	0.63	97	0.62	90	0.56	61	0.37	76	0.45	92	0.54	93	0.53	68	0.38	61	0.33	56	0.30
Meningitis, Other	75	0.49	64	0.41	109	0.68	110	0.67	131	0.78	158	0.92	128	0.73	127	0.70	162	0.88	135	0.72
Meningitis, *Streptococcus pneumoniae*	99	0.65	100	0.64	113	0.70	52	0.32	66	0.39	57	0.33	56	0.32	58	0.32	73	0.40	67	0.36
Meningococcal Disease[3]	152	0.99	138	0.88	136	0.85	124	0.76	128	0.76	106	0.62	107	0.61	84	0.47	79	0.43	67	0.36
Pertussis	66	0.43	112	0.71	67	0.42	30	0.18	53	0.32	113	0.66	132	0.75	208	1.15	228	1.24	211	1.12
Rabies, Animal	215	NA	186	NA	161	NA	157	NA	181	NA	188	NA	205	NA	201	NA	176	NA	128	NA
Rabies, Possible Exposure	-	-	155	0.99	475	2.95	1,100	6.70	1,082	6.45	1,051	6.12	1,128	6.40	1,215	6.74	1,244	6.75	1,474	7.86
Salmonellosis	3,108	20.30	3,144	20.05	2,830	17.61	3,104	18.91	4,651	27.73	4,669	27.20	4,276	24.28	5,552	30.81	4,928	26.75	5,022	26.77
Shigellosis	2,527	16.51	1,709	10.90	1,522	9.47	1,052	6.41	2,538	15.13	2,845	16.58	965	5.48	1,270	7.05	1,646	8.93	2,288	12.19
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	498	3.25	711	4.53	1,162	7.23	799	4.87	610	3.64	606	3.53	581	3.30	614	3.41	774	4.20	726	3.86
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	NA	-	NA	-	NA	-	NA	-	NA	-	201	1.17	606	3.44	598	3.32	620	3.37	622	3.32
Streptococcal Disease, Invasive Group A	57	0.37	94	0.60	149	0.93	159	0.97	201	1.20	229	1.33	219	1.24	260	1.44	312	1.69	309	1.65
Syphilis	2,466	16.11	2,660	16.96	2,728	16.97	2,877	17.53	3,251	19.38	3,256	18.97	2,948	16.74	2,872	15.94	2,924	15.87	3,928	20.94
Toxoplasmosis	15	0.10	18	0.11	14	0.09	35	0.21	45	0.27	31	0.18	24	0.14	2	0.01	4	0.02	9	0.05
Tuberculosis	1,304	8.52	1,281	8.17	1,171	7.28	1,145	6.98	1,086	6.47	1,046	6.09	1,076	6.11	1,094	6.07	1,038	5.63	989	5.27
Vibrio Infections[4]	126	0.82	85	0.54	61	0.38	55	0.34	87	0.52	115	0.67	107	0.61	103	0.57	99	0.54	97	0.52
West Nile Virus	NA	-	NA	-	NA	-	11	0.07	36	0.21	93	0.54	45	0.26	22	0.12	3	0.02	3	0.02

[1] Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

[2] Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes.*

[3] Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis,* meningococcal disease, and meningococcemia disseminated.

[4] Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus, and V.* other.

NA - Not applicable

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Table 1.2. Reported Confirmed and Probable Cases of Notifiable Diseases of Infrequent Occurrence, Florida, 1998-2007

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Anthrax	-	-	-	2	-	-	-	-	-	-
Botulism, Foodborne	-	4	-	-	-	-	-	-	1	-
Botulism, Infant	-	-	-	-	-	-	1	1	-	1
Botulism, Other	-	-	-	-	-	-	2	-	-	-
Botulism, Wound	-	-	-	-	-	-	-	-	-	-
Brucellosis	3	3	6	5	6	10	8	3	5	10
California serogroup virus	-	-	-	-	-	-	4	-	1	1
Chancroid	3	2	-	2	7	2	1	1	1	3
Ciguatera	7	2	14	13	7	7	4	10	32	29
Creutzfeldt-Jakob Disease (CJD)	NR	NR	NR	NR	NR	4	14	17	14	12
Dengue Fever	14	5	13	12	21	16	13	19	20	46
Diphtheria	-	-	-	-	-	-	-	-	-	-
Escherichia coli Shiga Toxin + (not serogrouped)	-	-	-	-	-	7	6	16	22	109
Escherichia coli Shiga Toxin + (serogroup non-O157)	14	15	14	20	20	24	4	2	9	10
Eastern Equine Encephalitis	-	3	-	3	1	2	1	5	-	-
Ehrlichiosis, Human	2	8	-	NR	NR	NR	NR	NR	NR	-
Ehrlichiosis, Human Granulocytic	NR	NR	NR	-	1	5	3	1	1	3
Ehrlichiosis, Human Monocytic	NR	NR	10	8	4	8	4	4	5	18
Encephalitis, Other	28	19	19	12	20	10	8	8	5	18
Epsilon toxin of *Clostridium perfringnes*	NR	NR	NR	NR	NR	-	-	-	-	-
Glanders	NR	NR	NR	NR	NR	-	-	-	-	-
Granuloma inguinale	-	-	-	-	-	-	-	-	-	-
Hantavirus Infection	-	-	-	-	-	-	-	-	-	-
Hemolytic Uremic Syndrome	12	8	20	5	5	6	6	20	5	6
Hemorrhagic Fever	-	-	-	-	-	-	-	-	-	-
Hepatitis B, Perinatal	-	2	2	7	6	2	-	2	6	2
Hepatitis Non-A or B	95	12	6	6	8	4	8	5	36	NR
Hepatitis Unspecified, Acute	27	19	7	6	1	3	-	2	2	NR
Hepatitis D	NR	NR	NR	NR	NR	NR	NR	NR	NR	1
Hepatitis E	NR	NR	NR	NR	NR	NR	NR	NR	NR	1
Hepatitis G	NR	NR	NR	NR	NR	NR	NR	NR	NR	-
Leprosy (Hansen's disease)	4	3	4	1	4	9	5	2	7	10
Leptospirosis	2	1	3	1	-	1	1	2	2	1

NR - Not Reportable

Table 1.2 Continued

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Lymphogranuloma venereum	5	-	1	2	4	2	-	3	-	-
Measles	2	2	2	-	3	-	1	-	4	5
Melioidosis	NR	NR	NR	NR	NR	-	-	1	1	-
Meningitis, Group B *Streptococcus*	22	14	21	18	19	15	15	23	23	30
Mumps	22	17	7	8	7	7	9	8	15	21
Neurotoxic Shellfish Poisoning	-	-	-	-	-	-	-	4	16	1
Plague	-	-	-	-	-	-	-	-	-	-
Poliomyelitis	-	-	-	-	-	-	-	-	-	-
Psittacosis	3	1	4	1	3	3	1	-	1	-
Q Fever	-	-	-	1	2	6	2	1	8	2
Rabies, Human	-	-	-	-	-	-	1	-	-	-
Ricin Toxin	NR	NR	NR	NR	NR	-	-	-	-	-
Rocky Mountain Spotted Fever	3	7	12	8	15	17	22	14	21	19
Rubella	4	1	2	3	5	-	-	-	1	-
Rubella, Congenital	-	-	1	-	-	-	-	-	-	-
Saxitoxin Poisoning	-	-	-	-	-	-	1	-	-	-
Smallpox	-	-	-	-	-	-	-	-	-	-
St. Louis Encephalitis	2	4	-	-	1	-	-	-	-	-
Staphylococcus aureus (GISA/VISA)	NR	-	-	-	-	-	-	-	-	1
Staphylococcus aureus (GRSA/VRSA)	NR	-	-	-	-	-	-	-	-	-
Staphylococcus enterotoxin B	NR	NR	NR	NR	NR	-	-	-	-	-
Tetanus	3	3	1	3	3	3	4	3	2	5
Trichinosis	-	1	1	-	-	-	-	1	1	-
Tularemia	-	-	-	-	-	-	-	1	-	-
Typhoid Fever	16	24	12	12	19	15	10	11	16	15
Typhus Fever	1	-	-	-	-	-	1	-	2	1
Vaccinia Disease	-	-	-	-	-	1	-	-	-	-
Venezuelan Equine Encephalitis	-	-	-	-	-	-	-	-	-	-
Vibrio cholerae type O1	-	-	-	-	-	-	-	-	-	-
Western Equine Encephalitis	-	-	-	-	-	-	-	-	-	-
Yellow Fever	-	-	-	-	-	-	-	-	-	-

NR - Not Reportable

Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Alachua County		Baker County		Bay County		Bradford County		Brevard County		Broward County		Calhoun County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	36	14.48	1	3.88	9	5.35	6	20.58	47	8.47	642	36.26	2	13.75
Campylobacteriosis	19	7.64	2	7.76	13	7.72	2	6.86	25	4.50	87	4.91	-	-
Chlamydia	1656	666.03	110	426.94	493	292.84	93	319.04	1462	263.42	5396	304.75	80	549.83
Cryptosporidiosis	8	3.22	-	-	31	18.41	2	6.86	7	1.26	23	1.30	1	6.87
Cyclosporiasis	3	1.21	-	-	-	-	-	-	-	-	2	0.11	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	-	-	1	0.18	2	0.11	-	-
Giardiasis	28	11.26	2	7.76	18	10.69	1	3.43	13	2.34	64	3.61	1	6.87
Gonorrhea	689	277.11	32	124.20	244	144.94	36	123.50	635	114.41	2282	128.88	38	261.17
Hemophilus influenzae, Invasive[1]	1	0.40	-	-	-	-	-	-	8	1.44	16	0.90	-	-
Hepatitis A	-	-	-	-	2	1.19	-	-	4	0.72	20	1.13	-	-
Hepatitis B (+HBsAg in Pregnant Women)	11	15.91	2	39.67	9	26.31	-	-	5	4.88	38	9.84	-	-
Hepatitis B, Acute	4	1.61	-	-	3	1.78	1	3.43	5	0.90	31	1.75	-	-
Hepatitis C, Acute	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Human Immunodeficiency Virus	66	26.54	2	7.76	19	11.29	4	13.72	86	15.50	883	49.87	2	13.75
Legionellosis	2	0.80	-	-	1	0.59	-	-	4	0.72	14	0.79	-	-
Listeriosis[2]	1	0.40	-	-	-	-	-	-	1	0.18	4	0.23	-	-
Lyme disease	1	0.40	-	-	-	-	-	-	-	-	1	0.06	-	-
Malaria	1	0.40	-	-	-	-	-	-	1	0.18	4	0.23	-	-
Meningitis, Other	1	0.40	-	-	4	2.38	-	-	1	0.18	20	1.13	-	-
Meningitis, *Streptococcus pneumoniae*	-	-	-	-	-	-	-	-	3	0.54	7	0.40	-	-
Meningococcal Disease[3]	-	-	-	-	3	1.78	-	-	3	0.54	9	0.51	-	-
Pertussis	4	1.61	-	-	4	2.38	-	-	1	0.18	5	0.28	-	-
Rabies, Possible Exposure	35	14.08	3	11.64	57	33.86	-	-	97	17.48	20	1.13	-	-
Salmonellosis	83	33.38	18	69.86	74	43.96	18	61.75	232	41.80	301	17.00	2	13.75
Shigellosis	10	4.02	1	3.88	33	19.60	1	3.43	118	21.26	364	20.56	2	13.75
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	10	4.02	2	7.76	8	4.75	-	-	20	3.60	61	3.45	-	-
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	9	3.62	1	3.88	17	10.10	1	3.43	20	3.60	54	3.05	1	6.87
Streptococcal disease, Invasive Group A	5	2.01	1	3.88	5	2.97	-	-	7	1.26	44	2.48	-	-
Syphilis	38	15.28	4	15.52	15	8.91	-	-	35	6.31	640	36.14	4	27.49
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	9	3.62	-	-	11	6.53	3	10.29	19	3.42	81	4.57	-	-
Vibrio Infections[4]	-	-	-	-	6	3.56	-	-	5	0.90	5	0.28	-	-
West Nile Virus	-	-	-	-	2	1.19	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Charlotte County		Citrus County		Clay County		Collier County		Columbia County		DeSoto County		Dixie County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	7	4.23	9	6.39	10	5.37	32	9.56	10	15.20	8	23.60	-	-
Campylobacteriosis	3	1.81	7	4.97	18	9.66	76	22.71	4	6.08	3	8.85	7	44.08
Chlamydia	218	131.65	309	219.25	496	266.31	670	200.22	178	270.57	97	286.17	49	308.53
Cryptosporidiosis	1	0.60	2	1.42	22	11.81	18	5.38	1	1.52	-	-	1	6.30
Cyclosporiasis	-	-	-	-	-	-	2	0.60	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	2	0.60	-	-	-	-	-	-
Giardiasis	14	8.45	3	2.13	13	6.98	36	10.76	9	13.68	5	14.75	2	12.59
Gonorrhea	82	49.52	65	46.12	154	82.69	96	28.69	91	138.33	25	73.76	16	100.74
Hemophilus influenzae, Invasive[1]	-	-	-	-	2	1.07	2	0.60	3	4.56	-	-	-	-
Hepatitis A	-	-	-	-	3	1.61	4	1.20	-	-	2	5.90	-	-
Hepatitis B (+HBsAg in Pregnant Women)	3	13.28	4	20.26	5	12.17	16	28.58	4	32.47	-	-	-	-
Hepatitis B, Acute	1	0.60	1	0.71	3	1.61	3	0.90	3	4.56	2	5.90	-	-
Hepatitis C, Acute	1	0.60	-	-	-	-	3	0.90	-	-	-	-	-	-
Human Immunodeficiency Virus	12	7.25	14	9.93	19	10.20	50	14.94	17	25.84	8	23.60	3	18.89
Legionellosis	1	0.60	-	-	1	0.54	5	1.49	1	1.52	-	-	-	-
Listeriosis[2]	-	-	-	-	-	-	4	1.20	-	-	-	-	-	-
Lyme disease	2	1.21	-	-	-	-	-	-	-	-	-	-	-	-
Malaria	1	0.60	1	0.71	-	-	2	0.60	-	-	-	-	-	-
Meningitis, Other	1	0.60	-	-	-	-	-	-	1	1.52	-	-	-	-
Meningitis, *Streptococcus pneumoniae*	-	-	-	-	1	0.54	3	0.90	2	3.04	-	-	-	-
Meningococcal Disease[3]	1	0.60	-	-	1	0.54	-	-	-	-	-	-	-	-
Pertussis	2	1.21	17	12.06	4	2.15	3	0.90	2	3.04	-	-	-	-
Rabies, Possible Exposure	42	25.36	28	19.87	19	10.20	37	11.06	9	13.68	1	2.95	-	-
Salmonellosis	65	39.25	46	32.64	86	46.17	88	26.30	33	50.16	18	53.10	9	56.67
Shigellosis	1	0.60	203	144.03	30	16.11	10	2.99	41	62.32	3	8.85	2	12.59
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	4	2.42	10	7.10	6	3.22	21	6.28	3	4.56	3	8.85	-	-
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	2	1.21	10	7.10	8	4.30	10	2.99	7	10.64	2	5.90	1	6.30
Streptococcal disease, Invasive Group A	4	2.42	1	0.71	2	1.07	6	1.79	1	1.52	-	-	-	-
Syphilis	16	9.66	6	4.26	6	3.22	62	18.53	4	6.08	10	29.50	-	-
Toxoplasmosis	-	-	-	-	1	0.54	-	-	1	1.52	-	-	-	-
Tuberculosis	2	1.21	3	2.13	1	0.54	14	4.18	2	3.04	5	14.75	-	-
Vibrio Infections[4]	1	0.60	-	-	-	-	-	-	-	-	-	-	-	-
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Duval County		Escambia County		Flagler County		Franklin County		Gadsden County		Gilchrist County		Glades County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	264	29.26	61	19.51	3	3.16	1	8.14	14	28.44	1	5.81	-	-
Campylobacteriosis	70	7.76	17	5.44	2	2.11	-	-	1	2.03	4	23.22	-	-
Chlamydia	5,515	611.17	1,628	520.66	189	199.18	40	325.79	380	771.81	42	243.82	26	233.81
Cryptosporidiosis	101	11.19	2	0.64	-	-	2	16.29	4	8.12	1	5.81	-	-
Cyclosporiasis	2	0.22	-	-	-	-	-	-	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	1	0.11	-	-	-	-	-	-	-	-	-	-	-	-
Giardiasis	102	11.30	13	4.16	1	1.05	1	8.14	5	10.16	3	17.42	-	-
Gonorrhea	2,826	313.18	843	269.60	63	66.39	16	130.31	160	324.97	12	69.66	8	71.94
Hemophilus influenzae, Invasive[1]	7	0.78	3	0.96	-	-	-	-	1	2.03	-	-	-	-
Hepatitis A	5	0.55	-	-	1	1.05	-	-	-	-	-	-	-	-
Hepatitis B (+HBsAg in Pregnant Women)	69	33.00	16	23.30	4	27.19	-	-	-	-	-	-	-	-
Hepatitis B, Acute	48	5.32	7	2.24	3	3.16	-	-	1	2.03	-	-	-	-
Hepatitis C, Acute	-	-	2	0.64	-	-	1	8.14	-	-	-	-	-	-
Human Immunodeficiency Virus	376	41.67	91	29.10	8	8.43	-	-	17	34.53	-	-	1	8.99
Legionellosis	6	0.66	-	-	-	-	-	-	-	-	-	-	-	-
Listeriosis[2]	2	0.22	-	-	-	-	-	-	-	-	-	-	-	-
Lyme disease	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaria	5	0.55	-	-	-	-	-	-	-	-	-	-	-	-
Meningitis, Other	7	0.78	17	5.44	-	-	-	-	-	-	-	-	-	-
Meningitis, *Streptococcus pneumoniae*	3	0.33	1	0.32	-	-	-	-	-	-	-	-	-	-
Meningococcal Disease[3]	5	0.55	5	1.60	-	-	-	-	-	-	-	-	-	-
Pertussis	6	0.66	4	1.28	-	-	-	-	-	-	1	5.81	-	-
Rabies, Possible Exposure	10	1.11	94	30.06	5	5.27	1	8.14	-	-	-	-	-	-
Salmonellosis	457	50.64	189	60.44	20	21.08	1	8.14	8	16.25	6	34.83	6	53.96
Shigellosis	261	28.92	163	52.13	48	50.59	-	-	2	4.06	1	5.81	8	71.94
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	34	3.77	20	6.40	3	3.16	2	16.29	1	2.03	1	5.81	-	-
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	43	4.77	14	4.48	4	4.22	-	-	1	2.03	-	-	-	-
Streptococcal disease, Invasive Group A	19	2.11	8	2.56	-	-	-	-	-	-	-	-	-	-
Syphilis	172	19.06	27	8.63	2	2.11	1	8.14	14	28.44	-	-	6	53.96
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	71	7.87	19	6.08	5	5.27	-	-	6	12.19	-	-	-	-
Vibrio Infections[4]	12	1.33	2	0.64	-	-	1	8.14	1	2.03	-	-	-	-
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Gulf County		Hamilton County		Hardee County		Hendry County		Hernando County		Highlands County		Hillsborough County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	-	-	1	6.78	5	18.10	1	2.51	11	6.73	10	10.08	253	21.13
Campylobacteriosis	3	17.76	-	-	3	10.86	4	10.03	4	2.45	2	2.02	57	4.76
Chlamydia	28	165.79	80	542.34	114	412.71	194	486.47	293	179.31	262	264.21	5148	430.01
Cryptosporidiosis	1	5.92	-	-	2	7.24	7	17.55	4	2.45	2	2.02	46	3.84
Cyclosporiasis	-	-	-	-	-	-	-	-	-	-	1	1.01	2	0.17
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	-	-	-	-	-	-	4	0.33
Giardiasis	3	17.76	2	13.56	1	3.62	2	5.02	12	7.34	4	4.03	86	7.18
Gonorrhea	15	88.82	38	257.61	27	97.75	36	90.27	72	44.06	74	74.62	2056	171.74
Hemophilus influenzae, Invasive[1]	-	-	-	-	-	-	-	-	2	1.22	-	-	4	0.33
Hepatitis A	-	-	-	-	-	-	1	2.51	-	-	2	2.02	16	1.34
Hepatitis B (+HBsAg in Pregnant Women)	-	-	-	-	1	18.63	-	-	3	11.84	5	34.54	62	22.69
Hepatitis B, Acute	-	-	1	6.78	4	14.48	-	-	2	1.22	3	3.03	38	3.17
Hepatitis C, Acute	-	-	-	-	-	-	-	-	-	-	-	-	2	0.17
Human Immunodeficiency Virus	1	5.92	1	6.78	7	25.34	5	12.54	29	17.75	10	10.08	447	37.34
Legionellosis	-	-	1	6.78	-	-	-	-	1	0.61	2	2.02	9	0.75
Listeriosis[2]	-	-	-	-	-	-	-	-	-	-	-	-	2	0.17
Lyme disease	-	-	-	-	1	3.62	-	-	2	1.22	-	-	1	0.08
Malaria	-	-	-	-	-	-	-	-	-	-	1	1.01	1	0.08
Meningitis, Other	-	-	-	-	-	-	-	-	3	1.84	2	2.02	9	0.75
Meningitis, *Streptococcus pneumoniae*	-	-	-	-	-	-	-	-	-	-	1	1.01	1	0.08
Meningococcal Disease[3]	-	-	-	-	-	-	-	-	1	0.61	-	-	6	0.50
Pertussis	-	-	-	-	-	-	-	-	-	-	5	5.04	18	1.50
Rabies, Possible Exposure	1	5.92	-	-	7	25.34	1	2.51	12	7.34	10	10.08	20	1.67
Salmonellosis	4	23.68	3	20.34	9	32.58	12	30.09	30	18.36	27	27.23	285	23.81
Shigellosis	1	5.92	3	20.34	2	7.24	10	25.08	4	2.45	3	3.03	44	3.68
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	1	5.92	1	6.78	2	7.24	-	-	8	4.90	7	7.06	48	4.01
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	1	5.92	-	-	1	3.62	5	12.54	5	3.06	2	2.02	35	2.92
Streptococcal disease, Invasive Group A	1	5.92	-	-	-	-	-	-	4	2.45	-	-	8	0.67
Syphilis	3	17.76	2	13.56	3	10.86	6	15.05	6	3.67	6	6.05	446	37.25
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	2	0.17
Tuberculosis	-	-	-	-	6	21.72	8	20.06	-	-	1	1.01	82	6.85
Vibrio Infections[4]	-	-	1	6.78	-	-	-	-	1	0.61	1	1.01	1	0.08
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Holmes County		Indian River County		Jackson County		Jefferson County		Lafayette County		Lake County		Lee County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	2	10.27	12	8.53	4	7.90	8	55.07	-	-	47	16.27	83	13.36
Campylobacteriosis	1	5.13	2	1.42	4	7.90	-	-	2	24.27	10	3.46	66	10.62
Chlamydia	34	174.57	372	264.44	230	454.30	50	344.16	12	145.60	654	226.45	1751	281.78
Cryptosporidiosis	-	-	43	30.57	-	-	-	-	1	12.13	9	3.12	20	3.22
Cyclosporiasis	-	-	1	0.71	1	1.98	-	-	-	-	1	0.35	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	-	-	-	-	1	0.35	2	0.32
Giardiasis	-	-	24	17.06	-	-	1	6.88	-	-	23	7.96	34	5.47
Gonorrhea	2	10.27	157	111.60	119	235.05	16	110.13	1	12.13	311	107.68	512	82.39
Hemophilus influenzae, Invasive[1]	-	-	-	-	-	-	-	-	-	-	3	1.04	3	0.48
Hepatitis A	-	-	-	-	-	-	-	-	-	-	1	0.35	8	1.29
Hepatitis B (+HBsAg in Pregnant Women)	-	-	5	22.56	1	11.55	1	37.92	-	-	4	8.28	17	16.24
Hepatitis B, Acute	-	-	3	2.13	-	-	-	-	-	-	2	0.69	7	1.13
Hepatitis C, Acute	-	-	-	-	-	-	-	-	-	-	1	0.35	4	0.64
Human Immunodeficiency Virus	1	5.13	22	15.64	7	13.83	2	13.77	1	12.13	49	16.97	106	17.06
Legionellosis	-	-	3	2.13	-	-	1	6.88	-	-	3	1.04	10	1.61
Listeriosis[2]	-	-	-	-	-	-	-	-	-	-	-	-	1	0.16
Lyme disease	-	-	-	-	-	-	-	-	-	-	-	-	3	0.48
Malaria	-	-	1	0.71	-	-	-	-	-	-	1	0.35	1	0.16
Meningitis, Other	-	-	-	-	-	-	-	-	-	-	-	-	3	0.48
Meningitis, *Streptococcus pneumoniae*	-	-	-	-	2	3.95	-	-	-	-	1	0.35	4	0.64
Meningococcal Disease[3]	-	-	-	-	-	-	-	-	-	-	-	-	1	0.16
Pertussis	1	5.13	-	-	-	-	-	-	-	-	1	0.35	10	1.61
Rabies, Possible Exposure	1	5.13	24	17.06	7	13.83	-	-	-	-	30	10.39	84	13.52
Salmonellosis	5	25.67	29	20.61	12	23.70	5	34.42	-	-	68	23.55	217	34.92
Shigellosis	-	-	11	7.82	3	5.93	5	34.42	-	-	27	9.35	38	6.12
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	1	5.13	7	4.98	5	9.88	1	6.88	-	-	7	2.42	27	4.35
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	-	-	1	0.71	3	5.93	2	13.77	-	-	4	1.39	22	3.54
Streptococcal disease, Invasive Group A	-	-	1	0.71	1	1.98	-	-	1	12.13	1	0.35	5	0.80
Syphilis	3	15.40	20	14.22	11	21.73	-	-	2	24.27	25	8.66	56	9.01
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	-	-	7	4.98	1	1.98	-	-	-	-	6	2.08	45	7.24
Vibrio Infections[4]	-	-	-	-	-	-	-	-	-	-	1	0.35	7	1.13
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Leon County		Levy County		Liberty County		Madison County		Manatee County		Marion County		Martin County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	50	18.28	3	7.46	2	25.67	2	10.01	31	9.76	38	11.62	13	9.01
Campylobacteriosis	16	5.85	3	7.46	-	-	-	-	16	5.04	2	0.61	9	6.24
Chlamydia	1672	611.42	150	372.92	30	385.06	104	520.31	823	259.09	975	298.20	195	135.10
Cryptosporidiosis	20	7.31	-	-	-	-	-	-	7	2.20	13	3.98	5	3.46
Cyclosporiasis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	-	-	1	0.31	-	-	-	-
Giardiasis	24	8.78	1	2.49	-	-	-	-	9	2.83	12	3.67	6	4.16
Gonorrhea	722	264.02	53	131.77	16	205.37	36	180.11	388	122.15	335	102.46	34	23.56
Hemophilus influenzae, Invasive[1]	-	-	-	-	-	-	-	-	-	-	1	0.31	1	0.69
Hepatitis A	2	0.73	1	2.49	-	-	-	-	7	2.20	5	1.53	1	0.69
Hepatitis B (+HBsAg in Pregnant Women)	3	3.82	-	-	-	-	-	-	12	21.18	6	10.52	5	22.88
Hepatitis B, Acute	7	2.56	1	2.49	-	-	-	-	9	2.83	9	2.75	2	1.39
Hepatitis C, Acute	-	-	-	-	-	-	-	-	-	-	-	-	1	0.69
Human Immunodeficiency Virus	84	30.72	3	7.46	2	25.67	3	15.01	53	16.69	70	21.41	16	11.08
Legionellosis	2	0.73	-	-	-	-	-	-	2	0.63	3	0.92	1	0.69
Listeriosis[2]	-	-	1	2.49	-	-	-	-	-	-	-	-	-	-
Lyme disease	-	-	-	-	-	-	-	-	2	0.63	1	0.31	4	2.77
Malaria	-	-	-	-	-	-	-	-	-	-	-	-	1	0.69
Meningitis, Other	-	-	-	-	-	-	1	5.00	-	-	1	0.31	-	-
Meningitis, *Streptococcus pneumoniae*	1	0.37	-	-	-	-	-	-	3	0.94	-	-	-	-
Meningococcal Disease[3]	1	0.37	-	-	-	-	-	-	-	-	1	0.31	-	-
Pertussis	2	0.73	5	12.43	-	-	-	-	-	-	1	0.31	-	-
Rabies, Possible Exposure	-	-	3	7.46	-	-	-	-	33	10.39	52	15.90	26	18.01
Salmonellosis	77	28.16	11	27.35	1	12.84	2	10.01	85	26.76	72	22.02	33	22.86
Shigellosis	43	15.72	5	12.43	-	-	-	-	5	1.57	24	7.34	22	15.24
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	14	5.12	-	-	-	-	-	-	14	4.41	5	1.53	7	4.85
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	10	3.66	1	2.49	-	-	-	-	15	4.72	12	3.67	4	2.77
Streptococcal disease, Invasive Group A	1	0.37	-	-	-	-	-	-	9	2.83	5	1.53	1	0.69
Syphilis	40	14.63	6	14.92	2	25.67	2	10.01	34	10.70	22	6.73	12	8.31
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	13	4.75	-	-	-	-	1	5.00	21	6.61	11	3.36	6	4.16
Vibrio Infections[4]	1	0.37	-	-	-	-	-	-	3	0.94	-	-	2	1.39
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Miami-Dade County		Monroe County		Nassau County		Okaloosa County		Okeechobee County		Orange County		Osceola County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	803	32.52	12	15.15	3	4.29	17	8.61	1	2.56	313	28.14	48	17.87
Campylobacteriosis	138	5.59	1	1.26	12	17.17	5	2.53	3	7.67	32	2.88	6	2.23
Chlamydia	5965	241.57	90	113.63	144	206.00	534	270.33	122	311.73	4866	437.53	757	281.84
Cryptosporidiosis	49	1.98	-	-	15	21.46	2	1.01	-	-	51	4.59	7	2.61
Cyclosporiasis	-	-	-	-	-	-	-	-	-	-	2	0.18	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	6	0.24	-	-	-	-	-	-	-	-	1	0.09	-	-
Giardiasis	272	11.02	2	2.53	5	7.15	18	9.11	2	5.11	91	8.18	17	6.33
Gonorrhea	1984	80.35	30	37.88	39	55.79	197	99.73	24	61.32	2103	189.09	153	56.96
Hemophilus influenzae, Invasive[1]	23	0.93	-	-	1	1.43	-	-	-	-	11	0.99	3	1.12
Hepatitis A	38	1.54	-	-	-	-	-	-	1	2.56	8	0.72	1	0.37
Hepatitis B (+HBsAg in Pregnant Women)	23	4.13	-	-	3	21.65	3	7.06	-	-	70	25.91	6	9.77
Hepatitis B, Acute	20	0.81	1	1.26	5	7.15	-	-	-	-	29	2.61	7	2.61
Hepatitis C, Acute	-	-	-	-	1	1.43	-	-	-	-	7	0.63	-	-
Human Immunodeficiency Virus	1471	59.57	32	40.40	11	15.74	33	16.71	8	20.44	540	48.55	83	30.90
Legionellosis	7	0.28	-	-	1	1.43	-	-	-	-	13	1.17	1	0.37
Listeriosis[2]	2	0.08	-	-	-	-	-	-	-	-	1	0.09	-	-
Lyme disease	-	-	-	-	-	-	-	-	-	-	2	0.18	-	-
Malaria	10	0.40	1	1.26	-	-	-	-	-	-	11	0.99	-	-
Meningitis, Other	11	0.45	-	-	-	-	-	-	-	-	18	1.62	-	-
Meningitis, *Streptococcus pneumoniae*	8	0.32	-	-	-	-	-	-	1	2.56	5	0.45	-	-
Meningococcal Disease[3]	9	0.36	1	1.26	-	-	-	-	-	-	4	0.36	1	0.37
Pertussis	31	1.26	-	-	-	-	2	1.01	4	10.22	6	0.54	-	-
Rabies, Possible Exposure	54	2.19	3	3.79	9	12.87	82	41.51	2	5.11	79	7.10	18	6.70
Salmonellosis	439	17.78	20	25.25	40	57.22	66	33.41	10	25.55	262	23.56	67	24.94
Shigellosis	126	5.10	2	2.53	7	10.01	2	1.01	2	5.11	93	8.36	19	7.07
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	101	4.09	-	-	-	-	6	3.04	-	-	38	3.42	3	1.12
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	100	4.05	-	-	3	4.29	4	2.02	-	-	25	2.25	3	1.12
Streptococcal disease, Invasive Group A	39	1.58	-	-	1	1.43	2	1.01	-	-	21	1.89	3	1.12
Syphilis	997	40.38	11	13.89	2	2.86	11	5.57	3	7.67	440	39.56	72	26.81
Toxoplasmosis	4	0.16	-	-	-	-	-	-	-	-	1	0.09	-	-
Tuberculosis	187	7.57	2	2.53	1	1.43	7	3.54	2	5.11	87	7.82	10	3.72
Vibrio Infections[4]	1	0.04	-	-	1	1.43	1	0.51	-	-	1	0.09	1	0.37
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Palm Beach County		Pasco County		Pinellas County		Polk County		Putnam County		Santa Rosa County		Sarasota County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	284	21.86	33	7.56	176	18.62	85	14.55	16	21.36	11	7.72	34	8.73
Campylobacteriosis	66	5.08	17	3.89	48	5.08	32	5.48	3	4.00	5	3.51	20	5.14
Chlamydia	2385	183.55	624	142.86	3441	363.96	1920	328.69	201	268.31	257	180.41	687	176.48
Cryptosporidiosis	46	3.54	18	4.12	15	1.59	54	9.24	5	6.67	7	4.91	6	1.54
Cyclosporiasis	10	0.77	-	-	1	0.11	-	-	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	3	0.23	3	0.69	1	0.11	3	0.51	-	-	1	0.70	2	0.51
Giardiasis	72	5.54	41	9.39	27	2.86	25	4.28	6	8.01	7	4.91	19	4.88
Gonorrhea	870	66.96	169	38.69	1517	160.45	924	158.18	119	158.85	55	38.61	366	94.02
Hemophilus influenzae, Invasive[1]	11	0.85	2	0.46	5	0.53	7	1.20	-	-	1	0.70	3	0.77
Hepatitis A	11	0.85	3	0.69	6	0.63	2	0.34	1	1.33	-	-	3	0.77
Hepatitis B (+HBsAg in Pregnant Women)	81	33.29	13	17.11	33	18.81	43	37.69	3	21.83	2	6.67	5	8.91
Hepatitis B, Acute	14	1.08	7	1.60	22	2.33	24	4.11	2	2.67	2	1.40	14	3.60
Hepatitis C, Acute	-	-	1	0.23	6	0.63	5	0.86	1	1.33	-	-	3	0.77
Human Immunodeficiency Virus	415	31.94	69	15.80	261	27.61	106	18.15	21	28.03	13	9.13	51	13.10
Legionellosis	16	1.23	5	1.14	8	0.85	2	0.34	-	-	4	2.81	11	2.83
Listeriosis[2]	9	0.69	1	0.23	1	0.11	2	0.34	-	-	-	-	1	0.26
Lyme disease	4	0.31	-	-	4	0.42	-	-	-	-	-	-	-	-
Malaria	5	0.38	-	-	1	0.11	1	0.17	-	-	-	-	1	0.26
Meningitis, Other	8	0.62	1	0.23	6	0.63	6	1.03	-	-	4	2.81	4	1.03
Meningitis, *Streptococcus pneumoniae*	6	0.46	2	0.46	5	0.53	4	0.68	-	-	-	-	-	-
Meningococcal Disease[3]	-	-	-	-	3	0.32	1	0.17	2	2.67	-	-	1	0.26
Pertussis	12	0.92	8	1.83	25	2.64	7	1.20	-	-	-	-	15	3.85
Rabies, Possible Exposure	71	5.46	100	22.89	41	4.34	6	1.03	14	18.69	21	14.74	8	2.06
Salmonellosis	341	26.24	112	25.64	220	23.27	136	23.28	29	38.71	69	48.44	60	15.41
Shigellosis	101	7.77	8	1.83	39	4.13	113	19.34	16	21.36	11	7.72	4	1.03
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	33	2.54	17	3.89	39	4.13	54	9.24	1	1.33	3	2.11	19	4.88
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	33	2.54	14	3.21	24	2.54	31	5.31	10	13.35	3	2.11	15	3.85
Streptococcal disease, Invasive Group A	23	1.77	11	2.52	15	1.59	20	3.42	-	-	-	-	11	2.83
Syphilis	212	16.32	10	2.29	150	15.87	75	12.84	3	4.00	16	11.23	23	5.91
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	70	5.39	8	1.83	39	4.13	29	4.96	5	6.67	3	2.11	13	3.34
Vibrio Infections[4]	6	0.46	1	0.23	11	1.16	1	0.17	-	-	2	1.40	4	1.03
West Nile Virus	-	-	-	-	1	0.11	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Seminole County		St. Johns County		St. Lucie County		Sumter County		Suwannee County		Taylor County		Union County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	45	10.54	19	10.83	68	24.80	10	11.02	3	7.54	4	17.69	4	25.29
Campylobacteriosis	14	3.28	15	8.55	3	1.09	-	-	3	7.54	2	8.84	1	6.32
Chlamydia	563	131.81	237	135.13	731	266.58	227	250.14	130	326.80	83	367.00	53	335.10
Cryptosporidiosis	17	3.98	5	2.85	9	3.28	-	-	-	-	-	-	-	-
Cyclosporiasis	1	0.23	1	0.57	-	-	-	-	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	2	0.47	1	0.57	-	-	-	-	-	-	-	-	-	-
Giardiasis	26	6.09	16	9.12	7	2.55	1	1.10	3	7.54	2	8.84	-	-
Gonorrhea	187	43.78	66	37.63	238	86.79	87	95.87	50	125.69	33	145.91	29	183.36
Hemophilus influenzae, Invasive[1]	-	-	-	-	1	0.36	-	-	-	-	-	-	-	-
Hepatitis A	3	0.70	1	0.57	7	2.55	-	-	-	-	-	-	-	-
Hepatitis B (+HBsAg in Pregnant Women)	14	14.37	2	5.71	19	38.32	-	-	-	-	-	-	-	-
Hepatitis B, Acute	6	1.40	-	-	5	1.82	1	1.10	-	-	-	-	-	-
Hepatitis C, Acute	-	-	-	-	2	0.73	-	-	-	-	-	-	-	-
Human Immunodeficiency Virus	90	21.07	22	12.54	77	28.08	12	13.22	6	15.08	5	22.11	10	63.23
Legionellosis	2	0.47	1	0.57	-	-	2	2.20	-	-	-	-	-	-
Listeriosis[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lyme disease	-	-	1	0.57	-	-	-	-	-	-	-	-	-	-
Malaria	1	0.23	2	1.14	-	-	-	-	-	-	-	-	-	-
Meningitis, Other	1	0.23	3	1.71	2	0.73	-	-	-	-	-	-	-	-
Meningitis, *Streptococcus pneumoniae*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal Disease[3]	3	0.70	1	0.57	1	0.36	1	1.10	-	-	-	-	-	-
Pertussis	1	0.23	-	-	2	0.73	-	-	-	-	2	8.84	-	-
Rabies, Possible Exposure	45	10.54	17	9.69	7	2.55	17	18.73	-	-	-	-	-	-
Salmonellosis	75	17.56	68	38.77	72	26.26	-	-	12	30.17	4	17.69	2	12.65
Shigellosis	25	5.85	38	21.67	15	5.47	5	5.51	7	17.60	3	13.26	1	6.32
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	9	2.11	1	0.57	9	3.28	-	-	1	2.51	-	-	-	-
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	4	0.94	1	0.57	6	2.19	-	-	-	-	-	-	1	6.32
Streptococcal disease, Invasive Group A	8	1.87	2	1.14	7	2.55	-	-	-	-	1	4.42	-	-
Syphilis	44	10.30	10	5.70	24	8.75	1	1.10	2	5.03	5	22.11	3	18.97
Toxoplasmosis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuberculosis	13	3.04	3	1.71	14	5.11	5	5.51	4	10.06	2	8.84	-	-
Vibrio Infections[4]	-	-	2	1.14	1	0.36	-	-	-	-	-	-	-	-
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Cont'd Table 1.3. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by County of Residence, Florida, 2007

Selected Notifiable Diseases	Volusia County		Wakulla County		Walton County		Washington County	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	56	6.21	-	-	3	5.22	4	16.75
Campylobacteriosis	25	2.77	1	3.38	1	1.74	-	-
Chlamydia	1017	112.70	64	216.60	106	184.61	55	230.35
Cryptosporidiosis	20	2.22	2	6.77	-	-	3	12.56
Cyclosporiasis	2	0.22	-	-	-	-	-	-
Enterohemorrhagic *Escherichia coli* O157:H7	-	-	-	-	-	-	-	-
Giardiasis	21	2.33	6	20.31	1	1.74	3	12.56
Gonorrhea	570	63.17	15	50.76	30	52.25	8	33.51
Hemophilus influenzae, Invasive[1]	2	0.22	-	-	-	-	-	-
Hepatitis A	1	0.11	-	-	-	-	-	-
Hepatitis B (+HBsAg in Pregnant Women)	12	1.33	-	-	1	1.74	-	-
Hepatitis B, Acute	5	0.55	-	-	3	5.22	-	-
Hepatitis C, Acute	4	0.44	1	3.38	-	-	-	-
Human Immunodeficiency Virus	85	9.42	2	6.77	4	6.97	6	25.13
Legionellosis	6	0.66	1	3.38	-	-	-	-
Listeriosis[2]	1	0.11	-	-	-	-	-	-
Lyme disease	-	-	-	-	1	1.74	-	-
Malaria	2	0.22	-	-	-	-	-	-
Meningitis, Other	-	-	-	-	-	-	-	-
Meningitis, *Streptococcus pneumoniae*	3	0.33	-	-	-	-	-	-
Meningococcal Disease[3]	2	0.22	-	-	-	-	-	-
Pertussis	-	-	-	-	-	-	-	-
Rabies, Possible Exposure	111	12.30	-	-	5	8.71	1	4.19
Salmonellosis	136	15.07	13	44.00	17	29.61	5	20.94
Shigellosis	83	9.20	2	6.77	1	1.74	13	54.45
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	24	2.66	-	-	1	1.74	1	4.19
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	16	1.77	-	-	1	1.74	-	-
Streptococcal disease, Invasive Group A	4	0.44	-	-	-	-	-	-
Syphilis	28	3.10	3	10.15	8	13.93	4	16.75
Toxoplasmosis	-	-	-	-	-	-	-	-
Tuberculosis	17	1.88	-	-	1	1.74	1	4.19
Vibrio Infections[4]	11	1.22	1	3.38	-	-	1	4.19
West Nile Virus	-	-	-	-	-	-	-	-

1 Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

2 Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes*.

3 Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

4 Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus*, and *V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Table 1.4 Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by Age Group, Florida, 2007

Selected Notifiable Diseases	Age Group																									
	<1		1-4		5-9		10-14		15-19		20-24		25-34		35-44		45-54		55-64		65-74		75-84		85+	
	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
Acquired Immune Deficiency Syndrome	1	0.45	5	0.56	-	-	19	1.61	34	2.80	161	13.34	727	31.94	1,281	50.26	1,073	40.47	384	17.51	92	5.81	13	1.10	1	0.21
Campylobacteriosis	57	25.57	166	18.61	69	6.02	53	4.49	52	4.28	49	4.06	83	3.65	105	4.12	119	4.49	119	5.43	80	5.06	46	3.88	19	4.08
Chlamydia	32	14.35	5	0.56	11	0.96	600	50.87	19,357	1,593.29	21,618	1,791.54	12,396	544.67	2,548	99.97	645	24.33	156	7.11	18	1.14	5	0.42	1	0.21
Cryptosporidiosis	16	7.18	174	19.51	87	7.59	48	4.07	20	1.65	34	2.82	108	4.75	106	4.16	55	2.07	33	1.50	29	1.83	17	1.44	11	2.36
Cyclosporiasis	-	-	-	-	-	-	1	0.08	-	-	1	0.08	3	0.13	9	0.35	3	0.11	6	0.27	5	0.32	2	0.17	2	0.43
Enterohemorrhagic *Escherichia coli* 0157:H7	-	-	3	0.34	6	0.52	6	0.51	6	0.49	-	-	3	0.13	1	0.04	2	0.08	6	0.27	3	0.19	1	0.08	-	-
Giardiasis	14	6.28	304	34.09	169	14.75	56	4.75	36	2.96	44	3.65	140	6.15	199	7.81	134	5.05	87	3.97	50	3.16	22	1.86	13	2.79
Gonorrhea	3	1.35	13	1.46	4	0.35	255	21.62	6,376	524.81	7,490	620.72	5,793	254.54	2,096	82.24	939	35.42	241	10.99	38	2.40	5	0.42	1	0.21
Hemophilus influenzae, Invasive[1]	14	6.28	10	1.12	2	0.17	1	0.08	2	0.16	6	0.50	5	0.22	6	0.24	12	0.45	13	0.59	17	1.07	25	2.11	14	3.01
Hepatitis A	-	-	5	0.56	14	1.22	20	1.70	14	1.15	23	1.91	28	1.23	18	0.71	16	0.60	13	0.59	11	0.70	6	0.51	3	0.64
Hepatitis B (+HBsAg in Pregnant Women)	-	-	-	-	-	-	-	-	43	7.24	147	24.95	336	30.12	115	9.06	2	0.15	-	-	-	-	-	-	-	-
Hepatitis B, Acute	-	-	-	-	-	-	-	-	2	0.16	13	1.08	89	3.91	104	4.08	89	3.36	47	2.14	9	0.57	11	0.93	2	0.43
Hepatitis C, Acute	-	-	-	-	-	-	-	-	2	0.16	7	0.58	7	0.31	12	0.47	14	0.53	3	0.14	1	0.06	-	-	-	-
Human Immunodeficiency Virus	63	28.26	38	4.26	34	2.97	33	2.80	236	19.43	604	50.06	1,447	63.58	1,774	69.60	1,207	45.53	427	19.47	101	6.38	14	1.18	2	0.43
Legionellosis	-	-	-	-	-	-	-	-	-	-	1	0.08	3	0.13	15	0.59	29	1.09	30	1.37	29	1.83	36	3.04	10	2.15
Listeriosis[2]	1	0.45	-	-	-	-	-	-	-	-	-	-	1	0.04	1	0.04	2	0.08	2	0.09	10	0.63	13	1.10	4	0.86
Lyme disease	-	-	-	-	3	0.26	3	0.25	1	0.08	-	-	4	0.18	1	0.04	3	0.11	3	0.14	8	0.51	3	0.25	1	0.21
Malaria	-	-	1	0.11	2	0.17	1	0.08	6	0.49	4	0.33	9	0.40	9	0.35	12	0.45	8	0.36	3	0.19	1	0.08	-	-
Meningitis, Other	18	8.07	8	0.90	1	0.09	-	-	2	0.16	9	0.75	13	0.57	24	0.94	27	1.02	18	0.82	7	0.44	7	0.59	1	0.21
Meningitis, *Streptococcus pneumoniae*	9	4.04	3	0.34	2	0.17	2	0.17	1	0.08	2	0.17	5	0.22	9	0.35	9	0.34	12	0.55	10	0.63	3	0.25	-	-
Meningococcal Disease[3]	13	5.83	7	0.78	2	0.17	3	0.25	11	0.91	5	0.41	4	0.18	7	0.27	4	0.15	4	0.18	4	0.25	1	0.08	2	0.43
Pertussis	77	34.54	14	1.57	16	1.40	12	1.02	24	1.98	6	0.50	8	0.35	21	0.82	14	0.53	12	0.55	3	0.19	4	0.34	-	-
Rabies, Possible Exposure	14	6.28	63	7.06	92	8.03	100	8.48	121	9.96	102	8.45	195	8.57	245	9.61	230	8.68	160	7.30	83	5.25	58	4.90	59	12.68
Salmonellosis	1,061	####	1,208	135.45	464	40.49	237	20.10	148	12.18	174	14.42	278	12.22	307	12.05	327	12.33	282	12.86	258	16.30	215	18.16	63	13.54
Shigellosis	58	26.01	839	94.08	621	54.19	146	12.38	46	3.79	81	6.71	240	10.55	122	4.79	55	2.07	41	1.87	20	1.26	12	1.01	7	1.50
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	44	19.73	93	10.43	18	1.57	5	0.42	13	1.07	15	1.24	41	1.80	79	3.10	98	3.70	113	5.15	79	4.99	67	5.66	60	12.90
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	29	13.01	45	5.05	16	1.40	4	0.34	2	0.16	9	0.75	23	1.01	84	3.30	100	3.77	104	4.74	94	5.94	70	5.91	42	9.03
Streptococcal disease, Invasive Group A	4	1.79	19	2.13	11	0.96	4	0.34	10	0.82	6	0.50	21	0.92	41	1.61	50	1.89	46	2.10	35	2.21	51	4.31	11	2.36
Syphilis	9	4.04	-	-	-	-	8	0.68	267	21.98	532	44.09	982	43.15	1,049	41.16	717	27.05	233	10.62	75	4.74	44	3.72	9	1.93
Toxoplasmosis	-	-	-	-	-	-	-	-	1	0.08	1	0.08	2	0.09	2	0.08	1	0.04	2	0.09	-	-	-	-	-	-
Tuberculosis	12	5.38	29	3.25	10	0.87	10	0.85	29	2.39	74	6.13	172	7.56	160	6.28	200	7.54	137	6.25	94	5.94	49	4.14	13	2.79
Vibrio Infections[4]	1	0.45	2	0.22	3	0.26	9	0.76	7	0.58	4	0.33	8	0.35	11	0.43	20	0.75	7	0.32	12	0.76	9	0.76	4	0.86
West Nile Virus	-	-	-	-	-	-	-	-	-	-	-	-	1	0.04	-	-	-	-	1	0.05	1	0.06	-	-	-	-

[1] Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

[2] Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes.*

[3] Includes reported cases of meningococcal meningitis, pneumonia caused by Neisseria meningitidis, meningococcal disease, and meningococcemia disseminated.

[4] Includes reported cases of *V. alginolyticus, V. cholerae non-O1, V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus, and V.* other.

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Table 1.5 Top 10 Reported Confirmed and Probable Cases of Disease by Age Group, Florida, 2007

	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 (1061)	Salmonellosis (1208)	Shigellosis (621)	Chlamydia (600)	Chlamydia (19357)	Chlamydia (21618)	Chlamydia (12396)	Chlamydia (2548)	HIV (1271)	HIV (435)	Salmonellosis (258)	Salmonellosis (215)	Salmonellosis (63)
2	Pertussis (77)	Shigellosis (839)	Varicella (547)	Varicella (378)	Gonorrhea (6376)	Gonorrhea (7490)	Gonorrhea (5793)	Gonorrhea (2096)	AIDS (1100)	AIDS (391)	HIV (102)	*Streptococcus pneumoniae*,invasive disease, drug-sensitive (70)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (60)
3	HIV (63)	Giardiasis (304)	Salmonellosis (464)	Gonorrhea (255)	Syphilis (267)	HIV (631)	HIV (1520)	HIV (1853)	Gonorrhea (939)	Salmonellosis (282)	*Streptococcus pneumoniae*,invasive disease, drug-sensitive (94)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (67)	*Streptococcus pneumoniae*,invasive disease, drug-sensitive (42)
4	Shigellosis (58)	Lead Poisoning (197)	Giardiasis (169)	Salmonellosis (237)	HIV (239)	Syphilis (532)	Syphilis (982)	AIDS (1319)	Syphilis (717)	Gonorrhea (241)	Tuberculosis (94)	Rabies, possible exposure (58)	Campylobacteriosis (19)
5	Campylobacteriosis (57)	Cryptosporidiosis (174)	Rabies, possible exposure (92)	Shigellosis (146)	Salmonellosis (148)	Salmonellosis (174)	AIDS (754)	Syphilis (1049)	Chlamydia (645)	Syphilis (233)	AIDS (92)	Streptococcal disease, invasive group A (51)	*Haemophilus influenzae* invasive disease (14)
6	Varicella (52)	Campylobacteriosis (166)	Cryptosporidiosis (87)	Rabies, possible exposure (100)	Rabies, possible exposure (121)	AIDS (167)	Hepatitis B (+HBsAg in Pregnant Woman) (336)	Salmonellosis (307)	Salmonellosis (327)	Rabies, possible exposure (160)	Rabies, possible exposure (83)	Tuberculosis (49)	Giardiasis (13)
7	*Streptococcus pneumoniae*,invasive disease, drug-resistant (45)	Varicella (136)	Lead Poisoning (86)	Giardiasis (56)	Varicella (54)	Hepatitis B (+HBsAg in Pregnant Woman) (147)	Salmonellosis (278)	Rabies, possible exposure (245)	Rabies, possible exposure (230)	Chlamydia (156)	Campylobacteriosis (80)	Campylobacteriosis (46)	Tuberculosis (13)
8	Chlamydia (32)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (93)	Campylobacteriosis (69)	Campylobacteriosis (53)	Campylobacteriosis (52)	Rabies, possible exposure (102)	Shigellosis (240)	Giardiasis (199)	Tuberculosis (200)	Tuberculosis (137)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (79)	Syphilis (44)	Cryptosporidiosis (11)
9	*Streptococcus pneumoniae*,invasive disease, drug-susceptible (29)	Rabies, possible exposure (63)	HIV (34)	Cryptosporidiosis (48)	Shigellosis (46)	Shigellosis (81)	Rabies, possible exposure (195)	Tuberculosis (160)	Giardiasis (134)	Campylobacteriosis (119)	Syphilis (75)	Legionellosis (36)	Rabies, possible exposure (11)
10	Meningitis, Group B *Streptococcus* (25)	*Streptococcus pneumoniae*,invasive disease, drug-susceptible (45)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (18)	Lead Poisoning (46)	Hepatitis B (+HBsAg in Pregnant Women) (43)	Tuberculosis (74)	Tuberculosis (172)	Shigellosis (122)	Campylobacteriosis (119)	*Streptococcus pneumoniae*,invasive disease, drug-resistant (113)	Giardiasis (50)	*Haemophilus influenzae*, invasive disease (25)	Streptococcal disease, invasive group A (11)

For contextual understanding of the distribution of an individual disease listed in this table, please refer to Section 2: Select Notifiable Diseases and Conditions.

Table 1.6. Reported Confirmed and Probable Cases and Incidence Rate per 100,000 Population for Selected Notifiable Diseases by Gender, Florida, 2007

Selected Notifiable Diseases	Male		Female	
	Number	Rate	Number	Rate
Acquired Immune Deficiency Syndrome	2,489	27.10	1,302	13.59
Campylobacteriosis	558	6.08	459	4.79
Chlamydia	15,379	167.44	42,175	440.37
Cryptosporidiosis	374	4.07	364	3.80
Cyclosporiasis	18	0.20	14	0.15
Enterohemorrhagic *Escherichia coli* 0157:H7	16	0.17	20	0.21
Giardiasis	725	7.89	539	5.63
Gonorrhea	11,517	125.39	11,787	123.07
Hemophilus influenzae, Invasive[1]	63	0.69	64	0.67
Hepatitis A	89	0.97	82	0.86
Hepatitis B (+HBsAg in Pregnant Women)	NA	NA	644	16.85
Hepatitis B, Acute	209	2.28	157	1.64
Hepatitis C, Acute	21	0.23	25	0.26
Human Immunodeficiency Virus	4,153	45.22	1,827	19.08
Legionellosis	100	1.09	53	0.55
Listeriosis[2]	13	0.14	21	0.22
Lyme Disease	17	0.19	13	0.14
Malaria	37	0.40	19	0.20
Meningitis, Other	84	0.91	51	0.53
Meningitis, *Streptococcus pneumoniae*	39	0.42	28	0.29
Meningococcal Disease[3]	39	0.42	28	0.29
Pertussis	101	1.10	110	1.15
Rabies, Possible Exposure	768	8.36	704	7.35
Salmonellosis	2,532	27.57	2,470	25.79
Shigellosis	1,097	11.94	1,188	12.40
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	379	4.13	346	3.61
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	309	3.36	313	3.27
Streptococcal disease, Invasive Group A	175	1.91	134	1.40
Syphilis	2,787	30.34	1,140	11.90
Toxoplasmosis	3	0.03	6	0.06
Tuberculosis	612	6.66	377	3.94
Vibrio Infections[4]	76	0.83	20	0.21
West Nile Virus	1	0.01	2	0.02

[1] Includes reported cases of *Hemophilus influenzae* presenting as cellulitis, epiglottitis, meningitis, bacterimia, and septic arthritis.

[2] Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes.*

[3] Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

[4] Includes reported cases of *V. alginolyticus, V. cholerae non-O1, V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus,* and *V.* other.

NA - Not applicable

Note: All chlamydia, gonorrhea, and syphilis data in this report are provisional and may change as reports are updated.

Table 1.7. Reported Confirmed and Probable Cases of Selected Notifiable Diseases by Month of Onset[1], Florida, 2007

Disease	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Campylobacteriosis	97	69	61	69	68	101	96	89	57	71	57	54
Cryptosporidiosis	23	31	14	21	21	43	78	148	106	57	23	28
Cyclosporiasis	3	1	2	5	7	5	2	1	1	1	0	4
Enterohemorrhagic *Escherichia coli* O157:H7	4	0	3	3	1	6	2	4	2	6	3	3
Giardiasis	70	55	61	63	51	90	121	100	89	81	66	59
Haemophilus influenzae, Invasive[2]	15	18	7	8	5	9	5	5	6	8	4	9
Hepatitis A	19	17	8	10	9	9	14	22	19	11	6	10
Hepatitis B (+HBsAg in a Pregnant Woman)	3	1	3	7	4	3	18	11	10	11	7	6
Hepatitis B, Acute	31	22	31	23	33	23	28	32	17	32	27	28
Hepatitis C, Acute	8	3	3	4	0	4	6	2	3	3	2	2
Legionellosis	13	7	9	8	11	9	7	18	21	14	10	16
Listeriosis[3]	4	0	2	1	2	1	4	4	1	2	3	7
Lyme disease	0	0	0	0	0	6	7	2	4	1	1	1
Malaria	5	0	5	3	5	5	10	9	2	3	4	5
Meningitis, Other	12	8	9	8	14	6	11	10	4	9	8	11
Meningitis, *Streptococcus pneumoniae*	2	7	6	8	2	3	1	1	8	4	5	10
Meningococcal Disease[4]	5	3	10	8	3	8	4	9	5	3	5	4
Pertussis	35	25	8	10	16	24	17	19	9	11	7	21
Rabies, Possible Exposure	85	75	139	127	120	121	147	125	101	119	109	92
Salmonellosis	299	165	165	212	248	329	417	474	566	659	400	241
Shigellosis	136	143	158	280	288	187	139	137	103	140	198	151
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant	41	67	49	34	35	24	32	24	44	33	45	70
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible	37	47	41	38	30	16	23	25	24	32	55	38
Streptococcal Disease, Invasive Group A	21	20	28	23	28	30	17	22	14	20	18	14
Toxoplasmosis	1	0	0	0	1	0	0	0	1	2	1	0
Vibrio Infections[5]	1	0	6	9	7	8	6	16	7	7	5	3
West Nile Virus	0	0	0	0	0	0	3	0	0	0	0	0

[1] Only cases of diseases with known dates of onset are included in this table.

[2] Includes reported cases of *H. influenzae* presenting as cellulitis, epiglottitis, meningitis, bacteremia, and septic arthritis.

[3] Includes reported cases of listeriosis and cases of meningitis caused by *Listeria monocytogenes.*

[4] Includes reported cases of meningococcal meningitis, pneumonia caused by *Neisseria meningitidis*, meningococcal disease, and meningococcemia disseminated.

[5] Includes reported cases of *V. alginolyticus, V. cholerae* non-O1, *V. fluvialis, V. hollisae, V. mimicus, V. parahaemolyticus, V. vulnificus, and V.* other.

Section 2

List of Notifiable Diseases and Conditions Included

Acquired Immune Deficiency Syndrome/
Human Immunodeficiency Virus
Brucellosis
Campylobacteriosis
Chlamydia
Ciguatera Fish Poisoning
Cryptosporidiosis
Cyclosporiasis
Dengue Fever
Ehrlichiosis/Anaplasmosis
Escherichia coli (O157:H7)
Giardiasis
Gonorrhea
Haemophilus influenzae, Invasive Disease
Hepatitis A
Hepatitis B (+HBsAg in Pregnant Women)
Hepatitis B, Acute
Hepatitis C, Acute
Lead Poisoning
Legionellosis
Listeriosis
Lyme Disease
Measles
Meningitis (other bacterial, cryptococcal, mycotic)
Mumps
Neonatal Infections
Pertussis
Pesticide-related Illness and Injury
Psittacosis
Q Fever
Rabies, Human or Animal
Rabies, Possible Exposure
Rocky Mountain Spotted Fever
Rubella
Salmonellosis
Shigellosis
Streptococcal Disease, Invasive Group A
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible
Syphilis
Tetanus
Toxoplasmosis
Tuberculosis
Typhus Fever
Varicella
Vibrio Infections
West Nile Virus

Acquired Immune Deficiency Syndrome/Human Immunodeficiency Virus

In 2006, Florida ranked second among states in the number of reported acquired immune deficiency syndrome (AIDS) cases. New York reported 5,495 (14%), followed by Florida with 4,932 cases (13%), then California with 3,960 cases (10%), and Texas with 2,998 cases (8%). Florida ranked fifth among the 38 states that reported human immunodeficiency virus (HIV) cases in 2006. California, reported 6,581 cases (13%), followed by Illinois with 6,241 cases (12%), then New York with 5,326 cases (11%) and Pennsylvania with 4,269 cases (8%).

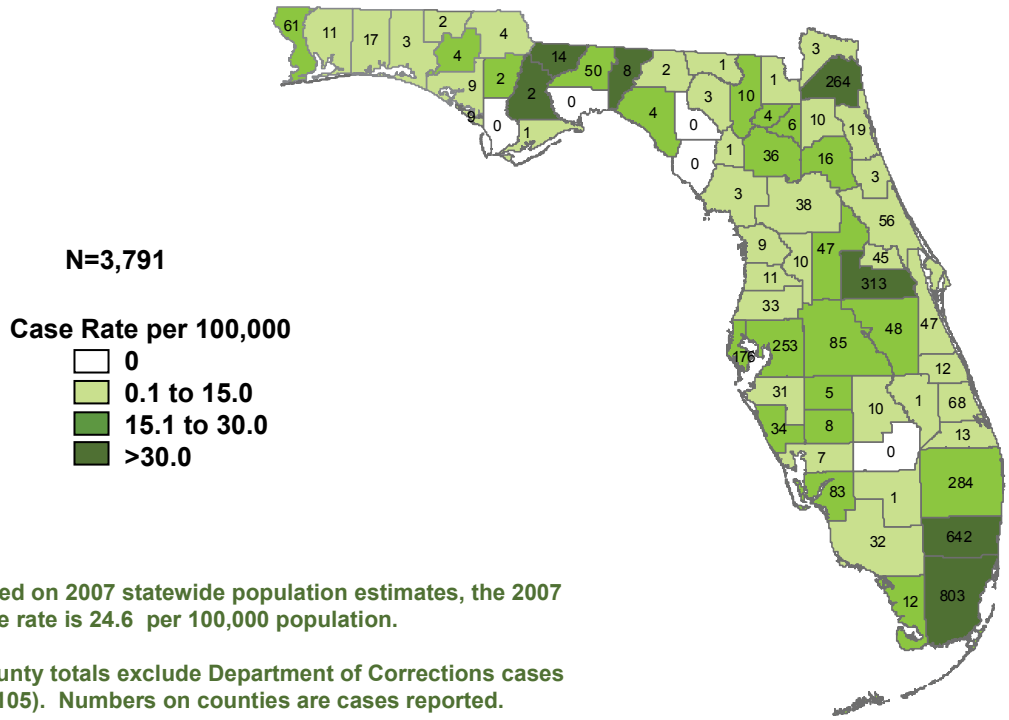
In 2007, Florida reported a higher percentage of AIDS cases among heterosexuals (26%) than the U.S. reported in 2006 (14%) (Note: US data not available for 2007). Florida reported a lower percentage of AIDS cases among men who had sex with men (MSM) and injection drug users (IDU) than the U.S.. MSM/IDU cases accounted for 5% of total reported cases in Florida and 7% in the U.S.. A slightly higher proportion of cases with no identified risk (NIR) were reported in Florida (13%) than in the U.S. as a whole (11%). Florida reported a slightly higher percentage of AIDS cases among blacks (54%) compared with the U.S. (49%). Florida also reported a higher percentage of cases among women (32%) compared with the U.S. (19%).

Similar to reported AIDS cases in 2007, Florida reported a higher percentage of HIV heterosexual cases (32%) compared to reported cases in the U.S. (20%). Florida reported a lower percentage of IDU than the U.S.. MSM/IDU cases accounted for 3% of total reported cases in Florida and 4% in the U.S.. The U.S. reported a slightly higher percentage of cases with NIR compared with Florida, 25% versus 22%. The state reported a lower percentage of HIV cases among blacks (45%) compared with the U.S. (49%). Florida also reported a slightly higher percentage of cases among women (30%) compared with the U.S. (27%).

In 2007, at least one AIDS case was reported in all but five counties (Figure 1). Although the AIDS epidemic is widespread throughout Florida, the majority of cases were reported from the seven most populous counties: Broward, Duval, Hillsborough, Miami-Dade, Orange, Palm Beach, and Pinellas. These seven counties reported a combined total of 2,735 cases, or 72%, of Florida's total reported cases in 2007. The greatest numbers of AIDS cases were reported from three counties located in the southeastern part of the state, Broward, Miami-Dade, and Orange. These three counties reported a combined total of 1,758 cases in 2007, or 46% of the statewide total.

Analysis of county-specific AIDS case rates per 100,000 population for 2007, in counties with 20 or more reported AIDS cases in 2007, indicate that Broward County ranked the highest with a rate of 43.5, followed, Miami-Dade (39.2), Duval (35.6), and Orange (34.5) Counties.

Figure 1. AIDS cases and rates per 100,000 population, by county of residence, Florida, 2007 (excluding Department of Corrections)



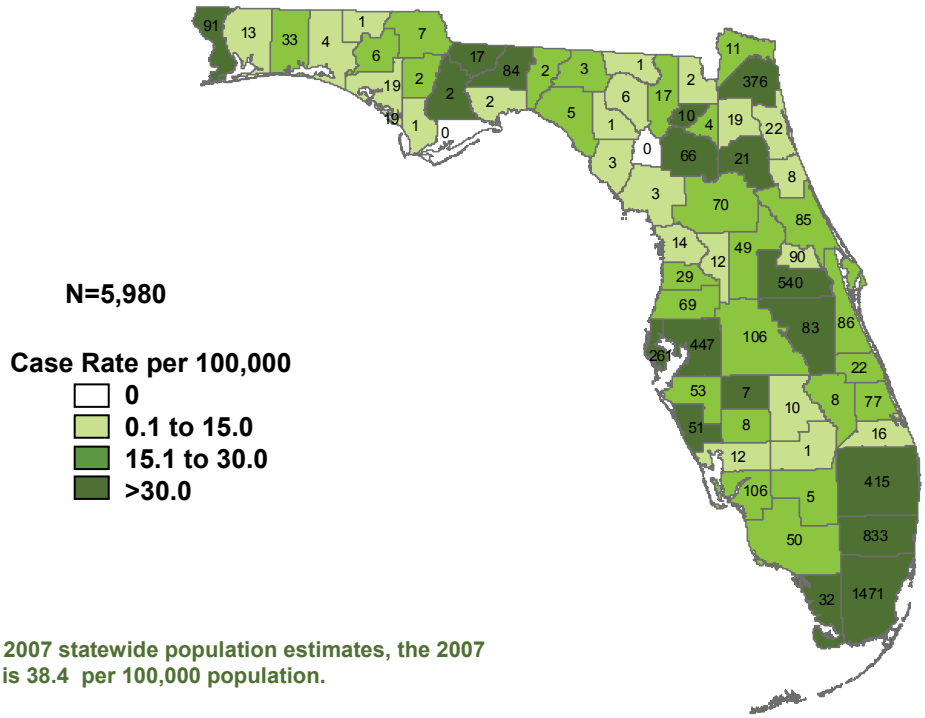
Based on 2007 statewide population estimates, the 2007 state rate is 24.6 per 100,000 population.

***County totals exclude Department of Corrections cases (N=105). Numbers on counties are cases reported.**

In 2007, at least one HIV case was reported in all counties but two (Figure 2). The majority of HIV cases were also reported from the same seven counties listed above. These seven counties reported a combined total of 4,343 cases, or 73%, of Florida's total reported cases in 2007. The greatest numbers of HIV cases were reported from Miami-Dade, Broward, and Orange Counties. These three counties reported a combined total of 2,844 cases in 2007, or 47% of the statewide total.

Analysis of county-specific data for 2007 indicate that Miami-Dade County ranked the highest with 25% of the HIV cases, followed by Broward (14%), Orange (9%), Hillsborough (7%), and Palm Beach (7%).

Figure 2. HIV cases and rates, by county of residence, Florida, 2007 (excluding Department of Corrections)

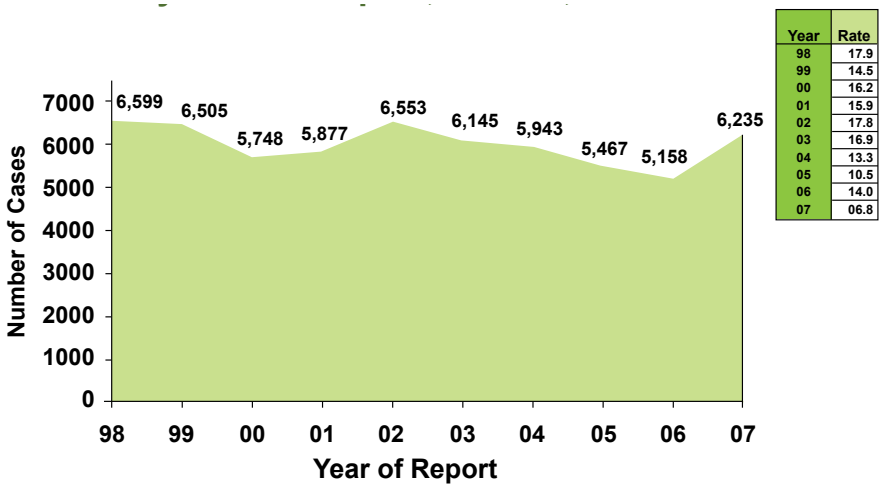


Based on 2007 statewide population estimates, the 2007 state rate is 38.4 per 100,000 population.

***County totals exclude Department of Corrections cases (N=255). This map does not reflect HIV incidence. Numbers on counties are cases reported.**

Generally, the number of HIV cases remained fairly stable over the past ten years with an increase in 2002 due to increased HIV testing statewide as part of the "Get to Know Your Status" campaign. Since that time, newly reported HIV cases have decreased each year (Figure 3). Note: enhanced reporting laws were implemented in Nov. 2006, leading to an artificial peak in HIV cases in 2007.

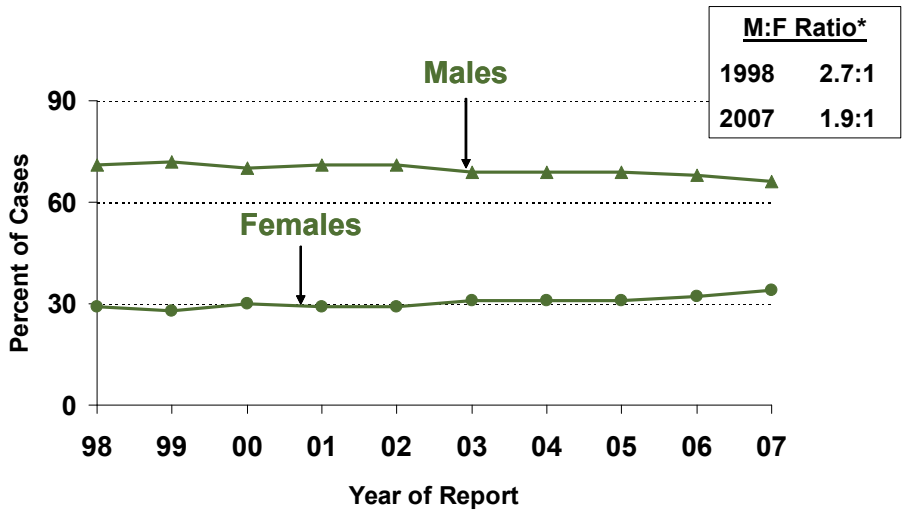
Figure 3. HIV case numbers and rates per 100,000 population*, by year of report, Florida, 1998-2007.



Comment: Generally, HIV cases remained fairly stable with an increase in 2002 due to increased HIV testing statewide as part of the "Get to Know Your Status" campaign. Since that time, newly reported HIV cases have decreased each year. Note: enhanced reporting laws were implemented in Nov. 2006, leading to an artificial peak in HIV cases in 2007.

In 1998, 29% of the AIDS cases reported in Florida were female (Figure 4). Over the past ten years, the proportion of AIDS cases among women has increased steadily. This has resulted in a decline of the male-to-female ratio, from 2.7:1 in 1998 to 1.9:1 in 2007. In 2007, the case rate per 100,000 population was 33.5 among men and 16.2 among women, indicating that AIDS cases, in this period, were still more likely to be reported among men than women in Florida.

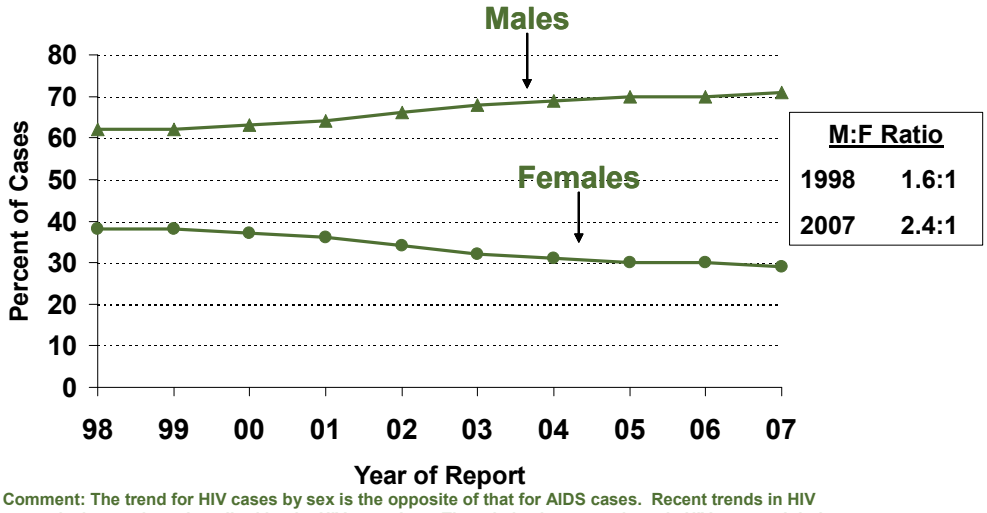
Figure 4. Percent of adult AIDS cases by sex and year of report, Florida, 1998 – 2007



Comment: AIDS cases tend to represent HIV transmission that occurred many years ago. The relative increases in female cases reflect the changing face of the AIDS epidemic over time.
*The male-to-female ratio is the number or percent of cases among males divided by the number or percent of female cases.

In 1998, 38% of the HIV cases reported in Florida were female (Figure 5). The proportion of HIV cases among women has decreased steadily over the past ten years. The result is an increase of the male-to-female ratio, from 1.6:1 in 1998 to 2.4:1 in 2007. This increase in the male-to-female ratio differs from the pattern seen for the ratio for AIDS cases during the same time period.

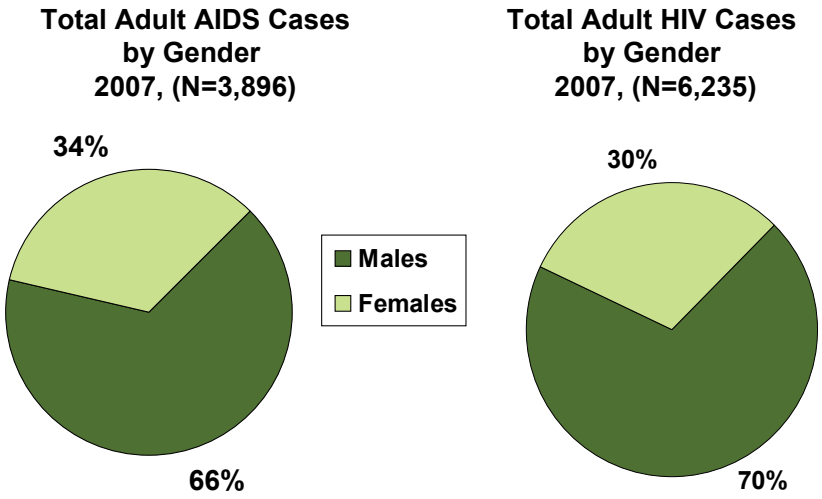
Figure 5. Percent of adult HIV cases by sex and year of report, Florida, 1998–2007



Comment: The trend for HIV cases by sex is the opposite of that for AIDS cases. Recent trends in HIV transmission are best described by the HIV case data. The relative increases in male HIV cases might be attributed to proportional increases in HIV transmission among men who have sex with men (MSM), which may influence future AIDS trends. There is additional evidence to support this MSM hypothesis, which we will now examine more closely.

