County of San Diego
Health & Human Services Agency

Communicable Disease Report

2007

Public Health Services
Community Epidemiology

Salmonella typhimurium (red) invading cultured human cells. Rocky Mountain Laboratories, NIAID, NIH

County of San Diego
Health and Human Services Agency
Public Health Services
Community Epidemiology Branch

2007 Communicable Disease Report

County of San Diego Board of Supervisors

District 1
Greg Cox

District 2
Dianne Jacob

District 3
Pam Slater-Price

District 4
Ron Roberts

District 5
Bill Horn

October 2008

Community Epidemiology Branch
1700 Pacific Highway, P577
San Diego, CA 92101
619-515-6620
www.sdepi.org

Acknowledgements

This report was prepared by Jennifer A. Nelson, MPH, Biostatistician, County of San Diego, Health and Human Services Agency, Public Health Services, Community Epidemiology Branch, with contributions from a great many people:

Community Epidemiology Branch
Michele Ginsberg, MD, Chief
Jeff Johnson, MPH, Senior Epidemiologist
Annie Kao, Ph.D, MPH, MS, Senior Epidemiologist
Joy Van Meter, RN, MPH, Public Health Nurse IV
Deirdre Browner, MPH, Biostatistician
Michael Bursaw, Senior Epidemiologist
Brit Colanter, MPH, Epidemiologist II
Lacey Hicks, MPH, Biostatistician
Jackie Hopkins, MPH, Epidemiologist II
Azarnoush Maroufi, MPH, Epidemiologist II
Brian Murphy, DrPH, REHS, Epidemiologist II
Carol Roach, RN, Public Health Nurse II
Darlene Sunega, RN, Public Health Nurse II
Lisa Yee, Epidemiologist
Maryann Delea, MPH, CDC/CSTE Applied Epidemiology Fellow

Tuberculosis Control and Refugee Health Services Branch
Kathleen Moser, MD, Chief, TB Controller
Paulino Paida, Health Information Specialist

Department of Environmental Health, Food and Housing Division
Liz Pozzebon, MS, REHS, Chief
Dina Ellorin, REHS, Environmental Health Specialist III
Robert Venter, REHS, Program Coordinator

County of San Diego
Health and Human Services Agency
Nick Macchione, MS, MPH, FACHE, Director

Public Health Services
Wilma Wooten, MD, MPH, Public Health Officer

Community Epidemiology Branch
Michele Ginsberg, MD, Chief

The Community Epidemiology Branch of Public Health Services works to identify, prevent, and control communicable disease throughout San Diego County. The Branch also investigates the source and spread of diseases, institutes control measures, and provides consultation and recommendations to the medical community.

Table of Contents

Introduction

The purpose of this report is to provide an overview of select communicable diseases in San Diego County in 2007. It can be used to review disease trends over a five-year period; to compare disease incidence in San Diego County, California, and the United States; to assess the impact of disease in specific population groups; and to evaluate the relative disease burden caused by various infections.

Over 9,000 disease incidents were reported to Community Epidemiology Branch in 2007. Although most were cases that required public health intervention or follow-up by Community Epidemiology Branch, some were investigated and determined not to be cases, or were forwarded to a different jurisdiction or a different branch of Public Health Services for follow-up.

Included in this report are descriptive summaries of 16 diseases commonly reported in San Diego County. The diseases selected are ones deemed to be of interest to the largest audience and that have a sufficient number of annual cases to allow for basic analysis.

The data are presented in multiple formats—tables, graphs, maps, bullet points—as well as in multiple categories—demographic, temporal, and geographic. Basic etiologic information about each disease is provided. Counts and rates for each of these diseases in California and the United States are included.

This report also contains a table with five years of data for other diseases monitored by Community Epidemiology Branch. Data on HIV/AIDS, STDs, tuberculosis, and certain vaccine-preventable diseases are not included in this report, but can be accessed using the links on page nine.

Organization of the Report

The report begins with a profile of the San Diego County population. This is followed by summary tables—a five-year table presenting counts of a more inclusive list of diseases and a table displaying county-state-national comparisons of the highlighted diseases.

The main part of the report is composed of 16 two-page chapters that provide descriptive summaries of select diseases in San Diego County. The first page of each chapter includes the same elements: bullet points summarizing the data highlights; key background information (infectious agent, mode of transmission, incubation period, symptoms); and three graphs—incidence rates for San Diego County, California, and the United States (when available) over five years; cases and rates for San Diego County over five years; and cases by month of onset for 2007. Healthy People 2010 goals are included when available. On the second page of each chapter, data are presented that reflect the epidemiology of each disease.

Included at the end of the report are additional demographic tables by disease for 2007. Two appendices contain (1) a list of reportable diseases and conditions in California and how to report them; and (2) a resource page with a list of websites where related data, case definitions, and more detailed disease information can be found.

Communicable Disease Data

All healthcare providers, public health professionals, administrators of healthcare facilities, and those in charge of public or private schools, kindergartens, boarding schools, or preschools, are required under Title 17 of the California Code of Regulations to report known or suspected cases of more than 80 communicable diseases and conditions to the local health department. Laboratories are also required to report certain communicable diseases. For more information about reporting requirements, see Appendix I. The data collected and monitored by Community Epidemiology Branch and presented in this report come from these disease reports.

Cases of communicable diseases are determined on the basis of case definitions, which are standard across most public health jurisdictions in the United States. Cases are most frequently defined in terms of laboratory test results, sometimes interpreted in conjunction with clinical symptoms. When no laboratory test is available for a condition, there is a specific set of clinical criteria that must be met. Case definitions are subject to change, which may affect case counts. In these circumstances, notes are included in the relevant disease chapters. A link to current case definitions can be found in the Resources section (Appendix II).

Introduction

Disease data should be interpreted with caution due to various reporting issues. Incomplete reporting of communicable disease is not uncommon among health care providers, who may be unaware of reporting requirements or fail to order confirmatory diagnostic tests. Reporting quality and completeness may vary by disease or condition. Diseasses with severe sequelae or public health consequences may be more likely to be reported; diseases that are less serious or asymptomatic may not be reported as frequently because those infected may not have sought care or may not have been tested.

Diseases for which laboratory reporting is legally required may have more complete reporting as many laboratories have an automated reporting system. However, diagnostic tests are not available for all diseases and conditions and tests are not always performed even when available.

Completeness of demographic data may vary by disease as well, because some diseases, although monitored, are not investigated by Community Epidemiology Branch. If an interview with a case is not conducted, there is no opportunity to obtain information missing from the original disease report. Reports that come from laboratories are often more incomplete in terms of demographic information.

Reporting differences can also account for some variations in the numbers of one disease across multiple years. For example, in 2006 and 2007, the reported cases of amebiasis and giardiasis in San Diego County increased dramatically when a local refugee health center began reporting.

The data, although as complete and accurate as possible, should always be considered provisional. On occasion, counts may change when a case is reviewed at a later date, either locally or at the state level, and is determined not to meet case definition.

For the purposes of this report, cases are grouped into years according to the date the case was reported to the California Department of Public Health. This is comparable to data reporting at the state and national levels. The years of data presented in this report are “disease years” rather than calendar years. The Centers for Disease Control and Prevention (CDC) has set up disease years, with numbered weeks, for ease of comparing data from year to year. These weeks run from Sunday to Saturday. The disease year may differ by a few days from the calendar year. For example, disease year 2007 began on 12/31/2006 and ended on 12/29/2007.

Sources

Disease Etiology and Symptoms Most of the disease-specific information in this report is drawn from two sources: the CDC’s disease pages (www.cdc.gov/DiseasesConditions) and the Control of Communicable Diseases Manual (18th edition; David L. Heymann, MD, editor). Any other sources are noted in the body of the report. Links to additional information about each highlighted disease are provided in the information box in each disease chapter.

Disease Incidence Data The source for United States disease data is the CDC table of reported cases of notifiable diseases, as published in the Morbidity and Mortality Weekly Report. The source for California disease data is the Communicable Disease Summary Tables produced by the California Department of Public Health, Division of Communicable Disease Control, Infectious Diseases Branch. Detailed citations are included on page 10. San Diego County disease data are drawn from the communicable disease reports (Confidential Morbidity Reports) maintained and investigated by Community Epidemiology Branch, as described in the previous section on communicable disease data.

Population Data The denominators used for calculating rates for the San Diego County data were derived from the annual population estimates provided by the San Diego Association of Governments (SANDAG), which are based on the most recent census data. For more information about SANDAG’s scope and methodology, see www.sandag.org.

The race and ethnicity population data has been grouped to match the categories available for the communicable disease data.

Population data by zip code were used to calculate rates presented on maps in some of the disease chapters. Several zip codes split during the period covered by the report. On maps displaying five years of data

(2003-2007), the previous zip code boundaries were used and the data were combined accordingly; on maps displaying only 2007 data, the new boundaries were used.

Statistics and Methods

Data in this report are presented primarily as counts of cases or as rates. Two kinds of rates are utilized: incidence rates and case fatality rates.

Incidence rates are the number of new cases of a disease within a specified time period divided by the total population at risk in that time period. For incidence rates in a specific geographic area, age group, or racial/ethnic group, the denominator is the population in that group. In this report, annual incidence rates per 100,000 population are presented; when multiple years of data are combined, average annual incidence rates are calculated. When the term "rate" is used alone, it can be assumed to be an incidence rate.

For select diseases, case fatality rates are also presented. The case fatality rate is the percentage of people infected with the disease within a given time period who die as a result of the disease.

Counts and rates are subject to random variation and often fluctuate from year to year and from group to group. Particularly when counts are very low, rates are unstable and should be interpreted with caution. In general, incidence rates have not been calculated when there are fewer than five cases in any given category.

On the first page of each disease chapter, the data are presented by single year. For some of the maps and demographic tables or figures on the second page, it was necessary to combine several years of data because the counts for a single year were not sufficient for reliable rate calculations in many of the demographic categories or geographic areas.

Limitations

The data presented in this report should be interpreted with respect to the following limitations. Some points have been discussed in greater detail in previous sections.

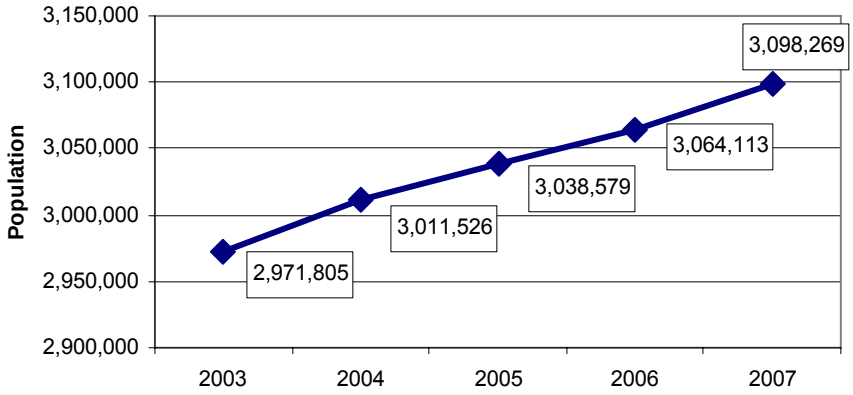
1. *Disease is underreported.* The disease counts presented in this report are only reported cases, which is an underestimate of the amount of true disease. The amount of underreporting likely varies by disease.
2. *Rates may be unreliable.* The counts for some diseases are small, especially when stratified by demographics, geography, or time. As the count decreases so does the stability of the rate.
3. *Demographic data may be incomplete.* Differences in disease among demographic groups may be affected by missing data. Completeness varies by disease. Data on race/ethnicity is the most likely to be missing and is of the most questionable quality; not only do concepts of race and ethnicity vary widely, but race/ethnicity may have been self-described by the case or selected by a provider. When age, race/ethnicity, gender, or zip code for a case is missing or unknown, that case is not reflected in the corresponding graph.
4. *Different dates may be used.* Although state report date is used to assign cases to a year, other dates, specifically onset date, may be of greater interest. Onset date is not always available; when unavailable, specimen collection date and date of diagnosis are used as surrogates. Onset date (or surrogate) is used in one graph, "Cases by Month of Onset." If the date of disease onset for a case was in the prior year, that case is not displayed in this graph.
5. *Location an infection was acquired may not correspond to where the case resides.* The maps presented in this report display disease rates by the case's zip code of residence. However, as people travel around the county or to nearby counties for work or other purposes, they may acquire infections in a different area from where they reside. Location of exposure is generally not available and maps should be considered in this light. In addition, people may have been exposed during domestic or foreign travel. San Diego County shares a border with Mexico and a large proportion of the county population travels frequently back and forth across the border. Many infectious diseases have greater prevalence in Mexico.

San Diego County Population, 2003-2007

The Population of San Diego County

- The population of San Diego County increased 4.3% from 2.97 million in 2003 to 3.1 million in 2007.
- In 2007, the San Diego County population was evenly split between males and females.
- 52% of the San Diego County population in 2007 was non-Hispanic white; 29% was Hispanic; 10% was Asian or Pacific Islander; 5% was non-Hispanic black; and less than 1% was American Indian.

San Diego County Population, 2003-2007



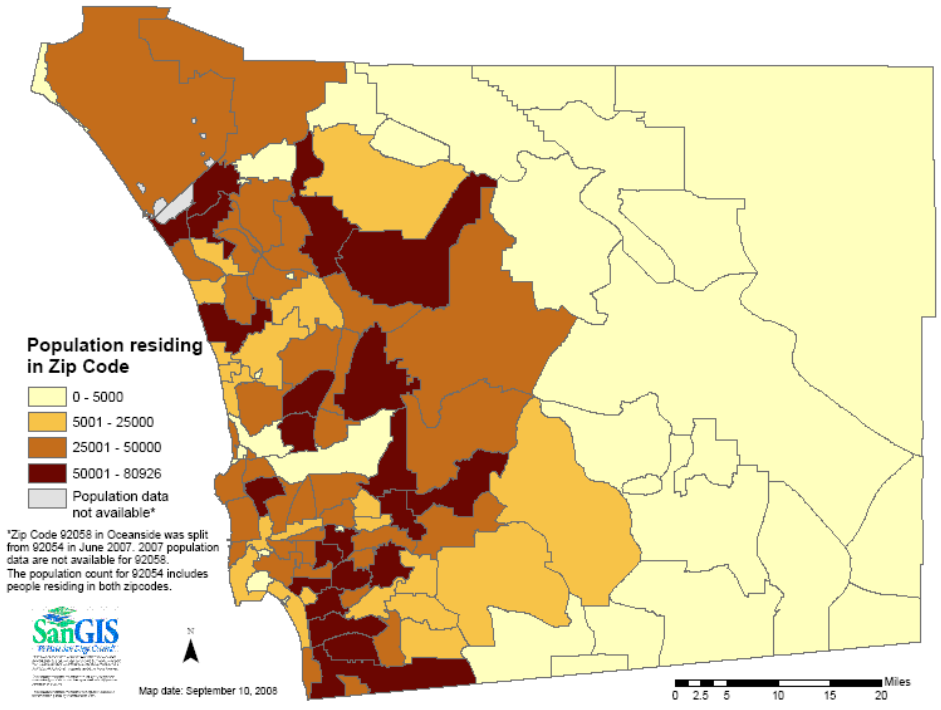
Demographic Profile of San Diego County Population, 2007

Gender	Populuation	%
Male	1,549,564	50.0
Female	1,548,705	50.0

Race/Ethnicity	Population	%
Hispanic	906,898	29.3
White	1,597,847	51.6
Black	166,486	5.4
American Indian/ Alaska Native	15,946	0.5
Asian/Pacific Islander	305,395	9.9
Other/2 or more races	105,697	3.4

Age (yrs)	Population	%
0-4	234,733	7.6
5-14	410,005	13.2
15-24	468,845	15.1
25-34	437,659	14.1
35-44	462,548	14.9
45-54	434,637	14.0
55-64	298,525	9.6
65-74	167,769	5.4
75-84	126,294	4.1
85+	57,254	1.8

San Diego County Population by Zip Code of Residence, 2007



Population Data

All San Diego County population data on this page and throughout the report were provided by the San Diego Association of Governments (SANDAG). SANDAG produces annual January 1 population estimates, using data from the most recent United States Census as a base. Information about their methodology can be found on their website:

www.sandag.org

The data used in this report are the 2007 estimates, released in 2007; the 2004-2006 revised estimates, released in 2007; and the 2003 revised estimates, released in 2006.

Select Reportable Diseases and Conditions, 2003-2007

San Diego County

Disease/Condition	2003	2004	2005	2006	2007
Amebiasis	13	16	12	21	70
Babesiosis	0	0	0	0	2
Botulism (Infant, Foodborne, Wound)	1	1	6	1	4
Brucellosis	2	3	3	7	6
Campylobacteriosis	580	534	487	418	462
Cholera	0	0	0	0	0
Coccidioidomycosis	56	63	76	60	79
Cryptosporidiosis	46	29	24	27	23
Cysticercosis	2	6	2	2	4
Dengue Fever	2	1	7	0	0
Encephalitis (all types)	32	56	56	62	57
Giardiasis	192	174	166	231	271
Hantavirus Infection	0	1	0	1	0
Hepatitis A	130	81	76	82	82
Hepatitis B, Acute	18	5	19	19	19
Hepatitis B, Chronic	849	998	810	1044	848
Hepatitis C	2724	3321	3491	4008	4187
Kawasaki Syndrome	55	60	63	46	50
Legionellosis	15	13	5	19	22
Leprosy (Hansen disease)	4	1	2	3	1
Leptospirosis	0	0	0	0	0
Listeriosis	12	14	17	25	17
Lyme Disease	2	5	15	22	24
Malaria	5	8	12	15	8
Meningitis, Bacterial	41	31	20	30	30
Meningitis, Fungal	8	4	14	22	19
Meningitis, Viral	742	484	412	286	414
Meningococcal Disease	18	19	14	14	8
Plague, Human	0	0	0	0	0
Psittacosis	0	0	0	0	0
Q-Fever	3	0	0	2	3
Rabies, Animal*	9	4	5	2	11
Rabies, Human	0	0	0	0	0
Relapsing Fever	0	1	0	0	1
Rheumatic Fever	1	0	1	1	0
Rocky Mountain Spotted Fever	0	1	1	1	3
Salmonellosis	438	452	443	520	467
Scombroid Fish Poisoning	5	10	2	3	10
Shiga toxin-producing *E. coli* **					22
E. coli O157:H7	39	14	15	12	13
Shigellosis	232	193	207	325	140
Streptococcal, Invasive***	164	171	227	302	270
Toxic Shock Syndrome	9	5	4	3	5
Toxoplasmosis	3	4	3	8	5
Tularemia	0	0	1	0	0
Typhoid Fever (cases & carriers)	3	7	4	3	2
Typhus Fever	1	0	0	0	0
Vibriosis (all species except cholera)	13	25	16	26	22
West Nile Virus Disease****	2	2	1	2	16
Yersiniosis	6	16	23	6	10

For data on other diseases in San Diego County not reported here, use the links below. For a list of web sites, see Appendix II on page 48.

HIV and AIDS

Sexually Transmitted Diseases

Tuberculosis

Vaccine-preventable diseases

10-Year Reportable Disease and Condition Summary Table

Notes:

* Positive laboratory tests as reported to the California State Veterinary Unit; includes animals tested by the San Diego County Public Health Laboratory and the San Diego County Veterinarian.

** Became reportable in San Diego County in 2007. Includes *E. coli* O157:H7; shiga-toxin positive, serogroup non-O157; and shiga toxin-positive, not serogrouped. Previously, only *E. coli* O157:H7 was reportable.

*** Voluntarily reportable by request of the local health officer.

**** Became reportable in San Diego County in 2005; however, some cases were reported prior to that year.

San Diego County, California, and United States Counts & Rates

Cases and Rates of Select Reportable Diseases, San Diego County, California, and United States, 2007

	San Diego County		California		United States	
Disease	**Cases**	**Incidence Rate**	**Cases**	**Incidence Rate**	**Cases**	**Incidence Rate**
Amebiasis	70	2.3	411	1.1	*	
Campylobacteriosis	462	15.1	4,672	12.4	*	
Coccidioidomycosis[a]	79	2.6	2,574	6.8	8,121	6.1
Cryptosporidiosis	23	0.8	264	0.7	11,170	3.7
E coli O157:H7	13	0.4	217	0.6	**	
Encephalitis (all types)	57	1.8	170	0.5	***	
Giardiasis	271	8.8	2,068	5.5	19,417	6.4
Hepatitis A	82	2.7	535	1.4	2,979	1.0
Kawasaki Syndrome (ages 0-4)	40	17.0	157	5.8	*	
Legionellosis	22	0.7	89	0.2	2,716	0.9
Listeriosis	17	0.6	92	0.2	808	0.3
Meningitis, Viral	414	13.4	1,650	4.4	***	
Meningococcal Disease	8	0.3	151	0.4	1,077	0.4
Salmonellosis	467	15.2	4,038	10.7	47,995	15.9
Shigellosis	140	4.6	1,206	3.2	19,758	6.6
Vibriosis (all species except cholera)[b]	22	0.7	90	0.2	549	0.2

* Not reportable at the national level

** *E. coli* O157:H7 is no longer reported individually at the national level, but as part of all Shiga toxin-producing *E. coli.*

***Encephalitis and Viral Meningitis are not reportable at the national level; some arboviral infections that may cause the conditions are reportable.

[a] National coccidioidomycosis rate is calculated based only on the 20 jurisdictions where it is reportable.

[b] National vibriosis rate is calculated based only on the 36 jurisdictions where it is reportable.

Incidence rates are cases of disease reported in 2007 per 100,000 population and are calculated by Community Epidemiology Branch.

Data Sources

Disease Data

California

California Department of Public Health, Division of Communicable Disease Control, Infectious Diseases Branch. Communicable Disease Summary Tables [www.cdph.ca.gov/data/statistics/Pages/CD_Tables.aspx].

United States

Centers for Disease Control and Prevention. Table 2. Reported cases of notifiable diseases, by geographic division and area—United States, 2007. MMWR 2008;57:903-913.

Population Data

San Diego County

SANDAG January 1 population estimates (released 2007).

California

State of California, Department of Finance. E-4 Population Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California, May 2007.

United States

U.S. Census Bureau, Population Division. Table 1: Annual Estimates of the Population for the United States, Regions, States, and for Puerto Rico: April 1, 2000 to July 1, 2007 (NST-EST2007-01).

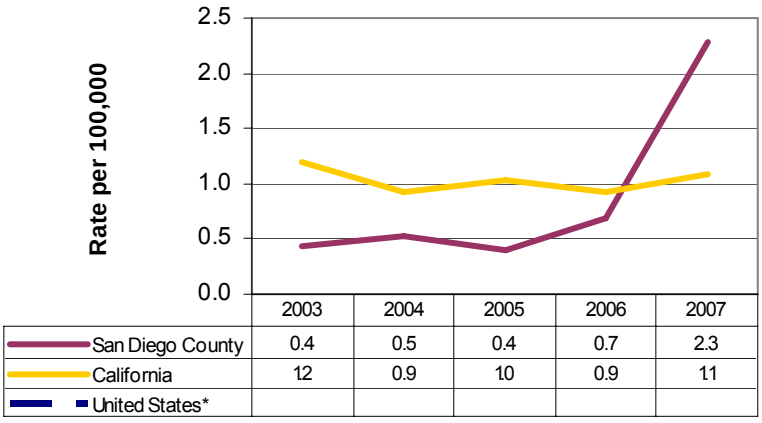
Amebiasis

Amebiasis in San Diego County

- Incidence of amebiasis in San Diego County increased from 0.4 per 100,000 (13 cases) in 2003 to 2.3 (70 cases) in 2007. Reporting by a refugee health center that began mid-2006 may explain this increase; infections among refugees are unlikely to be locally acquired.
- The rate of amebiasis in California remained steady at about 1.0 per 100,000 during the same time period.
- There was no distinct seasonality to amebiasis in San Diego County in 2007.
- In San Diego County, the cases and rate of amebiasis in 2007 peaked in the 15-44-year-old age group, corresponding to the most common age range of refugees arriving in the county.
- Nearly twice as many cases of amebiasis in 2007 were reported among males as females in San Diego County.