In 2007, a total of 2,571 men and 1,317 women were reported with AIDS, representing 66% and 34% of cases, respectively (Figure 6). Also in 2007, a total of 3,608 men and 1,579 women were reported with HIV infection, representing 70% and 30% of cases, respectively.

Figure 6. Percentage of adult AIDS cases by sex, Florida, compared with percentage of adult HIV cases by sex, Florida, 2007.

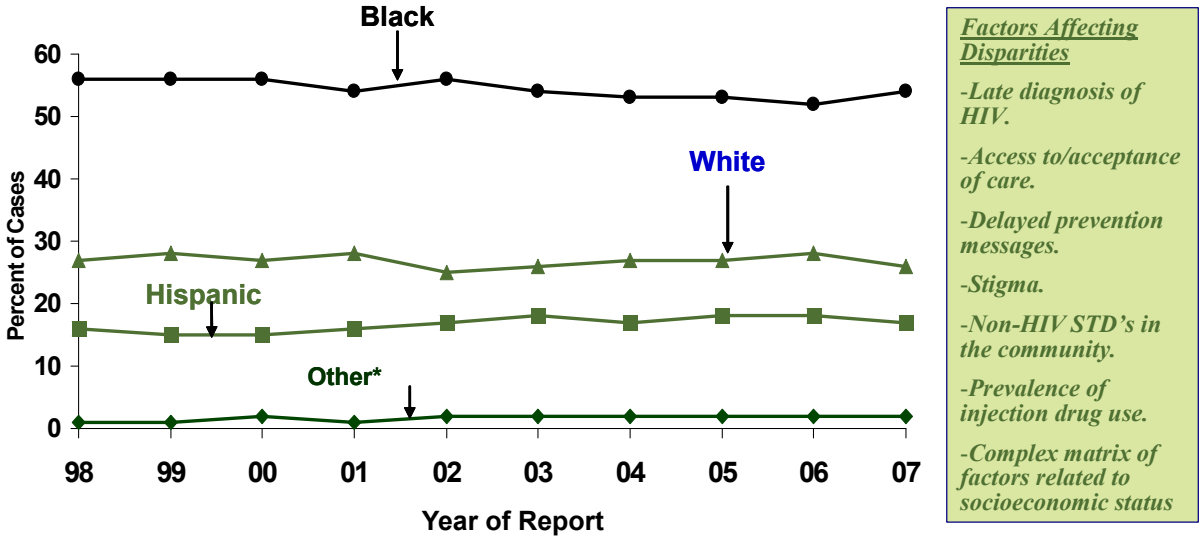


Comment: Florida's Adult Population is: 49% Male and 51% Female, therefore male cases are disproportionately impacted.

HIV case reporting, implemented in July 1997, tends to indicate newer infections than what is reflected by AIDS case data, although we do not know the proportion of diagnosed HIV cases that were recently acquired. HIV case reports augment AIDS case data and provide good information by age, sex, and race/ethnicity on persons who have been tested confidentially. However, HIV infection data represent the minimum of HIV prevalence in Florida, and do not account for persons undiagnosed and unaware of their infection, which is estimated at approximately 125,000 persons living with HIV infection.

Twenty-seven percent of the adult AIDS cases reported in Florida in 1998 were white, compared with 56% black, and 16% Hispanic (Figure 7). Over the past ten years the proportion of AIDS cases among whites, blacks and Hispanics has remained fairly stable.

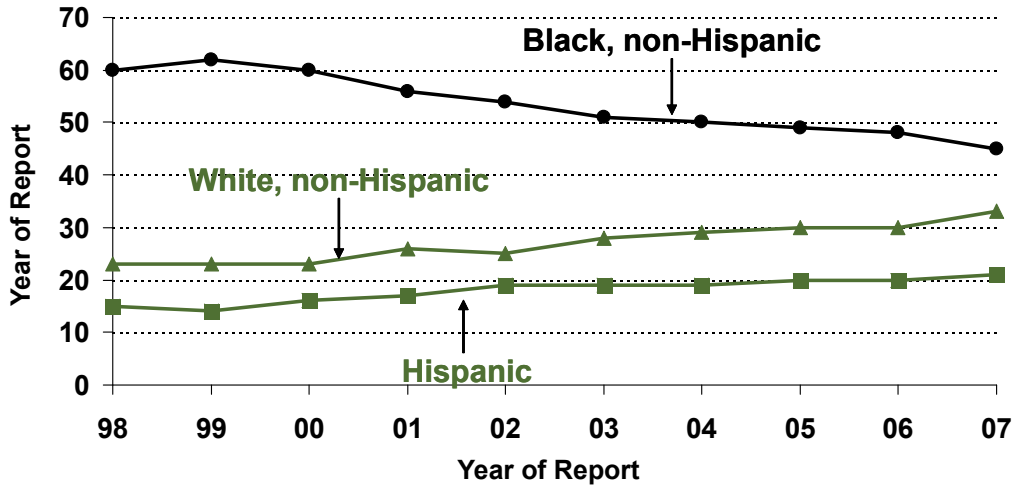
Figure 7. Percent of adult AIDS cases by race/ethnicity and year of report, Florida, 1998–2007



Comment: In 2007, blacks accounted for 54% of reported AIDS cases, but only 15% of the population. Hispanic cases remain stable at 17% in 2007. Disparities are even more evident among women: Annually, more than 70% of female AIDS cases have been reported among black women since 1988. *HIV case reporting,* implemented in mid-1997, has shown a very similar distribution of cases by race/ethnicity and sex.
***Other includes American Indian/Alaska Native, Asian/Pacific Islander, and Multi-racial.**

Twenty-three percent of the adult HIV cases reported in Florida in 1998 were white, while 60% were black (Figure 8). By 2007, the percentage of HIV cases increased for whites (to 33%) and decreased among blacks (to 45%). The proportion of HIV cases among Hispanics shows a slight, but steady, increase since 2000.

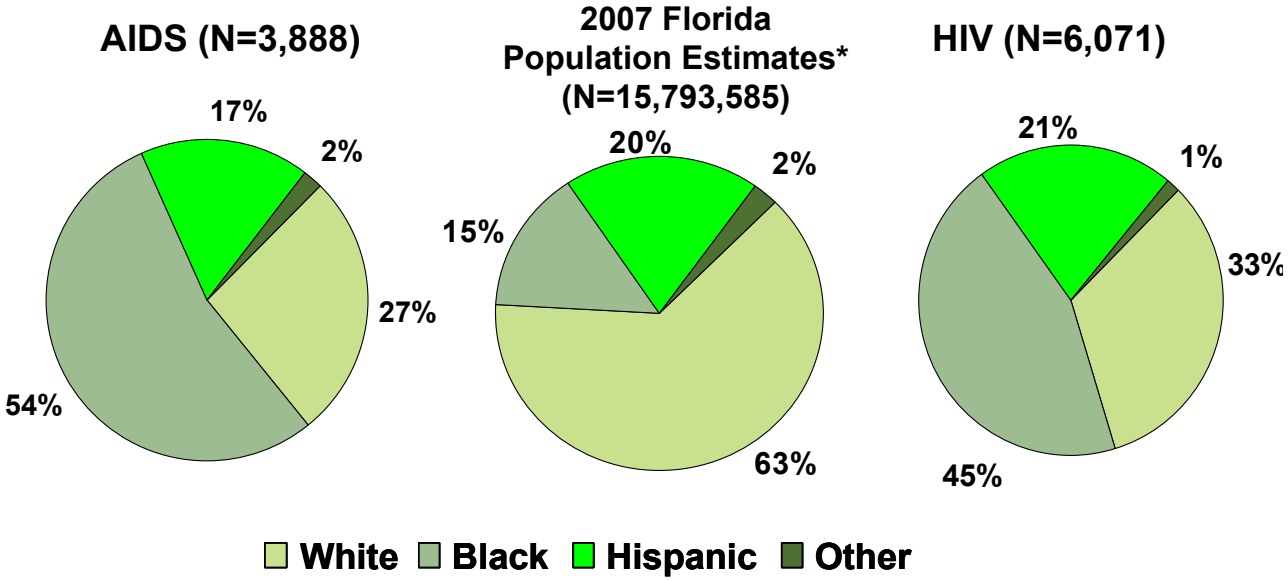
Figure 8. Percent of adult HIV cases by race/ethnicity and year of report, Florida, 1998–2007



Comment: In absolute numbers, from 1998-2007, HIV cases among blacks decreased by 31%, while increasing by 33% among whites and 27% among Hispanics. The decreases among blacks may correspond to some extent with recent targeted prevention, while the increases among whites may be associated with recent increases in HIV transmission among white and Hispanic MSM.

Blacks comprise only 15% of the adult population in Florida, but represent 54% of the AIDS cases and 45% of the HIV cases reported in 2007 (Figure 9). Hispanics comprise 20% of Florida's adult population, and account for 17% of the AIDS cases and 21% of the HIV cases.

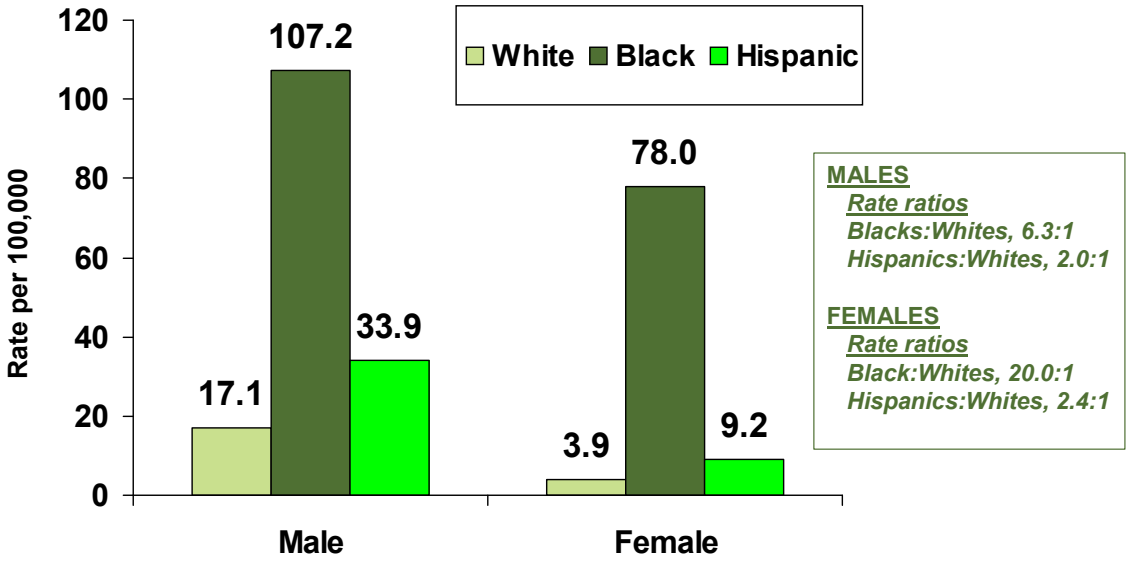
Figure 9. Percentage of adult AIDS cases by race/ethnicity, Florida, compared with percentage of adult HIV cases by race/ethnicity, Florida, 2007



Comment: In 2007, blacks are over-represented among the AIDS and HIV cases, accounting for 54% of adult AIDS cases and 45% of adult HIV cases, but only 15% of the adult population. Hispanics represent 20% of the adult population and account for 17% of the adult AIDS cases and 21% of the adult HIV cases. A group is disproportionately impacted to the extent that the percentage of cases exceeds the percentage of population.
*Other includes Asian/Pacific Islanders, Native Alaskans/American Indians and mixed races.
*2007 Florida Population Estimates, Adults (Ages 13+), DOH, Office of Planning, Evaluation and Data Analysis

Black men and, to an even greater extent, black women, are over-represented in the AIDS epidemic in terms of rates per 100,000 population (Figure 10). To a lesser extent, Hispanic men and women are also over-represented, when compared to the percentage of Hispanic population in Florida.

Figure 10. Adult AIDS case rates per 100,000 population by sex and race/ethnicity, Florida, 2007

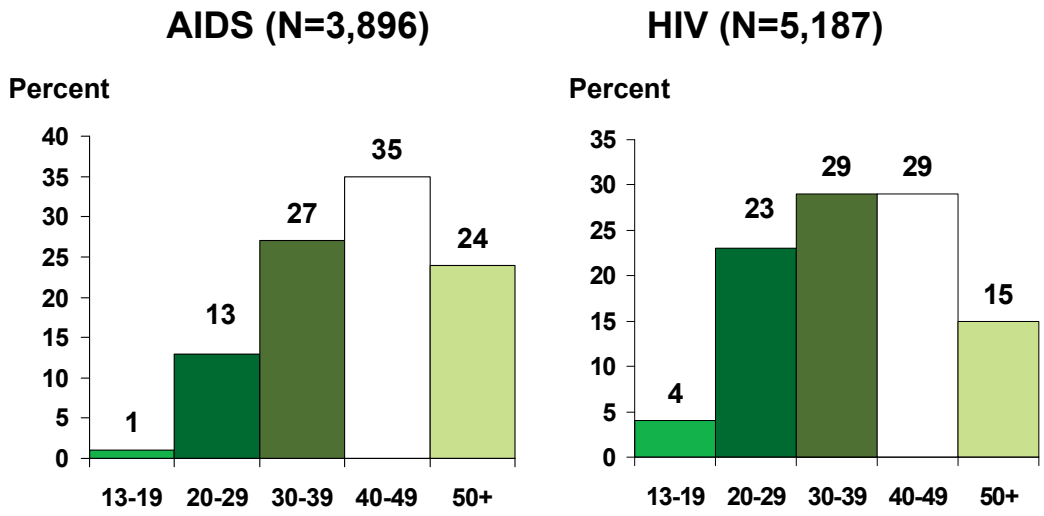


Comment: Among black males, the AIDS case rate for 2007 is 6 times higher than among white males. Among black females, the AIDS case rate is 20 times higher than among white females. Hispanic male rates are 2 times higher and Hispanic female rates are 2 times higher than the rates among their white counterparts.
***2007 Florida Population Estimates, DOH, Office of Planning, Evaluation and Data Analysis for ages 13+.**

As in previous years, the greatest proportion of AIDS cases reported in 2007 was among persons 40-49 years old (35%) (Figure 11). The 30-39 age group was second, with 27% of the reported AIDS cases. The 20-29 age group accounted for 13% of these cases, and the 50-and-older age group accounted for 24%. Persons reported with AIDS in the 40-49 age group account for 35% of the cases but only 16% of the total population.

Compared with AIDS cases, a greater proportion of HIV cases in 2007 were reported among those aged 30-39 (29%), those aged 20-29 (23%) and those aged 40-49 (29%). There was a lower proportion among those aged 13-19 (4%) and a higher proportion among those aged 20-29 years, but a lower proportion for those aged 50 and older (15%), all of which is consistent with earlier detection of HIV cases.

Figure 11. Age distribution of Florida's adult AIDS cases compared with the age distribution of Florida's adult HIV cases, 2007



Comment: HIV cases tend to be younger than AIDS cases. HIV cases tend to reflect more recent transmission than AIDS cases, and thus present a more current picture of the epidemic. 15% of all new HIV cases were under the age of 25.

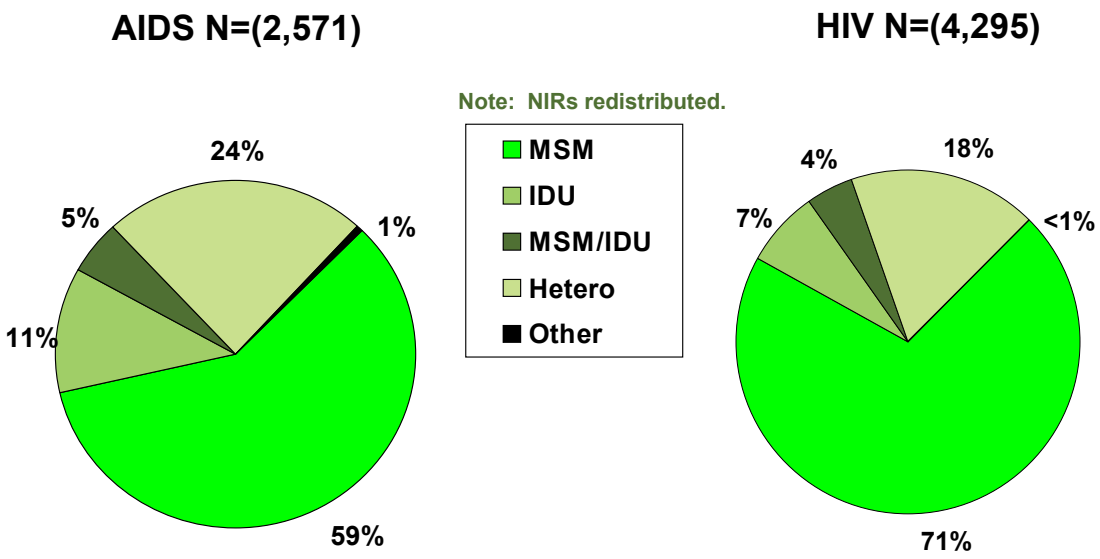
HIV/AIDS By Mode Of Exposure

The dynamics of the HIV epidemic are different in each population; so multiple data sets must be used to compile a representative epidemiologic profile for HIV prevention, planning, and targeting of resources and outreach. The following data represent HIV and AIDS cases by mode of exposure where cases reported with no identified risks (NIRs) have been redistributed into "known" risk categories, based on how people with no initially identified risk have been classified when a risk has become known.

Males

Among the male AIDS and HIV cases reported for 2007, MSM was the most common risk factor (59% and 71% respectively) followed by cases with a heterosexual risk (24% for AIDS and 18% for HIV) (Figure 12). People with an IDU risk are more common among AIDS cases (11%) than HIV cases (7%) as this has been a waning risk for HIV infection in Florida over the past 10 years.

Figure 12. Adult male AIDS and HIV cases by mode of exposure, Florida, 2007

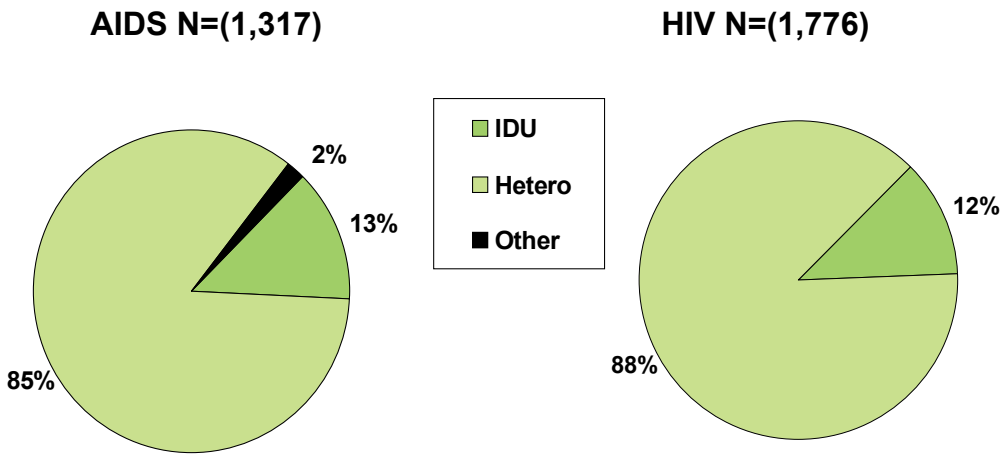


Comment: The recent increase among MSM is indicated by the higher percent of MSM among HIV cases compared to AID cases, as HIV cases tend to represent a more recent picture of the epidemic.

Females

Among the female AIDS and HIV cases reported for 2007, heterosexual contact was the highest risk followed by IDU (Figure 13).

Figure 13. Adult female AIDS and HIV cases by mode of exposure, Florida, 2007



Comment: Among females, heterosexual is the dominant risk.

Prevalence Estimate of HIV/AIDS

Assessment of the extent of the HIV epidemic is an important step in community planning for HIV prevention and HIV/AIDS patient care. The HIV prevalence estimate—the estimated number of persons living with HIV infection—includes those living with a diagnosis of HIV or AIDS and those who are infected but unaware of their serostatus. Approximately 1,039,000–1,185,000 persons are living with HIV infection in the United States (2004). Florida has consistently reported 10–12% of the national AIDS morbidity and currently accounts for 11% of all persons living with AIDS in the U.S. The Department of Health now estimates that approximately 125,000 people, or roughly 11.7% of the national total, are currently living with HIV infection in Florida as of the end of 2007.

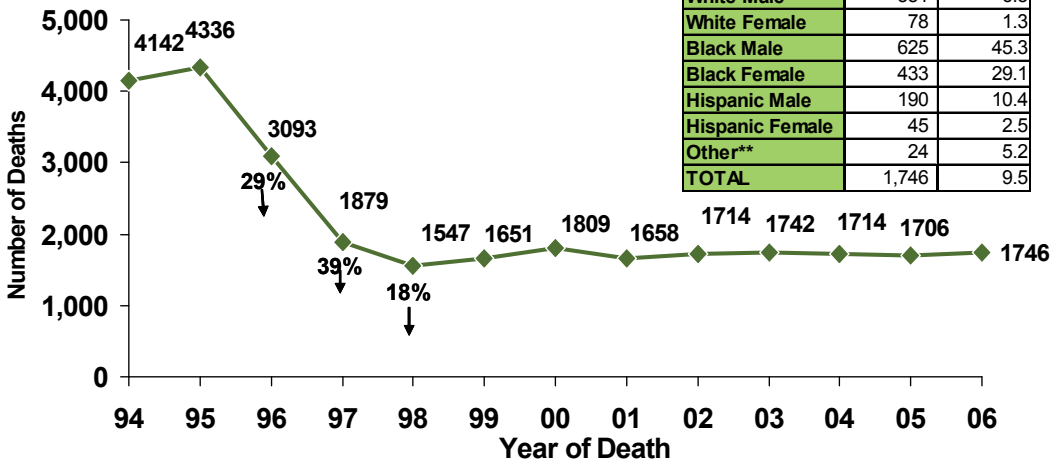
Impact of HIV-related Deaths

As of December 31, 2007, a total of 109,364 AIDS cases were known to have been reported in Florida. Some cases are lost to follow-up, so vital status is unknown. Of these cumulative cases, 60,288 (55%) were known to have died.

HIV/AIDS deaths decreased markedly from 1996-1998, associated with the advent of highly active antiretroviral therapy (HAART) in 1996. Deaths in 2006 were 60% lower than in the peak year, 1995. A leveling of the trend since 1998 may reflect factors such as viral resistance, late diagnosis of HIV, adherence problems, and lack of access to or acceptance of care (Figure 14). Racial/ethnic disparities are evident in the death rate data.

Figure 14. Resident HIV deaths, by year of death, Florida, 1994–2006

Race/Ethnicity	2006	
	No.	rate
White Male	351	6.3
White Female	78	1.3
Black Male	625	45.3
Black Female	433	29.1
Hispanic Male	190	10.4
Hispanic Female	45	2.5
Other**	24	5.2
TOTAL	1,746	9.5

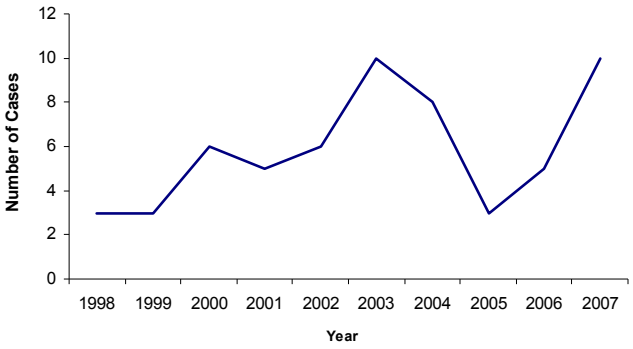


Rates are expressed as deaths per 100,000 population based on 2006 Population Estimates, DOH, Office of Planning, Evaluation and Data Analysis
Comment: HIV/AIDS deaths decreased markedly from 1996-1998, associated with the advent of HAART in 1996. Deaths in 2006 were 60% lower than in the peak year, 1995. A leveling of the trend since 1998 may reflect factors such as viral resistance, late diagnosis of HIV, adherence problems, and lack of access to or acceptance of care. Racial/ethnic disparities are evident in the death rate data.
Source: Office of Vital Statistics and Bureau of HIV/AIDS, death certificates coded to HIV/AIDS as underlying cause.

Brucellosis

Brucellosis: Crude Data	
Number of Cases	10
2007 incidence rate per 100,000	0.04
% change from average 5 year (2002-2006) incidence rate	46.59
Age (yrs)	
Mean	44
Median	36
Min-Max	18 - 78

Figure 1.
Brucellosis Cases by Year Reported, Florida, 1998-2007



Description

Brucellosis is an important disease of ruminants, swine, dogs and coyotes that primarily affects the reproductive tract and fertility. At least four species of this zoonotic gram-negative coccobacillus have been associated with human disease: *Brucella melitensis* (goats, sheep), *B. suis* (pigs), *B. abortus* (cattle, bison, cervids) and rarely, *B. canis* (dogs, coyotes). *Brucella suis* is endemic in wild hogs in Florida; *B. canis* occurs sporadically in dogs. *Brucella* sp. are also potential bioterrorist weapons and are listed as CDC Select Agents.

The organisms are shed in high concentration in the reproductive fluids of infected animals and are also present in animal tissues, milk, blood and urine. Transmission to humans primarily occurs through contact of infected animal tissues and fluids with breaks in the skin, or ingestion of unpasteurized milk and dairy products (soft cheeses). Though less common, aerosol transmission is also possible in areas contaminated with high concentrations of the organism such as laboratories, abattoirs or animal birthing areas. Disease risk is increased for those handling livestock and their tissues, including veterinarians, hunters, ranchers, meat inspectors, and abattoir and laboratory workers. It is estimated that inhalation of only 10-100 organisms can cause disease in humans. Accidental percutaneous inoculation with modified live animal vaccine has caused disease in veterinarians.

The incubation period in humans ranges from five days to several months. In most cases, clinical disease develops within two months of exposure. Symptoms in people include fever (intermittent or continuous), headache, weakness, profuse sweating, chills, arthralgia, depression, weight loss and generalized aching. Illness can be acute or insidious, and recurrences are common. Suppuration of the liver, spleen and other organs can occur.

Joint and bone complications are reported in 20-60% of cases; genitourinary involvement occurs in 2-20% with orchitis and epididymitis common in males. Appropriate antimicrobial treatment is critical for prevention of relapses. Case fatality rate is ≤2%. Mortality is usually associated with endocarditis caused by *B. melitensis*. The relatively non-specific clinical presentation along with the low disease incidence may result in delay in clinical diagnosis of brucellosis.

Disease Abstract

A total of 61 cases of human brucellosis were reported in Florida from 1997 to 2007, of which 52 or (85.2%) were classified as confirmed. The incidence rate has increased over the past ten years with an annual average of 4.25 cases reported from 1998-2001 compared to 8.4 in 2002-2007. Speciation was provided in 31 cases with 19 *B. suis*, 6 *B. abortus* and 6 *B. melitensis* infections identified. Site of

exposure was determined in nine of the ten cases from 2007, with seven being acquired in Florida and two being acquired outside of the U.S. Men accounted for 75% of the cases. Affected people ranged from 18-78 years old. Incidence was highest in those aged 55-64 and 75-84, representing 4 cases or 40% of the total reports from 2007. All of the cases were in whites. Risk factors identified in 24 cases included hunting, handling carcasses or handling bloody clothing (14 cases; 13 specifically mentioned hogs), consuming unpasteurized milk (4 all imported), milking a goat (1 imported), eating meat from wild animals (1), eating goat meat/handling a pet pig (1 imported), vet assistant handling farm animals (1) and no reported animal contact (1).

Hog hunting was a significant risk factor, with eight of ten cases identified in 2007 being associated with that activity. Interestingly, two of these cases included spouses of hog hunters with the suspected exposure being contact with bloody clothing or possibly uncooked meat. Two hunter infections in 2007 were epidemiologically linked to butchering a single feral hog from a private hunting facility in Brevard County; one of these patients had a relapse following antibiotic treatment. Earlier in the year the spouse of a hunter who had a membership at the same facility was also diagnosed with brucellosis. Not included in the 2007 case count, a veterinarian diagnosed with *Brucella* eight years previously but not treated with aminoglycosides was identified as having a likely chronic brucellosis infection.

Prevention

Prevention can best be accomplished through education of animal workers and hunters on proper handling techniques: wearing gloves and protective clothing, working in properly ventilated areas, proper carcass and tissue disposal, disinfection of contaminated areas, and proper handling of modified live vaccines. Also important is requiring pasteurization of milk. Education should be provided to travelers and the general public on the risks of drinking or eating unpasteurized dairy products, especially products originating in countries where brucellosis is endemic in livestock. Continued surveillance and management programs for *Brucella* sp. in domestic livestock will keep exposure risk low in Florida. Surveillance is also important because *Brucella* has the potential for use as a bioterrorist agent.

References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Lt. Col Jon B. Woods (ed.), USAMRIID, *Medical Management of Biological Casualties Handbook*, 6th ed., U.S. Army Medical Research Institute of Infectious Diseases, 2005.

L.K. Pickering, C.J. Baker, S.S. Long, and J.A. McMillan (eds.), *Red Book: 2006 Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics Press, 2006.

Additional Resources

Information on human brucellosis in Florida can be obtained at the Florida Department of Health website at http://www.doh.state.fl.us/Environment/community/arboviral/Zoonoses/Zoonotic-brucellosis.html

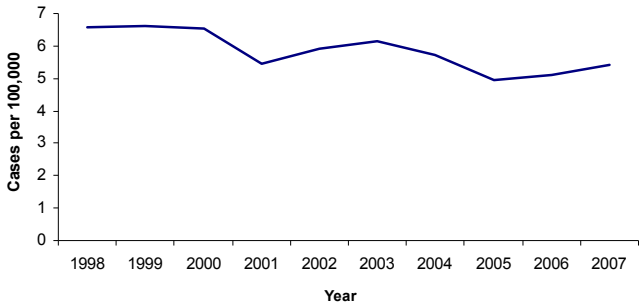
Additional information can also be found at the United States Department of Agriculture, Animal and Plant Health Inspection Services website at http://www.aphis.usda.gov/animal_health/animal_diseases/brucellosis/

As well as the Centers for Disease Control and Prevention website at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis_g.htm

Campylobacteriosis

Campylobacteriosis: Crude Data	
Number of cases	1,017
2007 incidence rate per 100,000	5.42
% change from average 5yr (2002-2006) incidence rate	- 2.54
Age (yrs)	
Mean	33.15
Median	32
Min-Max	<1-98

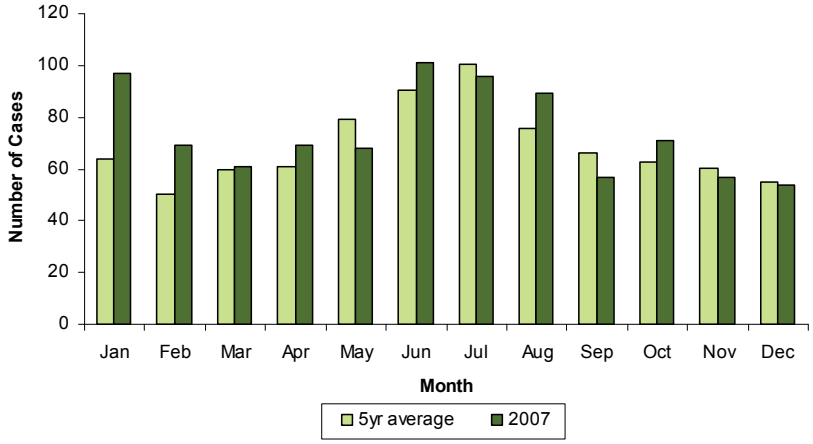
Figure 1.
Campylobacteriosis Incidence Rate by Year Reported, Florida, 1998-2007



Description

Campylobacteriosis is an acute bacterial gastroenteritis caused by gram-negative bacilli. The natural reservoirs for *Campylobacter* species are typically poultry and cattle, although puppies, kittens, birds, swine, sheep, and rodents can also carry the organism. The infection is most often transmitted by ingesting undercooked meat, contaminated food and water, or raw milk, and from infected pets or farm animals, or from infected people. Cross-contamination of surfaces by raw meat may also be a source of infection. The incubation period is generally 2-5 days after exposure (range: 1-10 days). Common symptoms include watery or bloody diarrhea, abdominal pain, fever, malaise, and nausea.

Figure 2.
Campylobacteriosis Cases by Month of Onset, Florida, 2007



Disease Abstract

The incidence rate for campylobacteriosis has declined slightly over the last ten years (Figure 1). In 2007 there was a 2.54% decrease in comparison to the average incidence from 2002-2006 even though there was a slight increase in the incidence rate from 2006 to 2007. A total of 1,017 cases were reported in 2007, of which 94.89% were classified as confirmed. The number of cases reported tends to increase in the summer months but there were a high number of cases reported in January of 2007. In 2007, the number of cases exceeded the previous 5-year average in seven months of the year (Figure 2). Overall, 7.2% of the campylobacteriosis cases were classified as outbreak related as compared to 4.8% in 2006.

The highest incidence rates continue to occur among infants <1 year old and children aged 1-4 years (Figure 3). Males continue to have a higher incidence than females (6.08 per 100,000 and 4.79 per 100,000, respectively), and in 2007, the incidence in both genders was lower than the previous 5-year average incidence. As has been the case in the past, incidence rates in whites are greater than those in non-whites (Figure 4).

Figure 3.
Campylobacteriosis Incidence Rate by Age Group, Florida, 2007

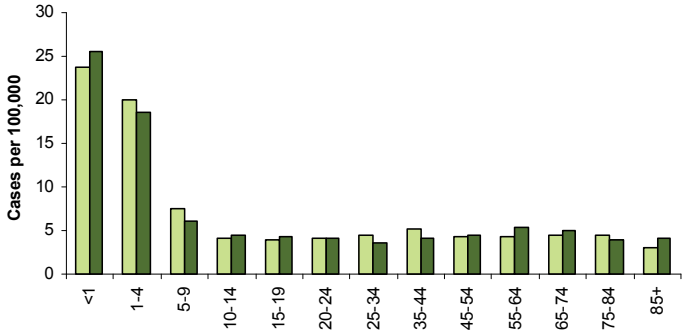
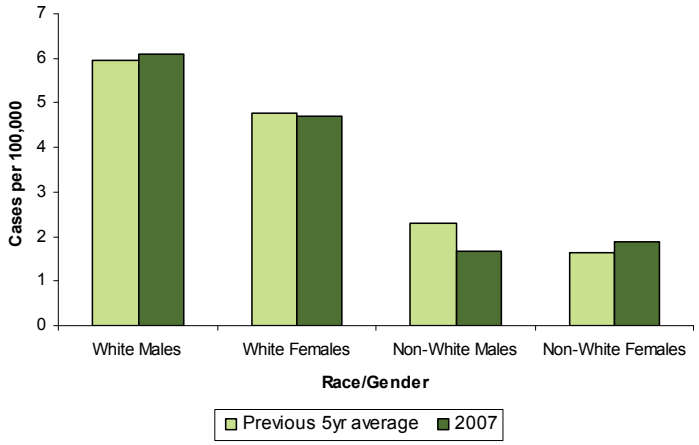


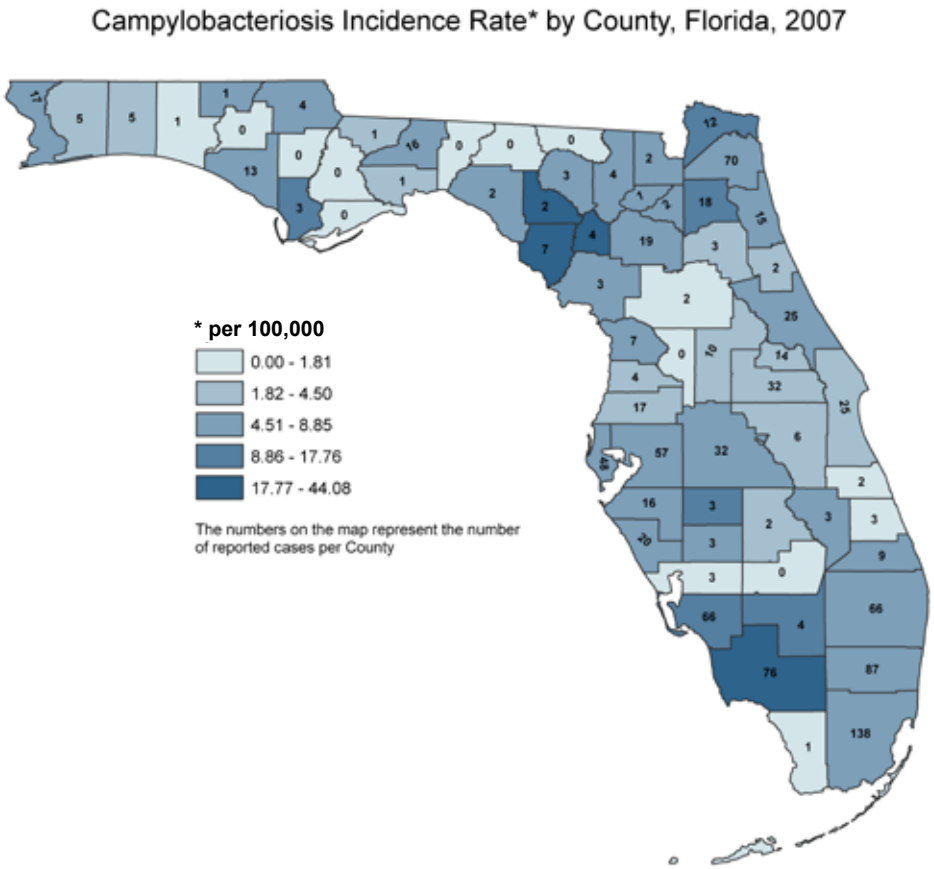
Figure 4. Campylobacteriosis Incidence Rate by Race and Gender, Florida, 2007



Campylobacteriosis was reported in 58 of the 67 counties in Florida. Counties in north-central and southwestern Florida reported the highest incidence rates.

Prevention

The likelihood of contracting campylobacteriosis can be reduced by cooking all meat products thoroughly, particularly poultry. Avoid cross-contamination by making sure utensils, counter tops, cutting boards and sponges are cleaned or do not come in contact with raw poultry, or other meat. Wash hands thoroughly before, during, and after food preparation. Do not allow fluids from raw poultry or meat to drip on or touch other foods. Consume only pasteurized milk, milk products, or juices. Additionally, it is important to wash hands after coming into contact with any animals or their environment.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Additional Resources

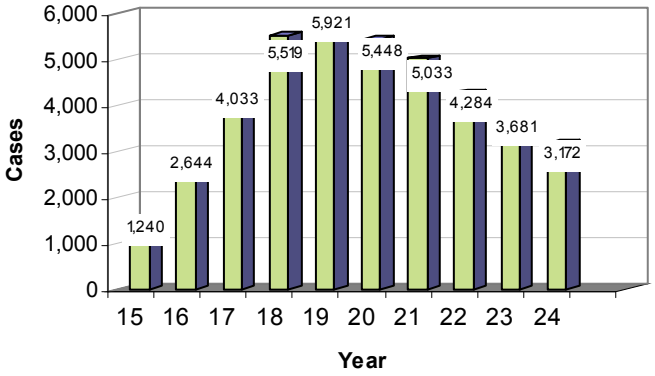
Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/campylobacter_g.htm

Chlamydia

Chlamydia, caused by the bacterium *Chlamydia trachomatis*, is the most commonly reported sexually transmitted disease in the U.S. In order to infect an individual, the bacteria must invade cells. *Chlamydia trachomatis* can infect the male and female genital areas, the anus, the urethra, the eye, or the throat.

In 2007, there were 57,580 chlamydia cases reported in Florida, or 306.9 cases per 100,000 total population. Close examination of the disease distribution reveals that two-thirds of all reported cases of chlamydia are reported in populations under the age of 26; further, C*hlamydia trachomatis* is the most prevalent sexually transmitted bacterial infection reported among 15-24 year olds in Florida. This report will focus attention on trends associated with adolescents and young adult populations; but will conclude with a brief summary of overall trends. *Data on congenital chlamydia cases in neonates under 1 years of age will be discussed within the section "Neonatal Infections."*

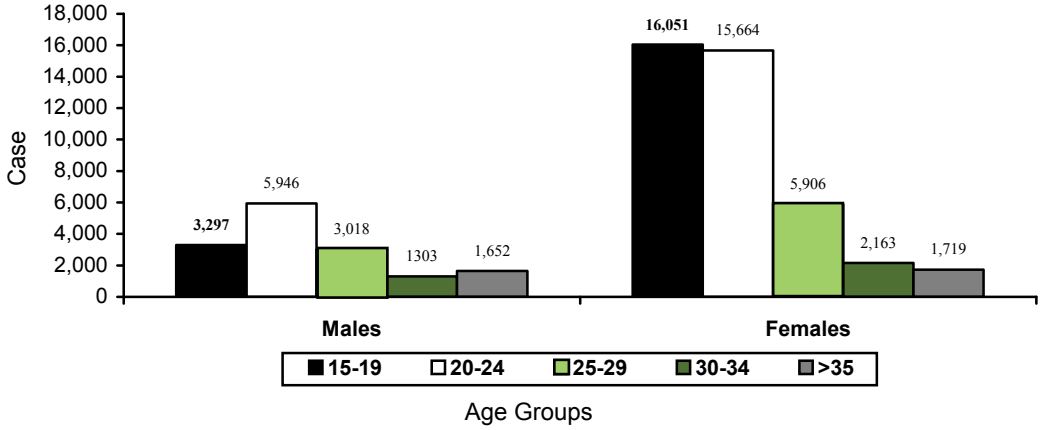
Figure 1: Reported Number of Chlamydia Cases by Single Age Group (15-24), Florida, 2007



Age, as a risk factor for chlamydia, is extremely important as the prevalence of chlamydia is the highest among those under 25 years of age. Approximately 50% of all STD cases reported from 2000 to 2007 have an age of initial report of an STD at age 22 or under. Although 15-24 year olds represent 16% of the population 15 and over, this population represents approximately 70% of all reported chlamydia cases in Florida. A total of 40,975 chlamydia cases were reported in persons between the ages of 15-24 in 2007. From 2006 to 2007, reported cases in this population increased by 15.9%. Chlamydia cases in the 15-19 age group comprised 33.6% of all cases reported, and chlamydia cases in the 20-24 age group comprised 37.5% of all cases reported in 2007. The overall rate for 15-24 year olds was 1,692.1 per 100,000. The mean age of all reported chlamydia cases was 23; however, 17-22 year olds reported at least 4,000 cases in each single age (Figure 1). When single ages are compared within the 15-24 age range, the number of cases reported peaked at the age of 19 (mean=19.7) with a gradual decline of cases as age in years increased above 19.

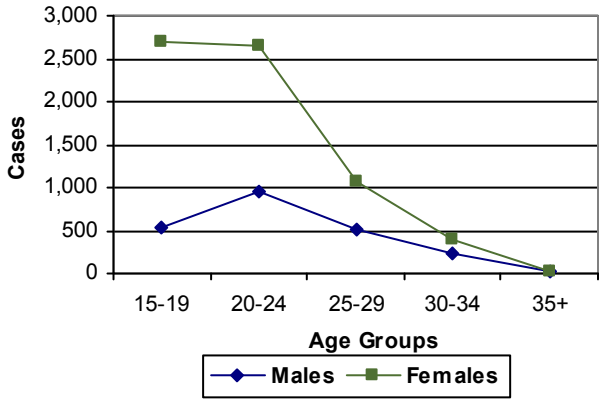
The burden of morbidity occurs in young women for several reasons. Young women may have an increased susceptibility to the bacterium *Chlamydia trachomatis* compared to mature women that may develop immune response and/or decreased target cell availability for infection. Consequently, these physiological differences make it highly common to observe a high number of infections before the age of 35 (Figure 2). In 2007, and preceding years, the highest number of cases in females were reported in the 15-24 age group with the highest rate, across both genders, occurring among females 15-19 (2,700.8 per 100,000). The rate for females in the 20-24 age group was slightly lower at 2,658.2 per 100,000. Florida specific trends parallel national data that indicates infection is most prevalent in women under the age of 25.

Figure 2. Reported Cases of Chlamydia by Gender and Age Group, Florida, 2007



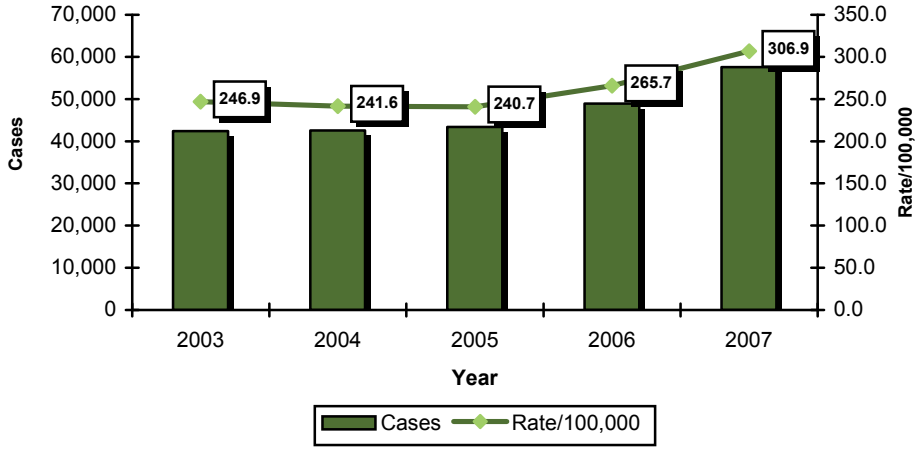
Gender differences in health care services and healthcare seeking behaviors account for significant differences in rates between males and females. Rates in men underestimate the prevalence of chlamydia as clinical guidelines strongly recommend screening of asymptomatic women, but not men, due to the severity of complications and sequelae associated with infection in women as compared to men. Although rates are considerably lower in males (Figure 3), disparities exist with men under the age of 25 as well. In 2007, 20-24 year olds had the highest rate among male populations (963.1 per 100,000 population). This rate was trailed by a rate of 531.3 per 100,000 population for males between the ages of 15-19.

Figure 3. Chlamydia Rates Per 100,000 Population By Gender and Age Group, Florida, 2007



Chlamydia impacts adolescents and young women regardless of race and ethnic groupings (Figure 4). Non-Hispanic black females in adolescence and young adult populations have higher rates compared to white and Hispanic populations in Florida. Among women, the case rate for non-Hispanic black 15-24 years olds was nearly 8 times higher than the second highest rate, in non-Hispanic white females 15-24 (1,967.4 per 100,000). In 2007, adolescents and young adults (15-24) who self reported as non-Hispanic black accounted for 53.7% of the chlamydia cases reported that year (Figure 4). People who self reported as non-Hispanic white accounted for 22.0% of cases. People who self reported as Hispanic (white or black) accounted for 8.3% of cases. People who self reported in other or unidentified racial-ethnic groups accounted for 16.0% of cases. It is important to note that race and ethnicity in the United States are risk markers that correlate with other more fundamental determinants of health status such as poverty, access to quality health care, health care seeking behavior, and residence in

Figure 5. Reported Cases of Chlamydia among Males and Females by Year, Florida, 2003-2007



communities with high prevalence of STDs. These factors contribute to disparities in young minority women.

The vast differences in adverse outcomes, STD susceptibility, and a combination of other factors leave adolescents and young adults disproportionately affected with chlamydia compared to older populations; however, the overall chlamydia rate continues to increase in all age groups. From 2006 to 2007, there was an overall 15.5% increase in the state chlamydia rate (Figure 5). The number of cases reported among females increased by 9.4%, from 38,535 in 2006 to 42,175 in 2007 and the number of cases reported among males increased by 47.7%, from 10,410 in 2006 to 15,379 in 2007. This upward trend of increase in both males and females reflects a change in state administrative code to require electronic laboratory reporting, the expanded use of highly sensitive urine-based screening, and broad community prevalence. Nevertheless, under-reporting is still common due to the large proportion of infections that are asymptomatic or very mild, the lack of resources in adolescent and male populations, and the widespread prevalence of the infection.

References

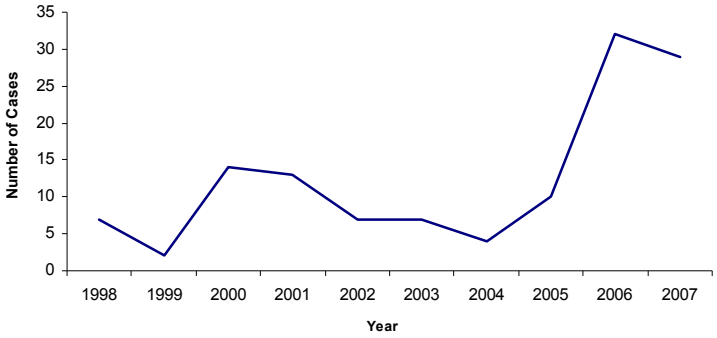
American Social Health Association, *Chlamydia> Questions & Answers*, Published July 30, 2007, available at http://www.ashastd.org/learn/learn_chlamydia.cfm.

Centers for Disease Control and Prevention, *Sexually Transmitted Disease Surveillance, 2001*, Centers for Disease Control and Prevention, Atlanta, GA, 2002.

Ciguatera Fish Poisoning

Ciguatera: Crude Data	
Number of Cases	29
2007 incidence rate per 100,000	0.15
% change from average 5 year (2002-2006) incidence rate	141.67
Age (yrs)	
Mean	38.9
Median	43
Min-Max	2 - 56

Figure 1.
Ciguatera Cases by Year Reported, Florida, 1998-2007



Description

Ciguatera poisoning in humans is caused by the consumption of certain tropical and subtropical finfish which accumulate naturally-occurring toxins through their diets. The toxins are produced by several algae species known as dinoflagellates. The fish that are most commonly associated with ciguatera fish poisoning are grouper, barracuda, snapper, jack, mackerel, and triggerfish. However, many other types of warm water marine fish can harbor the toxin.

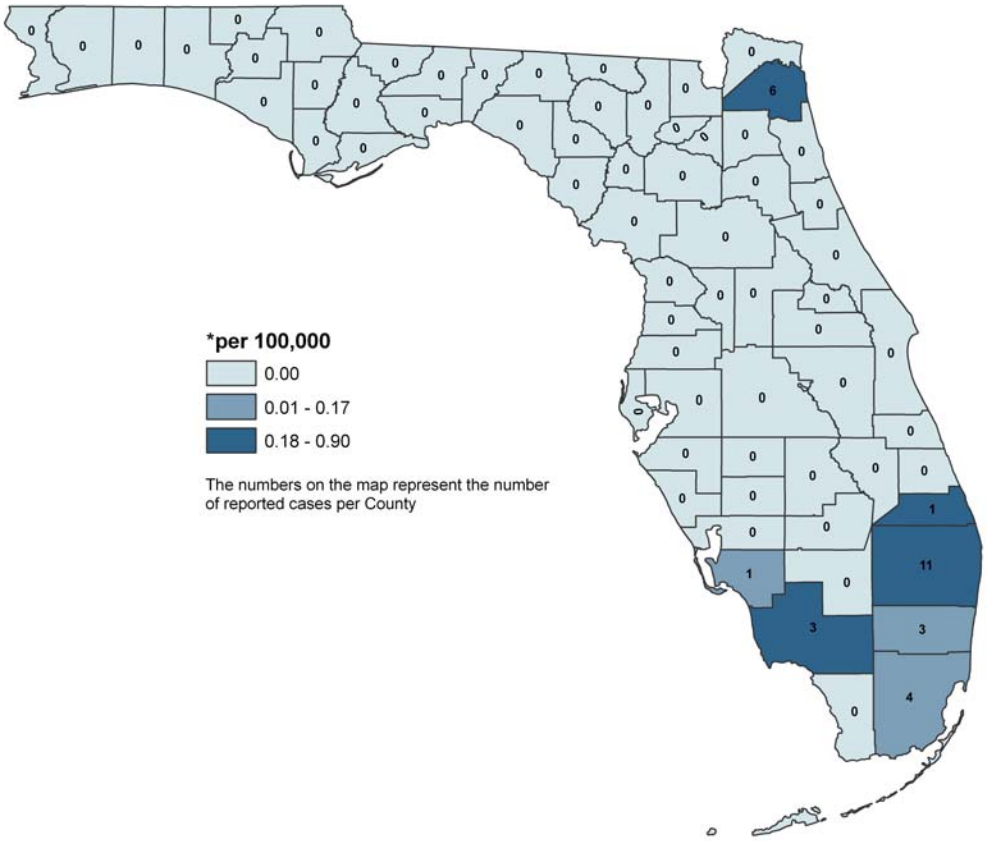
Symptoms can manifest within six hours of fish consumption and include numbness around the mouth and tingling which may spread to the hands and feet, nausea, vomiting, and diarrhea. Neurological involvement may occur and includes joint and muscle pain, headache, temperature sensory reversal, acute sensitivity to temperature extremes, vertigo, and muscle weakness to the point of prostration. Abnormally slow, fast or irregular heart rate and reduced blood pressure may also be observed. The poisoning is usually self-limiting and very rarely fatal. Symptoms usually subside within several days but neurological symptoms have been reported to last for weeks or months. There are no clinical tests that can identify ciguatera fish poisoning in humans and so diagnosis is based on symptoms and dietary history.

Disease Abstract

The epidemiology of ciguatera fish poisoning in the U.S. is not known. This may be due to lack of recognition among the medical community, the non-fatal nature of the disease, and the short duration. However, the epidemiology in Florida is more complete, although it is still likely that there is significant under-reporting. In 2007, nine ciguatera outbreaks were reported in Florida, involving a total of 34 people. Eight of these outbreaks were confirmed (33 outbreak-related cases) and one was suspected (1 outbreak-related case). One of the outbreaks involved amberjack consumed at a restaurant (7 cases) and another was linked to barracuda purchased at a retail store (3 cases). The rest of the outbreaks were linked to recreationally-caught fish: barracuda (4 outbreaks – 18 outbreak-related cases), amberjack (1 outbreak – 3 outbreak-related cases), grouper (1 outbreak – 2 outbreak-related cases) and king mackerel (1 outbreak – 1 outbreak-related case). A total of 24 of the outbreak-related cases were attributed to recreationally-caught fish. The FDOH Aquatic Toxin and Food and Waterborne Disease Programs are working on an educational campaign to target this difficult-to-reach audience of recreational fishers. Note: the number of outbreak-related cases may not match Merlin case report numbers due to the fact that outbreaks often include ill people who are not residents of the State of Florida (i.e., visitors who were exposed and got sick while in Florida), or ill people were not available

for interview, and were therefore not posted in Merlin. Also, outbreak cases may not match with Merlin across counties (often people cross county boundaries to eat in other counties). Outbreaks are generally reported by county/state of exposure; individual reportable diseases are generally reported by county/state of residence.

Ciguatera Reported Incidence Rate* by County, Florida, 2007



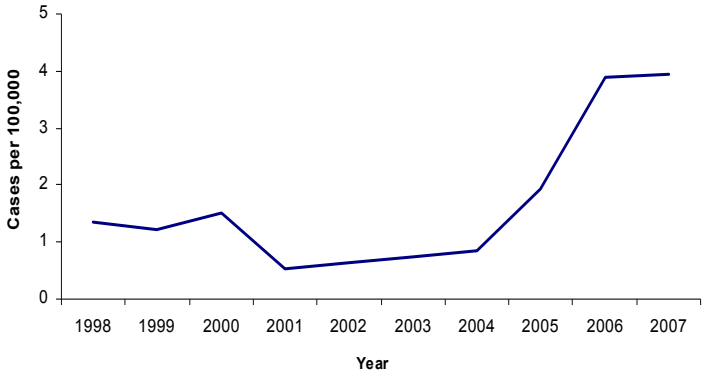
References

M. Walderhaug, "Ciguatera," *Foodborne Pathogenic Microorganisms and Natural Toxins Handbook*, U.S. Food and Drug Administration, 1992, available at http://www.cfsan.fda.gov/~mow/chap36.html.

Cryptosporidiosis

Cryptosporidiosis: Crude Data	
Number of cases	738
2007 incidence rate per 100,000	3.93
% change from average 5yr (2002-2006) incidence rate	138.75
Age (yrs)	
Mean	25.64
Median	24
Min-Max	<1-98

Figure 1.
Cryptosporidiosis Incidence Rate by Year Reported, Florida, 1998-2007



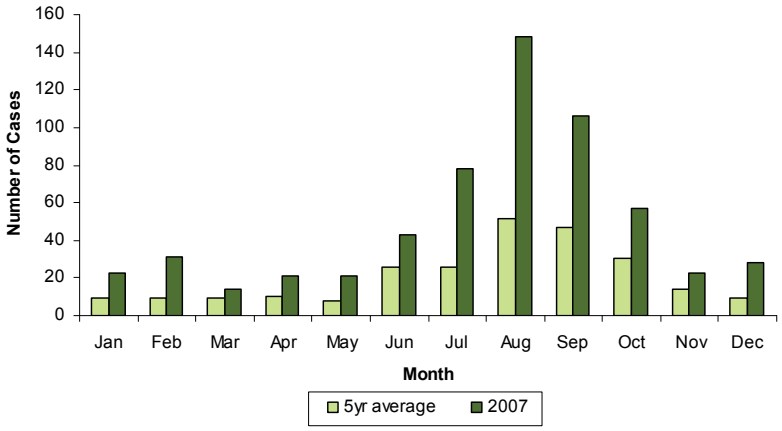
Description

Cryptosporidiosis is an acute gastrointestinal illness caused by the protozoan parasite *Cryptosporidium parvum*. The natural reservoirs for this parasite include humans, cattle, and other domestic animals. Transmission is by the fecal-oral route and includes person-to-person, animal-to-person, foodborne, and waterborne routes. *C. parvum* is protected by an outer shell that allows it to survive outside the body for long periods of time and makes the parasite resistant to chlorine-based disinfectants. Large outbreaks have previously been linked to recreational water exposures such as public swimming pools, water parks, and interactive fountains. The usual incubation period is 1-12 days and typical symptoms include watery diarrhea, abdominal cramps, and occasional low-grade fever. Asymptomatic infections are common and can also serve as a source of transmission. The disease is of particular concern for immunocompromised people, in whom it can cause life-threatening diarrhea and dehydration.

Disease Abstract

A total of 738 cases of cryptosporidiosis were reported in 2007, of which 90% were classified as confirmed. Sixteen percent of all reported cases were classified as outbreak related; 4% of cases were acquired outside the U.S. Since 2001, the incidence rate for cryptosporidiosis has increased, with a sharp increase observed since 2004 (Figure 1). The incidence rate in 2007 was 138% higher than the average incidence from 2002-2006 but only slightly higher than the previous year (2006: 717 cases; 3.89 cases/100,000 population). Seasonal increases in cryptosporidiosis are commonly observed during the summer months when exposure to recreational water settings is more common. In 2007, the number of cases exceeded the previous 5 year average in all months, though the increase was particularly great in the summer months (Figure 2). The overall increase in cryptosporidiosis over the past decade is consistent with national trends and is likely due to a combination of actual increased disease incidence, increased clinical recognition, and increased diagnostic testing. Increased use of recreational water settings by young children may account for increases in disease incidence. The recent introduction of nitazoxanide, the first licensed treatment for the disease, may have influenced clinical practice because diagnostic testing for *Cryptosporidium* now can lead to specific treatment. Testing may also lead to case reporting.

Figure 2.
Cryptosporidiosis Cases by Month of Onset, Florida, 2007



Rates are higher among children <10 years old, with the highest rates occurring in the 1-4 age group (19.51 per 100,000) (Figure 3). In 2007, approximately 13% of reported cases attended day care centers. A second smaller peak among adults 25-44 years old may be attributed to family contact with infected children (Figure 3). The 2007 incidence exceeded the previous 5-year average incidence across genders and race (Figure 4).

Figure 3.
Cryptosporidiosis Incidence Rate by Age Group, Florida, 2007

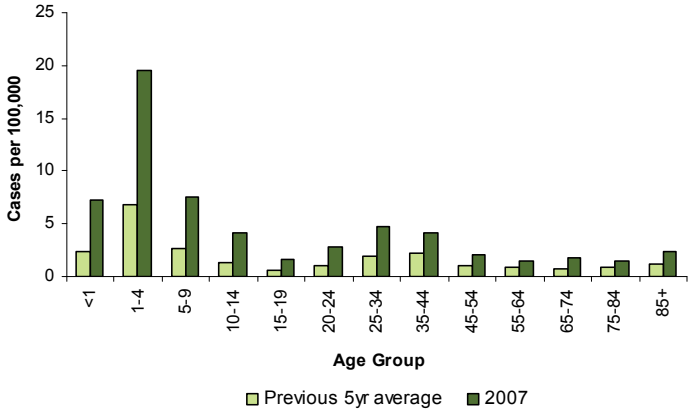
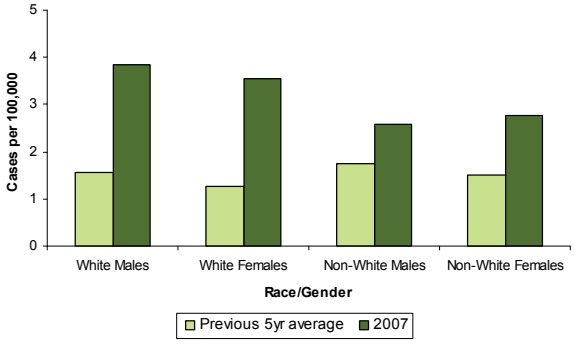


Figure 4. Cryptosporidiosis Incidence Rate by Race and Gender, Florida, 2007

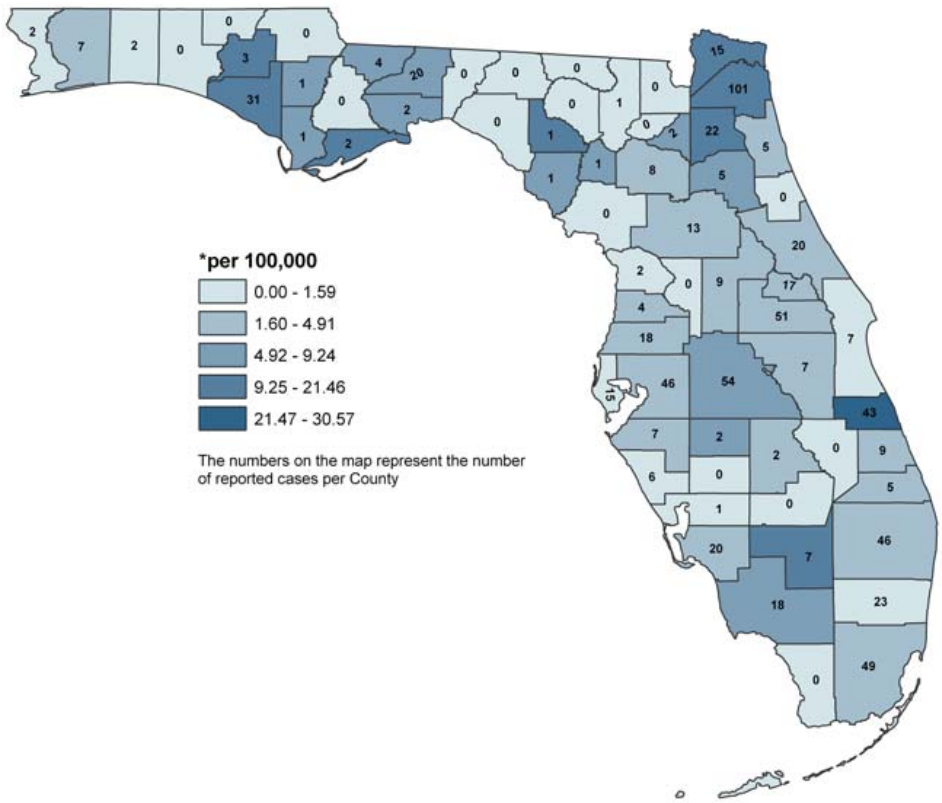


Cases of cryptosporidiosis were reported in 49 of the 67 counties in Florida. The county with the highest incidence, Indian River, reported outbreaks associated with a recreational water fountain and a daycare. Duval County reported several cases associated with an out-of-state gathering. In both of these counties, nearly half the reported cases were outbreak associated.

Prevention

The likelihood of contracting cryptosporidiosis can be reduced by practicing good hand hygiene, by washing hands before handling or eating food and after diaper changing. Water in recreational settings such as swimming pools or water parks should not be ingested or swallowed. Outbreaks associated with recreational water, especially water parks and interactive fountains, can be prevented by following established guidelines for management of these facilities.

Cryptosporidiosis Incidence Rate* by County, Florida, 2007



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Centers for Disease Control and Prevention, "Outbreak of gastroenteritis associated with an interactive water fountain at a beachside park – Florida, 1999," *Morbidity and Mortality Weekly Report*, Vol. 49, No. 25, 2000, pp. 565-8.

Centers for Disease Control and Prevention, "Summary of notifiable diseases – United States, 2006," *Morbidity and Mortality Weekly Report*, Vol. 55, No. 53, 2006.

L.M. Fox, et al., "Nitazoxanide: a new thiazolide antiparasitic agent." *Clinical Infectious Diseases*, Vol. 40, 2005, pp. 1173-80.

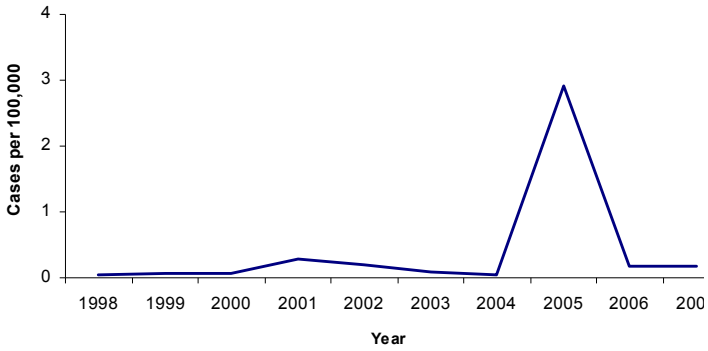
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/factsht_cryptosporidiosis.htm

Cyclosporiasis

Cyclosporiasis: Crude Data	
Number of cases	32
2007 incidence rate per 100,000	0.17
% change from median 5yr (2002-2006) incidence rate	-3.16
Age (yrs)	
Mean	52.3
Median	50.5
Min-Max	14-95

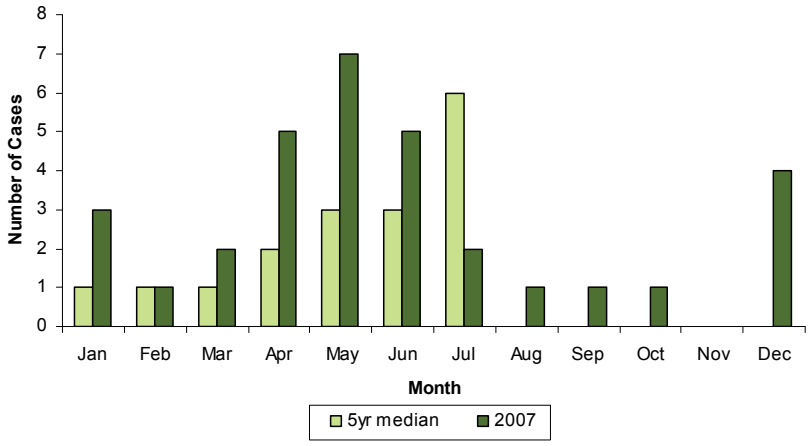
Figure 1.
Cyclosporiasis Incidence Rate by Year Reported, Florida, 1998-2007



Description

Cyclosporiasis is a diarrheal disease caused by a coccidian protozoan parasite called *Cyclospora cayetanensis.* It infects the small intestine and can cause watery diarrhea, loss of appetite, weight loss (may be substantial), bloating, increased gas, stomach cramps, and fatigue. Humans are reservoirs for *C. cayetanensis,* which is endemic in many developing countries and has been associated with diarrhea in travelers to Asia, the Caribbean, Mexico, and Peru. It is transmitted by consuming water or food that has been contaminated by human fecal material. Outbreak investigations, including several in Florida, have previously implicated imported fresh fruits and vegetables as the source of infection (raspberries, basil, and lettuce).

Figure 2.
Cyclosporiasis Cases by Month of Onset, Florida, 2007



Disease Abstract

With the exception of a large outbreak of cyclosporiasis in 2005 (493 cases from Florida; see the notable outbreaks section of the 1997-2006 AMSR for more details), the incidence rate for cyclosporiasis has remained stable (Figure 1). In comparison to the median incidence for the last 5 years, the incidence in 2007 has decreased by 3.16%, with a total of 32 cases reported. None of the cases reported in 2007 were considered outbreak associated. In 2007, the number of cases by month of disease onset exceeded the previous 5-year median during nine months of the year (Figure 2). The peak in late spring and early summer may reflect the seasonal variation of endemic cyclosporiasis in countries whose fruit and vegetables the U.S. imports.

In 2007, 56% of the cases were reported in those who were between the ages of 35 and 64, with the largest increase occurring in the 35-44 age group (Figure 3). Reported incidence rates are much higher in whites than in non-whites (Figure 4).

Figure 3.
Cyclosporiasis Cases by Age Group, Florida, 2007

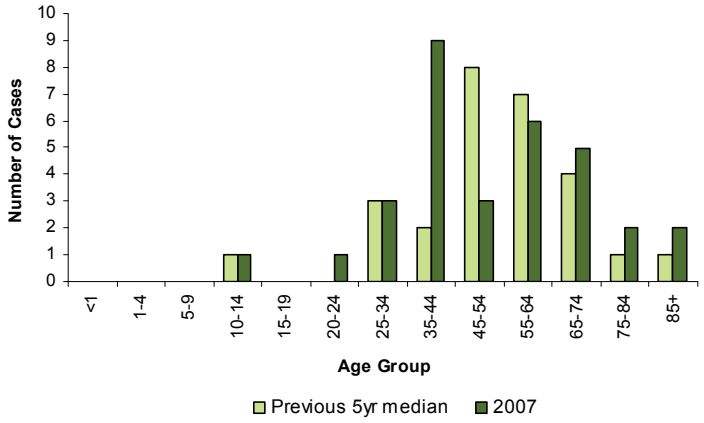
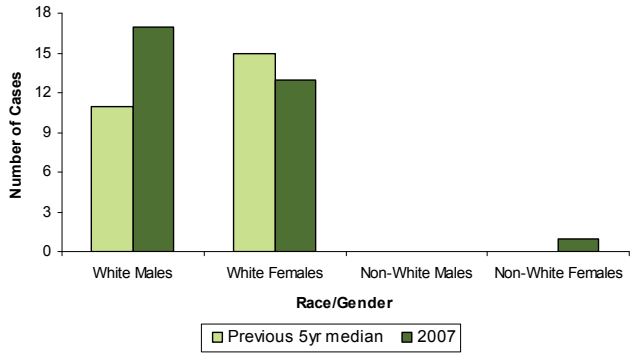
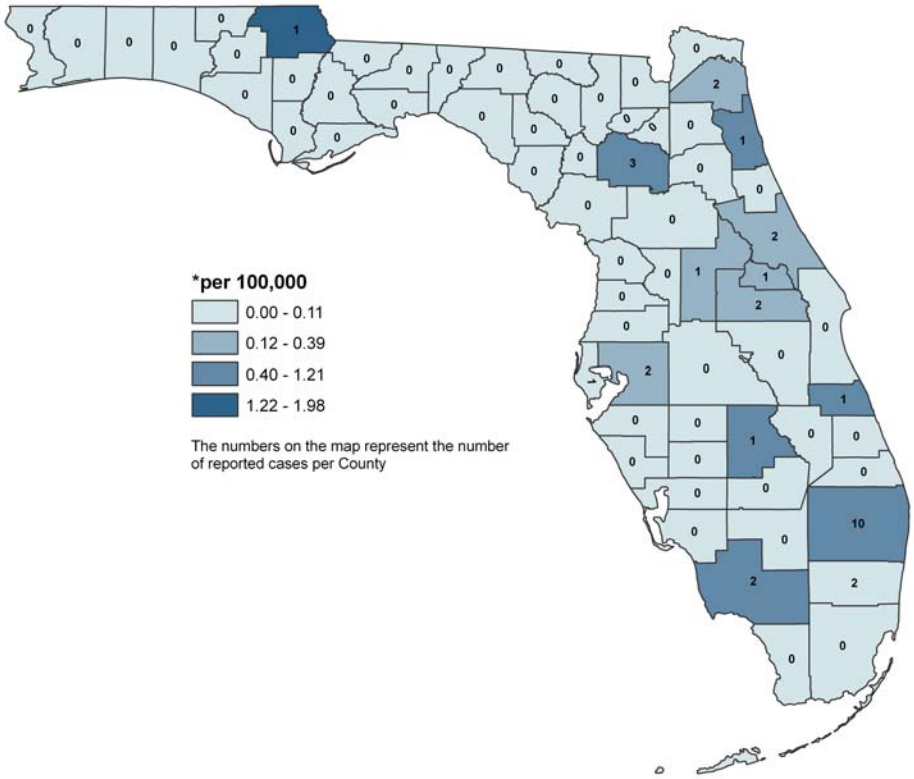


Figure. 4 Cyclosporiasis Cases by Race and Gender, Florida, 2007



Cyclosporiasis was reported in 15 of the 67 counties in Florida, with the largest number of cases occurring in Palm Beach County.

Cyclosporiasis Incidence Rate* by County, Florida, 2007



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

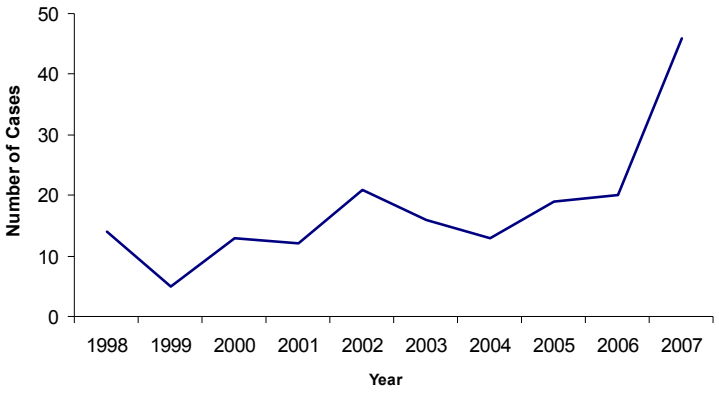
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dpd/parasites/cyclospora/default.htm

Dengue

Dengue Fever: Crude Data	
Number of cases	46
2007 incidence rate per 100,000	0.25
% change from average 5yr (2002-2006) incidence rate	142.45
Age (yrs)	
Mean	37.9
Median	42.5
Min-Max	<1-65

Figure 1.
Dengue Fever Cases by Year Reported, Florida, 1998-2007



Description

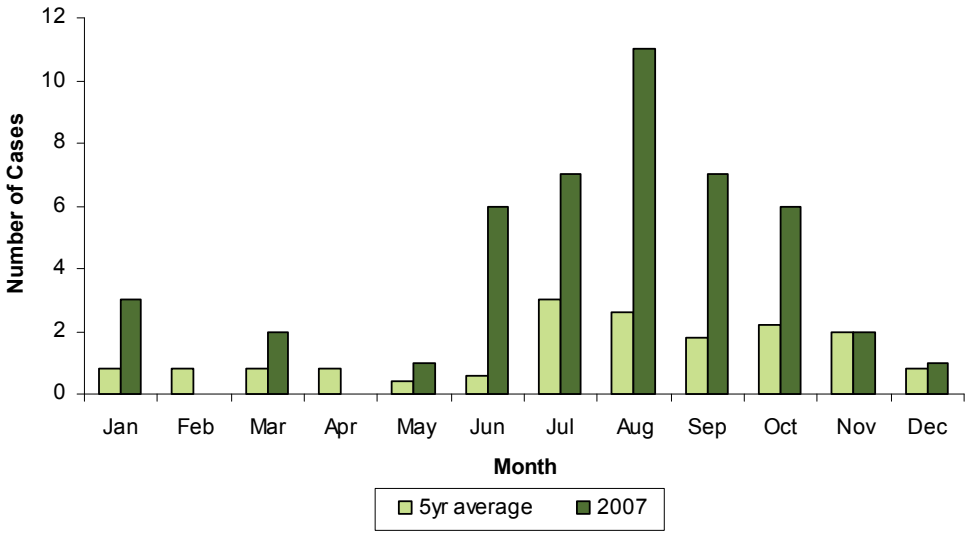
Dengue, caused by a mosquito-borne virus (DENV) has historically plagued Florida, although disease acquired in Florida was last documented in the early 1960's. The symptoms of infection, collectively referred to as "dengue" and dengue hemorrhagic fever (DHF), are caused by any of four closely related virus subtypes. Classical dengue ("break-bone fever") is a painful, debilitating febrile disease that is rarely fatal. This illness is characterized by abnormal vascular permeability, hypovolemia, and abnormal blood clotting mechanisms. Dengue hemorrhagic fever-dengue shock syndrome (DHF-DSS) is a group of severe hemorrhagic symptoms that occur principally in children, but may also occur in adults. In those with severe disease, shock is the predominant sign. The case fatality rate can be as high as 40-50% untreated, but can be drastically lowered with appropriate fluid therapy. Encephalitis is a rare consequence of dengue infection. The pathogenesis and risk factors associated with DHF-DSS are uncertain, but appear to be related to more virulent infection or second infection with another dengue serotype. Humans are the only hosts of DENV, there is no reservoir outside of humans. In past Florida epidemics, the sole vector of the dengue viruses was the native *Aedes aegypti* mosquito. The more recent arrival of *Aedes albopictus* to many parts of Florida is a concern because this species is an important vector of DENV in Asia. Dengue has become an increasingly common disease in the Caribbean, Central America, the Pacific, and South America during the past two decades. Puerto Rico and other Caribbean islands experience DENV epidemics annually. Florida's proximity to the Caribbean increases the possibility for DENV to be imported into Florida by inadvertent transport of infected mosquitoes. The virus can also be introduced by viremic travelers returning from the Caribbean or Central America. All cases reported in Florida are among travelers returning from dengue-endemic areas. Florida may be relatively protected against re-establishment of dengue by a lifestyle in which almost all homes have window screens, air conditioning or both.

Disease Abstract

Prior to 1998, DENV was not often considered among diagnoses for ill travelers returning from areas where dengue is endemic. A 1998 study on an active surveillance program for recent dengue infections in Florida led to an increase in awareness as well as enhanced laboratory capacity to test for the viruses. Since 1998, dengue cases have been reported in Florida each year (Figure 1). The number of cases reported typically ranged from 10-20 per year until 2006. When, 46 cases were reported. Typically, disease onset for travelers returning to Florida peaks during mid-summer and fall, though cases are reported year-round (Figure 2).

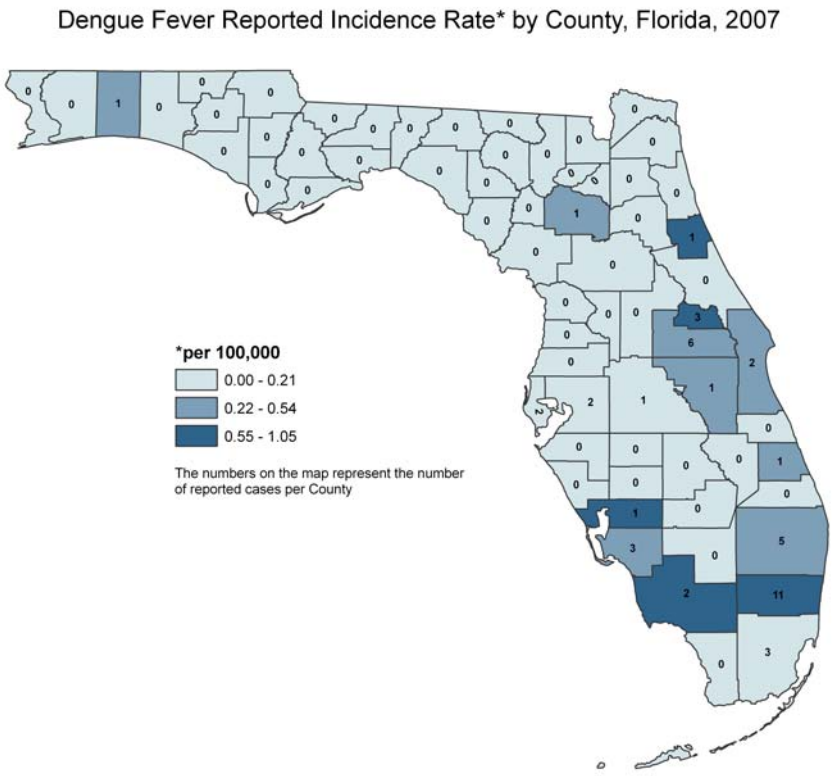
In 2007, 54% percent of cases were male, and 26% occurred among those 40-49 years of age. Thirty-five percent of dengue cases reported travel history to Puerto Rico in 2007. Thirty-two percent traveled to countries in the Caribbean, and 23% traveled to South or Central America, or to Mexico. The remaining 10% traveled to countries in Asia or Africa.

Figure 2.
Dengue Fever Cases by Month of Onset, Florida, 2007



Prevention

There is currently no vaccine available against DENV infection. Travelers to dengue-endemic countries should be warned of the risk of disease and instructed to avoid mosquito bites. Use insect repellents that contain DEET or other EPA-approved ingredients such as Picaridin, oil of lemon eucalyptus, or IR3535. Avoid spending time outdoors during daytime hours when disease-carrying mosquitoes are most likely to be seeking a blood meal, and drain any standing water in containers around the home. Dress in long sleeves and long pants to protect your skin from mosquitoes. Also, try to remain in well-screened or air-conditioned areas.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

J. Gill, L.M. Stark, G.G. Clark. Dengue Surveillance in Florida, 1997-1998. *Emerging Infectious Diseases*, Vol. 1, 2000, pp.30-35.

Additional Resources

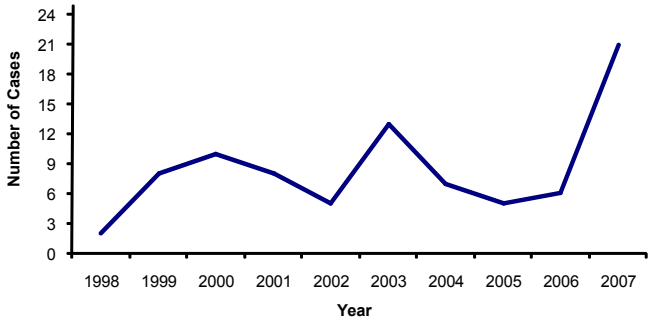
Additional information on DENV and other mosquito-borne diseases can be found in the Surveillance and Control of Arthropod-borne Diseases in Florida Guidebook, online at http://www.doh.state.fl.us/environment/community/arboviral/pdf_files/UpdatedArboguide.pdf.

Disease information is also available from the Centers for Disease Control and Prevention (CDC) website at http://wwwn.cdc.gov/travel/yellowBookCh4-DengueFever.aspx.

Ehrlichiosis / Anaplasmosis

Ehrlichiosis/Anaplasmosis: Crude Data	
Number of Cases	21
2007 incidence rate per 100,000	0.11
% change from average 5 year (2002-2006) reported cases	191.67
Age (yrs)	
Mean	54.76
Median	59
Min-Max	16 - 82

Figure 1.
Ehrlichiosis/Anaplasmosis Cases by Year Reported, Florida, 1998-2007



Description

Tick-borne bacteria in the genera *Ehrlichia* and *Anaplasma* can cause fever illnesses in humans with a potentially fatal outcome. *Ehrlichia chaffeensis*, discovered in 1987, causes human monocytic ehrlichiosis (HME) which is nationally notifiable. What was originally thought to be a second species of *Ehrlichia,* causing human granulocytic ehrlichiosis (HGE), was reclassified as *Anaplasma phagocytophilum*, with the associated illness renamed to human granulocytic anaplasmosis (HGA). HGA became nationally notifiable in 1999. Nonspecific clinical findings make both diseases difficult to diagnose. They may account for many cases of tick-associated fevers of unknown origin, for example, some illnesses diagnosed as Lyme disease.

Amblyomma americanum (lone star tick), and possibly other ticks, can be vectors for HME. The disease is reported most commonly in the southeastern and south central US. The spectrum of illness ranges from asymptomatic to fatal. Changes in blood cell count and blood chemistries are common in symptomatic cases. Most cases have a nonspecific febrile illness without rash, with over 60% of ill patients being hospitalized. About 15% of ill people have severe disease, including renal failure, disseminated intravascular coagulopathy, seizures, and coma, with death occurring in 2-3% of cases. The primary tick vector for HGA is *Ixodes scapularis* (blacklegged tick) in the Midwestern and eastern US, and *Ixodes pacificus* (western blacklegged tick) in the west. HGA is reported most frequently in the northeast, north central, and focal areas of the West Coast of the U.S.. HGA is clinically similar to HME, and usually presents as an undifferentiated fever without rash. Elderly patients are more likely to have severe disease. Mortality is less than 1%.

Disease Abstract

Between 1998 and 2006, the total number of combined cases of HME and HGA reported ranged from 2 to 13 cases per year but in 2007 there were 21 cases reported (Figure 1). Increased educational efforts and awareness probably contributed to the increase in reported cases. Since HGA was recognized as a separate reportable disease in 1999, there have been more HME cases than HGA cases reported in Florida annually, with 86% of the cases occurring in 2007 being HME. In 2007, 57% of HME and HGA cases were in women. The majority, 76%, of cases are reported as being acquired in Florida. Though cases of both HME and HGA are reported year-round, peak transmission occurs during the late spring and summer months (Figure 2).

Figure 2.
Ehrlichiosis (all codes) Cases by Month of Onset, Florida, 2007

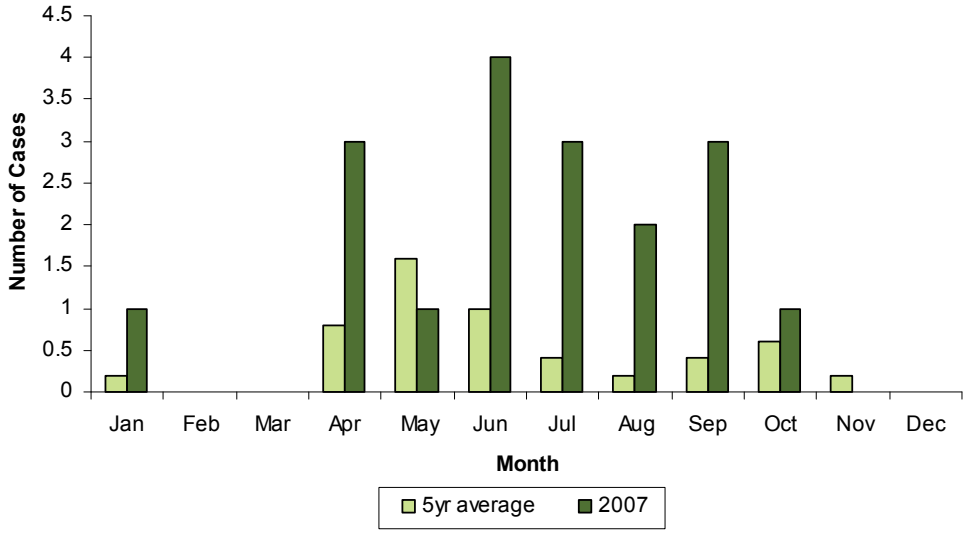
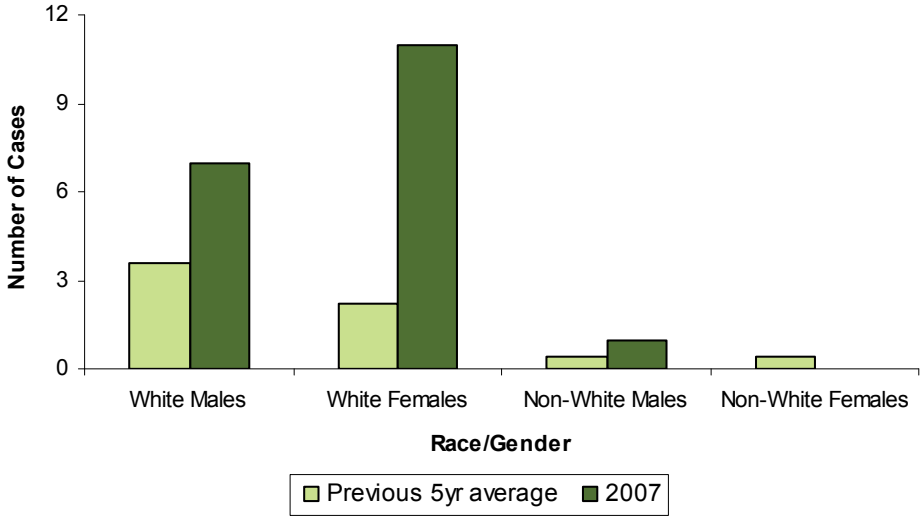


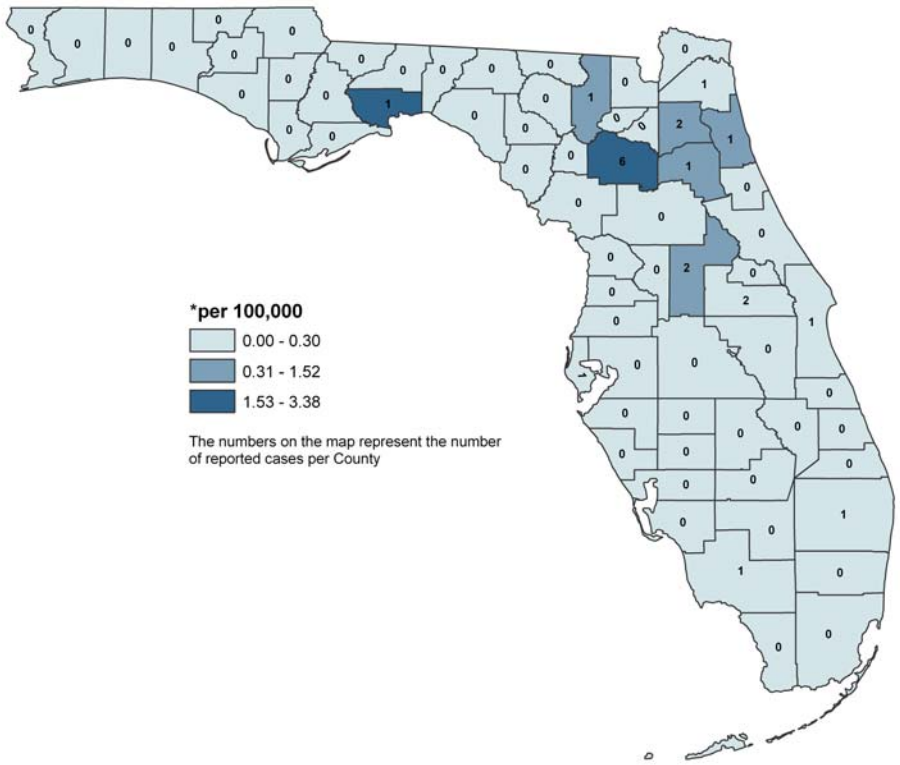
Figure 3. Erhlichiosis/Anaplasmosis Cases by Race and Gender, Florida, 2007



Prevention

Both HME and HGA can be treated with doxycycline, though prevention of tick bites is the best way to avoid disease. Wear light-colored clothing so that ticks crawling on clothing are visible. Tuck pants legs into socks so that ticks cannot crawl inside clothing. Apply repellent to discourage tick attachment. Repellents containing permethrin can be sprayed on boots and clothing, and will last for several days. Repellents containing DEET can be applied to the skin, but will last only a few hours before reapplication is necessary. Search the body for ticks frequently when spending time in potentially tick-infested areas. If a tick is found, it should be removed as soon as possible. Controlling tick populations in the yard and on pets can also reduce the risk of disease transmission.

Ehrlichiosis/Anaplasmosis Reported Incidence Rate* by County, Florida, 2007



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Additional Resources

Additional information on ehrlichiosis and anaplasmosis, along with other arthropod-borne diseases can be found in the Surveillance and Control of Arthropod-borne Diseases in Florida Guidebook, online http://www.doh.state.fl.us/environment/community/arboviral/pdf_files/UpdatedArboguide.pdf.

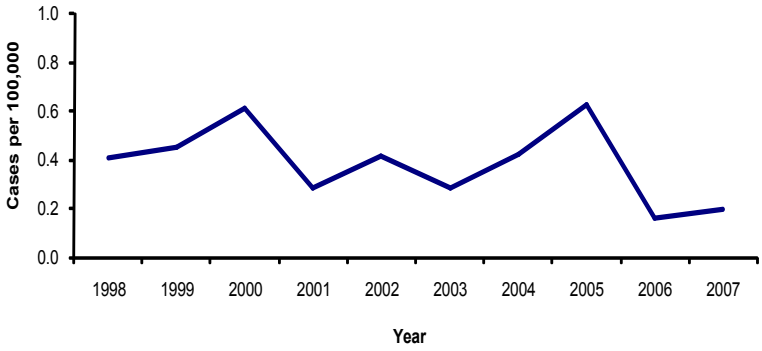
Disease information is also available from the Centers for Disease Control and Prevention (CDC) http://www.cdc.gov/ncidod/dvrd/ehrlichia/Index.htm.

Disease information is available from the Florida Department of Health at http://www.doh.state.fl.us/Environment/community/arboviral/Tick_Borne_Diseases/Tick_Index.htm

Escherichia coli O157:H7

***E. coli* O157:H7: Crude Data**	
Number of Cases	37
2007 incidence rate per 100,000	0.20
% change from average 5 year (2002-2006) incidence rate	-47.72
Age (yrs)	
Mean	29.78
Median	17
Min-Max	1 - 80

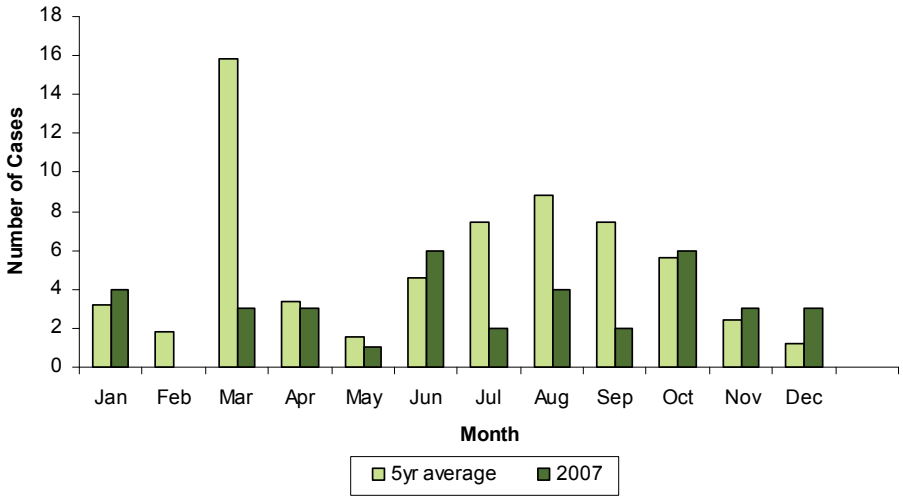
Figure 1.
E. coli O157 Incidence Rate by Year Reported, Florida, 1998-2007



Description

Escherichia coli O157:H7 is a specific serotype of the shiga-toxin producing *Escherichia coli* bacteria that cause acute diarrheal illnesses. The most important reservoir for *E. coli* O157:H7 is cattle. Transmission occurs mainly through ingestion of contaminated food, often due to inadequately cooked ground beef, or fruits and vegetables contaminated with animal feces. *E. coli* O157:H7 has also been found in un-pasteurized apple juice, un-pasteurized milk, and untreated water. Cross-contamination of surfaces by raw meat may also be a source of infection. Person-to-person and waterborne transmission can also occur. The incubation period is generally 3-4 days after exposure (range: 2-8 days). Common symptoms include diarrhea (often containing blood), abdominal pain, fever, malaise, and nausea. Approximately 5% of sick individuals, particularly young children, go on to develop hemolytic uremic syndrome (HUS), which can result in renal failure and death.

Figure 2.
E. coli 0157:H7 Cases by Month of Onset, Florida, 2007



Disease Abstract

A total of 37 cases were reported in 2007, of which 36 were confirmed. None were classified as outbreak associated. The incidence rate for *E. coli* O157:H7 has varied over the last ten years (Figure 1). One source of variation is large outbreaks involving food products distributed across multiple states or other common source exposures. In 2007, there was a 47% decrease in incidence of new cases in comparison to the average incidence from 2002 to 2006, likely due to the absence of large outbreaks

tied to a common source. However, the 37 cases in 2007 represent a slight increase over the 29 cases reported in 2006.

In 2007, no clear seasonal patterns were observed (Figure 2). Incidence was greatest among children and teenagers under and incidence rates were generally the same or lower than the previous 5-year average in all age groups except those aged 55-64 (Figure 3). In 2007, 54% of cases were female and incidence in both genders was lower than the previous 5-year average incidence (Figure 4).

Figure 3.
E. coli O157:H7 Incidence Rate by Age Group, Florida, 2007

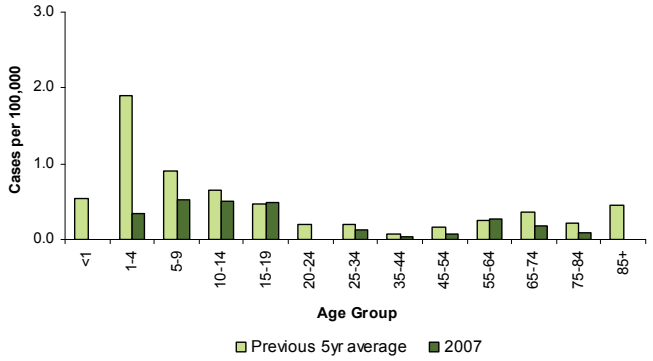
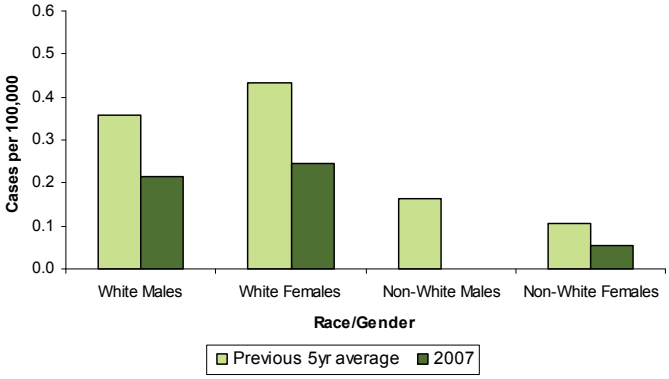


Figure 4.1 *E. coli* O157:H7 Incidence Rate by Race and Gender, Florida, 2007



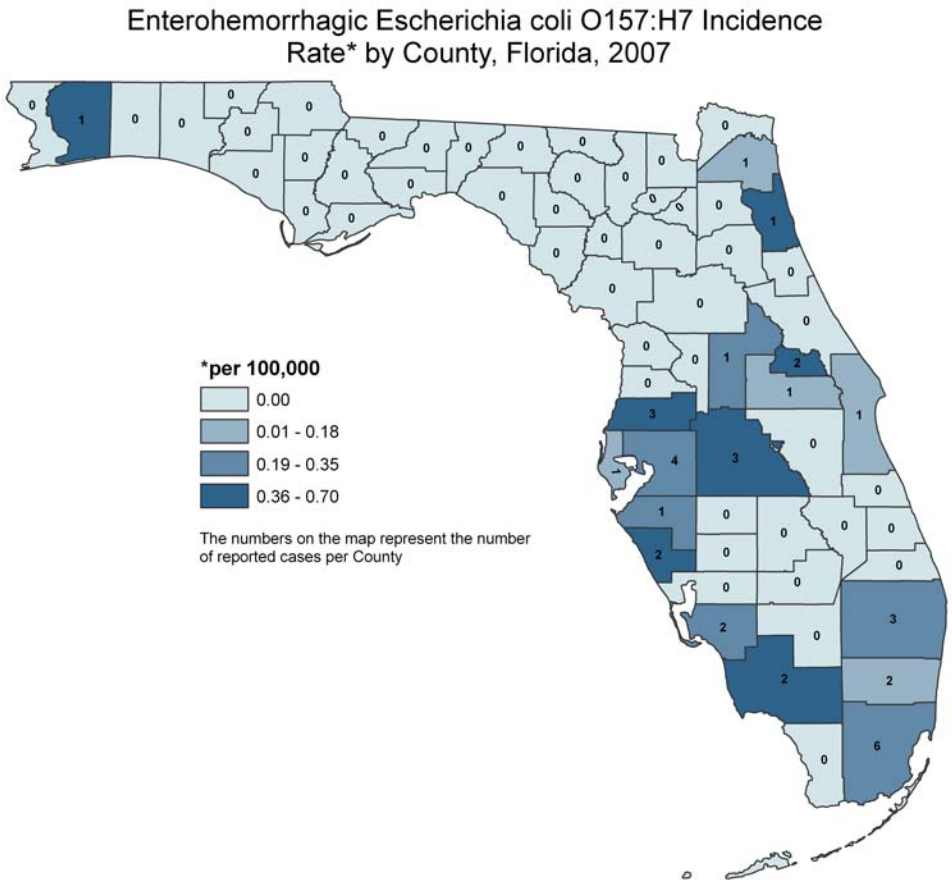
E. coli O157:H7 cases were reported in 18 of the 67 counties in Florida.

Infection with *E. coli* other than O157

There were 10 reported cases of illness due to shiga-toxin producing enterohemorrhagic *E. coli* that were serogrouped as not O157, reported in Florida during 2007. Among these isolates, the most common serotype was O26:H11 (4 cases), followed by serotype O103:H2 (2 cases). In general, non-O157 serotypes cause similar, though often less severe, illness. Among these 10 cases, seven were female, three were 60 years or older, none were outbreak associated, and one was acquired outside the U.S.

Prevention

To reduce the likelihood of contracting *E. coli* O157:H7, all meat products should be thoroughly cooked, particularly ground beef. Cross contamination may be avoided by making sure utensils, counter tops, cutting boards, and sponges are cleaned, or do not come in contact with raw meat. Hands should be thoroughly washed before, during, and after food preparation and after toilet use. The fluids from raw meat should not be allowed to come in contact with other foods. Additionally, it is important to wash hands after coming into contact with any animals or their environment. Particular care should be taken with young children in the setting of petting zoos or when in contact with farm animals which harbor the organism.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

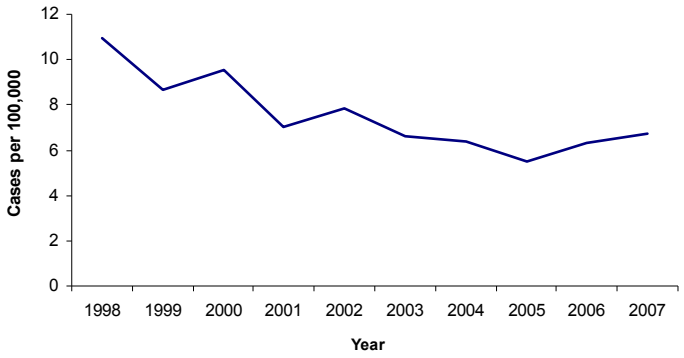
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/nczved/dfbmd/disease_listing/stec_gi.html

Giardiasis

Giardiasis: Crude Data	
Number of Cases	1,268
2007 incidence rate per 100,000	6.76
% change from average 5 year (2002-2006) incidence rate	3.84
Age (yrs)	
Mean	26.97
Median	25
Min-Max	<1 - 91

Figure 1.
Giardiasis Incidence Rate by Year Reported, Florida, 1998-2007

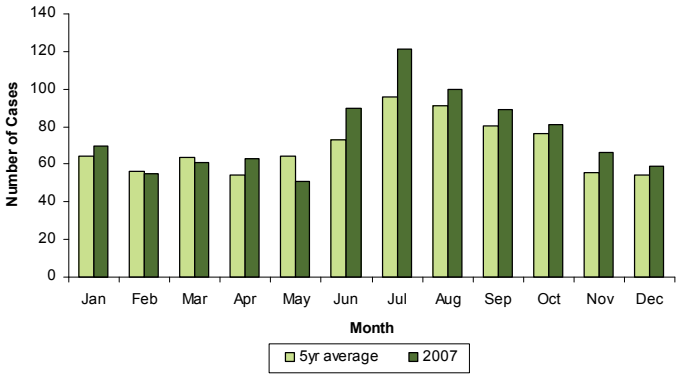


Description

Giardiasis is a parasitic diarrheal disease caused by infection by the flagellate protozoan *Giardia intestinalis* (also known as *Giardia lambia*). *Giardia* parasites live in the intestine of humans and animals, although only the cyst form is infective. *Giardia* is found in soil, food, water, and surfaces that have been contaminated with the feces of infected humans or animals.

In Florida, *Giardia* is mainly transmitted by person-to-person contact, although the parasite can survive outside the body and in the environment for long periods of time. The incubation period is usually 3-25 days with a median of 7-10 days after becoming infected. Common symptoms include diarrhea, abdominal cramps, bloating, fatigue, malabsorption, and weight loss. The asymptomatic carrier rate is high. The disease is communicable for as long as the infected person excretes cysts, which can be up to months.

Figure 2.
Giardiasis Cases by Month of Onset, Florida, 2007

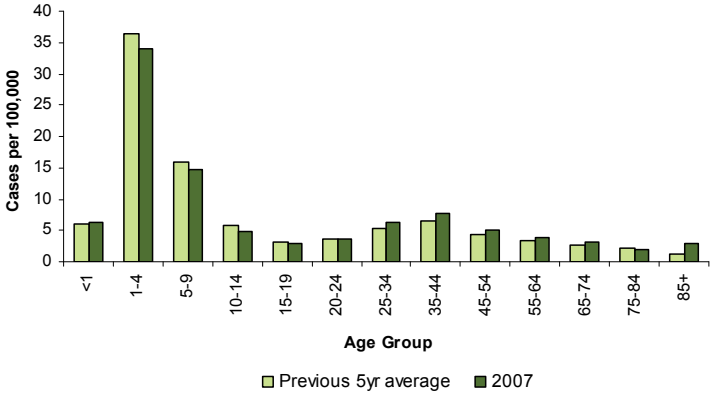


Disease Abstract

The incidence rate for giardiasis has declined by about half over the nine years from 1997-2005 but increased slightly in 2006 and 2007 (Figure 1). In 2007, there was a 3.84% increase in comparison to the 5-year average incidence from 2002 to 2006. A total of 1,268 cases were reported in 2007, slightly higher than the number reported in 2006 (1,165 cases). Of the 1,268 cases reported in 2007, 97%

were classified as confirmed. Although asymptomatic infections are common, in Florida, only acute cases with symptoms are reported. The number of cases increases in the summer months (Figure 2). The month of July historically has the largest number of reported cases (2002-2006: 5-year average 95.8 cases per 100,000), and in 2007, the largest number of cases occurred in July (121 cases). In 2007, all months of except for February, March, and May exceeded the previous 5-year average number of cases. Among the 1,268 giardiasis cases reported in 2007, 83, or 6.55%, were reported as outbreak associated, and 965, or 76.1%, were acquired in Florida. There were 214 cases that were reported as acquired outside of the U.S. with 119 of these cases, or 55.6%, indicating infection was acquired in Cuba.

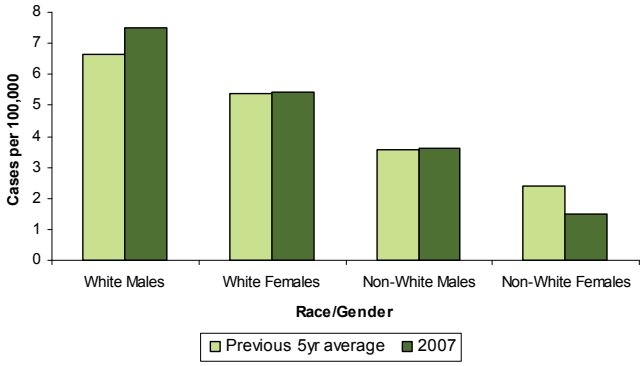
Figure 3.
Giardiasis Incidence Rate by Age Group, Florida, 2007



The highest reported incidence rates continue to occur among in children aged 1-4 years (34.09 cases per 100,000) and 5-9 years (14.75 cases per 100,000) (Figure 3). There were a total of 304 cases reported among children aged 1-4 years. Approximately one-third of the 304 cases aged 1-4 years attended daycare.

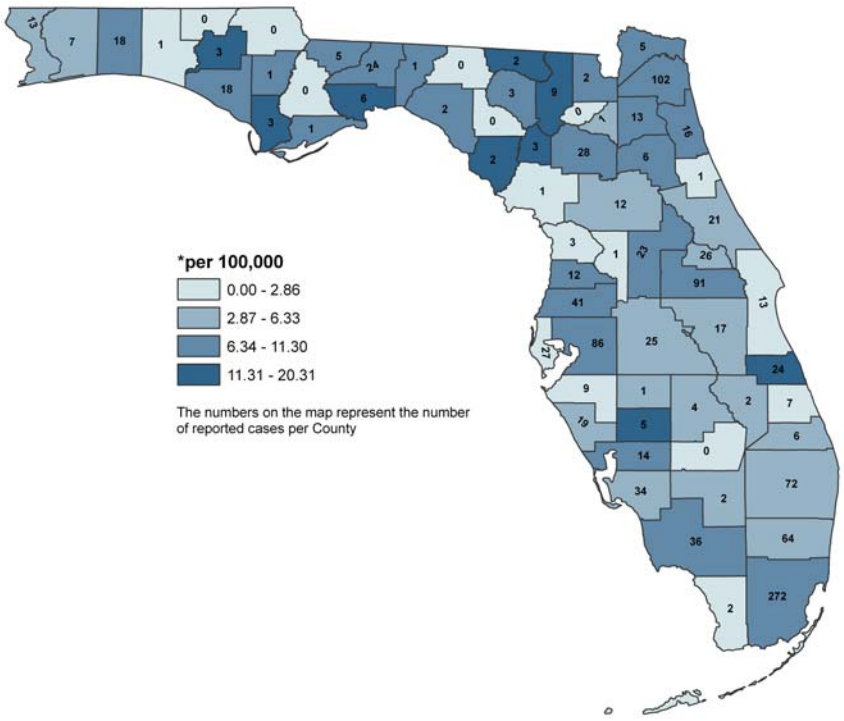
Overall, males continue to have a higher reported incidence than females (7.89 and 5.63 per 100,000, respectively). Following previous annual trends, incidence rates in whites are greater than those in non-whites (Figure 4).

Figure 4. Giardiasis Incidence Rate by Race and Gender,
Florida, 2007



In 2007, giardiasis was reported in 60 of the 67 counties in Florida. The highest incidence rate was in Wakulla County, with 20.31 cases per 100,000.

Giardiasis Incidence Rate* by County, Florida, 2007



Prevention

Most *Giaridia* infection can be avoided or reduced by practicing good hand hygiene. This is particularly important in child care centers and after toilet use, before handling food, and before eating. Avoid food and swallowing water that might be contaminated such as recreational water (ponds, lakes, etc.) and drinking untreated water from shallow wells, lakes, rivers, springs, ponds, streams, or untreated ice. Avoid drinking tap water when traveling in countries where the water may not be adequately filtered and treated. Boiling water is the most reliable way to make water safe for drinking. Filters and chemical disinfection can be effective against *Giardia*, but the effectiveness of chlorine is dependent on several factors, including: pH, temperature, and organic content of the water. People with diarrhea caused by *Giardia* should avoid use of recreational water venues for two weeks after symptoms resolve.

References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

L.K. Pickering, C.J. Baker, S.S. Long, and J.A. McMillan (eds.), *Red Book: 2006 Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics Press, 2006.

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC).

Gonorrhea

Gonorrhea is caused by the bacterium *Neisseria gonorrhoeae* which grows and multiplies in the warm, moist areas of the reproductive tract. The bacterium can also grow in the mouth, throat, eyes, and anus, and can cause systemic infections in rare cases.

In 2007, there were 23,308 gonorrhea cases reported among men and women in Florida, which is a rate of 124.2 cases per 100,000 population (Figure 1). Over 75% of all reported cases of gonorrhea are reported in people under 30 years old. Further, gonorrhea is the second most prevalent sexually transmitted bacterial infection reported among 15-24 year olds in Florida. This reason, this report will focus attention on trends associated with adolescents and young adults and will conclude with a brief summary of overall morbidity. Data on congenital gonorrhea cases in neonates under 1 years of age will be discussed within the section "Neonatal Infections."

Figure 1. Reported Cases of Gonorrhea among Males and Females by Year, Florida, 2003-2007

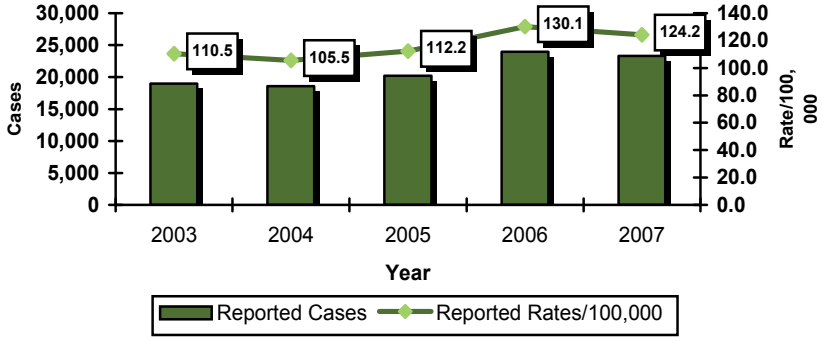


Figure 2: Reported Number of Cases by Single Age Group (15-30), Florida, 2007

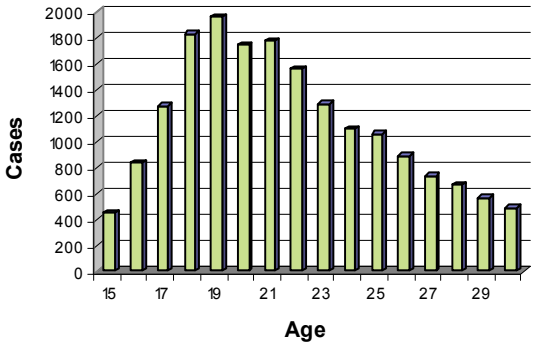
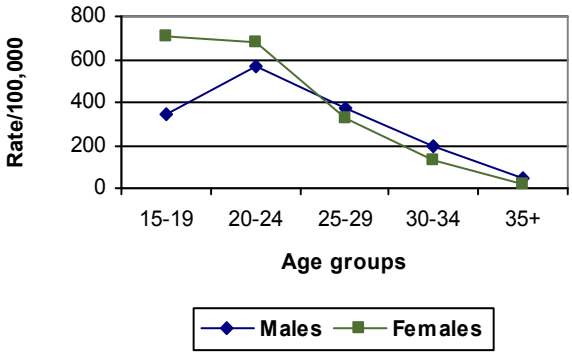


Figure 3. Gonorrhea Rates By Gender and Age Group, Florida, 2007

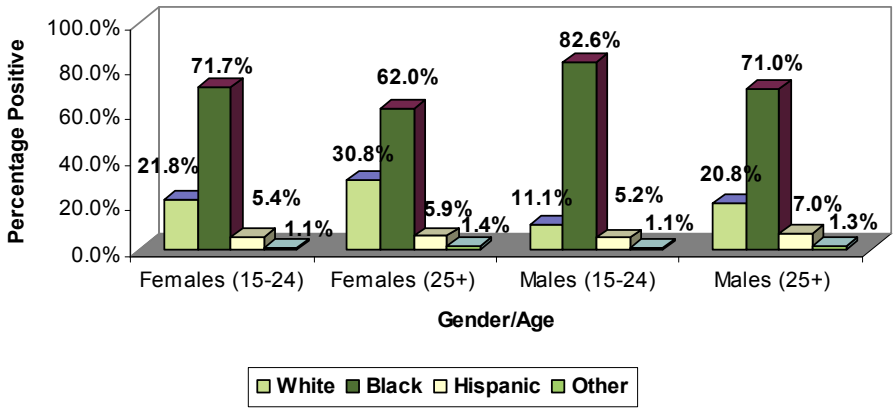


Over the past five years, the total number of reported gonorrhea cases reached a low of 18,580 cases in 2004 and increased to 23,976 cases in 2006, then decreased by 2.7% in 2007 (Figure 2). More cases of gonorrhea infection have been reported in the 20-24 year old age group consistently since 1998; further, 15-24 year olds accounted for 60% of infections reported in 2007. The age specific case rate for 15-24 year olds was 572.6 per 100,000. The mean age of all reported gonorrhea cases was 25.3. However, when ages are compared within the 15-30 age group, cases peaked at the age of 19 with a gradual decline in case numbers as age increased (Figure 2).

Adolescents and young adults had a minimal change in the number of cases reported from 2006 to 2007. Although reported cases decreased 5.5% in 15-19 year olds from 2006 to 2007, cases in 20-24 year olds increased by 0.2% (Figure 3). Women under 25 accounted for the largest proportion of cases reported (60%), which is much like chlamydia trends. Among women, the highest number of cases was reported in 15-19 year olds (4,619 cases) with a rate of 710.6 per 100,000. The second highest rate among females was in 20-24 year olds (676.8 per 100,000). Among men, the highest number of cases was reported in the 20-24 age group (3,494 cases) with a rate of 566.9 cases per 100,000. Men 15-19 had the second highest rate (346.9 per 100,000). Unlike chlamydia trends, men over 25 had higher rates than women.

In 2007, the distribution of gonorrhea by race and ethnicity in people 15-24 disproportionately affected non-Hispanic blacks. Non-Hispanic black adolescents and young adults (15-24) have the highest rates among all race, ethnicity, and age groups in Florida. In 2007, non-Hispanic black females 15-19 years old had a case rate of 2,121.6 per 100,000. This rate was eight times higher than the second highest rate which was in non-Hispanic white females 15-24 years old (257.45 per 100,000). Non-Hispanic black males 15-19 years old had a case rate of 1,172.3 per 100,000. This rate was 23 times higher than the second highest rate which was in non-Hispanic white males 15-19 years old (50.1 per 100,000).

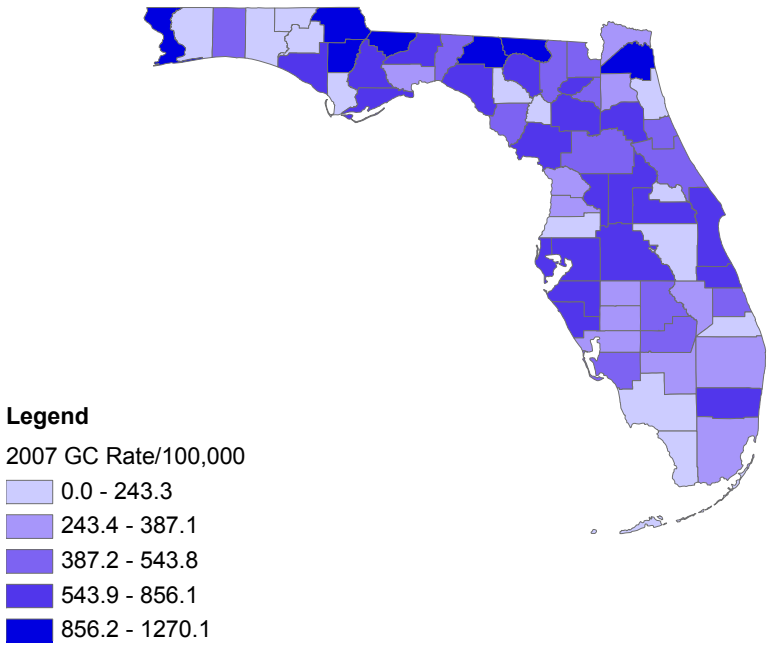
Figure 4: Proportion of Reported Gonorrhea Cases by Race/Ethnicity and Age, Florida 2007



Sexually transmitted diseases, especially syphilis and gonorrhea, are associated with many adverse socioeconomic indicators, and in the U.S., these are often correlated with residential housing patterns. In highly impacted areas evaluated by census tract, STD rates may be an order of magnitude higher than in surrounding areas. Over 45% of all gonorrhea cases are reported from the larger, more populous counties (Duval, Broward, Orange, Dade, Hillsborough). However, rates of infection, regardless of age, are generally high in the panhandle and northern portion of the state (Figure 5). In 15-24 year olds, Duval County had the highest rate with 1,270.1 cases per 100,000. High rates of

infection in this age cohort were also found in the following rural counties: Gadsden, Jackson, Calhoun, and Hamilton. Although certain counties have a higher rate of disease, all counties in the state are impacted by this infection.

Figure 5: Gonorrhea Rates Per 100,000 Population
By County, Age Group 15-24, 2007



Gonorrhea incidence may be related to the availability of improved test technology, expanded targeted screening, and prevalence of risk-taking behaviors amongst those connected within various sexual networks. There is no known acquired immunity to the *Neisseria gonorrhoeae.* Overall, cases are distributed equally between genders. The high and consistant number of cases in youth indicates a possible increased risk for youth to become infected with life-threatening HIV due to their similar risk factors for infection. Additionally, the disparity in minority populations and increases in gonorrhea in MSM (men who have sex with men) populations, despite decreases in overall cases, require special attention to important contributory factors. Such factors include: access to quality health care, individual health seeking behaviors, the level of community drug use, the scope of prevention education, and sexual networks with high prevalence of sexually transmitted infections. These factors may be influential in increasing risk.

References

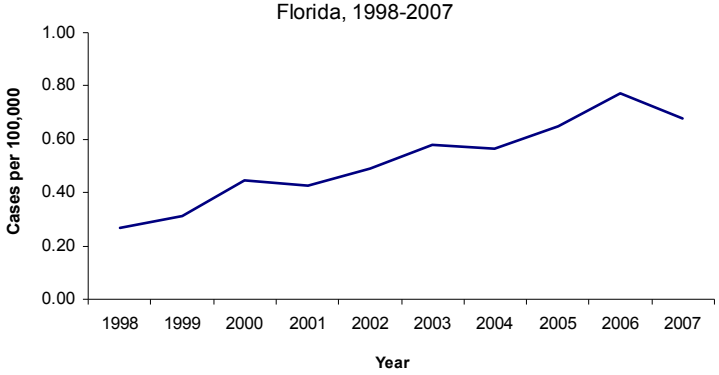
Centers for Disease Control and Prevention, *Gonorrhea-CDC Fact Sheet*, Centers for Disease Control and Prevention, Atlanta, GA, 2006.

K.E. Nelson, C.M. Williams, N. Graham, *Infectious Disease Epidemiology Theory and Practice*, Aspen Publishers, 2001.

Haemophilus influenzae (Invasive Disease)

Haemophilus influenzae, Invasive Disease: Crude Data	
Number of Cases	127
2007 incidence rate per 100,000	0.68
% change from average 5 year (2002-2006) incidence rate	9.91
Age (yrs)	
Mean	50.34
Median	59
Min-Max	<1 - 98

Figure 1.
Haemophilus influenzae Incidence Rate by Year Reported, Florida, 1998-2007



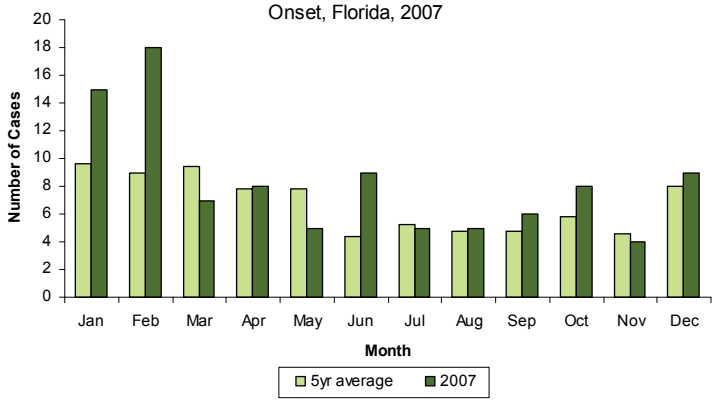
Description

Invasive disease caused by *Haemophilus influenzae* may cause a variety of clinical syndromes including meningitis, bacteremia (septicemia), epiglottitis, or pneumonia; however, this report does not include pneumonia. Widespread use of the *Haemophilus* conjugate vaccine in infants and children has significantly decreased the incidence of invasive disease due to the serotype b infection.

Disease Abstract

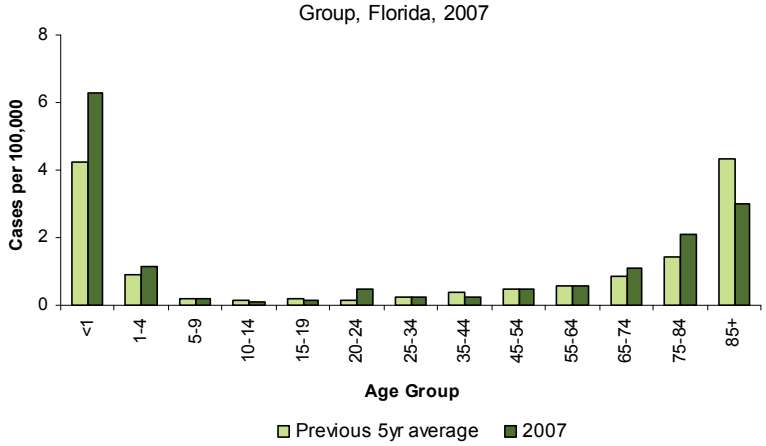
The incidence rate for all invasive diseases caused by *Haemophilus influenzae* has gradually increased over the past ten years (Figure 1). In 2007 there was a 9.91% increase compared to the average incidence from 2002-2006. A total of 127 cases were reported in 2007, of which all were classified as confirmed. The number of cases reported is highest in the winter, during the months of December through February (Figure 2). In 2007, the number of cases significantly exceeded the previous 5-year average in January, February, and June. Nearly all cases of invasive disease caused by *Haemophilus influenzae* are sporadic in nature.

Figure 2.
Haemophilus influenzae, invasive disease, Cases by Month of Onset, Florida, 2007



The highest reported incidence rates occur in those aged <1 year or in those >85 years (Figure 3). In 2007, the incidence rates were higher than the previous 5-year average in those <1, 1-4, 20-24, 65-74, and 75-84 years. The incidence of disease in males and females does not differ (0.69 per 100,000 and 0.67 per 100,000 respectively) and in 2007 the incidence in males was higher than the previous 5-year average incidence (0.69 per 100,000 and 0.56 per 100,000) (Figure 4). As in the past, incidence rates in non-whites are greater than those in whites.

Figure 3.
Haemophilus influenzae, Invasive Disease, Incidence Rate by Age Group, Florida, 2007



Invasive disease caused by *Haemophilus influenzae* was reported in 27 of the 67 counties in Florida. Overall, counties in northeastern, central, and southwestern Florida reported the highest incidence rate.

Invasive disease caused by *Haemophilus influenzae* b in those under age five:

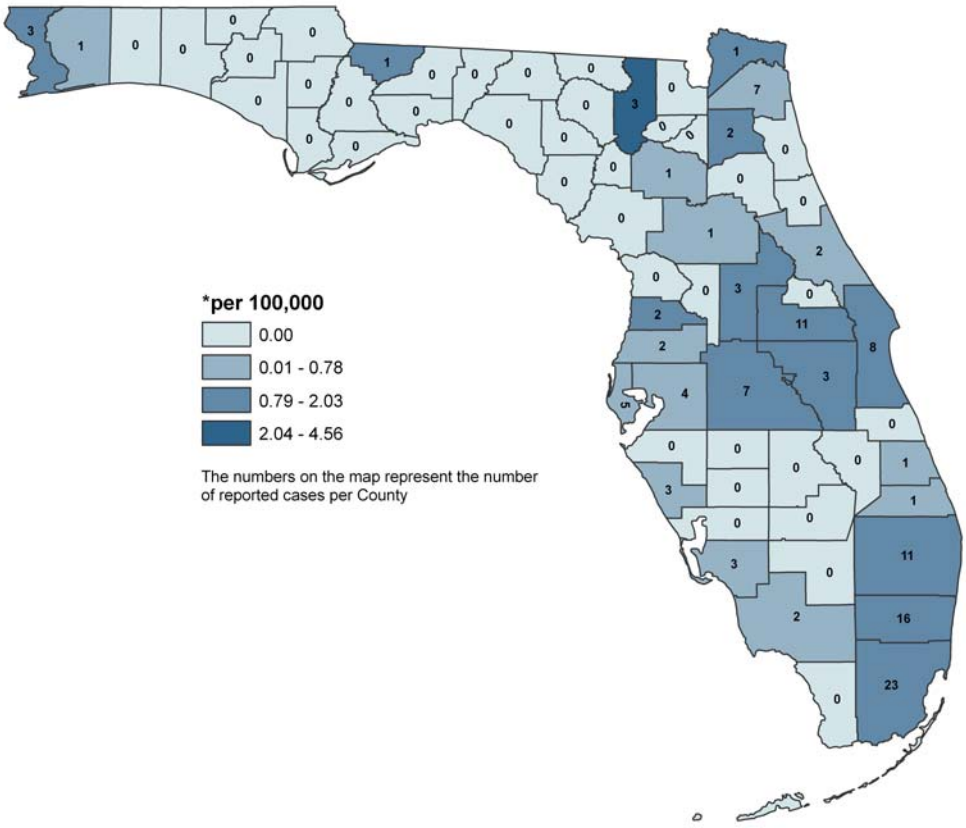
In 2007, there were no cases of invasive disease caused by *Haemophilus influenzae* serotype b in those under age 5.

Figure 4.
Haemophilus influenzae, Invasive Disease Incidence Rate by Gender, Florida 2007

Prevention

Conjugate vaccines against *Haemophilus influenzae* type b (Hib) for infants and children are recommended by the Advisory Committee on Immunization Practices. Additional information may be found at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4805a1.htm and http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2007/child-schedule-color-print.pdf

Haemophilus influenzae Invasive Disease Reported Incidence Rate* by County, Florida, 2007



References

David L. Heyman (Ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004, p. 366.

Additional Resources

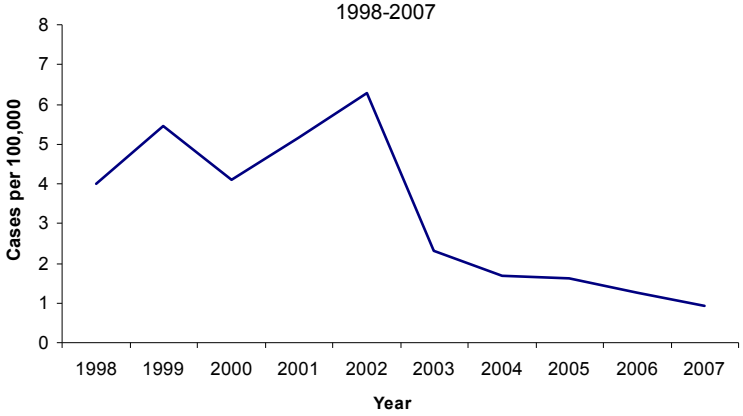
Additional information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/haeminfluserob_t.htm and http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4805a1.htm

Immunization Recommendations are available from Centers for Disease Control and Prevention, "Haemophilus b Conjugate Vaccines for Prevention of Haemophilus influenzae Type b Disease Among Infants and Children Two Months of Age and Older. Recommendations of the ACIP," *Morbidity and Mortality Weekly Report*, Vol. 40, (RR01); pp.1-7. http://www.cdc.gov/mmwr/preview/mmwrhtml/00041736.htm

Hepatitis A

Hepatitis A: Crude Data	
Number of Cases	171
2007 incidence rate per 100,000	0.91
% change from average 5 year (2002-2006) Incidence rate	-64.70
Age (yrs)	
Mean	33.52
Median	28
Min-Max	3 - 94

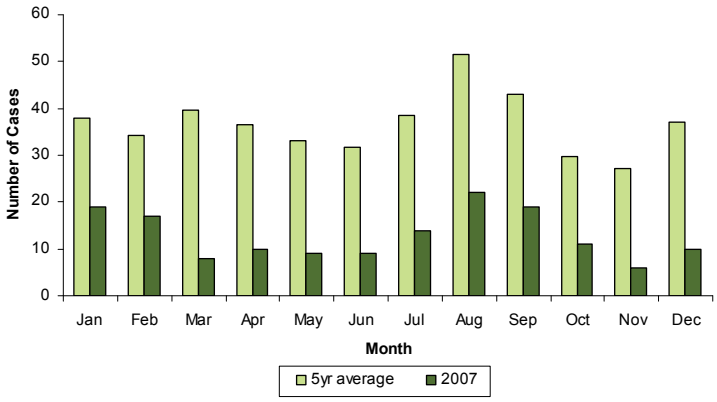
Figure 1.
Hepatitis A Incidence Rate by Year Reported, Florida, 1998-2007



Description

Hepatitis A is an acute liver disease caused by infection with hepatitis A virus. The virus is transmitted person-to-person by the fecal-oral route and poor sanitation is a risk factor for infection. Common-source outbreaks have been linked to contaminated food or water, including raw or undercooked mollusks harvested from contaminated waters. The incubation period ranges from approximately two to six weeks after exposure. Symptoms include fever, malaise, nausea, and abdominal discomfort, often followed by jaundice. Infection may be asymptomatic in children.

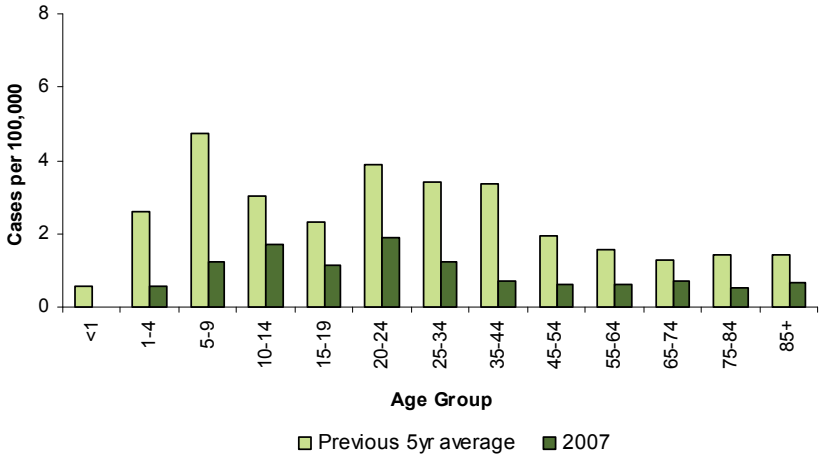
Figure 2.
Hepatitis A Cases by Month of Onset, Florida, 2007



Disease Abstract

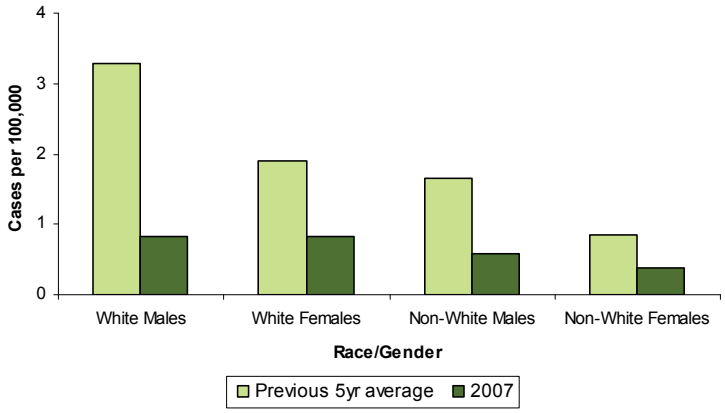
A total of 171 cases of hepatitis A were reported in 2007, of which 89% were classified as confirmed. At least 44% of hepatitis A cases were hospitalized. Approximately 11% of cases were classified as outbreak related and 11% reported contact with a person with confirmed or suspected hepatitis A infection in the 2-6 weeks prior to their illness. Approximately 41% of cases reported a travel history outside the U.S. and Canada in the 2-6 weeks prior to their illness. The incidence rate for hepatitis A in Florida has declined markedly since 2002, which mirrors a similar decline observed nationally (Figure 1). The annual incidence in Florida from 2004 to 2007 was around 1-2 cases per 100,000. This is a substantial decrease from the annual incidence of 4-6 cases per 100,000 observed between 1998 and 2002. The decrease in Florida, and nationally, is likely due, to increased use of vaccines to protect against hepatitis A virus, which first became commercially available in 1995.

Figure 3.
Hepatitis A, acute Incidence Rate by Age Group, Florida, 2007



Hepatitis A occurs throughout the year (Figure 2). In 2007, incidence rates were lower than the previous 5-year average in all age groups (Figure 3). The largest decrease in incidence was observed among children five to nine years old. The incidence in 2007, in both males and females, was lower than the previous 5-year average incidence, and the greatest decrease occurred among white males (Figure 4).

Figure 4. Hepatitis A Incidence Rate by Race and Gender,
Florida, 2007



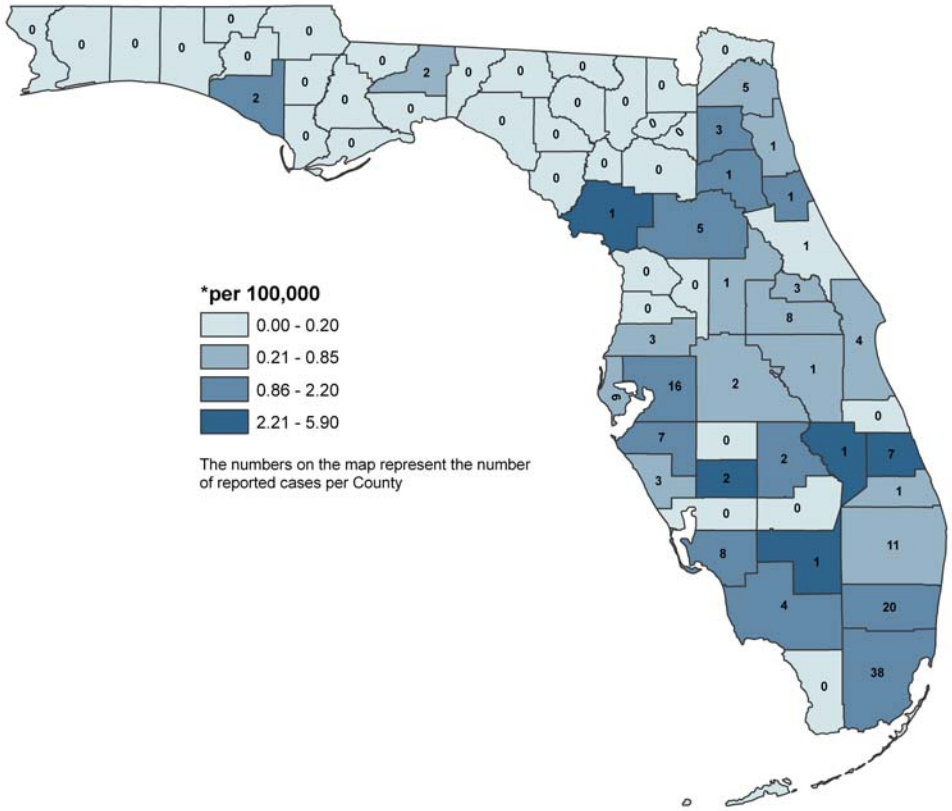
During 2007, hepatitis A was reported in 32 of the 67 counties in Florida.

Prevention

Currently, the single antigen, two-dose, hepatitis A vaccine is recommended as part of the routine immunization schedule for all children starting at age one. However, this is not a requirement for childcare or school entry in Florida. The doses should be spaced at least six months apart. A combined hepatitis A and hepatitis B vaccine is available for adults >18 years old, and is administered in three doses. In addition to routine childhood immunization, hepatitis A vaccine is also recommended for those at increased risk of infection, including those traveling to developing countries, men who have sex with men (MSM), injection and non-injection drug users, and persons with a clotting factor disorder.

Other efforts to prevent hepatitis A infection should focus on disrupting transmission through good personal hygiene, hand washing, and washing fruits and vegetables before eating. Illness among food-handlers or persons in a childcare setting should be promptly identified and reported to prevent further spread of the disease in those settings. In outbreak settings, immune-globulin may be administered to at-risk contacts of infected individuals, particularly children <1 year and adults over age 40. Recently updated guidelines based on results from a clinical trial, recommend vaccine for post-exposure prophylaxis in healthy individuals between 1 and 40 years old. All post-exposure prophylaxis should be administered within two weeks of exposure.

Hepatitis A Reported Incidence Rate* by County, Florida, 2007



References

Centers for Disease Control and Prevention, "Prevention of Hepatitis A through Active or Passive Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP)", *MMWR* 2006; 55(RR07); pp1-23.

Centers for Disease Control and Prevention, "Update: Prevention of hepatitis A after exposure to hepatitis A virus and in international travelers. Updated recommendations of the Advisory Committee on Immunization Practices (ACIP)", *MMWR* 2007; 56(41); pp1080-84.

Centers for Disease Control and Prevention, "Summary of Notifiable Diseases-United States, 2006"; *MMWR* 2006; 55(53).

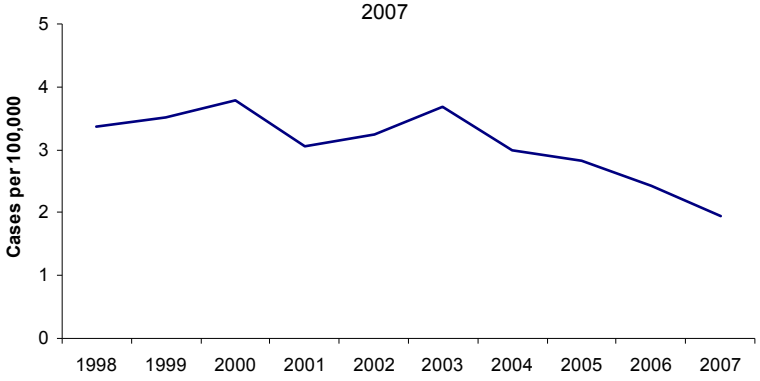
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/NCIDOD/diseases/hepatitis/a/index.htm

Hepatitis B, Acute

Hepatitis B, Acute: Crude Data	
Number of Cases	368
2007 incidence rate per 100,000	1.96
% change from average 5 year (2002-2006) incidence rate	-35.38
Age (yrs)	
Mean	43.4
Median	42
Min-Max	18 - 88

Figure 1.
Hepatitis B, Acute Incidence Rate by Year Reported, Florida, 1998-2007



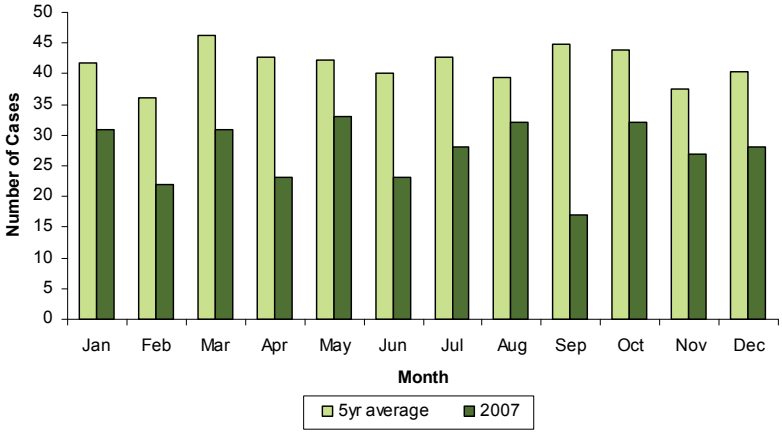
Description

Hepatitis B is one of several kinds of acute viral hepatitis. Symptoms may appear up to six months after exposure to the virus. Hepatitis B is transmitted from person to person via infected body fluids. Very small amounts of blood, semen, or other body fluids may contain enough virus to infect a person. Transmission may occur by sexual or similar close contact with an infected person, from mother to infant, through shared injection drug equipment, or by nosocomial exposure. People usually recover from acute hepatitis B, although they may become chronic carriers of the hepatitis B virus. Common symptoms include jaundice, abdominal pain, dark urine, clay-colored stool, weight loss, and nausea.

Disease Abstract

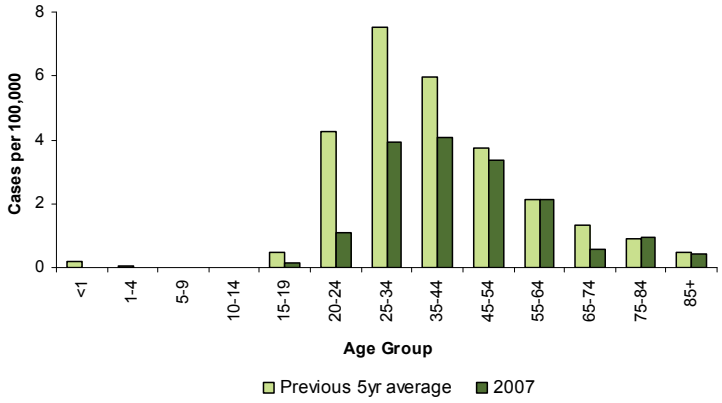
The incidence rate for acute Hepatitis B has declined gradually over the last ten years (Figure 1). The 2007 rate was 35.38% lower than the average from 2002-2006. A total of 368 cases were reported in 2007, of which 91.53% were classified as confirmed. There is no seasonal trend for acute hepatitis B infection (Figure 2). Overall, 84.15% of the acute hepatitis B cases were classified as sporadic.

Figure 2.
Hepatitis B, acute Cases by Month of Onset, Florida, 2007



The highest historical incidence rates occurred in the 25-34 yr old age group, and for 2007 the incidence rate in this group was high along with those aged 35-44. In 2007, the incidence rates were lower than the previous 5-year average in all age groups except in those 75-84, where the incidence rate was slightly increased (Figure 3). The incidence of Hepatitis B is lowest in people <19 years of age. Rates have always been low in children, and are even lower with widespread immunization. Males continue to have a higher incidence than females (2.28 per 100,000 and 1.64 per 100,000 respectively). The incidence rates in non-whites are greater than those in whites (Figure 4).

Figure 3.
Hepatitis B, acute Incidence Rate by Age Group, Florida, 2007



Hepatitis B is a vaccine-preventable disease. Among the 338 people diagnosed with acute hepatitis B, 68.2 % never received the vaccine and 27.17% have unknown vaccine status. This demonstrates the importance of vaccination campaigns to eliminate hepatitis B in the U.S. The symptoms of acute viral hepatic illness may prompt individuals to seek immediate medical attention. Approximately 53.8% of those diagnosed with acute hepatitis B were hospitalized. In 2007, death occurred in five of the 368 people with acute hepatitis B infection. Twenty-six of the 368 people with hepatitis B reported having had contact with someone confirmed or suspected of having a hepatitis B infection, and of these, 73% reported the ill person was a sexual partner. Drug use has also been associated with hepatitis B infection. Of the 368 acute hepatitis B cases, 6.3% reported injection drug use and 23.6% reported using street drugs but not injection drug use. Hepatitis B infection has also been associated with improper sterilization or sharing of needles to create tattoos. In 2007, 16% of those with an acute hepatitis B infection had recently received a tattoo.

Sexual behavior may place an individual at risk for hepatitis B infection. However, individuals may often decline to comment on the frequency of sexual partners and/or their sexual preference. For 2007, sexual preference and frequency of sexual partnerships are summarized in Table 2. Poepole's risk factors may change over time.

Acute hepatitis B was reported in 44 of the 67 counties in Florida. A cluster of high-rate counties can be seen in the center of the state and along the northern border.

Table 2. Distribution of the number of sexual partners in the six months prior to symptoms among four sexual preference groups, for people with acute hepatitis B reported in 2007.

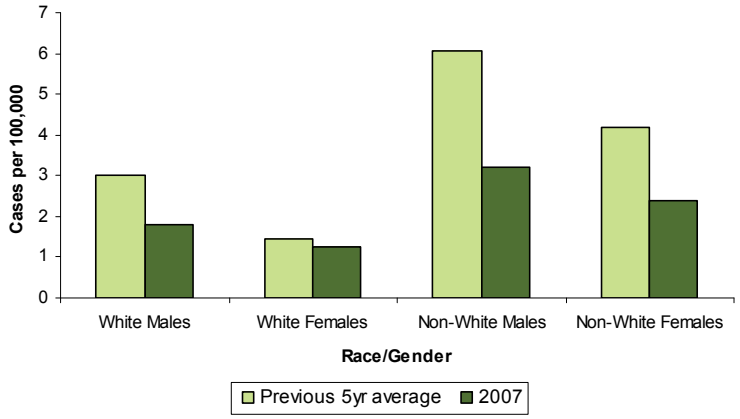
Sexual Behavior Risk Factors	Men having sex with men	Men having sex with women	Women having sex with men	Women having sex with women
1 Sexual partner	6%	34%	35%	4 %
2-5 Sexual partners	6%	12%	18%	0%
More than 5 sexual partners	4 %	6%	4%	0%
Reported no sexual partner	52%	22%	15%	65%
Not Answered	4%	1%	0%	1%
Unknown	28%	25%	28%	30%
Total	100%	100%	100%	100%
% of Cases in each sexual preference group	17%	52%	57%	4%

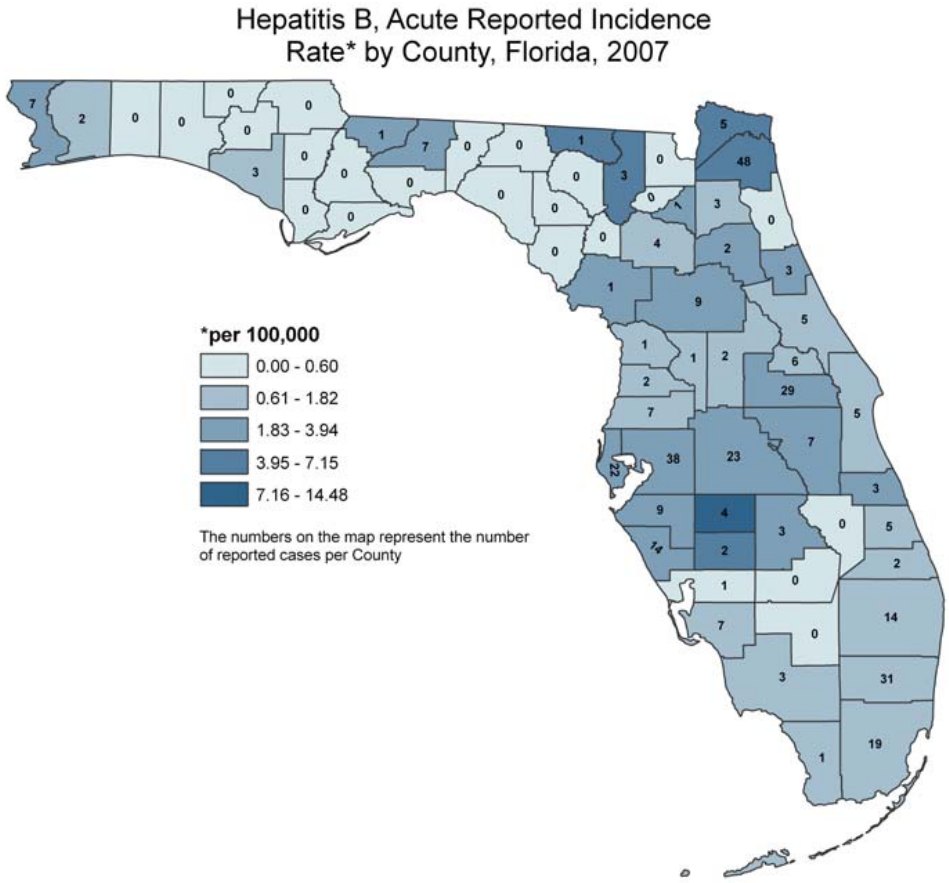
*Total number of acute hepatitis b positive males is 209 and females is 159
**In, 2007, all 368 acute cases of hepatitis occurred in individuals 18 years of age and older
*** Sexual history is collected by asking about the number of sexual partnership in the last 6 months prior to having symptoms, regardless of gender.

Prevention

Hepatitis B vaccines are available to protect against hepatitis B virus infection. In addition, in health care settings, universal precautions should be implemented for individuals in contact with body fluids. High risk groups for infection include drug users who share needles, healthcare workers who have contact with infected blood, MSM (men who have sex with men), people who have multiple sexual partners, household contacts of infected persons, and infants born to mothers who are hepatitis B carriers.

Figure 4. Hepatitis B, acute Incidence Rate by Race and Gender, Florida, 2007





References

Centers for Disease Control and Prevention, "A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States," *Morbidity and Mortality Weekly Report*, Vol. 55, No. RR16, pp. 1-25.

Centers for Disease Control and Prevention, "Incidence of Acute Hepatitis B-United States, 1990-2002," *Morbidity and Mortality Weekly Report*, Vol. 52, 2004, pp. 1252-1254.

Centers for Disease Control and Prevention, "Surveillance for Acute Viral Hepatitis-United States, 2005," *Morbidity and Mortality Weekly Report*, Vol. 56, No. SS03, 2007, 1-24.

Centers for Disease Control and Prevention, "Update: Recommendations to Prevent Hepatitis B Virus Transmission-United States," *Morbidity and Mortality Weekly Report*, Vol. 48, 1999, pp. 33-4.

Centers for Disease Control and Prevention, "Hepatitis B Vaccination-United States, 1982-2002," *Morbidity and Mortality Weekly Report*, Vol. 51, 2002, pp. 549-52, 563.

J.T. Redd, J. Baumbach, W. Kohn, et al, "Patient-to Patient Transmission of Hepatitis B virus Associated with Oral Surgery," *Journal of Infectious Diseases*, Vol. 195, 2007, pp. 1311-1314.

American Academy of Pediatrics, *Red Book 2003: Report of the Committee on Infectious Diseases,* 26th ed., American Academy of Pediatrics Press, Elk Grove Village, Illinois, 2003.