Infectious agent: *Entamoeba histolytica*, a protozoan parasite
Mode of transmission: Ingestion of fecally contaminated food or water
Incubation period: Commonly 2-4 weeks; range from days to years
Symptoms: Can be asymptomatic, cause mild symptoms such as loose stools and abdominal cramping, or cause more severe disease (amebic dysentery) that includes bloody or mucoid diarrhea, fever, and abdominal pain
For more information:
http://www.cdc.gov/ncidod/dpd/parasites/amebiasis/factsht_amebiasis.htm

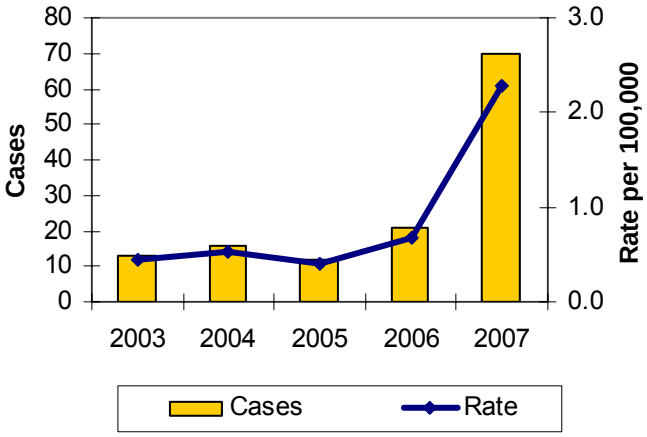
Amebiasis Incidence, San Diego County and California, 2003-2007



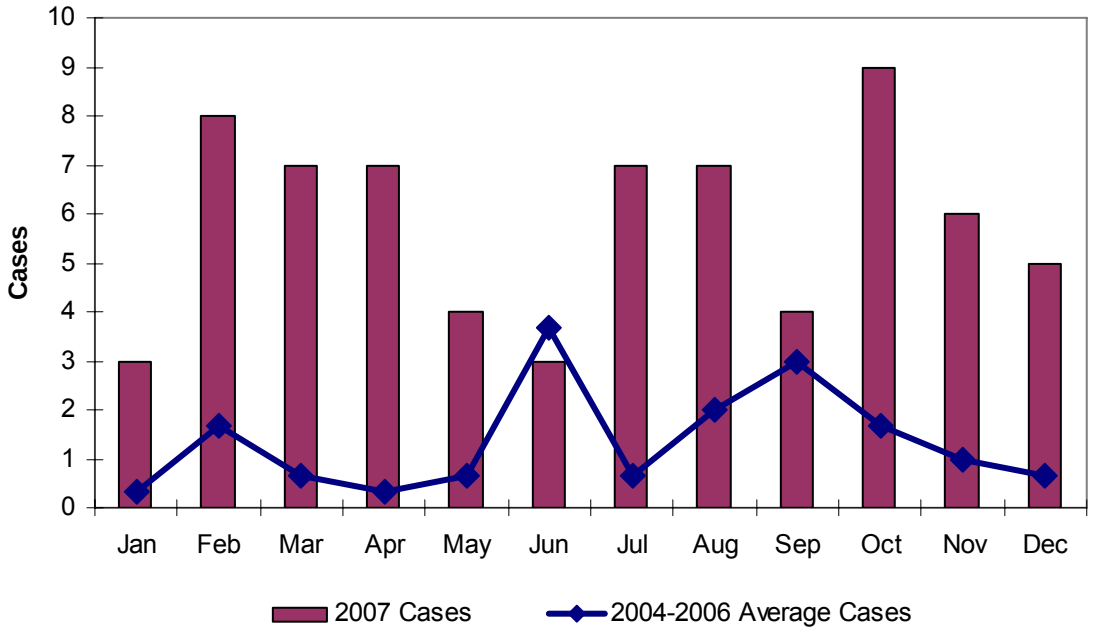
	2003	2004	2005	2006	2007
San Diego County	0.4	0.5	0.4	0.7	2.3
California	1.2	0.9	1.0	0.9	1.1
United States*					

*Amebiasis is not reportable at the national level; U.S. data are not available.

Amebiasis Cases and Rates, San Diego County, 2003-2007



Amebiasis Cases by Month of Onset, San Diego County, 2007

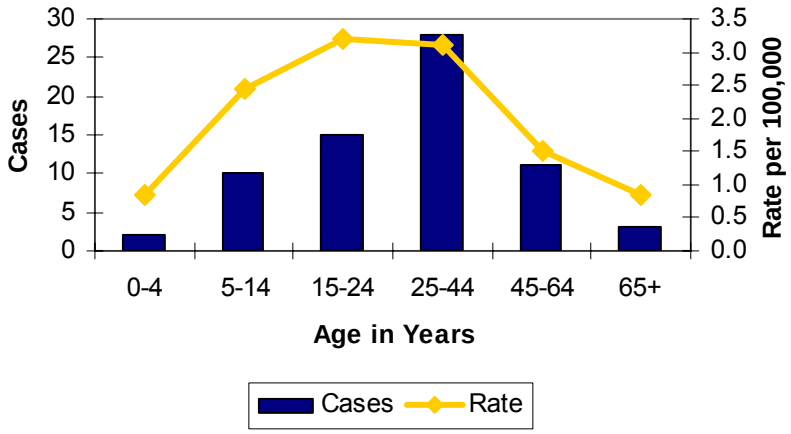


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

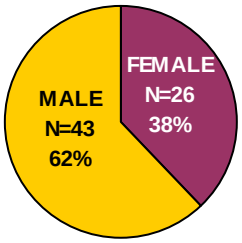
Amebiasis

Demographics

Amebiasis Cases and Rates by Age, San Diego County, 2007



Amebiasis Cases and Rates by Gender, San Diego County, 2007

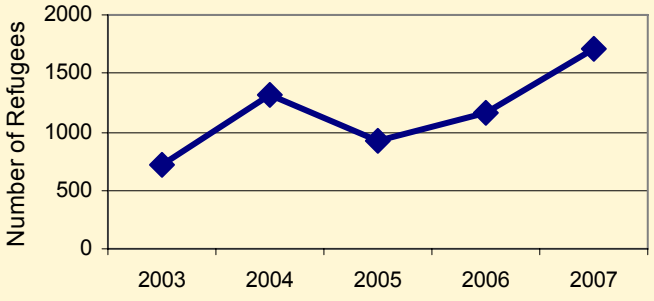


Rate per 100,000
Male: 2.8
Female: 1.7

Refugee Health Programs

The Refugee Health Programs (the Refugee Health Assessment Program and the Refugee Preventive Health Program) provide services to refugees resettling in San Diego County. The programs are funded by the State of California and implemented by the County of San Diego's Public Health Services, Tuberculosis Control and Refugee Health Services Branch in collaboration with Catholic Charities, Diocese of San Diego. The following groups are eligible for services: refugees, secondary migrants, asylees, parolees, and victims of trafficking; all are included in the data presented.

Refugees Arriving in San Diego County, 2003-2007

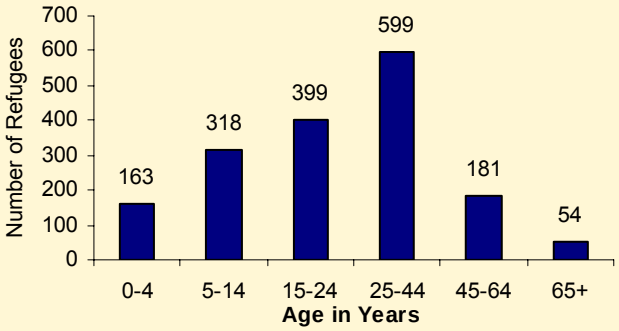


- In 2007, 1,714 refugees arrived in San Diego County from 46 countries.
- The number of refugees from Iraq and Burma increased dramatically from 2006 to 2007. Seventy-six percent of refugees arriving in 2007 came from 5 countries:

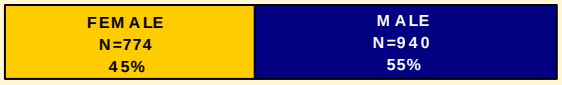
Country of Origin	Refugees	Percent
Iraq	766	44.7%
Burma	284	16.6%
Somalia	131	7.6%
Iran	72	4.2%
Ethiopia	51	3.0%

Refugee Arrivals in San Diego County, 2007

By Age



By Gender



In 2007, 99.4% (1,703) of arriving refugees initiated a Refugee Health Assessment.

The health assessment includes:

- Review of medical records and immunizations
- Comprehensive physical exam
- Tuberculin skin test
- Stool test for ova and parasites
- Screening for anemia
- Serum glucose
- Urine dipstick
- Hepatitis B and C screening
- Preventive health education
- Referrals

We would like to thank the County of San Diego, Health and Human Services Agency, Public Health Services, TB Control and Refugee Health Services Branch for providing the information and data. www.sandiegotbcontrol.org

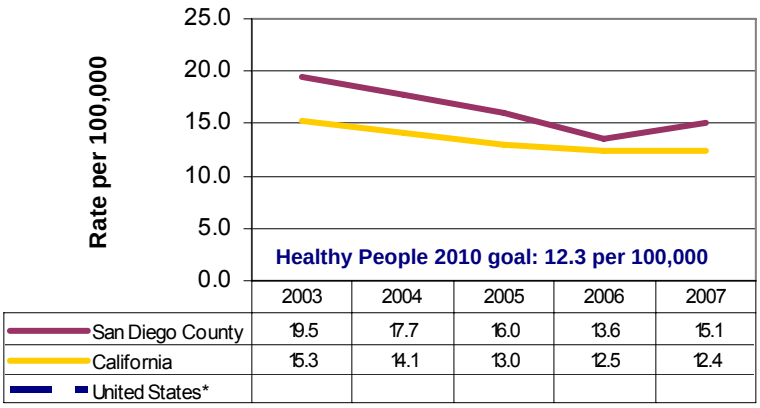
Campylobacteriosis

Campylobacteriosis in San Diego County

- Campylobacteriosis incidence in San Diego County decreased from 19.5 per 100,000 (580 cases) in 2003 to 15.1 (462 cases) in 2007.
- The statewide rate in California also decreased during this time.
- In San Diego County, increased cases were reported during the summer months of 2007, following a seasonal pattern similar to that observed during the previous 3 years.
- In 2007, there was no distinct geographic pattern to the rates of *Campylobacter* infection by zip code of residence in San Diego County.
- Although, in 2007, more cases were reported among those aged 25-44 in San Diego County, incidence was highest among those under 5 years of age.

Infectious agents: *Campylobacter* bacteria – most often *C. jejuni* or *C. coli*
Mode of transmission: Ingestion of contaminated food and water, undercooked chicken and pork, raw milk; contact with infected animals
Incubation period: 1-10 days, usually 2-5 days
Symptoms: Diarrhea, abdominal pain, nausea, vomiting, fever, malaise
For more information:
http://www.cdc.gov/nczved/dfbmd/disease_listing/campylobacter_gi.html

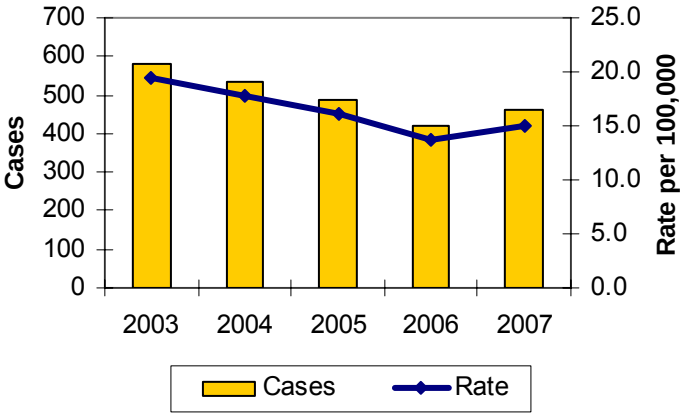
Campylobacteriosis Incidence, San Diego County and California, 2003-2007



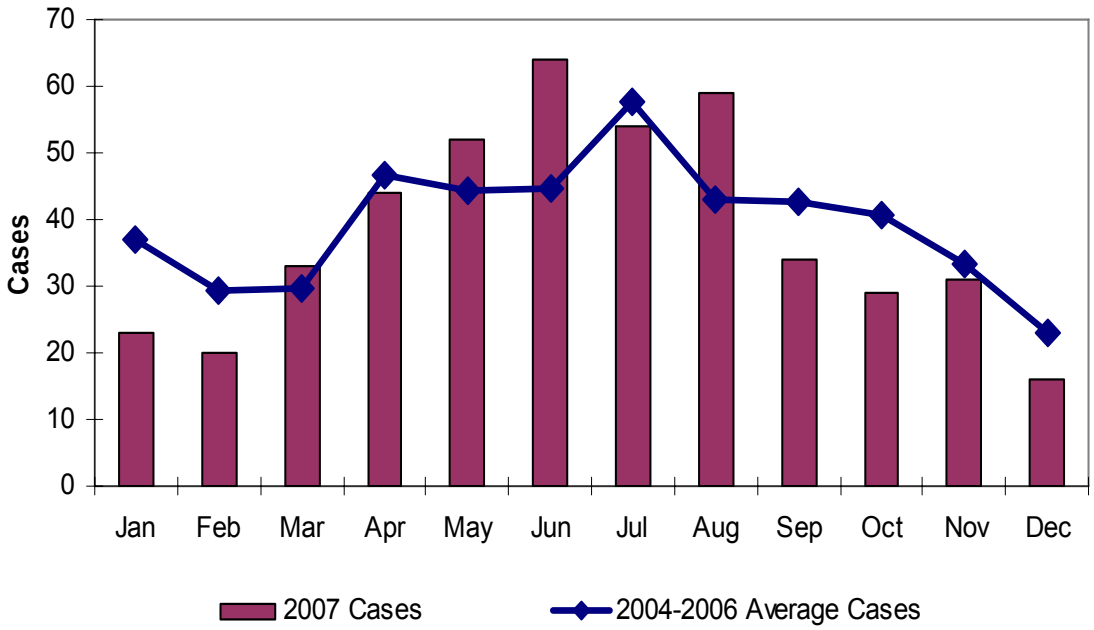
	2003	2004	2005	2006	2007
San Diego County	19.5	17.7	16.0	13.6	15.1
California	15.3	14.1	13.0	12.5	12.4
United States*					

*Campylobacteriosis is not reportable at the national level; U.S. data are not available.

Campylobacteriosis Cases and Rates, San Diego County, 2003-2007



Campylobacteriosis Cases by Month of Onset, San Diego County, 2007

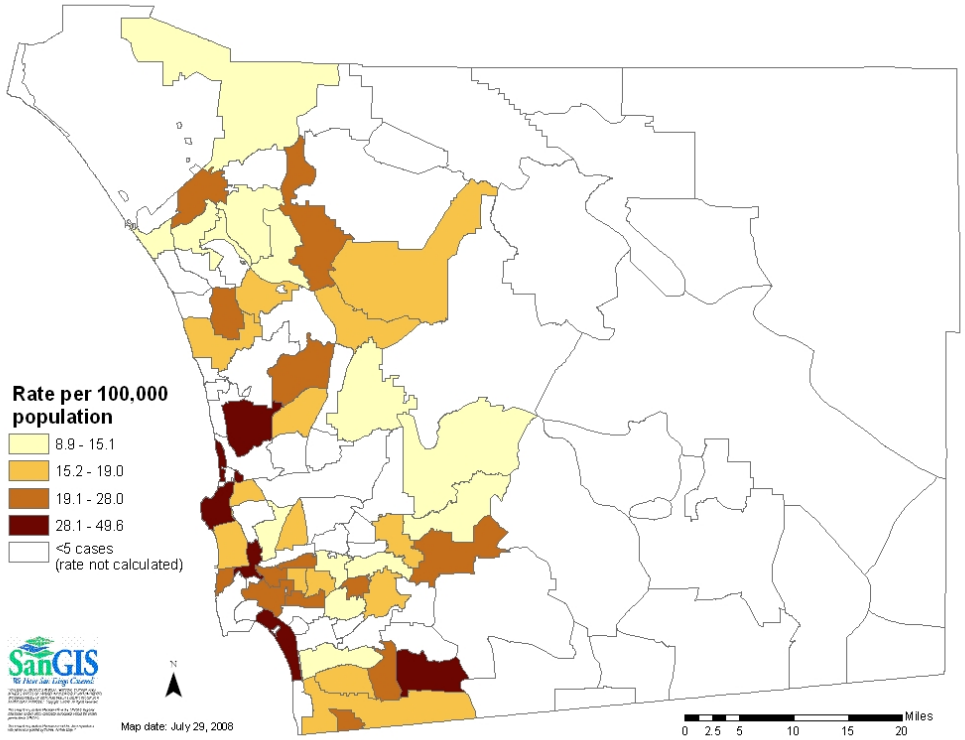


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Campylobacteriosis

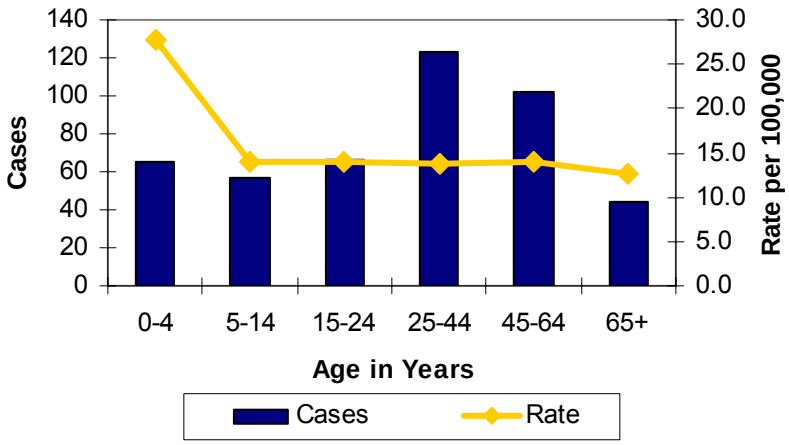
Geography

Campylobacteriosis Rates by Zip Code of Residence, San Diego County, 2007

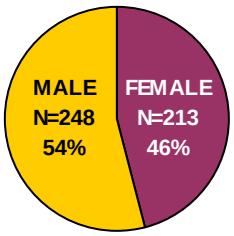


Demographics

Campylobacteriosis Cases and Rates by Age, San Diego County, 2007



Campylobacteriosis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 16.0
Female: 13.8

Campylobacteriosis Cases and Rates by Race/Ethnicity, San Diego County, 2007

	Cases	Rate
White	212	13.3
Black	7	4.2
Hispanic	137	15.1
American Indian	1	*
Asian/Pacific Islander	40	13.1
Other	6	5.7
Missing/Unknown	59	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

Coccidioidomycosis

Coccidioidomycosis in San Diego County

- Incidence of coccidioidomycosis in San Diego County was fairly steady between 2003 and 2007. The rate increased slightly from 1.9 per 100,000 (56 cases) in 2003 to 2.6 (79 cases) in 2007.
- The California and United States rates, both higher than the San Diego County rate, increased from 2003-2007, with a peak in 2006.
- There was no distinct seasonality to coccidioidomycosis onset in San Diego County in 2007.
- From 2003-2007, the highest coccidioidomycosis rates (based on zip code of residence, which may not correspond to exposure location) were concentrated in the southern part of San Diego County.
- In 2007, more county cases were reported in males than females.
- The rate of coccidioidomycosis in San Diego County in 2007 was highest among those 65 years of age and older.

Infectious agent: Primarily *Coccidioides immitis*, a fungus that lives in the soil of semi-arid areas

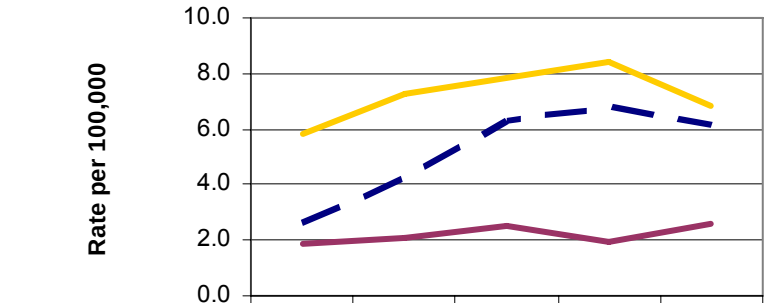
Mode of transmission: Inhalation of fungal spores after disturbance of contaminated soil

Incubation period: For primary infection, 1-4 weeks; dissemination may develop years later

Symptoms: Flu-like illness with fever, cough, headache, rash, muscle ache; ~60% of infections are asymptomatic; <1% develop disseminated disease of the brain, bone, or skin

For more information :
http://www.cdc.gov/nczved/dfbmd/disease_listing/coccidioidomycosis_gi.html

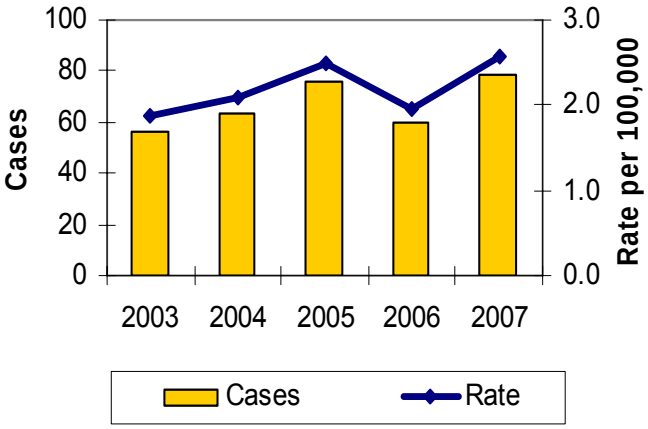
Coccidioidomycosis Incidence, San Diego County, California, and United States, 2003-2007



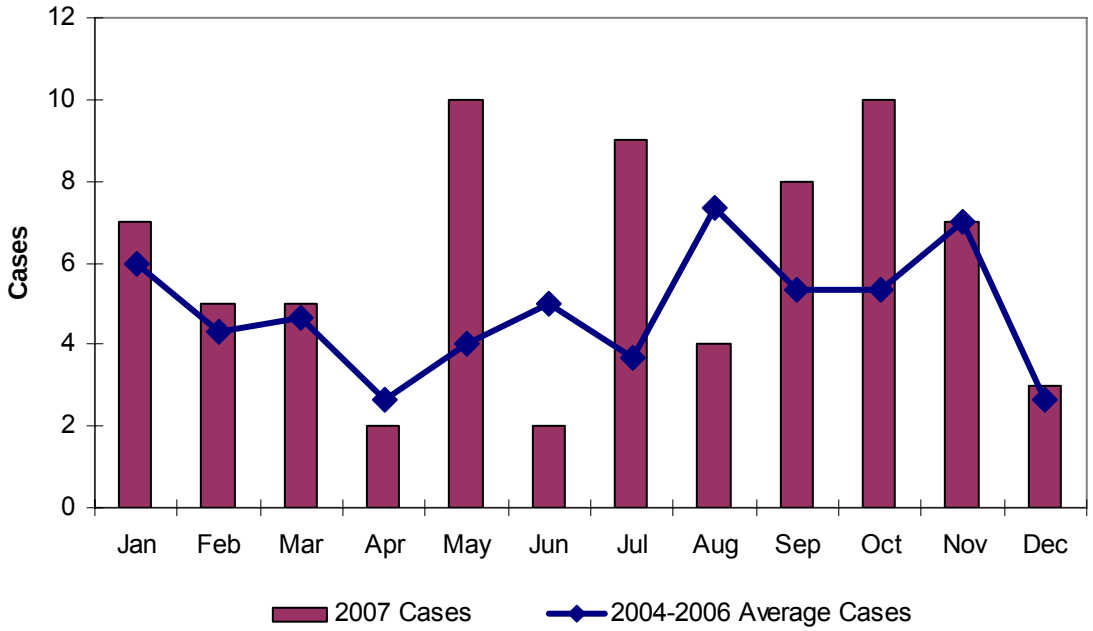
	2003	2004	2005	2006	2007
San Diego County	1.9	2.1	2.5	2.0	2.6
California	5.9	7.3	7.9	8.4	6.8
United States*	2.6	4.1	6.2	6.8	6.1

* Coccidioidomycosis rate for the United States is calculated based only on the 20 jurisdictions where it is reportable.

Coccidioidomycosis Cases and Rates, San Diego County, 2003-2007



Coccidioidomycosis Cases by Month of Onset, San Diego County, 2007

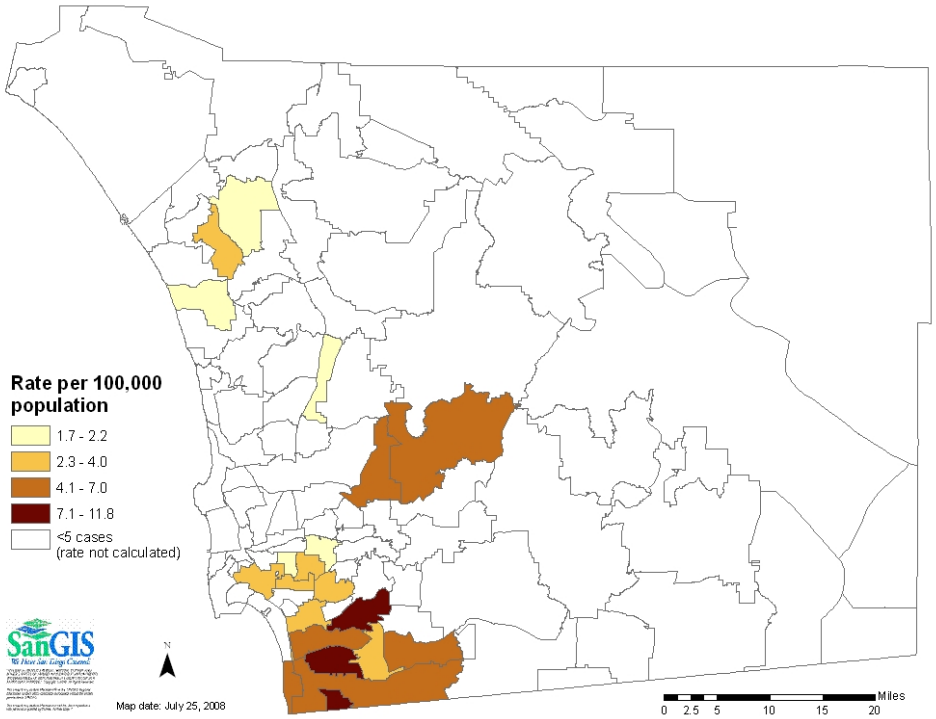


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Coccidioidomycosis

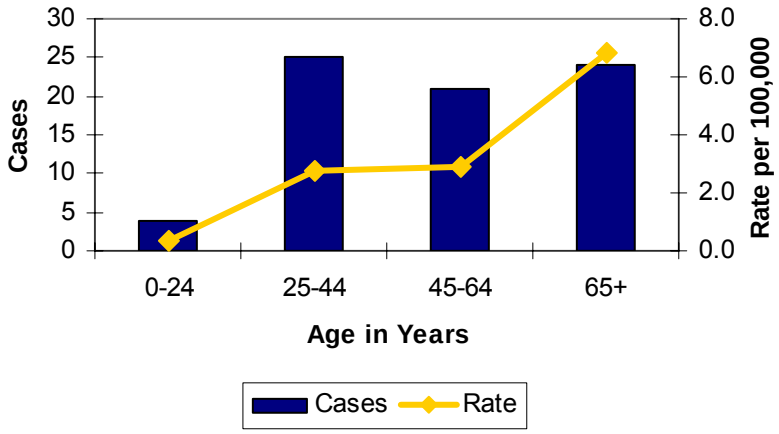
Geography

Coccidioidomycosis Rates by Zip Code of Residence, San Diego County, 2003-2007

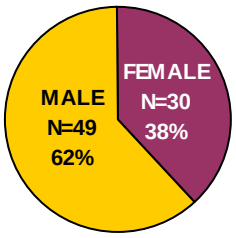


Demographics

Coccidioidomycosis Cases and Rates by Age, San Diego County, 2007



Coccidioidomycosis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 3.2
Female: 1.9

Coccidioidomycosis Cases and Rates by Race/Ethnicity, San Diego County, 2007

	Cases	Rate
White	30	1.9
Black	9	5.4
Hispanic	20	2.2
American Indian	1	*
Asian/Pacific Islander	6	2.0
Other	0	*
Missing/Unknown	13	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

A revision to the surveillance case definition for coccidioidomycosis was adopted by California in June 2007. Laboratory confirmation of a case no longer requires a rising titer of IgG; any single positive test result is sufficient. Confirmed cases must still meet both laboratory and clinical criteria. Cases reported solely on the basis of a single positive IgG result are not routinely investigated by Community Epidemiology Branch. As a result, demographic information (particularly race/ethnicity) is frequently missing.

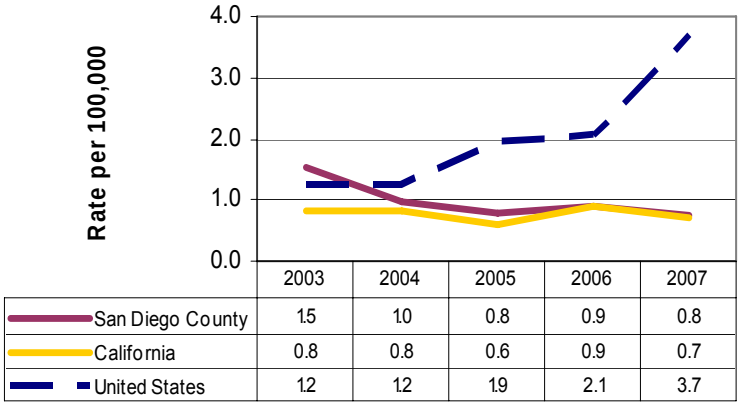
Cryptosporidiosis

Cryptosporidiosis in San Diego County

- Incidence of cryptosporidiosis in San Diego County decreased from 1.5 per 100,000 (46 cases) in 2003 to 0.8 (23 cases) in 2007.
- The California rate closely mirrored the San Diego rate, while the United States rate nearly tripled during the same period.
- In San Diego County, there was a peak in reported cases of cryptosporidiosis in August and September 2007. This corresponds to the peak seen in the late summer months of previous years as well.
- Between 2003 and 2007, the largest number of cases in San Diego County was reported among 25-44-year-olds; the highest rates were in this group and also among those under 5 years old.
- In San Diego County, the 2003-2007 rate of cryptosporidiosis in the Hispanic population was twice the rate of cryptosporidiosis in the non-Hispanic white population.

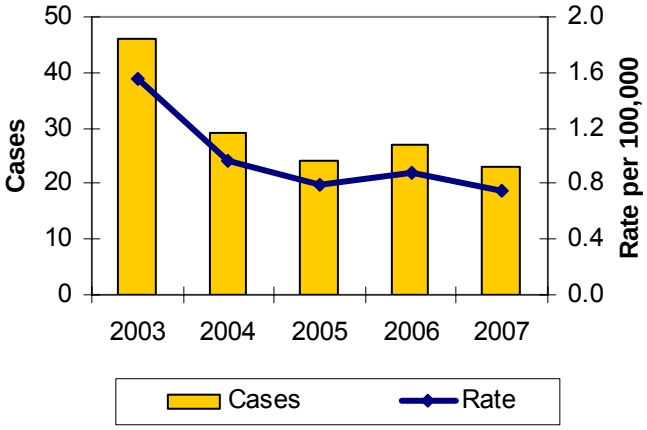
Infectious agent: *Cryptosporidium parvum*, a protozoan parasite
Mode of transmission: Person-to-person via the fecal-oral route; ingestion of contaminated food or water; water is a frequent method of transmission, with large outbreaks caused by contaminated drinking or recreational water
Incubation period: 2-10 days
Symptoms: Watery diarrhea, dehydration, abdominal cramps, nausea, vomiting, fever
For more information:
http://www.cdc.gov/crypto/

Cryptosporidiosis Incidence, San Diego County, California, and United States, 2003-2007

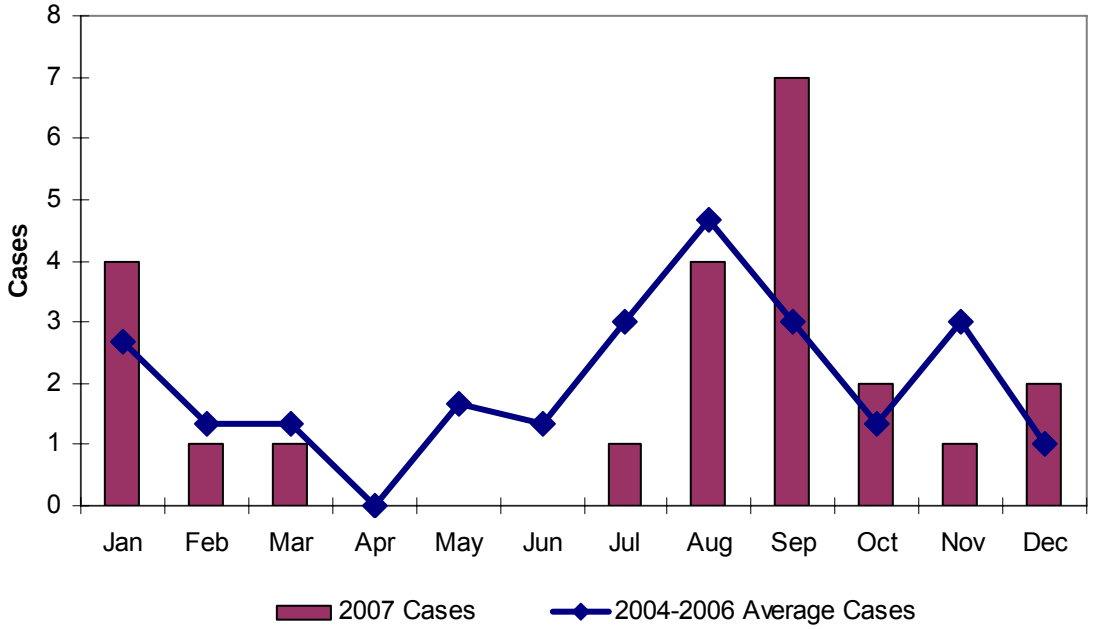


	2003	2004	2005	2006	2007
San Diego County	1.5	1.0	0.8	0.9	0.8
California	0.8	0.8	0.6	0.9	0.7
United States	1.2	1.2	1.9	2.1	3.7

Cryptosporidiosis Cases and Rates, San Diego County, 2003-2007



Cryptosporidiosis Cases by Month of Onset, San Diego County, 2007

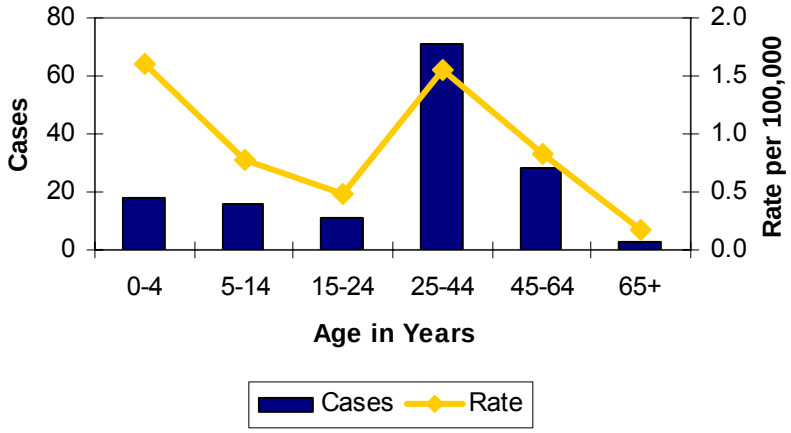


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year are not included in this graph.

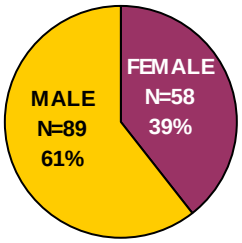
Cryptosporidiosis

Demographics

Cryptosporidiosis Cases and Rates by Age, San Diego County, 2003-2007



Cryptosporidiosis Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 1.2
Female: 0.8

Cryptosporidiosis Cases and Rates by Race/ Ethnicity, San Diego County, 2003-2007

	Cases	Rate
White	39	0.5
Black	7	0.9
Hispanic	45	1.0
American Indian	0	*
Asian/Pacific Islander	3	*
Other	3	*
Missing/Unknown	52	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

Environmental Health Program

The County of San Diego Department of Environmental Health (DEH) protects public health and safeguards environmental quality by educating the public to increase environmental awareness and implementing and enforcing local, state, and federal environmental laws. DEH regulates the following:

- retail food safety
- public housing
- public swimming pools
- small drinking water systems
- mobile-home parks
- onsite wastewater systems
- recreational water
- underground storage tanks and cleanup oversight
- medical and hazardous materials and waste

DEH also carries out activities designed to prevent disease carried by vectors, such as rats and mosquitoes.

Many of the diseases covered in this report have an environmental connection. From enteric infections caused by consumption of contaminated food to infections such as cryptosporidiosis that can also be caused by contaminated water to legionellosis where water systems, cooling towers, or spas are commonly implicated to West Nile infections caused by the bite of an infected mosquito, many infections occur in the space where humans interact with their environment.

In addition to their routine regulatory functions—annually, the DEH Food & Housing Division carries out well over 20,000 inspections of food facilities and 8,000 swimming pool inspections—DEH frequently collaborates with Community Epidemiology Branch (CEB) when there is a suspected foodborne or waterborne disease outbreak. For example, if cases appear to be associated with a food establishment, CEB staff interview people who are ill or who may have been exposed, while DEH staff inspect the restaurant and conduct trace-back investigations on suspect food items. Together, they work with food handlers to ensure that they are healthy. DEH and CEB collaborate on roughly 25 such investigations a year. Most of these investigations are related to norovirus, salmonellosis, and shigellosis.

Other examples of how DEH and CEB activities intersect:

- While CEB monitors human cases infected with West Nile Virus, DEH's Vector Control Program monitors mosquitos, birds, and other animals infected with the virus.
- When CEB investigates a suspect human case of other vector-borne illnesses—such as hantavirus, Lyme disease, or plague—DEH staff may monitor and test the local environment where exposures may have occurred.

www.sdcounty.ca.gov/deh/

E. coli O157:H7[#]

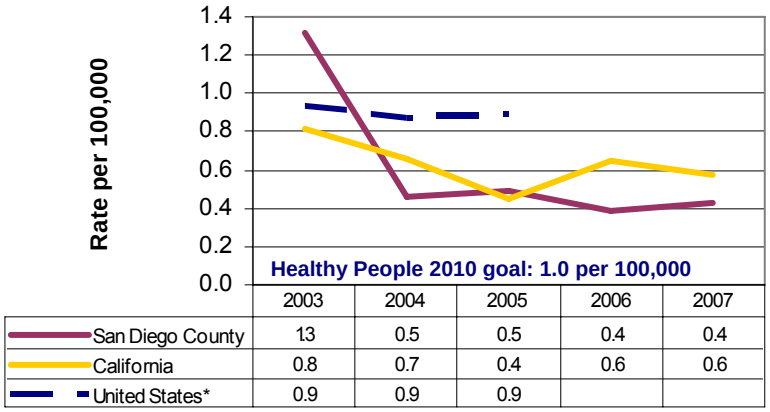
E. coli O157:H7 in San Diego County

- Incidence of *E. coli* O157:H7 in San Diego County decreased from an outbreak-associated high of 1.3 per 100,000 (39 cases) in 2003 to 0.4 (13 cases) in 2007.
- The California rate decreased slightly during the same period; the national rate was steady from 2003 to 2005, after which time the U.S. began reporting all shiga toxin-producing *E. coli* (see next page).
- Peak reporting of *E. coli* O157:H7 in San Diego County was during the late summer months in 2007, similar to the pattern in prior years.
- In San Diego County, the highest number of cases from 2003-2007 was reported in the 5-14-year-old age group; the rate was highest in this group and the 0-4-year-old age group.
- Between 2003 and 2007, the highest rate of *E. coli* O157:H7 in San Diego County was observed in females and in the white population.

Infectious agent: *Escherichia coli* serotype O157:H7, a bacterium
Mode of transmission: Ingestion of contaminated food, water, or unpasteurized milk products; contact with cattle; person-to-person via the fecal-oral route
Incubation period: 1-10 days, usually 3-4 days
Symptoms: Severe abdominal cramps, diarrhea (often bloody), vomiting
For more information: http://www.cdc.gov/ecoli/

[#]For the purposes of this report, counts of *E. coli* O157:H7 also include cases of *E. coli* O157:NM (non-motile).

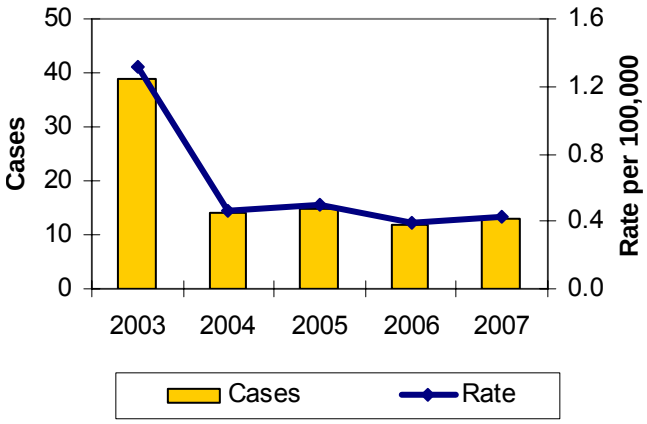
E. coli O157:H7 Incidence, San Diego County, California, and United States, 2003-2007



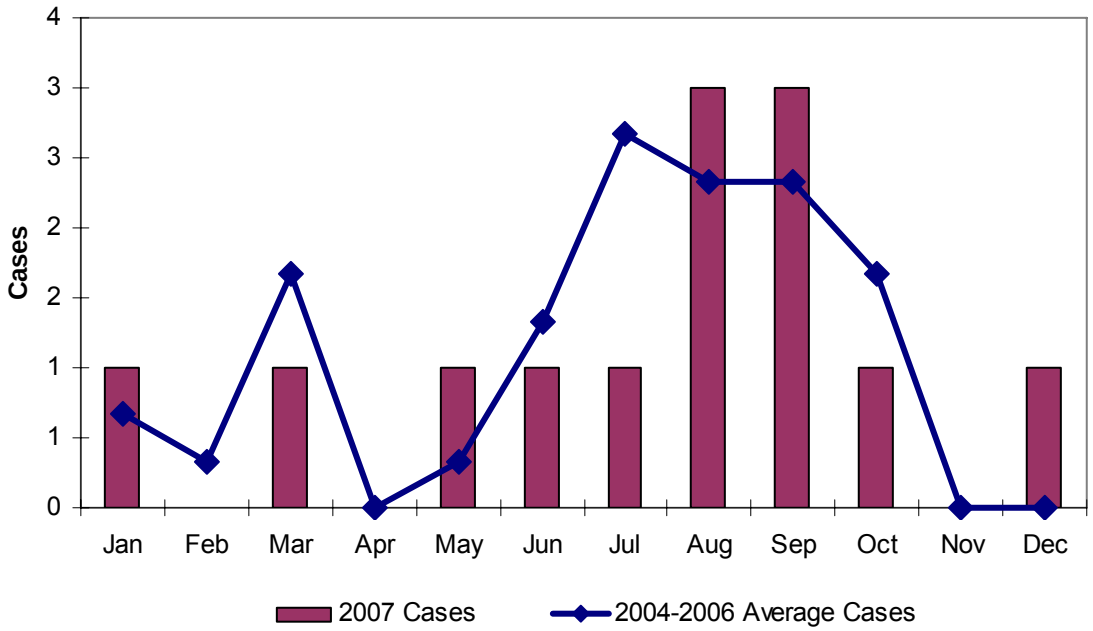
	2003	2004	2005	2006	2007
San Diego County	13	0.5	0.5	0.4	0.4
California	0.8	0.7	0.4	0.6	0.6
United States*	0.9	0.9	0.9		

*In 2006, the CDC stopped reporting *E. coli* O157:H7 separately, instead aggregating all Shiga toxin-producing *E. coli*. See next page for additional information and data.

E. coli O157:H7 Cases and Rates, San Diego County, 2003-2007



E. coli O157:H7 Cases by Month of Onset, San Diego County, 2007

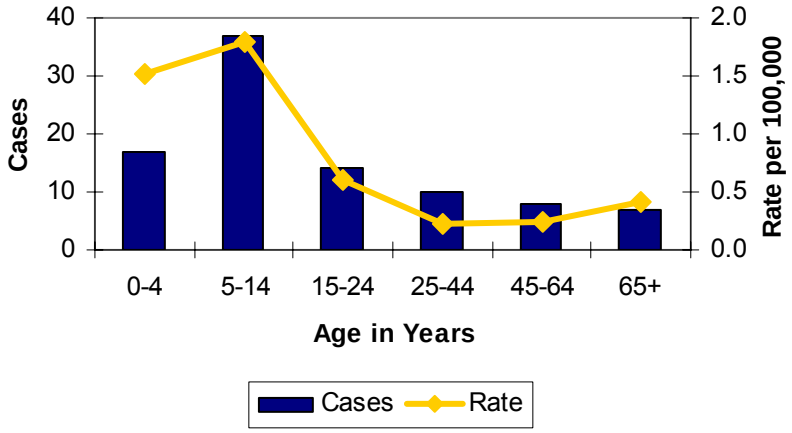


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

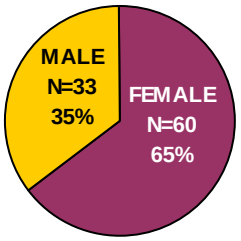
E. coli O157:H7

Demographics

E. coli O157:H7 Cases and Rates by Age, San Diego County, 2003-2007



E. coli O157:H7 Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 0.4
Female: 0.8

E. coli O157:H7 Cases and Rates by Race/ Ethnicity, San Diego County, 2003-2007

	Cases	Rate
White	61	0.8
Black	2	*
Hispanic	14	0.3
American Indian	1	*
Asian/Pacific Islander	6	0.4
Other	0	*
Missing/Unknown	9	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

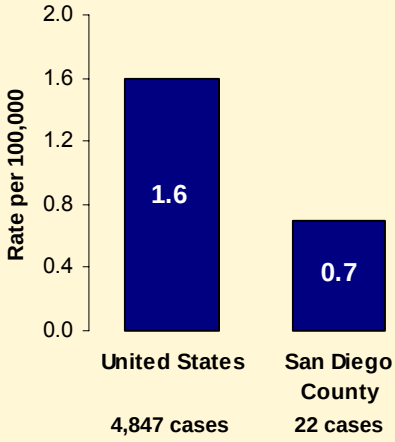
Hemolytic Uremic Syndrome (HUS)

A small proportion of people infected with *E. coli* O157:H7 develop hemolytic uremic syndrome (HUS), a more severe manifestation, characterized by frequency of urination, tiredness, and possible kidney failure. Children under 5 years old are most at risk for this complication. In San Diego County, 2 people (ages 9 and 16) were reported with *E. coli*-related HUS between 2003 and 2007.

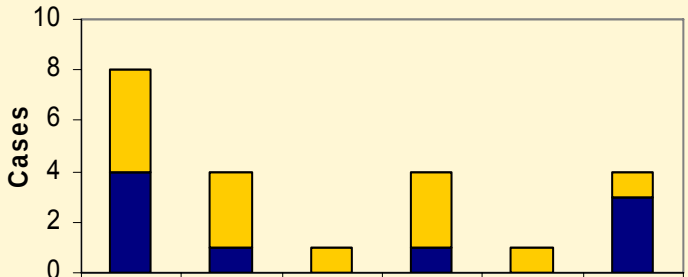
Shiga toxin-producing *E. coli* (STEC)

E. coli O157:H7 has been nationally reportable since 1995. Following more recent changes to the nationally notifiable condition list, all shiga toxin-producing *E. coli* (STEC) are now reportable. San Diego County implemented this change at the beginning of 2007. Of 22 cases of STEC in San Diego County in 2007, 13 were O157:H7 or O157:NM and 9 were non-O157, including cases of O26:H11, O69:H11, O76:H19, O103:H11, and O113:H21.