Additional Resources

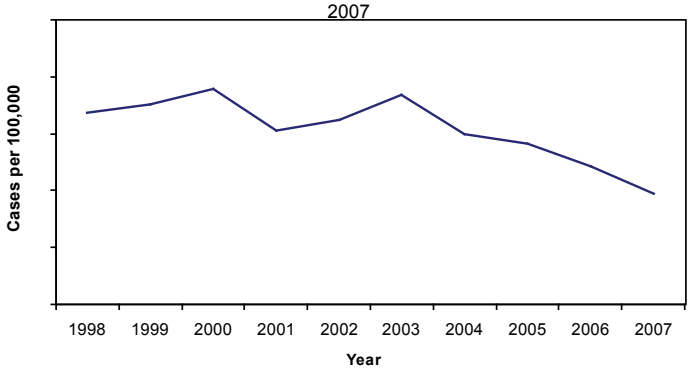
Disease information is available from the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov/ncidod/diseases/hepatitis/b/index.htm and http://www.cdc.gov/ncidod/diseases/hepatitis/recs/index.htm

Disease information is also available from the World Health Organization (WHO) website at http://www.who.int/mediacentre/factsheets/fs204/en/

Hepatitis B (HBsAg + Pregnant Women)

Hepatitis B, (HBsAg + Pregnant Women): Crude Data	
Number of cases	644
2007 incidence rate per 100,000	16.85
% change from average 5yr (2002-2006) incidence rate	11.81
Age (yrs)	
Mean	28.47
Median	28
Min-Max	15 - 47

Figure 1.
Hepatitis B, Acute Incidence Rate by Year Reported, Florida, 1998-2007



Description

Hepatitis B is caused by infection with the hepatitis B virus (HBV), which is a double-stranded DNA virus of the family hepadnaviridae. HBV replicates in the liver, and causes both acute and chronic hepatitis. HBV is a bloodborne infection that is transmitted by percutaneous and mucosal exposure to infectious body fluids and can include sexual transmission. The incubation period for acute hepatitis B ranges from 45-160 days (average 120 days). When present, clinical symptoms and signs may include anorexia, malaise, nausea, vomiting, abdominal pain, jaundice, dark urine, and clay-colored or light stools. Occasionally, extrahepatic manifestations occur and include skin rashes, arthralgias, and arthritis. Fulminant hepatitis occurs with a case fatality rate of 0.5%-1%. Persons with chronic HBV infection are often asymptomatic; however, chronic liver disease develops in two-thirds of these persons, and approximately 15%-25% die prematurely from cirrhosis or liver cancer. Perinatal hepatitis B in a newborn may range from asymptomatic to fulminant hepatitis. Infants infected at birth have a 90% chance of developing chronic infection. Newborns can also become infected due to exposure to HBsAg+ household members or community contacts. Populations with the highest rates of these early childhood infections include Alaskan Natives, children of Asian/Pacific Islander parents, and children of first generation immigrants from countries where HBV is endemic.

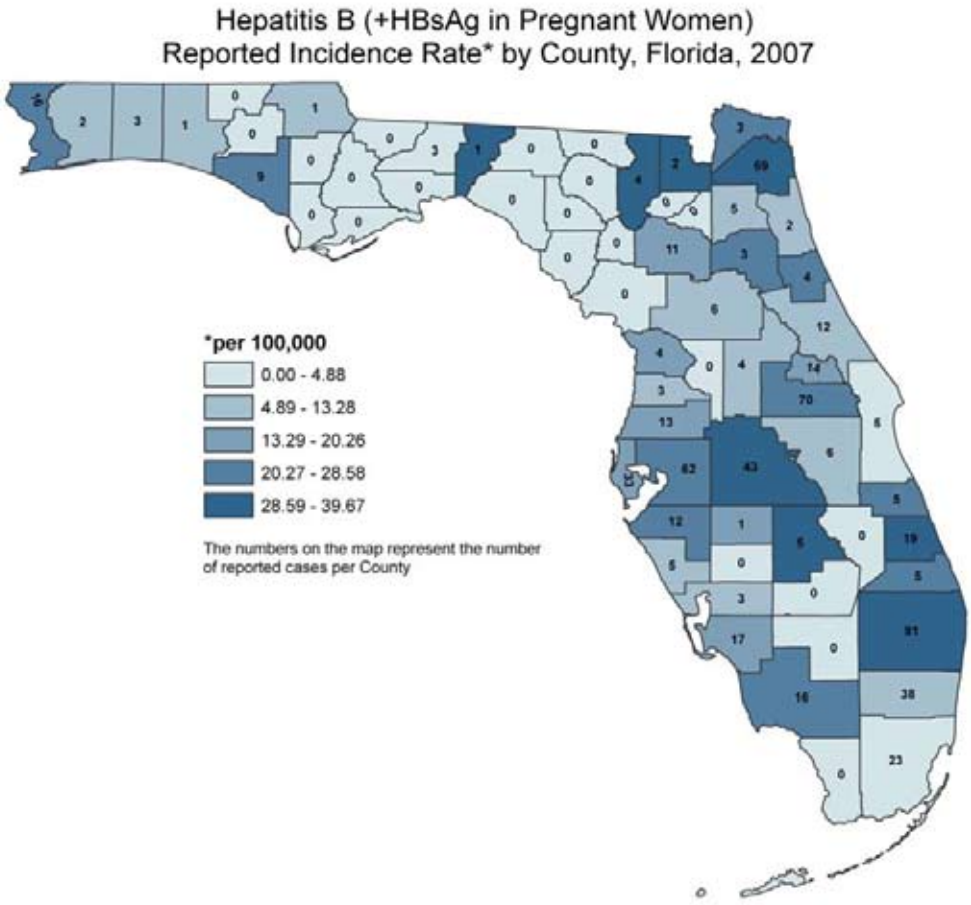
Disease Abstract

The number of cases of HBsAg+ pregnant women was 644 in 2007, which is an increase from 448 in 2006. The case increase for 2007 may indicate better case identification activities; since the incidence of acute hepatitis B disease continues to decrease. An important note for infants and children, there were only two cases of perinatal hepatitis B, a decrease from six cases reported in 2006.

Prevention

Hepatitis B immune globulin (HBIG) is prepared from human plasma known to contain a high titer of antibody to HBsAg (anti-HBs). A regimen combining HBIG and hepatitis B vaccine is 85%-95% effective in preventing HBV infection when administered at birth to infants born to HBsAg+ mothers. HBIG and the first dose of hepatitis B vaccine should be administered within 12 hours of birth. The second dose should be given at one month of age and the third dose at six months of age. Dose three of hepatitis B vaccine should not be given before six months of age. These infants should have serologic testing at 9-15 months of age to determine if a protective antibody response developed after vaccination. Infants who do not respond to the primary vaccination series should be given three additional doses of hepatitis B vaccine in a 0, 1-2, 4-6 month schedule, and have the HBsAg and anti-HBs blood tests repeated to determine response. Vaccine for children and adults is available in

combination vaccines. Information on the recommended schedule is available at: http://www.cdc.gov/vaccines/recs/schedules/default.htm



References

Centers for Disease Control and Prevention, Manual for the Surveillance of Vaccine-Preventable Diseases, 3rd ed., 2002.

Centers for Disease Control and Prevention, "A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP); Part 1: Immunization of Infants, Children, and Adolescents," Morbidity and Mortality Weekly Report, Vol. 54, No. RR-16, 2005.

Centers for Disease Control and Prevention, "A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States Recommendations of the Advisory Committee on Immunization Practices (ACIP) Part II: Immunization of Adults," Morbidity and Mortality Weekly Report, Vol. 55, No. RR-16, 2006.

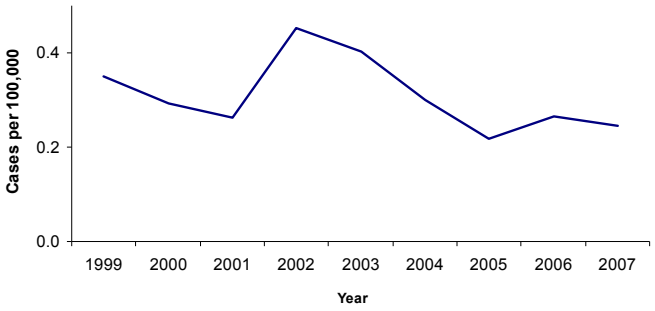
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/vaccines/vpd-vac/hepatitis/default.htm

Hepatitis C, Acute

Hepatitis C, acute: Crude Data	
Number of Cases	46
2007 incidence rate per 100,000	0.25
% change from average 5 year (2002-2006) incidence rate	-24.55
Age (yrs)	
Mean	39.13
Median	39
Min-Max	17 - 68

Figure 1.
Hepatitis C, Acute Incidence Rate by Year Reported, Florida, 1998-2007



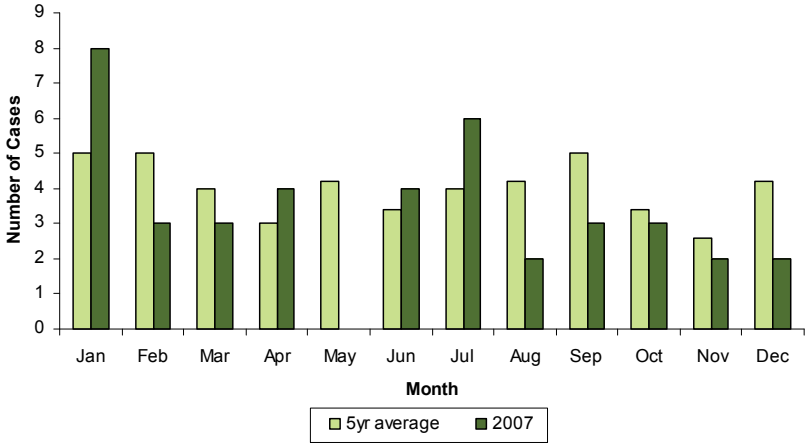
Description

The hepatitis C virus is one of several agents that can cause acute viral hepatitis. Symptoms of acute infection may appear up to six months after exposure to the virus. Transmission may occur by injection drug use, sexual or close contact with an infected person, mother-to-infant contact, injection drug use, or nosocomial exposure. Many infected people become chronic carriers of the virus. Most persons currently ill as a result of hepatitis C infection were first infected many years ago, and are not counted as incident acute cases in the Florida surveillance system. Common symptoms include jaundice, abdominal pain, dark urine, clay-colored stool, weight loss, and nausea.

Disease abstract

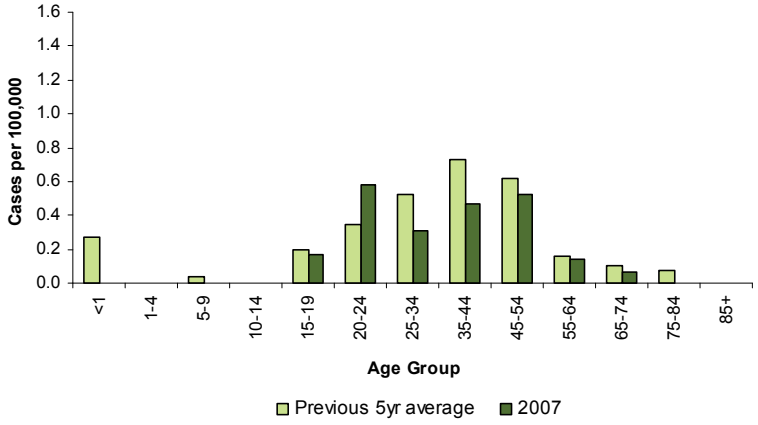
The incidence rate for acute hepatitis C has been variable over the last eight years (Figure 1). In 2007, there was a 24.55% decrease in comparison to the average incidence from 2002-2006. A total of 46 cases were reported in 2007, of which 34.76% were classified as confirmed cases. There is no seasonal trend for acute hepatitis C infection (Figure 2). There were no acute hepatitis C cases classified as outbreak related.

Figure 2.
Hepatitis C, acute Cases by Month of Onset, Florida, 2007



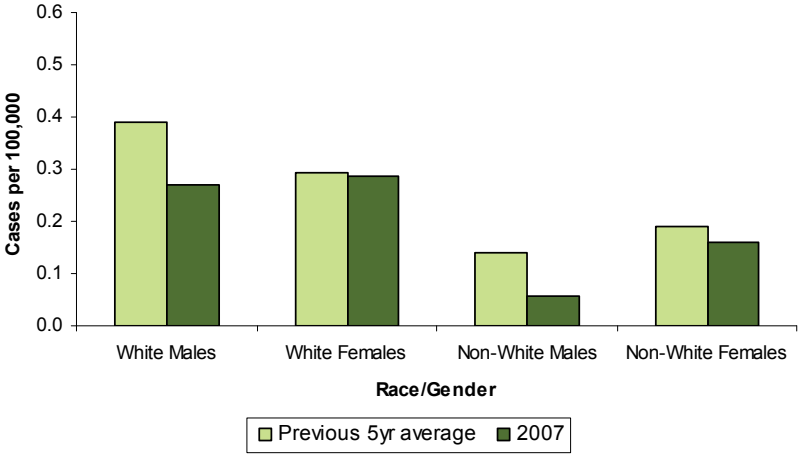
The highest incidence rates for 2007 occurred among those 20-24 years old which is a change from historical trends where the highest rates occurred among those in the 35-44 year old age group. In 2007, the incidence rates were lower than the previous 5-year average in all age groups except in those in the 20-24 age group where the incidence rate was slightly increased (Figure 3).

Figure 3.
Hepatitis C, acute Incidence Rate by Age Group, Florida, 2007



The passive transfer of maternal HCV antibodies may be present in infants up to 18 months of age. A positive Anti-HCV result in an infant <18 months is a not a true indicator of hepatitis C infection in an infant. In 2007, men and women had similar incidence of acute hepatitis C (0.23 per 100,000 and 0.26 per 100,000 respectively). The incidence rates in whites are greater than those in non-whites (Figure 4).

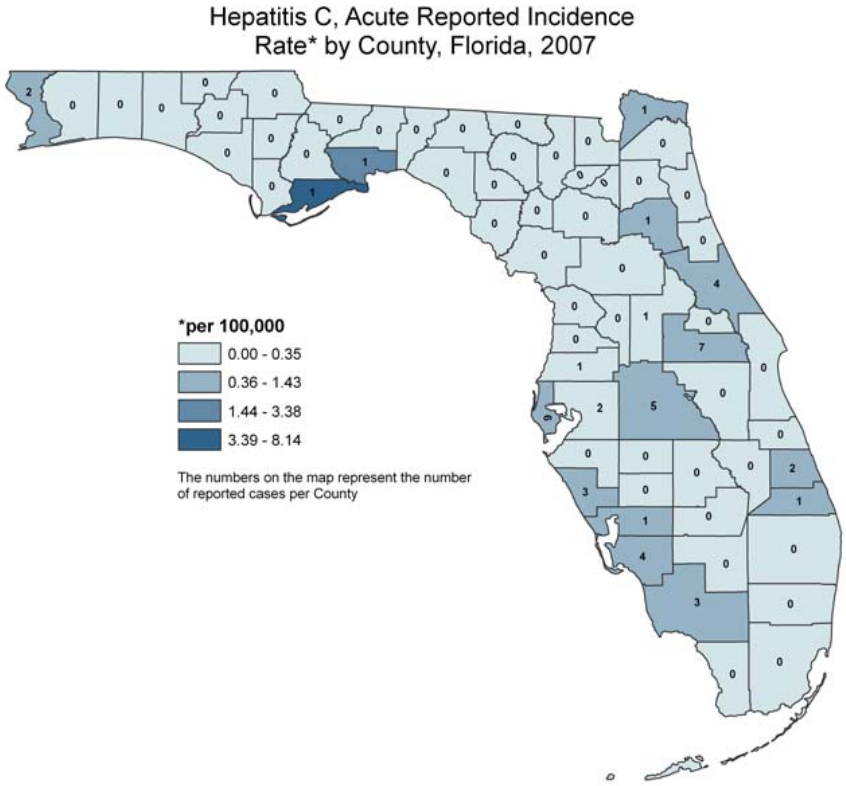
Figure 4. Hepatitis C, acute Incidence Rate by Race and Gender, Florida, 2007



Acute Hepatitis C was reported in 18 of the 67 counties in Florida.

Prevention

Universal precautions should be implemented for individuals in contact with body fluids in health care settings. High risk groups for infection include drug abusers who share needles, healthcare workers who have contact with infected blood, MSM, people who have multiple sexual partners, household contacts of infected persons, or infants born to mothers who are hepatitis C carriers.



References

Centers for Disease Control and Prevention, "Recommendations for Prevention and Control of Hepatitis C Virus (HCV) Infection and HCV-Related Chronic Disease," *Morbidity and Mortality Weekly Report*, Vol. 47, No. RR-19, 1998, pp. 1-39.

Centers for Disease Control and Prevention, "Sexually Transmitted Diseases Treatment Guidelines, 2006," *Morbidity and Mortality Weekly Report*, Vol. 55, No. RR-11, 2006, pp. 1-101.

J.L. Dienstag, "Sexual and perinatal transmission of hepatitis C," *Hepatology*, Vol. 26, No. 66S-70S, 1997.

Centers for Disease Control and Prevention, "Guidelines for Laboratory Testing and Result Reporting of Antibody to Hepatitis C Virus," *Morbidity and Mortality Weekly Report*, Vol. 52, No. RR-03, 2003, pp. 1-16.

American Academy of Pediatrics, *Red Book 2003: Report of the Committee on Infectious Diseases*, 26th ed., Elk Grove Village, IL, American Academy of Pediatrics Press, 2003.

Centers for Disease Control and Prevention, *Frequently Asked Questions About Hepatitis C,* accessed at: http://www.cdc.gov/ncidod/diseases/hepatitis/c/faq.htm#1a.

M.I Gismondi, E.I. Turazza, S. Grinstein, et al., "Hepatitic C Virus Infection in Infants and Children from Argentina," *Journal of Clinical Microbiology*, Vol. 42, 2004, pp. 1199-1202.

J.A. Hochman, W.F. Balistreri, "Chronic Viral Hepatitis: Always Be Current!," Pediatrics in Review, Vol. 24, 2003, pp. 399-410.

S. Kamili, et al., "Infectivity of Hepatitis C Virus in Plasma After Drying and Storage at Room Temperature," *Infection Control and Hospital Epidemiology*, Vol. 28, 2007, pp. 519-524.

Lead Poisoning

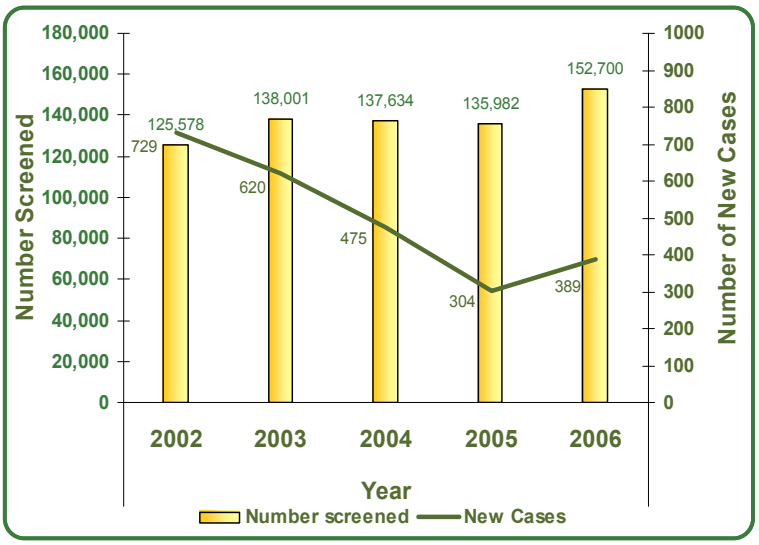
Description

Lead poisoning can affect nearly every system in the body. Because lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized. Lead poisoning can cause learning disabilities, behavioral problems, and, at very high levels, seizures, coma and even death. Lead poisoning occurs when an individual ingests or inhales lead particles. Children <6 years of age are particularly at-risk because their behaviors, such as mouthing on their hands and toys, act as a pathway for exposure and their bodies absorb lead more readily than adults. The source of most lead poisoning in the U.S. is dust and chips from lead-based paint in older homes. Dust from lead-based paint, and the former use of leaded gasoline, contributes to lead in soil, which can also be hazardous to children. Other sources of lead include some imported ceramics (e.g. lead-glazed pottery), home remedies, hair dyes, toys, and cosmetics.

Disease Abstract

The Florida Childhood Lead Poisoning Prevention Program (FL CLPPP) monitors all reported blood lead levels in children <72 months of age. The program then determines the reported number of children per year who meet the case definition of lead poisoning and the reported number of children screened. Although some children are tested multiple times in a single year, only the first test per year is considered a screening test, all subsequent tests are considered follow up tests. Figure 1 shows that the number of reported lead cases in Florida declined steadily between 2002 and 2005. However, the number of cases increased from 304 in 2005 to 389 in 2006. The reported number of children screened has increased substantially from 125,578 to 152,700 in 2006. The increase in screenings reported to FL CLPPP may be attributed to the program's efforts to improve reporting of blood lead data by physicians and laboratories.

Figure 1. Reported new cases of lead poisoning and screenings among children less than 72 months of age, Florida, 2002 to 2006



According to the CDC, Florida ranks eighth in the nation for number of estimated children with lead poisoning. The CDC further estimates that 7,400 children with elevated blood lead levels live in nine Florida cities with populations of 100,000 or greater. In total, the CDC estimates that 22,000 children may be poisoned by lead in the state.

Prevention

Lead poisoning is completely preventable. Prevention efforts of the FL CLPPP include ensuring parents, property owners, healthcare professionals, and those who work with young children, are informed about the risks of lead poisoning and how to prevent it.

References

Centers for Disease Control and Prevention, *Preventing Lead Exposure in Young Children: A Housing Based Approach to Primary Prevention of Lead Poisoning*, Atlanta, GA, Centers for Disease Control and Prevention, 2004.

Additional Resources

Additional information is available on the Florida Department of Health website at http://www.doh.state.fl.us/environment/community/lead/index.html

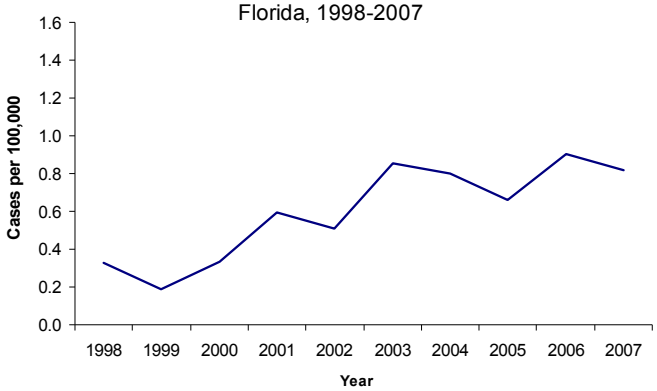
Florida Department of Health Lead Program website also includes information and disease statistics http://www.doh.state.fl.us/environment/community/lead/index.html

Information is also available on the Centers for Disease Control and Prevention website at http://www.cdc.gov/nceh/lead/faq/about.htm

Legionellosis

Lefionellosis: Crude Data	
Number of Cases	153
2007 incidence rate per 100,000	0.82
% change from average 5 year (2002-2006) incidence rate	-8.91
Age (yrs)	
Mean	65.03
Median	64
Min-Max	22 - 92

Figure 1.
Legionellosis Incidence Rate by Year Reported, Florida, 1998-2007



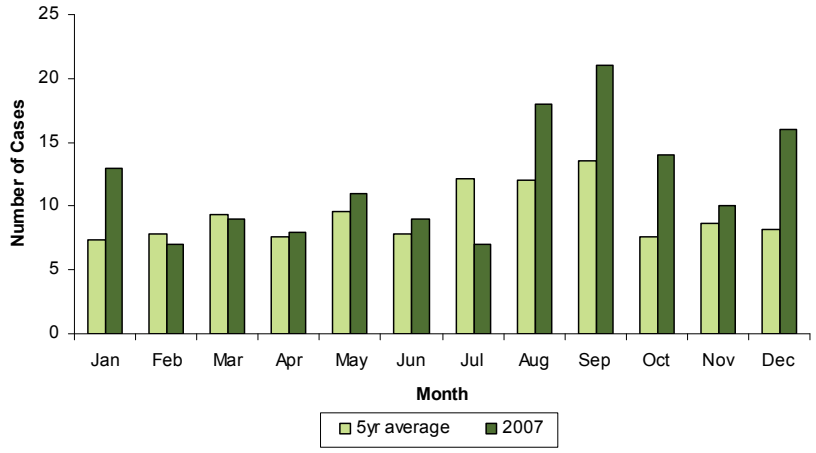
Description

Legionellosis is an infection caused by the bacterium *Legionella pneumophila*. The disease has two distinct forms: Legionnaire's disease, the more severe form of infection which includes pneumonia, and Pontiac fever, a milder illness. Found naturally in the environment, *Legionella* bacteria grow best in warm water. Reservoirs of importance to human infection include hot tubs, cooling towers, hot water tanks, large plumbing systems, or parts of air-conditioning systems of large buildings. The infection is transmitted through the air to the lungs of people through aerosolization. The incubation period is generally 2-10 days after exposure, most often 5-6 days. Common symptoms include a rapidly rising fever (102°F - 105°F) associated with chills, cough, and shortness of breath. Travel is often identified as a risk factor for people with Legionnaires' disease, most likely due to exposures to hot tubs, pools, decorative fountains, and large air-conditioning systems while at a hotel.

Disease Abstract

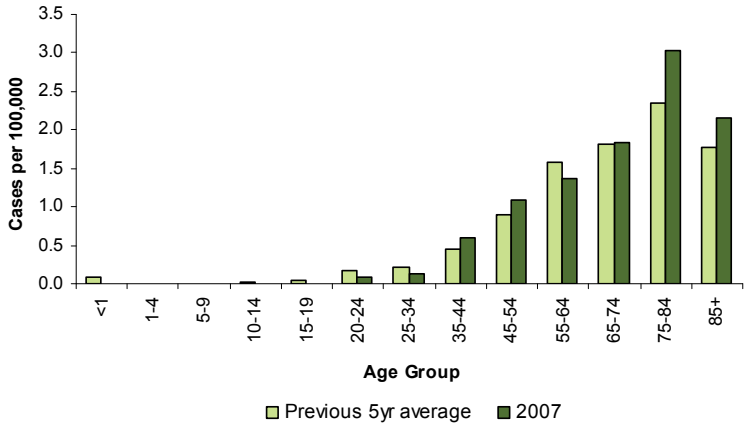
The Florida incidence rate for legionellosis has steadily increased over the last ten years (Figure 1). In 2007, there was an 8.91% increase in comparison to the average incidence from 2002-2006. A total of 153 cases were reported in 2007, of which 100% were classified as confirmed cases and 7.84% were acquired outside of Florida. The number of cases reported tends to increase in the summer months. In 2007, the number of cases exceeded the previous 5-year average for each month of the year with the exception of February, March, and July (Figure 2). None of the legionellosis cases were classified as outbreak related.

Figure 2.
Legionellosis Cases by Month of Onset, Florida, 2007



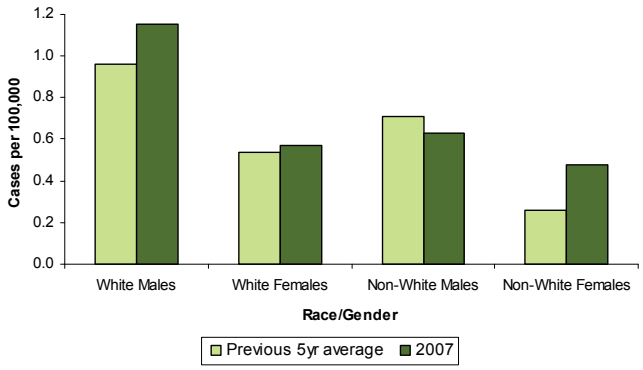
The highest incidence rates continue to occur among adults 45 years of age and older with incidence rates ranging from 1.09 per 100,000 in the 45-54 age group to 3.04 per 100,000 in the 75-84 age group. In 2007, the incidence rates were higher than the previous 5-year average in those 35-54 and those 65 and older. Incidence of disease is minimal in individuals ≤19 years of age, with no cases reported in the last 10 years in infants and children ages 1-9 (Figure 3). Males continue to have a higher incidence than females (1.09 and 0.55 per 100,000, respectively). In 2007, the incidence of disease increased in white males and decreased in non-white males compared to 2002-2006. For women, incidence increased regardless of race. As has been the case in the past, incidence rates in whites are greater than those in non-whites (Figure 4).

Figure 3.
Legionellosis Incidence Rate by Age Group, Florida, 2007



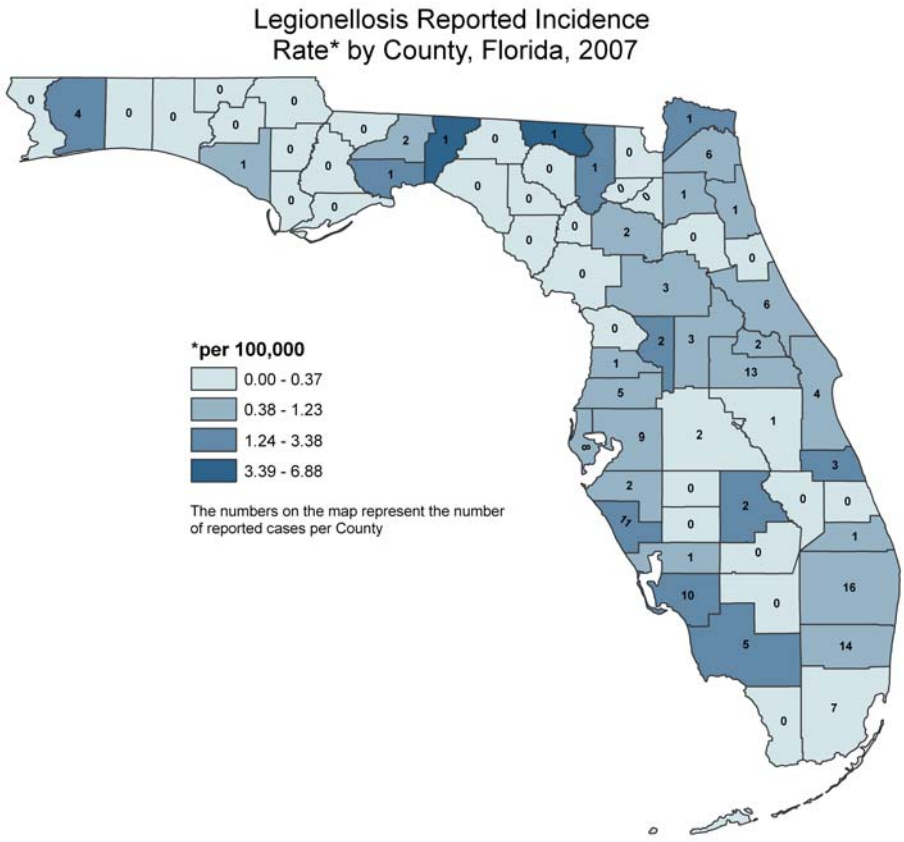
Legionellosis was reported in 31 of the 67 counties in Florida. Counties in the northeast, central-west, southwestern, and southeastern regions Florida reported the highest incidence rates.

Figure 4. Legionellosis Incidence Rate by Race and Gender, Florida, 2007



Prevention

Cooling towers should be drained when not in use, and mechanically cleaned periodically to remove scale and sediment. Appropriate biocides should be used to limit the growth of slime-forming organisms. Tap water should not be used in respiratory therapy devices. Maintaining hot water system temperatures at 50°C (122°F) or higher as well as proper hot tub/spa maintenance may reduce the risk of transmission.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

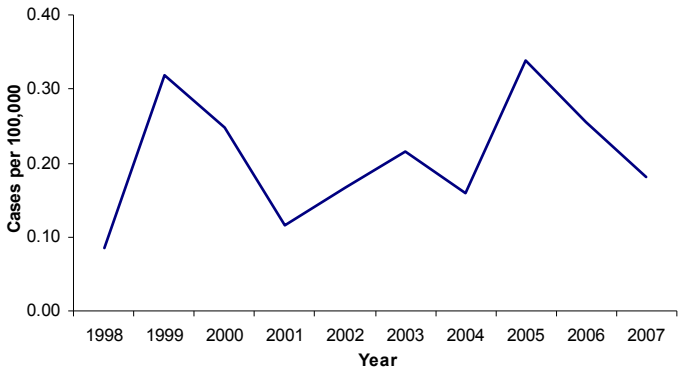
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellosis_g.htm

Listeriosis

Listeriosis: Crude Data	
Number of Cases	34
2007 incidence rate per 100,000	0.18
% change from average 5 year (2002-2006) incidence rate	-21.43
Age (yrs)	
Mean	69.82
Median	73.5
Min-Max	<1 - 89

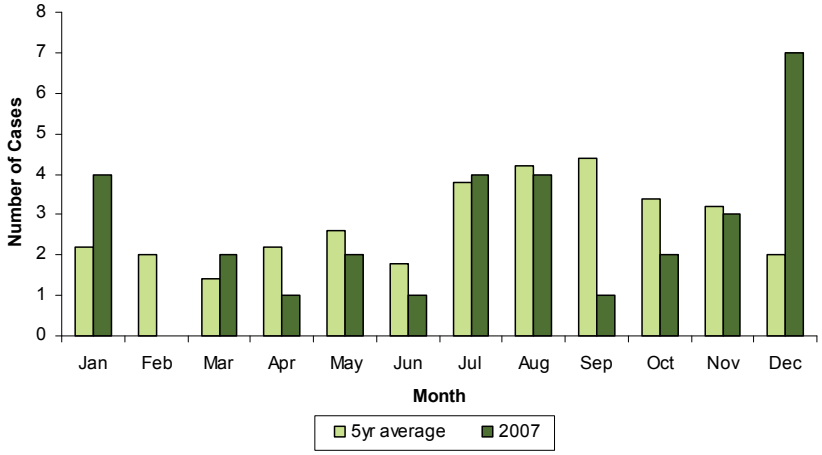
Figure 1.
Listeriosis Incidence Rate by Year Reported, Florida, 1998-2007



Description

Listeriosis is a disease caused by the gram-positive rod-shaped bacterium *Listeria monocytogenes*. Listeriosis most commonly manifests as sepsis and/or meningitis. Symptoms can include fever, muscle aches, headache, stiff neck, confusion, loss of balance, and convulsions. In pregnant women, it can cause fever and miscarriage. The organism is found naturally in the soil, forage, water, mud, and silage, and can contaminate raw foods (e.g., uncooked meats, raw milk, and vegetables), as well as processed foods that become contaminated after processing (e.g., soft cheeses, cold cuts). Unlike other foodborne pathogens, *Listeria* can to multiply in refrigerated foods that are contaminated. Those at highest risk for infection include neonates, the elderly, immunocompromised people, pregnant women, and alcoholic, cirrhotic or diabetic adults.

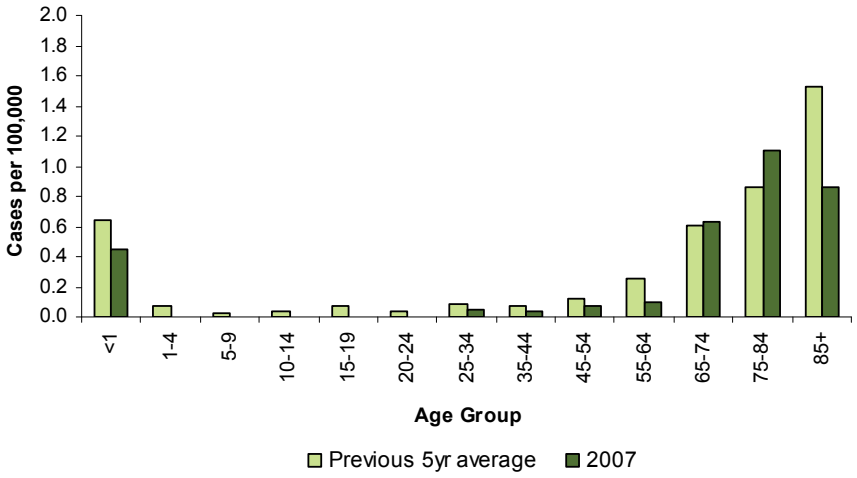
Figure 2.
Listeriosis Cases by Month of Onset, Florida, 2007



Disease Abstract

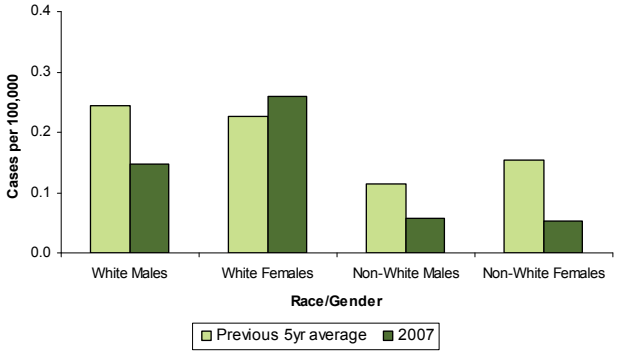
The reported incidence rate for listeriosis has been variable over the last ten years with no clear trend (Figure 1). In 2007, there was a 21.43% decrease in comparison to the previous 5-year average incidence. A total of 34 cases were reported in 2007. All of the 2007 cases were sporadic and not outbreak related. Historically, the number of cases reported tends to increase slightly in the late summer months with a high number of cases in July, August, and September. In 2007, the number of cases exceeded the previous 5-year average during four months of the year, most notably in January and December (Figure 2).

Figure 3.
Listeriosis Incidence Rate by Age Group, Florida, 2007



The very young and the elderly are at increased risk of infection in comparison to other age groups (Figure 3). In 2007, the incidence rate for those 65-84 years old was higher than the previous 5-year average for that age group. The incidence rate in females was higher than in males (0.22 and 0.14 per 100,000, respectively), and in 2007, the incidence in both genders was lower than the previous 5-year average incidence. Historically, incidence rates in whites are greater than those in non-whites, and this was seen in 2007 as well, with white females having the highest incidence (Figure 4).

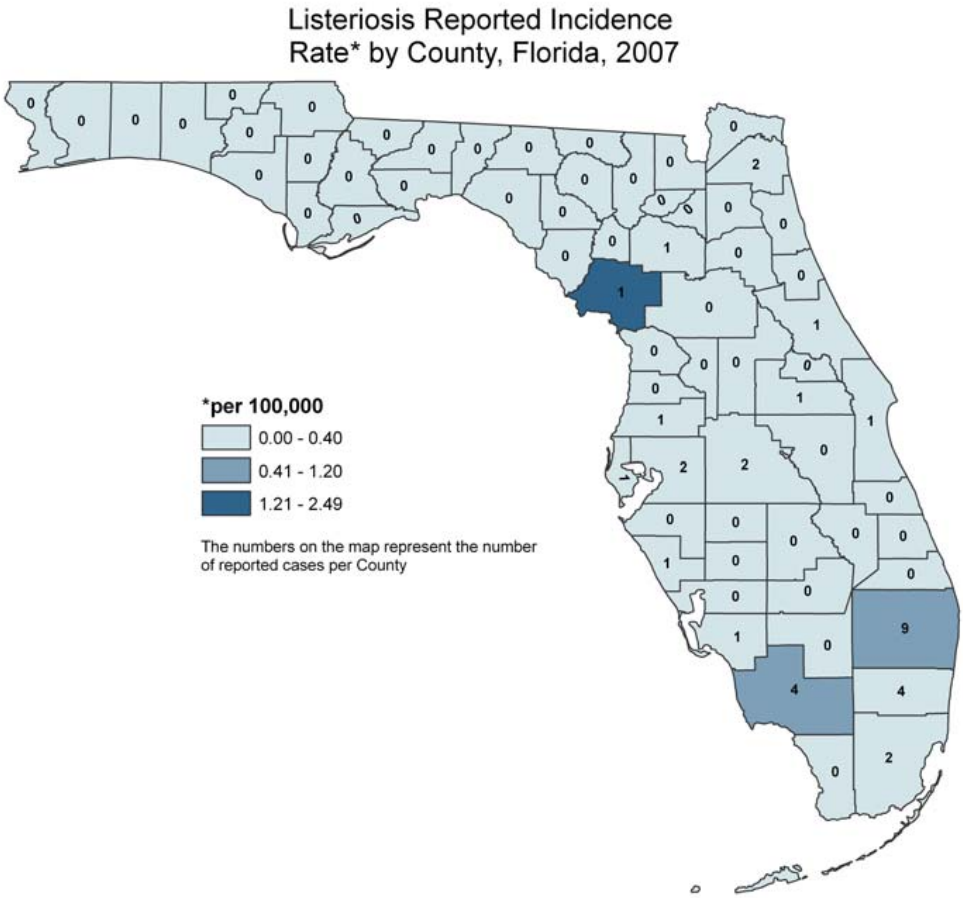
Figure 4. Listeriosis Incidence Rate by Race and Gender, Florida, 2007



Listeriosis was reported in 16 of the 67 counties in Florida.

Prevention

Generally, listeriosis may be prevented by thoroughly cooking raw food from animal sources, such as beef, pork, or poultry, washing raw vegetables before eating, and keeping uncooked meats separate from vegetables, cooked foods, and ready-to-eat foods. Avoiding unpasteurized milk or foods made from unpasteurized milk, and washing hands, knives, and cutting boards after handling uncooked foods, may also prevent listeriosis. Those at high risk for listeriosis (the elderly, pregnant women, those with cancer, HIV, diabetes, or weakened immune systems) should follow additional recommendations: avoid soft cheeses such as feta, brie, camembert, blue-veined, and Mexican-style cheese. Leftover foods or ready-to-eat foods, such as hot dogs or cold cuts, should be cooked until steaming hot before eating.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

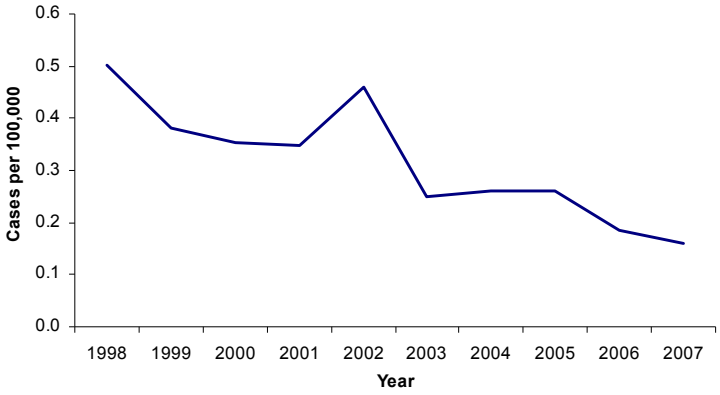
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/listeriosis_g.htm

Lyme Disease

Lyme Disease: Crude Data	
Number of Cases	30
2007 incidence rate per 100,000	0.16
% change from average 5 year (2002-2006) incidence rate	-43.03
Age (yrs)	
Mean	47.97
Median	54.5
Min-Max	7 - 86

Figure 1.
Lyme Disease Incidence Rate by Year Reported, Florida, 1998-2007



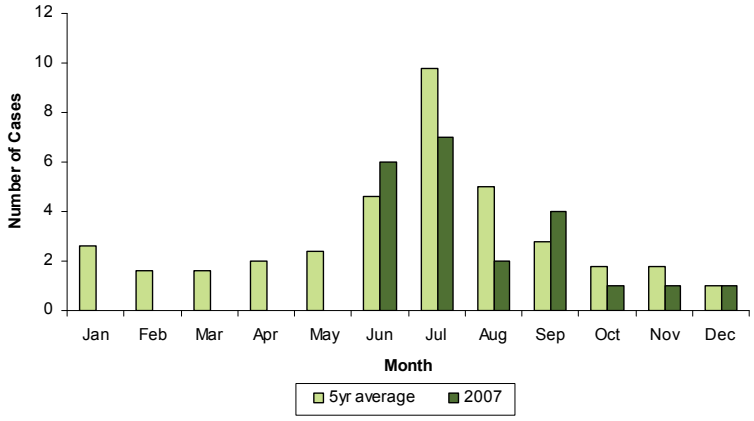
Description

Lyme disease is a zoonotic tick-borne disease caused by a *Borrelia* spirochete. In North America the causative agent is *Borrelia burgdorferi*. Wild rodents act as the natural reservoir for the organism; deer act as a mammalian maintenance host for the *Ixodes* tick vectors which spread the disease. Small reptiles acting as alternative tick hosts may play a role in reducing risk of human disease in Florida. The clinical manifestations of acute Lyme disease include: 1) early localized disease, and 2) early disseminated disease. Early localized disease and early disseminated disease may occur within 1-55 days following exposure.

Early localized disease is characterized by an erythema migrans (EM) rash at the site of the tick bite in 70-80% of the cases. The patient may experience fever, malaise, headache, mild neck stiffness, myalgia, and arthralgia. Early disseminated disease is characterized by the development of multiple EM lesions away from the site of the tick bite, and usually develops several weeks following the exposure. The general symptoms as reported for early localized disease can recur and patients may also develop neuropathies of the cranial nerves (especially VII-Bell's palsy), lymphocytic meningitis, and conjunctivitis.

Late Lyme disease may develop two months to several years following primary exposure. Untreated patients with late disease may develop recurrent arthritis (60%), chronic neurologic problems (5%), and cardiac disease. Late disease may occur without history of early disease. In the U.S., most cases of Lyme disease occur between April and October and incidence is highest in children aged 5-9 years old and adults aged 45-54 years old.

Figure 2.
Lyme Disease Cases by Month of Onset, Florida, 2007



Disease Abstract

The reported incidence rate for Lyme disease in Florida has dropped steeply over the past ten years and has decreased in 2007 from what it was in 2006 (Figure 1). In 2007, there was a 43.03% decrease in comparison to the average incidence from 2002-2006. Changes in testing procedures by private laboratories may have contributed to this decline. In 2007, a positive ELISA test followed by a Western blot was required to meet surveillance criteria for case confirmation. Some laboratories provided only EIA testing which did not allow cases to meet the case definition, or did not report the results of the Western Blot testing along with the initial EIA result. These practices could have resulted in recognition of fewer cases and a decline in the reported incidence.

A total of 30 cases were reported in 2007, all classified as confirmed cases. More cases were acquired in the state of Florida for 2007 (30%) as compared to 2006 (18%) but the majority of cases were acquired outside of the state for both years. Highest case incidence was in the summer, with peak incidence in July and no cases reported prior to June. In 2007, the number of cases exceeded the previous 5-year average in June and September (Figure 2). None of the 2007 cases were classified as outbreak related.

The highest incidence in 2007 was in 65-74 year olds which is consistent with the previous five-year average for age. Three of the four highest age group incidences were in older patients (65-74, 75-84, and those 85 and over) compared to the nationally reported peak incidence group of 45-54. More consistent with national trends is the peak in children aged 5-9 years old and those 10-14 (Figure 3). Incidence rates in whites continue to be higher than in non-whites (Figure 4). Incidence rates in females decreased by 0.17 per 100,000 compared to a smaller decrease in males (0.06 per 100,000) in 2007 relative to the 5-year average (Figure 5).

Figure 3.
Lyme Disease Incidence Rate by Age Group, Florida, 2007

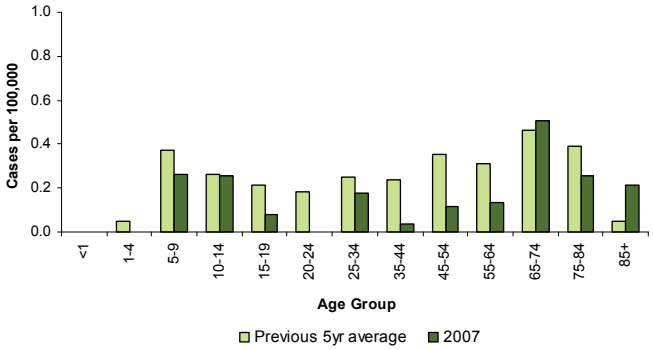
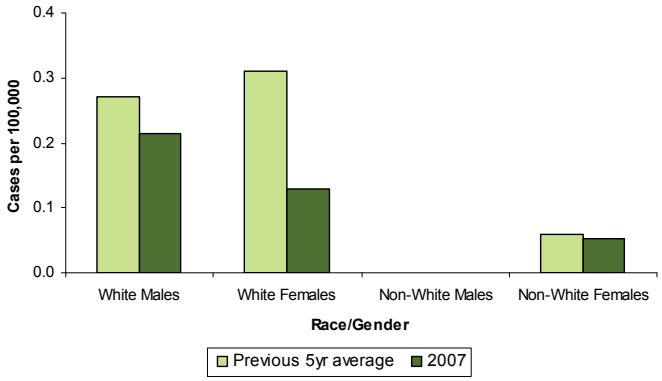


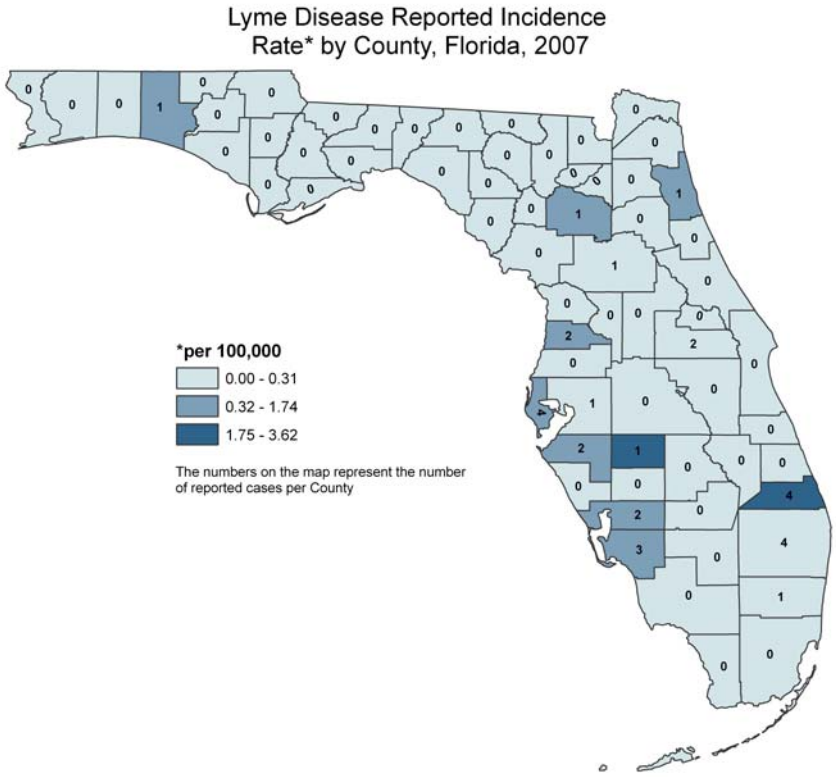
Figure 4. Lyme Disease Incidence Rate by Race and Gender, Florida, 2007



Lyme disease was reported in 15 of 67 Florida counties. Most cases were reported from central and south Florida, with a single report from the Panhandle.

Prevention

The most effective prevention is avoiding human and pet exposure to ticks including: avoiding tick infested areas, covering exposed skin as much as possible, wearing light colored clothing to better visualize ticks, tucking in pant legs and buttoning sleeves, appropriate application of permethrin to clothing and DEET to skin (per CDC recommendations), inspecting children, pets, and adults for ticks immediately following likely exposure, and using appropriate veterinary products as recommended by a veterinarian to prevent tick exposure. Any ticks found attached to children, adults, or pets should be removed promptly. Using fine tweezers or a tissue to protect fingers, grasp ticks close to the skin and gently pull straight out without twisting. Do not use bare fingers to crush ticks. Wash hands following tick removal. Most Florida cases are acquired in Lyme-endemic areas of the northeastern U.S., so these prevention measures are especially important while visiting those areas.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

L.K. Pickering, C.J. Baker, S.S. Long, and J.A. McMillan (eds.), *Red Book: 2006 Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics Press, 2006.

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention at http://www.cdc.gov/ncidod/dvbid/lyme/ and http://www.cdc.gov/healthypets/diseases/lyme.htm

Disease information is available from the Florida Department of Health at http://www.doh.state.fl.us/Environment/community/arboviral/Tick_Borne_Diseases/Tick_Index.htm

Measles

Description

Measles is an acute viral illness caused by a virus in the family paramyxovirus, genus *Morbillivirus.* Measles is characterized by the onset of fever, malaise, cough, cold-like symptoms, and conjunctivitis, followed by a maculopapular rash. Measles is usually a mild to moderately severe illness. However, measles can result in residual neurological impairment from encephalitis in approximately 5-10 cases per 10,000, and in death in approximately 10-30 cases per 10,000. Pneumonia complicates 6% of measles cases in the U.S., and 19% of cases are hospitalized.

Disease Abstract

In 2007, five laboratory-confirmed cases of measles were reported for a statewide incidence rate of 0.03 per 100,000 population. This is a significant increase from the zero cases reported in 2005 and a slight increase from the four cases reported in 2006. Of the 2007 cases, one case was imported and the other four were acquired in Florida. An internationally imported case has its source outside the country, with rash onset within 21 days after entering the country, and is not linked to local transmission.

All cases in 2007were part of one outbreak. The index case had visited India in April. This case resulted in four linked cases, one in an infant. Onset in the index case occurred on 4/2/07 and onset in the fifth case was 4/25/07. Four cases were identified by case investigation; only one case was initially identified by the healthcare provider. The cases are members of a religious community that does not routinely immunize. None of the cases had received vaccination. Once notified, rapid response by the county health department, local educational institutions, and surrounding communities prevented any spread of measles outside of the religious group.

Prevention

Vaccination against measles is recommended for all children after their first birthday. Two doses of measles vaccine (preferably MMR) are required for entry and attendance in kindergarten through twelfth grades. All children attending or entering childcare facilities or family day care must be age-appropriately vaccinated with one or two doses of measles vaccine.

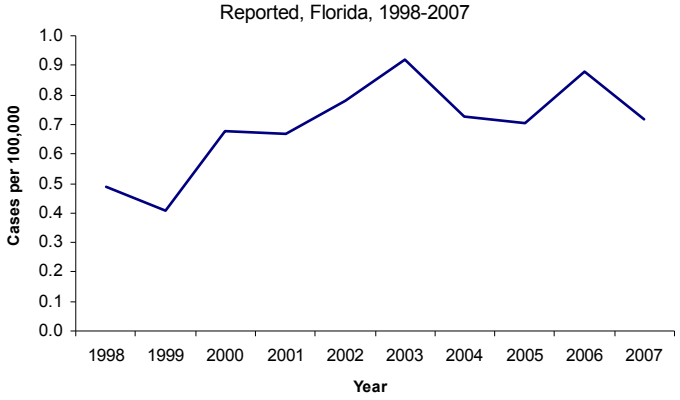
Resources

Centers for Disease Control and Prevention, *Manual for the Surveillance of Vaccine-Preventable Diseases*, 3rd ed., 2002.

Meningitis, Other

Menengitis, other: Crude Data	
Number of Cases	135
2007 incidence rate per 100,000	0.72
% change from average 5 year (2002-2006) incidence rate	-10.30
Age (yrs)	
Mean	38.22
Median	42
Min-Max	<1 - 86

Figure 1.
Meningitis, other (bacterial/mycotic) Incidence Rate by Year Reported, Florida, 1998-2007



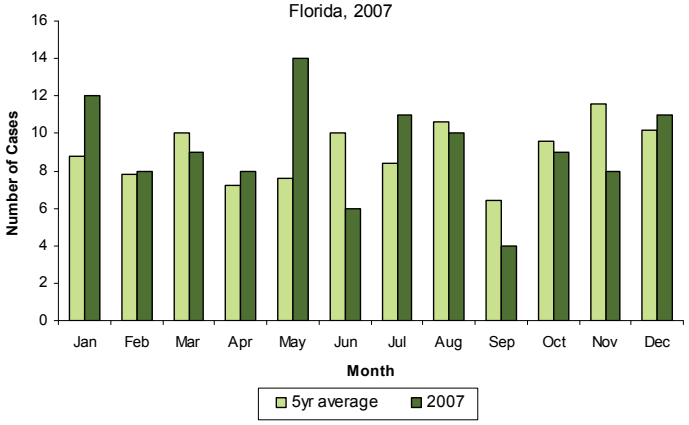
Description

The "Meningitis, other" category includes any meningitis due to any bacterial or fungal species other than *Neisseria meningitidis* or *Hemophilus influenzae*, with an isolate from the blood or cerebral spinal fluid. Symptoms may include fever, headache, altered mental status, rash or stiff neck. In 2007, some common pathogens isolated were *Cryptococcus neoformans*, *Escherichia coli, Pseudomonas* species, *Klebsiella pneumoniae, Staphylococcal* species, and *Streptococcal* species.

Disease Abstract

The incidence rate of meningitis, other has increased gradually over the previous ten years (Figure 1). However, in 2007 there was a 10.30% decrease in the incidence rate as compared to the previous 5-year average. A total of 135 cases were reported in 2007, all confirmed. The number of cases of meningitis, other shows little difference by season when averaged over several years. In 2007, there were more cases in the winter but there were several cases in May (Figure 2). There were no meningitis, other outbreaks in 2007.

Figure 2.
Meningitis, other (bacterial/mycotic) Cases by Month of Onset, Florida, 2007



The highest incidence rates continue to occur in infants <1 year (Figure 3). Immunosuppressed or immunocompromised people in the older age groups may also be at risk for infection. Males continue to have a higher incidence than females (0.91 per 100,000 and 0.53 per 100,000 respectively). Incidence rates in non-white males are greater than those in white males (Figure 4).

Figure 3.
Meningitis, other (bacterial/mycotic) Disease Incidence Rate by Age Group, Florida, 2007

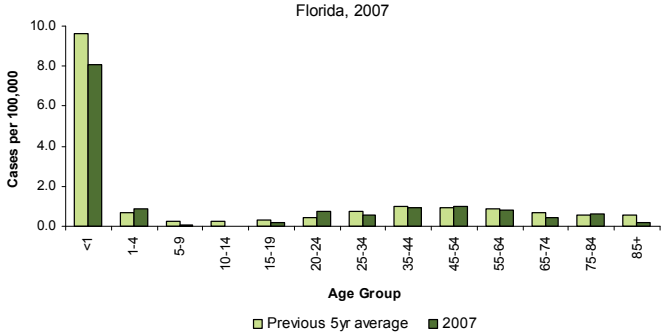
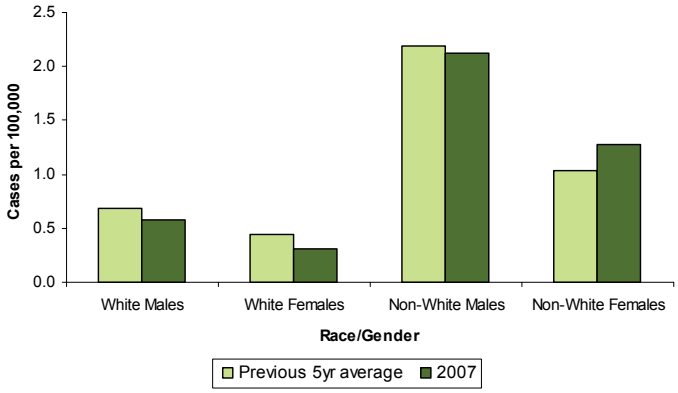


Figure 4. Meningitis, other (bacterial/mycotic) Incidence Rate by Race and Gender, Florida, 2007

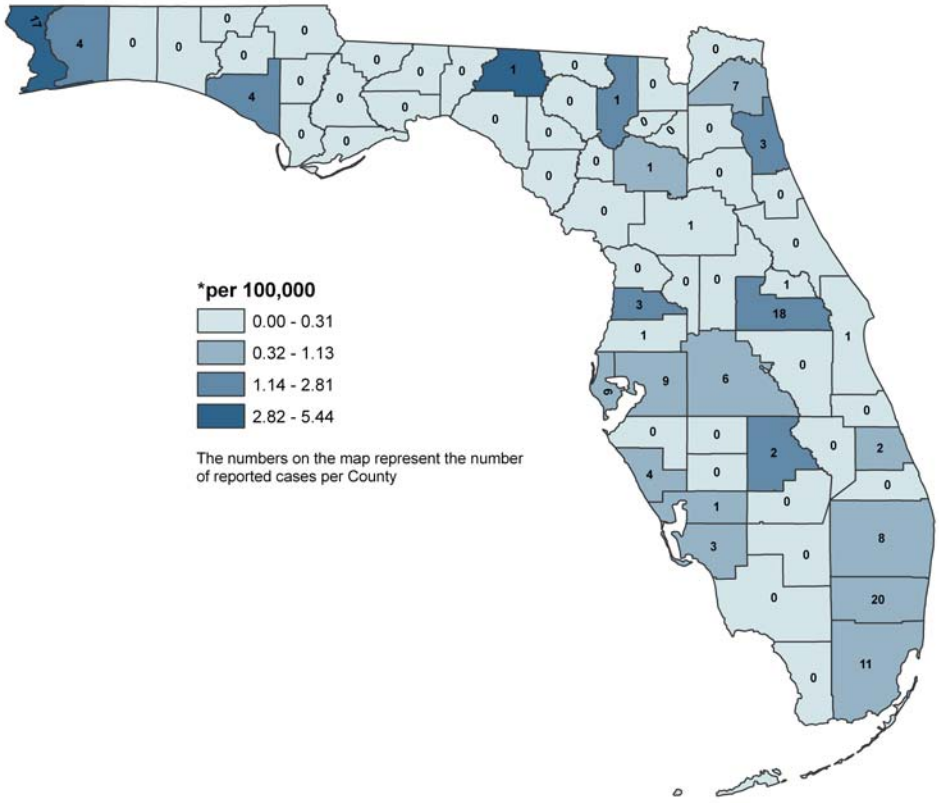


"Meningitis, other" was reported by 23 of the 67 counties in Florida. Counties with the highest incidence rates were widely scattered.

Prevention

Practicing good personal hygiene will reduce the chances of a fungal or bacterial infection.

Meningitis, other (bacterial/mycotic) Reported Incidence Rate* by County, Florida, 2007



References

American Academy of Pediatrics. *Red Book 2003: Report of the Committee on Infectious Diseases,* 26th ed., Elk Grove Village, Illinois, American Academy of Pediatrics Press, 2003.

N. Jabbour, J. Reyes, S. Kusne, M. Martin, J. Fung, "Cryptococcal meningitis after liver transplantation," *Transplantation,* Vol. 61, 1996, pp. 146-167.

J.H. Price, J. de Louvois, M. R. Workman, "Antibiotics for *Salmonella* meningitis in children," *Journal of Antimicrobial Chemotherapy*, Vol. 46, 2000, pp. 653-655.

A. Varaiya, K. Saraswathi, U. Tendolkar, A. De, S. Shah, M. Mathur, "S*almonella* enteritidis meningitis – A case report," *Indian Journal of Medical Microbiology*, Vol. 19. 2001, pp. 151-152.

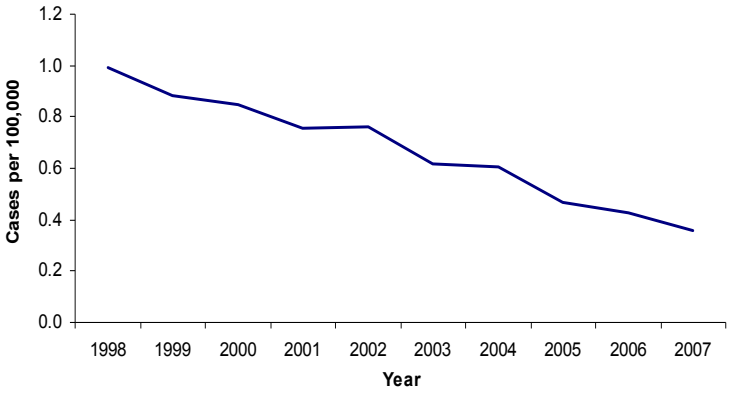
A. Zuger, E. Louie, R.S. Holzman, M.S. Simberkoff, J.J. Rahal, "Cryptococcal disease in patients with the acquired immunodeficiency syndrome. Diagnostic features and outcome of treatment," *Annals of Internal Medicine*, Vol. 104, 1986, pp.234-40.

A. Lerche, N. Rasmussen, J.H. Wandall, V.A. Bohr, "*Staphylococcus aureus* meningitis: a review of 28 community acquired cases," *Scandinavian Journal of Infectious Diseases*, Vol. 27, No. 6, 1995, pp. 569-573.

Meningococcal Disease

Meningococcal Disease: Crude Data	
Number of Cases	67
2007 incidence rate per 100,000	0.36
% change from average 5 year (2002-2006) incidence rate	-37.77
Age (yrs)	
Mean	25.82
Median	19
Min-Max	<1 - 94

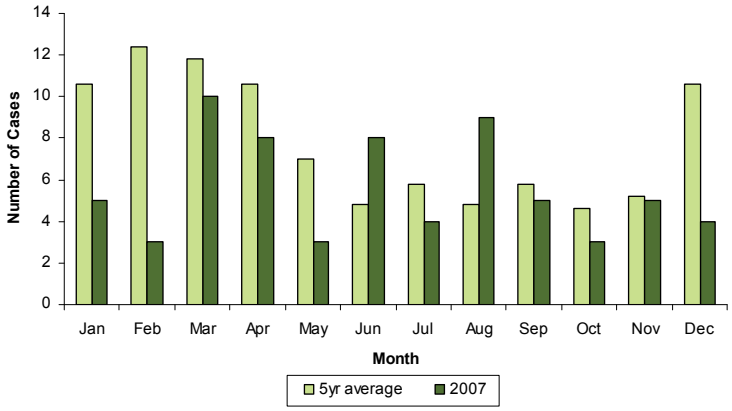
Figure 1.
Meningococcal Disease Incidence Rate by Year Reported, Florida, 1997-2006



Description

Meningococcal disease includes both meningitis and septicemia due to the bacteria *Neisseria mengitidis.* There are many different serogroups of *Neisseria menigitidis* around the world. The common ones in the United States include A, B, C, W-135, and Y. Symptoms may include fever, headache, and stiff neck in meningitis cases, and sepsis and rash in meningococcemia. The incubation period is 3-4 days with a range of 2-10 days. It is mainly transmitted through direct contact with large droplet respiratory secretions from patients or asymptomatic carriers. Although risk in close contacts is increased over the background level, it is still very low. Clusters of cases are rarely seen, and community outbreaks are even more uncommon. Meningitis and septicemia are epidemiologically identical, and present the same risk of secondary cases.

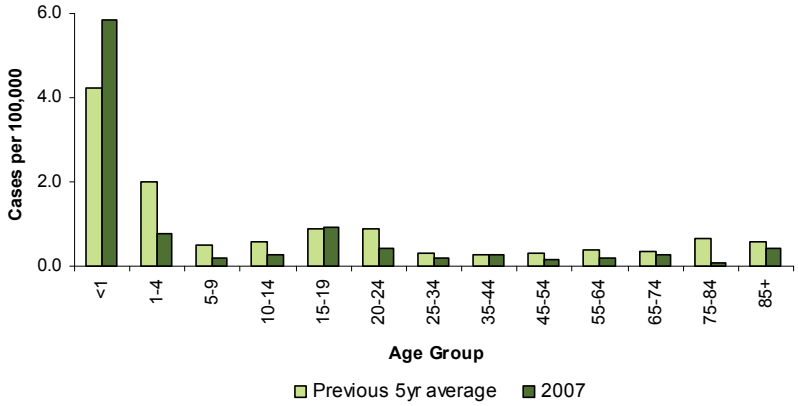
Figure 2.
Meningococcal Disease Cases by Month of Onset, Florida, 2007



Disease Abstract

The reported incidence rate for meningococcal disease has declined gradually over the previous ten years, and in 2007 is about half of what it was ten years ago (Figure 1). In 2007, there was a 37.77% decrease in comparison to the average incidence from 2002-2006. A total of 67 cases were reported in 2007, of which 97% were classified as confirmed cases. There is a general increase in cases in early winter and late spring (Figure 2). This may be due in part to social gatherings as well as staying indoors in the fall and winter months. There were no cases reported as outbreak related in 2007 and five cases resulted in death.

Figure 3.
Meningococcal Disease Incidence Rate by Age Group, Florida, 2007

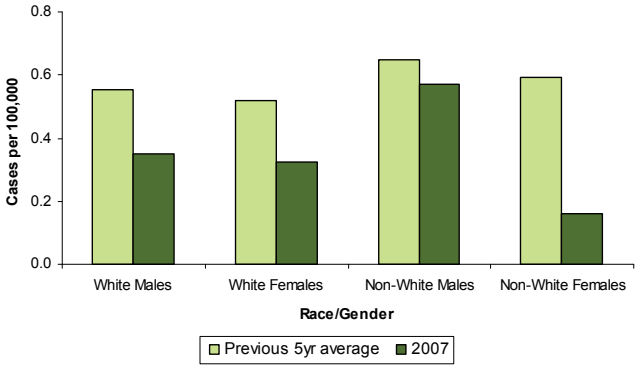


The highest incidence rates continue to occur in infants <1 year. There are no vaccines approved for use in those less than two years old. In 2007, the incidence rates were lower than the previous 5-year average in all age groups except those <1 year where the incidence rate was slightly increased and those 15-19 where the incidence rate was unchanged (Figure 3). In 2007, the incidence rates in non-whites males were greater than those in white males (figure 4). Sixty of the 67 cases had specimens submitted to the Bureau of Laboratories for serogrouping (Table 1).

Table 1. Frequency of *Neisseria Meningitidis* Serogroups, 2007

Serogroup	Number of Cases
Group B	18
Group C	13
Group Y	17
Group W135	2
Group X	1
Group Z	1
Non Groupable	3
Not Answered	10
Other	2
Total 2007	67

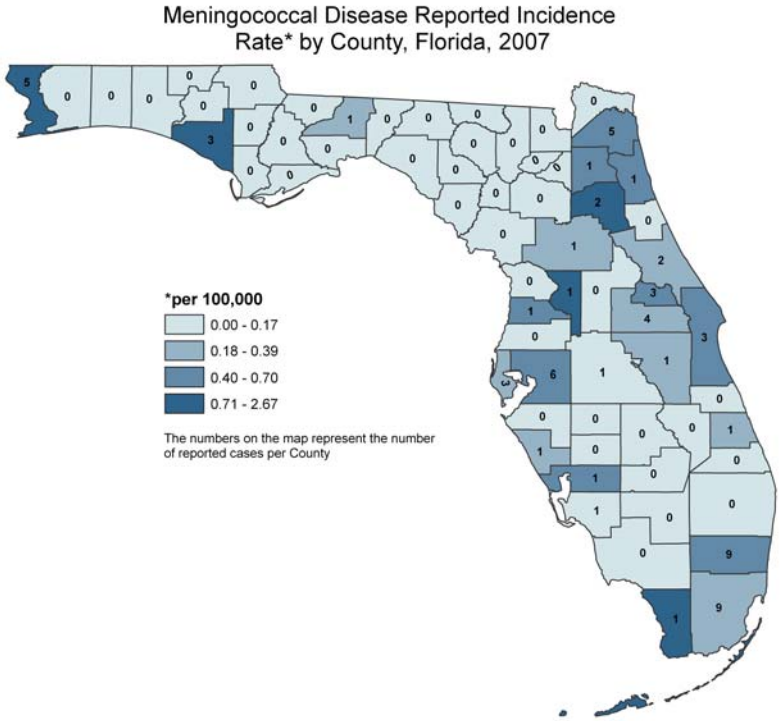
Figure 4. Meningococcal Disease Incidence Rate by Race and Gender, Florida, 2007



Meningococcal disease was reported in 24 of the 67 counties in Florida. Counties in central and northeastern Florida reported the highest incidence rates.

Prevention

Meningococcal vaccines are available to reduce the likelihood of contracting *Neisseria meningitidis*. Two vaccines, licensed in 1978 and 2005, each provide protection against four serogroups (A, C, Y, and W-135). In addition, droplet precautions should be implemented if the individual is hospitalized. Anyone who has close contact with an infected person's respiratory or oral secretions (i.e., kissing, sharing utensils or drinks, exposure to respiratory secretions during health care or resuscitation, or close household or social contact) should receive antibiotic prophylaxis with an approved regimen (most often used are ciprofloxacin and rifampin).



References

American Academy of Pediatrics, *Red Book 2003: Report of the Committee on Infectious* Diseases, 26th ed., American Academy of Pediatrics Press, Elk Grove Village, Illinois, 2003.

Centers for Disease Control and Prevention, "Prevention and Control of Meningococcal Disease," *Morbidity and Mortality Weekly Report*, Vol. 54, No. RR07, 2005, pp.1-21.

Centers for Disease Control and Prevention, "Control and prevention of meningococcal disease and Control and prevention of serogroup C meningococcal disease: evaluation and management of suspected outbreaks; recommendations of the Advisory Committee on Immunization Practices (ACIP)," *Morbidity and Mortality Weekly Report,* Vol. 46, No. RR-5, 1997, pp. 1-21.

Centers for Disease Control and Prevention, "Meningococcal disease and college students: recommendations of the Advisory Committee on Immunization Practices (ACIP)," *Morbidity and Mortality Weekly Report*, Vol. 49, No. RR-7, 2000, 11-20.

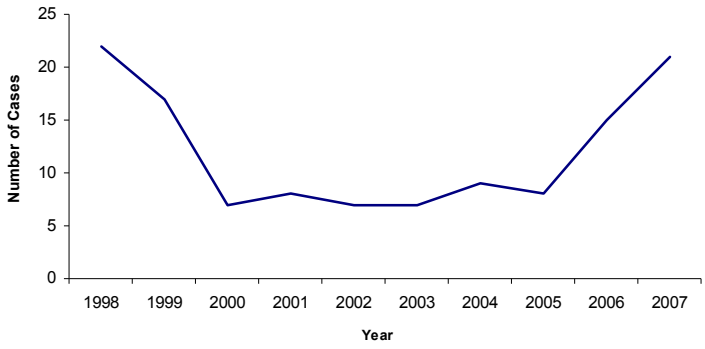
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/meningococcal_g.htm and http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/mening.pdf

Mumps

Mumps: Crude Data	
Number of Cases	21
2007 incidence rate per 100,000	0.11
% change from average 5 year (2002-2006) incidence rate	128.26
Age (yrs)	
Mean	26.24
Median	28
Min-Max	3 - 59

Figure 1.
Mumps Cases by Year Reported, Florida, 1998-2007



Description

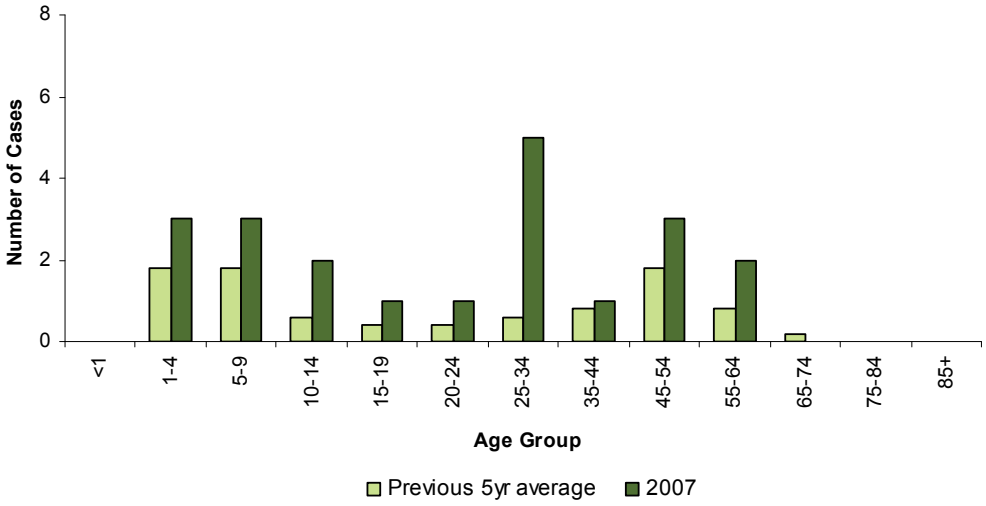
Mumps is a viral illness caused by a paramyxovirus of the genus *Rubulavirus*. The classic symptom is swollen salivary glands, parotitis, commonly bilateral, which develops an average of 16 to 18 days after exposure. Nonspecific symptoms including muscle aches, weakness, anorexia, headache, and low-grade fever may occur days before parotitis. Mumps can cause acquired sensorineural hearing loss in children; incidence is estimated at five events per 100,000 cases. In the U.S., mumps-associated encephalitis occurs in <2 cases per 100,000 and approximately 1% of encephalitis cases are fatal. Adults have a higher risk for mumps meningoencephalitis than children. Orchitis (inflamed testicles) occurs in up to 38% of cases in post-pubertal males, but rarely causes sterility. Mastitis (inflamed breasts) has been reported in 31% of female patients >15 years of age. Other rare complications are oophoritis and pancreatitis. Permanent sequelae and death are rare. Mumps infection in the first trimester of pregnancy may result in fetal loss, but there is no evidence that mumps during pregnancy causes congenital malformations.