Shiga Toxin-producing *E. coli* (STEC) Cases and Rates, San Diego County and United States, 2007



Shiga Toxin-producing *E. coli* (STEC) Cases by Age, San Diego County, 2007



	0-4	5-14	15-24	25-44	45-64	65+
E coli O157:H7 & NM	4	3	1	3	1	1
Non-O157 shiga toxin-producing E. coli	4	1	0	1	0	3

Age in Years

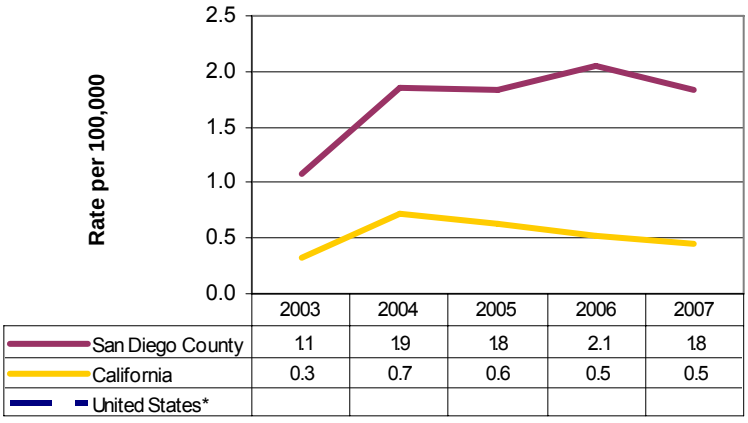
Encephalitis

Encephalitis in San Diego County

- The rate of encephalitis in San Diego County increased from 1.1 per 100,000 (32 cases) in 2003 to 1.8 (57 cases) in 2007. The rate was fairly steady between 2004 and 2007.
- Although there were high counts in March and October 2007, there was no distinct seasonality to reported cases of encephalitis.
- The highest number of cases was reported among the young (ages 0-18 years); however, the highest rate was observed in an older population (65+ years).
- The encephalitis data presented here for San Diego County do not include cases caused by West Nile Virus (WNV); cases of WNV encephalitis are described separately on the next page.
- 80% of the encephalitis cases in San Diego County that are not caused by WNV are of undetermined etiology.

Infectious agents: Encephalitis is diagnosed clinically; the etiology often remains unknown. Most commonly caused by viruses, including herpes viruses, arboviruses, enteroviruses; can also be caused by bacteria, fungi, and parasites.
Mode of transmission: Agent-specific
Incubation period: Agent-specific
Symptoms: Fever, headache, altered mental status, nausea/vomiting; may progress to focal paralysis, seizures, coma and death
For more information:
http://www.ninds.nih.gov/disorders/encephalitis_meningitis/detail_encephalitis_meningitis.htm

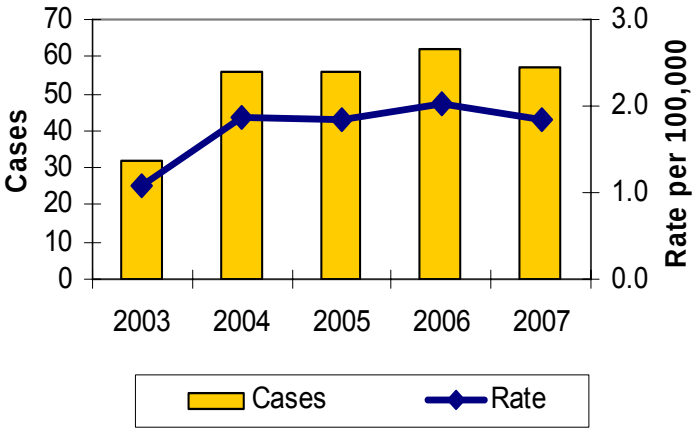
Encephalitis Incidence, San Diego County and California, 2003-2007



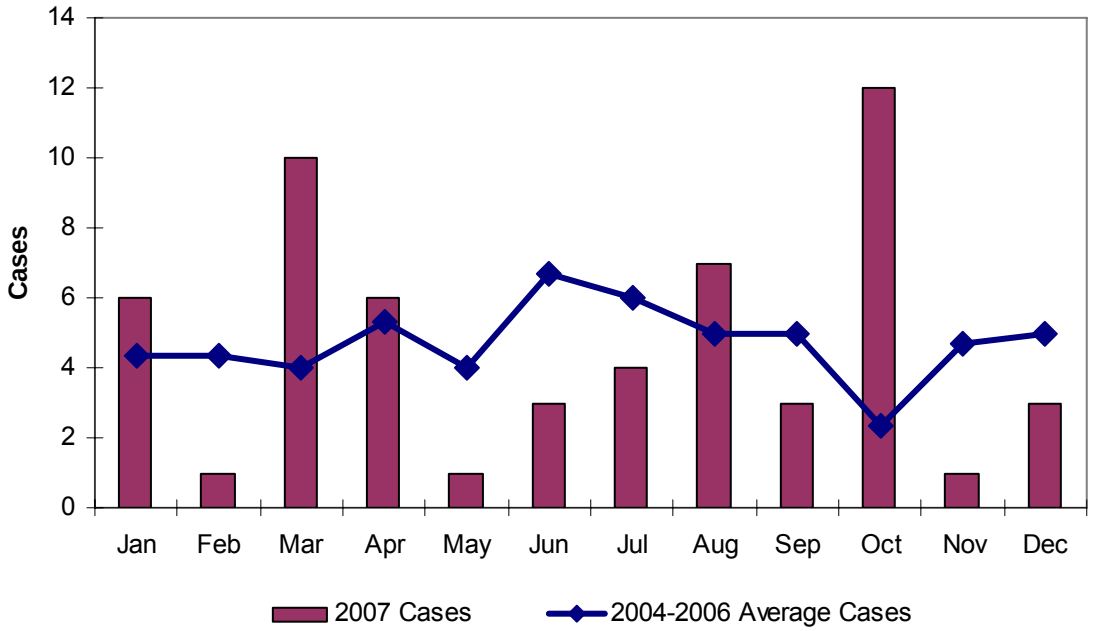
	2003	2004	2005	2006	2007
San Diego County	11	19	18	2.1	18
California	0.3	0.7	0.6	0.5	0.5
United States*					

*Encephalitis is not reportable at the national level; U.S. data are not available.

Encephalitis Cases and Rates, San Diego County, 2003-2007



Encephalitis Cases by Month of Onset, San Diego County, 2007

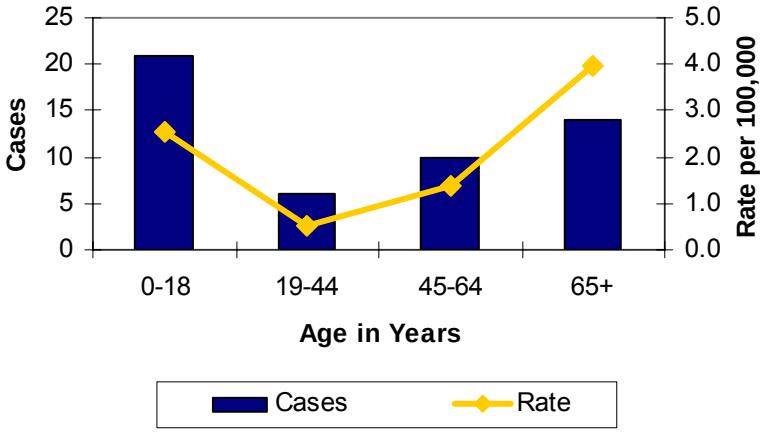


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

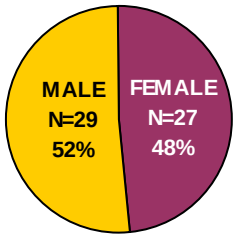
Encephalitis

Demographics

Encephalitis Cases and Rates by Age, San Diego County, 2007



Encephalitis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 1.9
Female: 1.7

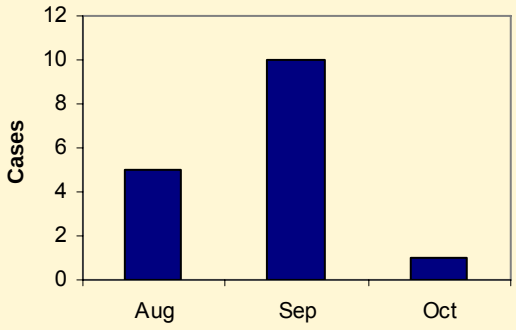
Cases of encephalitis are not routinely investigated unless an outbreak is suspected. As a result, geographic and demographic information (particularly race/ethnicity) is frequently missing. Cases of unknown etiology are referred for West Nile virus testing.

West Nile Virus

- West Nile virus is one of the arboviruses that can cause encephalitis.
- It is most commonly transmitted by the bite of an infected mosquito.
- Infection with West Nile virus may be asymptomatic, may cause neuroinvasive disease such as encephalitis and meningitis, or may cause less severe cases of West Nile fever. The more severe cases are more likely to be diagnosed and reported.
- Serious disease is most commonly seen among those over 50 years of age.
- In 2007, 16 cases were reported in San Diego County, 380 cases were reported in California, and 3,630 cases were reported in the United States.
- Fifteen of the 16 cases in San Diego County acquired the virus locally.
- The virus is primarily transmitted during the summer months when mosquito activity is heavier. San Diego's peak in 2007 occurred in September.

Type of disease, 2007	Cases
Encephalitis	8
Meningitis	4
West Nile Fever	4

West Nile Virus Cases by Month of Onset, San Diego County, 2007



Date of onset was used for 11 cases, specimen collection date for 4, and diagnosis date for 1.

Demographics of West Nile Virus Cases, San Diego County, 2007

	Cases	Percent
Gender		
Male	8	50.0
Female	8	50.0
Age		
0-50	1	6.3
51-64	6	37.5
65+	9	56.3
Race/Ethnicity		
Asian/Pacific Islander	1	6.3
Non-Hispanic White	15	93.7

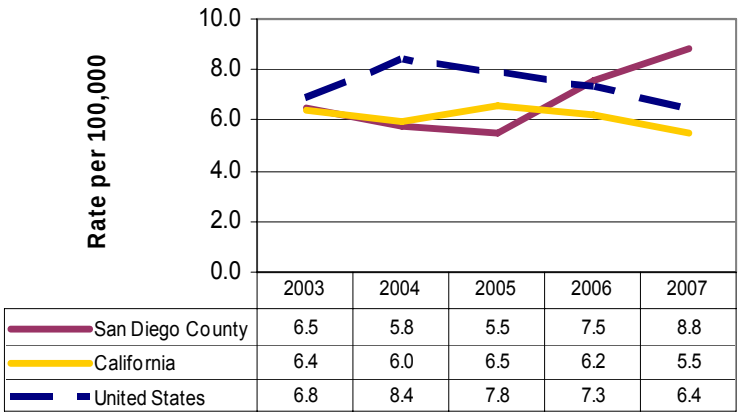
Giardiasis

Giardiasis in San Diego County

- Incidence of giardiasis in San Diego County increased from 6.5 per 100,000 (192 cases) in 2003 to 8.8 (271 cases) in 2007. Reporting by a refugee health center that began mid-2006 may explain this increase; infections among refugees are unlikely to be locally acquired.
- During the same period, the California and United States rates of giardiasis declined slightly.
- In 2007, there was an increase of cases during the summer months in San Diego County, following a seasonal pattern also observed during the previous 3 years.
- While the largest number of county cases was reported in the 25-44-year-old age group, the highest rate was found among 0-4-year-olds.
- The rate of giardiasis was higher in the male population in 2007.
- There were higher rates of giardiasis in 2005-2007 in the central part of the county, possibly related to the refugee population.

Infectious agent: *Giardia lamblia*, a protozoan parasite
Mode of transmission: Person-to-person via the fecal-oral route; ingestion of fecally contaminated food or water, including recreational water
Incubation period: Commonly 1-2 weeks
Symptoms: Diarrhea, flatulence, greasy stools, nausea, abdominal cramps; can be asymptomatic
For more information:
http://www.cdc.gov/ncidod/dpd/parasites/giardiasis/factsht_giardia.htm

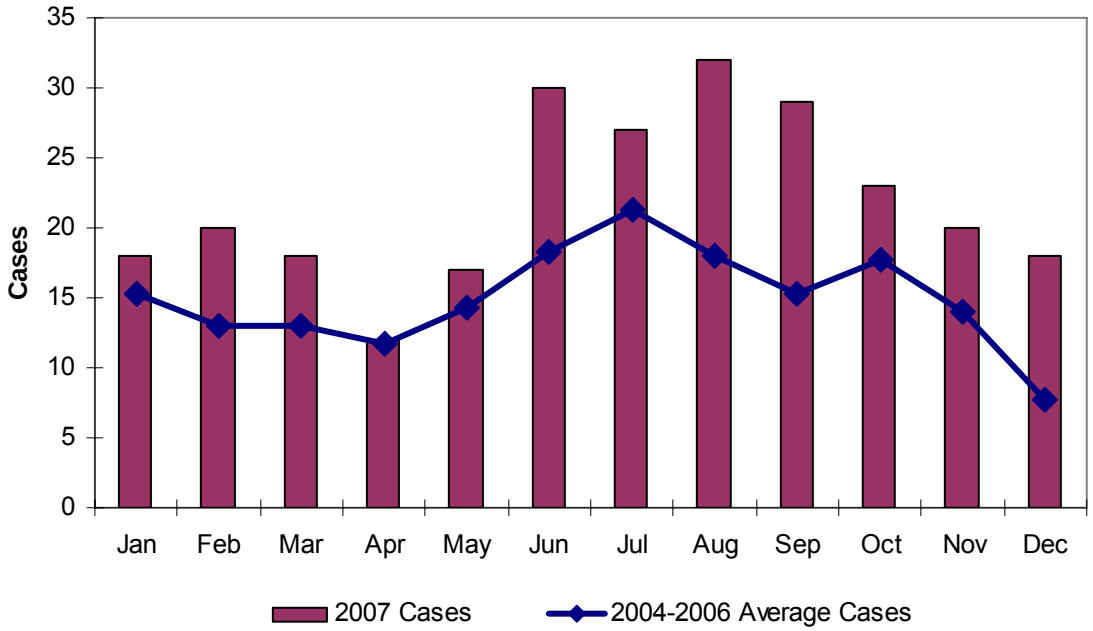
Giardiasis Incidence, San Diego County, California, and United States, 2003-2007



	2003	2004	2005	2006	2007
San Diego County	6.5	5.8	5.5	7.5	8.8
California	6.4	6.0	6.5	6.2	5.5
United States	6.8	8.4	7.8	7.3	6.4

Giardiasis Cases and Rates, San Diego County, 2003-2007

Giardiasis Cases by Month of Onset, San Diego County, 2007

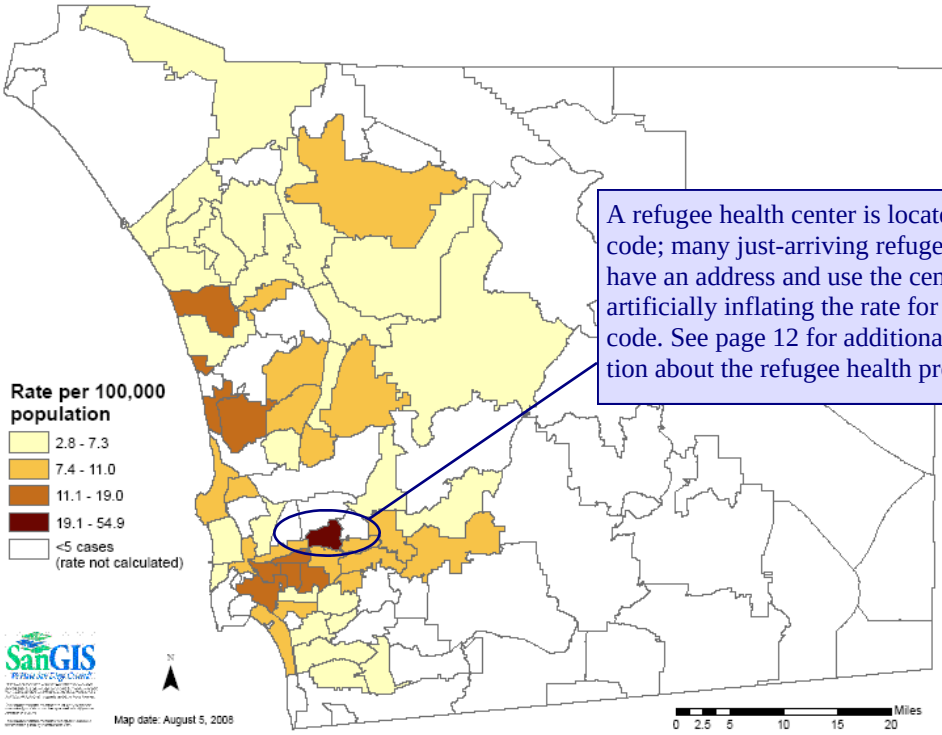


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Giardiasis

Geography

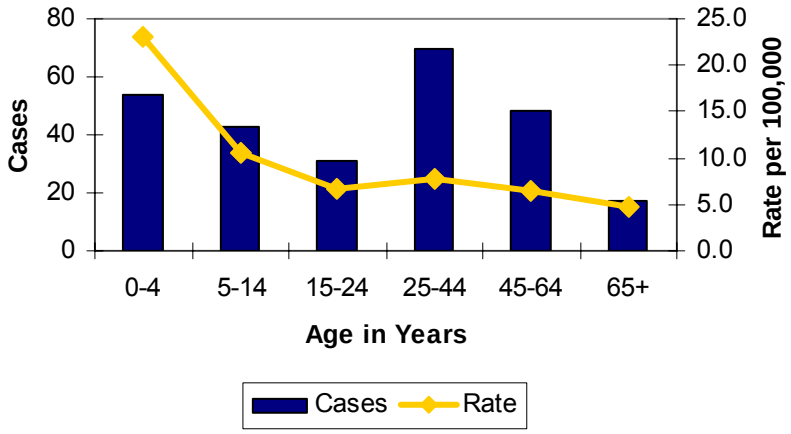
Giardiasis Rates by Zip Code of Residence, San Diego County, 2005-2007



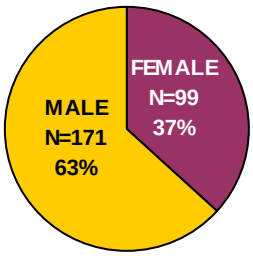
A refugee health center is located in this zip code; many just-arriving refugees do not yet have an address and use the center address, artificially inflating the rate for this zip code. See page 12 for additional information about the refugee health program.

Demographics

Giardiasis Cases and Rates by Age, San Diego County, 2007



Giardiasis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 11.0
Female: 6.4

Giardiasis Cases and Rates by Race/ Ethnicity, San Diego County, 2007

	Cases	Rate
White	113	7.1
Black	9	5.4
Hispanic	47	5.2
American Indian	0	*
Asian/Pacific Islander	7	2.3
Other	33	
Missing/Unknown	62	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

Many of the refugee population cases reported are missing race information or are reported as "other" race. The counts and rates by race/ ethnicity should be interpreted with caution. A rate for "other" race has not been calculated.

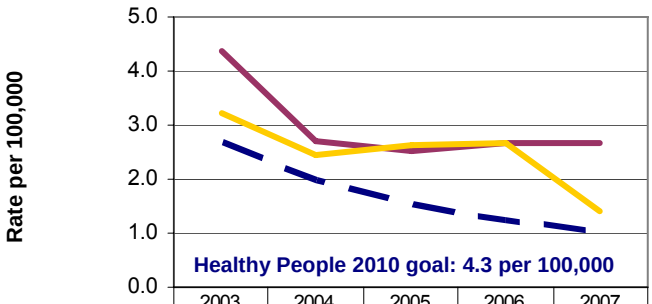
Hepatitis A

Hepatitis A in San Diego County

- Since the introduction of a vaccine for Hepatitis A in 1995, disease incidence has declined. In San Diego County, the rate decreased from 4.4 per 100,000 (130 cases) in 2003 to 2.7 (82 cases) in 2007.
- The rates of Hepatitis A in California and United States also decreased—to even lower levels than in San Diego. San Diego is a border county and Hepatitis A remains endemic in Mexico.
- In 2007, there was no distinct seasonality to Hepatitis A in San Diego County, although the highest case counts were in January and May.
- Rates in San Diego County were highest in the Hispanic population.
- In 2007, the Hepatitis A case count and rate in San Diego County peaked among those aged 25-44 years.
- Between 2003-2007, the highest rates were observed in the central part of the city of San Diego and the southern region of the county.

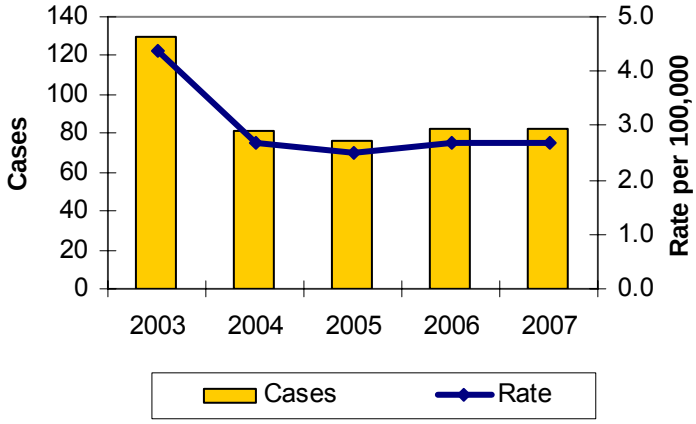
Infectious agent: Hepatitis A virus (HAV)
Mode of transmission: Person-to-person through the fecal-oral route; ingestion of contaminated food or water
Incubation period: 15-50 days
Symptoms: Fever, fatigue, loss of appetite, nausea, abdominal discomfort, dark urine, jaundice
Vaccine: Available since 1995
For more information:
http://www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

Hepatitis A Incidence, San Diego County, California, and United States, 2003-2007

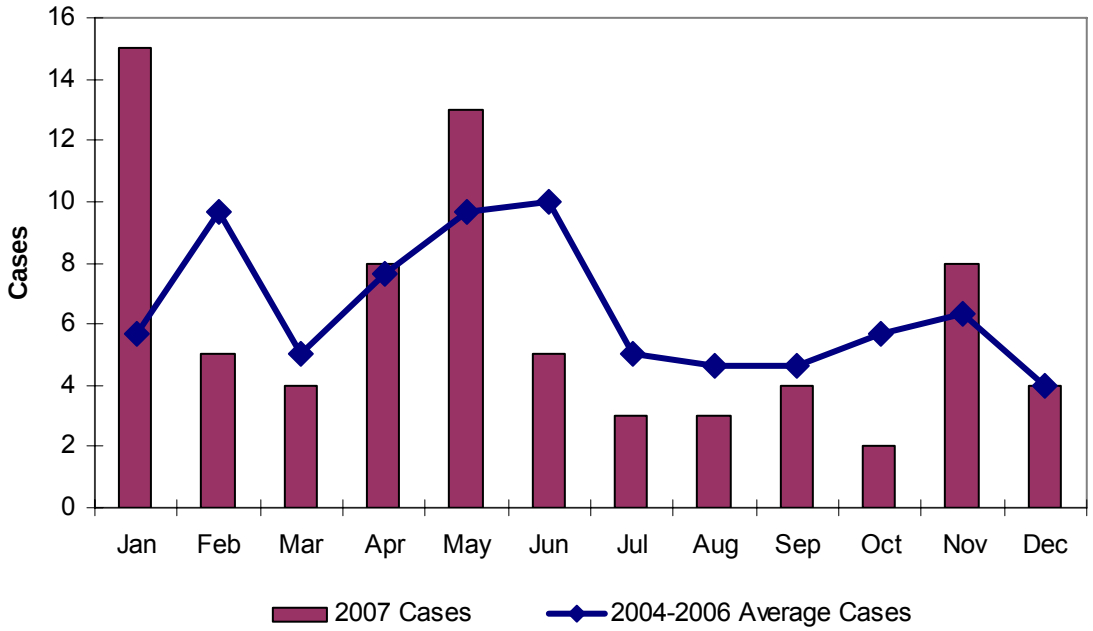


	2003	2004	2005	2006	2007
San Diego County	4.4	2.7	2.5	2.7	2.7
California	3.2	2.4	2.6	2.7	1.4
United States	2.7	2.0	1.5	1.2	1.0

Hepatitis A Cases and Rates, San Diego County, 2003-2007



Hepatitis A Cases by Month of Onset, San Diego County, 2007

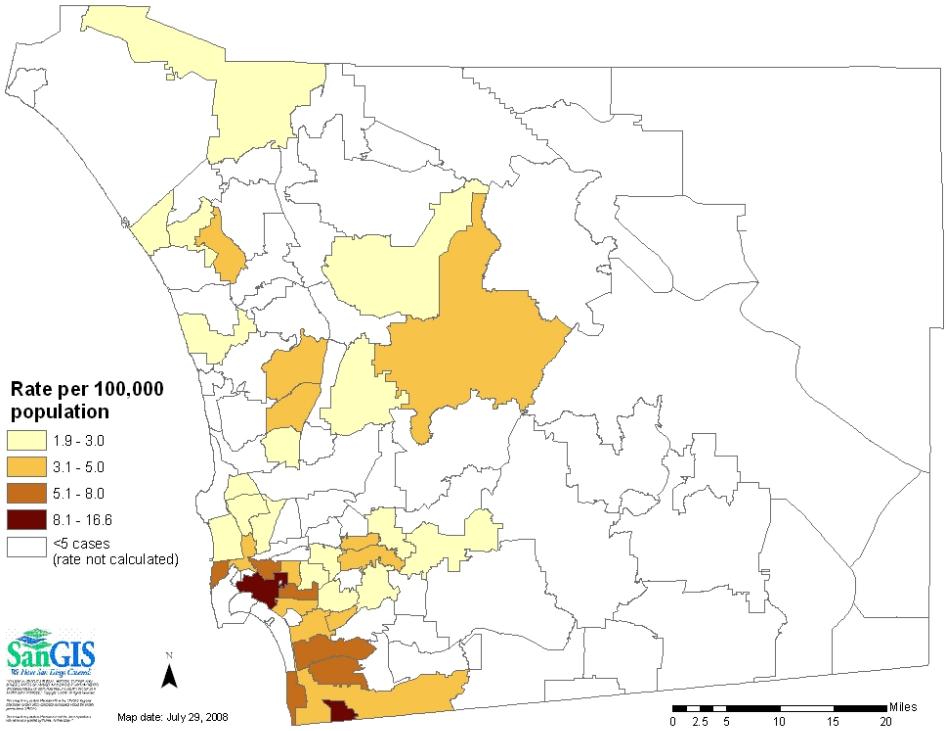


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Hepatitis A

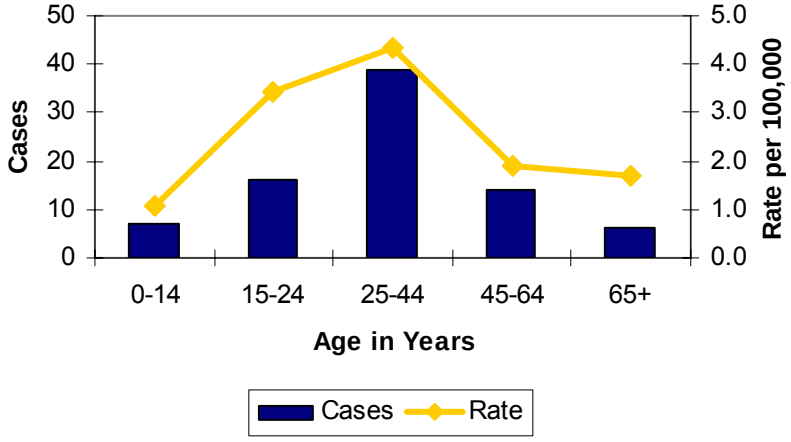
Geography

Hepatitis A Rates by Zip Code of Residence, San Diego County, 2003-2007

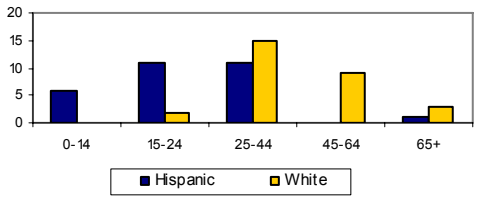


Demographics

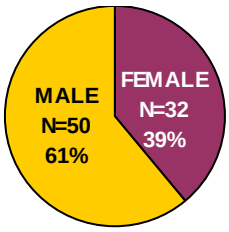
Hepatitis A Cases and Rates by Age, San Diego County, 2007



Hepatitis A Cases by Age and Race/Ethnicity, 2007. The age distribution of Hepatitis A in San Diego County differs in the Hispanic and white populations.



Hepatitis A Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 3.2
Female: 2.1

Hepatitis A Cases and Rates by Race/ Ethnicity, San Diego County, 2007

	Cases	Rate
White	29	1.8
Black	1	*
Hispanic	29	3.2
American Indian	0	*
Asian/Pacific Islander	4	*
Other	1	*
Missing/Unknown	18	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

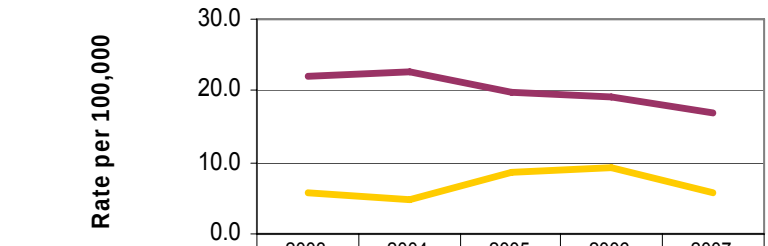
Kawasaki Syndrome

Kawasaki Syndrome in San Diego County

- Incidence of Kawasaki Syndrome (KS) in San Diego County has changed little recently. The rate in 2003 was 22.0 per 100,000 population under 5 years of age (46 cases); in 2007, the rate was 17.0 per 100,000 <5 population (40 cases). There were 50 total cases in 2007—a rate of 7.8 per population <15 years of age.
- In 2007, there was no distinct seasonality to KS in San Diego County. In previous years, a typical winter peak was apparent.
- Between 2003 and 2007, higher rates of KS among children under 5 years old were observed in the northern inland parts of the county.
- In 2007, males and Asians in the county had higher rates of KS.
- There were no cases reported in persons over the age of 14. Most cases were reported among children 0-2 years of age. The rate declined steadily from a peak among infants under the age of 1 year.

Infectious agents: Unknown
Mode of transmission: Unknown
Incubation period: Unknown
Symptoms: Fever, rash, swelling of the hands and feet, irritation and redness of the whites of the eyes, swollen lymph glands in the neck, and irritation and inflammation of the mouth, lips, and throat. Primarily affects children <5 years of age.
For more information:
http://www.cdc.gov/kawasaki/

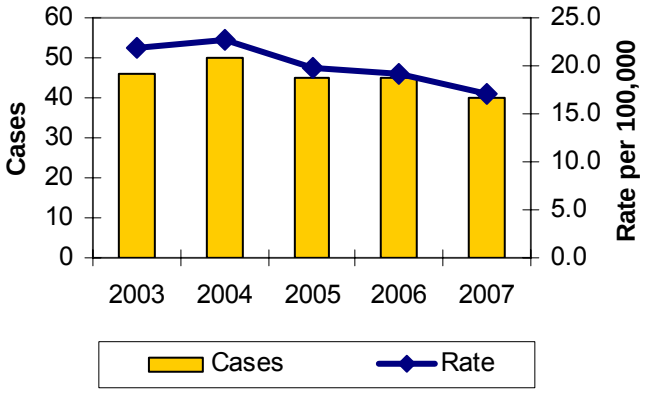
Kawasaki Syndrome Incidence (Ages 0-4 Years), San Diego County and California, 2003-2007



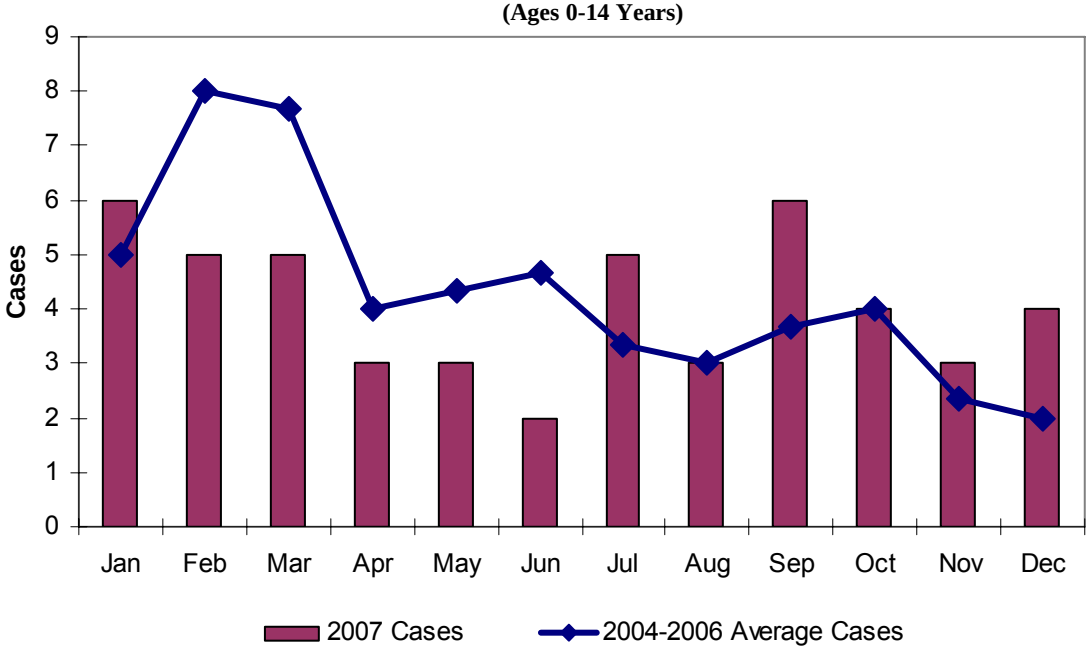
	2003	2004	2005	2006	2007
San Diego County	22.0	22.7	19.7	19.3	17.0
California	5.8	4.7	8.8	9.2	5.8
United States*					

*Kawasaki Syndrome is not reportable at the national level; U.S. data are not available.

Kawasaki Syndrome Cases and Rates (Ages 0-4 Years), San Diego County, 2003-2007



Kawasaki Syndrome Cases by Month of Onset, San Diego County, 2007
(Ages 0-14 Years)

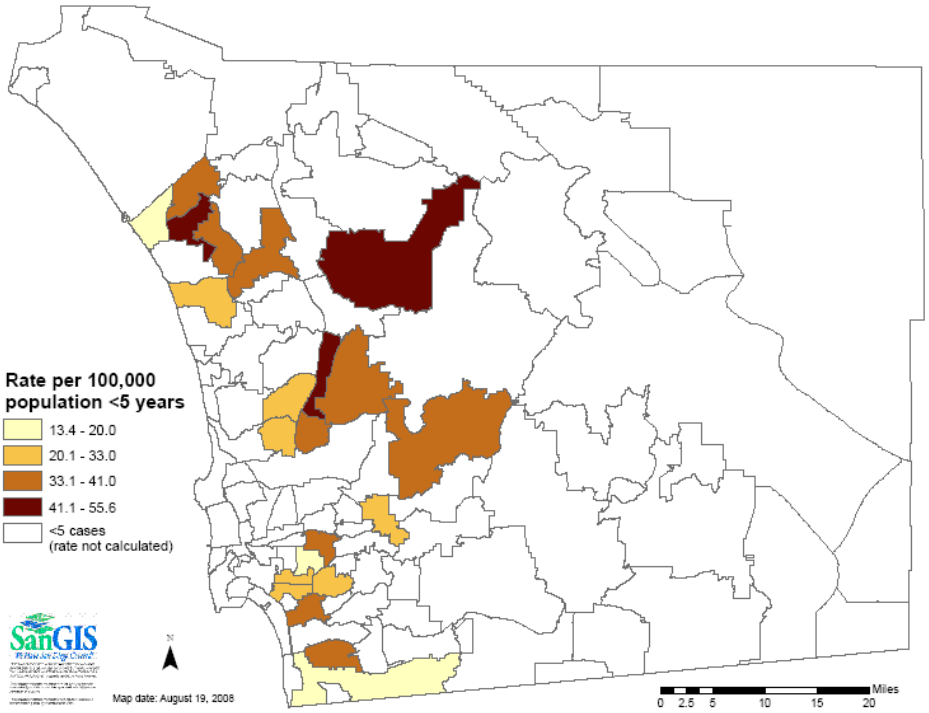


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Kawasaki Syndrome

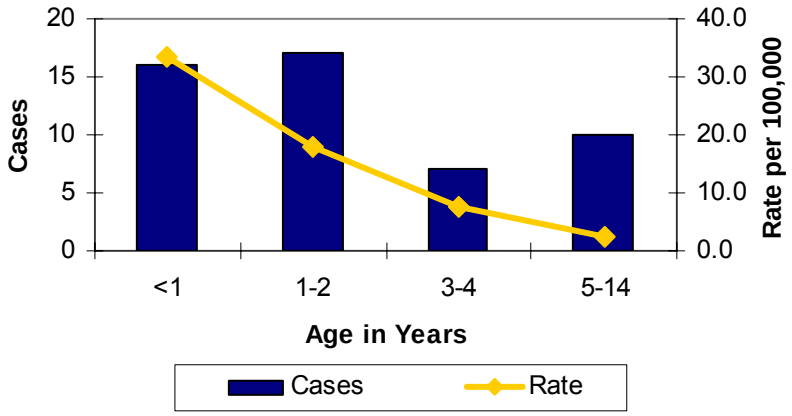
Geography

Kawasaki Syndrome Rates in Children Under Age 5 by Zip Code of Residence, San Diego County, 2003-2007



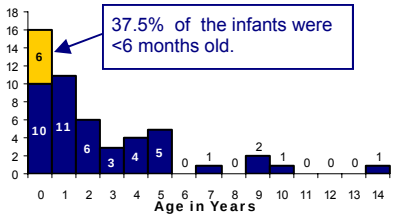
Demographics

Kawasaki Syndrome Cases and Rates by Age, San Diego County, 2007



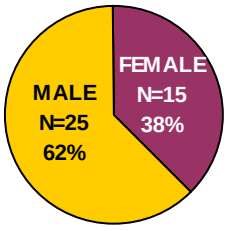
Kawasaki Syndrome Cases by Single Year Age, 2007

There were no cases reported in the population older than 14 years. Only 5 cases were older than 5 years. Nearly 30% of cases were in the population <1 year old.



Kawasaki Syndrome Cases and Rates by Gender, San Diego County, 2007

(Ages 0-4 Years)



Rate per 100,000
Male: 1.6
Female: 1.0

Kawasaki Syndrome Cases and Rates by Race/Ethnicity, San Diego County, 2007

(Ages 0-4 Years)	Cases	Rate
White	10	0.6
Black	2	*
Hispanic	15	1.7
American Indian	0	*
Asian/Pacific Islander	12	3.9
Other	0	*
Missing/Unknown	1	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

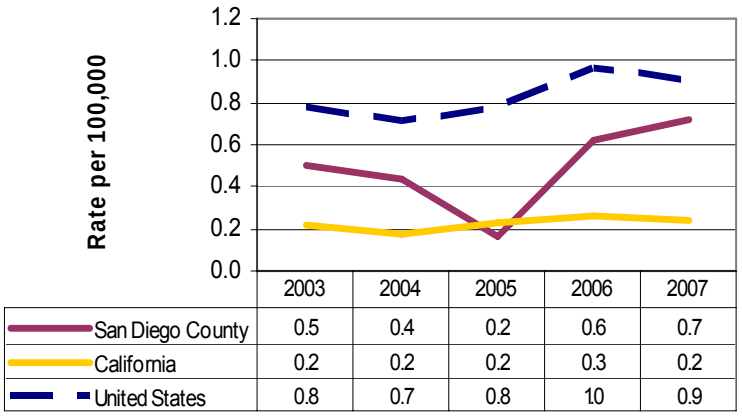
Legionellosis

Legionellosis in San Diego County

- Relatively few cases of legionellosis are reported each year in San Diego County, with a 5-year low of 5 cases in 2005. Incidence of legionellosis increased slightly from 0.5 per 100,000 (15 cases) in 2003 to 0.7 (22 cases) in 2007.
- From 2003 to 2007, the rate of legionellosis in San Diego County was generally higher than the rate in California and lower than the rate in the United States.
- In 2007, there was no distinct seasonality to Legionellosis in San Diego County, though more cases were reported October-December.
- From 2003-2007, very few cases were reported in those younger than 45 years; the most cases were reported among those aged 45-64 years and the rate was highest in those 65 years and older.
- During 2003-2007, there were twice as many cases reported in men as women in San Diego County.

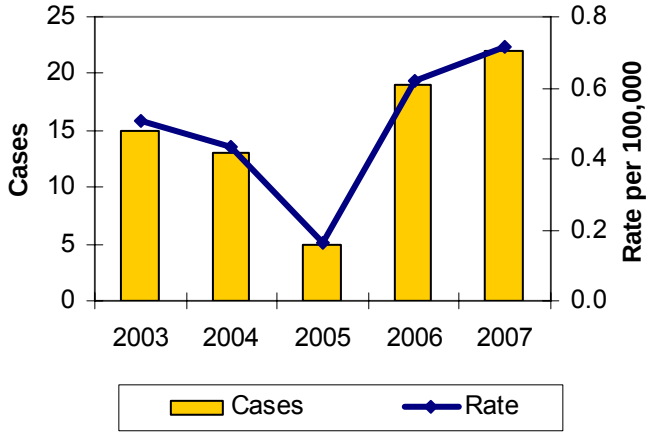
Infectious agents: *Legionella* bacteria, most commonly *L. pneumophila*
Mode of transmission: Inhalation of contaminated mist or vapor; bacteria thrive in warm water like that found in hot tubs, cooling towers, hot water tanks, large plumbing systems, air-conditioning systems of large buildings
Incubation period: 2-14 days
Symptoms: May present as Legionnaires' disease, with pneumonia, high fever, cough, headaches, muscle aches, or as Pontiac Fever, a milder infection with similar symptoms but no pneumonia
For more information:
http://www.cdc.gov/legionella/index.htm

Legionellosis Incidence, San Diego County, California, and United States, 2003-2007

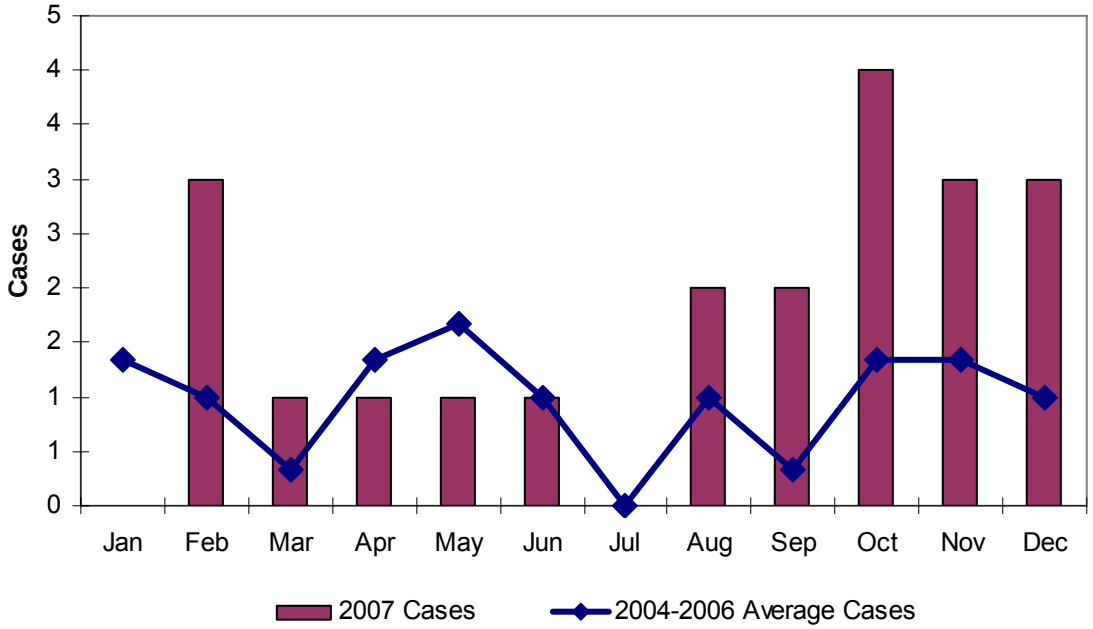


	2003	2004	2005	2006	2007
San Diego County	0.5	0.4	0.2	0.6	0.7
California	0.2	0.2	0.2	0.3	0.2
United States	0.8	0.7	0.8	10	0.9

Legionellosis Cases and Rates, San Diego County, 2003-2007



Legionellosis Cases by Month of Onset, San Diego County, 2007



If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year are not included in this graph.

Legionellosis

Legionnaires' Disease vs. Pontiac Fever

Diagnoses of Legionellosis include two clinical syndromes. The features of each are described in this table:

	Legionnaires' Disease	Pontiac Fever
Clinical Features	Pneumonia: cough, fever, chest pain	Flu-like illness (fever, chills, malaise) without pneumonia
Radiographic Pneumonia	Yes	No
Incubation Period	2-14 days after exposure	24-48 hours after exposure
Attack Rate (percentage of persons who, when exposed to the source of an out-break, become ill)	<5%	>90%
Outcomes	Hospitalization common	Hospitalization uncom-mon; self-limiting; com-plete recovery usually occurs within a week without treatment
Case-fatality Rate (percentage of persons diagnosed with the dis-ease who die as a result)	5-40%	0%

Adapted from CDC's Legionellosis Resource Site: http://www.cdc.gov/legionella/top10.htm

Case-Fatality Rates

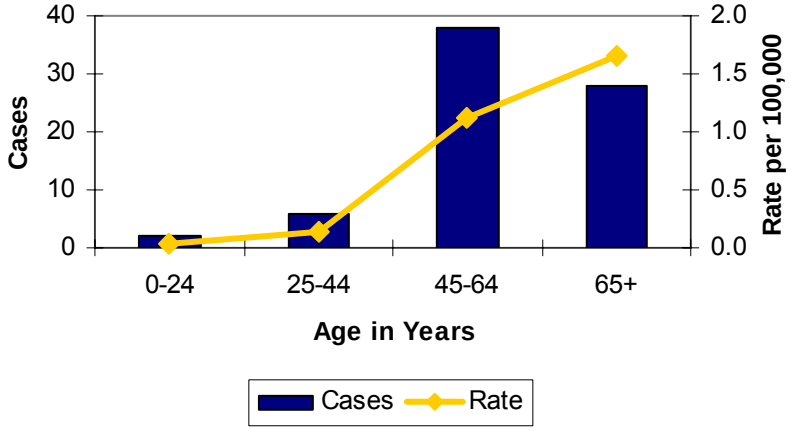
Legionellosis Deaths and Case-Fatality Rates, San Diego County, 2003-2007

	Total Cases	Deaths	Case-Fatality Rate
2003	15	4	26.7
2004	13	1	7.7
2005	5	1	20.0
2006	19	1	5.3
2007	22	2	9.1
Total	**74**	**9**	**12.2**

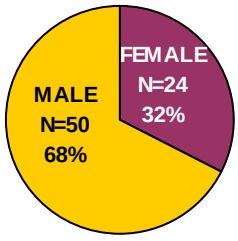
Although Pontiac Fever has a higher attack rate, it is less frequently diag-nosed and reported. Of the 22 cases of legionellosis reported in 2007 in San Diego County, 20 were cases of Legionnaires' Disease and the other 2 had an uncertain clinical picture.