Disease Abstract

The statewide incidence rate for confirmed and probable cases for all ages was 0.11 per 100,000 population. The ages ranged from 3-59 years of age. There were 10 confirmed cases and 11 probable cases of mumps reported in 2007, of which two cases were acquired in a state other than Florida. Two adults were hospitalized, one case was confirmed, and the other was probable. Four of the cases had received vaccine; the other six cases had not received any vaccine or had unknown immunization status.

The ten confirmed cases represent a slight increase from the eight cases in 2006. Additionally, seven probable cases were reported, six of whom had a history of mumps vaccination, and five had not received any doses or had unknown immunization status. The incidence was not significantly changed from 2000 to 2005. However, in 2006 there was a significant increase in cases in the U.S., especially in the college-age population. This trend has continued in 2007 with an increase of 114.15% over the average number of cases reported in the previous five years.

Figure 3.
Mumps Cases by Age Group, Florida, 2007



Prevention

Vaccination with two doses of mumps (preferably MMR) vaccine is recommended. The first dose of MMR should be given at 12 months of age and the second dose at kindergarten entrance. Information on the recommended schedule is available at http://www.cdc.gov/vaccines/recs/schedules/default.htm. Proof of MMR is required for entry and attendance in childcare facilities, family day care homes, and kindergarten through twelve grades. Many colleges in Florida also require mumps vaccine for entry. After the 2006 multi-state mumps outbreak in young adults, two doses of mumps vaccine are now recommended for all children and young adults.

References

Centers for Disease Control and Prevention, *Manual for the Surveillance of Vaccine-Preventable Diseases*, 3rd ed., 2002, p.7-1.

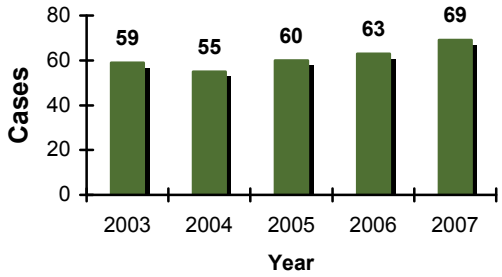
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/vaccines/vpd-vac/mumps/default.htm#clinical

Neonatal Infections

The term “neonatal infections” includes reported cases of the sexually transmitted infections chlamydia, gonorrhea, syphilis, herpes simplex virus (HSV), and human papillomavirus (HPV) diagnosed in infants up to six months of age. This age range was used in order to capture delayed identification of chlamydial pneumonia and human papillomavirus. Reporting parameters for neonatal infections were published in November 2006. Additionally, neonatal syphilis includes cases based on the surveillance case definition.

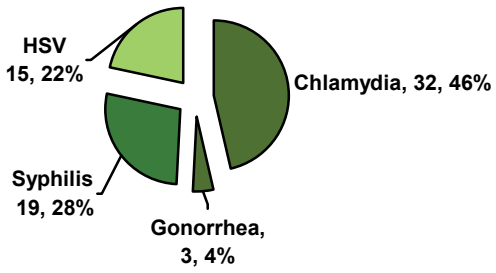
Figure 1. Reported Neonatal Infections by Year, Florida, 2003-2007



Inadequate or no prenatal care is the primary risk factor associated with neonatal infections. In 2007, there were 69 infants reported with neonatal infections. This number represents a 9% increase from 2006. Included are infants born in late 2006 but reported in 2007. Figure 1 shows the total number of neonatal infections from 2003-2007.

The 2007 distribution of neonatal infections by disease is displayed in Figure 2. During 2007, there were no cases of HPV reported. Nearly half (46%) of all neonatal infections were attributed to infection with *Chlamydia trachomatis*.

Figure 2. Reported Neonatal Infections by Desease, Florida, 2007

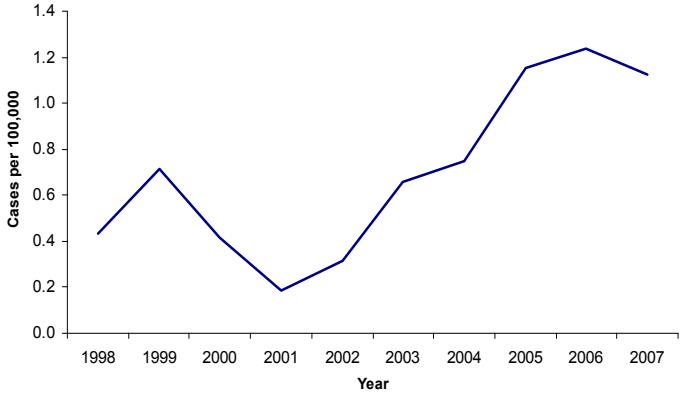


The counties with the highest number of neonatal infections in 2007 were Dade, Duval, Hillsborough, and Orange – each reporting nine cases. Combined, these four counties reported 52% of the total 69 cases for the year.

Pertussis

Pertussis: Crude Data	
Number of Cases	211
2007 incidence rate per 100,000	1.12
% change from average 5 year (2002-2006) incidence rate	34.84
Age (yrs)	
Mean	18
Median	9
Min-Max	<1 - 84

Figure 1.
Pertussis Incidence Rate by Year Reported, Florida, 1998-2007



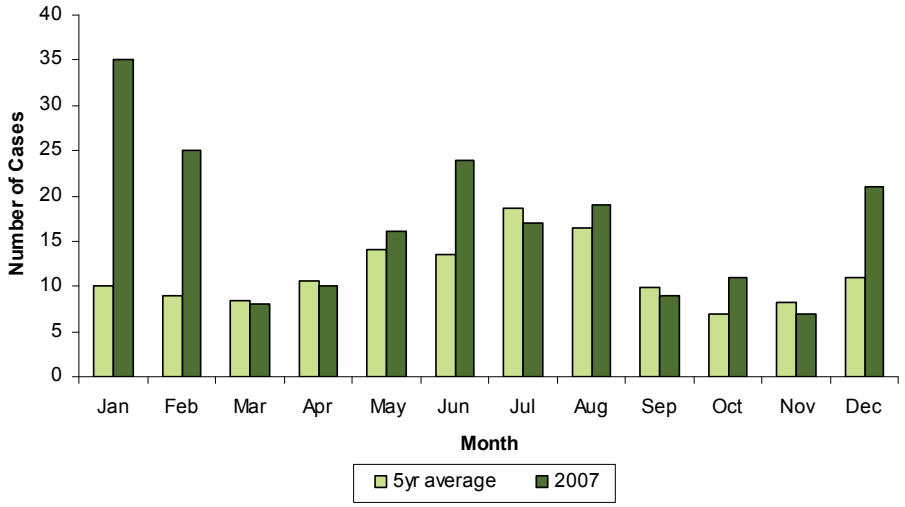
Description

Pertussis, or whooping cough, is caused by the bacterium *Bordetella pertussis.* It is characterized by paroxysmal coughing followed by a characteristic inspiratory whoop. Pneumonia is the cause of most pertussis-related deaths. Other complications, though infrequent, can include: neurological complications, such as seizures and encephalopathy; and, secondary bacterial infections, such as otitis media, pneumonia, or sepsis. Conditions resulting from the pressure effects of severe paroxysmal coughing including pneumothorax, epistaxis, subdural hematomas, hernias, and rectal prolapse. Disease rates and risk of serious complications, including death, are highest among young children. Disease in adolescents and adults tends to be less severe, although there have been reports of apnea, rib fractures, and other complications. Mild cases in older children and adults are often the source of infection for young children.

Disease Abstract

Disease trends in Florida, and nation-wide, indicate that pertussis cases have increased significantly since 2001 (Figure 1). Case numbers went from 30 cases in 2001 (22 confirmed cases and 8 probable cases) to a peak of 228 cases in 2006 (121 confirmed cases and 107 probable cases). In 2007, there were 211 reported cases (128 confirmed cases and 83 probable cases) which is a slight decrease from the previous year. In the previous five years, most cases occurred during the summer months, but many of the 2007 cases were identified in December, January, and February (Figure 2). In the previous five years, pertussis cases were consistent between gender and race. In 2007, however, white males and females had significantly higher rates (Figure 4).

Figure 2.
Pertussis Cases by Month of Onset, Florida, 2007



As in the previous five years, most pertussis cases were identified in infants and young children. Of the 2007 cases, 64 were reported in infants less than 12 months of age, too young to have completed the vaccine series (Figure 3). In 2007, of the 128 confirmed cases, 80 were in children under 7 years old. No pertussis-related deaths were reported in 2007.

Figure 3.
Pertussis Incidence Rate by Age Group, Florida, 2007

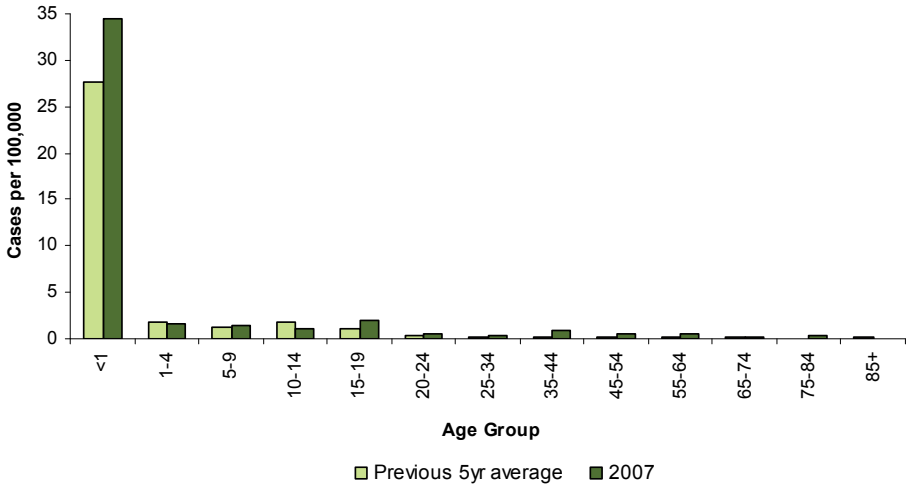
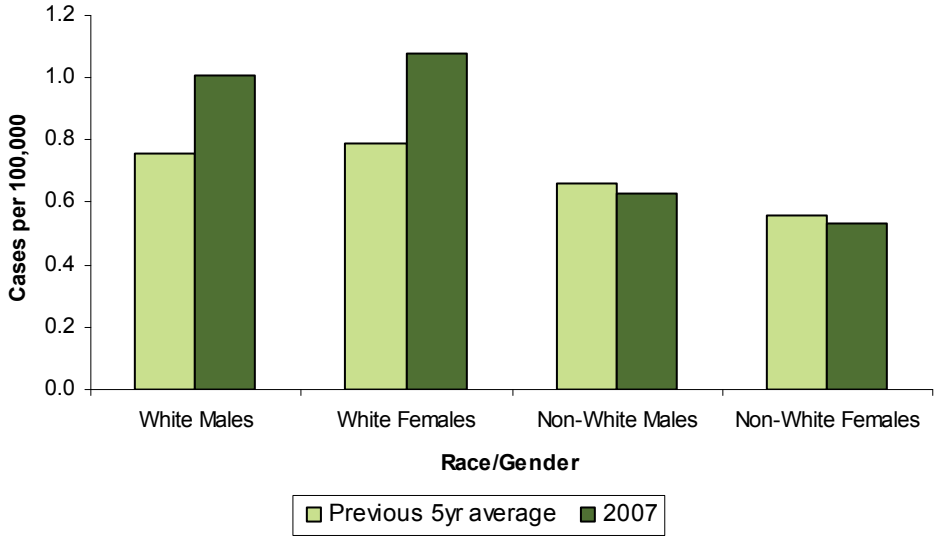


Figure 4. Pertussis Incidence Rate by Race and Gender, Florida, 2007

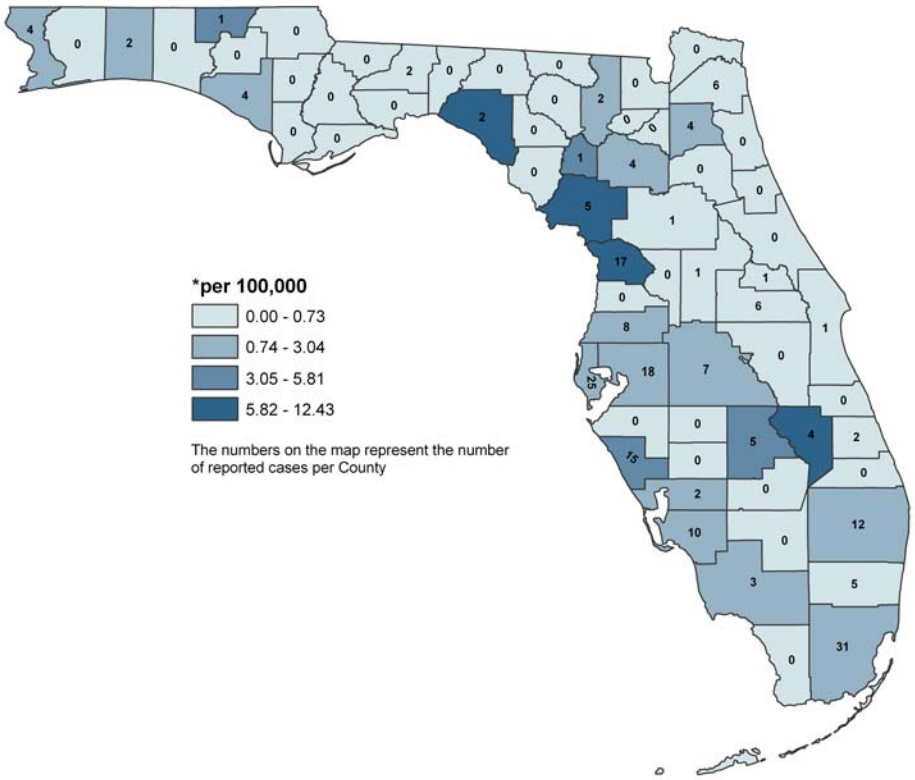


Pertussis was reported in 32 of the 67 of the counties in Florida. Counties in the northeast, central-east, southwest, and southeast regions of Florida reported the highest incidence rates.

Prevention

Currently, only acellular pertussis vaccines combined with diphtheria and tetanus toxoids (DTaP and Tdap) are available in the U.S. The five DTaP doses should be administered to children at age 2, 4, 6, and 15–18 months, and 4–6 years. This vaccine is available in combination with other childhood vaccines. Information on the recommended schedule is available at: http://www.cdc.gov/vaccines/recs/schedules/default.htm. The increase in disease in the early teenage years indicates that immunity decreases over time. Vaccine recommendations now include one dose of Tdap vaccine to be given between 10 and 64 years of age. Many counties are providing Tdap vaccine to students for the seventh grade vaccine requirement. Post-exposure antibiotic and vaccine prophylaxis of close contacts are the major outbreak control measures.

Pertussis Reported Incidence Rate* by County, Florida, 2007



References

Centers for Disease Control and Prevention, *Manual for the Surveillance of Vaccine-Preventable Diseases*, 3rd ed., 2002, p.8-1.

Centers for Disease Control and Prevention, *Guidelines for the Control of Pertussis Outbreaks. Centers for Disease Control and Prevention:* Atlanta, GA, 2000.

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm

Pesticide –Related Illness and Injury, 2006

Description

The case definition for pesticide-related illness and injury (pesticide poisoning) is: a condition with clinical presentation of two or more acute adverse health effects resulting from exposure to a pesticide. The post-exposure signs and symptoms may be systemic (including respiratory, gastrointestinal, allergic, and neurological), dermatologic or ocular. The health effects of the illness/injury must be consistent with the toxic effects of the pesticide and the evidence of exposure must be temporally related to the health effects for a causal relationship to be established.

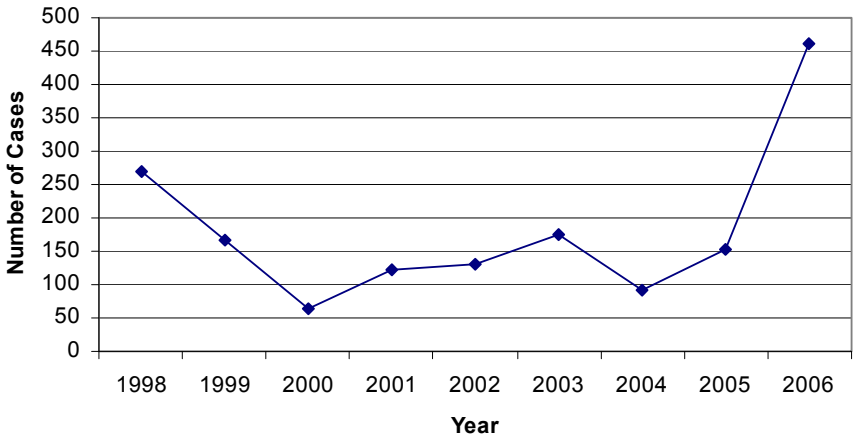
There are seven classification descriptions for pesticide-related illness and injury that are based on the National Institute of Occupational Safety and Health case surveillance guidelines. Only three of these classification descriptions meet the reportable case criteria. They are definite, probable, and possible. A definite (confirmed) case is one where objective evidence (environmental and/or biological) confirms the pesticide exposure and health effects. A case is denoted as probable when there is objective evidence for the pesticide exposure or health effects. For a possible case there is only subjective (no environmental or biological) evidence for the pesticide exposure and the health effects. The additional four classification descriptions are suspicious, unlikely, insufficient information, and not a case.

Disease Abstract

The Florida Department of Health, Pesticide Exposure Surveillance program collects exposure reports from various sources which include Florida Poison Control Information Network (FPCIN), Department of Agriculture and Consumer Services (DACS), and workers' advocacy groups. Some pesticide exposure events are self-reported. Information about the exposure and health effects is ascertained through follow up interviews with the exposed person or witness/proxy. Site inspection and environmental assessment reports (from DACS) as well as medical and laboratory reports are used in evaluating the exposure and health status of the exposed person.

Pesticide–related illness and injury varies from year to year (Figure 1). This variation may be based on case ascertainment (intake of case reports) and/or changes in magnitude and distribution of the condition. The intake of case reports is dependent on accessibility and utilization of the surveillance systems operated by the program and the contributing surveillance partners. Reporting bias (fear of repercussions, clinicians' reluctance, disease misconceptions, etc.) may also play a significant role in the number of cases report annually. Enhanced access to pesticide exposure incident reports via FPCIN accounts for the increase in the number of cases from 2005 to 2006 (Figure 1).

Figure 1. Number of Pesticide-Related Illness and Injury, 1998-2006



For 2006, 460 definite, probable, or possible case reports were received. Of the 460 cases, 432 (93.9%) were non-occupational exposures and the other 28 (6.1%) were work-related. For the non-occupational cases, the largest number of exposure incidents occurred in a residential setting (423, 97.9%). The occupational cases included only a few farm-related exposures (2, 7.1%). Most cases were of low severity (395, 85.9%) and did not involve any hospitalization or loss of time from work or regular activities.

More than 25 cases were reported from Hillsborough (44), Miami-Dade (33), Pinellas (31), Orange (29) and Duval (27) counties (Table 1). No cases were reported for seventeen of the sixty-seven counties. Some traditional agricultural counties such as Collier (4), Desoto (0), Glades (0), and Highlands (2) had few or no cases. This reflects the small number of agriculture-related exposure incidents captured in 2006. The larger number of cases in Hillsborough (44), Miami-Dade (33), and Pinellas (31) were mostly due to residential exposures.

Prevention

Educational outreach to target groups is aimed at increasing awareness about pesticide exposure risk and reducing illness and injury. Periodically, training of farm workers is conducted through the Interagency Farmworker Focus group and in collaboration with farm worker advocacy groups. The program staff participates in health fairs and other educational forums hosted by community organizations and the Catholic charities. Educational materials are available in three languages (English, Spanish, and Haitian-Creole) on the program website to promote safe practices when using pesticides at work and at home.

Table 1. Number of Pesticide-Related Illness and Injury by County, 2006

COUNTY	COUNT	COUNTY	COUNT	COUNTY	COUNT
Alachua	9	Hardee	0	Okeechobee	2
Baker	0	Henry	0	Orange	29
Bay	8	Hernando	8	Osceola	6
Bradford	0	Highlands	2	Palm Beach	21
Brevard	21	Hillsborough	44	Pasco	15
Broward	21	Holmes	0	Pinellas	31
Calhoun	0	Indian River	1	Polk	15
Charlotte	6	Jackson	2	Putman	10
Citrus	4	Jefferson	0	Santa Rosa	3
Clay	7	Lafayette	0	Sarasota	10
Collier	4	Lake	11	Seminole	7
Columbia	3	Lee	10	St. Johns	3
Desoto	0	Leon	11	St. Lucie	2
Dixie	2	Levy	0	Sumter	1
Duval	27	Liberty	0	Suwannee	5
Escambia	13	Madison	0	Taylor	0
Flagler	4	Manatee	4	Union	1
Franklin	2	Marion	8	Volusia	8
Gadsden	1	Martin	4	Wakulla	1
Gilchrist	0	Miami-Dade	33	Walton	0
Glades	0	Monroe	3	Washington	1
Gulf	0	Nassau	2	Unknown	8
Hamilton	3	Okaloosa	3	Total	**460**

References

National Institute of Occupational Safety and Health: Pesticide Illness and Injury Surveillance available at http://www.cdc.gov/niosh/topics/pesticides/.

Pesticide Exposure Surveillance and Prevention Program available at http://www.myfloridaeh.com/community/pesticide/.

Additional Resources

M.M.S. Barnett, G.M. Calvert, *Pesticide-Related Illness and Injury Surveillance: A How-To Guide for State-Based Programs*. NIOSH Publications Dissemination, Cincinnati, OH, 2005.

R.J. Reigart, J.R. Roberts, *Recognition and Management of Pesticide Poisonings* (5TH Ed.), United Book Press, Baltimore, MD, 1999.

Psittacosis / Avian Chlamydiosis

Description

Chlamydophila psittaci is shed in the feces and nasal discharges of infected birds, and can be transmitted to people via aerosolization of fecal dust or respiratory secretions. Disease in people, known as psittacosis, is uncommon. Those coming into prolonged contact with birds such as pet store workers and pet bird owners are at greatest risk of infection. The disease can be more severe in pregnant women. The incubation period is typically 5-14 days but can be longer. Symptoms may include fever, chills, headache, muscle pain, weakness, photophobia and/or respiratory symptoms such as a non-productive cough. Less commonly, infections can affect other organs or organ systems such as the heart, liver, joints, and central nervous system. Rarely, cases may be fatal. Recommended diagnostic testing is microimmunofluorescence (MIF) or complement fixation (CF) using serum. Cross-reaction with *Chlamydia pneumoniae* or *C. trachomatis* can occur with serologic assays, particularly the CF test. Tetracyclines are the drugs of choice; adequate duration of treatment is important to prevent relapses. The organism is killed on surfaces by most common disinfectants.

Disease Abstract

Avian chlamydiosis is reportable to both the FDOH and Florida Department of Agriculture and Consumer Services (FDACS). The causative agent of psittacosis, *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) is a relatively common bacterial infection in birds and can infect many avian species, particularly psittacine type birds (i.e. cockatiels, parakeets, parrots, macaws, etc.). Birds can be asymptomatic carriers and may shed the bacteria intermittently, especially following stresses such as shipping, crowding and chilling. Incubation periods in birds usually range from three days to several weeks, but disease can appear with no identifiable exposure. Symptoms in birds are non-specific and can include decreased activity, decreased appetite, ruffled feathers, discharge from the eyes or nose, diarrhea, abnormal stool color, and death. Various diagnostic tests are available and should be selected and interpreted in consultation with a veterinarian, particularly when testing asymptomatic birds. Doxycycline treatment is effective when administered using adequate duration and dose. A veterinarian should be consulted when determining treatment protocols.

In December of 2007, the Florida Department of Health (FDOH) became aware of a nationwide avian chlamydiosis event involving a Florida pet bird vendor. The vendor routinely received birds from hundreds of breeders nationwide and then distributed them to national and regional pet store chains. The incident is suspected to have been initiated with changes in management of juvenile cockatiels dating from the beginning of September, 2007. Management changes involved modifications in isolation and antibiotic prophylaxis and resulted in the potential exposure of approximately 75,000 birds. All state public health veterinarians or other appropriate health and agriculture officials in the forty-seven states that received potentially exposed birds were notified. Impacted pet stores received guidance from their state and local health and agriculture departments for management of birds and people that may have been exposed. Four human illnesses were associated with this event including two pet store employees in Minnesota and two people in Wisconsin. No human illnesses were reported in Florida.

Q Fever

Description

Q Fever is a zoonotic disease caused by the rickettsia *Coxiella burnetii*. It has a global distribution and is resilient in the environment. The most common natural reservoirs are sheep, goats and cattle, but rodents and other animals can also harbor the agent. Ticks are thought to play a role in maintaining animal reservoirs but are not believed to be important in transmission to humans. The agent is shed in animal birthing fluids and may be shed in milk. Transmission to humans occurs primarily through aerosols generated during animal birthing or from contaminated dust which can carry infectious particles a half mile or more, making identification of the source of exposure difficult in some cases. Transmission can also occur through direct contact with contaminated material or through ingestion of unpastuerized dairy products. Infectious dose is very low and a single organism may lead to infection. Of those infected, 60% can be asymptomatic. Two forms of disease can be seen, acute and chronic. Acute disease generally occurs 2-4 weeks after exposure and is associated with chills, fever, headache, weakness and other non-specific signs. Hepatitis is present in 40-60% of acute cases. The acute form of the disease is only rarely fatal and is usually self-limiting. The chronic form occurs in approximately 1% of patients with acute illness and can occur months to years later. Chronic disease often manifests as endocarditis and can be fatal if untreated. Patients with pre-existing cardiac conditions are at greatest risk for developing chronic disease. Hepatitis can also be seen in chronic disease. Relapses can occur even with treatment of chronic cases. Q Fever is a CDC Select Agent and has potential for use as a bioweapon.

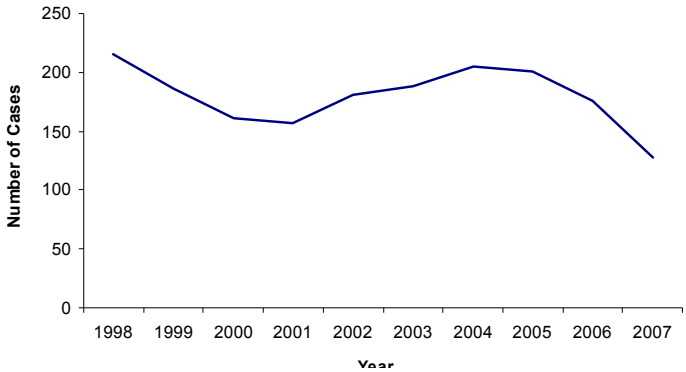
Disease Abstract

From 1998 through 2007 there were 22 cases of Q Fever reported in Florida, 12 probable and 10 confirmed. Two of these cases were reported in 2007, both of which were classified as probable. One case was a 49 year old black woman and the other was a 49 year old white woman. One case was acquired in Florida, the other was unknown. Of the 22 cases reported since 1998, 68% were male and 32% were female. Seventeen of all cases (77%) were described as white, one as white Hispanic (5%), one as black (5%), and three (14%) were of unknown race. The age range of all cases was 18 to 87 years of age, with a median age of 61. Place of exposure was described as Florida in 12 cases, one case was imported from another state, and nine were of unknown origin. Also of note was a “pseudoepidemic” of Q Fever that occurred in 2003 when a commercial laboratory misinterpreted results for a number of people exposed to an infected animal. Initial seroprevalence of 75% positive actually turned out to be 27% when corrected and in the end only a single individual was found to be actively infected with Q Fever. This demonstrates the importance of laboratory quality control in diagnostics.

Rabies, Animal

Rabies, Animal: Crude Data	
Number of Cases	128
2007 incidence rate per 100,000	NA
% change from average 5 year (2002-2006) incidence rate	32.70
Age (yrs)	
Mean	NA
Median	NA
Min-Max	NA

Figure 1.
Animal Rabies by Year Reported, Florida, 1998-2007



Description

Rabies virus is caused by a single stranded RNA virus in the *Rhabdoviridae* family and leads to an estimated 65,000-87,000 human deaths worldwide annually. The virus can infect any mammal, but dogs are the primary urban reservoir worldwide. Wild carnivores and bats are important reservoirs in rural areas. In the U.S., primary reservoirs include raccoons, skunks, foxes, bats, and coyotes. Geographically-specific virus strain variants circulate in these species, occasionally spilling out into other wild and domestic animal species. People are much more likely to be exposed to domestic animals than to rabid wildlife. Because of this, countries lacking an adequate dog vaccination program often have high numbers of associated human deaths.

The rabies virus is primarily transmitted through infective saliva into bites by an infected animal. Nervous tissue and fluid is also infective. Transmission through mucus membranes or a fresh cut in the skin is possible, but rare. Airborne transmission has been reported rarely in bat caves and laboratory settings. The virus can also be shed in milk. In recent years there have been several human cases involving organ transplants. In domestic animals, rabies virus can be shed for only a few days before clinical symptoms develop, but some wild animals, such as raccoons, may appear clinically normal and shed virus for months before developing clinical signs. The virus shedding period and vaccination efficacy are not established for many wild animals.

Incubation period varies from days to months, or possibly years, depending on species, immune status, dose, and route of exposure. Clinical signs are consistent with central nervous system disease and include behavioral changes. Animals may demonstrate furious and dumb forms of the disease before lapsing into a coma and dying. Although the virus is nearly 100% fatal in unvaccinated humans, timely and appropriately administered prophylaxis is uniformly preventive. Preventive vaccination in domestic animals is also extremely effective. Unvaccinated animals are at greatest risk for infection, as are people working with or owning unvaccinated animals.

Disease Abstract

From 1998 through 2007 there was one human rabies case in Florida. The person was bitten by a dog in Haiti in 2004 and became ill after returning to Florida. The case was caused by a canine variant strain of rabies then circulating in Haiti. In 2007 post-exposure treatment was recommended for 1,474 people in Florida; there were no human cases reported in 2007.

Rabies is endemic in the raccoon and bat populations of Florida, and frequently spills out into other animal populations. Laboratory testing for animal rabies is only done when animals are involved in rabies exposures, and the data do not necessarily correlate with the true prevalence of rabies in these animal species. Of the 3,476 animals tested at the state lab in 2007, there were 128 confirmed rabid animals, representing a 32.7 % decrease from the previous 5-year average. The large decrease is suspected to be associated with a statewide distemper epidemic in the raccoon reservoir population. No cases were identified as being part of outbreaks. In 2007, rabid animals were found in 39 of 67 counties in Florida. One county reported more than 10 cases: Leon (11) (see map). Cases were reported in each month with peaks in August (17), February (16), and January (13). August is historically a peak month for rabies activity in Florida and is one of the peak months for bat rabies cases. January and February are generally not peak months for rabies in Florida this may be a reflection of the progressing raccoon distemper outbreak during the spring and fall months when peaks in raccoon rabies are more typically seen.

Raccoons once again accounted for the majority of cases (64, 50%), followed by foxes (20, 16%), bats (18, 14%), and cats (14, 11%). Few cases were reported in other terrestrial wildlife (one bobcat, one skunk, and one otter). Since 1997, rabid cats have continued to outnumber rabid dogs, though rabies vaccination is compulsory for both. In 2007, one horse and one dog were found to be rabid. Four bobcats, four otters, and two skunks were also positive for rabies. Testing at the Bureau of Laboratories demonstrates that terrestrial rabies in Florida is due to the raccoon variant.

Prevention

During 2007, the Florida Rabies Advisory Committee revised the rabies guidebook to provide information for county health departments and others involved in rabies control and prevention. Other preventive measures include vaccination of pets and at-risk livestock, avoiding direct human and domestic animal contact with wild animals, educating the public to reduce contact with stray and feral animals, supporting animal control in efforts to reduce feral and stray animal populations, bat-proofing homes, and providing pre-exposure prophylaxis for high risk professions, such as animal control and veterinary personnel, laboratory workers, and those working with wildlife. Pre-exposure prophylaxis should also be considered for those traveling extensively where rabies is common in domestic animals. Oral bait vaccination programs for wildlife are possible in some situations. These programs can be effective but require careful advance planning and substantial time and financial commitments.

References

Florida Rabies Advisory Committee, *Rabies Prevention and Control in Florida, 2007,* Florida Department of Health, Bureau of Community Environmental Health, 2006.

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

L.K. Pickering, C.J. Baker, S.S. Long, and J.A. McMillan (eds.), *Red Book: 2006 Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics Press, 2006.

Additional Resources

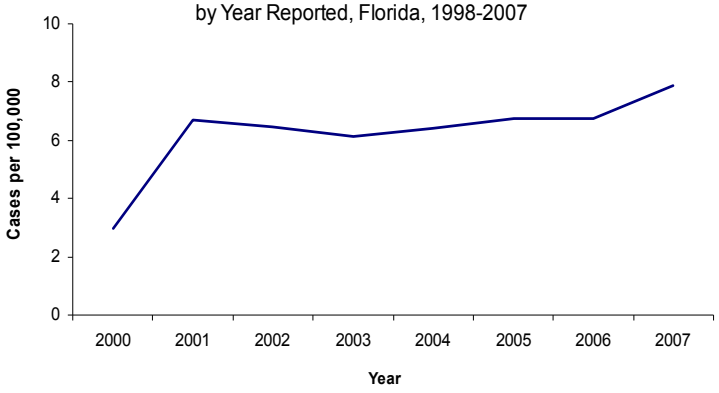
Information is available from the Florida Department of Health website at http://www.cdc.gov/ncidod/dvrd/rabies/introduction/intro.htm

Disease information is also available from the Centers for Disease Control and Prevention at http://www.doh.state.fl.us/Environment/community/rabies/rabies-index.html

Rabies, Possible Exposure

Rabies, Possible Exposure: Crude Data	
Number of Cases	1,474
2007 incidence rate per 100,000	7.85
% change from average 5 year (2002-2006) incidence rate	20.88
Age (yrs)	
Mean	36.52
Median	37
Min-Max	<1 - 108

Figure 1.
Animal Bite, Rabies Post-Exposure Prophylaxis Incidence Rate by Year Reported, Florida, 1998-2007



Description

Electronic reporting through Merlin of animal encounters (bites, scratches, etc.) for which rabies post exposure prophylaxis (PEP) is recommended was initiated in 2001. Rabies PEP is recommended when an individual is bitten by, or otherwise exposed to the saliva of, a laboratory confirmed rabid mammal or a mammal that is suspected of being rabid, but is not available for testing. The prophylaxis consists of a series of vaccinations given on day 0, 3, 7, 14, and 21 or 28. Human rabies immunoglobulin (HRIG) is also given on day 0. Persons who have been previously immunized against the disease receive two doses of rabies vaccine on day 0 and 3 after exposure. The series is costly and can cause side effects such as redness, itching, and swelling.

Disease Abstract

The annual incidence of cases for which PEP is recommended has increased from 2000-2007 (Figure 1). In 2007, the incidence rate was up 20.88% over the previous 5-year average. This is thought to be due to an increase in awareness of animal bites and PEP. The average age of the victim was 36.52 years, with a range of <1 to 108 years of age. In 2007, the highest incidence was seen in individuals

between 15 and 19 years of age (Figure 2), but incidence was similar from ages 10 to 54. The incidence rate for males is slightly higher than that for females and the incidence rate among white males is almost double that of non-white males (Figure 3).

Figure 2.
Rabies, Possible Exposure, Incidence Rate by Age Group, Florida, 2007

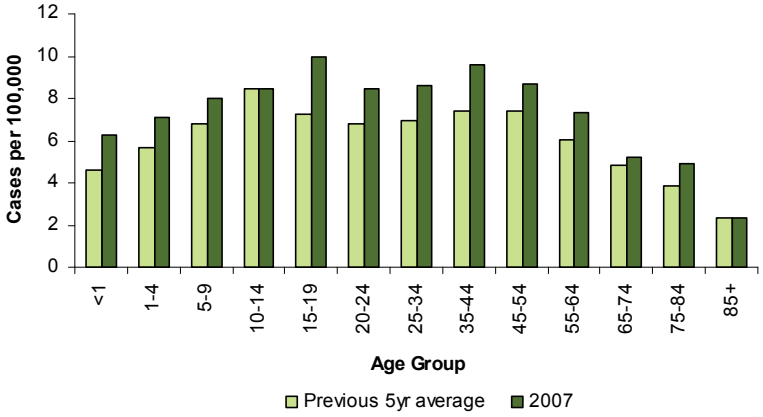
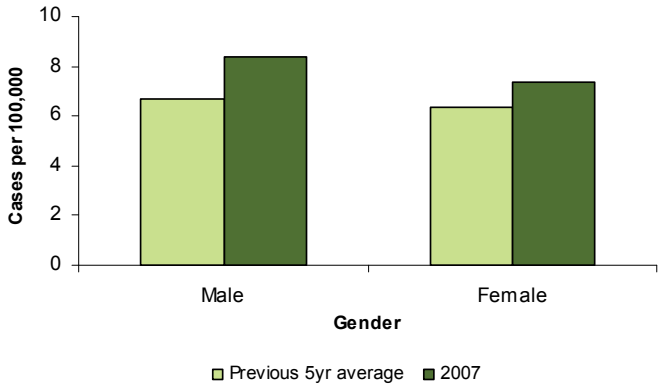
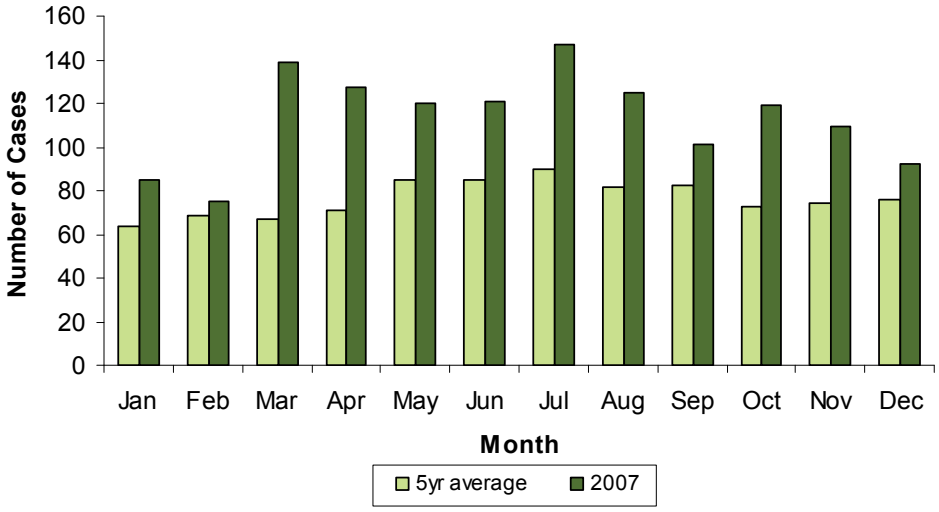


Figure 3. Rabies, Possible Exposure, Incidence Rate by Race and Gender, Florida, 2007



The type of animal involved in the exposure was available for 78% of cases. Of these, 40% of exposures involved a dog, 27% a cat, 15% a raccoon, 11% a bat, 2% a fox, and the remaining 5% of exposures were other animals. PEP is recommended year round in Florida, though the number of treatment incidents increases somewhat during the summer months (Figure 4).

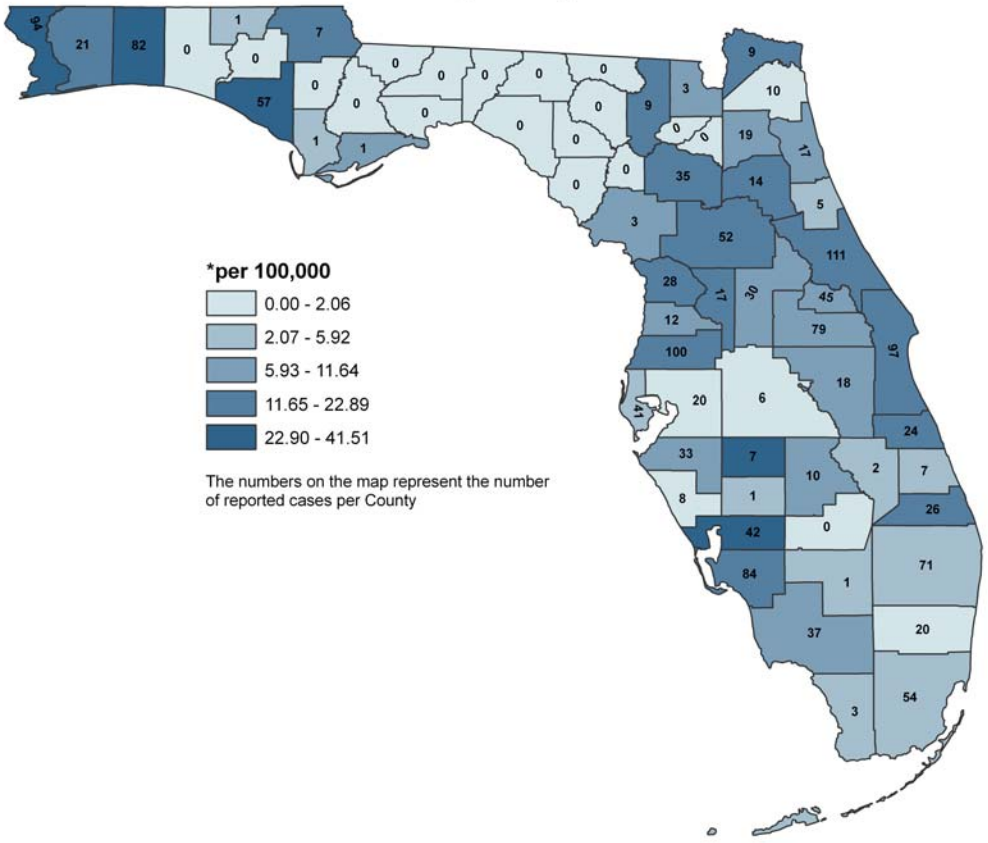
Figure 4.
Rabies, Possible Exposure Cases by Month of Onset, Florida, 2007



Prevention

Contact with wildlife and unfamiliar domestic animals should be limited. It is especially important that children be educated on appropriate interactions with animals. If bitten, it is important to wash the area thoroughly with soap and water, seek medical attention if necessary, and report the bite to the local county health department.

Animal Bites, post Exposure Prophylaxis recommended,
Incidence Rate* by County, Florida, 2007



Additional Resources

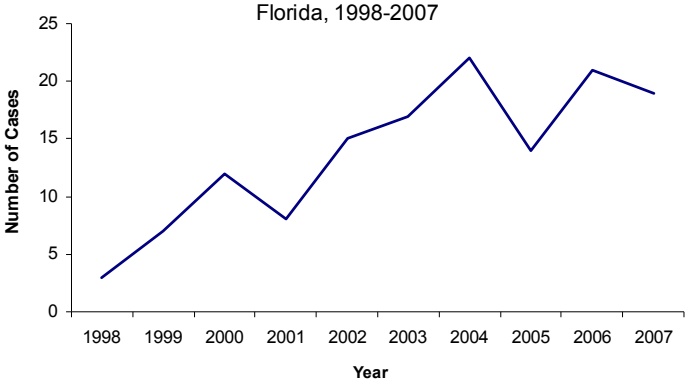
Additional information on animal bites and PEP can be found in the Rabies Prevention and Control in Florida, 2008 Guidebook, online at http://www.doh.state.fl.us/environment/community/arboviral/Zoonoses/Rabiesguide2008.pdf.

Dog bite prevention and rabies information can also be found on the Department of Health website at www.MyFloridaEH.com and http://www.doh.state.fl.us/environment/community/rabies/rabies-index.html

Rocky Mountain Spotted Fever

Rockie Mountain Spotted Feaver: Crude Data	
Number of Cases	19
2007 incidence rate per 100,000	0.10
% change from average 5 year (2002-2006) incidence rate	6.74
Age (yrs)	
Mean	45.68
Median	47
Min-Max	8 - 73

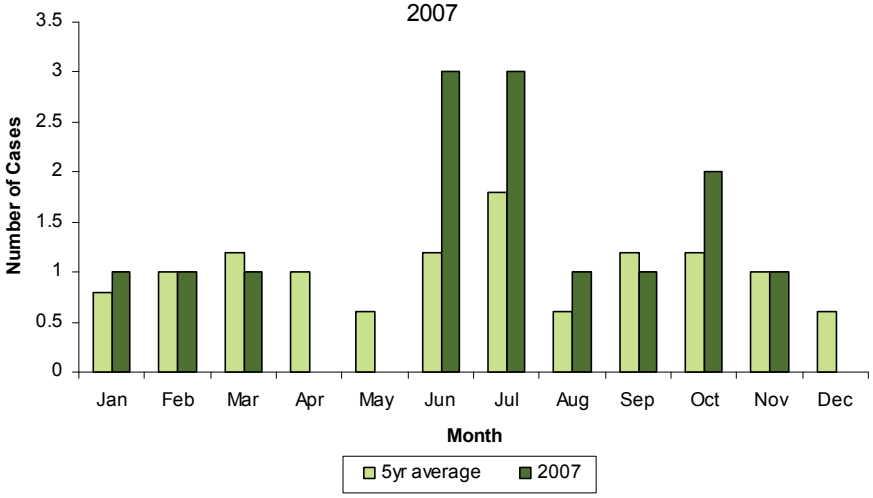
Figure 1.
Rocky Mountain Spotted Fever Cases by Year Reported, Florida, 1998-2007



Description

Rocky Mountain spotted fever (RMSF) is caused by infection with the intracellular coccobacillary bacteria, *Rickettsia rickettsii,* following tick exposure. The principal tick vector in Florida is the dog tick (*Dermacentor variabilis*); several other tick species can also transmit the bacteria. A tick bite may or may not be apparent. Weakness, muscle pain, headache, and chills are common along with changes in blood count and blood chemistries. In most cases, a mild febrile illness develops after an incubation period of a few days to two weeks. Approximately 80% of adults and 90% of children develop a rash that starts as maculopapular and then may evolve into petechiae over several days. The rash can appear first on the extremities and spread to the trunk and might involve the soles of the feet and palms of the hands. However, rash may initially be subtle and distribution can be variable. Up to 20% of untreated illnesses and approximately 5-10% of treated illnesses may be fatal. Risk groups for severe disease include advanced age, male gender, black race and chronic alcohol abuse. Glucose-6-phosphate-dehydrogenase (G6PD) deficiency, which is present in approximately 12% of the U.S. black male population, increases the risk of fulminant disease.

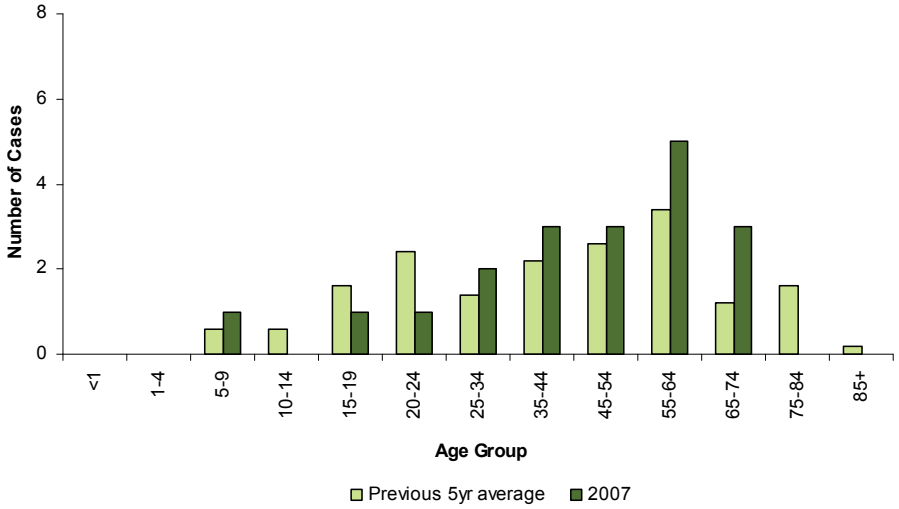
Figure 2.
Rocky Mountain Spotted Fever Cases by Month of Onset, Florida, 2007



Disease Abstract

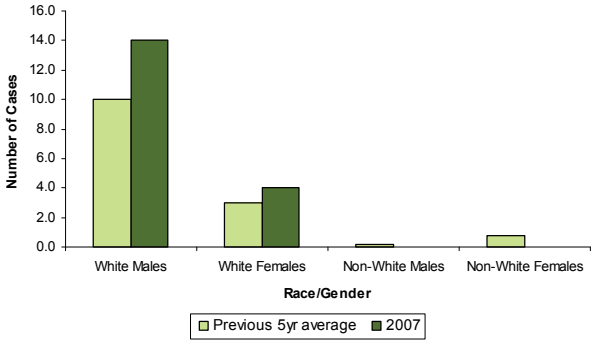
The number of RMSF cases reported annually has increased markedly since 1998 (Figure 1). The disease tends to affect adults more than young children or the elderly, though in 2007, there were more cases reported in those age 55-74 and in those age 5-9 than the previous 5-year average (Figure 3). Cases are reported more often in males than in females, (Figure 4).

Figure 3.
Rocky Mountain Spotted Fever Cases by Age Group, Florida, 2007



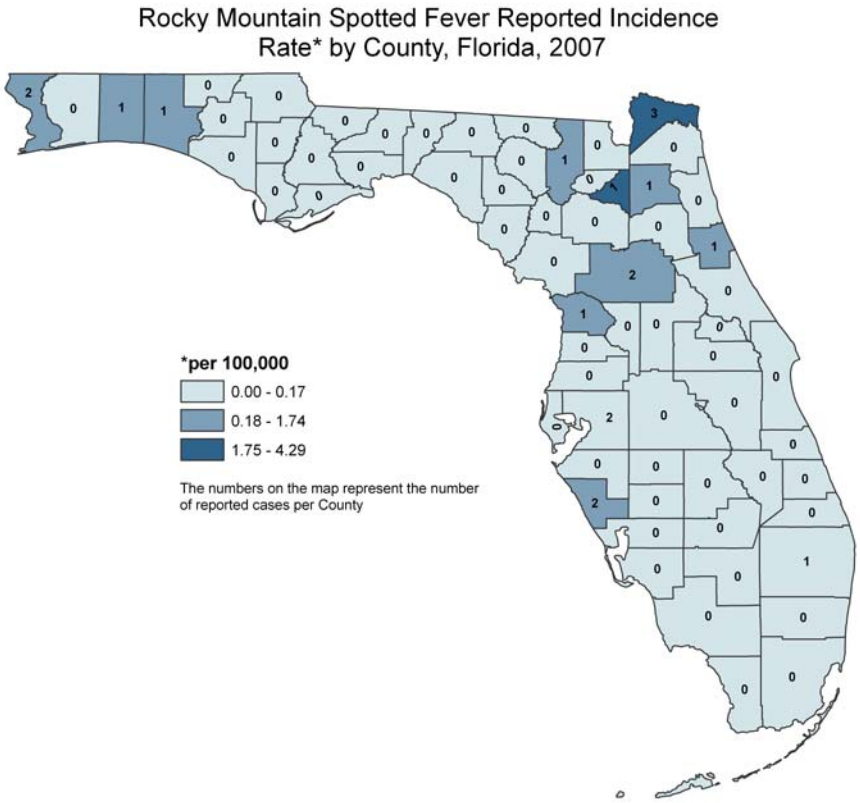
In Florida, cases of RMSF are reported year-round, though peak transmission occurs during the summer months. Of the cases reported in 2007, 58% acquired the disease in Florida, 26% acquired the disease in another U.S. state, 5% acquired the disease in another country, and travel history for the remaining cases is unknown.

Figure 4. Rocky Mountain Spotted Fever Cases by Race and Gender, Florida, 2007



Prevention

Prevention of tick bites is the best way to avoid disease. Wear light-colored clothing so that ticks crawling on clothing are visible. Tuck pants legs into socks so that ticks cannot crawl inside clothing. Apply repellent to discourage tick attachment. Repellents containing permethrin can be sprayed on boots and clothing, and will last for several days. Repellents containing DEET can be applied to the skin, but will last only a few hours before reapplication is necessary. Search the body for ticks frequently when spending time in potentially tick-infested areas. If a tick is found, it should be removed as soon as possible. Controlling tick populations in the yard and on pets can also reduce the risk of disease transmission.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Additional Resources

Additional information on RMSF and other arthropod-borne diseases can be found in the Surveillance and Control of Arthropod-borne Diseases in Florida Guidebook, online http://www.doh.state.fl.us/environment/community/arboviral/pdf_files/UpdatedArboguide.pdf.

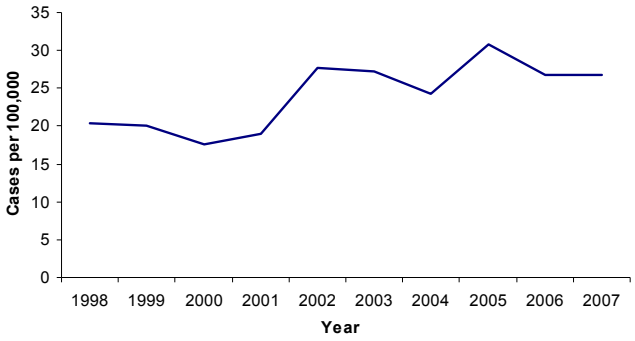
Disease information is also available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dvrd/rmsf/index.htm.

Disease information is available from the Florida Department of Health at http://www.doh.state.fl.us/Environment/community/arboviral/Tick_Borne_Diseases/Tick_Index.htm

Salmonellosis

Salmonellosis: Crude Data	
Number of Cases	5,022
2007 incidence rate per 100,000	26.77
% change from average 5 year (2002-2006) incidence rate	-2.15
Age (yrs)	
Mean	21.54
Median	6
Min-Max	<1 - 106

Figure 1.
Salmonellosis Incidence Rate by Year Reported, Florida, 1998-2007



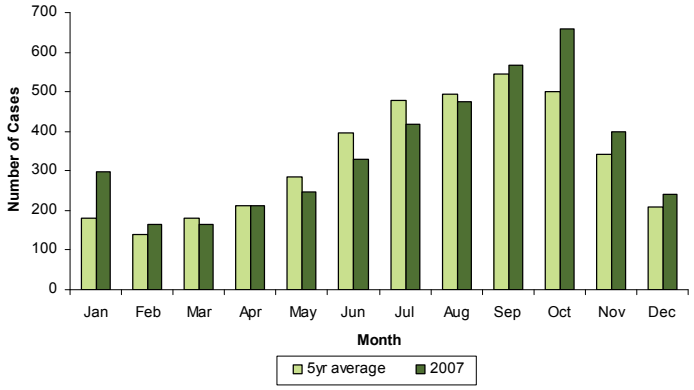
Description

Salmonellosis is an acute bacterial disease caused by gram-negative bacilli of the genus *Salmonella.* Infection causes gastroenteritis and rarely also systemic disease and other complications. The natural reservoirs for non-typhoid *Salmonella* species are both warm and cold-blooded animals, which then result in contamination of the environment. Animal sources of *Salmonella* include poultry, cattle, swine, rodents and pet reptiles. The infection is most often acquired in people by ingesting undercooked eggs and meat, contaminated food and water, or raw milk, and from infected pets or farm animals. Cross-contamination of surfaces and uncooked foods by raw meat may also be a source of infection. The incubation period is generally 12-36 hours after exposure (range 6-72 hours). Common symptoms include watery or bloody diarrhea, abdominal pain, fever, malaise, and nausea.

Disease Abstract

The incidence rate for salmonellosis has increased gradually over the last ten years (Figure 1). In 2007, the incidence was 26.77 cases/100,000, a decrease from the 2005 peak of 30.8 cases/100,000. A total of 5,022 cases were reported in 2007, of which 95.5% were classified as confirmed. The number of cases reported increases in the summer months. In 2007, the number of cases exceeded the previous 5-year average in January and February and then again from September through December (Figure 2). Overall, 8.6% of the salmonellosis cases were classified as outbreak-related in 2007.

Figure 2.
Salmonellosis Cases by Month of Onset, Florida, 2007



The highest incidence rates continue to occur among infants <1 year old and children 1-4 years old. In 2007, the incidence rates were slightly higher than the previous 5-year average in those <1 and the incidence rates were similar in the others (Figure 3). Males have a slightly higher incidence than females (27.57 and 25.79 per 100,000, respectively), and in 2007, the incidence in both genders was the same or slightly lower than the previous 5-year average incidence. As has been the case in the past, reported incidence rates in whites are greater than those in non-whites (Figure 4).

Figure 3.
Salmonellosis Incidence Rate by Age Group, Florida, 2007

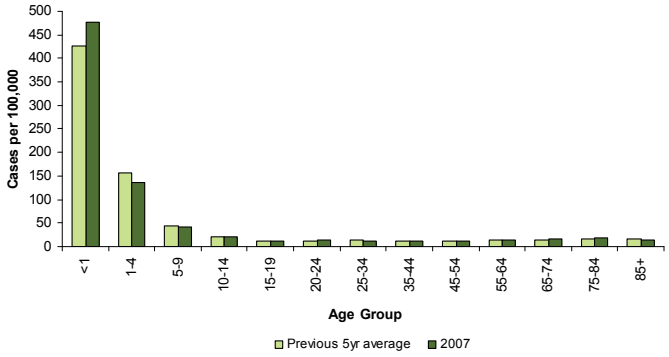
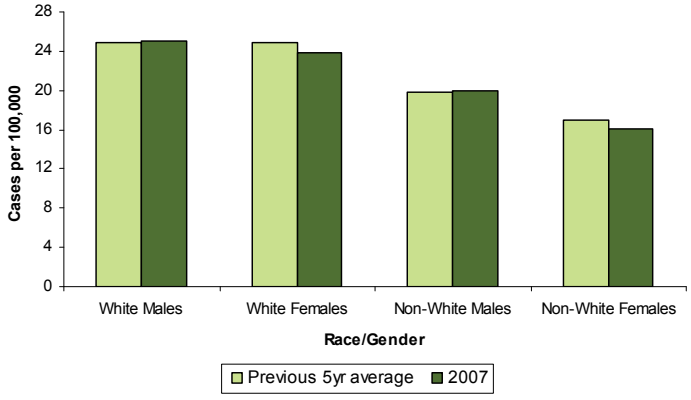


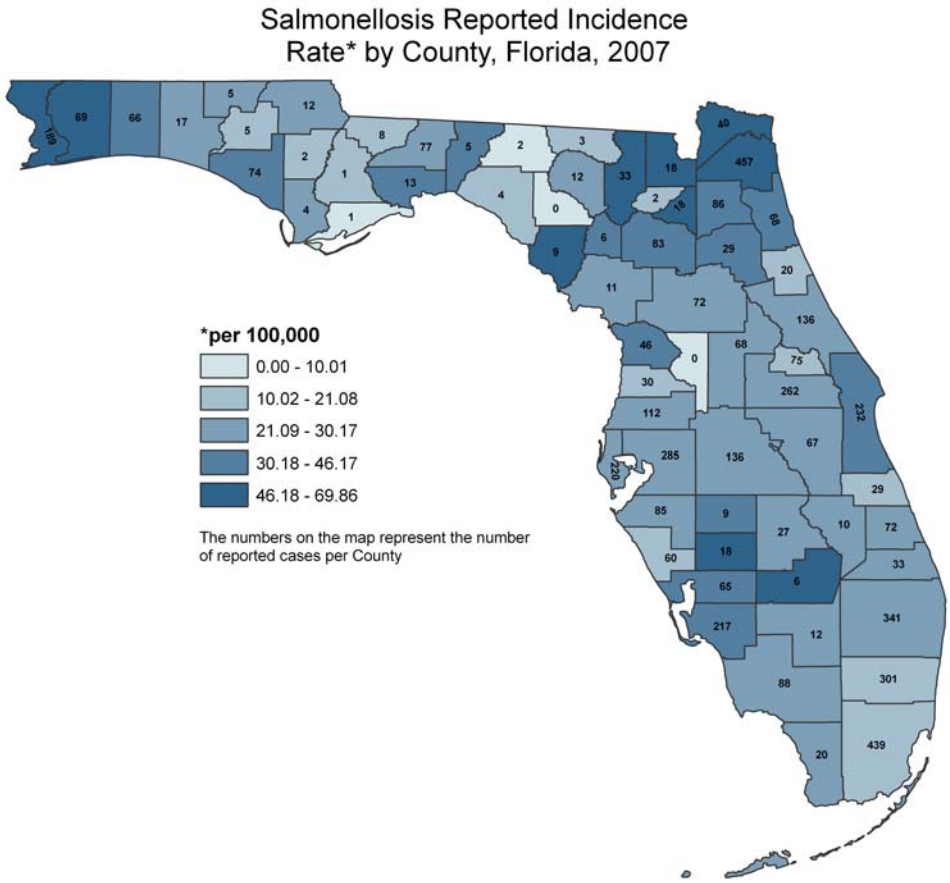
Figure 4. Salmonellosis Incidence Rate by Race and Gender, Florida, 2007



Salmonellosis was reported in 65 of the 67 counties in Florida. Rates vary across the state, but appear to be higher in the western panhandle and the northeastern portion of the state.

Prevention

To reduce the likelihood of contracting salmonellosis, cook all meat products and eggs thoroughly, particularly poultry. Avoid cross-contamination by making sure utensils, counter tops, cutting boards, and sponges are cleaned or do not come in contact with raw poultry or other meat. Wash hands thoroughly before, during, and after food preparation. Do not allow the fluids from raw poultry or meat to drip onto other foods. Consume only pasteurized milk, milk products, or juices. Additionally, it is important to wash hands after coming into contact with any animals or their environment.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

L. Pickering (ed.), *2006 Red Book: Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics, Elk Grove Village, IL, 2006, pp. 992.

Florida Department of Health - Guidelines for Control of Outbreaks of Enteric Disease in Child Care Settings http://www.doh.state.fl.us/disease_ctrl/epi/surv/enteric.pdf

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/salmonella/

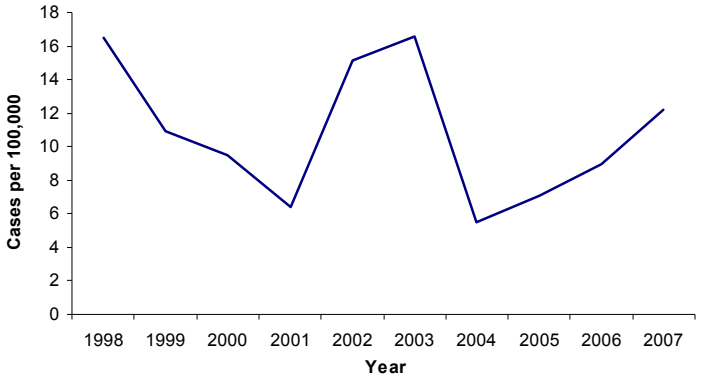
Additional information is available from the U.S Food and Drug Administration – Bad Bug book at http://www.cfsan.fda.gov/~mow/chap1.html

R. Baker, et al., "Outbreak of Salmonella Serotype Javiana Infections-Orlando, Florida, June 2002" *Morbidity and Mortality Weekly Report*, Vol. 51, No. MM31, p. 683.

Shigellosis

Shingellosis: Crude Data	
Number of Cases	2,288
2007 incidence rate per 100,000	12.19
% change from average 5 year (2002-2006) incidence rate	15.85
Age (yrs)	
Mean	13.26
Median	6
Min-Max	<1 - 95

Figure 1.
Shigellosis Incidence Rate by Year Reported, Florida, 1998-2007



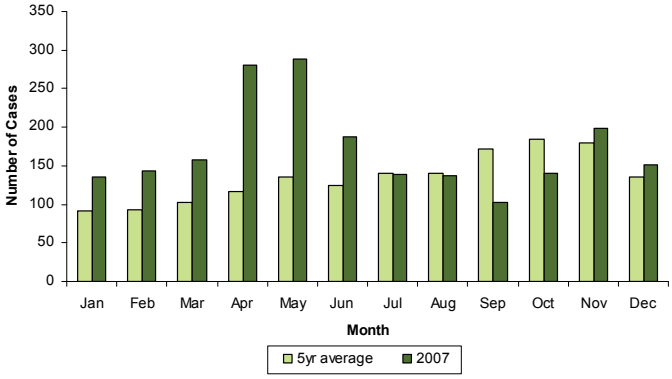
Description

Shigellosis is an acute bacterial disease caused by gram-negative rod-shaped bacteria of the genus *Shingella* that cause gastroenteritis. The only natural reservoir for *Shigella* species is humans, although other primates may be infected. The infection is most often transmitted by the fecal-oral route either directly from an infected individual or by ingesting contaminated food and water. The incubation period is generally 2-4 days after exposure (range 1-7 days). Common symptoms include watery or loose stools, with or without blood, abdominal pain, and fever.

Disease Abstract

The incidence rate for shigellosis has varied over the last ten years (Figure 1). Periodic community outbreaks involving child-care centers account for most of the variability. In 2007, there was a 15.85% increase in comparison to the average incidence from 2002-2006. A total of 2,288 cases were reported in 2007, of which 79.5% were classified as confirmed. Historically, the number of cases reported tends to increase in late summer and the fall months. However, in 2007, the number of cases exceeded the previous 5-year average from January to June and decreased through September (Figure 2). Overall, 36.84% of the shigellosis cases were classified as outbreak related.

Figure 2.
Shigellosis Cases by Month of Onset, Florida, 2007



The highest incidence rates continue to occur among children aged 1-4 years old. In 2007, the incidence rates were similar to or higher than the previous 5-year average (Figure 3). Incidence rates were higher among females than males (12.4 and 11.94 per 100,000 respectively) and higher in non-whites than whites. The 2007 incidence in both genders was slightly higher than the previous 5-year average incidence (Figure 4).

Figure 3.
Shigellosis Incidence Rate by Age Group, Florida, 2007

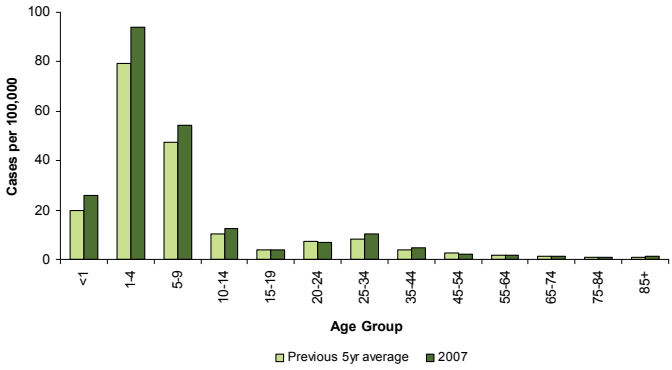
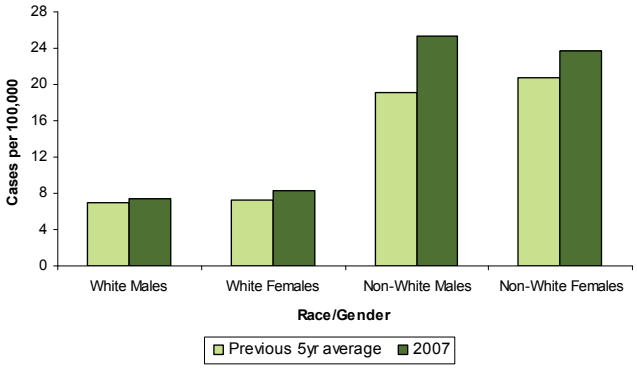


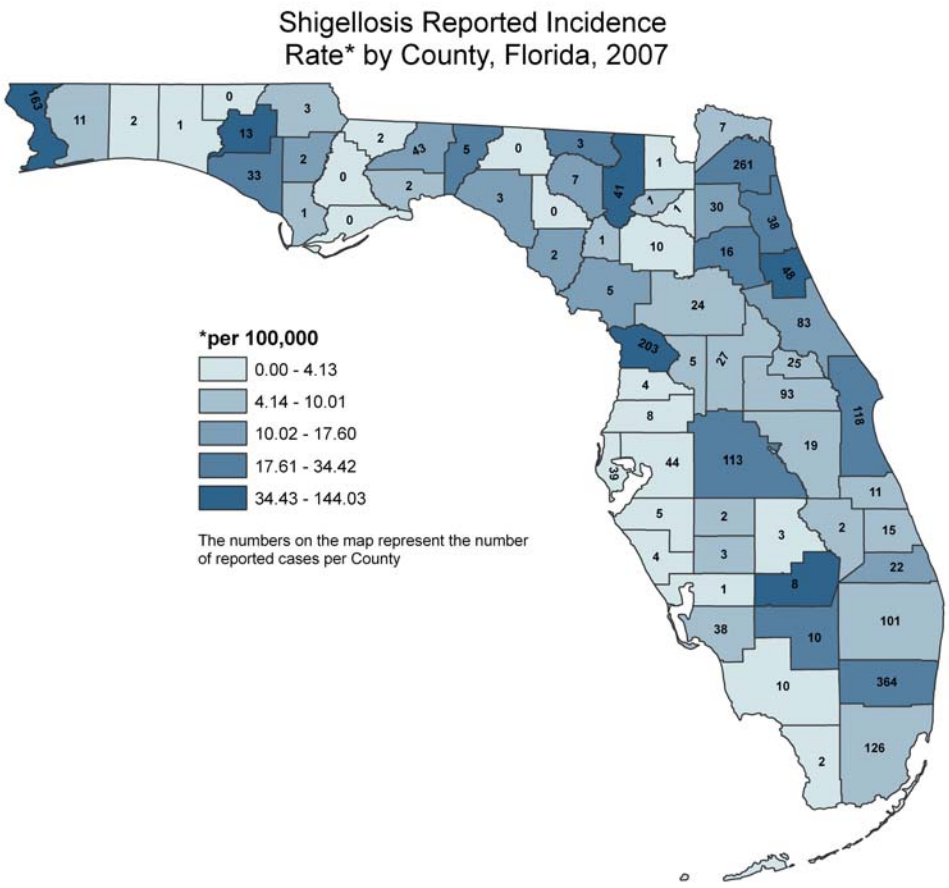
Figure 4. Shigellosis Incidence Rate by Race and Gender, Florida, 2007



Shigellosis was reported in 62 of the 67 counties in Florida. There were no distinct geographic patterns in the distribution of shigellosis cases throughout the state.

Prevention

To reduce the likelihood of contracting shigellosis, it is important to practice good hand hygiene. Outbreaks in day care centers are common and control may be difficult. The Department of Health has published outbreak control measures for childcare settings (see references).



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

L. Pickering (ed.), *2006 Red Book: Report of the Committee on Infectious Diseases*, 27th ed., American Academy of Pediatrics, Elk Grove Village, IL, 2006, pp. 992.

Florida Department of Health - Guidelines for Control of Outbreaks of Enteric Disease in Child Care Settings http://www.doh.state.fl.us/disease_ctrl/epi/surv/enteric.pdf

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/shigellosis_g.htm

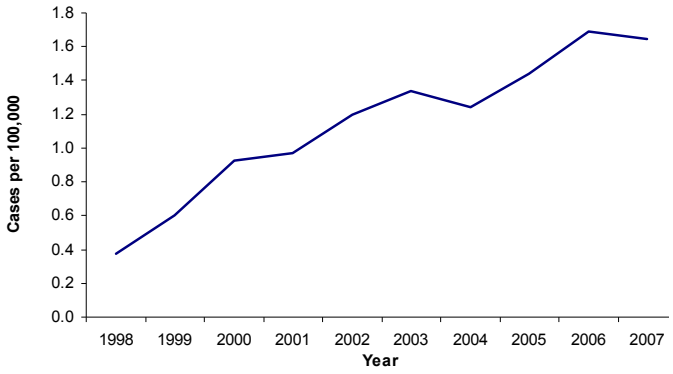
Additional information is available from the U.S Food and Drug Administration – Bad Bug book at http://www.cfsan.fda.gov/~mow/chap19.html

Centers for Disease Control and Prevention, “Outbreak of Gastroenteritis Associated With an Interactive Water Fountain at a Beachside Park- Florida, 1999,” *Morbidity and Mortality Weekly Report*, Vol. 49, No. 25, 2000, pp. 565-8.

Streptococcal Disease, Invasive, Group A

Strepococcal Disease, Invasive Group A: Crude Data	
Number of Cases	309
2007 incidence rate per 100,000	1.65
% change from average 5 year (2002-2006) incidence rate	18.71
Age (yrs)	
Mean	49.8
Median	52
Min-Max	<1 - 94

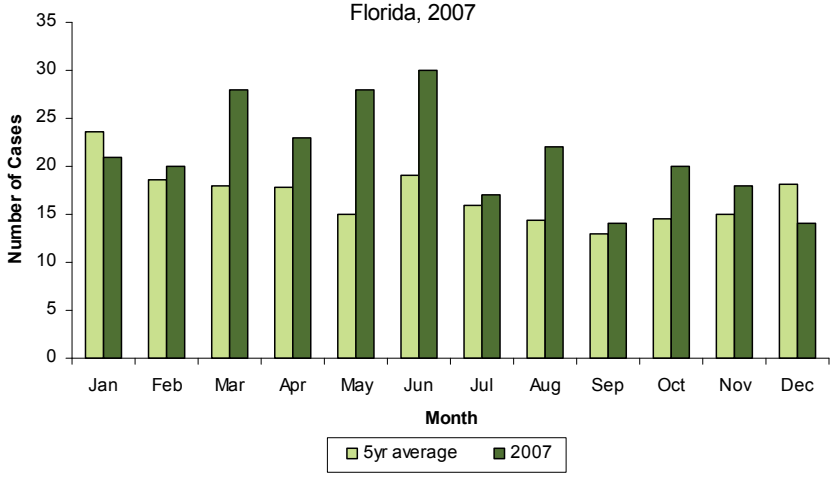
Figure 1.
Streptococcal Disease, Invasive, Group A Incidence Rate by Year Reported, Florida, 1998-2007



Description

Invasive group A streptococcal disease, caused by group A *Streptococcus pyogenes,* may manifest as any of several clinical syndromes; including pneumonia and/or bacteremia (septicemia), often in conjunction with cutaneous infections (cellulitis, erysipelas, or wound infections), deep soft tissue infections (myositis or necrotizing fasciitis), meningitis, peritonitis, osteomylitis, septic arthritis, postpartum sepsis (puerperal fever), neonatal sepsis, and toxic shock syndrome. The disease is found worldwide and is spread primarily through direct contact or large respiratory droplets; casual contact rarely leads to infection. Individual carriers are occasionally the source of outbreaks. The incubation period is short, usually 1-3 days. Untreated infections, particularly those with a discharge, may be communicable for days to weeks.

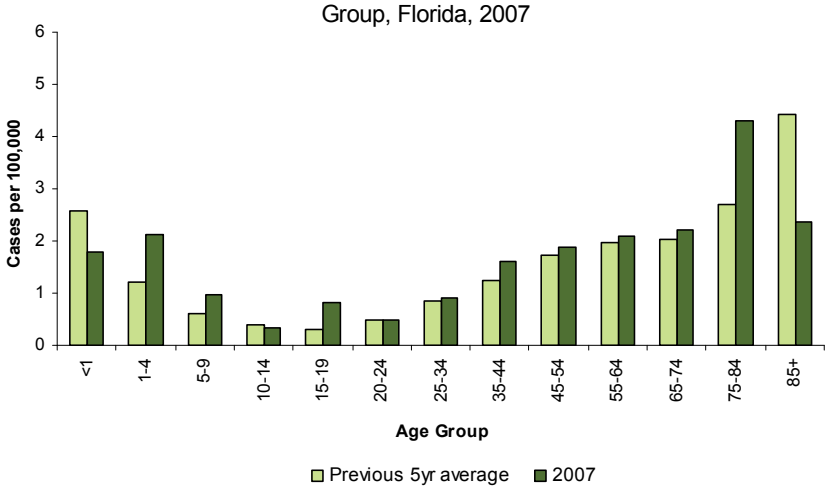
Figure 2.
Streptococcal Disease, Invasive Group A Cases by Month of Onset, Florida, 2007



Disease Abstract

The incidence rate for reported invasive group A streptococcal disease in Florida has gradually increased over the past ten years, with a more than four-fold cumulative increase (Figure 1). In 2007, there was a 18.71% increase compared to the average incidence for 2002-2006 but the incidence rate decreased from the rate in 2006 (Table 1). A total of 309 cases were reported in 2007, of which 100% were classified as confirmed. Cases occur throughout all months of the year. Compared to 2002-2006, the number of cases reported in 2007 was higher in all months except for January and December, with the greatest number occurring in March, May, and June (Figure 2). Almost all cases are sporadic.