Demographics

Legionellosis Cases and Rates by Age, San Diego County, 2003-2007



Legionellosis Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 0.7
Female: 0.3

Legionellosis Cases and Rates by Race/ Ethnicity, San Diego County, 2003-2007

	Cases	Rate
White	49	0.6
Black	6	0.7
Hispanic	10	0.2
American Indian	0	*
Asian/Pacific Islander	2	*
Other	0	*
Missing/Unknown	7	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

Listeriosis

Listeriosis in San Diego County

- Incidence of listeriosis in San Diego County increased from 0.4 per 100,000 (12 cases) in 2003 to 0.6 (17 cases) in 2007.
- Both the California rate and the United States rate are lower than the San Diego County rate.
- In 2007, most of the listeriosis cases in San Diego County were reported between April and September. In previous years, the peak fell between June and September.
- From 2003-2007, the rate of listeriosis in San Diego County was highest among infants and adults over the age of 64. Most of the cases were in the latter group.
- More cases were reported in women between 2003 and 2007, including almost all cases among 15-44-year-olds in the county.
- In San Diego County, the case-fatality rate for listeriosis between 2003 and 2007 ranged from 0 to 16.7%.

Infectious agent: *Listeria monocytogenes* bacterium

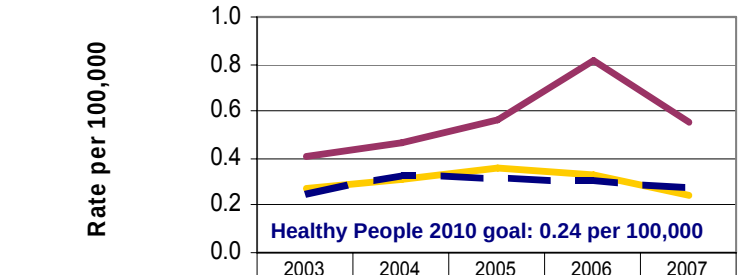
Mode of transmission: Ingestion of contaminated food, particularly raw meat, fruit and vegetables, and unpasteurized milk products; pregnant women, newborns, the immunocompromised, and the elderly are most susceptible

Incubation period: Variable; median time is estimated to be 3 weeks

Symptoms: Fever, muscle aches, headache, nausea, diarrhea; pregnant women may have a miscarriage, stillbirth or premature delivery

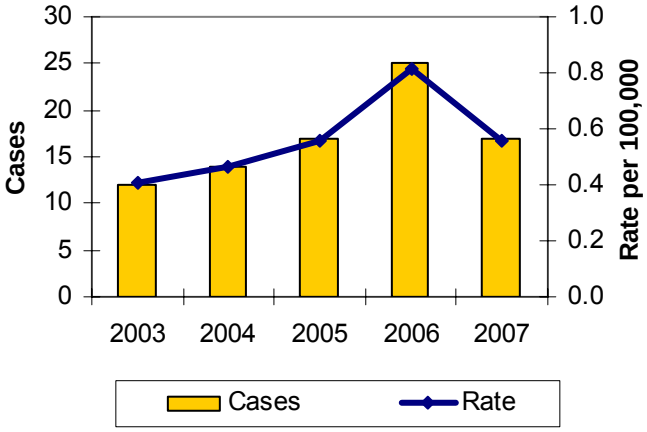
For more information:
http://www.cdc.gov/nczved/dfbmd/disease_listing/listeriosis_gi.html

Listeriosis Incidence, San Diego County, California, and United States, 2003-2007

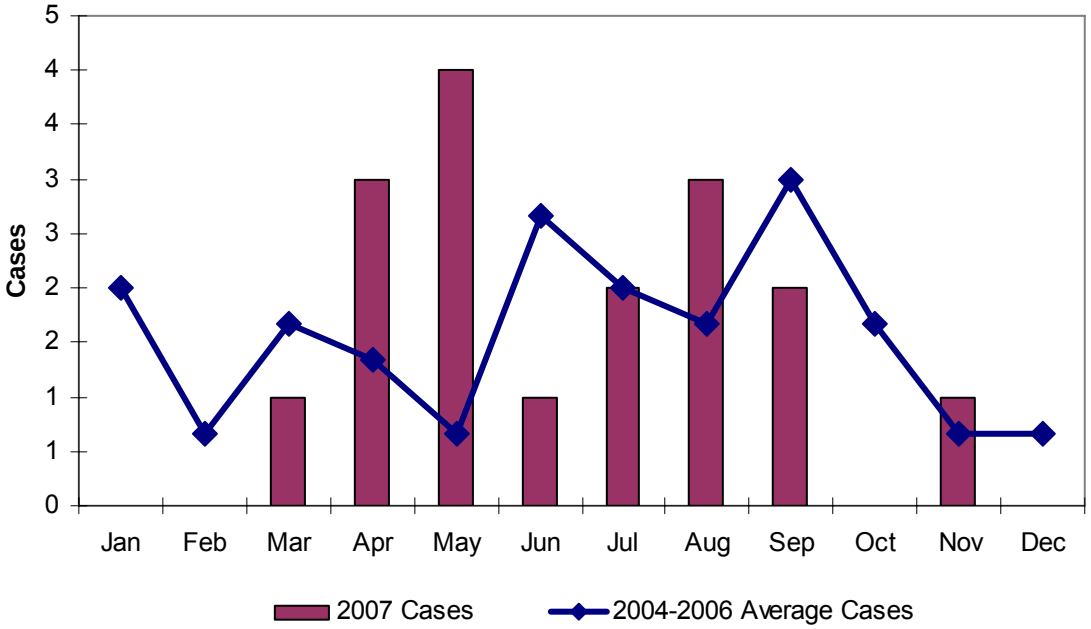


	2003	2004	2005	2006	2007
San Diego County	0.4	0.5	0.6	0.8	0.6
California	0.3	0.3	0.4	0.3	0.2
United States	0.2	0.3	0.3	0.3	0.3

Listeriosis Cases and Rates, San Diego County, 2003-2007



Listeriosis Cases by Month of Onset, San Diego County, 2007

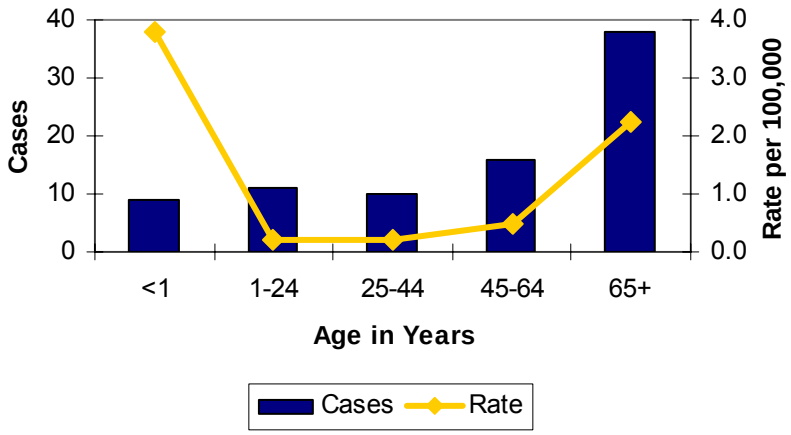


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year are not included in this graph.

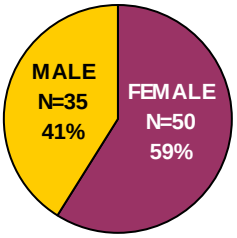
Listeriosis

Demographics

Listeriosis Cases and Rates by Age, San Diego County, 2003-2007

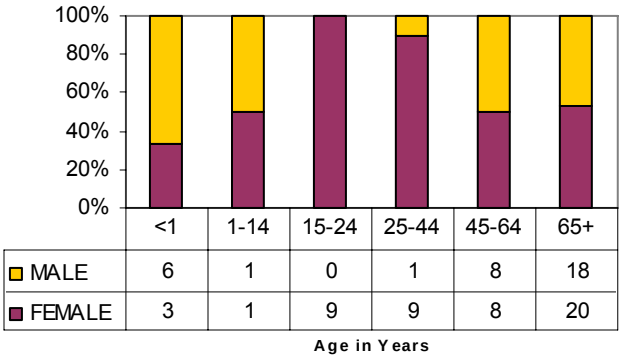


Listeriosis Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 0.5
Female: 0.7

Listeriosis Cases by Age and Gender, San Diego County, 2003-2007



	<1	1-14	15-24	25-44	45-64	65+
MALE	6	1	0	1	8	18
FEMALE	3	1	9	9	8	20

Listeriosis Cases and Rates by Race/ Ethnicity, San Diego County, 2003-2007

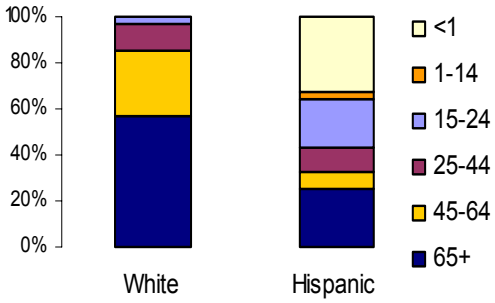
	Cases	Rate
White	36	0.5
Black	2	*
Hispanic	28	0.6
American Indian	0	*
Asian/Pacific Islander	6	0.4
Other	0	*
Missing/Unknown	13	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

Although the number of cases and rate of listeriosis are similar among the Hispanic and white populations in San Diego County, the age distribution is very different.

Listeriosis Cases by Race/ Ethnicity and Age, 2003-2007



Listeriosis in Pregnancy

- Pregnant women are about 20 times more likely than other healthy adults to get listeriosis.
- Infections during pregnancy, while possibly asymptomatic or causing mild flu-like illness in the woman, commonly result in miscarriage, stillbirth, premature delivery, or infection of the newborn.
- Listeriosis has been shown to be much more common among pregnant Hispanic women than among pregnant women of other ethnic groups.
- Between 2004 and 2007, 5 cases of listeriosis were reported in pregnant women in San Diego County; 4 of the 5 were Hispanic.
- During the same time period, 7 listeriosis cases in newborn infants were reported in San Diego County; all 7 were Hispanic.

Case-Fatality Rates

Listeriosis Deaths and Case-Fatality Rates, San Diego County, 2003-2007

Year	Total Cases	Deaths	Case-Fatality Rate
2003	12	2	16.7
2004	14	1	7.1
2005	17	2	11.8
2006	25	0	0.0
2007	17	1	5.9
Total	**85**	**6**	**7.1**

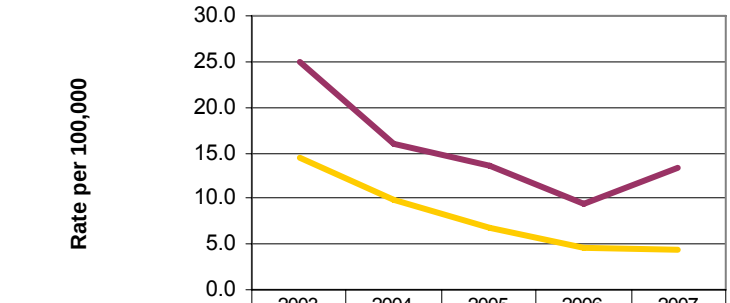
Meningitis, Viral

Viral Meningitis in San Diego County

- The rate of viral meningitis in San Diego County declined from a high of 25.0 per 100,000 (742 cases) in 2003 to a low of 9.3 (286 cases) in 2006. The rate rebounded to 13.4 (414 cases) in 2007.
- The California statewide rate is lower than the San Diego County rate and has also declined, remaining low in 2007.
- Viral meningitis in San Diego County displayed a distinct seasonal pattern in 2007 as well as in prior years, with the largest number of cases occurring in July and August.
- Rates of viral meningitis in 2007 were highest in the northern area of the county.
- More cases and the highest incidence were seen among children under 5. In this age group, at least 64% of cases were caused by an enterovirus (the etiology of the other cases is unknown).

Infectious agents: Various; most frequently enteroviruses. Viral meningitis is diagnosed clinically; the etiology often remains unknown.
Mode of transmission: Agent-specific
Incubation period: Agent-specific
Symptoms: Range from fever, headache, and stiff neck to more severe symptoms such as confusion or seizures
For more information:
http://www.cdc.gov/meningitis/viral/viral-faqs.htm

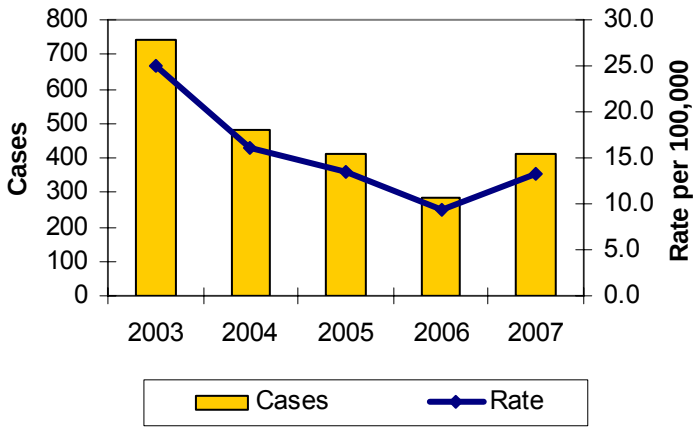
Viral Meningitis Incidence, San Diego County and California, 2003-2007



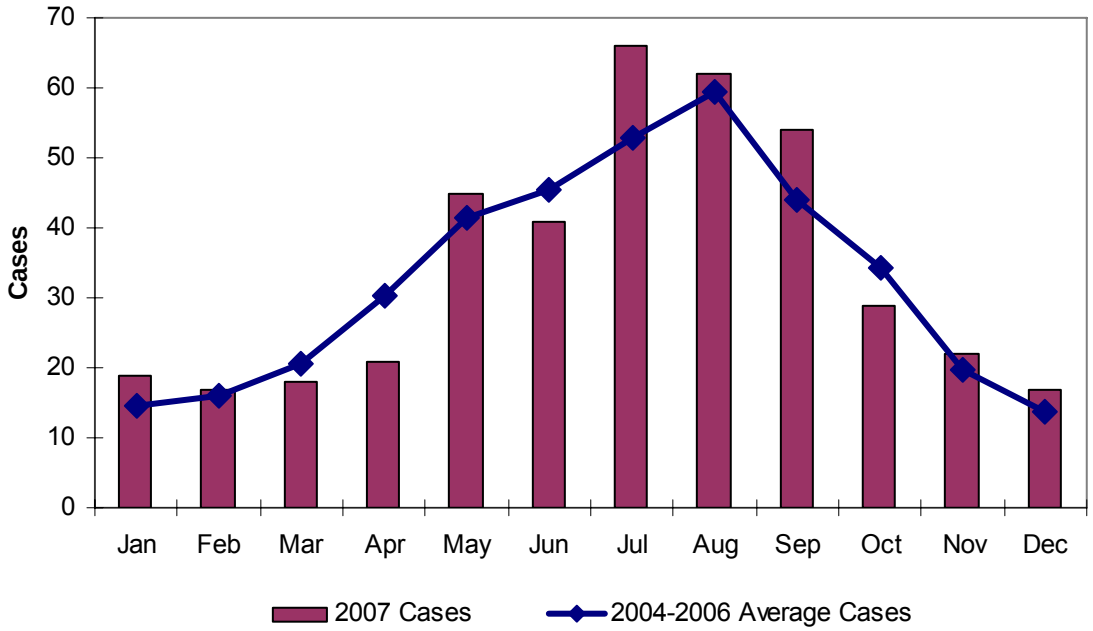
	2003	2004	2005	2006	2007
San Diego County	25.0	16.1	13.6	9.3	13.4
California	14.4	9.9	6.9	4.6	4.4
United States*					

*Viral meningitis is not reportable at the national level; U.S. data are not available.

Viral Meningitis Cases and Rates, San Diego County, 2003-2007



Viral Meningitis Cases by Month of Onset, San Diego County, 2007

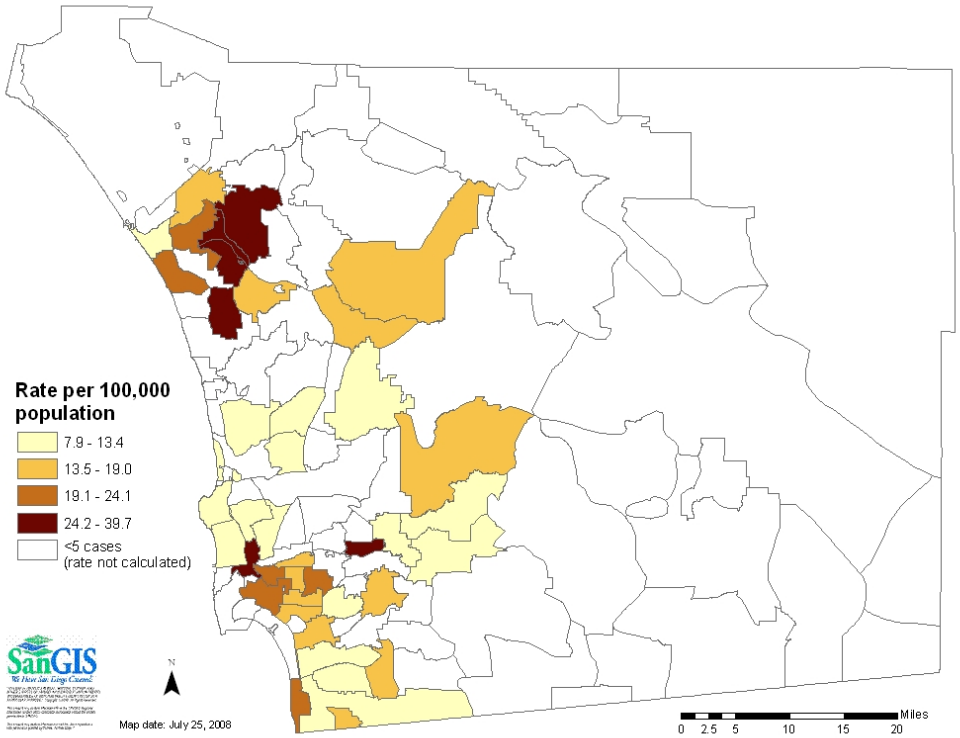


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Meningitis, Viral

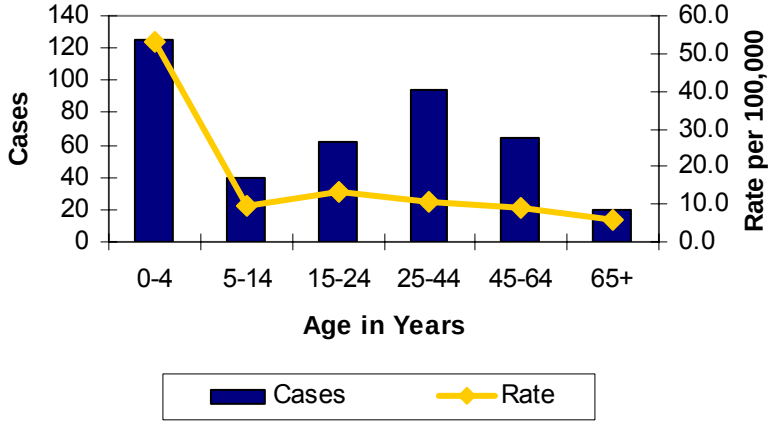
Geography

Viral Meningitis Rates by Zip Code, San Diego County, 2007



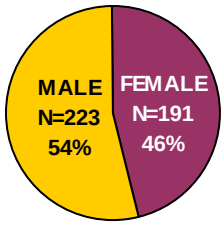
Demographics

Viral Meningitis Cases and Rates by Age, San Diego County, 2007



Cases of viral meningitis are not routinely investigated unless an outbreak is suspected. As a result, geographic and demographic information (particularly race/ethnicity) is frequently missing or coded as "other." For this reason, a rate for "other race" has not been calculated. Cases of unknown etiology are referred for West Nile Virus testing.

Viral Meningitis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 14.4
Female: 12.3

Viral Meningitis Cases and Rates by Race/Ethnicity, San Diego County, 2007

	Cases	Rate
White	136	8.5
Black	20	12.0
Hispanic	83	9.2
American Indian	1	*
Asian/Pacific Islander	18	5.9
Other	34	
Missing/Unknown	122	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

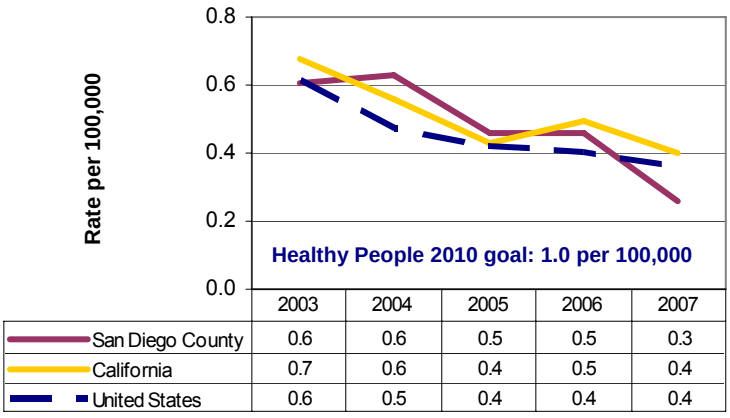
Meningococcal Disease

Meningococcal Disease in San Diego County

- The rate of meningococcal disease in San Diego County decreased from 0.6 per 100,000 (18 cases) in 2003 to 0.3 (8 cases) in 2007.
- There was a similar decline in the rate of meningococcal disease in California and the United States.
- Although in previous years, cases peaked in winter-spring in San Diego County, there was no distinct seasonal pattern in 2007.
- The highest rate of meningococcal disease in San Diego County in 2007 was in infants under one year of age.
- Between 2003-2007, there were an equal number of meningococcal meningitis and meningococcemia cases in the county.
- The case fatality rate for 2003-2007 in San Diego County was 12.3%.
- Of cases with known serogroup, 47% were caused by serogroups included in the meningococcal vaccines available in the United States.