Figure 3.
Streptococcal Disease, Invasive Group A Incidence Rate by Age Group, Florida, 2007



The highest incidence rate for 2007 occurred in those 75-84 which is slightly younger than the age group with the highest rates historically which are those 85+ (Figure 3). In 2007, incidence increased in every age group except for those aged <1, 10-14, and 85+. Males continue to have a higher incidence than females (1.91 and 1.40 per 100,000 respectively) and in 2007, the incidence in both genders was

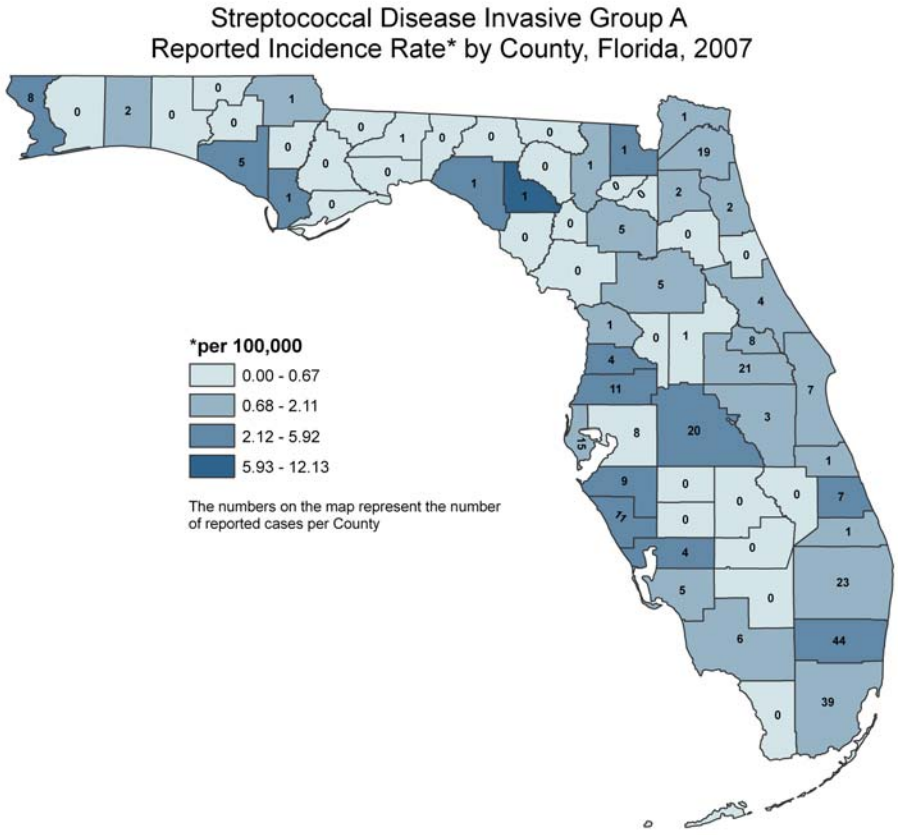
higher than the previous 5-year average incidence (Figure 4). In 2007, the incidence rate for white males surpassed that for non-white males, and increased in all groups.

Figure 4.
Streptococcal Disease, Invasive Group A Incidence Rate by Gender,
Florida 2007

Invasive group A streptococcal disease cases were reported in 39 of the 67 counties in Florida. The five counties reporting the highest number of cases were primarily in the central and southern part of the state with relatively few cases occurring in the panhandle region.

Prevention

Prevention is through education about modes of transmission, prompt and effective treatment of infections, and appropriate drainage and secretion precautions.



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

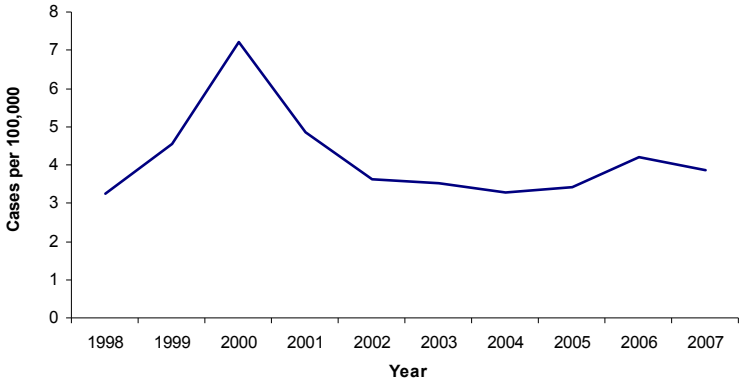
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_g.htm

Streptococcus pneumoniae, Drug-Resistant

***Stretpococcuspneumoniae*, Invasive Disease, Group A: Crude Data**	
Number of Cases	725
2007 incidence rate per 100,000	3.86
% change from average 5 year (2002-2006) incidence rate	6.78
Age (yrs)	
Mean	45.77
Median	51
Min-Max	<1 - 101

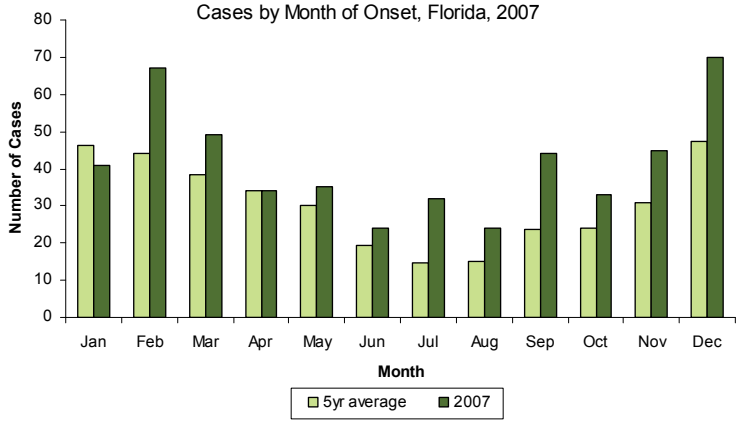
Figure 1.
Streptococcus pneumoniae Invasive Disease, Drug-Resistant
Incidence Rate by Year Reported, Florida, 1998-2007



Description

Drug resistant *Streptococcus pneumoniae* is an acute bacterial disease caused by gram-positive diplococci. Pneumococcal infections range from acute otitis media to invasive infections including: community-associated pneumonia, meningitis, and septicemia. Drug-resistant *S. pneumoniae* (DRSP) invasive disease, for reporting purposes, includes cultures obtained from a normally sterile site, such as blood or CSF, that are either intermediate resistant or fully resistant to one or more commonly used antibiotics. *S. pneumoniae* is a human pathogen, and the reservoir for pneumococci is the nasopharynx of asymptomatic human carriers. There is no animal or insect vector. Transmission of *S. pneumoniae* is from person to person. The incubation period varies, and can be as short as 1-3 days. Persons who attend or work at child-care centers, and persons who recently used antimicrobial agents, are at increased risk for infection with DRSP.

Figure 2.
Streptococcus pneumoniae, Invasive Disease, Drug-Resistant
Cases by Month of Onset, Florida, 2007

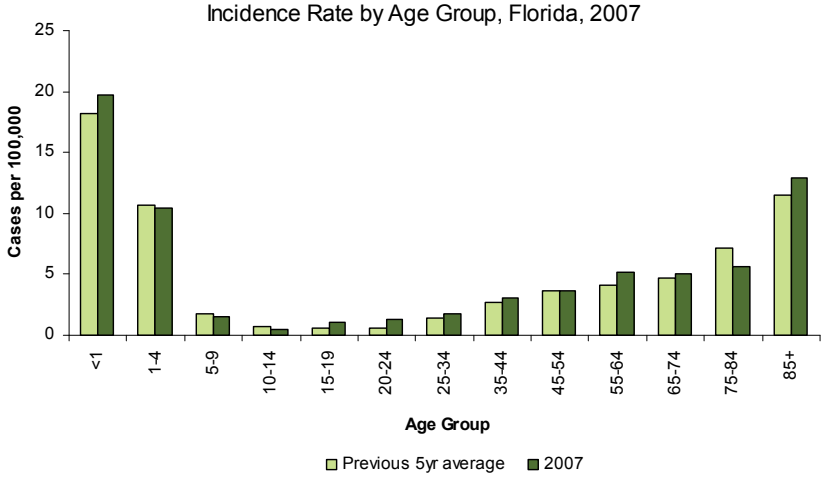


Disease Abstract

The incidence rate for DRSP peaked in 2000 and gradually declined until 2005 when it started to increase again with a peak in 2006 (Figure 1). There was a decrease from 4.2 cases/100,000 in 2006

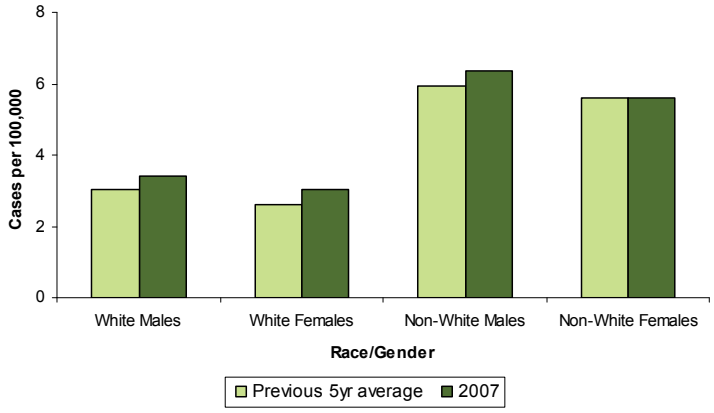
to 3.86 cases/100,000 in 2007. A total of 725 cases were reported in 2007. The number of cases reported tends to increase in the winter months which was also true for 2007, with the highest number of cases reported in February and December. In 2007, the number of cases exceeded the previous 5-year average in all months except for January and April (Figure 2).

Figure 3.
Streptococcus pneumoniae , Invasive Disease, Drug-Resistant
Incidence Rate by Age Group, Florida, 2007



The highest incidence rates continue to occur among infants <1 year old, children 1-4 years, and those 85+. In 2007, the incidence rates were higher than the previous 5-year average in most age groups (Figure 3). Males have a slightly higher incidence than females (4.13 per 100,000 and 3.61 per 100,000, respectively), and in 2007, the incidence in both genders was higher than the previous 5-year average incidence. As has been the case in the past, incidence rates in non-whites are greater than those in whites (Figure 4).

Figure 4. *Streptococcus pneumoniae* , Invasive Disease,
Drug-Resistant Incidence Rate by Race and Gender, Florida,
2007

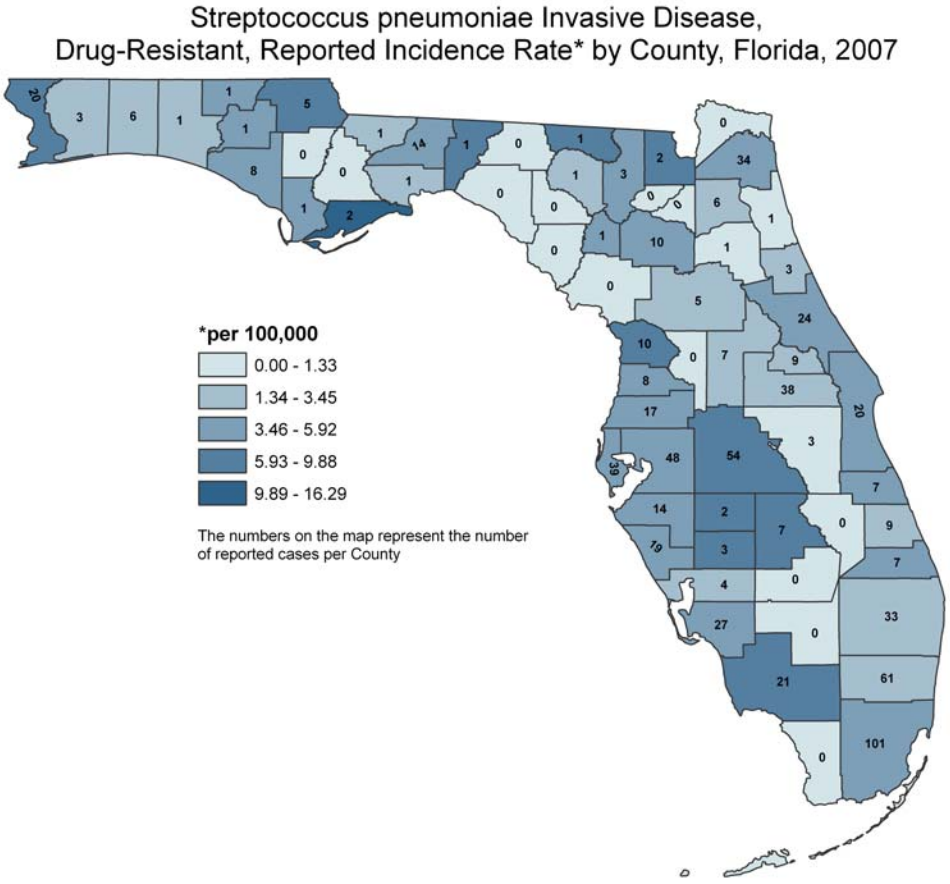


Drug-resistant *S. pneumoniae* was reported in 52 of the 67 counties in Florida.

The data from both the drug-resistant and drup-sensitive *S. pneumoniae* isolates reported were used to calculate resistance rates of common antibiotics for 2003 (Table 1). The sensitivity rate varies by the class of antibiotic. In 2003, only 50% of all cultures reported were sensitive to penicillin, while all other antibiotics tested had a higher sensitivity rate.

Prevention

The most effective way of preventing pneumococcal infections, including DRSP infections, is through vaccination. Currently, there are two vaccines available. A conjugate vaccine is recommended for all children <24 months, and children age 24–59 months with a high-risk medical condition. The older pneumococcal polysaccharide vaccine should be administered routinely to all adults over 65 years old. The vaccine is also indicated for people >2 with a normal immune system who have chronic illnesses. Additionally, it is important to practice good hand hygiene, to take antibiotics only when necessary, and to finish the entire course of treatment.



References

David L. Heymann, Control of Communicable Diseases Manual 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

American Academy of Pediatrics, *Red Book 2003: Report of the Committee on Infectious* Diseases, 26th ed., American Academy of Pediatrics Press, Elk Grove Village, Illinois, 2003.

William Atkinson (ed.) et al., *Epidemiology and Prevention of Vaccine-Preventable Diseases*, 10th ed., Public Health Foundation, Washington, District of Columbia, 2007.

Michael T. Drennon, "Drug Resistant Patterns of Invasive *Streptococcus pneumoniae* Infections in the State of Florida in 2003," Master's Thesis, University of South Florida, Tampa, 2006.

The following reports are available on the Department of Health web site: 1999 *Streptococcus pneumoniae* Surveillance Report, 2000 *Streptococcus pneumoniae* Surveillance Report, 1997-1999 Surveillance of SP in Central FL, at http://www.doh.state.fl.us/disease_ctrl/epi/topics/popups/anti_res.htm

Additional Resources

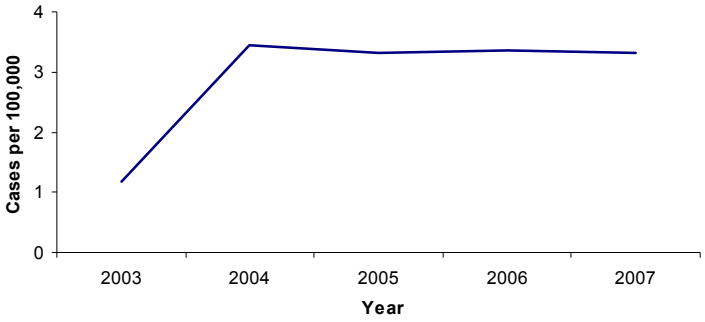
Disease information is available from the Centers for Disease Control and Prevention (CDC) at: http://www.cdc.gov//ncidod/dbmd/diseaseinfo/drugresisstreppneum_t.htm

Centers for Disease Control and Prevention, "Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices (ACIP)," *Morbidity and Mortality Weekly Report*, Vol. 49, No. RR-9, 2000, pp. 1-35.

Streptococcus pneumoniae – Drug-Susceptible

***Streptococcus pneumoniae*, Invasive Disease, Drug-Resistant: Crude Data**	
Number of Cases	725
2007 incidence rate per 100,000	3.86
% change from average 5 year (2002-2006) incidence rate	6.78
Age (yrs) Mean Median Min-Max	 45.77 51 <1 - 101

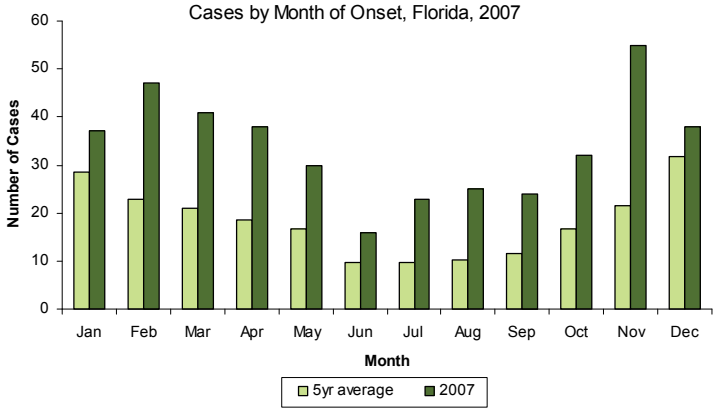
Figure 1.
Streptococcus pneumoniae , Invasive Disease, Drug Susceptible Incidence Rate by Year Reported, Florida, 2003-2007



Description

Drug-susceptible *Streptococcus pneumoniae* is an acute bacterial disease caused by gram-positive diplococci. Pneumococcal infections range from acute otitis media to invasive infections including: community associated pneumonia, meningitis, and septicemia. Drug-sensitive *S. pneumonia* (DSSP) invasive disease, for reporting purposes, includes cultures obtained from a normally sterile site, such as blood or CSF, that are sensitive to all of the commonly used antibiotics. *S. pneumoniae* is a human pathogen and the reservoir for pneumococci is the nasopharynx of asymptomatic human carriers. There is no animal or insect vector. Transmission of *S. pneumoniae* is from person to person. The incubation period varies and can be as short as 1-3 days. Drug-susceptible and drug-resistant *S. pneumoniae,* when combined, provide a comprehensive picture of invasive pneumococcal infections.

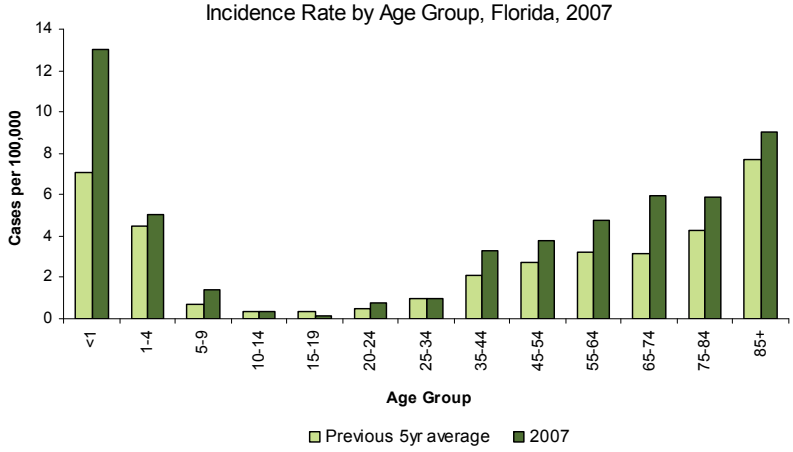
Figure 2.
Streptococcus pneumoniae , Invasive Disease, Drug-Susceptible Cases by Month of Onset, Florida, 2007



Disease Abstract

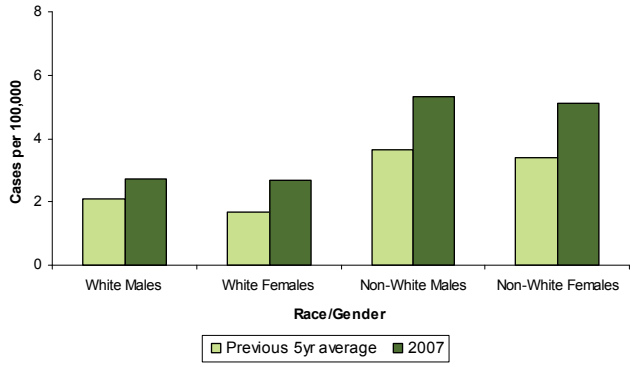
Data on drug-susceptible *S. pneumoniae* has been available for the last five years. Since the second year of reporting, in 2004, the incidence of DSSP has consistently been about 3.36 per 100,000. A total of 622 cases were reported in 2007. This is the highest reported incidence since 2004. The number of cases reported tends to increase in the winter months. In 2007, the number of cases exceeded the previous 4-year average in all months except December (Figure 2).

Figure 3.
Streptococcus pneumoniae, Invasive Disease, Drug-Susceptible
Incidence Rate by Age Group, Florida, 2007



The highest incidence rates continue to occur among infants <1, children aged 1-4 years, and those 85+. In 2007, the incidence rates were higher than the previous 4-year average in those <1, those 5-9, and those 35-84 (Figure 3). Males continue to have a higher incidence than females (3.36 and 3.27 per 100,000, respectively), and in 2007 the incidence in both genders was higher than the previous 4-year average incidence. As has been the case in the past, incidence rates in non-whites are greater than those in whites (Figure 4).

Figure 4. *Streptococcus pneumoniae*, Invasive Disease,
Drug-Susceptible Incidence Rate by Race and Gender,
Florida, 2007

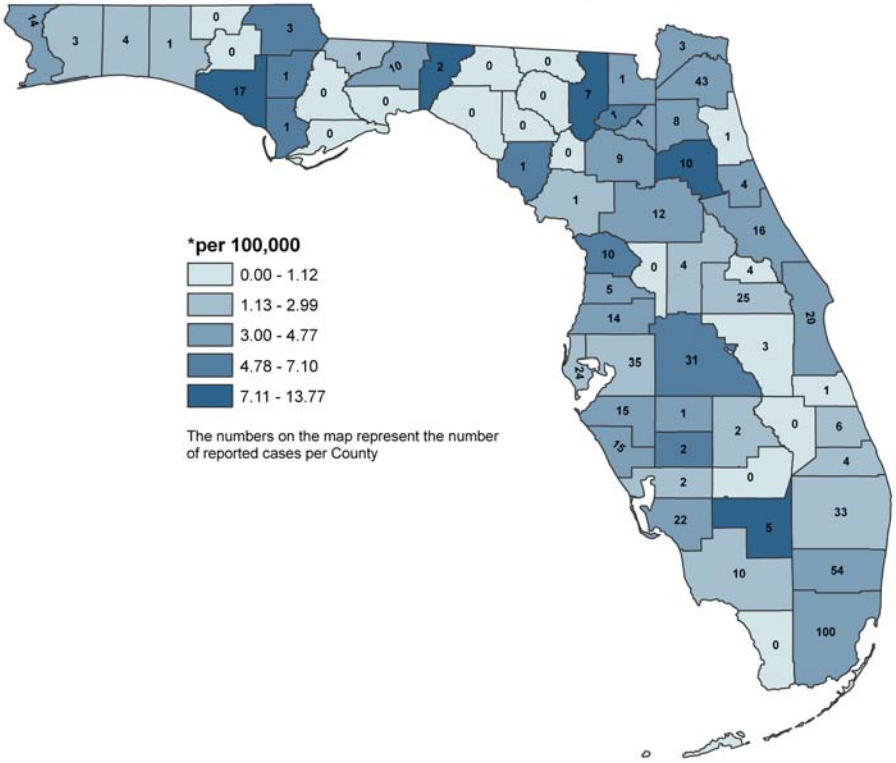


DSSP was reported in 52 of the 67 counties in Florida.

Prevention

The most effective way of preventing pneumococcal infections including DRSP is through vaccination. Currently, there are two vaccines available. A conjugate vaccine is recommended for all children <24 months of age, and children age 24–59 months with a high-risk medical condition. The older pneumococcal polysaccharide vaccine should be administered routinely to all adults 65+ years. The vaccine is also indicated for persons >2 with a normal immune system with a chronic illnesses. Additionally, it is important to practice good hand hygiene, take antibiotics only when necessary, and finish the entire course of treatment.

Streptococcus pneumoniae Invasive Disease,
Drug-Susceptible, Reported Incidence Rate* by County, Florida, 2007



References

David L. Heymann, Control of Communicable Diseases Manual 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

American Academy of Pediatrics, *Red Book 2003: Report of the Committee on Infectious* Diseases, 26th ed., American Academy of Pediatrics Press, Elk Grove Village, Illinois, 2003.

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Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at: http://www.cdc.gov//ncidod/dbmd/diseaseinfo/drugresisstreppneum_t.htm

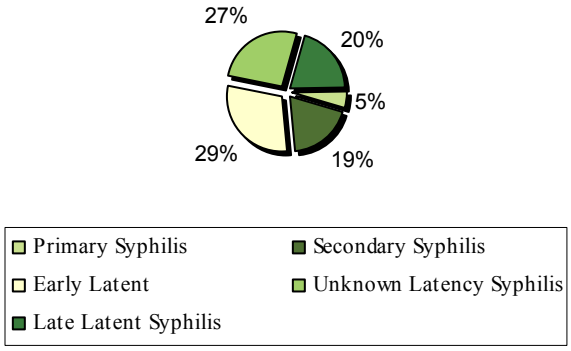
Centers for Disease Control and Prevention, "Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices (ACIP)," *Morbidity and Mortality Weekly Report*, Vol. 49, No. RR-9, 2000, pp. 1-35.

Syphilis

Syphilis, caused by the bacterium *Treponema pallidum*, is passed from person to person through direct contact with an infectious sore, or with infectious mucous patches and syphilitic warts (condylomata lata). Primary sores, also known as lesions, occur at the site of inoculation and can include: genitalia (penis, vaginal lips or wall, cervix), anus or rectum, lips or mouth, as well as digits (fingers) and nipples. Transmission of the organism occurs during vaginal, anal, or oral sex. During pregnancy, the organism can infect a fetus in utero or during delivery. Congenital syphilis in neonates and children under 12 years of age is discussed in the section "Neonatal Infections".

Syphilis infection, when left untreated, is characterized by the progression of stages over time: primary, secondary, latency (lacking clinical manifestations – early latent, unknown duration latency, late latent), and tertiary syphilis. Neurosyphilis, which has central nervous system involvement, may occur during any stage of syphilis. Early (primary, secondary, and early latent) syphilis includes all cases where initial infection has occurred within the previous 12 months. This report will focus attention on trends associated with early syphilis, but will conclude with an overall summary of syphilis morbidity.

Figure 1: Reported Cases of Syphilis by Diagnosis, Florida, 2007



In 2007, there were 3,928 syphilis cases reported in Florida, a 34% increase from 2006. Of the total cases reported, 53%, or 2,064 cases, were diagnosed as primary, secondary, or early latent infection (Figure 1). Infectious syphilis (primary and secondary stages) increased 26% from 2006; whereas early latent illness increased 53% in the same period. The case rate for early syphilis in 2006 was 11.0 per 100,000 compared to 8.0 per 100,000 in 2007. Of the 2,064 early syphilis cases in 2007, nearly 70% were reported from five counties: Miami-Dade (424), Broward (342), Hillsborough (364), Orange (218), and Palm Beach (77).

Total reported cases of syphilis increased in all age groups from 2006 to 2007. Unlike chlamydia and gonorrhea trends, early syphilis cases are more equally distributed among 15-49 year olds. However, there has been an increase of 146% in early syphilis cases reported in 15-24 year olds since 2003. An outbreak in adolescents and young adults in Hillsborough County in 2007 is discussed in the outbreak sectionof this report.

People 20-24 years old have the greatest number of early syphilis cases among both men and women. Nineteen percent of all cases are in this age group. In 2007, 60% of early syphilis in females occurs in those less than 30 years old compared to 40% for males. Men 30-49 account for 70% of reported early syphilis cases in people over 30.

The number of early syphilis cases among males increased 25% from 2006 to 2007 with a 17% increase from 2003. The ratio of male to female early syphilis cases was 3.4 to 1 (Table 1).

Table 1: Reported Early Syphilis by Age and Gender, Florida, 2007

	Total		Males		Females	
Age	#	%	#	%	#	%
15 – 19	210	10.3%	94	5.9%	116	25.2%
20 – 24	381	18.6%	279	17.6%	102	22.1%
25 – 29	314	15.3%	239	15.1%	75	16.3%
30 – 34	232	11.3%	185	11.7%	47	10.2%
35 – 39	257	12.6%	217	13.7%	40	8.7%
40 – 44	262	12.8%	233	14.7%	29	6.3%
45 – 49	205	10.0%	172	10.9%	33	7.2%
50 – 55	97	4.7%	84	5.3%	13	2.8%
55 -59	51	2.5%	49	3.1%	2	0.4%
60+	37	1.8%	33	2.1%	4	0.9%
Total	2046	100.0%	1585	100.0%	461	100.0%

In 2007, the distribution of early syphilis cases by race/ethnicity disproportionately affected non-Hispanic blacks. Persons who self reported as non-Hispanic black accounted for 43.9% of the syphilis cases in 2007. Persons who self reported as non-Hispanic white accounted for 29.4% of the cases. Persons who self reported as Hispanic (white, black, or other) accounted for 15.5% of the cases. Persons who self reported in other or unidentified racial and ethnic groups accounted for 11.3% of the cases. The rate per 100,000 for Non-Hispanic blacks was 30.9 per 100,000. This rate was six times greater than the second highest rate in non-Hispanic whites (5.26 per 100,000).

In terms of gender and racial/ethnic distribution, the trends for early syphilis represent the total picture of syphilis. However, syphilis of unknown duration, late latent syphilis, and neurosyphilis are more commonly associated with older age as compared to early syphilis trends. It is critical, from the perspective of epidemiological significance, to focus disease intervention activities on early syphilis in order to interrupt the spread of infection in the community. An effective public health response should identify infections as early as possible, and rapidly intervene in the spread from the source case. Regardless of stage, cases reported in 2007 reflect an upward trend among both male and female populations. This upward trend in both males and females most likely reflects a change in state administrative code to require electronic laboratory reporting. However, community prevalence and higher risk-taking behaviors associated with certain populations continue to contribute to morbidity.

References

Centers for Disease Control and Prevention, *Syphilis-CDC Fact Sheet*, Centers for Disease Control and Prevention, Atlanta, GA, 2004.

Tuberculosis

In 2007, Florida reported 989 tuberculosis (TB) cases (Figure 1). This represented a five percent decrease from the 1,038 cases reported in 2006. Florida's case rate decreased from 5.6 per 100,000 in 2006 to 5.2 per 100,000 in 2007 (Figure 2). In 2007, 98% (968) of TB cases were alive at diagnosis. Four percent (44) of cases reported previous treatment for tuberculosis disease. Eighty-one percent (803) of Florida's TB cases were pulmonary, 14% (140) were extra-pulmonary and 5% (46) were both.

Figure 1: TB Cases in Florida, 1990-2007

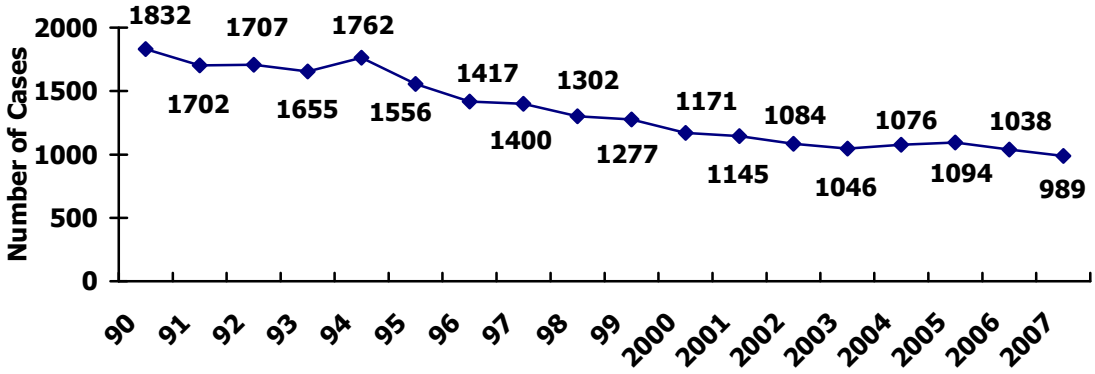
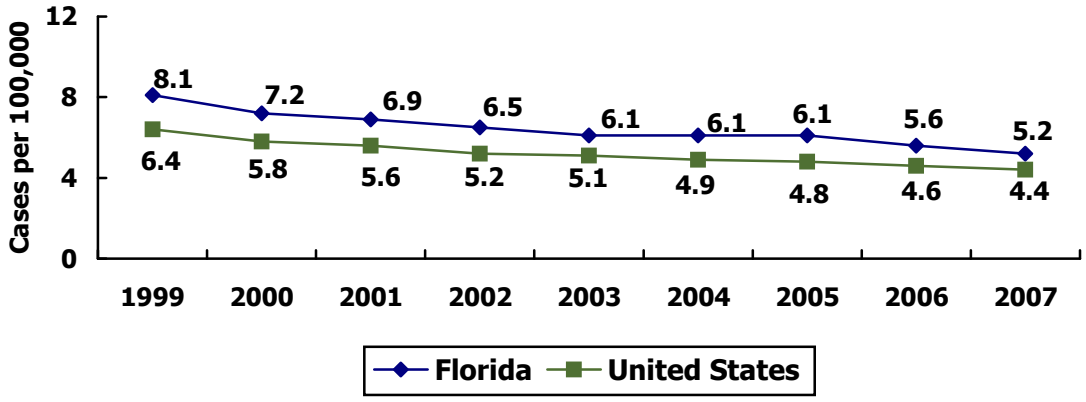


Figure 2: TB Incidence Rates in Florida, 1999-2007



Race and Ethnicity

Medically underserved and low-income populations, including high risk racial and ethnic minorities such as blacks, Hispanics and Asians have a high rates of TB exposure and infection. These populations are disproportionately represented among TB cases in Florida. Non-Hispanic blacks and Hispanics accounted for 68% (672) of Florida's total TB morbidity in 2007 (Table 1).

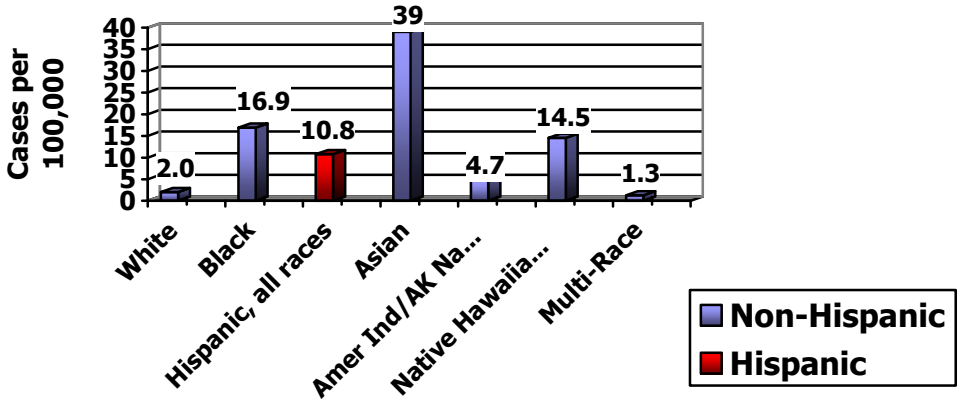
- In 2007, non-Hispanic blacks comprised 39% (382) of Florida's TB morbidity with a case rate of 16.9 per 100,000. This rate is about eight times higher than that of non-Hispanic whites (Figure 3).
- Since 1994, TB morbidity among Hispanics has increased from 17% (288/1,742) of the TB cases to 29% (290/989) in 2007. The case rate for Hispanics in 2007 was 10.8 per 100,000 (Figure 3).
- Tuberculosis for non-Hispanic whites declined from 31% of cases (542/1,742) in 1994 to 21% of cases (209/989) in 2007, which represented an overall 61% decrease since 1994. The case rate for non-Hispanic whites in 2007 was 2.0 per 100,000 (Figure 3).

Table 1: Tuberculosis Cases by Race/Ethnicity and Place of Birth
Florida, 2007

	U.S. Born	% U.S. Born	Foreign Born	% Foreign Born	Total	Total %
Race/Ethnicity						
Black, Non-Hispanic	271	53	111	23	382	39
Hispanic (all races)	51	10	239	50	290	29
White, Non-Hispanic	184	36	25	5	209	21
Asian Only	4	<1	98	21	102	10
Amer. Indian/AK Native	2	<1	0	N/A	2	<1
Native Hawaiian/Pacific Islander	0	N/A	1	<1	1	<1
Multiple Race	2	<1	1	<1	3	<1
Unknown	0	N/A	0	N/A	N/A	N/A
Total	514		475		989	

Due to rounding percents may not add to 100%

Figure 3: TB Incidence Rates by Race/Ethnicity
Florida, 2007



Gender and Age

- In 2007, men represented 62% (612) of Florida's TB cases with women accounting for 38% (377) of TB cases.
- In Florida, the TB incidence rate for males was twice that of females for 2007.
- The gender and age-specific rate was highest for men between the ages of 45 and 64 and women between the ages of 25 and 44 (Table 2).
- Overall, people <14 years old comprised 6% (61) of TB cases and 15-24 year olds were 10% (103). Those 25-44 comprised 34% (332) of the TB cases, those 45-64 years old comprised 34% (377) in 2007. People 65 years or older were 15% (156) of the TB cases (Table 3).

Table 2. Age and Gender Specific Incidence Rates, Florida, 2007

Age Groups	Male	Female	Both
0-4 years	2.8	4.6	3.7
5-14 years	0.8	0.9	0.9
15-24 years	5.2	3.3	4.2
25-44 years	8.2	5.6	6.9
45-64 years	10.0	4.2	7.0
65 and older	6.4	3.6	4.8

Table 3. Tuberculosis by Age Group, Florida, 2006 and 2007

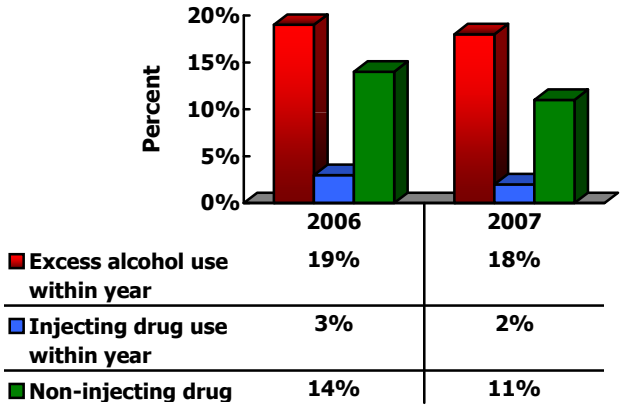
Age Groups	2006 Cases	% of TB (n=1,038)	2007 Cases	% of TB (n=989)
0-4 years	35	3	41	4
5-14 years	22	2	20	2
15-24 years	105	10	103	10
25-44 years	375	36	332	34
45-64 years	358	35	337	34
65 and older	143	14	156	16

Risk Factors and Tuberculosis

Substance Abuse and Tuberculosis

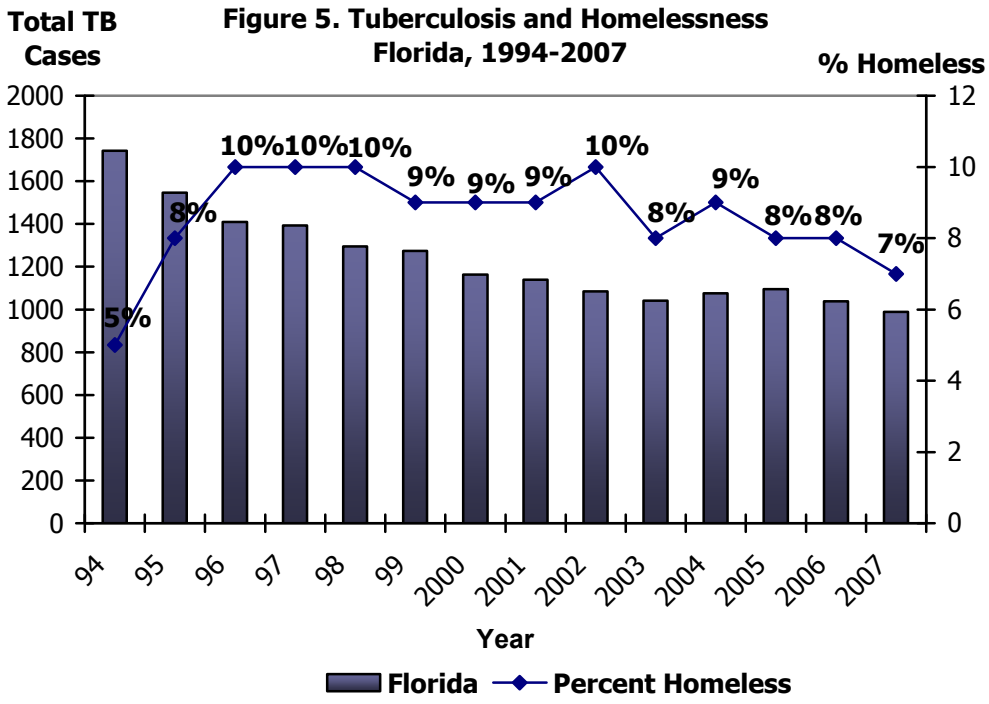
In 2006, 36% (367/1,038) of TB cases self-reported substance abuse. In 2007, the percentage declined to 31% (308/989) (Figure 4).

Figure 4: Tuberculosis and Substance Abuse
Florida, 2006 and 2007



Homelessness and Tuberculosis

The homeless are a marginalized population with issues such as poverty, poor nutrition, and in some cases, substance abuse. These factors, as well as frequenting high-risk settings such as homeless shelters, increase the probability of progression from TB infection to disease. In 2006, 8% (80/1,038) of Florida's TB cases were reported as homeless (Figure 5). The number of homeless TB cases declined to 7% (70/989) in 2007 (Figure 5).

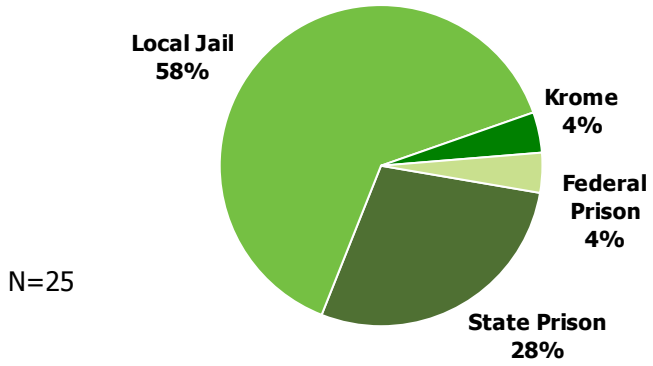


Incarceration and Tuberculosis

Effective TB prevention and control within correctional settings are essential elements to protecting the health of inmates, staff, and the community. However, continuity of care must be deferred to the county health department in order to ensure adherence to treatment once inmates are released back into the community with active TB disease or infection. Failure to complete treatment could lead to acquiring multi-drug resistance to TB medications, developing active TB disease, or exposing the general community to possible TB infection.

- In 2007, 3% (25/989) of Florida's TB cases were incarcerated at the time of diagnosis.
- Local jails represented 64% (16/25) of incarcerated cases (Figure 6).
- Federal and state prisons account for 32% (8/25) of cases diagnosed during incarceration, four percent (1/25) were assigned to Krome Detention Center (a federal facility that houses both criminal and non-criminal aliens) (Figure 6).

Figure 6. Tuberculosis in Correctional Facilities Florida, 2007

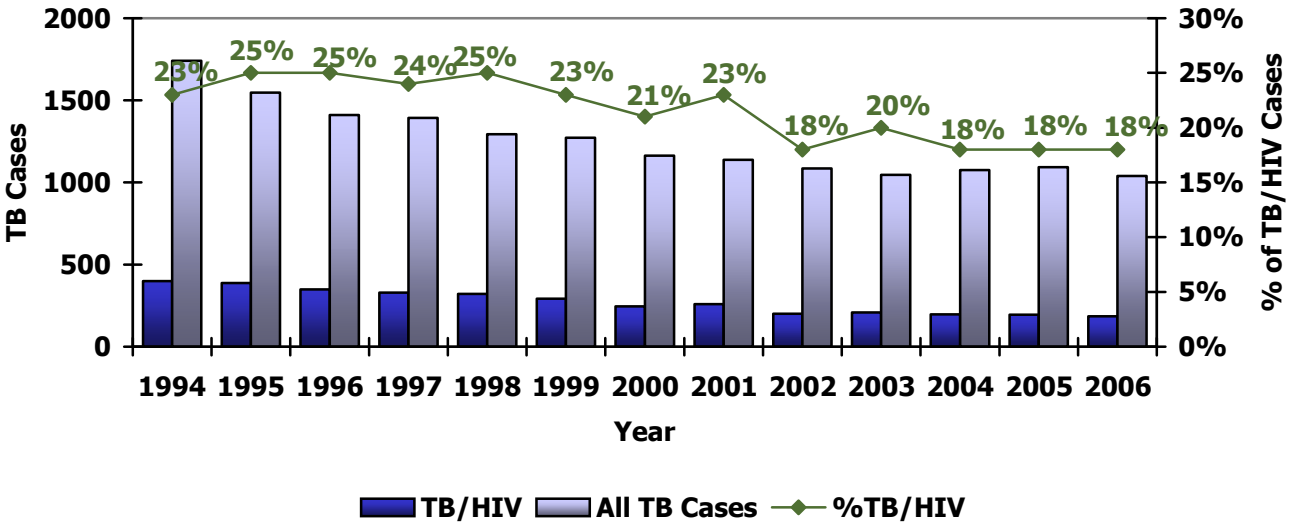


HIV Co-infection (TB/HIV)

Worldwide, TB is the leading cause of death for people with HIV infection. Co-infection with HIV complicates the treatment of TB. Drug interactions and malabsorption are two examples of barriers that must be overcome in case management of co-infected clients.

In Florida, HIV co-infection declined from 20% (208/1,046) in 2003 to 15% (151/989) in 2007. From 1994-2001, 20% of Florida's TB cases were reported to be co-infected with HIV (Figure 7).

Figure 7: Trend of TB/HIV, Florida, 1994-2006

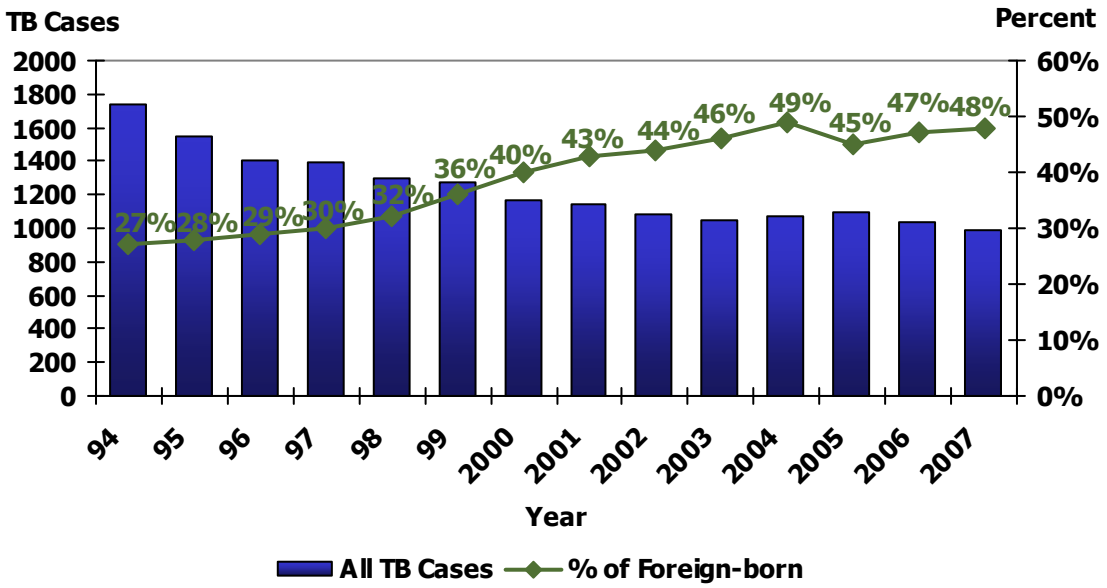


Country of Origin

In Florida, the percentage of TB cases in foreign-born people has been steadily rising since 1993. The increase in the proportion of cases among the foreign-born is a major contributing factor to the increase in Florida's TB morbidity. Between 1990 and 2000, Florida's foreign-born population grew by 61%, from 1.7 million to 2.7 million. In 1994, 15% (65/430) of cases were from countries where TB is endemic. By 2004, 18% (96/525) of Florida's foreign-born cases were from countries where TB is endemic. In 2002 and 2003, foreign-born people represented 44% and 46% of TB cases in Florida, respectively. In 2004, the proportion rose to almost 50% (526/1,076) (Figure 8). The proportion of cases among foreign-born

people decreased to 45% (496/1,094) in 2005, then began to rise again in 2006 to represent 47% of total TB cases and 48% of total TB cases in 2007 (Figure 8).

Figure 8: Trends in Foreign-Born TB, Florida 1994-2007

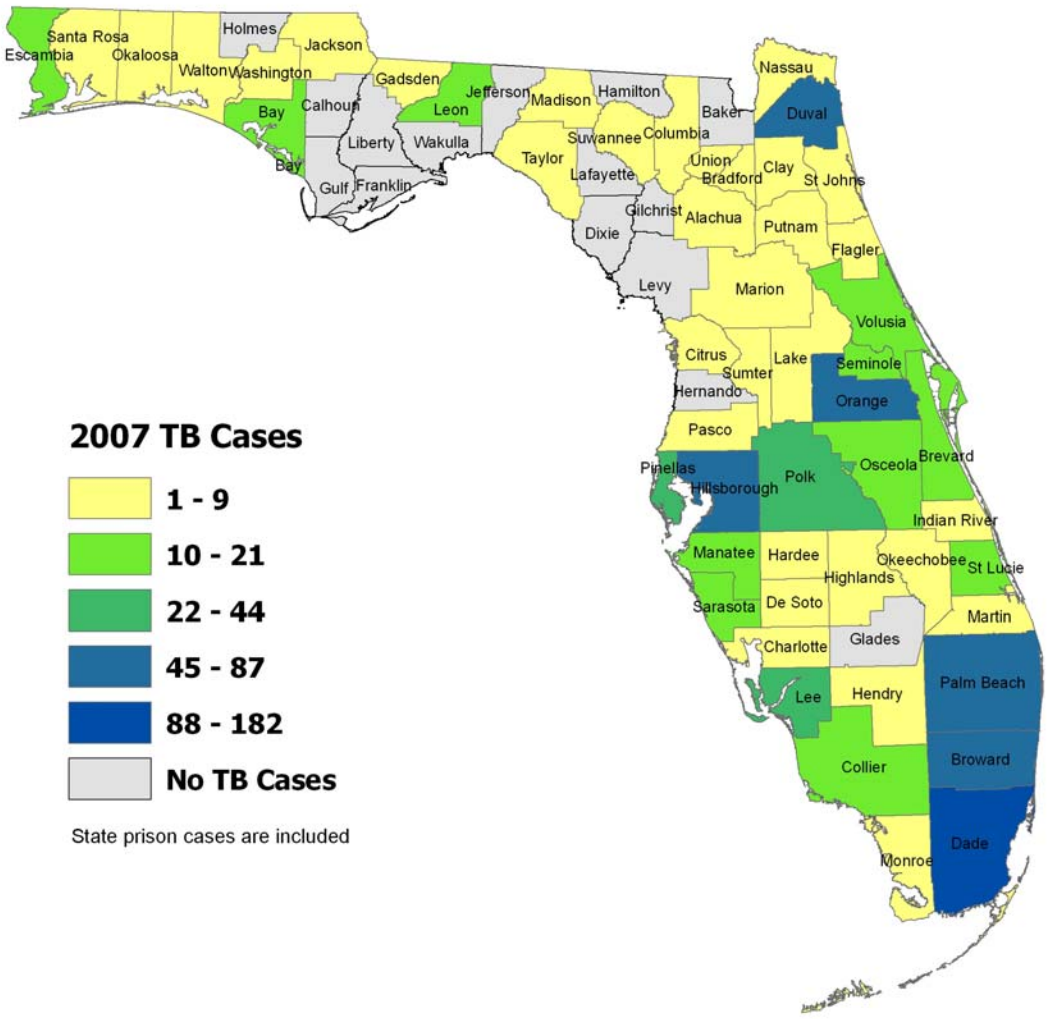


Drug Resistance

Florida's TB program has made significant strides in reducing the number of multiple drug resistant (MDR) cases and preventing extensively drug resistant (XDR) cases. MDR and XDR cases require considerable additional resources and expert medical consultation in order to ensure completion of therapy.

- Six percent (62) of Florida's TB cases in 2007 were resistant to Isoniazid (INH) (Figure 27).
- Less than 1% (6) of Florida's TB cases in 2007 were resistant to Isoniazid (INH) and Rifampin (RIF) – MDR (Figure 27).
- In 2007, Florida reported one case of Extensively Drug Resistant tuberculosis (XDR-TB).

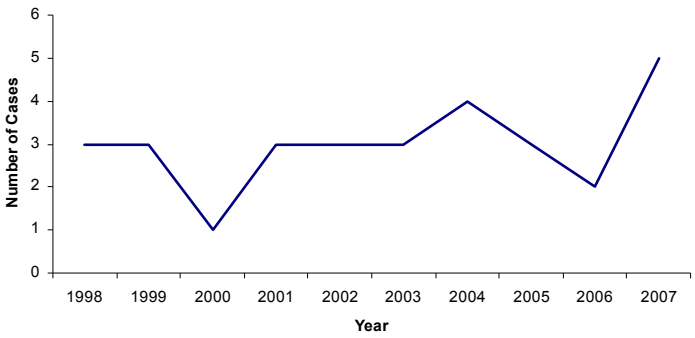
2007 Florida TB Cases



Tetanus

Tetanus: Crude Data	
Number of Cases	5
2007 incidence rate per 100,000	0.03
% change from average 5 year (2002-2006) incidence rate	66.67
Age (yrs) Mean Median Min-Max	 53.61 62 5-86

Figure 1.
Tetanus Cases by Year Reported, Florida, 2001-2007



Description

Tetanus is an acute, often fatal disease that is characterized by descending symptoms of trismus (lockjaw), difficulty swallowing, generalized muscle rigidity, and convulsive spasms of skeletal muscles. Tetanus is caused by the spore-forming bacterium *Clostridium tetani*. The dormant spores of *C. tetani* are found in soil and in animal and human feces. Even small breaks in the skin allow entry, and the spores germinate under low oxygen conditions. A potent toxin, tetanospasmin, is excreted, reaches the nervous system, and causes painful and often violent muscular contractions. The rigidity can progress until the respiratory system is compromised, requiring mechanical ventilation and tube feeding.

Disease Abstract

Five confirmed cases of tetanus were reported in Florida for 2007, which is an increase from the two cases in 2006 (Figure 1). Only one case, a man, had any documented history of vaccine. One man died, and the other cases are convalescing, with varying degrees of recovery. All cases were hospitalized.

Prevention

Vaccination against tetanus is recommended to begin at two months of age, and continue through adulthood at appropriate intervals to maintain protection against the disease. Primary tetanus immunization with diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) is recommended for all persons at least six weeks old, but <7 years of age, and without contraindications. This vaccine is available in combination with other childhood vaccines. Routine tetanus booster immunization, combined with diphtheria toxoid, is recommended for all persons >7 years of age every ten years. A new vaccine Tdap, the adult formulation of tetanus and diphtheria toxoids and pertussis, is the vaccine of choice for at least one dose. Tdap vaccine is used by many counties as the vaccine of choice for the seventh grade requirement. This dose can be given five years from the last dose of tetanus-containing vaccine. Information on the recommended schedule is available at: http://www.cdc.gov/vaccines/recs/schedules/default.htm.

The appropriate use of tetanus toxoid and tetanus immune globulin (TIG) in wound management is also important for the prevention of tetanus. Since herd immunity does not play a role in protecting individuals against tetanus, all persons must be vaccinated.

References

Centers for Disease Control and Prevention, *Manual for the Surveillance of Vaccine-Preventable Diseases*, 3rd ed., 2002.

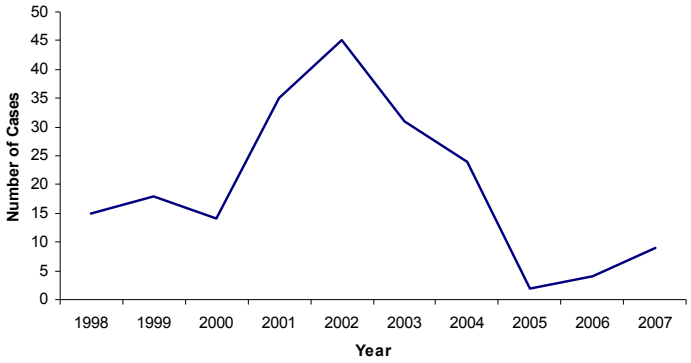
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/vaccines/vpd-vac/tetanus/default.htm

Toxoplasmosis

Toxoplasmosis: Crude Data	
Number of Cases	9
2007 incidence rate per 100,000	0.05
% change from average 5 year (2002-2006) incidence rate	-57.55
Age (yrs) Mean Median Min-Max	 38.33 39 16 - 59

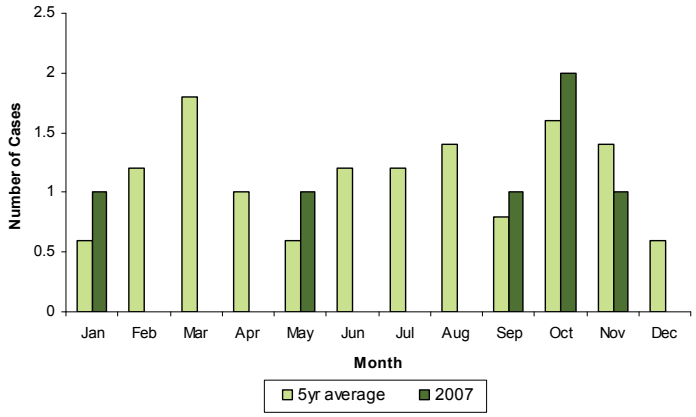
Figure 1.
Toxoplasmosis Cases by Year Reported, Florida, 1998-2007



Description

Toxoplasmosis is a systemic protozoan disease caused by the protozoan *Toxoplasma gondii*. The disease is frequently asymptomatic or may present as an acute disease resembling infectious mononucleosis, with fever, lymphadenopathy, and increased white blood cell count persisting for days to weeks. In immunodeficient people, such as those with HIV/AIDS, the disease may include a maculopapular rash, cerebral involvement, pneumonia, myocarditis, and death. A primary infection during early pregnancy can lead to fetal infection with serious complications or death. Cats, who acquire the infection from eating infected rodents and birds, serve as the primary reservoir for human infections. Transmission to humans can occur through ingesting feces contaminated dirt (litter boxes, sandboxes, playgrounds), eating raw or undercooked infected meat, drinking contaminated water, and occasionally, via transfusion or organ transplantation. The incubation period is from 10 to 23 days.

Figure 2.
Toxoplasmosis Cases by Month of Onset, Florida, 2007



Disease Abstract

The number of cases of Toxoplasmosis increased between 1997 (10) and 2002 (45), but since then has declined to nine cases in 2007 (Figure 1). This represents a 57.55% decline from the prior 5-year average incidence rate for 2002-2006. Of the cases reported in 2007, three were confirmed, six were probable. No outbreaks of toxoplasmosis have been reported in the past ten years. During the past five years, the cases reported were distributed throughout all the months of the year; in 2007, cases occurred only in January, May, September, October, and November and came from only five counties (Clay, Columbia, Dade, Hillsborough, and Orange) (Figure 2). The average number of cases for the past five years was highest in those aged 25-34 years with a bell-shaped distribution surrounding this group. The 2007 data shows a less uniform distribution with all cases occurring in those aged 16-59 years, but with peaks in the 25-34, 35-44, and 55-64 year old age groups (Figure 3). Over the past five years, females had a higher incidence rate than males (0.16 and 0.08 per 100,000, respectively). In 2007, two-thirds of cases were in females and females also had fewer cases than the 5-year average (Figure 4).

Figure 3.
Toxoplasmosis Cases by Age Group, Florida, 2007

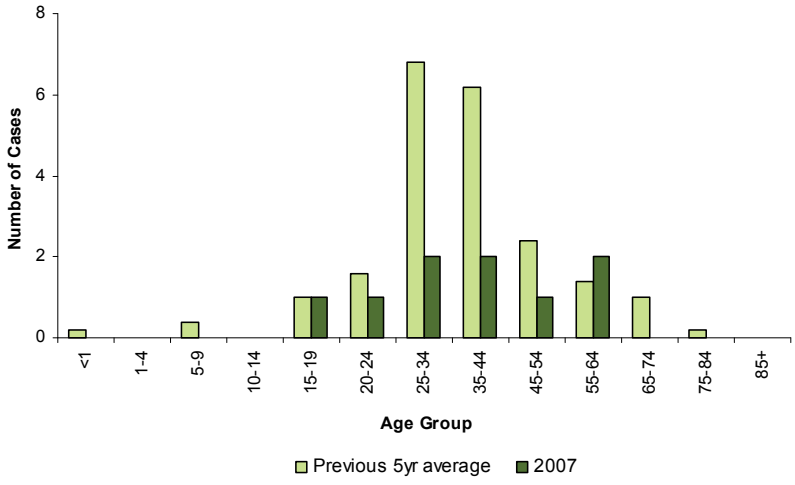
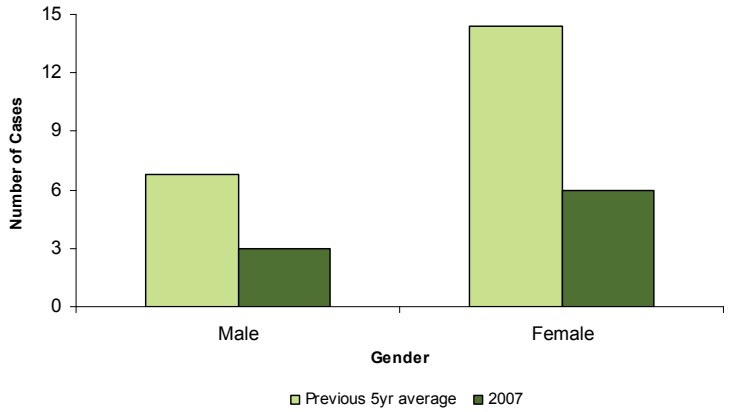


Figure 4.
Toxoplasmosis Cases by Gender, Florida 2007



Prevention

Prevention measures should include education of immunocompromised persons and pregnant women to include: proper handwashing, thorough freezing or cooking of meats, avoidance of cleaning cat litter pans, and wearing gloves when gardening, as well as containment of cats as indoor pets, daily disposal of cat feces and litter, and covering of sandboxes to prevent access from stray cats.

References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

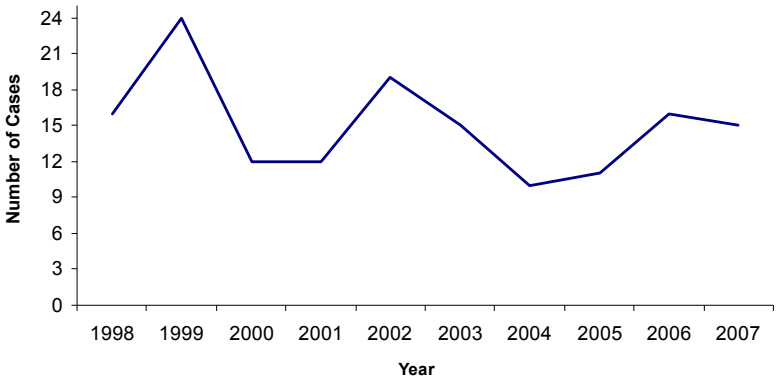
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dpd/parasites/toxoplasmosis/default.htm and http://www.cdc.gov/ncidod/dpd/parasites/toxoplasmosis/moreinfo_toxoplasmosis.htm

Typhoid Fever

Typhoid Fever: Crude Data	
Number of Cases	15
2007 incidence rate per 100,000	0.08
% change from average 5 year (2002-2006) incidence rate	5.63
Age (yrs) Mean Median Min-Max	 26.13 28 7 - 44

Figure 1.
Typhoid Fever Cases by Year Reported, Florida, 1998-2007



Description

Typhoid Fever is a systemic bacterial disease caused by *Salmonella typhi* (also known as *S. enterica* serovar Typhi) which is a member of *Salmonella* serogroup D1 and may be reported as such by laboratories. It is characterized by an insidious onset of sustained fever, headache, malaise, anorexia, nonproductive cough early in the illness, and GI disturbance (constipation more than diarrhea). The illness can range from mild to severe with multiple complications. Severity is influenced by strain virulence, infectious dose, age of patient, and duration of illness prior to treatment. A carrier state can follow acute illness. The disease occurs worldwide, with the majority of cases in developing countries. It is contracted by ingestion of food and water contaminated by feces or urine of infected persons or carriers. The incubation period ranges from 3-60 days with an average of 8-14 days. Most cases in the U.S. are in persons who have recently spent time in endemic areas.

Disease Abstract

The overall number of confirmed cases for the last 10 years has ranged from 10-24 annually, and in 2007 was 15 cases, representing an incidence rate of 0.08 per 100,000. This was a 5.63% increase from the average number of cases in the prior five years (Figure 1). All of the 2007 cases were classified as confirmed, and the median age was 28. Over the past five years, and consistent with national data, the majority of the cases (66-90%) are acquired outside the U.S. The counties reporting the greatest number of cases include Orange, Dade, and Palm Beach. Cases tend to be isolated, rather than clustered. They typically occur more frequently in the summer months, although in 2007 the majority of the cases occurred in the fall and winter months between January-February and September-December. Only a single outbreak of typhoid fever (18 cases, 1997) has been noted during the past ten years. This outbreak was traced to frozen shakes made with imported frozen mamey fruit.

Prevention

Prevention is through proper sanitation, safe food handling practices, and appropriate case management. These include proper handwashing, appropriate disposal of human waste products, access to safe and purified water supplies, control of insects, appropriate refrigeration, and cleanliness in preparation of food products in both home and commercial settings. In endemic areas, this includes drinking bottled or carbonated water, cooking foods thoroughly, peeling raw fruits and vegetables, and in general, avoiding food or drink from street vendors. Immunization is recommended only for those

with occupational exposure to enteric infections or for those traveling or living in endemic, high risk areas.

References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dbmd/diseaseinfo/typhoidfever_g.htm

Typhus Fever

Epidemic typhus, or louseborne typhus, is caused by *Rickettsia prowazekii*. It is transmitted human to human by the human body louse and is rare in the United States. Endemic, fleaborne, or murine typhus, is more common and infection is caused by *Rickettsia typhi*. The vector in this case is the rat flea with rats acting as the natural reservoir for the organism. A related, and relatively newly identified organism, is *Rickettsia felis*, which is thought to be vectored by the cat flea. The epizootiology has not been fully explained but opposums may be the natural reservoir for *R. felis*. Clinical presentation for all three organisms include: fever, headache, myalgia, and rash. However, *R. prowazekii* generally has more severe symptoms. Antibody tests for *R. typhi* cross-react with *R. felis*. Currently there are no routinely available tests specific for *R. felis*.

Between 1998 and 2007, there were five cases of typhus fever. Four cases were classified as confirmed and one as probable. There was one confirmed case acquired in Florida, reported in 2007, involving a 62 year old white female. Previously identified patients included two females and two males, all white non-Hispanics. Two of those cases were imported from other states. The age range for all five cases was 55 to 75 years old, with the median age being 65 years.

Varicella

Varicella: Crude Data	
Number of Cases	1321
2007 incidence rate per 100,000	7.04
% change from average 5 year (2002-2006) incidence rate	NA*
Age (yrs)	
Mean	12.4
Median	9
Min-Max	<1 - 98

*Varicella was added to the List of Notifiable Diseases in FL 11/2006. No trend data is available.

Description

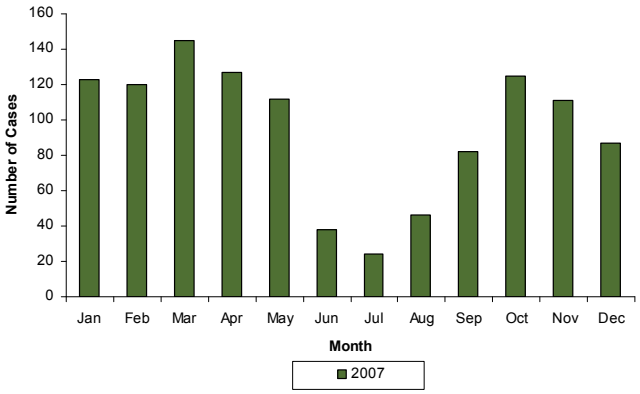
Varicella (chickenpox) is a febrile rash illness resulting from primary infection with the varicella-zoster virus (VZV). Humans are the only source of infection for this virus. Varicella is highly infectious with secondary infection rates in susceptible household contacts from 65%–86%. Transmission occurs from person to person by direct contact with patients with either varicella or herpes zoster lesions or by airborne spread from respiratory secretions. The incubation period for varicella is 10-21 days, most commonly 14-16 days. Varicella is characterized by a pruritic, maculopapular vesicular rash that evolves into non-infectious dried crusts over a 5-6 day period.

Varicella severity and complications are increased among immunocompromised persons, neonates, children <1 year, and adults. However, healthy children and adults may also develop serious complications and even die from varicella infection. Serious complications include secondary bacterial infections (most notably those caused by group A beta-hemolytic *Streptococcus* including cellulitis, necrotizing fasciitis, septicemia, and toxic shock syndrome), pneumonia, encephalitis, cerebellar ataxia, Reye syndrome, and death.

Infants born to women who develop varicella within the period of five days before delivery to two days after delivery are at risk of neonatal varicella, which may be severe. Congenital varicella syndrome, characterized by hypoplasia of an extremity, skin abnormalities, encephalitis, microcephaly, ocular abnormalities, mental retardation, and low birth weight, may occur among 0.4%-2.0% of infants born to women infected with varicella during the first two trimesters of pregnancy.

Although immunity following varicella infection is considered to be long lasting, second cases of varicella do occur rarely among immunologically normal persons. VZV remains in a latent state in human nerve tissue and reactivates in approximately 15% of infected persons, resulting in herpes zoster (shingles).

Figure 2.
Varicella Cases by Month of Onset, Florida, 2007



Disease Abstract

Varicella was reported in 51 of the 67 Florida counties. Cases may be under-reported as 2007 was the first full year of case reporting in Florida. The 1,321 cases include confirmed and probable cases. Of these cases, 847 had one reported dose of varicella vaccine; 30 of these cases had two doses of vaccine reported. Childcare centers and schools are the most common sites for varicella outbreaks.

Figure 3.
Varicella Incidence Rate by Age Group, Florida, 2007

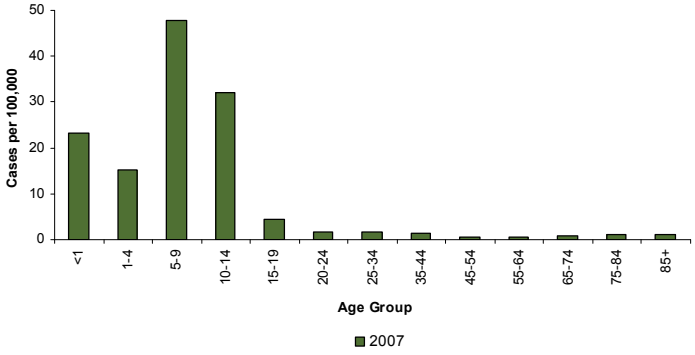
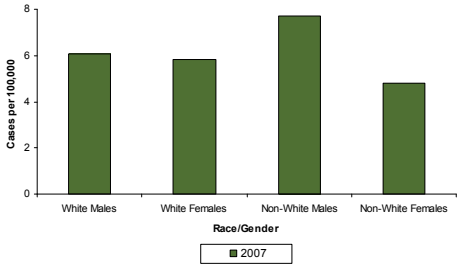


Figure 4. Varicella Incidence Rate by Race and Gender, Florida, 2007



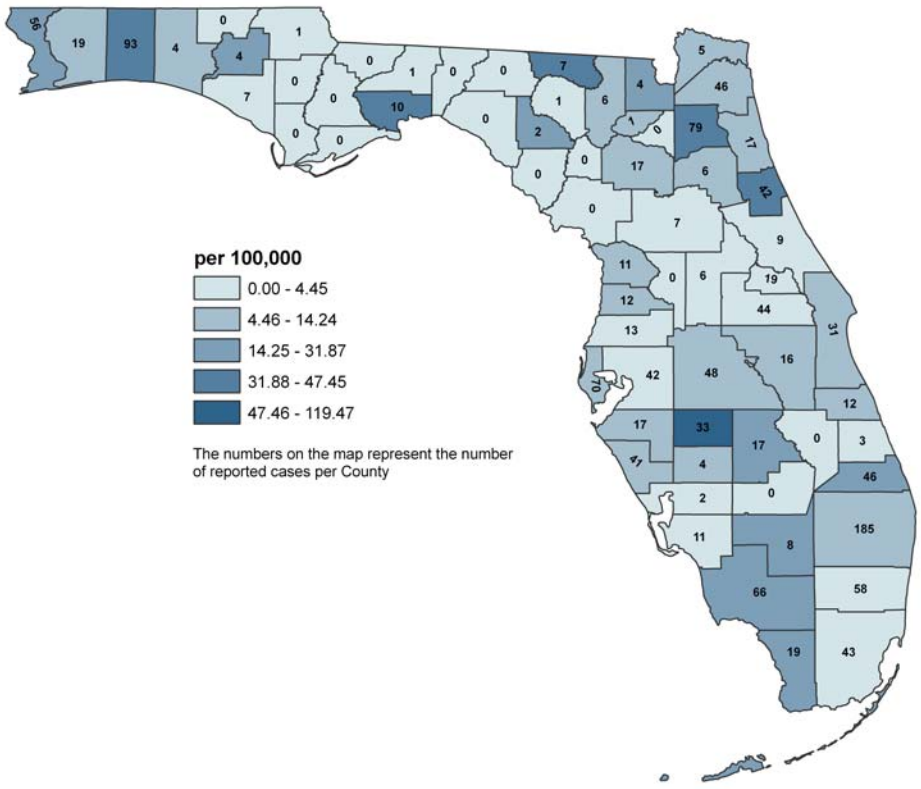
Prevention

The varicella vaccine is recommended at 12–15 months of age and at 4–6 years old. Doses given prior to 13 years of age should be separated by at least three months. Doses given after 13 years of age should be separated by at least four weeks. Due to the occurrence of disease after one dose of vaccine, the current recommendation is now for two doses of vaccine. Information on the recommended schedule is available at: http://www.cdc.gov/vaccines/recs/schedules/default.htm. Proof of varicella vaccine or healthcare provider documentation of disease is required for entry and attendance in childcare facilities, family day care homes, and schools for certain grades.

The ACIP recommends the use of varicella vaccine for susceptible persons following exposure to varicella. If administered within 72 hours, and possibly up to 120 hours following varicella exposure, varicella vaccine may prevent or significantly modify disease. Post-exposure vaccine use should be considered following exposures in health care settings, where transmission risk should be minimized at all times, and in households. If exposure to varicella does not cause infection, post-exposure vaccination with varicella vaccine should induce protection against subsequent infection. If exposure results in infection, the vaccine may reduce the severity of the disease.

Varicella zoster immune globulin (VZIG), if available, is recommended for post-exposure prophylaxis of susceptible persons who are at high risk for developing severe disease and when varicella vaccine is contraindicated. VZIG is most effective in preventing varicella infection when given within 96 hours of varicella exposure. Varicella zoster immune globulin can be ordered from the distributor (FFF Enterprises, Inc., Temecula, CA) by calling 800-843-7477.

Varicella Reported Incidence Rate* by County, Florida, 2007



References

Centers for Disease Control and Prevention, *Manual for the Surveillance of Vaccine-Preventable Diseases*, 3rd ed., 2002, chapter 14.

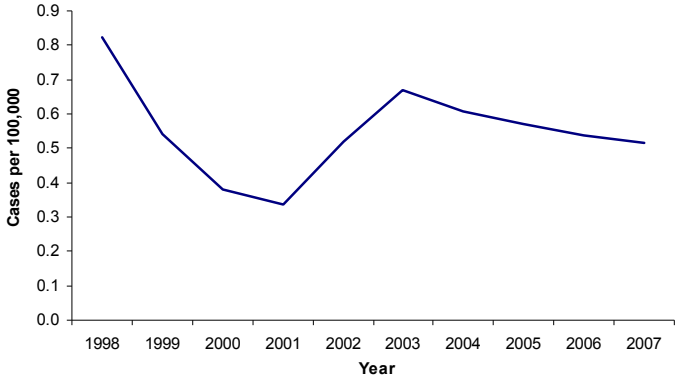
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at www.cdc.gov/vaccines/vpd-vac/varicella/default.htm

Vibriosis

Vibrio Infections: Crude Data	
Number of Cases	97
2007 incidence rate per 100,000	0.52
% change from average 5 year (2002-2006) incidence rate	10.96
Age (yrs) Mean Median Min-Max	 43.96 45 <1 - 90

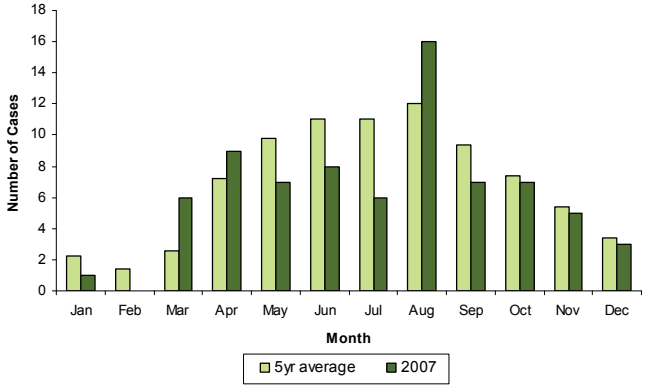
Figure 1.
Vibrio Infections Incidence Rate by Year Reported, Florida, 1998-2007



Description

The genus *Vibrio* consists of gram-negative, curved, motile rods, and contains about a dozen species known to cause human illness. Transmission occurs primarily through the foodborne route, and in Florida it is principally from eating raw or undercooked shellfish. Transmission can also occur through contact of broken skin with seawater where *Vibrio* species are endemic, which includes the coastal areas of the Gulf of Mexico. The symptoms depend on the infecting *Vibrio* species. The species of greatest public health concern in Florida are *V. vulnificus* and *V. parahaemolyticus*. *V. vulnificus* typically manifests as septicemia in persons who have chronic liver disease, chronic alcoholism, or are immunocompromised, whereas *V. parahaemolyticus* is a gastrointestinal disorder with symptoms of diarrhea, abdominal pain, nausea, fever, and headache. Both are commonly associated with the consumption of raw oysters and *Vibrio parahaemolyticus* is also associated with the consumption of cross-contaminated crustacean shellfish (crab, shrimp, and lobster).