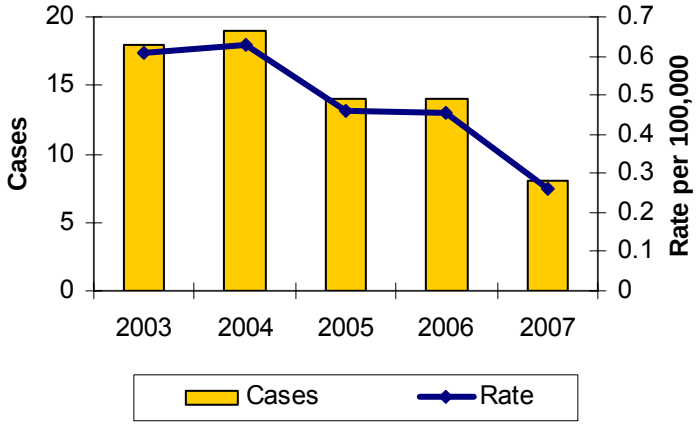
Infectious agent: *Neisseria meningitides* (meningococcus) bacterium
Mode of transmission: Direct contact, including exchange of respiratory and throat secretions
Incubation period: 2-10 days
Symptoms: High fever, headache, and stiff neck are common in persons over the age of 2 years.
Vaccine: Available since 1981
For more information: http://www.cdc.gov/meningitis/bacterial/faqs.htm

Meningococcal Disease Incidence, San Diego County, California, and United States, 2003-2007

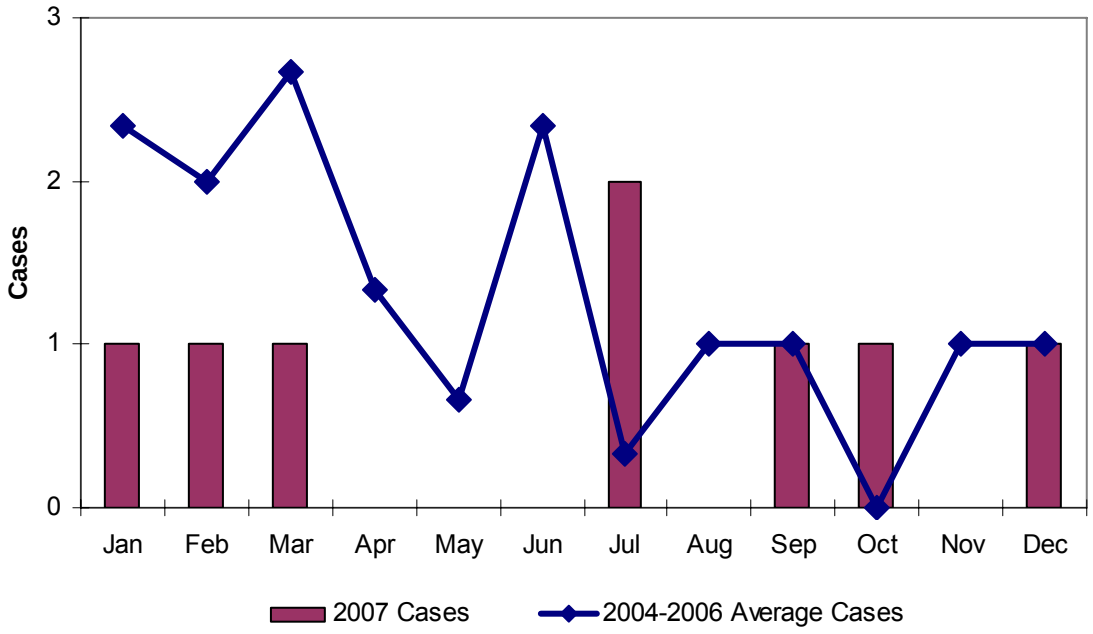


	2003	2004	2005	2006	2007
San Diego County	0.6	0.6	0.5	0.5	0.3
California	0.7	0.6	0.4	0.5	0.4
United States	0.6	0.5	0.4	0.4	0.4

Meningococcal Disease Cases and Rates, San Diego County, 2003-2007



Meningococcal Disease Cases by Month of Onset, San Diego County, 2007



If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Meningococcal Disease

Infection, Case Fatality, Serogroups, and Vaccines

Meningococcal Disease Cases by Serogroup, Type of Disease, and Fatality, San Diego County, 2003-2007

	2003		2004		2005		2006		2007		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Serogroup												
A, C, Y, W-135	6	33.3	7	36.8	3	21.4	5	35.7	3	37.5	24	32.9
B	5	27.8	7	36.8	6	42.9	5	35.7	4	50.0	27	37.0
Unknown	7	38.9	5	26.3	5	35.7	4	28.6	1	12.5	22	30.1
Type of Disease												
Meningococcal Meningitis	9	50.0	9	47.4	8	57.1	7	50.0	4	50.0	37	50.7
Meningococcemia	9	50.0	10	52.6	6	42.9	7	50.0	4	50.0	36	49.3
Deaths	3	16.7	4	21.1	0	0.0	1	7.1	1	12.5	9	12.3
Total Cases	18	100.0	19	100.0	14	100.0	14	100.0	8	100.0	73	100.0

Disease

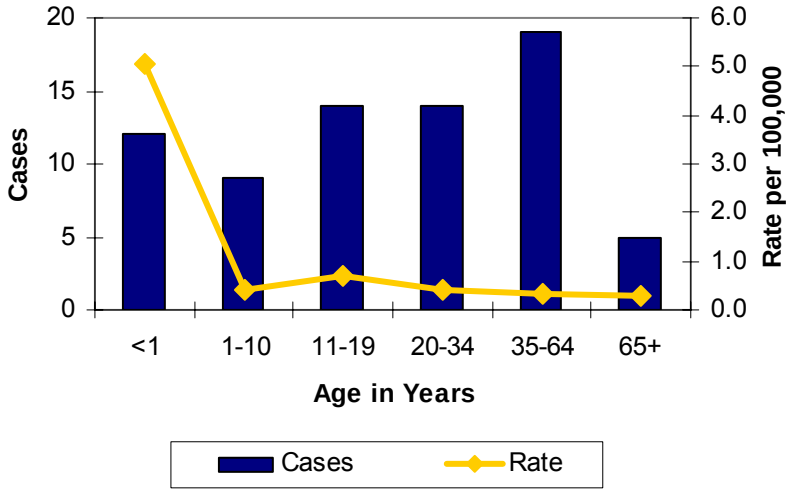
- Invasive meningococcal disease can manifest clinically as a blood infection (sepsis), pneumonia, localized infections, or, most commonly, meningitis.
- Meningococcemia, or meningococcal sepsis, is the most severe form of disease, often manifesting with rash, hypotension, and multi-organ failure.
- In recent years, the case fatality rate in the United States has been 10-14%.

Serogroups and Vaccines

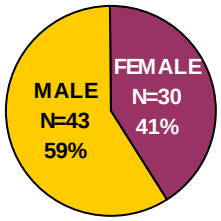
- Two vaccines are available in the United States: Meningococcal polysaccharide vaccine (MPSV4) and Meningococcal conjugate vaccine (MCV4).
- These vaccines can prevent disease caused by serogroups A, C, Y, and W-135.
- MCV4 is the preferred vaccine for persons aged 2-55 years.
- Vaccination is routinely recommended for all persons aged 11-18 years and for some high risk children aged 2-10 years.

Demographics

Meningococcal Disease Cases and Rates by Age, San Diego County, 2003-2007



Meningococcal Disease Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 0.6
Female: 0.4

Meningococcal Disease Cases and Rates by Race/Ethnicity, San Diego County, 2003-2007

	Cases	Rate
White	32	0.4
Black	4	*
Hispanic	28	0.6
American Indian	0	*
Asian/Pacific Islander	3	*
Other	2	*
Missing/Unknown	4	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

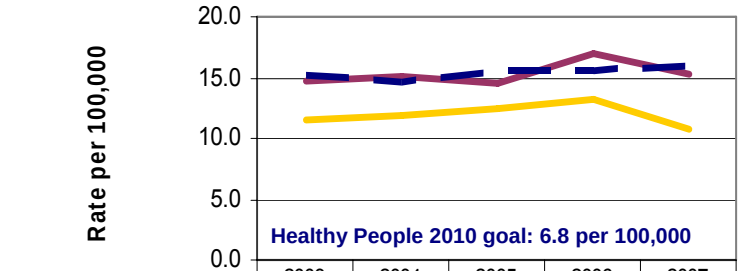
Salmonellosis

Salmonellosis in San Diego County

- Incidence of salmonellosis in San Diego County has been relatively stable. In 2003, the rate was 14.7 per 100,000 (438 cases), and in 2007, it was 15.2 (467 cases). There was a peak of 17.0 (520 cases) in 2006, when there were several outbreaks in the community.
- Rates of salmonellosis in California and the United States were also fairly stable during the period.
- In San Diego County, a greater number of cases was reported during the summer months of 2007, similar to the seasonal pattern observed in previous years.
- In 2007, cases were reported across all age groups in San Diego County, but the highest rate was observed among 0-4-year-olds.
- Geographically, the highest rates in 2007 were in the central coastal and northern inland areas of the county.
- *S.* Enteritidis was the most frequently reported serotype in San Diego.

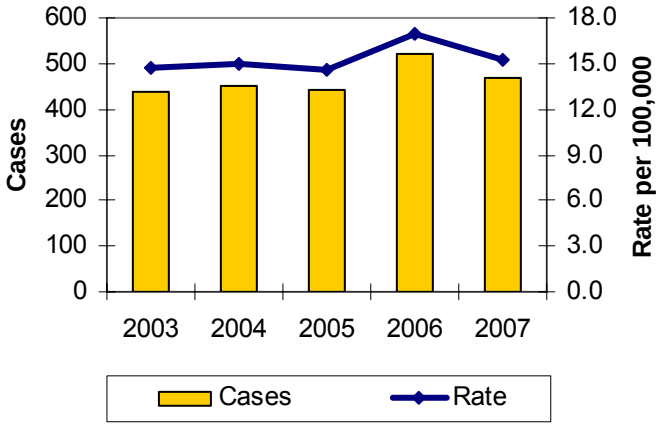
Infectious agents: *Salmonella* bacteria of many serotypes; *S.* Typhimurium and *S.* Enteritidis are the most common in the United States
Mode of transmission: Ingestion of contaminated food, often of animal origin (though any food can become contaminated, including vegetables); contact with pets or pet feces, particularly reptiles and young birds
Incubation period: 6-72 hours
Symptoms: Diarrhea, fever, nausea, abdominal cramps
For more information:
http://www.cdc.gov/salmonella/

Salmonellosis Incidence, San Diego County, California, and United States, 2003-2007

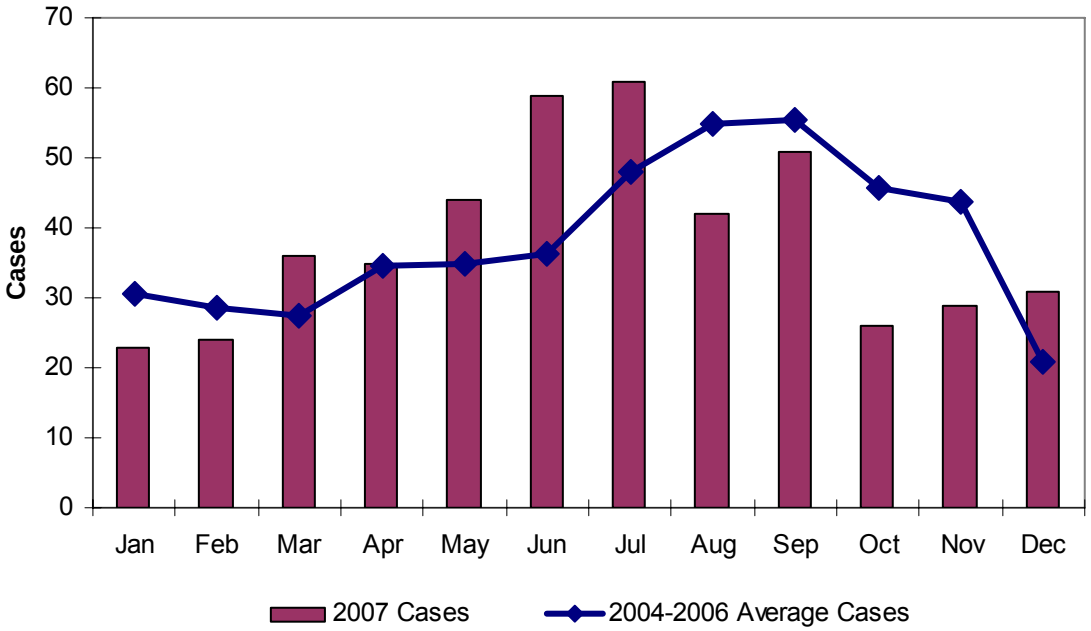


	2003	2004	2005	2006	2007
San Diego County	14.7	15.0	14.6	17.0	15.2
California	11.6	11.8	12.4	13.3	10.7
United States	15.2	14.5	15.4	15.5	15.9

Salmonellosis Cases and Rates, San Diego County, 2003-2007



Salmonellosis Cases by Month of Onset, San Diego County, 2007

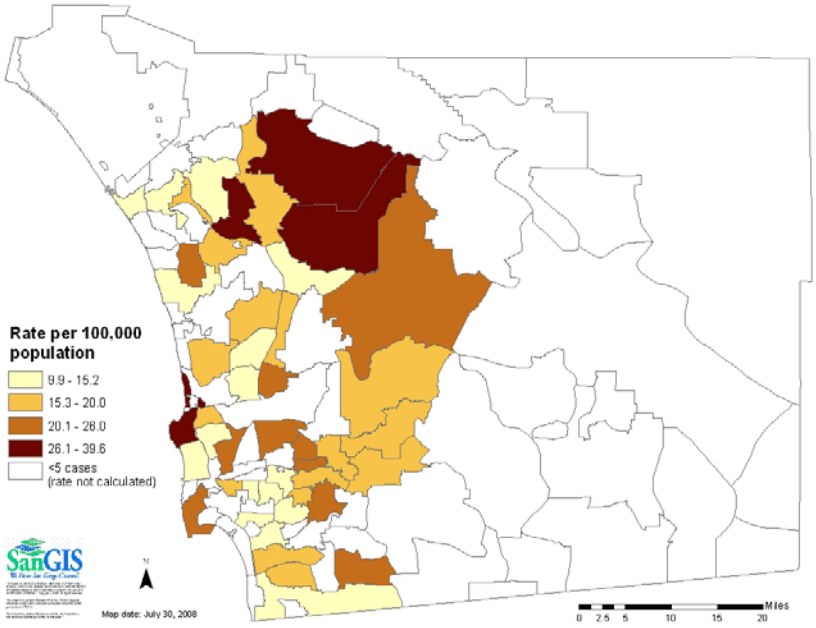


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Salmonellosis

Geography

Salmonellosis Rates by Zip Code of Residence, San Diego County, 2007



Serotypes

Most Frequently Reported *Salmonella* Serotypes, San Diego County, 2007

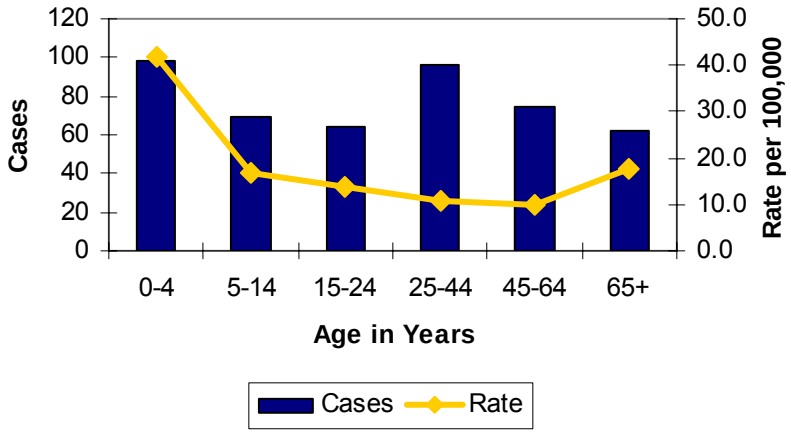
Serotype	Cases	Percent
Enteritidis	120	25.7
Typhimurium*	45	9.6
Heidelberg	32	6.9
Montevideo	30	6.4
Newport	18	3.9
Agona	12	2.6
Braenderup	12	2.6
I 4,[5],12:i:-	11	2.4
All other serotyped	115	24.6
Unknown	72	15.4
Total	467	100.0

*Typhimurium includes the serotype formerly classified as Copenhagen.

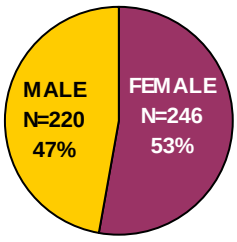
Approximately 2000 *Salmonella* serotypes cause human disease; over 50 were associated with disease reported in San Diego County in 2007. DNA "fingerprinting" by pulsed-field gel electrophoresis (PFGE) is performed on all *Salmonella* isolates submitted to the San Diego County Public Health Laboratory.

Demographics

Salmonellosis Cases and Rates by Age, San Diego County, 2007



Salmonellosis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 14.2
Female: 15.9

Salmonellosis Cases and Rates by Race/ Ethnicity, San Diego County, 2007

	Cases	Rate
White	216	13.5
Black	14	8.4
Hispanic	148	16.3
American Indian	3	*
Asian/Pacific Islander	30	9.8
Other	6	
Missing/Unknown	50	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

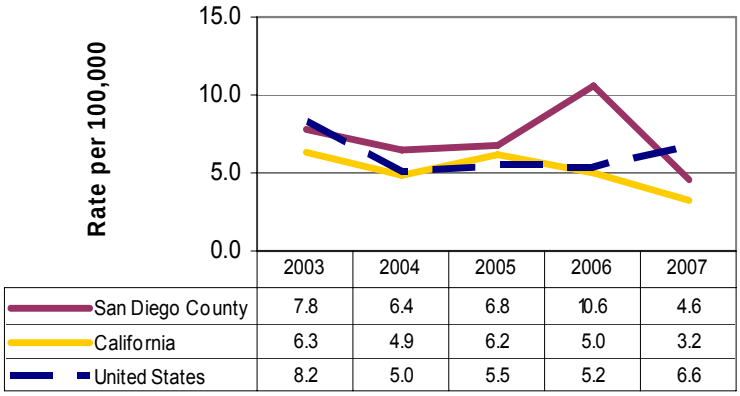
Shigellosis

Shigellosis in San Diego County

- Shigellosis incidence in San Diego County decreased from 7.8 per 100,000 (232 cases) in 2003 to 4.6 (140 cases) in 2007. Several large outbreaks in late summer 2006 explain the increased number of cases (325) reported that year.
- In San Diego County, there was a seasonal peak in shigellosis cases during August and September of 2007. This corresponds to the pattern seen in previous years.
- Case counts in San Diego County were relatively stable across age groups in 2007, though the highest rate was detected in 0-4-year-olds.
- In 2007, the rate was highest in the Hispanic population in the county.
- The highest rates in 2005-2007, were observed in central San Diego city (where one of the 2006 outbreaks was centered), the southern and north inland regions of the county.
- *S. sonnei* was the most frequently reported species in San Diego.

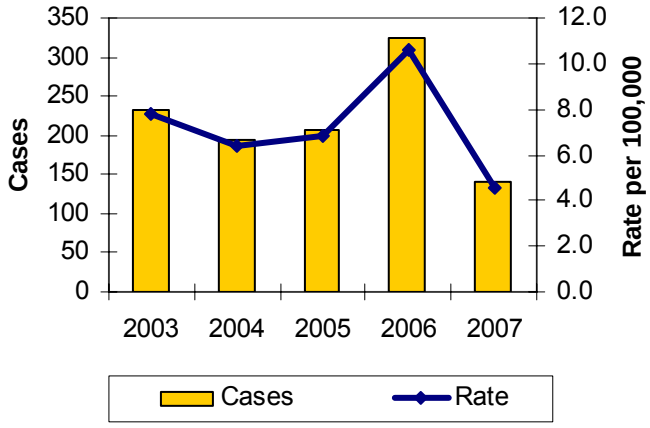
Infectious agents: *Shigella* bacteria of 4 species/serogroups—*S. dysenteriae* (Group A), *S. flexneri* (Group B), *S. boydii* (Group C), *S. sonnei* (Group D)
Mode of transmission: Person-to-person via the fecal-oral route; ingestion of contaminated food and water
Incubation period: Usually 1-3 days
Symptoms: Diarrhea (often bloody or mucoid), fever, nausea, abdominal cramping
For more information:
http://www.cdc.gov/nczved/dfbmd/disease_listing/shigellosis_gi.html

Shigellosis Incidence, San Diego County, California, and United States, 2003-2007

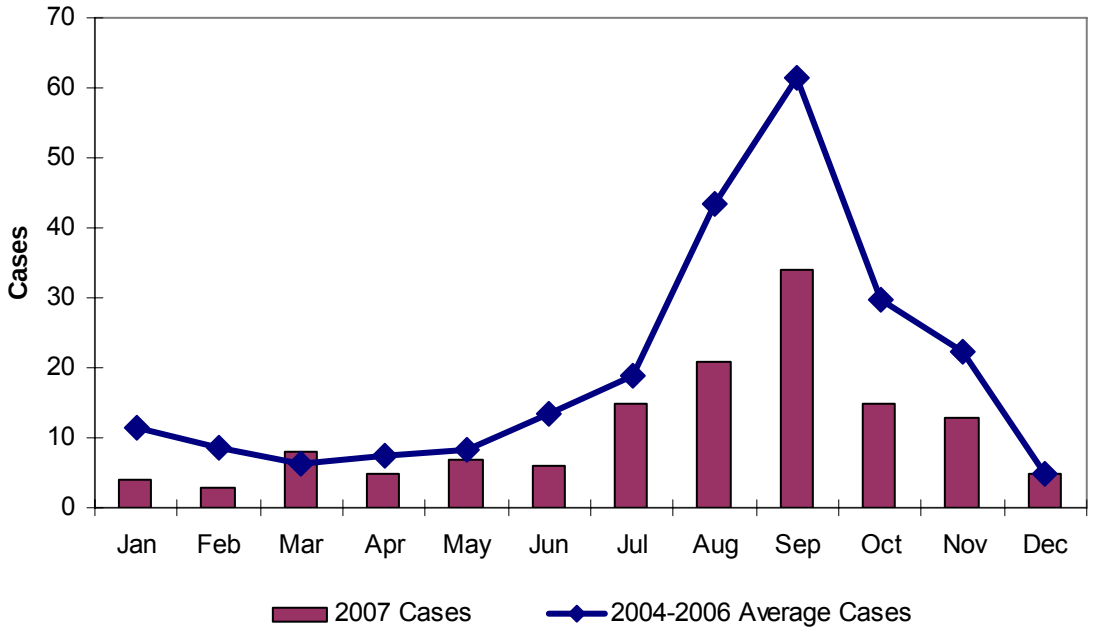


	2003	2004	2005	2006	2007
San Diego County	7.8	6.4	6.8	10.6	4.6
California	6.3	4.9	6.2	5.0	3.2
United States	8.2	5.0	5.5	5.2	6.6

Shigellosis Cases and Rates, San Diego County, 2003-2007



Shigellosis Cases by Month of Onset, San Diego County, 2007

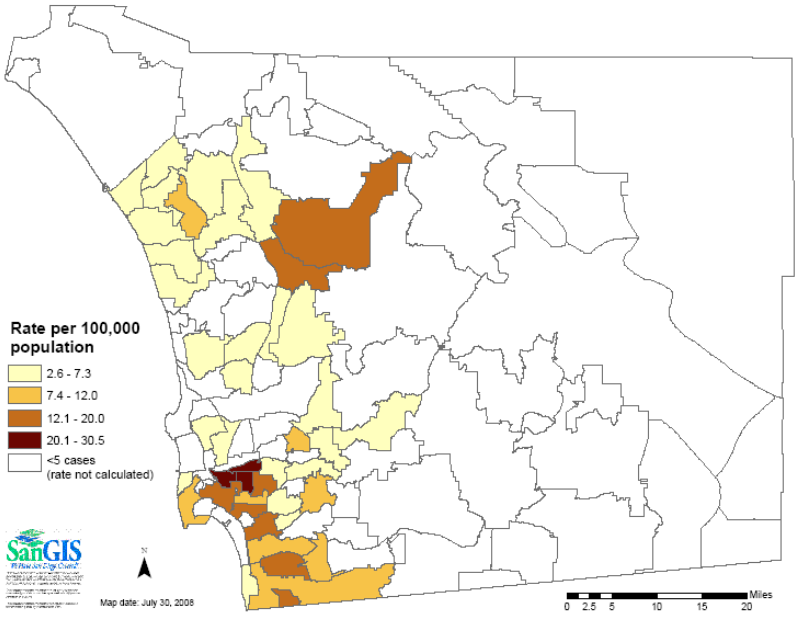


If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year, are not included in this graph.

Shigellosis

Geography

Shigellosis Rates by Zip Code of Residence, San Diego County, 2005-2007



Species

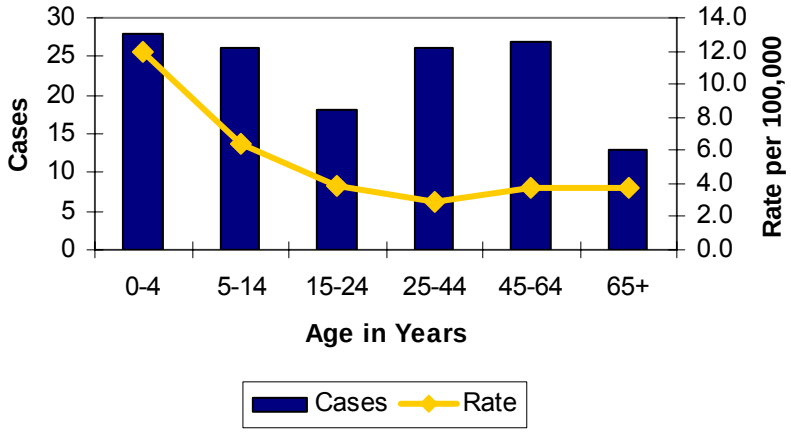
Shigellosis Count and Percentage by Species (Serogroup), San Diego County, 2007

Species	N	%
S. dystenteriae	2	1.4
S. flexneri	40	28.6
S. boydii	4	2.9
S. sonnei	82	58.6
Unspecified	12	8.6
Total	140	100.0

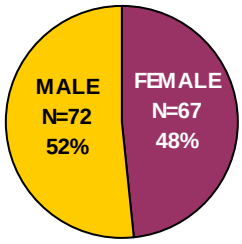
S. sonnei predominates in the United States (over 2/3 of cases) and the developed world. *S. flexneri* is most common in the developing world and accounts for most of the disease not caused by *S. sonnei* in the United States. Other serogroups are rarely responsible for reported disease in the United States.