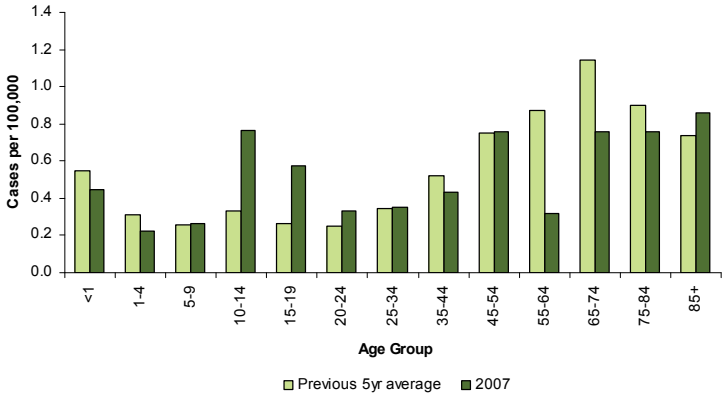
Figure 2.
Vibriosis Cases by Month of Onset, Florida, 2007



Disease Abstract

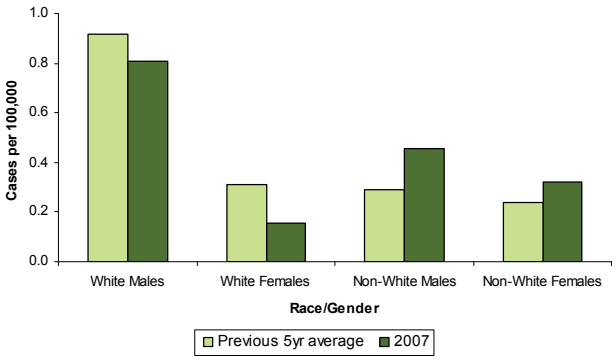
This report combines data on *Vibrio* infections to provide a general measure of disease burden. The reported numbers of species specific illnesses are as follows: *V. alginolyticus* (N=33), *V. cholerae* non-O1 (N=5), *V. cholerae* type-O1 (N=0), *V. fluvialis* (N=4), *V. hollisae* (N=2), *V. mimicus* (N=0), *V. parahaemolyticus* (N=26), *V. vulnificus* (N=22), and other *Vibrio* species (N=7). In comparison to the previous average 5-year incidence, the incidence for *Vibrio* infections in 2007 declined (10.09%) (Figure 1). A total of 97 cases were reported in 2007, of which 99% were confirmed. The majority of cases were considered sporadic (97%), not outbreak-associated, and three were of unknown origin. *Vibrio* infections typically increase during the warmer months. In 2007, forty-seven percent of the cases occurred from April to August (Figure 2).

Figure 3.
Vibrio Infections Incidence Rate by Age Group, Florida, 2007



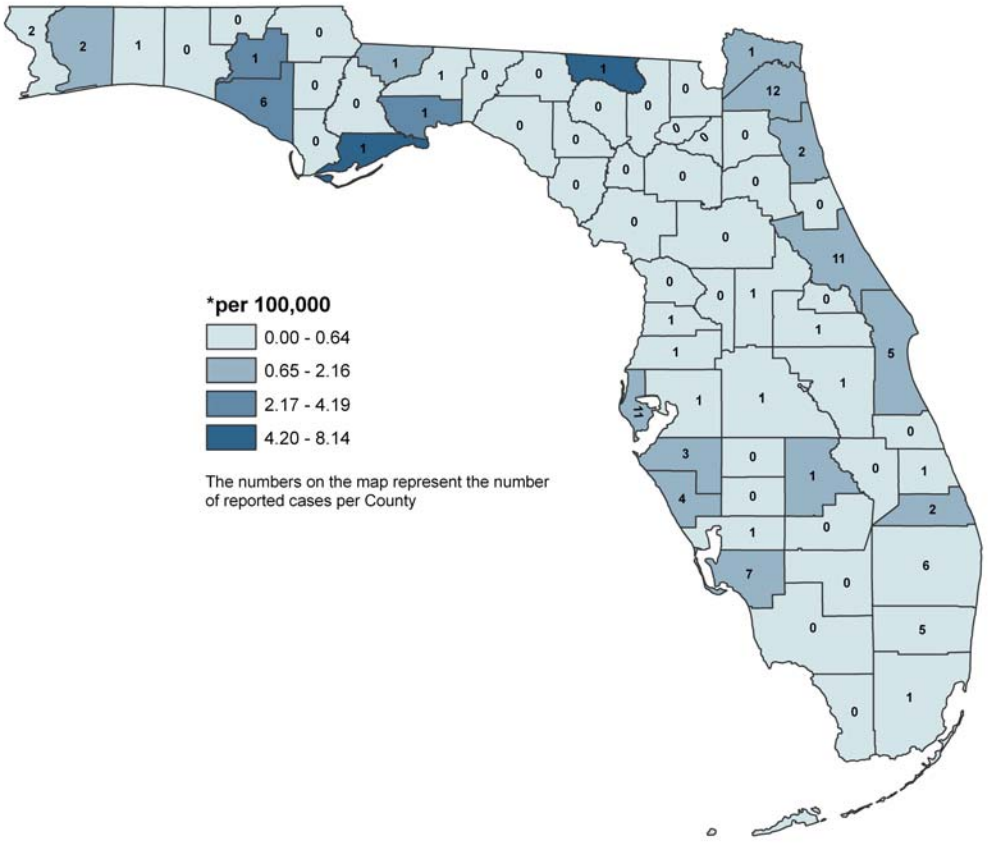
There are consistently high incidence rates among individuals 45+ years with a historical peak incidence occurring in the 65-74 age group (1.21 per 100,000), which is a population that is likely to have chronic conditions that predispose them to these infections (Figure 3). However, in 2007, there were relatively high incidence rates among those 10-19 years old. Historically, white males have the highest incidence rate and that continued in 2007. In 2007, incidence exceeded the previous 5-year average incidence for non-whites, both males and females (0.46 and 0.32 per 100,000, respectively), but decreased among whites, both males and females (Figure 4).

Figure 4. *Vibrio* Infections Incidence Rate by Race and Gender, Florida, 2007



Vibrio cases were reported in 34 of the 67 counties in Florida in 2007. The higher-incidence counties appear to be along the coasts. Of the *Vibrio* spp. reported in 2007, 22 were *Vibrio vulnificus*, an important vibrio infection causing serious illness and death in 47% of reported cases. Of the 227 reported *Vibrio vulnificus* cases, ten were wound infections, seven were attributed to oyster consumption (four deaths), one was attributed to clam consumption and four had unknown exposures.

Vibrio Infections Reported Incidence Rate* by County, Florida, 2007



References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

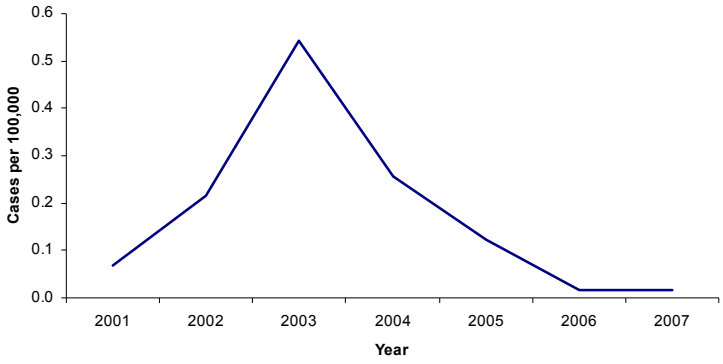
Additional Resources

Disease information is available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/factsht_cryptosporidiosis.htm

West Nile Virus

West Nile Virus: Crude Data	
Number of Cases	3
2007 incidence rate per 100,000	0.02
% change from average 5 year (2002-2006) incidence rate	-92.96
Age (yrs)	
Mean	52.33
Median	63
Min-Max	25 - 69

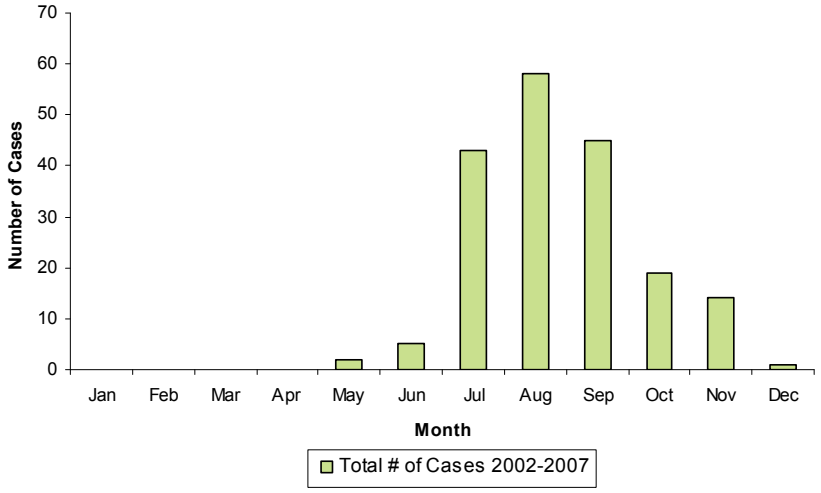
Figure 1.
West Nile Virus Incidence Rate by Year Reported, Florida, 2001-2007



Description

West Nile virus (WNV) disease is caused by a mosquito-borne flavivirus that was first detected in the U.S. in New York City in 1999. The virus spread quickly and by the end of 2007 it had been detected in 48 states with over 27,500 human cases reported. WNV was first reported in Florida in 2001. The natural transmission cycle of WNV involves *Culex* mosquitoes and wild birds. Infection can cause high rates of mortality among certain families of birds, especially corvids. WNV is also pathogenic to horses. Over 1,000 equine cases were reported in Florida between 2001 and 2007. Humans and horses are considered incidental dead-end hosts. The clinical spectrum for human WNV infection includes asymptomatic infection, mild illness (fever and headache), aseptic meningitis, and encephalitis that can progress to coma and death. Approximately 80% of those infected show no clinical symptoms. Twenty percent have mild symptoms, and <1% experience the most severe form of illness. Typically, symptoms appear between three and fourteen days after the bite of an infected mosquito. In Florida, case fatality rates range from 4% for all cases to 7% among those who develop the neuroinvasive form of the disease.

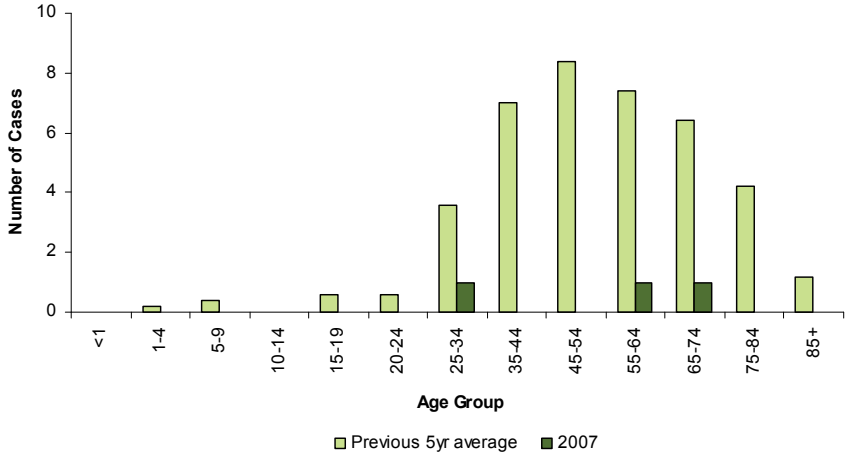
Figure 2.
West Nile Virus by Month of Onset, Florida, 2002-2007



Disease Abstract

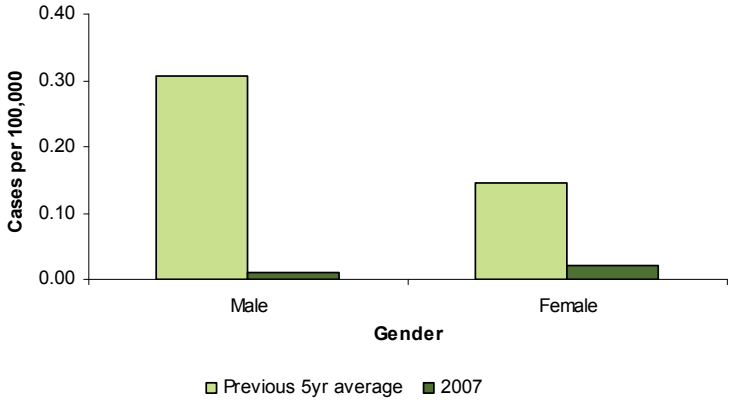
The incidence rate for WNV disease, including the neuroinvasive and non-neuroinvasive forms, peaked in 2003 (Figure 1). In 2007, there were two locally-acquired human cases, and one Floridian became ill after being exposed in another state. The level of virus transmission between bird and mosquito populations is dependent on a number of environmental factors. The low levels of activity reported in 2007 were likely a result of the dry conditions experienced by much of the state. The peak transmission period for WNV in Florida occurs July through September (Figure 2).

Figure 3.
West Nile Virus Cases by Age Group, Florida, 2007



The greatest number of cases occur in individuals over the age of 35, with more cases among males than females (Figures 3 and 4). WNV transmission tends to be localized in Florida. In 2001, the epicenter of the WNV outbreak was in the north-central part of the state. The following year, activity was most intense in the northwestern and central counties. The focus in 2003 was the panhandle, while south Florida had the most activity in 2004. In 2005, 86% of the human cases were in Pinellas County.

Figure 4.
West Nile Virus Incidence Rate by Gender, Florida 2007



Prevention

There is no specific treatment for WNV disease, and therapy is supportive for ill persons. Prevention of the disease is a necessity. Measures can be taken to avoid being bitten by mosquitoes. Drain any areas of standing water from around the home to eliminate mosquito breeding sites. Use insect repellents that contain DEET or other EPA-approved ingredients such as Picaridin, oil of lemon eucalyptus, or IR3535. Avoid spending time outdoors during dusk and dawn, the time when disease-carrying mosquitoes are most likely to be seeking a blood meal. Dress in long sleeves and long pants to protect your skin from mosquitoes. Also, inspect screens on doors and windows for holes to make sure mosquitoes cannot enter the home.

References

David L. Heymann (ed.), *Control of Communicable Diseases Manual*, 18th ed., American Public Health Association Press, Washington, District of Columbia, 2004.

Additional Resources

Additional information on WNV and other mosquito-borne diseases can be found in the Surveillance and Control of Arthropod-borne Diseases in Florida Guidebook, online at http://www.doh.state.fl.us/environment/community/arboviral/pdf_files/UpdatedArboguide.pdf.

Disease information is also available from the Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/ncidod/dvbid/westnile/index.htm.

Summary of Foodborne Diseases

Section 3

2006 and 2007 Summary

Summary of Foodborne Diseases

Description

Foodborne disease investigation and surveillance are essential public health activities. Globalization of the food supply, changes in individual eating habits and behaviors, and newly emerging pathogens has increased the risk of contracting foodborne diseases. The Centers for Disease Control and Prevention (CDC) estimates foodborne diseases account for approximately 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths per year in the U.S. However, only an estimated 14 million illnesses, 60,000 hospitalizations, and 1,800 deaths are accounted for by confirmed pathogens. Florida has had a unique program in place since 1994 to oversee food and waterborne disease surveillance and investigation for the state with the intent to better capture and investigate food and waterborne diseases, complaints, and outbreaks as well as to increase knowledge and prevent illness with regard to this important public health issue.

Foodborne disease outbreaks, as defined by the Florida Department of Health's Food and Waterborne Disease Program, are incidents in which two or more people have the same disease, have similar symptoms, or excrete the same pathogens; and there is a person, place, and/or time association between these people along with ingestion of a common food. A single case of suspected botulism, mushroom poisoning, ciguatera or paralytic shellfish poisoning, other rare disease, or a case of a disease that can be definitely related to ingestion of a food, is considered as an incident of foodborne illness, and warrants further investigation.

The Florida Department of Health has criteria established for suspected and confirmed foodborne disease outbreaks. A suspected foodborne outbreak is one for which the sum of the epidemiological evidence is not strong enough to consider it a confirmed outbreak. A confirmed foodborne outbreak is an outbreak that has been thoroughly investigated and the results include strong epidemiological association of a food item or meal with illness. A thorough investigation is documented by:

- diligent case finding,
- interviewing of ill cases and well individuals,
- collecting clinical and food lab samples where appropriate and available,
- confirmation of lab samples where possible,
- field investigation of the establishment(s) concerned, and
- statistical analysis of the information collected during the investigation.

The summary report of all of the information collected in an investigation in a confirmed outbreak will indicate a strong association with a particular food and/or etiologic agent and a group of two or more people, or single incidents as described above.

Overview

In 2006 and 2007, Florida reported 260 foodborne disease outbreaks with a total of 1,969 associated cases (Table 1).

Table 1. Summary of Foodborne Disease Outbreaks, Florida 1998-2007

Year	# Outbreaks	# Cases	Proportion of Outbreaks per 100, 000 population	Proportion of Cases per 100, 000 population	Cases per Outbreak
1998	300	3251	1.96	21.23	10.84
1999	273	1465	1.74	9.34	5.37
2000	269	1569	1.67	9.76	5.83
2001	288	1922	1.75	11.71	6.67
2002	240	1450	1.43	8.65	6.04
2003	185	1563	1.08	9.11	8.45
2004	174	1937	0.99	11.00	11.13
2005	128	1944	0.71	10.79	15.19
2006	143	1142	0.78	6.19	7.99
2007	117	827	0.62	4.41	7.07

Foodborne disease outbreaks in Florida are classified by outbreak status (confirmed or suspected) as well as by pathogen status (confirmed, suspected, or unknown). Among the 260 reported foodborne disease outbreaks in 2006 and 2007, 73 (28.08%) were determined to be confirmed foodborne disease outbreaks, accounting for 1056 (53.63%) of the 1,969 reported cases. Of the total reported outbreaks, 149 (57.31%) had a suspected and/or confirmed etiology, accounting for 1,428 (72.52%) of the total cases. Of the total reported outbreaks, 111 (42.69%) had unknown etiologies, accounting for 541 (27.48%) of the total cases (Table 2).

Table 2. Total Number and Percentage of Reported Foodborne Outbreaks and Cases by Pathogen Status,,Florida 2006-2007

	# Outbreaks	# Cases	% Outbreaks	% Cases
Suspected Outbreaks	**187**	**913**	**71.92%**	**46.37%**
Confirmed Pathogens	10	168	3.85%	8.53%
Suspected Pathogens	72	317	27.69%	16.10%
Unknown Pathogens	105	428	40.38%	21.74%
Confirmed Outbreaks	**73**	**1056**	**28.08%**	**53.63%**
Confirmed Pathogens	57	813	21.92%	41.29%
Suspected Pathogens	10	130	3.85%	6.60%
Unknown Pathogens	6	113	2.31%	5.74%

Trends

There is a general decreasing trend in the total number of reported foodborne disease outbreaks and number of reported foodborne disease outbreaks per 100,000 population in Florida over the last 10 years (Figures 1 & 2).

Figure 1. Total Number of Reported Foodborne Florida, 1998-2007

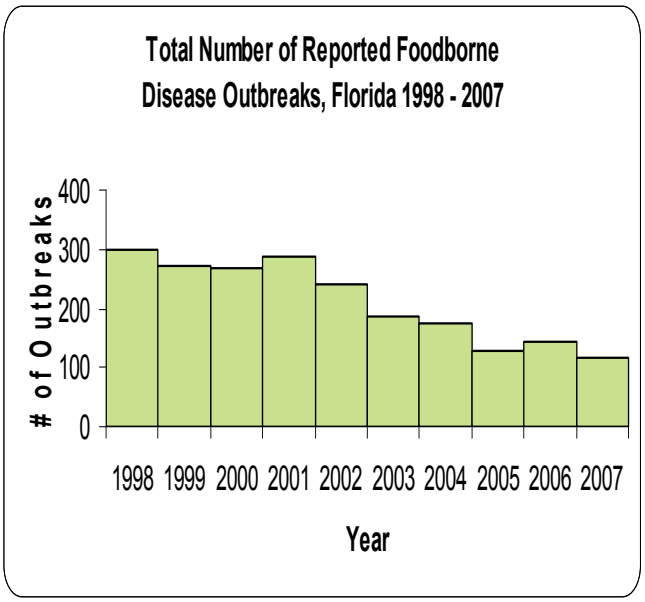
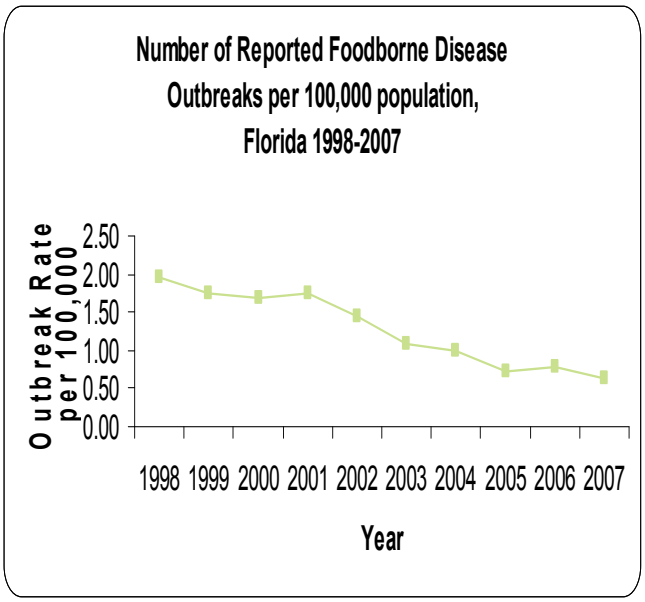


Figure 2. Number of Reported Foodborne Disease Outbreaks per 100,000 population Florida, 1998-2007



The total number of reported foodborne illness cases and the number of reported foodborne illness cases per 100,000 population in Florida has fluctuated over the last 10 years (Figure 3). There appears to be a decreasing trend in the number of reported foodborne disease outbreak cases and number of reported foodborne disease outbreak cases per 100,000 population for 2006 and 2007. (Figure 4).

Figure 3. Total Number of Reported Foodborne Disease Outbreak Cases Florida, 1998-2007

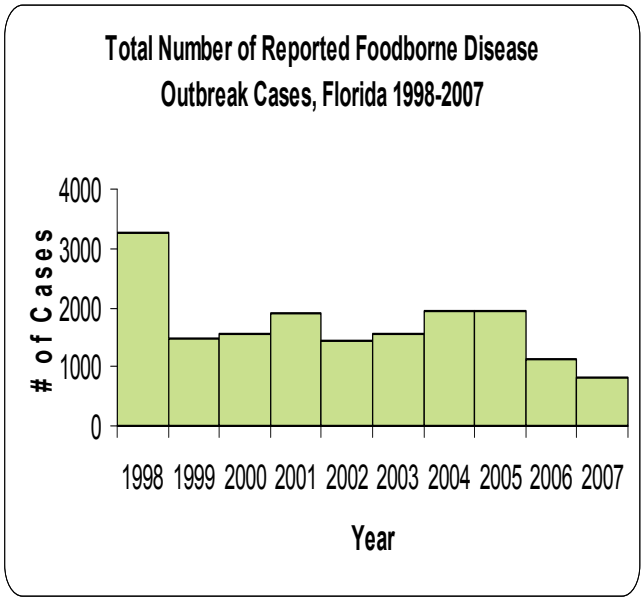
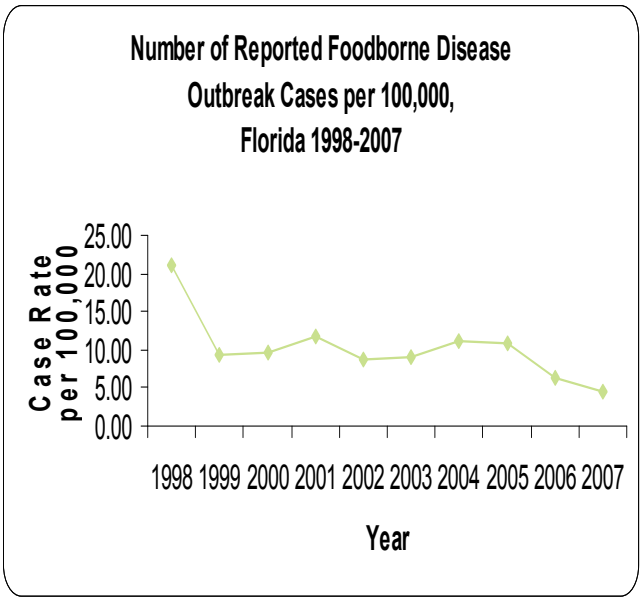


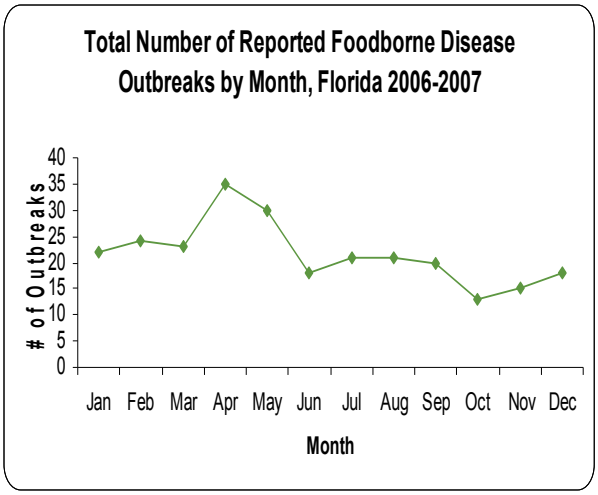
Figure 4. Number of Reported Foodborne Outbreak Cases per 100,000 population Florida, 1998-2007



Seasonality

Occurrence of reported foodborne disease outbreaks in Florida for 2006 and 2007 were most frequent during the spring months of April and May (Figure 5).

Figure 5. Total Number of Reported Foodborne Disease Outbreaks by Month, Florida 2006-2007



Agent

Foodborne disease outbreaks caused by bacterial pathogens accounted for the highest proportion of the reported foodborne disease outbreaks with a known etiology and accounted for 24.62% of foodborne disease outbreaks overall (Figure 6). This is in contrast to foodborne disease outbreaks caused by viral pathogens which accounted for the highest proportion of reported cases with a known etiology and accounted for 45.69% of all foodborne disease outbreak cases (Figure 7). Pathogen type was unknown for 42.69% of the total reported foodborne disease outbreaks and 27.48% of the total reported cases.

Figure 6. Percentage of Reported Foodborne Disease Outbreaks by Pathogen Type, Florida 2006-2007

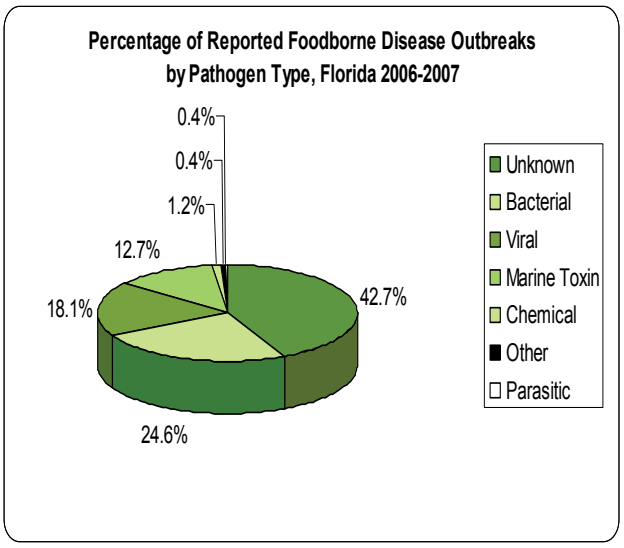
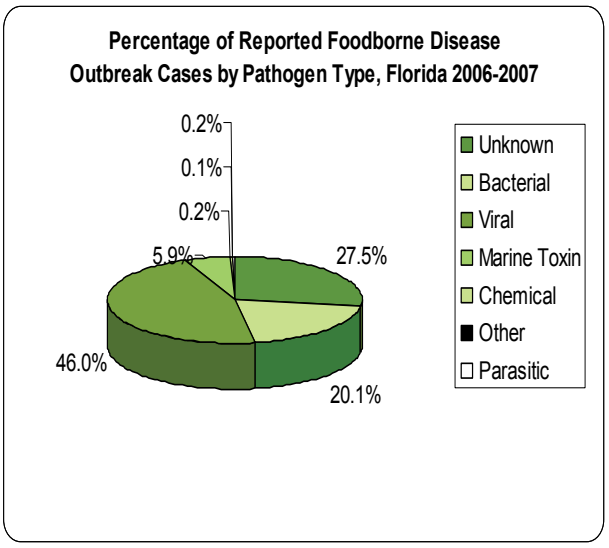


Figure 7. Percentage of Reported Foodborne Disease Outbreak Cases by Pathogen Type, Florida 2006-2007



The number and percentage of foodborne disease outbreaks and cases by etiology for 2006-2007 is summarized in Table 3. Among foodborne disease outbreaks with a suspected and/or confirmed etiology, Norovirus was the most frequently reported etiology for outbreaks in Florida for 2006 and 2007 accounting for 46 (16.69%) outbreaks followed by *Staphylococcus* and Ciguatera which accounted for 19 (7.31%) outbreaks each. Norovirus accounted for the highest number of cases associated with reported foodborne disease outbreaks with 902 (45.81%) cases followed by *Salmonella,* which accounted for 154 (7.82%) cases.

Table 3. Number and Frequency of Foodborne Outbreaks and Cases by Etiology, Florida 2006-2007

	Outbreaks		Cases	
Pathogen	#	%	#	%
Unknown				
Total Unknown	111	42.69%	541	27.48%
Bacterial				
Staphylococcus	19	7.31%	117	5.94%
B. cereus	16	6.15%	86	4.37%
V. vulnificus	15	5.77%	15	0.76%
Salmonella	7	2.69%	154	7.82%
C. perfringens	4	1.54%	19	0.96%
E. coli O157:H7	2	0.77%	4	0.20%
C. botulinum	1	0.38%	1	0.05%
Total Bacterial	64	24.62%	396	20.11%
Viral				
Norovirus	46	17.69%	902	45.81%
Hepatitis A	1	0.38%	3	0.15%
Total Viral	47	18.08%	905	45.96%
Parasitic				
Giardia	1	0.38%	4	0.20%
Total Parasitic	1	0.38%	4	0.20%
Marine Toxin				
Ciguatera	19	7.31%	71	3.61%
Scombroid	10	3.85%	24	1.22%
Neurotoxic Shellfish Poisoning	3	1.15%	18	0.91%
Total Marine Toxin	32	12.31%	113	5.74%
Other				
Chemical	3	1.15%	4	0.20%
Gempylotoxin	1	0.38%	4	0.20%
MSG	1	0.38%	2	0.10%
Total Other	5	1.92%	10	0.51%
Total				
Total	260	100.00%	1969	100.00%

Implicated Food Vehicles

Multiple items (23.46%), fish (15.00%), and multiple ingredients (13.85%) were the most frequently reported general vehicles contributing to foodborne disease outbreaks and cases in Florida for 2006 and 2007 (Table 4).

Table 4. Reported Foodborne Illness Outbreaks and Cases by General Vehicle, Florida 2006-2007

	# Outbreaks	% Outbreaks	# Cases	% Cases
*Multiple Items	61	23.46%	635	32.25%
Fish	39	15.00%	126	6.40%
**Multiple Ingredients	36	13.85%	189	9.60%
Poultry	24	9.23%	168	8.53%
Shellfish-Mulluscan	22	8.46%	51	2.59%
Unknown	16	6.15%	409	20.77%
Beef	13	5.00%	34	1.73%
Produce-Vegetable	11	4.23%	144	7.31%
Pork	8	3.08%	52	2.64%
Shellfish-Crustacean	7	2.69%	29	1.47%
Beverage	6	2.31%	38	1.93%
Pizza	6	2.31%	41	2.08%
Produce-Fruit	4	1.54%	11	0.56%
Dairy	2	0.77%	4	0.20%
Ice	2	0.77%	27	1.37%
Rice	2	0.77%	9	0.46%
Pasta	1	0.38%	2	0.10%
Total	260	100.00%	1969	100.00%

*****Multiple Items are food vehicles in which several foods are individually prepared or cooked and more than one food is suspected or confirmed to be contaminated (e.g. buffet, salad bar, chicken and shrimp, etc.).
******Multiple Ingredients are food vehicles in which several foods are combined during preparation or cooking and the entire food product is suspected or confirmed to be contaminated (e.g. casseroles, soups, sandwiches, salads, etc.).

Outbreak Location

Most of the reported foodborne disease outbreaks (73.08%) and cases (46.11%) were associated with restaurants (Table 5).

Table 5. Reported foodborne Illness Outbreaks and Cases by Site Florida 2006-2007

Site	**# Outbreaks**	**% Outbreaks**	**# Cases**	**% Cases**
Restaurant	190	73.08%	908	46.11%
Home	30	11.54%	145	7.36%
Grocery	14	5.38%	82	4.16%
Caterer	9	3.46%	253	12.85%
Other	5	1.92%	131	6.65%
Prison	3	1.15%	138	7.01%
Lunch Truck	2	0.77%	12	0.61%
Bakery	1	0.38%	6	0.30%
Country Club	1	0.38%	3	0.15%
Hospital	1	0.38%	11	0.56%
Oyster Bar	1	0.38%	1	0.05%
School	1	0.38%	248	12.60%
Shrimp Festival	1	0.38%	30	1.52%
Unknown	1	0.38%	1	0.05%
Total	260	100.00%	1969	100.00%

Contributing Factors

The current systematic data collection regarding contributing factors associated with reported foodborne disease outbreaks began in 2000. The top contributing factors associated with reported foodborne disease outbreaks in Florida for 2006 and 2007 were associated with time/temperature abuse, poor personal hygiene, and cross contamination (Table 6).

Table 6. Most Common Reported Foodborne Contributing Factors, Florida 2006-2007

Contributing Factor	# Outbreaks	# Cases
Inadequate cold-holding temperatures**	70	256
Unknown	64	469
Bare-handed contact by handler/worker/preparer*	59	705
Inadequate cleaning of processing/preparation equipment/utensils*	55	342
Toxic substance*	32	113
Cross contamination from raw ingredient of animal origin*	30	143
Insufficient time and/or temperature during hot holding**	22	201
Contaminated raw product/ingredient*	20	38
Ingestion of raw products*	19	33
Infected person or carrier*	18	597

Note: There are 3 categories of contributing factors (contamination factor, proliferation factor, survival factor) and up to three contributing factors per category can be attributed in an outbreak; therefore, the reported numbers may not match the actual number of reported outbreaks and cases.

* Contamination Factor

** Proliferation/Amplification Factor

References

J.B. Bender, et al., “Foodborne disease in the 21st century: What challenges await us?” *Postgraduate Medicine*, Vol. 106, No. 2, 1999, pp. 106-119.

P.S. Mead, et al., “Food-related illness and death in the United States,” *Emerging Infectious Diseases*, Vol. 5, No. 5, 1999, pp. 607-625.

Section 4

Summary of Notable Outbreaks and Case Investigations, 2007

Listed alphabetically by disease

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,* 64D-3. Selected outbreaks or case investigations of public health interest that occurred in 2007 are briefly summarized below. Following many of these summaries are citations or links where additional information can be found about the event. Investigation summaries are organized by disease name; within each disease category investigations are listed chronologically (January through December, 2007).

Additional disease summaries and information describing epidemiologic events in Florida can be found in *EpiUpdate. EpiUpdate,* an online publication of the Bureau of Epidemiology, Florida Department of Health can be accessed through the archive site listed below.
http//:www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/index.html

Food- and waterborne disease outbreaks in Florida are summarized in annual reports produced by the Bureau of Community Environmental Public Health Medicine accessible via the following site below.
http://www.doh.state.fl.us/environment/community/foodsurveillance/annualreports.htm
Annual food and waterborne reports include overall statewide data as well as summaries of selected outbreaks. In addition a bibliography of journal and *EpiUpdate* articles on food and waterborne disease can be found at the following site http://www.doh.state.fl.us/Environment/community/foodsurveillance/index.html under Environmental Health, Bibliography.

Botulism

Infant Botulism in a Visitor to Palm Beach County, March 2007

The Palm Beach County Health Department Epidemiology and Disease Control Program was notified of an infant at a local hospital who was suspected of having intestinal botulism. The four-month-old infant presented with decreasing ability to breastfeed and swallow, and decreasing motor control of the head of four days duration. The child had received only breast milk. There was no history of ingesting any other food such as honey. The infant and family, visitors to Palm Beach County, reside in southeast Pennsylvania, an area identified as having high concentrations of *Clostridium botulinum* spores in the soil.

After consultation with the Centers for Disease Control and Prevention (CDC), the case was referred to the California Infant Botulism Treatment and Prevention Program. The California clinician in consultation with the child's physician determined that this was a possible case of intestinal botulism and released the infant gamma globulin (BabyBIG®) with instructions for obtaining a stool specimen for culture.

The infant was transferred to a southeast Pennsylvania hospital on March 6, 2007. The gamma globulin was given at that facility. The infant improved and was discharged home on March 13, 2007 with continuing follow-up through the hospital. The CDC received the stool specimen on March 7. Although preliminary 24 hour test results were negative, on March 14 the culture was positive

for Botulinum toxin, type A. Note: the case was not reported in Merlin because the patient was a Pennsylvania resident, and therefore this was not a Florida case.

Suspected Infant Botulism in Orange County, May 2007

The Orange County Health Department investigated a suspected infant botulism case in a two-month-old girl. This infant was hospitalized on May 29, 2007 with hypotonia and constipation. After consulting with the resident physician, the California Infant Botulism Treatment and Prevention Program (IBTPP) released BabyBIG® (human-derived botulism antitoxin antibodies), which was administered to the patient on June 5. The baby demonstrated marked improvement following that treatment.

Fecal samples collected on June 4th and 9th tested negative for toxin and *Clostridium botulinum* at the Centers for Disease Control and Prevention (CDC) Botulism Lab, however the attending physician continued to believe *C. botulinum* was the cause of the patient's illness.

Although the mother of the patient had consumed honey imported from Panama, the patient had no known exposure to the honey. The patient was primarily breastfed, but recent feedings had been supplemented with formula. The parents treated the patient's constipation with corn syrup and prune juice prior to hospitalization. No foods were laboratory tested and the source of the suspected infection remains unknown.

Infant Botulism, Duval County, August 2007

In August 2007, an 8-week-old boy was diagnosed with infant botulism after his stool specimen tested positive for Botulinum toxin, Type A. The California Infant Botulism Treatment and Prevention Program was contacted, and the anti-toxin, BabyBIG®, was administered. Most cases of infant botulism occur in breastfed babies at the first introduction of non-human milk substances. This child was breastfed and was given small amounts of apple juice, corn syrup and a probiotics supplement. Cultures of these items were negative for *C. botulinum*. Extensive interviews with the family and an environmental assessment of the home did not identify any obvious exposures. The father's occupation in the landscaping business is notable in this investigation since evidence suggests that most infant botulism cases acquire their spores by swallowing microscopic dust particles that carry the spores.

For more information about this investigation please visit
Voss, R., K. Van Zile, J. DePasquale, "Infant Botulism, Duval County," *Epi Update*, 2007; November,
http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007.htm

Brucellosis

Brucellosis Cases Associated with a Hunting Camp, Brevard County, 2007

During 2007, the Brevard County Health Department received reports of three cases of brucellosis which where indirectly or directly related to a hunting camp in the north end the county.

Case 1: White woman, 57 years of age. She did not participate in hunting, but her spouse is an avid wild hog hunter. In May 2007 her spouse killed and butchered a wild hog. The patient handled his clothes which were grossly contaminated with hog excrement. While handling the contaminated clothes she was experiencing severe dry, cracking skin. In June, she developed symptoms related to brucellosis including, intermittent fever, headache, lethargy, depression, etc. Finally in October, 2007 she was diagnosed and treated for brucellosis. She responded well to the antibiotics and has had no reccurrence of symptoms.

Case 2 and 3: Occurred almost simultaneously in November 2007. Case 2 and 3 were in two elderly men who also avidly hunted wild hogs in the same area. Both men developed symptoms of brucellosis and were appropriately treated. The men had killed and butchered a wild hog at the end of September 2007. All three patients as well as other members of the hunting club were counseled about appropriate infection control measures to reduce exposure to *Brucella*.

Chagas Disease

Chagas Disease in Palm Beach County, 2007

Two Palm Beach County residents contacted the Palm Beach County Health Department Epidemiology and Disease Control Program after donating blood found to be positive for antibodies to *Trypanosoma cruzi*, the agent of Chagas disease, a zoonotic disease caused by the bloodborne parasite. They each received letters from the blood bank where the donation had taken place. The blood samples tested both ELISA and RIPA positive. The first patient, originally from Central America, had resided in the U.S. for 5 years. The patient's intermittent symptoms included bloating, headache, myalgia, fever, fatigue, and diarrhea for the past year. He was referred to a PBCHD clinic for evaluation and follow-up. The second patient had no symptoms. She was originally from South America. She had three children who were tested and found to be negative. She was already a PBCHD patient and continued her follow-up there. The Palm Beach County Health Department sent the blood bank a letter to be included with future Chagas disease case notification, giving the local PBCHD Epidemiology Program contact information.

For more information about *T. cruzi* infection investigations in Florida please visit
Shultz, R., D. Stanek, C. Blackmore, "*Trypanosoma cruzi* Infections in Florida," *EpiUpdate*, 2007; December, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/December2007EpiUpdate

Chemical

Waterborne, 2007 Outbreak Related to Exposure to Chemicals, Osceola County, August, 2007

On August 13 the Osceola County Health Department learned from a local radio station broadcast of acute illnesses in approximately a dozen children who had been at a swimming party at an apartment complex public pool prior to illness onset. The initial investigation uncovered 16 people seen through the hospital emergency department, of whom four were admitted for shortness of breath, difficulty breathing, and respiratory distress. Interviews of two of the admitted children were conducted and it was established that some type of chemical exposure likely occurred. Eleven people were determined by attending physicians to be ill with respiratory illness attributed to chlorine exposure. A case was defined as respiratory illness in a person at the apartment complex pool on August 13, 2007, with illness onset after the pool pump was turned on and characterized by at least one of the following symptoms: burning eyes, sore throat, watery eyes, coughing, sneezing, burning inside the nose, wheezing, chest tightness, or shortness of breath. A total of 13 persons reported or experienced symptoms that matched the case definition. Eleven of twelve people interviewed reported a strong smell prior to illness onset. This smell was described as chlorine, bleach, and bitter. Ten people reported the presence of bubbles rising to the surface from the return jets prior to illness onset. The symptoms reported by both the cases and attending medical professionals are consistent with either chlorine or hydrochloric acid exposure. On August 13 and August 14, 2007, the implicated swimming pool was evaluated by environmental health personnel. Assuming (based on both reported

observations and illnesses) that five gallons of 10 percent liquid chlorine was added to 345 gallon filter pack, the resulting level of free chlorine would have been approximately 1449 ppm.

Additional resources

American Academy of Family Physicians, 2000. "Mass Psychogenic Illness," Familydoctor.org, http://familydoctor.org/online/famdocen/home/articles/648.html

Centers for Disease Control and Prevention, "Ocular and Respiratory Illness Associated with an Indoor Swimming Pool—Nebraska, 2006," *MMWR*, 56(36); 929-932, http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5636a1.htm

Jones, T., "Mass Psychogenic Illness: A Case Report and Overview," Psychiatric Times, Vol. XVII, Issue 4, 2000, http://www.psychiatrictimes.com/p000463.html

Ciguatera

Ciguatera Fish Poisoning Associated with Consumption of Smoked Amberjack, Broward County, February, 2007

In February 2007, the Broward Regional Environmental Epidemiologist investigated an outbreak of ciguatera fish poisoning associated with three out of four friends who had consumed smoked amberjack at a poker party. Within 3-9 hours after consumption, the three friends developed symptoms of diarrhea, pin-prickling in the hands and feet, itching, weakness in the legs, joint and muscle pain, fatigue, reversal of hot/cold sensation, hypersensitivity to hot and cold, abdominal pain, rash, numbness in the teeth/gums, and/or body aches. No leftover fish was available for analysis. None of the individuals visited a physician for diagnosis. Ciguatera fish poisoning was determined to be the agent responsible for the illnesses based on the incubation period and symptoms reported as well as the type of fish consumed. The recreationally caught fish had been professionally smoked and vacuum packed into 50 packages with approximately 4-5 fillets each. The fish had been consumed since September 2006 without any problems. At the poker party, the fisherman who had caught the fish decided to serve the remaining packages of the smoked amberjack. No other possible exposures were noted in the investigation.

Three Ciguatera Fish Poisoning Outbreaks in Palm Beach County, August, 2007

The Palm Beach County Department of Health Epidemiology and Disease Control Program investigated three separate incidences of ciguatera fish poisoning that occurred during the month of August, 2007. A total of ten people were known to have been affected. The first occurrence was a family of five affected after ingesting a barracuda they had caught in Palm Beach County coastal waters. The second incident occurred after a family ingested a grouper that was caught in Broward County waters. Two people were affected. The third incident was a family of three who ingested a barracuda purchased at a local fish market. Of the ten people affected, six were seen by health care providers. Three received mannitol infusions. One person was hospitalized with acute respiratory failure. The fish market was investigated by PBCHD Environmental Health and the Florida Department of Agriculture and Consumer Safety (DACS). A sample of the grouper caught in Broward County waters tested positive for ciguatera toxin.

Ciguatera Fish Poisoning Outbreak in Southwest Florida, September 2007

On September 18, 2007, the Collier County Health Department (CHD) received a call from a local hospital concerning a man who presented to the emergency department with nausea, vomiting, diarrhea, tingling of the mouth and hand, slow heart beat, and low blood pressure. His wife and son had similar symptoms and were being evaluated at another local hospital. All three people were admitted to the hospital and subsequently diagnosed with ciguatera fish poisoning. The age of the cases ranged from 21-48 years. The incubation period ranged from three to 7.5 hours, and the duration of symptoms ranged from 14-64 days.

The suspect fish was initially identified as a kingfish caught on September 16 in the Gulf of Mexico, approximately 32 miles west of Marco Island. The Collier CHD collected an uneaten portion of the implicated fish specimen and sent it to the Food and Drug Administration (FDA) Gulf Coast Seafood Laboratory for analysis. On September 28, the FDA Gulf Coast Seafood Laboratory examined the raw fish sample for the presence of ciguatera related toxins using a sodium channel-specific neuroblastoma ("cytotoxicity") assay. Caribbean ciguatoxin-1 (C-CTX-1) was used as a standard. The "cytotoxicity" test result was positive, 1.2 ng C-CTX-1eq/g of fish flesh was found. On October 12, confirmation testing (LC-MS) was done, and the sample was positive for Caribbean ciguatoxin-1. The FDA Gulf Coast Seafood Laboratory identified the fish as a barracuda. On November 28, this was confirmed by DNA bar-coding analysis at the University of Guelph in Ontario, Canada. Currently there is no mechanism to determine if a fish is toxic unless "cytotoxocity" assays are conducted in a laboratory.

For more information about this investigation please visit
Harder, T., P. Castellon, "Ciguatera Outbreak in Southwest Florida," *EpiUpdate*, 2007; December, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/December2007EpiUpdate.pdf

Clostridium perfringens (probable)

Foodborne Illness at a Church Benefit in Palm Beach County, December 2007

A foodborne illness outbreak occurred at a World AIDS Day benefit luncheon held at a local church in Palm Beach County in December 2007. Participating agencies were contacted by the Palm Beach Health Department Epidemiology and Disease Control Program to identify individuals who had attended or eaten the food. A total of 159 lunches were served, 47 at the church and 112 as take-out. A questionnaire was developed and interviews took place by telephone. A case was defined as a person experiencing abdominal cramps and/or diarrhea within a 3-42 hour period after eating a meal consisting of barbeque chicken, yellow rice, green beans, and cake and served at the benefit held at a local church in Belle Glade, FL on December 5, 2007. A total number of 52 persons were interviewed with 28 (54%) meeting the case definition. Symptoms reported included diarrhea, abdominal cramping and nausea. Onset of symptoms occurred 3-42 hours after ingestion of the meal, with a mean of 13 hours. Food samples and a stool specimen were sent to the Bureau of Laboratories for testing. *Clostridium perfringens* at an SPC of greater than 10^5 per gram of food was found in food samples. The stool specimen was negative for enteric pathogens. PBCHD Environmental Health Program investigated the details of food preparation, delivery and handling at the church. An unlicensed caterer had prepared the food.

Escherichia coli

Escherichia coli O157 Outbreak at a Day Camp in Pinellas County, Florida, June 2007

In June 2007, five cases of Shiga toxin-producing *Escherichia coli* (STEC) infections were reported to the Pinellas County Health Department. Four cases were campers and staff at a week-long day camp. The fifth ill person did not attend the day camp but became ill after an exposed sibling developed symptoms.

Stool samples from four people, thirty animals, and four environmental soil samples from the grounds of the petting zoo were collected. Four human clinical isolates, nine animal fecal isolates and four environmental isolates yielded *E. coli* O157:NM (nonmotile) strains with an indistinguishable pulsed-field gel electrophoresis (PFGE) pattern. The PFGE pattern was unique and did not match any other STEC strains seen in the community or the Pulsenet database. However, one animal fecal isolate had a different PFGE pattern from the human clinical isolates. The animals were placed under voluntary quarantine and returned to the owner's property.

The designated 2250 sq ft animal interaction area housed 28 goats, 1 sheep and 1 llama and was enclosed by a gated fence. Campers had unlimited access to the animals through a single combined entry and exit. Four hand-washing facilities were located outside the enclosed animal area near the combined entry and exit. Signs were displayed on each hand-washing facility to instruct campers to wash their hands. Staff were present near the exit to supervise compliance with hand-washing.

Even with risk-reduction measures in place, outbreaks of STEC may result from improper hand-washing techniques and through contamination of clothing or shoes.

Gastrointestinal Illness, Un-Confirmed Etiologic Agent

Gastrointestinal Illness Outbreak Associated with a Wedding Reception, Pasco County, March 2007

On March 25, 2007, the Pasco County Health Department was contacted by wedding reception attendees experiencing gastrointestinal symptoms. A survey of attendees determined that a total of 26 (28%) of 93 persons who attended the wedding reception on March 25, 2007 became ill following the suspected meal. The mean onset of the symptoms was 36.4 hours with a range of 19-61 hours. Predominant symptoms included diarrhea (92%), nausea (73%), vomiting (62%), loss of appetite (62%) and abdominal pains (58%). Statistical analysis of information from cases and controls implicated the pasta salad which had an odds ratio of 4.6 with a 95% confidence interval of (1.2136-20.2559) and a p-value of 0.0209. The majority of the food items served had been provided by an unlicensed caterer located in Hillsborough County. A field visit to the caterer's commissary showed the facility was inadequate for commercial food preparation. Some of the catering staff may have been experiencing gastrointestinal symptoms before or during the event.

Five symptomatic attendees were given stool sample collection containers; no specimens were returned for laboratory diagnostic testing. Norovirus was the suspected foodborne pathogen associated with this outbreak.

For more information about this investigation please visit
Wydotis, M., M. Friedman, et al. "Wedding Reception Associated Norovirus Foodborne Outbreak Investigation, Pasco County, March 23, 2007," *EpiUpdate*, 2007; June, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/June2007EpiUpdate.pdf

Outbreak of Gastrointestinal Illness following a Seafood Festival, Nassau County, May 2007

The Nassau County Health Department's (NCHD) Epidemiology Program received notification of persons with gastrointestinal (GI) illness following a large annual seafood festival held from May 4-6, 2007 on Amelia Island, FL. NCHD received 48 reports of GI illness in festival attendees from May 8-31, 2007. Illness reports were received from multiple sources: a local hospital, a neighboring CHD, Department of Business and Professional Regulation restaurant complaints, and citizen phone calls. NCHD initiated a case-control study to compare persons who developed GI illness and attended the festival to persons who attended the festival and did not develop GI illness.

Results from the case-control study showed that the cases had a common exposure to a single food stand at the festival. The predominant symptoms of ill persons were nausea, vomiting, weakness, fatigue, diarrhea, and abdominal cramps, with a mean incubation period of 34.6 hours and mean duration of illness of 48.4 hours. The item found to be statistically associated with illness was fresh squeezed lemonade purchased from a single food stand at the festival. Of the cases, 29 out of 30 consumed lemonade from the stand on a single day. One case did not drink the lemonade but consumed funnel cake prepared at the stand. The stand was operated by a single employee working three-hour food worker shifts. The stand was staffed by high school volunteers who often worked ungloved and had minimal food hygiene training.

Gastrointestinal Illness Outbreak at a Construction Site in Miami Beach, Miami-Dade County, June 2007

On June 4, 2007, the Miami-Dade County Health Department Office of Epidemiology and Disease Control (MDCHD-OEDC) received a phone call from the Miami Beach Fire Rescue Department reporting that several workers at a construction site on Miami Beach had fallen ill. Some of the ill workers were taken to two local hospitals in ambulances. Firefighters stated that the construction workers had recently eaten food purchased at a mobile truck that frequently serves lunch at that site.

Interviews were conducted using the MDCHD Environmental Health Foodborne Illness Survey/ Complaint tool. Three stool samples and two vomitus samples were collected and sent to the Bureau of Laboratories-Miami for bacterial stool culture and ova and parasite testing. A case was defined as a construction worker who was present at the work site on June 4th and had symptoms of diarrhea and/ or vomiting.

A total of nine construction workers met the outbreak case definition. The analysis was based on interviews obtained from six workers. The median age for the ill workers was 24 years (range: 19-51 years) and five (83.3%) were male. The mean incubation period from the time of eating lunch from the truck to the onset of illness was 2 hours and 15 minutes (range: 1 hour to 3 hours, 10 minutes). Nausea, vomiting, and diarrhea were symptoms experienced by all of the ill workers while five (83.3%) also had symptoms of cramps, chills, weakness, and fatigue.

Staphylococcus aureus was isolated in large quantities from all five of the stool and vomitus samples. Enterotoxin testing was not performed. Stool samples were negative for *Salmonella, Shigella, Campylobacter, Escherichia coli* O157:H7, or other bacterial pathogens. Food from the lunch truck was discarded and not tested. Therefore, no specific enterotoxin could be isolated from epidemiologically implicated food.

The suspected common food vehicle in this outbreak was a rice, meat, and egg dish bought from an illegal and unapproved source. This outbreak is suspected to be caused by *Staphylococcus aureus* enterotoxin based on the short apparent incubation period and symptoms. The diagnosis is not directly supported by the laboratory data.

For more information about this investigation please visit
O'Connell, E., J. Suarez, et. al., "Gastrointestinal Illness Outbreak at a Construction Site in Miami Beach, Miami-Dade County, June 2007" *EpiUpdate*; 2007, November, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/November2007EpiUpdate.pdf

Public Drinking Water System Bacterial Contamination Investigation, City of West Palm Beach, September-October 2007

On September 26, 2007 routine sampling for bacteria identified the presence of fecal coliform and *Escherichia coli* in the City of West Palm Beach's drinking water distribution system. Samples collected on September 27, 2007 also tested positive for fecal coliform and *E. coli*. On September 28, 2007 the City notified the Palm Beach County Health Department of the results and initiated a system wide boil water order impacting nearly 120,000 people. The boil water notice remained in effect for nine (9) days until the system was absent of fecal coliform and *E. coli*.

Following the boil water alert issued on the afternoon of Friday September 28th, the Palm Beach County Health Department requested via the media that persons in the affected area report gastrointestinal (GI) illness to the Palm Beach County Health Department. Over the next two weeks a total of 128 persons reported illness that met the case definition of "abdominal pain or diarrhea in a person who consumed water from the West Palm Beach Public Water Supply after September 1, 2007." The top three symptoms were diarrhea (87.5%), abdominal pain (85.2%) and nausea (54.7%). All GI symptoms were resolved within 2-3 days of onset.

A cross sectional, random sample, telephone interview survey was conducted to assess the association between recent tap water consumption and GI illness. During the three week data collection period from October 12 to November 2, 2007, 315 telephone interviews were completed, each from distinct households. Of those interviewed, 38 (12%) reported illness. Among the 38 people with illness, abdominal pain and diarrhea were the most common symptoms. Most illnesses lasted five days or less, but eight people reported illness lasting ten days or longer, suggesting multiple etiologies for the illnesses described. Only six of these respondents sought medical care for their illness and no-one was laboratory diagnosed with a specific waterborne pathogen.

An association between increased levels of tap water consumption and GI illness was observed. This association was consistent, and demonstrated a dose response relationship across increasing levels of consumption.

The most likely cause of the bacterial contamination identified on September 26, 2007 was the interruption of the chlorine supply (1-2 hours) as a result of the failure of an automatic chlorine supply switch and operator error; coupled with the identification on November 6, 2007 of a 36 inch pipe within a 1 million gallon storage tank that allowed partially disinfected water to enter directly into the water distribution system. On October 29, 2007 the city switched from the use of chloramines as their disinfectant to free chlorine at increased levels (10-14 ppm) that lasted approximately three (3) weeks. The city remained on free chlorine (consisting of <4 ppm) until February 14, 2008.

Hepatitis A

Hepatitis A Associated with Consumption of Fruit Smoothies, Orange County, April 2007

During the first week of April 2007 the Orange County Health Department received notification of three people infected with hepatitis A, with illness onsets between March 24 and April 6, 2007. One Brazilian restaurant was identified in common for all three cases. Onsets of illnesses were March 24th, April 1st and April 6th. All three people were IgM positive for hepatitis A and exhibited compatible symptoms. Ages ranged from 23-31 years. Two were hospitalized. All reported consuming the same type of food product, an acai fruit smoothie with various toppings such as strawberries, banana, & granola from the Brazilian restaurant during a period from February 10 through March 13, 2007. One person consumed this product every weekend during this time frame. Another reported a single visit on March 1st with consumption of the acai fruit smoothie. The third described visits to the facility on March 9th and 13th with consumption of the acai smoothie both times. Extensive surveillance efforts did not reveal any additional cases. An onsite inspection was conducted. Observations included: the blender utilized to mix these ingredients did not appear to be properly washed, rinsed, and sanitized on a routine basis, improper or non-existent hand-washing procedures, hand-washing sinks improperly maintained and used, and poor personal hygiene practices.

Malaria

Malaria Screening and Prophylactic Treatment among Recently Arrived Burundian Refugees, Duval County, Florida, July 2007

In July 2007, the Duval County Health Department (DCHD) was alerted to an EPI-X report from the Centers for Disease Control and Prevention (CDC) regarding undocumented and/or insufficient pre-departure therapy for malaria among East African refugees resettling in the U.S. A joint investigation between the Florida Department of Health (FDOH) Bureau of Tuberculosis (TB) and Refugee Health, the Bureau of Community Environmental Health, the Bureau of Epidemiology and the Bureau of Laboratories (BOL) in conjunction with DCHD Epidemiology and Refugee Health Programs was initiated. The CDC coordinated with the FDOH Bureau of TB and Refugee Health to provide a list of all Burundian refugees who had relocated to the Jacksonville area prior to July, 2007. The DCHD Epidemiology Program used this list to begin locating the Burundian refugees who had arrived during the specified period and treating them using the joint CDC/IOM guidelines that were provided. Of the 32 refugees identified as having arrived during the target time period, several lacked documentation of pre-departure therapy and some had no medical records. In total, 32 refugees were prophylaxed with Malarone. No active cases of malaria were identified in this group of refugees.

Increased global travel, immigration, and the presence of anopheline vectors throughout Florida and the U.S. contribute to the ongoing threat of malaria transmission. The importation of malaria also demonstrates critical implications for clinical care, blood safety, and the possibility of autochthonous transmission.

For more information regarding the investigation please visit

T. Azarian, R. Kay, L. Smith, “Malaria among Recently Arrived Burundian Refugees: A Public Health Response,” *Epi Update*, 2008; January, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2008/January2008EpiUpdate.pdf

Malaria in a Traveler with Exposure in a Non-Malaria Endemic Location, Volusia County, Florida, August 2007

In August 2007, Volusia County Health Department was notified of a presumptive case of malaria. The individual was hospitalized on August, 8 2007 with severe headache, fever, nausea, and jaundice. Laboratory results were later confirmed by the Centers for Disease Control and Prevention (CDC) to be malaria (*Plasmodium falciparum*). The 19-year-old man had traveled to Great Exuma, Bahamas for a vacation from July 21 to July 29, 2007, spending time with a parent who resided there. During his visit the man went night fishing on several occasions and remembers receiving numerous mosquito bites. No malarial prophylaxis was taken. In 2006, CDC had issued a travel advisory for this island due to 19 cases identified during the spring and summer. This advisory had been changed, however, as there were no further cases of malaria on the island and malaria was not considered to be endemic.

In the summer of 2007, a second case of malaria (*P. falciparum*) was identified by the Ministry of Health of the Bahamas. Due to the new outbreak situation, on August 23, 2007, CDC changed the recommendation for travelers to Great Exuma to again include anti-malarial chemoprophylaxis.

Additional resources

http://archive.nassauguardian.net/pubfiles/nas/archive/images_pages/05242007_A04.pdf
http://wwwn.cdc.gov/travel/contentMalariaBahamas.aspx
http://wwwn.cdc.gov/travel/contentMalariaBahamas07.aspx
http://wwwn.cdc.gov/travel/yellowBookCh4-Malaria.aspx

Measles (Rubeola)

Measles Outbreak Response Using the Incident Command System (ICS), Alachua County, May 2007

In May 2007, five patients with laboratory confirmed measles were found to be epidemiologically linked to a patient who had returned from India in early April. All five patients were part of an eastern religious sect with low vaccination rates. The response to the measles outbreak used an Incident Command Structure (ICS) that mobilized resources from multiple areas of the community and health department towards a single coordinated and organized containment strategy.

On Sunday, April 29th, a student health clinic contacted the Alachua County Health Department on-call nurse to report identification of Koplik spots on a patient suspected to have measles. On April 30th, the health department went to the home of the student to complete an interview to identify a source, elicit contacts, and draw blood to verify the diagnosis. Information from the interview indicated that multiple person-to-person transmissions had occurred, and the outbreak was already in the third generation. Altogether, five patients sought medical care in eleven different instances; only one healthcare practitioner recognized measles and reported it to the local health department.

Active surveillance was conducted at eight primary care and hospital healthcare providers, the area private/charter schools, and a day care on the temple grounds. Over 250 contacts were identified. An outbreak was set up in the Merlin outbreak module to track these contacts. The program was able to record the demographics, the vaccination history, and the contacts by person or setting. The activities of people with laboratory confirmed measles were hand charted on individual calendars marking the onset of symptoms, the incubation period to identify the source, and the period of communicability.

By June 1, when the event was declared over, more than 200 people received MMR vaccine at the health department. The use of an Incident Command System (ICS) in the public health response resulted in a quick response and an organized operation. It set clear daily objectives, identified who was responsible for which actions, appointed a public information spokesperson, provided operations command oversight, and allowed for the event sequence to be captured by the planning section.

For more information about this investigation please visit
E. Wilson, "Measles Response Using the Incident Command System (ICS)," *EpiUpdate*, 2007; November, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/November2007EpiUpdate.pdf

Mycoplasma pneumoniae

Mycoplasma pneumoniae Outbreak in a Private School, Duval County, October 2007

In October of 2007, the Duval County Health Department's (DCHD) Epidemiology Program was notified by a local school about a possible outbreak of respiratory illness or walking pneumonia. The symptoms included fever, cough, difficulty breathing, and headache.

The school had a total enrollment of 391 students. Initially, seven symptomatic children were reported. One of the children, a six-year-old female, was hospitalized with pneumonia, fever, and Stevens Johnson syndrome. This child and one contact from the school were confirmed by chest X-ray and a serologically positive IgM to have *Mycoplasma pneumoniae*. *M. pneumoniae* is a very small bacterium spread through respiratory droplet transmission that accounts for 15-20% of community acquired lower respiratory infections and has the highest rate of infection in individuals aged 5-20 years.

Illness within the school population was assessed. A line list of symptomatic individuals was compiled. School absenteeism records were retrospectively assessed for the two months prior to the onset of symptoms for the first case. In total, 68 individuals experienced illness that met the case definition; 27 were ill in October and 41 in November. Symptoms included cough (36 [46%]), fever (50 [63%]), sore throat (36 [46%]), and ear ache (8 [10%]). One patient was hospitalized.

There were five cases of laboratory confirmed *M. pneumoniae* and 9 cases of physician diagnosed illness; including one parent and one teacher. Strict hand and respiratory hygiene were implemented as well as enforcement of exclusion criteria for ill students and staff.

This outbreak identified the need for general respiratory guidelines that are applicable to a multitude of events. In response, guidelines were developed to address the control of respiratory illnesses in schools and facilities.

Norovirus

Norovirus Outbreak at a Homeless Shelter, Hillsborough County, January 2007

On January 17, 2007 a homeless shelter's pediatric nurse called the Hillsborough County Health Department (HCHD) reporting there were a large number of people ill at the facility. The initial phone call report indicated that 20 out of 25 people who had eaten food the evening of January 11, 2007 and the morning of January 12, 2007, became ill with symptoms of fever, diarrhea and vomiting. One resident was seen at a hospital emergency department on January 11, 2007 and discharged with a diagnosis of an undetermined foodborne illness.

On January 18, 2007 HCHD Environmental Health and Epidemiology staff conducted a joint site visit at the facility. Interviews were conducted with general and cafeteria staff. No cafeteria staff had been ill; 1-2 other staff members and/or volunteers had been ill. Inspection of the kitchen, daycare and school were conducted. No evidence of a foodborne or point source outbreak was detected.

During the site visit the facility staff stated that records for onset, symptoms, and duration were not available. Any information pertaining to resident illness was communicated in passing between the residents and the Director of Activities.

A total of 43 residents and four staff members of the homeless shelter were identified as having a gastrointestinal illness meeting the outbreak case definition. On January 19, 2007 three out of the nine stool samples collected tested positive for norovirus type G2. Despite the initial report of a foodborne illness, the epidemiologic evidence indicates (varying onset dates, no evidence of case clustering) that this virus was likely spread from person-to-person.

For more information about this investigation please visit
K. Fraser, "Norovirus Outbreak at a Homeless Shelter," *Epi Update,* 2007; June,
http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/June2007EpiUpdate.pdf

Norovirus Outbreak after a Baby Shower in Highlands County, February 2007

The Highlands County Health Department (HCHD) investigated an outbreak of Norovirus in attendees of a baby shower on February 25, 2007. A list of all attendees and foods served was provided to HCHD and a standardized questionnaire was administered to all attendees. Data from the questionnaire was analyzed using EpiInfo 3.3.2. Predominant symptoms of the 16 people who met the case definition were nausea (100%), abdominal pain (93.8%), cramps (87.5%), vomiting (75%), and diarrhea (75%). Eating the chicken salad (attack rate = 86.7%, RR = 6.07) and the meatballs (attack rate = 75%, RR = 2.57) were statistically associated with illness, with p-values of <0.01 and 0.012, respectively.

Stool samples and leftover food samples were collected and sent to the Bureau of Laboratories-Tampa for analysis. Stool sample analysis yielded norovirus type G2. Norovirus type G2 was not detected in the chicken salad sample, but this does not rule it out as the outbreak responsible vehicle. The assay is experimental, and Norovirus is very difficult to isolate from food specimens. Given the strong statistical association between the chicken salad and illness, coupled with biological plausibility, the chicken salad is still thought to be the culprit of the outbreak. During the investigation it was learned the caterer had prepared the food at her home while caring for her sick grandchildren who were

reported to be suffering from rotavirus. Furthermore the caterer was unlicensed and the matter was turned over to the Department of Business and Professional Regulations for further action.

Norovirus Healthcare Facility Outbreak in Assisted Living and Skilled Nursing Areas, Collier County, May 2007

Outbreak 1 and 2 occurred in the same general facility with one in an assisted living area and one in a skilled nursing area. Dates of onset began on May 22, 2007 for the skilled nursing facility and on May 27, 2007 for the assisted living facility residents. Among employees, dates of onset began on May 25 at the skilled nursing facility and on May 30 at the assisted living facility.

Facility A (assisted living facility): A total of 48 residents and 13 employees experienced symptoms (diarrhea, vomiting and nausea). The duration of illness was from less than one day to five days. Thirty-four percent were ill for one day or less. Duration of illness data was available for only 44 out of the 61 (72.1%) persons ill. The age of those ill ranged from 43-97 years with a median of 88 years. Sixty-seven percent of those ill were women and 33% were men. Three specimens tested positive for norovirus type G2 on June 1, 2007.

Facility B (skilled nursing facility): Dates of onset began on May 22, 2007 and occurred in residents through June 3, 2007. In total, 62 residents and 13 employees experienced symptoms (diarrhea, nausea, vomiting). The duration of illness lasted from less than one day to five days. As is frequent during Norovirus outbreaks a plurality of persons (57.3%) had symptoms for one day or less. Duration of illness data was available for 70 out of 75 (93.3%) persons ill. The age of those ill ranged from 59-99 years with a median of 88 years. Seventy-nine percent of those ill were women; 21% were men. Two specimens tested positive for norovirus type G2 on June 1, 2007.

Restaurant-Associated Norovirus Outbreak, Broward County, October 2007

On October 24, 2007, the Broward Regional Environmental Epidemiologist received a call from the Florida Department of Business and Professional Regulation (DBPR) regarding a possible foodborne disease outbreak associated with a local restaurant in Deerfield Beach, FL. An environmental and epidemiological investigation as well as a retrospective cohort study was performed. Sixteen (16) of the 28 persons interviewed matched the case definition. Three individuals submitted stool samples for analysis and were positive for Norovirus type G1. Based on the environmental and epidemiological data collected, the specific source of the outbreak was unable to be determined. The reported onset dates and times of illnesses were clustered indicating a point source exposure, such as food or water. Two possible food exposures (a dinner and a luncheon) were noted that fit within the incubation period for Norovirus. There were no other common exposures and/or events noted among cases.

Pertussis

Cluster of Pertussis Cases, Charlotte County, September 2007

On Friday, September 21, 2007, the Charlotte County Health Department (CCHD) Epidemiology Program received a phone call from a man concerned about his 11-week-old grandchild who had been hospitalized for whooping cough. Until this phone call, CCHD had not received any reports of possible pertussis cases. This call prompted immediate action to verify if this was a true case of pertussis and to begin an epidemiological investigation.

The infant had a history of runny nose, cough, and congestion with onset on September 6th. The symptoms progressed to paroxysmal cough, vomiting after coughing, cyanotic episodes, and pneumonia. The child was hospitalized in isolation on September 13 and treated with azithromycin. The presumptive clinical diagnosis was pertussis, and lab work was ordered through the hospital laboratory. *Bordetella* direct fluorescent antibody (DFA) test and titers were negative. *Bordetella* culture and polymerase chain reaction (PCR) tests were ordered, but not completed because specimens were not sent on appropriate media. The infant improved with antibiotic treatment and was discharged on September 18th. Despite the clinical presentation consistent with pertussis, the treating pediatrician did not report the case to the CCHD due to the lack of laboratory confirmation.

An interview with family members revealed that three household contacts had cough, including the child's mother and grandmother, who each work in separate long term care (LTC) facilities in Sarasota County, and a 3-year-old sibling. In addition, the index baby and the symptomatic sibling are attendees of a day care center. An interview with the day care center director revealed that several other children in the center had coughs, but no staff were symptomatic. A list of the symptomatic children was provided to the CCHD, and these families were contacted for interviews and screening for pertussis.

On Sunday, September 23rd, CCHD held a screening for symptomatic contacts. Specimens (nasopharyngeal and nasal swabs) were collected from 12 contacts and tested for *Bordetella*, influenza, and RSV at the Bureau of Laboratories-Jacksonville. This included the index baby, five household contacts, and six daycare contacts. The symptomatic contacts in sensitive situations were excluded from work and/or attendance at daycare and LTC facilities.

Preliminary laboratory results became available on September 25. Of 12 specimens tested, four were PCR-positive for *Bordetella pertussis*, including the index baby. Based on these presumptive results, antibiotic prophylaxis was initiated. A total of 51 contacts (six household, 45 day care) received prescriptions for antibiotic prophylaxis with azithromycin or erythromycin. In addition, 12 daycare staff members were given the Tdap vaccine.

Final bacteriology results were received from the Bureau of Laboratories-Jacksonville on October 1st. Three specimens were PCR positive for *Bordetella pertussis*. This included the index baby, and the baby's mother and grandmother. Of the three PCR-positive specimens, the specimen obtained from the infant's mother was also culture positive.

The three laboratory-confirmed cases were reported in Merlin. Active surveillance was initiated in the day care to identify additional cases. Surveillance was also conducted in the two Sarasota County LTC facilities where the infant's mother and grandmother were employed. No additional cases were identified.

For more information about this investigation please visit
S. Traynor, "Cluster of Pertussis Cases, Charlotte County," *EpiUpdate; 2007, December,* http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/December2007EpiUpdate.pdf

Primary Amebic Meningoencephalitis

Primary Amebic Meningoencephalitis Cases, Orange and Osceola Counties, July-September 2007

During the summer of 2007 between July 26-September 3, the Orange and Osceola County Health Departments received reports from local medical personnel of three cases of primary amebic meningoencephalitis (PAM). Illness onsets were reported to be June 6, August 2, and August 31. Two of the cases were initially reported as suspect bacterial meningitis cases. During microscopic examination of the cerebrospinal fluid, motile amebas were observed. All three cases were confirmed by the Centers for Disease Control and Prevention. Epidemiological investigations revealed two of the individuals had known lake exposure at different locations in Orange County prior to illness onset. The epidemiological investigation of the third case did not reveal any relevant exposures. Risk communication efforts included press conferences, educational handouts, posting of signage at regulated locations, and reverse phone calls.

For more information about this investigation please visit
S. Matthews, et al., "Primary Amoebic Meningoencephalitis- Arizona, Florida, and Texas, 2007" Morbidity and Mortality Weekly Report, Vol. 57, No. 21, 2007

Red Tide

Early Detection of a Northeast Florida Red Tide through an Investigation of a Cluster of Respiratory Irritation Complaints, September 2007

The Nassau County Health Department (NCHD) received a phone call from a supervisor of a local dredging company reporting a cluster of respiratory illnesses in employees of a beach dredging project. Thirteen employees stationed on Fernandina Beach, FL began reporting symptoms on September 25th, 2007. Ill employees reported cough, eye irritation, sneezing, sniffling, and throat irritation. Since employees were exposed to sediment dredged from the Atlantic Ocean and deposited onshore, the initial hypothesis was that the employees were exposed to hazardous waste materials mobilized during the dredging operations.

Upon NCHD arrival at the beach site on September 25, 2007, environmental conditions such as the taste and odor of the air, the volume of dead fish along the shoreline, and the clinical symptoms experienced by both the company employees and NCHD staff, were suggestive of a red tide event. The FDOH Aquatic Toxins Programs was contacted immediately and assisted the NCHD in coordinating with the Florida Fish and Wildlife Conservation Commission (FWC) Research Institute to conduct water testing. Samples collected on September 25, 2007 revealed positive levels of *Karenia brevis* in Nassau County samples and later in samples collected up to approximately 200 miles from the dredging site. The method of detection was unusual, as human health symptoms preceded discovery of the bloom through satellite imagery, routine beach water sampling, or fish kill or wildlife morbidity reports. FWC historical data indicates that *Karenia brevis* was not previously detected in Nassau County.

For more information regarding this investigation please visit
R. Lazensky, A. Reich, "Early Detection of a Northeast Florida Red Tide, *Karenia brevis*, in Employees of a Nassau Beach Dredging Project," *EpiUpdate, 2007;* November, http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/November2007EpiUpdate.pdf

Rickettsiosis

First Probable Case Report of *Rickettsia parkeri* Spotted Fever Rickettsiosis in Florida, Escambia County, July 2007

On July 27, 2007, the Epidemiology Department of the Escambia County Health Department (ECHD) initiated an epidemiologic investigation of a locally acquired suspected case of rickettsial disease. In early June 2007, the patient was mountain biking near Pensacola, Florida. Following the bike ride, he discovered one tick attached to the right side of his abdomen, and another on his left leg. Approximately 10 days later, he became ill and sought medical attention.

The patient was a 30-year-old white man in good general health. He presented to the local emergency department June 14th with fever (39.2°C/102.6°F), headache and neck pain, fatigue, numerous scratches, and an area of cellultis on his tibia. Other symptoms reported by his wife, but not documented in the medical charts, included: red circular areas at the bite sites, chills, high fever (104°F), sweating, headaches, and white spots on the tongue. The patient was diagnosed with a staphylococcal infection.

A convalescent blood sample collected on July 24th was submitted to the Florida Department of Health (DOH) Bureau of Laboratories (BOL)-Pensacola on August 2nd, and shipped to the BOL-Jacksonville for Rocky Mountain Spotted Fever (RMSF) testing. A second convalescent blood sample was collected on August 9th and also shipped to BOL- Jacksonville for RMSF testing.

Both samples were tested for RMSF using an indirect fluorescent antibody (IFA) serological assay, and found to be marginally positive (1:64). The samples were then forwarded to the Centers for Disease Control and Prevention (CDC). Serological test results from the CDC suggest that the patient was positive for *Rickettsia parkeri* (not explicitly reportable in the U.S. and the state of Florida at this time). Further evidence to support the *R. parkeri* diagnosis was that a photograph of the tick, taken by the patient's wife, was identified by CDC as *Amblyomma maculutum*, the Gulf Coast tick known to carry *R. parkeri*.

Eschars caused by *R. parkeri* may appear similar to those caused by methicillin-resistant *Staphylococcus aureus* (MRSA), but may not respond to all MRSA treatment regimens. *R. parkeri* infections will resolve with standard rickettsial illness therapies including doxycycline with concurrent symptomatic care.

This is the first probable case of illness due to the obligate intracellular bacterium *R. parkeri* reported in a Florida resident.

For more information about this investigation please visit

S. Thouvenel-Romans, S. Rivers, G. Danyluk, R. Shultz, D. Stanek, "First Probable Case Report of *Rickettsia parkeri* Spotted Fever Rickettsiosis in Florida," *EpiUpdate*, 2007; October http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007/October2007EpiUpdate.pdf

Salmonellosis

Confirmed Salmonellosis Outbreak, Palm Beach County, January 2007

On January 24, 2007, the Palm Beach County Health Department (PBCHD) was notified of two positive Salmonellosis cases possibly associated with attending a statewide soccer tournament held in Palm Beach County on January 13th and 14th, 2007. The PBCHD-Environmental Health (PBCHD-EH) and the Department of Business and Professional Regulation (DBPR) investigated the food concession and its commissary. A total of 144 persons were interviewed. Thirteen persons met the case definition: a person experiencing abdominal cramps, along with nausea or vomiting within 12-72 hours after attending the soccer event. Incubation periods ranged from 12-72 hours. Duration of illness ranged from 48-500 hours, with a mean of 142 hours and a median of 120 hours. Statistical analysis of the data suggested a statistical significance (p-value <0.001) for a person to become ill and have eaten food from the implicated concession. The PBCHD-EH and DBPR investigation disclosed various violations with one particular food item: turkey drumsticks. Temperatures of the cooked and mishandled drumsticks were not measured. Eating turkey drumsticks was also highly significantly associated with illness, with a p-value of <0.001.

Scombroid Poisoning

Scombroid Fish Poisoning Associated with Escolar, Lee County, March 2007

On March 30, 2007 the Lee County Health Department (LCHD) reported three people with scombroid fish poisoning following the consumption of escolar at a local restaurant on March 23, 2007. A sample of the fish was tested by the Florida Department of Agriculture and Consumer Services (FDOACS) laboratory and was found to have an elevated histamine level of 216 µg/g, indicating the product was decomposed and not fit for human consumption. According to the FDA guidelines, histamine concentrations near or above 100mg/100g are typically noted in actual illnesses. (Units used to report histamine measurements do vary and can be confusing: ug/g=ppm, 100mg/100g = 1mg/g = 1000µg/g = 1000 ppm). The escolar was a wild-caught product imported from Ecuador. The distributor destroyed all of the remaining fish as witnessed by the FDA. (Lee County had a previous scombroid outbreak in 2001 associated with escolar).

For more information about this investigation please visit
Terzagian, R., "Scombroid Fish Poisoning Associate with Escolar, Lee County, 2007'" *EpiUpdate*; 2007, May http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/2007_index.html

Additional resources

Food and Waterborne Disease Program Annual Report, 2001; Scombroid Fish Poisoning, Lee County, April, 2001, p. 14 http://www.doh.state.fl.us/environment/community/foodsurveillance/annualreports.htm

Serratia marcescens associated with Heparin and Saline flushes, December 2007

The Florida Department of Health Bureau of Epidemiology began assisting the Centers for Disease Control and Prevention (CDC) in assessing an outbreak of *Serratia marcescens* bacteremias in the outpatient setting on December 18, 2007.

The Food and Drug Administration (FDA) issued a recall of the heparin flush on December 20th. They

stated that the firm is not in compliance with the Quality System regulation and failed to have adequate controls to ensure necessary sterility of its pre-filled syringes.

The Florida Department of Health (FDOH) was notified by CDC on January 15th about an investigation regarding *Serratia marcescens* associated with prefilled saline syringes manufactured by Am2Pat (a.k.a Sierra prefilled).

The total number of reported Florida cases of *Serratia marcesens* infection associated with heparin use was 42. Of the isolates that were sent to the CDC for testing, 32 were confirmed as related or closely related to the outbreak strain.

The FDOH objective was to assist the healthcare community in preventing new infections by identifying this product and removing it from distribution and circulation.

For more information about this investigation please visit
Food and Drug Administration http://www.fda.gov/oc/po/firmrecalls/am2pat12_07.html
Food and Drug Administration http://www.fda.gov/cdrh/recalls/recall-122007.html
Centers for Disease Control and Prevention http://www.bt.cdc.gov/coca/updates/2008/2008jan22.asp#24

Shigellosis

Shigellosis Outbreak in Citrus County, April 2007

The Citrus County Health Department (CCHD) Epidemiology Program, investigated an outbreak of *Shigella sonnei* in the community and in day-care centers from April-June, 2007. Between April 1 and April 10, 2007, five confirmed cases of shigellosis were reported that included children at the same day-care center; many of these had the same day of onset. One case had an onset in mid-March but was not reported until April and was attending day-care. By April 16th, confirmed cases had been identified in five day-care facilities; the CCHD instituted an Incident Command System. The Merlin outbreak module was used to assist in outbreak management. All day-care facilities were visited by epidemiologic and environmental staff; and the medical community was notified of the recommended control measures, exclusion policy, and treatment guidelines.

Additional confirmed and suspected cases were found in children and in food handlers and health care workers, not linked to day-care centers. Secondary cases occurred within families of affected children. Early in May, a community awareness campaign using local print and TV media was developed for the schools, businesses, parks, churches, and government sites.

By May 7th, nine daycares had confirmed shigellosis cases and nine other facilities had diarrheal illnesses and were considered ‘suspect’ centers (total of 47% of all centers). By May 16th, there were almost 200 confirmed, probable, and suspect cases in the community. Eighty-four percent were in those ages 0-14 years. Seven elementary schools had cases but few cases were in the same classroom. Enhanced surveillance continued and the outbreak was declared over early in July 2007.

Eleven specimens were analyzed for PFGE patterns; these specimens were obtained between April 15th and April 28th. Eight of the specimens had the same pattern; the remaining three specimens each had a unique pattern. The eight with the same pattern represented four different day cares; among these specimens, four had antibiograms. Half of these antibiograms were bactrim resistant. One

elementary school had four cases with three different PFGE patterns; two of the cases were in the same classroom but had different patterns.

A case-control study was conducted by a Florida EIS Officer using day-care centers as the unit of study. It was designed to detect differences between affected and unaffected day-cares. Risk factors were found to be the size of the center, diaper changing, meals and snack provision and preparation, cleaning, and absentee illness policy. Larger centers and those enrolling toddlers were found to be at more risk for having cases. These centers had more susceptible hosts and had increased risk for transmission among young children who are mobile and have poor hand-washing skills. Improper hand hygiene by staff after diaper changing and before preparing and serving food was found to be a risk factor. Lack of attention to cleaning toys, along with not sending symptomatic staff home were also risk factors associated with increased risk of illness.

For more information regarding the investigation please visit
EpiCom postings (April 16, April 25, May 22, and July 10, 2007) by Virginia Crandall, R.N., B.S.N., M.P.H., Citrus County Health Department

Staphylococcus aureus (including antibiotic resistance, MRSA, VISA)

Staphylococcus aureus enterotoxin foodborne Outbreak at the Calhoun County Correctional Institution, August 2007

On August 10, 2007 the Florida Department of Health, Bureau of Community Environmental Health received a report that numerous employees working the midnight shift at the Calhoun County Correctional Facility had fallen ill after consuming a pot luck meal. The Regional Environmental Epidemiologist investigated the complaint and learned that fifteen employees had become ill after eating barbecued turkey and ham prepared the day before by fellow employees and left out at room temperature for approximately sixteen hours prior to consumption. Testing performed by the Bureau of Laboratories-Jacksonville, Florida isolated >200,000/g of *Staphylococcus aureus* in the ham. The presence of ≥100,000/g of *S. aureus* from epidemiologically implicated food meets the criteria for confirmation of *S. aureus* as the agent responsible for an outbreak[1].

Additional resources
[1]Procedures to Investigate Foodborne Illness, Fifth Edition, p. 127

Cluster of Methicillin-Resistant *Staphylococcus aureus* (MRSA) Skin Infections in a Volusia County School, October 2007

On October 17, 2007 the Volusia County Health Department (VCHD) received a report from the Volusia County School Health Coordinator of six cases of suspected skin infections among students at a local high school. Upon further investigation, there was indication that the cases represented two different clusters of skin infections. Three cases were among students participating on the football team and the other three cases were associated with a familial cluster with no identifiable link to the student athletes. Onset of the skin infections ranged from October 3-October 13, 2007. Three cases were laboratory confirmed as methicillin-resistant *Staphylococcus aureus*. All six students were diagnosed, treated and cleared to return to school by a physician. The Volusia County Epidemiology Department in conjunction with the school health coordinator provided education and prevention materials to the school and sent a letter and fact sheet home to parents. A VCHD epidemiologist provided an educational presentation to the county's school principals and athletic directors regarding MRSA prevention especially in athletic settings.

For more information about MRSA in schools please visit
Centers for Disease Control and Prevention at http://www.cdc.gov/ncidod/dhqp/ar_mrsa_in_schools.html

Vancomycin-Intermediate *Staphylococcus aureus* (VISA) Case Detected in Orange County, December 2006

The Orange County Health Department investigated the first case of vancomycin-intermediate *Staphylococcus aureus* (VISA) to be detected in Florida. On December 1, 2006, a 46-year-old woman visiting Orlando from Connecticut presented to an emergency room with a five day history of generalized weakness, a nosebleed, discoloration of feet and toes, evidence of skin lesions, and a diffuse mottling of her skin. She had a history of polycystic kidney disease with renal failure, coronary artery disease, and methicillin-resistant *S. aureus* (MRSA) sepsis. The patient was admitted to the intensive care unit with a diagnosis of septic shock and treated with vancomycin and ceftriaxone.

Multiple blood samples taken between December 1st and December 8th had positive cultures for MRSA with a vancomycin minimum inhibitory concentration (MIC) of two. A blood sample taken on December 11th cultured MRSA with a vancomycin MIC of four, indicating that while hospitalized, the bacteria's susceptibility to vancomycin had decreased and was now classified as VISA. For VISA strains, resistance is thought to be associated with vancomycin exposure; this patient was treated with vancomycin from December 2nd-December 7th. Note that because the patient was a Connecticut resident, she was not reported as a Florida case.

For more information about this investigation please visit
Eisenstein, L., R. Sanderson, "Vancomycin-intermediate Staphylococcus (VISA) Acquired in Florida," *EpiUpdate,* 2007; March 29. http://www.doh.state.fl.us/ Disease_ctrl/epi/Epi_Updates/2007/March2007Epi%20Update.pdf

A Case of Vancomycin Intermediate Resistant *Staphylococcus aureus* In Palm Beach County, December, 2007

The Palm Beach County Health Department Epidemiology Program was notified December 3, 2007 of a patient with a possible vancomycin intermediate resistant *Staphylococcus aureus* (VISA) at a local hospital. The patient was a Palm Beach County resident with a history of systemic lupus erythematosus with lupus nephritis, who was on hemodialysis. She was hospitalized at a local hospital November 26, 2007 after missing several dialysis treatments. Blood cultures were drawn after the patient developed a fever. The blood cultures were positive for *Staphylococcus aureus* and read by the hospital at a minimum inhibitory concentration (MIC) of 6 to vancomycin. The isolate was sent to the Bureau of Laboratories and on to the Centers for Disease Control and Prevention (CDC) for confirmation. The CDC confirmed the finding of intermediate resistance with a reading of an MIC of 4 to vancomycin. Current MIC breakpoints for VISA are defined as a vancomycin MIC = 4-8. The patient has a history of MRSA bacteremia intermittently treated with vancomycin. This case represents the first case of VISA in a Florida resident.

Syphilis

Syphilis Outbreak in Adolescents and Young Adults, Hillsborough County, 2007

Historically populations under 20 report the lowest number of early syphilis cases statewide. However, in Hillsborough County an increase in cases of syphilis emerged within the Tampa, FL area. During the 1st quarter of the year, Hillsborough County experienced a 54% increase in early syphilis cases compared to the same period in 2006. A total of 46 cases (13 infectious syphilis and 33 early syphilis) were reported in the first three months. While a significant proportion of these cases occurred among men who have sex with men (MSMs), for the first time in years cases had increased among teens and African American women primarily living in a low socioeconomic area within Tampa.

The Florida Bureau of Sexually Transmitted Disease Prevention and Control activated its state-wide Syphilis Outbreak Response Team to investigate and control this outbreak. Members were temporarily detailed to Hillsborough County for one to two weeks during the period from June to late August to ensure ongoing assistance with containment.

Of the 358 syphilis interviews conducted in 2007, 10.3% (37) of those were among adolescents aged 12-17. Approximately 86% of those interviewed were non-hispanic black, 8% non-Hispanic white, and 3% Hispanic. At diagnosis, 5% had primary syphilis, 35% had secondary syphilis, and 60% were diagnosed with early latent syphilis. Over half of those interviewed had had previous STD infections: chlamydia (19%), gonorrhea (5%), or both (30%).

Health alerts were sent by the Hillsborough County Health Department director to health care providers and community organizations. Memorandums of Agreement were set with community partners to assist with targeted education and screenings in communities and schools identified through case investigations as well as health care facilities. Nearly, 38% of cases were detected through active case finding. Additionally, staff have partnered with community based organizations to increase opportunities for education and screening.

Typhus Fever

Typhus Fever (Endemic) Case in Hillsborough County, Florida, April 2007

The Hillsborough County Health Department Epidemiology Program investigated a case of endemic (Murine) typhus fever (*Rickettsia typhi*). The 62-year-old woman was reported in Merlin as a confirmed case, as her clinical symptoms (headache, fever, joint pain) and laboratory results (4-fold rise in IgG antibody titer) met the case definition. She was treated successfully with doxycycline. The patient was likely exposed in mid-April 2007 from fleas near the house in which she was living just north of Tampa, FL. She was living with a cat, and a neighborhood dog was, at times, in the house. Additionally, she reported being bitten directly by fleas in the backyard area.

In the last five years, there have been four other confirmed cases of endemic typhus fever in Florida. Typhus fever outbreaks that are spatially linked (same neighborhoods) have been documented previously in other states. No other cases were identified in Hillsborough County.

Varicella

Varicella Outbreak in Martin County Schools, November 2006 to March 2007

The Martin County Health Department Division of Epidemiology investigated several varicella outbreaks in Martin County Schools from November 30, 2006 to March 7, 2007. A total of 42 cases of varicella (31 confirmed and 11 probable) were reported. The 42 cases were reported by school health nurses (64.3%), physicians (28.6%) and child care centers (7.1%). Ages ranged from 7-months-old to 17-years-old. Cases were found among child care centers (8), elementary schools (23), middle schools (8), and high schools (2). One had unknown school status. Six of the 42 cases were also household members. Immunization records were retrieved indicating 34 cases (80.9%) were previously vaccinated, 4 cases (9.5%) were not previously vaccinated, 2 cases (4.8%) were less than 1-year-old, and 2 cases (4.8%) had been previously diagnosed with the disease. Schools were notified through collaborative efforts with the school health nurses, principals, and school board. Letters and information on varicella were sent home with the students and faculty in order to alert anyone who may have been exposed and/or at high risk.

(Varicella was added to the list of reportable diseases in the updated version of F.A.C. Chapter 64D-3, effective November 30, 2006).

Section 5

Planning for an Influenza Pandemic in Florida

This article puts the threat of an influenza pandemic in a community context, with a focus on prevention and control of disease. The overall message is that pandemic influenza is complex and potentially threatening, but may be manageable with adequate planning and training. Please note that this paper was written in May of 2007. Further developments in the properties of circulating viruses, and future scientific advances, may change the direction of influenza control fairly dramatically.

Richard S. Hopkins, "Planning for an Influenza Pandemic in Florida," *Journal of the Florida Medical Association*, Vol. 91, No. 1, 2007, pp. 20-28.

Outbreak of Healthcare-Associated Infection and Colonization With Multidrug-Resistant *Salmonella enterica* Serovar Senftenberg in Florida

Background: In July 1999, a rare strain of multidrug-resistant *Salmonella enterica* serovar Senftenberg was isolated from the sputum of a trauma patient. Over a 6-year period (1999-2005) in northeast Florida, this *Salmonella* serovar spread to 66 other patients in 16 different healthcare facilities as a result of frequent transfers of patients among institutions. To our knowledge, this is the first outbreak of healthcare-associated infection and colonization with a fluoroquinolone-resistant strain of *S*. Senftenberg in the United States.
Objectives: To investigate an outbreak of infection and colonization with an unusual strain of *S*. Senftenberg and assist with infection control measures.
Design: A case series, outbreak investigation, and microbiological study of all samples positive for *S*. Senftenberg on culture.
Setting: Cases of *S*. Senftenberg infection and colonization occurred in hospitals and long-term care facilities in 2 counties in northeast Florida.
Results: The affected patients were mostly elderly persons with multiple medical conditions. They were frequently transferred between healthcare facilities. This *Salmonella* serovar was capable of long-term colonization of chronically ill patients. All *S.* Senftenberg isolates tested shared a similar pulsed-field gel electrophoresis (PFGE) pattern.
Conclusions: A prolonged outbreak of infection and colonization with multidrug-resistant *S*. Senftenberg was identified in several healthcare facilities throughout the Jacksonville, Florida, area and became established when infection control measures failed. The bacterial agent was capable of long-term colonization in chronically ill patients. Because the dispersal pattern of this strain suggested a breakdown of infection control practices, a multipronged intervention approach was undertaken that included intense education of personnel in the different institutions, interinstitutional cooperation, and transfer paperwork notification.

R.S. Kay, A.G. Vandevelde, **P.D. Fiorella**, R. Crouse, **C. Blackmore, R. Sanderson**, C.L. Bailey, M.L. Sands, "Outbreak of healthcare-associated infection and colonization with multidrug-resistant Salmonella enterica serovar Senftenberg in Florida," *Infection Control and Hospital Epidemiology*, 2007, Vol. 28, No. 7, pp. 805-11.

Voluntary Rapid Human Immunodeficiency Virus (HIV) Testing in Jails

Objectives: To provide human immunodeficiency virus (HIV) rapid testing to persons in jails, identify previously undiagnosed cases of HIV infection, and refer HIV-infected inmates to care, treatment, and prevention services.
Design: Four state health departments (Florida, Louisiana, New York, and Wisconsin) collaborated with jails to implement stand-alone voluntary rapid HIV testing programs. Inmates requested or were referred by medical staff for rapid HIV testing. HIV testing was provided by the health department, correctional facility, or a community-based organization. Inmates whose rapid test was reactive were offered confirmatory testing, medical evaluation, prevention services, and discharge planning.
Results: From December 2003 through May 2006, rapid HIV testing was provided to 33,211 inmates, more than 99.9% of whom received their test results. Most of the inmates tested were male (79%), black (58%), and less than 35 years of age (60%). A total of 440 (1.3%) rapid HIV tests were reactive, and 409 (1.2%) of the results were confirmed positive. The testing programs identified 269 (0.8%) previously undiagnosed cases of HIV infection. In the multivariate analyses, new HIV diagnoses were associated with race/ethnicity, report of risky behaviors, and with no report of HIV risk behavior. Almost 40% of diagnoses were for inmates whose only reported risk was heterosexual contact.
Conclusions: Rapid HIV testing in jails identified a considerable number of previously undiagnosed cases of HIV infection. Rapid HIV testing should be available to all inmates, regardless of whether inmates reported HIV risky behaviors.

R. MacGowan, A. Margolis, A. Richardson-Moore, T. Wang, **M. LaLota**, T. French, J. Stodoloa, J. Mckeever, J. Carrel, J. Mullins, M. Llanas, S.D. Griffiths, "Voluntary Rapid Human Immunodeficiency Virus (HIV) Testing in Jails," *Sexually Transmitted Diseases*, 2007, Vol. 34, No. 11.

Detecting an Association Between Socioeconomic Status and Late Stage Breast Cancer Using Spatial Analysis and Area-Based Measures

Objectives: To assess the relationship between socioeconomic status (SES) and late stage breast cancer using the cluster detection software SaTScan and U.S. census-derived area-based socioeconomic measures.
Methods: Florida's 18,683 women diagnosed with late stage breast cancer (regional or distant stage) between 1998 and 2002 as identified by Florida's population-based, statewide, incidence registry were analyzed by SaTScan to identify areas of higher-than-expected incidence. The relationship between SES and late stage breast cancer was assessed at the neighborhood (block group) level by combining the SaTScan results with area-based SES data.
Results: SaTScan identified 767 of Florida's 9,112 block groups that had higher-than-expected incidence of late stage breast cancer. After controlling for patient level insurance status, county level mammography prevalence, and urban/rural residence in the logistic regression model, women living in neighborhoods of severe and near poverty were respectively 3.0 and 1.6 times more likely to live in areas of higher-than-expected incidence of late stage breast cancer when compared with women living in nonpoverty. Additionally, areas in the lowest quartile of mammography usage were almost seven times more likely to have higher-than-expected incidence than areas in the higher quartiles.
Conclusions: In addition to confirming the importance of mammography, results from the present study suggest that "where" you live plays an important role in defining the risk of presenting with late stage breast cancer. Additional research is urgently needed to understand this risk and to leverage the strengths and resources present in all communities to lower the late stage breast cancer.

J.A. MacKinnon, R.C. Duncan, **Y. Huang**, D.J. Lee, **L.E. Fleming**, **L. Voti**, M. Rudolph, J.D. Wilkinson, "Detecting an association between socioeconomic status and late stage breast cancer using spatial analysis and area-based measures," *Cancer Epidemiology Biomarkers Prevalence*, 2007, Vol. 16, No. 4, pp. 756-62.

Outbreak of Cutaneous Larva migrans at a Children's Camp--Miami, Florida, 2006

On July 19, 2006, the director of a children's aquatic sports day camp notified the Miami-Dade County Health Department (MDCHD) of three campers who had received a diagnosis of cutaneous larva migrans (CLM), or "creeping eruption," a skin condition typically caused by dog or cat hookworm larvae of the genus Ancylostoma. MDCHD conducted an investigation to determine the source and magnitude of the outbreak and prevent additional illness. This report summarizes the results of that investigation, which identified exposure to cat feces in a playground sandbox as the likely source of infection. Although CLM outbreaks are reported rarely to the Florida Department of Health, evidence indicates that CLM is a potential health hazard in Florida. This disease cluster highlights the importance of appropriate environmental hygiene practices and education in preventing CLM.

E. O'Connell, **J. Suarez**, **F. Leguen**, **G. Zhang**, **M. Etienne**, A. Torrecilla, A. Jimenez, F. Farahi, M. Alzugaray, D. Rodriguez, S. Pizano, **C. Blackmore**, **D. Goodman**, **R.S. Hopkins**, **P. Ragan**, **J. Schulte**, **T. Doyle**, "Outbreak of cutaneous larva migrans at a children's camp--Miami, Florida, 2006," *Morbidity and Mortality Weekly Report*, Vol. 56, No. 49, 2007, pp. 1285-7.

Costs of Voluntary Rapid HIV Testing and Counseling in Jails in 4 States-Advancing HIV Prevention Demonstration Project, 2003-2006

Objective: To assess the costs of rapid human immunodeficiency virus (HIV) testing and counseling to identify new diagnoses of HIV infection among jail inmates.
Study Design: We obtained program costs and testing outcomes from rapid HIV testing and counseling services provided in jails from March 1, 2004, through February 28, 2005, in Florida, Louisiana, New York, and Wisconsin. We obtained annual program delivery costs-fixed and variable costs-from each project area. We estimated the average cost of providing counseling and testing to HIV-negative and HIV-infected inmates and estimated the cost per newly diagnosed HIV infection.
Results: In the 4 project areas, 17,433 inmates (range, 2185-6463) were tested: HIV infection was diagnosed for 152 inmates (range, 4-81). The average cost of testing ranged from $29.46 to $44.98 for an HIV-negative inmate and from $71.37 to $137.72 for an HIV-infected inmate. The average cost per newly diagnosed HIV infection ranged from $2,451 to $25,288. Variable costs were 61% to 86% of total costs.
Conclusion: The cost of identifying jail inmates with newly diagnosed HIV infection by using rapid HIV testing varied according to the prevalence of undiagnosed HIV infection among inmates tested in project areas. Variations in the cost of testing HIV-negative and HIV-infected inmates were because of the differences in wages, travel to the jails, and the amount of time spent on counseling and testing. Program managers can use these data to gauge the cost of initiating counseling and testing programs in jails or to streamline current programs.

R.K. Shreshtha, S.L. Sansom, A. Richardson-Moore, T. French, B. Scalco, **M. LaLota**, M. Llanas, J. Stodola, R. MacGowan, A. Margolis, "Costs of Voluntary Rapid HIV Testing and Counseling in Jails in 4 States – Advancing HIV Prevention Demonstration Project, 2003-2006," *Sexually Transmitted Diseases*, 2007, Vol. 34, No. 11.

Mobilizing mobile medical units for hurricane relief: the United States Public Health Service and Broward County Health Department response to hurricane Wilma, Broward County, Florida

Objectives: To describe the outcomes of a collaborative response of federal, state, county, and local agencies in conducting syndromic surveillance and delivering medical care to persons affected by the storm through the use of mobile medical units.
Methods: Nine mobile medical vans were staffed with medical personnel to deliver care in communities affected by the storm. Individual patient encounter information was collected.
Results: A total of 14,033 housing units were approached and checked for occupants. Of residents with whom contact was made, approximately 10 percent required medical assessment in their homes; 3,218 clients were medically evaluated on the mobile medical vans. Sixty-two percent of clients were female. The most common presenting complaints included normal health maintenance (59%), upper respiratory tract illness (10%), and other illness (10%). Injuries occurred in 9 percent. A total of 1,531 doses of medications were dispensed from the mobile medical units during the response.
Conclusion: Mobile medical units provided an efficient means to conduct syndromic surveillance and to reach populations in need of medical care who were unable to access fixed local medical facilities.

M.M. Taylor, W.S. Stokes, R. Bajuscak, M. Serdula, K.L. Siegel, B. Griffin, J. Keiser, L. Agate, **A. Kite-Powell**, D. Roach, N. Humbert, K. Brusuelas, S.S. Shekar, "Mobilizing mobile medical units for hurricane relief: the United States Public Health Service and Broward County Health Department response to hurricane Wilma, Broward County, Florida," *Journal of Public Health Management and Practice*, 2007, Vol. 13, No. 5, pp. 447-52.

Benefits and Adverse Effects of Hepatitis C Screening: Early Results of a Screening Program

Objective: Early benefits and adverse effects of hepatitis C screening among people who screened anti-hepatitis C virus (HCV) positive were investigated.
Methods: Hepatitis screening program records were abstracted to identify the target population and obtain information about hepatitis A and B vaccination (recommended vaccines if anti-HCV positive). Telephone interviews were conducted using a standardized questionnaire with items regarding clients' medical evaluation, behaviors to prevent liver damage and prevent HCV transmission, and adverse effects experienced. Results and Conclusions: Of 269 eligible clients, 147 were susceptible to hepatitis A (IgG negative), and 116 (78.9%) received at least 1 hepatitis A vaccine dose. Of 119 clients susceptible to hepatitis B, 101 (84.9%) received at least one dose of hepatitis B vaccine. Fifty-six (20.8%) were reached by phone, and 44 (78.6%) consented to the interview. All interviewed clients reported one or more positive behaviors to protect their liver or prevent HCV transmission; 51.2 percent

reported at least one adverse effect related to knowing their positive anti-HCV status, most commonly difficulty obtaining health insurance; and 86.0 percent reported satisfaction with their decision to be tested. Results suggest that most anti-HCV-positive clients had some benefit from screening, and highlight the need for further studies.

M.J. Trepka, **G. Zhang**, **F. Leguen**, K. Obiaja, R.M. Malow, M. De La Rosa, "Benefits and Adverse Effects of Hepatitis C Screening: Early Results of a Screening Program," *Journal of Public Health Management and Practice*, Vol. 13, No. 3, 2007, pp. 263-9.

Carbon Monoxide Poisoning in Florida During the 2004 Hurricane Season

Background: During August-September 2004, four major hurricanes hit Florida, resulting in widespread power outages affecting several million households. Carbon monoxide (CO) poisonings during this period were investigated to identify ways to prevent future poisoning.
Methods: Medical records from ten hospitals (two with hyperbaric oxygen chambers) were reviewed to identify individuals diagnosed with unintentional CO poisoning between August 13 and October 15, 2004. Multiple attempts were made to interview one person from each nonfatal incident. Medical examiner records and reports of investigations conducted by the U.S. Consumer Product Safety Commission of six fatal poisonings from five additional incidents were also reviewed.
Results: A total of 167 people treated for nonfatal CO poisoning were identified, representing 51 incidents. A portable, gasoline-powered generator was implicated in nearly all nonfatal incidents and in all fatal poisonings. Generators were most often located outdoors, followed by inside the garage, and inside the home. Telephone interviews with representatives of 35 (69%) incidents revealed that concerns about theft or exhaust most often influenced the choice of location. Twenty-six (74%) households did not own a generator before the hurricanes, and 86% did not have a CO detector at the time of the poisoning. Twenty-one (67%) households reported reading or hearing CO education messages before the incident.
Conclusions: Although exposure to public education messages may have encouraged more appropriate use of generators, a substantial number of people were poisoned even when the devices were operated outdoors. Additional educational efforts and engineering solutions that reduce CO emission from generators should be the focus of public health activities.

D. Van Sickle, **D.S. Chertow**, **J.M Schulte**, J.M. Ferdinands, **P.S. Patel**, **D.R. Johnson**, **L. Harduar-Morano**, **C. Blackmore**, **A.C. Ourso**, K.M Cruse, K.H. Dunn, R.L. Moolenaar, "Carbon monoxide poisoning in Florida during the 2004 hurricane season," *American Journal of Preventative Medicine*, 2007, Vol. 32, No. 4, pp. 340-6.

Could Syndromic Surveillance Data Be Used Effectively with Other Data Sources? A Transposable Local View

In April 2007, Duval County Health Department (DCHD) Epidemiology/Bioterrorism Surveillance Division, under the program director Dr. Saad Zaheer, was selected to host to an International Society of Disease Surveillance (ISDS) panel member consultation regarding syndromic surveillance data. It involved expert personnel in their respective area to address specific, priority questions confronting researchers, developers, and public health practioners in the field of syndromic surveillance (SS). The purpose of this consultation was to develop expert, consensus-based recommendations that address specific, unsettled problems or unanswered questions that hinder advances in utilization of syndromic surveillance data in combination with other data sources. Recommendations arising from the consultation should facilitate efforts by researchers, developers, or practitioners to be able to stride ahead and make progress.

Sarah Winn, **Sa'ad Zaheer**, **Taj Azarian**, **Antoinette Alaimo**, "Could Syndromic Surveillance Data Be Used Effectively with Other Data Sources? A Transposable Local View," *Advances in Disease Surveillance*, 2007, Vol. 4, p. 208.

Additional reports and articles regarding infectious disease incidence, disease surveillance activities, reportable disease notifications, and heath studies conducted in Florida can be accessed in *EpiUpdate*. *EpiUpdate* is a publication of the Bureau of Epidemiology and compiles information related to Department of Health activities from around the State. The current issue, as well as archived issues, of *EpiUpdate* can be accessed at http://www.doh.state.fl.us/disease_ctrl/epi/Epi_Updates/index.html.

Section 6

Cancer Surveillance in Florida

Cancer incidence data are collected, verified, and maintained by the Florida Cancer Data System (FCDS), Florida's statewide central cancer registry. The FCDS is administered by the Florida Department of Health, Bureau of Epidemiology and operated by the Sylvester Comprehensive Cancer Center at the University of Miami Leonard M. Miller School of Medicine.

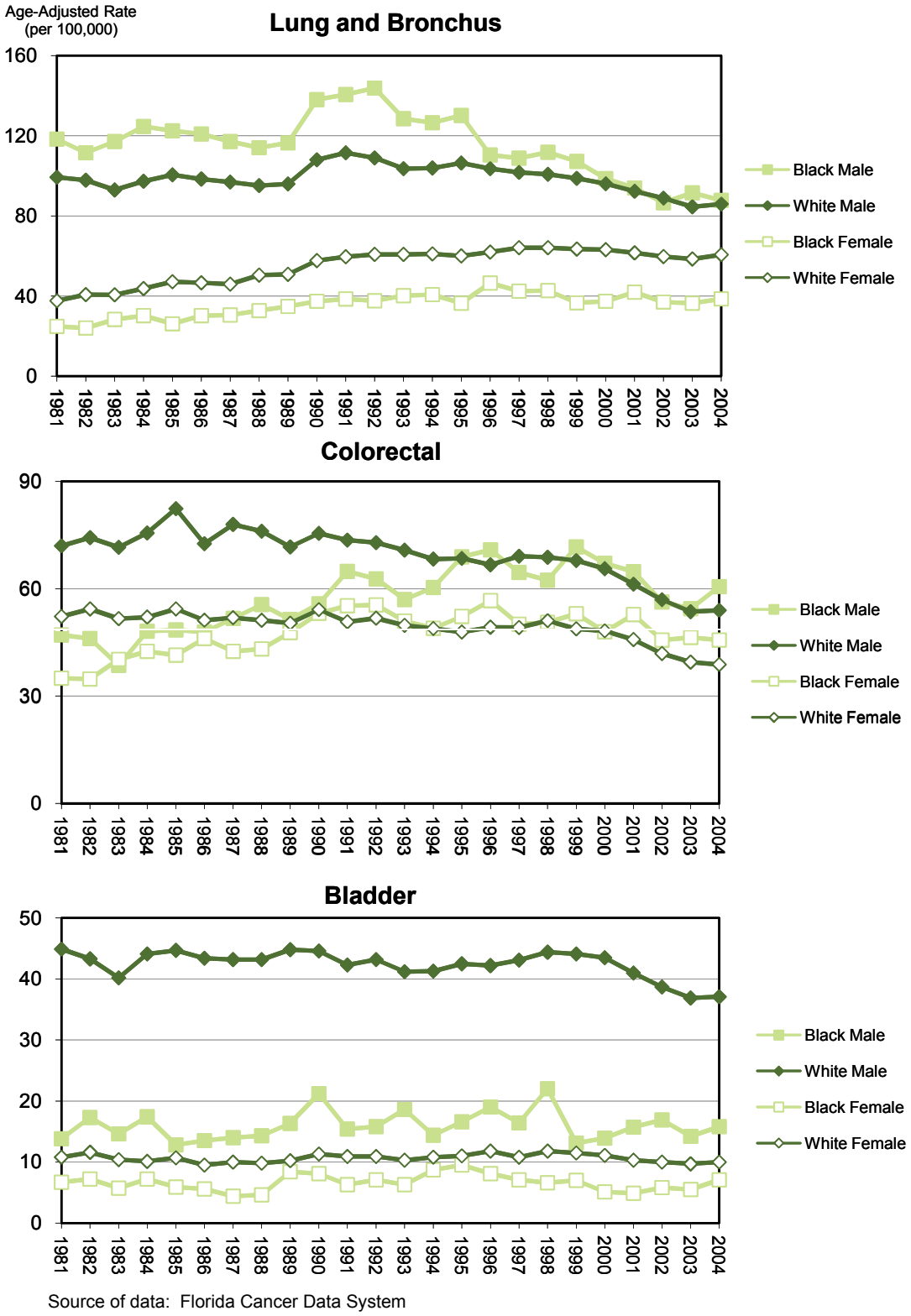
The FCDS began operation with a pilot project for cancer registration in 1980 and commenced statewide collection of cancer incidence data from all Florida hospitals in 1981. The FCDS now collects incidence data from hospitals, freestanding ambulatory surgical centers, radiation therapy facilities, pathology laboratories, and dermatopathologists' offices.

During 2004, physicians diagnosed 95,931 primary cancers among Floridians, an average of 263 cases per day. Cancer occurs predominantly among older people as age is the top risk factor. Sixty-one percent of the newly diagnosed cancers in 2004 occurred in persons age 65 and older; this age group accounts for 18 percent of Florida's population. The four most common cancers in Floridians were lung and bronchus (16,350 cases), prostate (12,150 cases), female breast (11,961 cases), and colorectal (10,710 cases), which accounted for 57 percent of all new cases in blacks, and 53 percent in whites. Fifty-three percent of new cancers were diagnosed in males. The number of new cancer cases in Florida's five most populous counties (Broward, Miami-Dade, Hillsborough, Orange and Palm Beach), which had 43 percent of Florida's population, accounted for 38 percent of the new cancer cases in Florida in 2004.

Over the 24-year period from 1981 to 2004, males had a higher incidence (age-adjusted incidence rate) than females. Among blacks, the incidence among males was between 54 percent and 102 percent higher than that among females. Among whites, the incidence among males was between 28 percent and 53 percent higher than that among females. White females had higher age-adjusted incidence rates than black females in all years. The racial disparity varied between 10 percent and 27 percent. Black males had higher age-adjusted incidence rates than white males in all years, except in 1987 and 1988. The racial disparity between black and white males increased from 1989 until 1995; however, it has declined from 16 percent in 1995 to 6 percent in 2004.

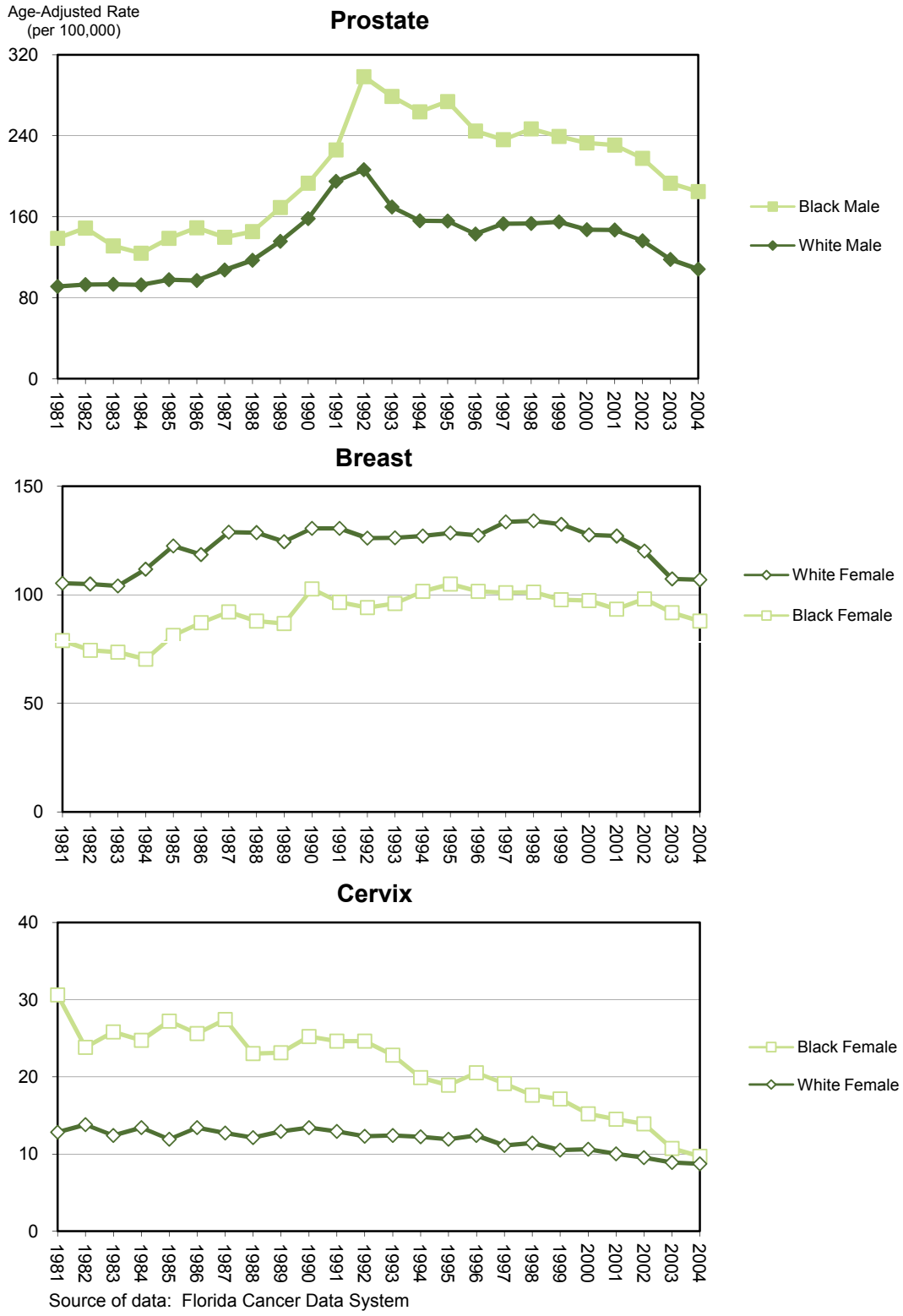
More information about the burden of cancer in Florida is provided in the *Florida Annual Cancer Report,* an epidemiological series, available on the department's web site at www.doh.state.fl.us/disease_ctrl/epi/cancer/CancerIndex.htm, or the FCDS web site at www.fcds.med.miami.edu.

Figure 2.1 Age-Adjusted Incidence Rates by Sex and Race, Florida, 1981-2004



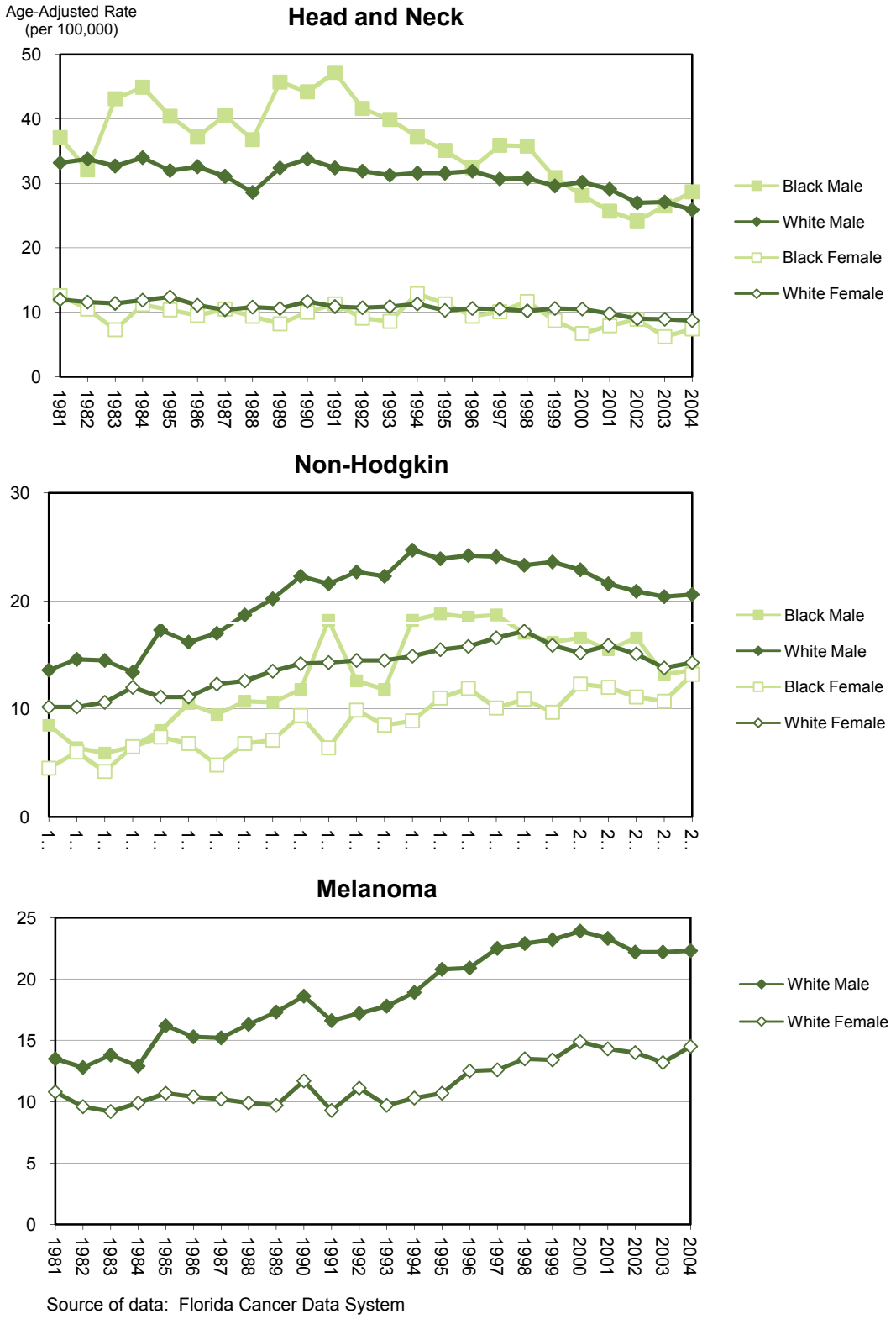
Source of data: Florida Cancer Data System

Figure 2.2 Age-Adjusted Incidence Rates by Sex and Race, Florida, 1981-2004



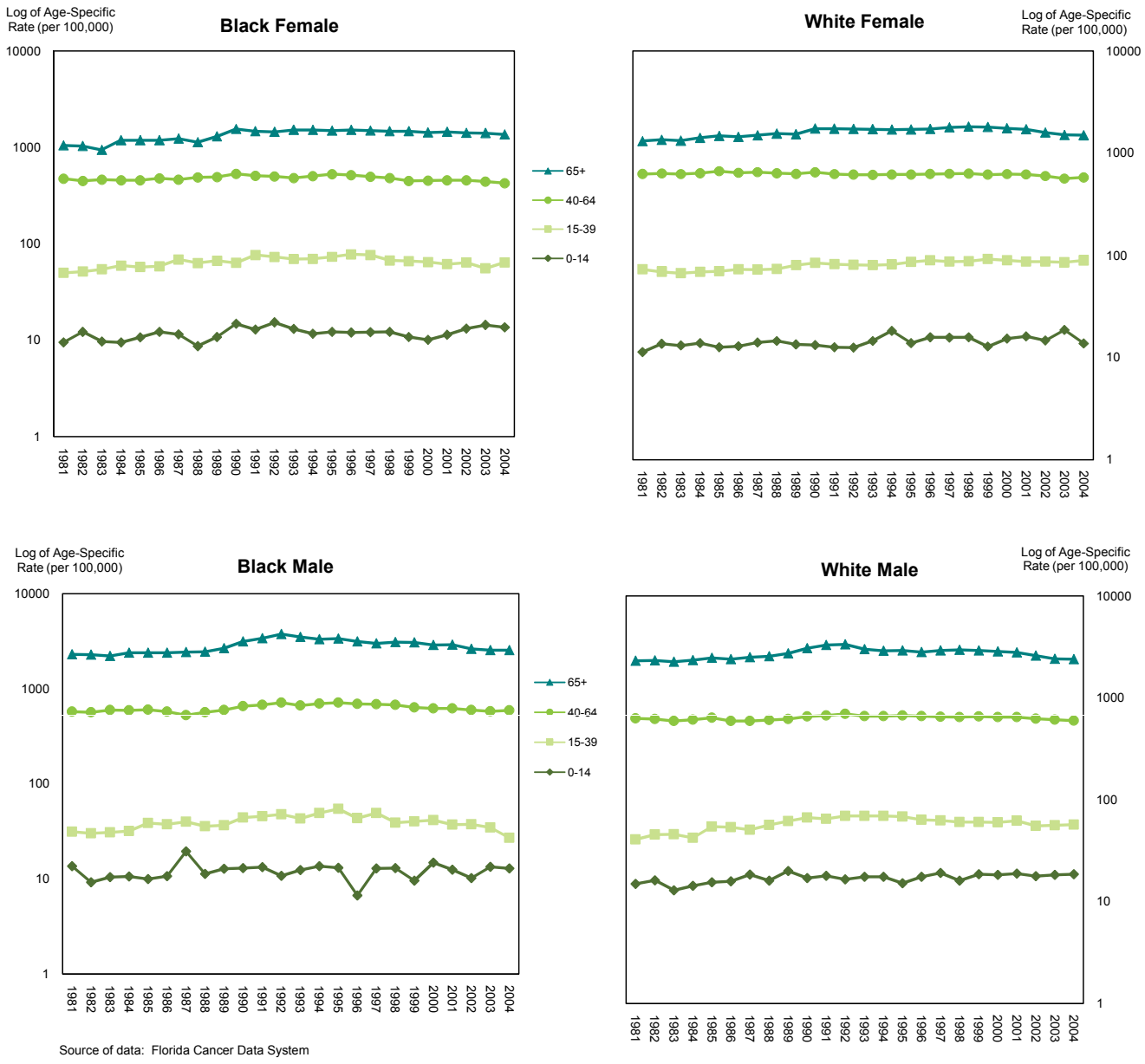
Source of data: Florida Cancer Data System

Figure 2.3 Age-Adjusted Incidence Rates by Sex and Race, Florida, 1981-2004



Source of data: Florida Cancer Data System

Figure 3. Age-Specific Incidence Rates for All Cancers by Sex, Race, and Age Group, Florida, 1981-2004



Source of data: Florida Cancer Data System

Table 1. Number of New Cancer Cases by Sex and Race, Florida, 2004

	All Cancers	Lung & Bronchus	Prostate	Breast	Colorectal	Bladder	Head & Neck	Non-Hodgkin(1)	Melanoma	Ovary	Cervix
Florida (2)	**95,931**	**16,350**	**12,150**	**11,961**	**10,710**	**5,003**	**3,627**	**3,754**	**3,277**	**1,485**	**826**
Female	45,235	7,438		11,961	5,106	1,288	1,013	1,744	1,323	1,485	826
Male	50,652	8,902	12,150		5,600	3,712	2,613	2,006	1,954		
Black	8,328	1,133	1,554	1,068	992	182	358	307		102	123
White	85,581	15,016	10,298	10,619	9,490	4,715	3,186	3,374	3,277	1,351	683
Black Female	3,875	430		1,068	505	72	92	158		102	123
White Female	40,415	6,916		10,619	4,485	1,192	900	1,554	1,323	1,351	683
Black Male	4,451	702	1,554		487	110	266	148			
White Male	45,131	8,091	10,298		5,002	3,520	2,285	1,817	1,954		

Source of data: Florida Cancer Data System

(1) Non-Hodgkin refers to Non-Hodgkin's lymphoma throughout this report.

(2) Florida incidence totals throughout this report include 1,140 new cancers in persons of "Other" races, 882 cases with unknown race, 44 cases with unknown or unspecified sex, and 2 cases with unknown age. Totals by sex include cases with unknown age and race, as well as cases with Other race. Totals by race include unknown sex and age.

Table 2. Number of New Cancer Cases by County, Florida, 2004

	All Cancers	Lung & Bronchus	Prostate	Breast	Colorectal	Bladder	Head & Neck	Non-Hodgkin	Melanoma	Ovary	Cervix
Florida	**95,931**	**16,350**	**12,150**	**11,961**	**10,710**	**5,003**	**3,627**	**3,754**	**3,277**	**1,485**	**826**
Alachua	882	146	93	135	99	38	55	40	33	13	^
Baker	101	14	15	16	12	^	^	^	^	^	^
Bay	760	144	136	85	78	19	28	22	35	11	^
Bradford	90	17	^	12	16	^	^	^	^	^	^
Brevard	3,467	675	454	418	348	243	124	123	116	57	11
Broward	8,408	1,248	866	1,111	981	456	308	340	288	155	97
Calhoun	63	17	^	^	^	^	^	^	^	^	^
Charlotte	1,109	197	166	115	127	60	50	46	24	18	^
Citrus	1,033	206	161	92	119	66	39	32	31	14	^
Clay	671	101	78	100	65	42	25	30	19	^	^
Collier	1,879	262	354	182	168	122	70	71	92	23	10
Columbia	300	63	43	36	30	15	10	13	^	^	^
Miami-Dade	10,463	1,351	1,380	1,328	1,315	447	415	451	242	159	147
DeSoto	151	31	19	17	26	^	^	^	^	^	^
Dixie	75	17	^	12	12	^	^	^	^	^	^
Duval	3,766	626	493	557	401	156	146	164	89	60	40
Escambia	1,453	279	180	197	135	56	69	61	44	19	16
Flagler	546	83	85	71	48	33	28	22	16	^	^
Franklin	56	14	^	^	^	^	^	^	^	^	^
Gadsden	215	44	27	37	31	^	^	^	^	^	^
Gilchrist	82	14	^	^	12	^	^	^	^	^	^
Glades	36	10	^	^	^	^	^	^	^	^	^
Gulf	83	14	^	^	^	^	^	^	^	^	^
Hamilton	47	^	^	12	11	^	^	^	^	^	^
Hardee	110	19	17	10	^	^	^	^	^	^	^
Hendry	157	31	22	16	24	^	^	^	^	^	^
Hernando	1,260	273	168	149	161	66	42	42	42	^	^
Highlands	751	153	95	76	97	31	14	26	29	^	^
Hillsborough	5,116	781	571	692	579	225	191	189	180	100	41
Holmes	64	11	^	^	14	^	^	^	^	^	^
Indian River	969	181	133	95	105	69	43	23	39	^	^
Jackson	202	41	27	29	24	10	^	^	^	^	^
Jefferson	55	^	^	^	^	^	^	^	^	^	^
Lafayette	21	^	^	^	^	^	^	^	^	^	^
Lake	2,121	394	323	224	230	110	50	94	77	27	16
Lee	3,339	595	491	374	345	188	126	113	145	49	24
Leon	819	124	126	125	103	17	25	36	38	11	^
Levy	205	43	22	19	22	11	17	^	^	^	^
Liberty	34	^	^	^	^	^	^	^	^	^	^
Madison	71	19	11	^	10	^	^	^	^	^	^
Manatee	1,943	391	233	205	225	94	69	81	73	39	16
Marion	2,215	398	377	281	250	107	62	77	74	27	15
Martin	1,031	180	152	128	104	72	40	43	57	16	11
Monroe	451	76	36	49	57	24	37	19	20	^	^
Nassau	373	85	43	45	31	13	16	10	10	^	^
Okaloosa	892	184	100	125	77	43	35	42	28	12	^
Okeechobee	181	42	17	14	28	^	10	^	^	^	^
Orange	4,086	610	547	590	471	159	148	170	121	65	46
Osceola	807	148	82	106	101	44	29	20	35	^	11
Palm Beach	8,011	1,218	909	1,057	810	494	258	362	377	125	45
Pasco	2,950	560	344	331	328	206	103	104	114	47	17
Pinellas	6,260	1,182	693	773	739	382	237	232	212	107	38
Polk	3,375	634	422	381	352	158	123	115	129	38	43
Putnam	445	101	61	41	54	25	20	19	^	^	^
Saint Johns	848	136	93	128	88	50	29	44	40	16	11
Saint Lucie	1,253	254	172	146	128	69	51	47	32	26	^
Santa Rosa	609	135	78	70	66	29	28	23	22	15	^
Sarasota	2,973	535	455	344	326	188	100	117	118	55	17
Seminole	1,547	244	227	211	169	65	51	41	52	23	18
Sumter	437	97	46	48	48	27	18	21	16	^	^
Suwannee	215	45	18	34	20	11	14	^	^	^	^
Taylor	96	23	14	13	^	^	^	^	^	^	^
Union	141	30	16	^	12	^	15	11	^	^	^
Volusia	3,329	690	361	371	391	160	148	126	76	48	28
Wakulla	120	23	^	18	12	^	^	^	^	^	^
Walton	211	46	18	35	20	^	^	^	^	^	^
Washington	102	14	17	13	13	^	^	^	^	^	^

^ Statistics for cells with fewer than 10 cases are not displayed.

Source of data: Florida Cancer Data Systen

Table 3. Age-Adjusted Incidence Rates (1) by Sex and Race, Florida, 2004

	All Cancers			Lung & Bronchus			Prostate			Breast			Colorectal			Bladder		
	Rate	CI		Rate	CI		Rate	CI		Rate	CI		Rate	CI		Rate	CI	
Florida (2)	**430.5**	427.8	433.3	**70.6**	69.5	71.7	**116.3**	114.2	118.4	**105.2**	103.3	107.1	**46.5**	45.6	47.4	**21.1**	20.5	21.7
Female	**380.1**	376.5	383.8	**58.6**	57.2	59.9				**105.2**	103.3	107.1	**39.8**	38.7	40.9	**9.7**	9.2	10.3
Male	**498.5**	494.1	502.9	**86.1**	84.3	87.9	**116.3**	114.2	118.4				**54.9**	53.5	56.4	**35.8**	34.7	37.0
Black	**412.9**	403.8	422.2	**58.7**	55.3	62.4	**184.7**	175.1	194.7	**87.9**	82.7	93.5	**51.9**	48.6	55.3	**10.6**	9.1	12.3
White	**430.5**	427.5	433.5	**71.7**	70.6	72.9	**108.2**	106.2	110.4	**106.9**	104.8	109.0	**45.6**	44.6	46.5	**21.9**	21.3	22.6
Black Female	**333.5**	322.9	344.4	**38.6**	35.0	42.5				**87.9**	82.7	93.5	**45.7**	41.7	50.0	**7.1**	5.5	9.0
White Female	**385.2**	381.3	389.2	**60.6**	59.2	62.1				**106.9**	104.8	109.0	**38.8**	37.6	40.0	**10.0**	9.5	10.7
Black Male	**526.3**	509.9	543.1	**87.8**	81.0	95.1	**184.7**	175.1	194.7				**60.6**	55.0	66.8	**15.8**	12.8	19.4
White Male	**492.2**	487.6	496.8	**85.9**	84.0	87.8	**108.2**	106.2	110.4				**54.0**	52.5	55.5	**37.1**	35.8	38.3

	Head & Neck			Non-Hodgkin			Melanoma			Ovary			Cervix		
	Rate	CI		Rate	CI		Rate	CI		Rate	CI		Rate	CI	
Florida (2)	**16.8**	16.2	17.3	**17.1**	16.5	17.7	**17.8**	17.2	18.4	**12.7**	12.1	13.4	**8.6**	8.0	9.3
Female	**8.6**	8.1	9.2	**14.4**	13.7	15.1	**14.5**	13.7	15.3	**12.7**	12.1	13.4	**8.6**	8.0	9.3
Male	**26.2**	25.2	27.3	**20.4**	19.5	21.3	**22.3**	21.3	23.3						
Black	**16.5**	14.8	18.4	**13.7**	12.1	15.4				**8.7**	7.1	10.6	**9.7**	8.1	11.7
White	**16.7**	16.2	17.4	**17.2**	16.6	17.8	**17.8**	17.2	18.4	**13.3**	12.5	14.0	**8.7**	8.0	9.4
Black Female	**7.4**	6.0	9.2	**13.2**	11.2	15.6				**8.7**	7.1	10.6	**9.7**	8.1	11.7
White Female	**8.7**	8.1	9.3	**14.3**	13.5	15.0	**14.5**	13.7	15.3	**13.3**	12.5	14.0	**8.7**	8.0	9.4
Black Male	**28.7**	25.2	32.7	**13.6**	11.4	16.2									
White Male	**25.9**	24.8	27.0	**20.6**	19.6	21.6	**22.3**	21.3	23.3						

Source of data: Florida Cancer Data System

(1) Rates are expressed as number of cases per 100,000 population per year, adjusted to the 2000 U.S. standard population.

(2) Florida incidence rates throughout this report include 1,140 new cancers in persons of "Other" races, 882 cases with unknown race, 44 cases with unknown or unspecified sex, and 2 cases with unknown age. Rates calculated by sex include cases with unknown age and race, as well as cases with Other race. Rates by race include unknown sex and age.

Table 4. Age-Adjusted Incidence Rates (1) by County, Florida, 2004

	All Cancers			Lung & Bronchus			Prostate			Breast			Colorectal		
	Rate	CI		Rate	CI		Rate	CI		Rate	CI		Rate	CI	
Florida	**430.5**	427.8	433.3	**70.6**	69.5	71.7	**116.3**	114.2	118.4	**105.2**	103.3	107.1	**46.5**	45.6	47.4
Alachua	**453.4**	423.7	484.7	**76.7**	64.7	90.4	**105.4**	84.8	130.1	**127.8**	107.0	151.7	**52.0**	42.2	63.5
Baker	**476.8**	386.7	584.3	**70.6**	37.8	122.8	**152.4**	79.8	290.7	**144.3**	82.2	238.0	**60.3**	30.6	109.6
Bay	**434.4**	403.9	466.8	**82.5**	69.5	97.4	**160.7**	134.4	192.0	**92.8**	74.0	115.4	**44.2**	34.9	55.4
Bradford	**299.7**	240.8	370.6	**55.3**	32.2	91.4	**^**	^	^	**89.7**	45.1	166.7	**53.8**	30.7	90.1
Brevard	**481.2**	465.0	498.0	**88.3**	81.7	95.4	**130.5**	118.6	143.4	**115.7**	104.5	128.1	**47.3**	42.4	52.8
Broward	**404.3**	395.5	413.1	**58.9**	55.6	62.3	**94.5**	88.3	101.1	**100.8**	94.9	107.1	**45.0**	42.1	47.9
Calhoun	**402.4**	308.9	520.4	**105.7**	61.6	176.0	**^**	^	^	**^**	^	^	**^**	^	^
Charlotte	**350.7**	327.6	376.0	**56.4**	48.2	67.0	**97.5**	82.9	116.7	**91.8**	72.9	116.4	**35.8**	29.3	44.8
Citrus	**392.6**	366.1	421.9	**70.8**	60.9	83.6	**117.5**	99.6	141.3	**72.2**	56.3	94.6	**41.9**	34.0	52.8
Clay	**428.6**	396.2	463.1	**67.3**	54.6	82.2	**105.4**	82.5	133.8	**113.8**	92.4	139.2	**42.7**	32.8	54.8
Collier	**377.5**	359.5	396.4	**48.4**	42.6	55.3	**135.5**	121.4	151.4	**80.3**	68.0	94.8	**32.6**	27.6	38.6
Columbia	**442.6**	393.6	496.4	**91.5**	70.2	117.9	**134.9**	96.9	185.7	**103.9**	72.5	146.4	**46.4**	31.2	67.0
Miami-Dade	**409.2**	401.4	417.2	**52.3**	49.6	55.2	**121.4**	115.1	128.1	**96.1**	91.0	101.5	**50.9**	48.2	53.8
DeSoto	**327.1**	275.1	387.7	**62.3**	41.7	92.0	**82.9**	49.3	135.3	**75.7**	42.7	132.4	**52.7**	33.9	80.7
Dixie	**373.8**	291.2	477.4	**83.3**	47.4	142.4	**^**	^	^	**119.5**	58.7	235.2	**59.2**	29.8	112.4
Duval	**488.7**	473.1	504.7	**83.1**	76.6	89.9	**149.6**	136.4	163.8	**129.2**	118.7	140.5	**52.2**	47.2	57.7
Escambia	**444.6**	421.9	468.2	**85.1**	75.4	95.9	**121.9**	104.6	141.5	**112.0**	96.8	129.2	**41.1**	34.5	48.8
Flagler	**457.7**	415.4	505.7	**61.2**	48.3	80.4	**131.4**	104.2	170.9	**128.1**	95.8	173.9	**43.4**	30.1	63.8
Franklin	**396.3**	294.3	532.2	**84.3**	45.0	160.4	**^**	^	^	**^**	^	^	**^**	^	^
Gadsden	**451.7**	393.1	517.0	**92.8**	67.3	125.2	**127.3**	83.3	188.3	**137.0**	96.2	190.8	**65.4**	44.4	93.4
Gilchrist	**448.1**	355.7	561.2	**74.4**	40.5	131.0	**^**	^	^	**^**	^	^	**66.3**	34.1	121.6
Glades	**212.8**	147.6	309.9	**53.7**	25.7	118.1	**^**	^	^	**^**	^	^	**^**	^	^
Gulf	**439.9**	349.5	552.5	**70.4**	38.4	127.0	**^**	^	^	**^**	^	^	**^**	^	^
Hamilton	**340.4**	249.3	456.3	**^**	^	^	**^**	^	^	**190.9**	97.7	342.1	**82.9**	41.1	151.7
Hardee	**370.6**	303.9	448.9	**61.0**	36.6	97.5	**113.7**	66.1	188.2	**74.4**	35.0	145.5	**^**	^	^
Hendry	**465.4**	394.9	545.9	**92.3**	62.5	132.3	**134.5**	83.0	212.8	**102.3**	58.3	167.6	**72.5**	46.2	109.5
Hernando	**466.6**	438.4	497.1	**91.3**	80.3	104.6	**121.0**	102.5	144.4	**114.5**	94.6	139.5	**56.7**	47.7	68.2
Highlands	**401.4**	369.0	437.5	**77.9**	64.6	95.1	**110.7**	87.9	141.5	**82.1**	61.0	112.1	**45.1**	35.7	58.5
Hillsborough	**453.8**	441.4	466.4	**69.5**	64.7	74.6	**112.6**	103.5	122.4	**112.7**	104.5	121.5	**51.5**	47.4	55.9
Holmes	**300.9**	230.8	388.6	**54.5**	27.0	101.8	**^**	^	^	**^**	^	^	**64.5**	34.9	113.1
Indian River	**437.7**	408.0	469.8	**78.5**	66.8	92.8	**120.7**	100.6	145.7	**85.7**	67.4	109.4	**43.3**	34.9	54.1
Jackson	**365.1**	316.2	420.5	**73.3**	52.5	101.0	**108.4**	70.9	160.7	**101.0**	67.1	149.2	**42.2**	27.0	64.4
Jefferson	**336.6**	253.2	444.0	**^**	^	^	**^**	^	^	**^**	^	^	**^**	^	^
Lafayette	**269.0**	166.1	419.9	**^**	^	^	**^**	^	^	**^**	^	^	**^**	^	^
Lake	**494.7**	472.2	518.4	**86.2**	77.5	96.1	**148.5**	132.3	167.3	**110.6**	95.2	128.8	**50.0**	43.4	57.8
Lee	**404.5**	390.0	419.5	**67.7**	62.2	73.8	**115.9**	105.7	127.2	**97.1**	86.7	108.8	**38.6**	34.4	43.2
Leon	**402.9**	375.1	432.2	**65.3**	54.2	78.3	**137.3**	113.5	165.8	**107.3**	89.0	128.6	**52.3**	42.6	63.8
Levy	**386.6**	333.6	447.8	**72.9**	52.6	101.8	**81.6**	50.4	132.6	**65.1**	38.8	109.8	**42.3**	26.2	67.8
Liberty	**489.8**	337.1	704.5	**^**	^	^	**^**	^	^	**^**	^	^	**^**	^	^
Madison	**337.0**	262.7	427.7	**86.8**	52.1	138.7	**117.5**	58.4	214.7	**^**	^	^	**47.0**	22.5	89.5
Manatee	**414.5**	395.2	434.9	**77.7**	69.9	86.5	**100.6**	88.0	115.3	**96.4**	82.6	112.4	**44.5**	38.6	51.5
Marion	**469.8**	449.2	491.5	**79.3**	71.4	88.3	**161.2**	144.9	179.5	**111.5**	98.0	127.1	**50.6**	44.2	58.0
Martin	**419.1**	391.9	448.5	**66.2**	56.6	78.1	**123.4**	104.2	147.1	**110.0**	89.6	135.4	**38.4**	30.9	48.3
Monroe	**454.9**	412.8	501.2	**74.9**	58.7	95.5	**65.3**	45.4	94.0	**94.2**	69.4	128.4	**58.5**	44.0	77.6
Nassau	**513.1**	461.4	569.6	**112.7**	89.7	140.7	**121.4**	86.6	171.1	**115.7**	84.0	157.1	**41.6**	28.1	60.4
Okaloosa	**476.0**	445.0	508.7	**98.2**	84.4	113.8	**113.3**	91.7	139.9	**124.9**	103.9	149.3	**42.1**	33.2	52.9
Okeechobee	**373.0**	319.4	434.4	**83.0**	59.5	114.6	**71.4**	41.0	118.8	**62.7**	33.0	114.4	**52.9**	35.1	79.1
Orange	**448.3**	434.5	462.4	**68.9**	63.5	74.7	**136.0**	124.6	148.4	**116.5**	107.3	126.4	**52.9**	48.2	58.0
Osceola	**366.0**	341.0	392.3	**67.6**	57.1	79.6	**78.3**	62.0	98.4	**90.4**	73.9	109.6	**46.4**	37.7	56.5
Palm Beach	**430.4**	420.6	440.5	**60.9**	57.4	64.5	**106.0**	99.1	113.3	**114.6**	107.3	122.3	**41.8**	38.9	45.0
Pasco	**454.6**	436.9	473.1	**79.5**	72.8	87.1	**107.6**	96.2	120.5	**107.5**	94.8	121.9	**45.4**	40.3	51.3
Pinellas	**436.3**	425.1	447.7	**79.3**	74.7	84.2	**105.5**	97.7	113.8	**107.1**	99.3	115.6	**47.8**	44.3	51.5
Polk	**485.0**	468.3	502.2	**85.7**	79.1	92.9	**124.0**	112.4	136.8	**112.3**	100.9	125.0	**48.0**	43.0	53.5
Putnam	**446.6**	405.0	492.4	**98.4**	79.7	121.3	**119.8**	91.4	157.1	**83.2**	58.7	117.0	**52.4**	39.1	70.1
Saint Johns	**454.0**	423.6	486.5	**71.0**	59.5	84.6	**104.1**	83.9	128.9	**128.2**	106.6	154.1	**46.6**	37.3	58.1
Saint Lucie	**391.7**	369.4	415.4	**73.0**	64.1	83.2	**107.5**	91.9	126.0	**93.6**	78.2	112.0	**39.5**	32.7	47.7
Santa Rosa	**440.7**	405.8	478.3	**98.8**	82.6	117.8	**124.3**	96.7	159.8	**93.6**	72.7	119.2	**49.4**	38.0	63.7
Sarasota	**433.6**	416.2	451.8	**73.6**	66.9	81.2	**136.0**	123.4	150.4	**107.1**	94.2	122.1	**44.6**	39.3	50.8
Seminole	**392.9**	373.3	413.4	**64.7**	56.7	73.5	**125.9**	109.6	144.3	**94.8**	82.3	108.8	**44.5**	37.9	51.8
Sumter	**353.7**	318.2	394.5	**75.0**	59.7	96.0	**70.7**	50.5	102.4	**80.4**	56.2	117.6	**35.1**	25.5	50.7
Suwannee	**432.3**	375.3	497.5	**86.1**	62.7	118.1	**77.2**	45.3	128.2	**130.7**	89.1	190.6	**39.0**	23.6	63.7
Taylor	**420.5**	340.0	516.2	**96.8**	61.1	148.1	**117.8**	64.2	213.5	**123.6**	65.0	222.3	**^**	^	^
Union	**981.9**	819.7	1175.6	**215.3**	143.0	322.0	**195.9**	110.0	388.4	**^**	^	^	**80.9**	40.7	157.9
Volusia	**470.1**	453.7	487.2	**92.6**	85.6	100.1	**106.8**	96.0	118.9	**105.3**	94.2	117.7	**51.5**	46.4	57.2
Wakulla	**457.1**	377.6	551.1	**90.5**	56.6	140.4	**^**	^	^	**128.6**	75.7	210.3	**45.6**	23.1	84.6
Walton	**318.3**	275.9	366.9	**68.5**	49.9	93.7	**51.0**	30.1	85.6	**111.1**	75.9	161.4	**27.5**	16.7	45.1
Washington	**360.3**	293.2	441.3	**49.5**	26.9	87.9	**128.7**	74.6	213.9	**84.4**	44.6	159.3	**47.6**	25.1	86.2

(1) Rates are expressed as number of cases per 100,000 population per year, adjusted to the 2000 U.S. standard population.
^ Statistics for cells with fewer than 10 cases are not displayed.

Summary of Revisions to Florida's Notifiable Disease Reporting Law (Chapter 64D-3, F.A.C.)

Section 7

Notifiable Disease Reporting: Changes to Chapter 64D-3, *Florida Administrative Code (F.A.C.)*

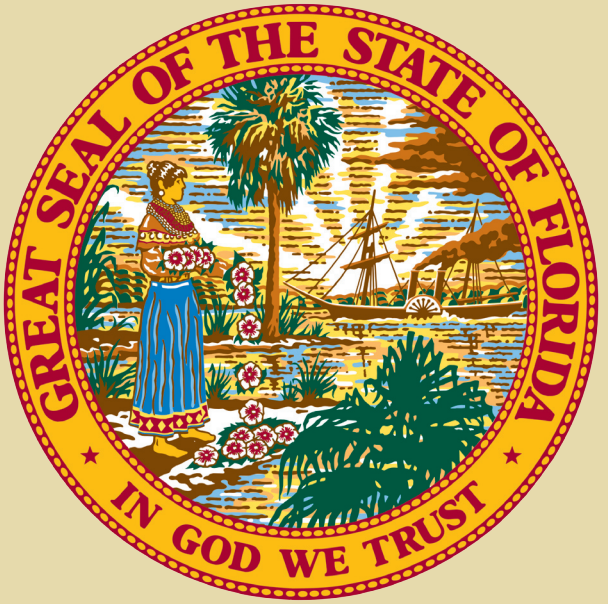
Reporting suspect and confirmed notifiable diseases or conditions in the State of Florida is mandated under Florida Statute 381.0031, Chapter 64D-3, *Florida Administrative Code* (*F.A.C.*). During 2005 and 2006, the Florida Department of Health conducted an extensive rewrite of Chapter 64D-3 *F.A.C.*. These changes became effective November 2006. The 2007 reporting year was the first complete reporting year where these changes were effective.

As stated in Chapter 64D-3 *F.A.C.,* persons in charge of laboratories, practitioners, hospitals, medical facilities, schools, nursing homes, state institutions, or other locations providing health services are required to report diseases or conditions and the associated laboratory test results listed in the Table of Notifiable Diseases or Conditions. Physicians, laboratorians, infection control practitioners, and other healthcare providers play a key role in the state and local public health department efforts to control notifiable diseases. The public health system depends upon reports of disease to monitor the health of the community, and to provide the basis for preventive action.

Some important highlights to Chapter 64D-3, *F.A.C.* that took effect November 2006 included:

- Revised reporting timeframes to three major categories:
  - Suspect Immediately (newly added): Report immediately upon initial suspicion or laboratory test order, 24/7 by phone;
  - Immediately: Report immediately upon diagnosis confirmed clinically or by laboratory test results, 24/7 by phone;
  - Next Business Day (previously within 72 hours): Report no later than the closure of the county health department next business day following confirmatory testing or diagnosis.
- Added new diseases or conditions to the list of reportable diseases for practitioners and laboratories:
  - Reportable by practitioners: HIV-exposed infants or newborns, and conjunctivitis in neonates <14 days old;
  - Reportable by laboratories: CD-4 counts, viral load, and STARHS; abnormal cervical cytologist/histologies; ALL blood lead tests performed;
  - Reportable by practitioners and laboratories (newly added): California serogroup viruses; HPV cancer-associated strains; novel or pandemic influenza virus strains (isolated from a human); influenza associated pediatric mortality; hepatitis D, E, and G; SARS; typhus fever (epidemic); varicella; varicella mortality; and cancer, including benign and borderline intracranial and central nervous system tumors.
- Required routine testing during pregnancy for chlamydia, gonorrhea, hepatitis B, HIV, and syphilis with an opt-out approach.
- Required laboratories to report laboratory results for notifiable diseases or conditions electronically.

To obtain more information, such as the updated version of Chapter 64D-3, *F.A.C.*, or other important reporting documents and guidelines, please visit http://www.doh.state.fl.us/disease_ctrl/epi/topics/surv.htm, or contact the Florida Department of Health state offices or the local county health department.



DIVISION OF
Disease Control

FLORIDA DEPARTMENT OF
HEALTH

FLORIDA BUREAU OF EPIDEMIOLOGY