Demographics

Shigellosis Cases and Rates by Age, San Diego County, 2007



Shigellosis Cases and Rates by Gender, San Diego County, 2007



Rate per 100,000
Male: 4.7
Female: 4.3

Shigellosis Cases and Rates by Race/Ethnicity, San Diego County, 2007

	Cases	Rate
White	50	3.1
Black	2	*
Hispanic	73	8.0
American Indian	0	*
Asian/Pacific Islander	5	1.6
Other	2	*
Missing/Unknown	8	

Rates are per 100,000 population

*Rate not calculated for fewer than 5 cases.

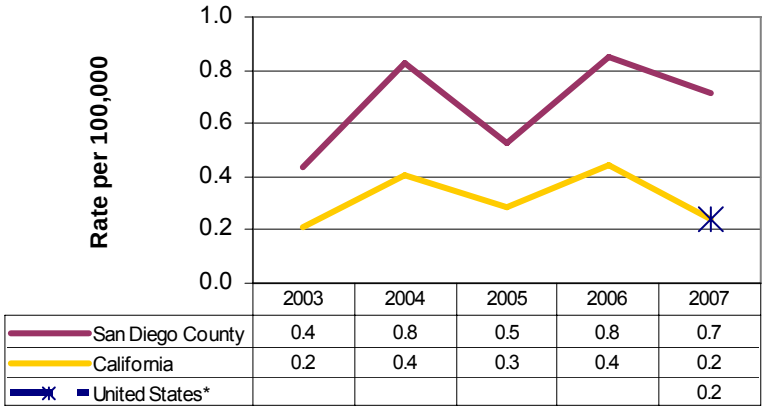
Vibriosis

Vibriosis (all species except cholera) in San Diego County

- Incidence of vibriosis in San Diego County has been variable, but overall has increased from 0.4 per 100,000 (13 cases) in 2003 to 0.7 (22 cases) in 2007.
- The California rate, while slightly lower, has followed the same pattern.
- In 2007, as in previous years, there was a peak in vibriosis cases reported in San Diego County during the summer months.
- From 2003-2007, the largest number of cases and the highest rate in San Diego County were observed among 25-44-year-olds.
- The rate of vibriosis among males from 2003-2007 was over three times the rate among females in San Diego County.
- Fifty percent of the 2003-2007 vibriosis cases in the county were caused by *V. parahaemolyticus*.

Infectious agents: *Vibrio* bacteria, including *V. parahaemolyticus*, *V. vulnificus*, *V. alginolyticus, V. cholerae* non-O1/non-O139
Mode of transmission: Ingestion of raw or undercooked seafood; wound contamination by seawater
Incubation period: Usually 10-72 hours
Symptoms: Diarrhea, abdominal cramps, fever; skin infection; can be asymptomatic
For more information:
http://www.cdc.gov/nczved/dfbmd/disease_listing/vibriop_gi.html

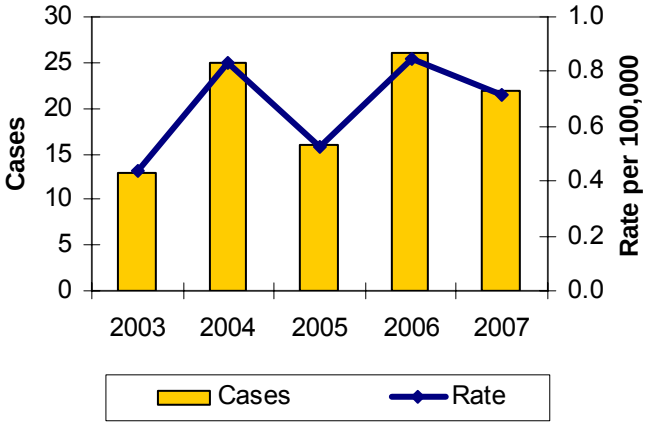
Vibriosis Incidence, San Diego County and California, 2003-2007



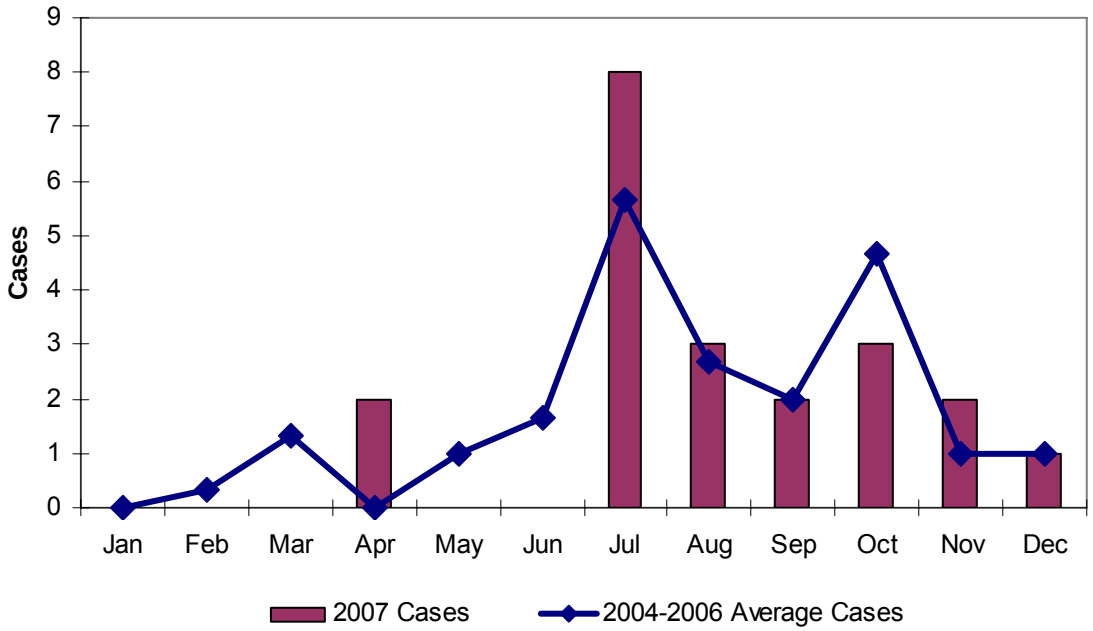
	2003	2004	2005	2006	2007
San Diego County	0.4	0.8	0.5	0.8	0.7
California	0.2	0.4	0.3	0.4	0.2
United States*					0.2

*Vibriosis reporting at the national level began in 2007. The rate is calculated based only on the 36 jurisdictions where it is reportable.

Vibriosis Cases and Rates, San Diego County, 2003-2007



Vibriosis Cases by Month of Onset, San Diego County, 2007



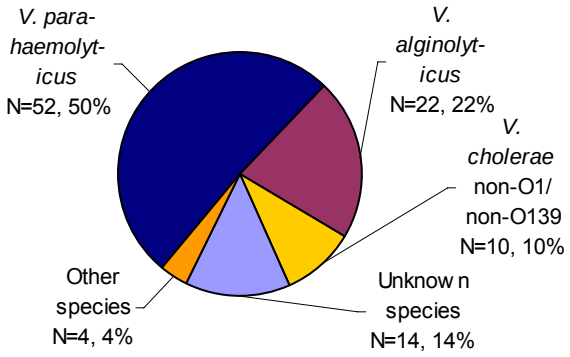
If date of onset was unavailable, then the following surrogate dates were used (in order of use): specimen collection date, date of diagnosis, date report was received. Cases reported in 2007, but with an onset date in a prior year are not included in this graph.

Vibriosis

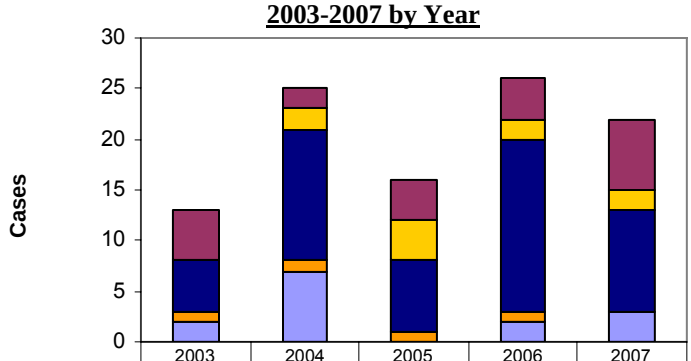
Species

Vibriosis Cases by Species, San Diego County, 2003-2007

2003-2007 Combined

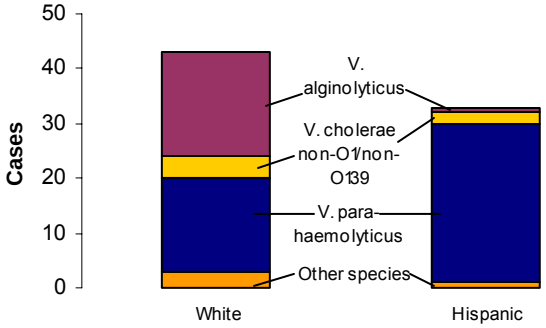


2003-2007 by Year



	2003	2004	2005	2006	2007
V. alginolyticus	5	2	4	4	7
V. cholerae non-O1/non-O139	0	2	4	2	2
V. parahaemolyticus	5	13	7	17	10
Other species	1	1	1	1	0
Unknown species	2	7	0	2	3

Vibriosis Cases by Species and Race/ Ethnicity, San Diego County, 2003-2007



Types of Transmission and Infection Typically Associated with Commonly Seen *Vibrio* Species in San Diego County

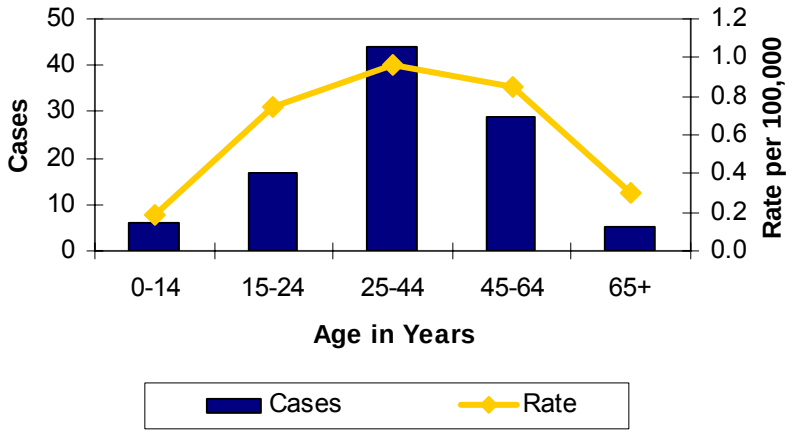
Species	Transmission: Ingestion	Transmission: Wound/ Ear	Clinical Presentation: Gastroen-teritis	Clinical Presentation: Wound/Ear Infection	Clinical Presentation: Septicemia
V. parahaemolyticus	●●	○	●●	●	○
V. alginolyticus		●●		●●	
V. vulnificus	●	●	●	●●	●●
V. cholerae non-O1/ non-O139	●●	●	●●	●	●

●● most common ● potential ○ very rare

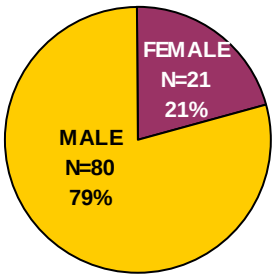
Adapted from Chapter 5.8 "Noncholera" Vibrio Species, Table 8 Clinical Syndromes Due to Vibrio Species (p. 124) in AS Evans & PS Brachman (Eds.) *Bacterial Infections of Humans: Epidemiology and Control* (3rd edition, 1998); New York: Plenum Medical Book Company.

Demographics

Vibriosis Cases and Rates by Age, San Diego County, 2003-2007



Vibriosis Cases and Rates by Gender, San Diego County, 2003-2007



Rate per 100,000
Male: 1.1
Female: 0.3

Reported Cases of Select Communicable Diseases, by Gender, Age, Race/Ethnicity, and Region, San Diego County, 2007

	Amebiasis	Campylobacteriosis	Coccidioidomycosis	Cryptosporidiosis
Gender				
Female	26	213	30	14
Male	43	248	49	9
Unknown	1	1	0	0
Age in Years				
Under 1	0	13	0	0
1-4	2	52	0	5
5-14	10	57	1	4
15-24	15	66	3	0
25-34	18	71	8	0
35-44	10	52	17	6
45-54	9	57	10	2
55-64	2	45	11	3
65-74	2	17	10	1
75-84	1	19	11	0
85+	0	8	3	0
Missing/Unknown	1	5	5	2
Race/Ethnicity				
Hispanic	13	137	20	9
White	6	212	30	10
Black	1	7	9	1
Asian/Pacific Islander	1	40	6	0
American Indian	0	1	1	0
Other	14	6	0	1
Missing/Unknown	35	59	13	2
Region*				
North Coastal	1	69	9	2
North Central	22	97	12	5
Central	15	69	12	9
South	8	74	24	1
East	12	60	6	4
North Inland	4	85	8	1
Missing/Unknown	8	8	8	1

* San Diego County is divided into six Health and Human Services Agency (HHSA) regions, which were created by grouping contiguous zip codes. The zip codes that make up each region are listed below. The list only includes current geographic zip codes, not P.O. boxes or historic zip codes; however, patients with these zip codes in their address are included in the counts for the enclosing zip code and region.

North Coastal Region: 92007, 92008, 92009, 92010, 92011, 92014, 92024, 92054, 92055, 92056, 92057, 92058, 92067, 92075, 92081, 92083, 92084, 92091, 92672

North Central Region: 92037, 92093, 92106, 92107, 92108, 92109, 92110, 92111, 92117, 92119, 92120, 92121, 92122, 92123, 92124, 92126, 92130, 92131, 92140, 92145, 92161

Central Region: 92101, 92102, 92103, 92104, 92105, 92113, 92114, 92115, 92116, 92134, 92136, 92139, 92182

South Region: 91902, 91910, 91911, 91913, 91914, 91915, 91932, 91950, 92118, 92135, 92154, 92155, 92173

East Region: 91901, 91905, 91906, 91916, 91917, 91931, 91934, 91935, 91941, 91942, 91945, 91948, 91962, 91963, 91977, 91978, 91980, 92019, 92020, 92021, 92040, 92071

North Inland Region: 92003, 92004, 92025, 92026, 92027, 92028, 92029, 92036, 92059, 92060, 92061 , 92064, 92065, 92066, 92069, 92070, 92078, 92082, 92086, 92096, 92127, 92128, 92129, 92259, 92536

Reported Cases of Select Communicable Diseases, by Gender, Age, Race/Ethnicity, and Region, San Diego County, 2007 *(continued)*

	E Coli O157:H7	Encephalitis (all types)	Giardiasis	Hepatitis A
Gender				
Female	8	27	99	32
Male	5	29	171	50
Unknown	0	1	1	0
Age in Years				
Under 1	0	4	3	0
1-4	4	3	51	2
5-14	3	10	43	5
15-24	1	6	31	16
25-34	2	2	24	22
35-44	1	2	46	17
45-54	1	6	28	7
55-64	0	4	20	7
65-74	0	7	12	3
75-84	1	5	4	3
85+	0	2	1	0
Missing/Unknown	0	6	8	0
Race/Ethnicity				
Hispanic	2	9	47	29
White	9	17	113	29
Black	0	5	9	1
Asian/Pacific Islander	0	5	7	4
American Indian	0	0	0	0
Other	0	2	33	1
Missing/Unknown	2	19	62	18
Region*				
North Coastal	2	7	44	6
North Central	5	10	72	17
Central	0	8	52	22
South	1	10	26	19
East	1	15	29	6
North Inland	3	6	39	10
Missing/Unknown	1	1	9	2

* San Diego County is divided into six Health and Human Services Agency (HHSA) regions, which were created by grouping contiguous zip codes. See page 43 for a list of zip codes in each region.

Reported Cases of Select Communicable Diseases, by Gender, Age, Race/Ethnicity, and Region, San Diego County, 2007 *(continued)*

	Kawasaki Syndrome	Legionellosis	Listeriosis	Meningitis, Viral
Gender				
Female	19	6	6	191
Male	31	16	11	223
Unknown	0	0	0	0
Age in Years				
Under 1	16	0	2	112
1-4	24	0	0	13
5-14	10	0	0	40
15-24	0	1	0	62
25-34	0	0	2	46
35-44	0	0	0	48
45-54	0	5	0	42
55-64	0	5	3	23
65-74	0	7	2	12
75-84	0	2	3	6
85+	0	2	4	2
Missing/Unknown	0	0	1	8
Race/Ethnicity				
Hispanic	19	6	5	83
White	13	10	10	136
Black	3	0	0	20
Asian/Pacific Islander	13	2	0	18
American Indian	0	0	0	1
Other	1	0	0	34
Missing/Unknown	1	4	2	122
Region*				
North Coastal	7	3	1	90
North Central	2	6	2	65
Central	8	2	2	70
South	8	2	3	63
East	7	2	3	50
North Inland	18	5	5	59
Missing/Unknown	0	2	1	17

* San Diego County is divided into six Health and Human Services Agency (HHSA) regions, which were created by grouping contiguous zip codes. See page 43 for a list of zip codes in each region.

Reported Cases of Select Communicable Diseases, by Gender, Age, Race/Ethnicity, and Region, San Diego County, 2007 *(continued)*

	Meningococcal Disease	Salmonellosis	Shigellosis	Vibriosis (except cholera)
Gender				
Female	3	246	67	5
Male	5	220	72	17
Unknown	0	1	1	0
Age in Years				
Under 1	1	39	2	0
1-4	1	59	26	0
5-14	0	69	26	1
15-24	2	64	18	3
25-34	1	48	5	7
35-44	0	48	21	4
45-54	2	42	19	3
55-64	0	32	8	1
65-74	1	31	8	2
75-84	0	22	4	0
85+	0	9	1	0
Missing/Unknown	0	4	2	1
Race/Ethnicity				
Hispanic	1	148	73	5
White	6	216	50	8
Black	0	14	2	1
Asian/Pacific Islander	0	30	5	3
American Indian	0	3	0	0
Other	1	6	2	0
Missing/Unknown	0	50	8	5
Region*				
North Coastal	2	55	16	3
North Central	0	104	16	8
Central	2	55	26	2
South	2	70	35	2
East	1	71	12	3
North Inland	1	98	32	1
Missing/Unknown	0	14	3	3

* San Diego County is divided into six Health and Human Services Agency (HHSA) regions, which were created by grouping contiguous zip codes. See page 43 for a list of zip codes in each region.

Appendix I. Reportable Conditions

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Section 2500), public health professionals, medical providers and others are mandated to report more than 80 diseases or conditions to San Diego County Health & Human Services Agency. In addition, anyone in charge of a public or private school, kindergarten, boarding school, or preschool also is required to report these diseases (Section 2508).

⇒ For more information: www.sdepi.org (select Disease Reporting Requirements for Health Care Providers)

Laboratories are required to report certain communicable diseases as well (Section 2505).

⇒ For more information: www.sdepi.org (select Disease Reporting Requirements for Laboratorians)

To report a communicable disease:

- Phone Community Epidemiology Branch at 619-515-6620.
- For urgent matters on evenings, weekends or holidays, phone 858-565-5255 and ask for the epidemiologist on call.
- Download and print a Confidential Morbidity Report (CMR) (http://www2.sdcounty.ca.gov/hhsa/documents/CMR.pdf) and fax it to 619-515-6644.

From California Code of Regulations, Title 17; revised 7/2007

REPORTABLE COMMUNICABLE DISEASES §2500(j)(1), §2641–2643

Acquired Immune Deficiency Syndrome (AIDS)
(HIV infection only: see "Human Immunodeficiency Virus")
FAX ✆ ✉ Amebiasis
☎ Anthrax
☎ Avian Influenza (human)
FAX ✆ ✉ Babesiosis
☎ Botulism (Infant, Foodborne, Wound)
☎ Brucellosis
FAX ✆ ✉ Campylobacteriosis
Chancroid
FAX ✆ ✉ Chickenpox (only hospitalizations and deaths)
Chlamydial Infections, including Lymphogranulom Venereum (LGV)
☎ Cholera
☎ Ciguatera Fish Poisoning
Coccidioidomycosis
F AX ✆ ✉ Colorado Tick Fever
FAX ✆ ✉ Conjunctivitis, Acute Infectious of the Newborn, Specify Etiology
Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE)
FAX ✆ ✉ Cryptosporidiosis
Cysticercosis or Taeniasis
☎ Dengue
☎ Diarrhea of the Newborn, Outbreak
☎ Diphtheria
☎ Domoic Acid Poisoning (Amnesic Shellfish Poisoning)
Ehrlichiosis
FAX ✆ ✉ Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
☎ *Escherichia coli* : shiga toxin producing (STEC) including *E. coli* O157
† FAX ✆ ✉ Foodborne Disease
Giardiasis
Gonococcal Infections
FAX ✆ ✉ *Haemophilus influenzae* invasive disease (report an incident less than 15 years of age)
☎ Hantavirus Infections
☎ Hemolytic Uremic Syndrome
Hepatitis, Viral
FAX ✆ ✉ Hepatitis A
Hepatitis B (specify acute case or chronic)
Hepatitis C (specify acute case or chronic)
Hepatitis D (Delta)
Hepatitis, other, acute
Human Immunodeficiency Virus (HIV) (§2641–2643)
Influenza deaths (report an incident of less than 18 years of age)
Kawasaki Syndrome (Mucocutaneous Lymph Node Syndrome)
Legionellosis
Leprosy (Hansen Disease)
Leptospirosis
FAX ✆ ✉ Listeriosis
Lyme Disease
FAX ✆ ✉ Malaria
FAX ✆ ✉ Measles (Rubeola)
FAX ✆ ✉ Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
☎ Meningococcal Infections
Mumps
☎ Paralytic Shellfish Poisoning
Pelvic Inflammatory Disease (PID)
FAX ✆ ✉ Pertussis (Whooping Cough)
☎ Plague, Human or Animal
FAX ✆ ✉ Poliomyelitis, Paralytic
FAX ✆ ✉ Psittacosis
FAX ✆ ✉ Q Fever
☎ Rabies, Human or Animal
FAX ✆ ✉ Relapsing Fever
Rheumatic Fever, Acute
Rocky Mountain Spotted Fever
Rubella (German Measles)
Rubella Syndrome, Congenital
FAX ✆ ✉ Salmonellosis (Other than Typhoid Fever)
☎ Scombroid Fish Poisoning
☎ Severe Acute Respiratory Syndrome (SARS)
☎ Shiga toxin (detected in feces)
FAX ✆ ✉ Shigellosis
☎ Smallpox (Variola)
FAX ✆ ✉ Streptococcal Infections (Outbreaks of Any Type and Individual Cases in Food Handlers and Dairy Workers Only)
FAX ✆ ✉ Syphilis
Tetanus
Toxic Shock Syndrome
Toxoplasmosis
FAX ✆ ✉ Trichinosis
FAX ✆ ✉ Tuberculosis
☎ Tularemia
FAX ✆ ✉ Typhoid Fever, Cases and Carriers
Typhus Fever
FAX ✆ ✉ *Vibrio* Infections
☎ Viral Hemorrhagic Fevers (e.g., Crimean-Congo, Ebola, Lassa, and Marburg viruses)
FAX ✆ ✉ Water-Associated Disease (e.g., Swimmer's Itch or Hot Tub Rash)
FAX ✆ ✉ West Nile Virus (WNV) Infection
☎ Yellow Fever
FAX ✆ ✉ Yersiniosis
☎ **OCCURRENCE of ANY UNUSUAL DISEASE**
☎ OUTBREAKS of ANY DISEASE (Including diseases not listed in §2500). Specify if institutional and/or open community.

REPORTABLE NONCOMMUNICABLE DISEASES AND CONDITIONS §2800–2812 and §2593(b)

Disorders Characterized by Lapses of Consciousness (§2800-2812)
Pesticide-related illness or injury (known or suspected cases)
Cancer, including benign and borderline brain tumors (except (1) basal and squamous skin cancer unless occurring on genitalia, and (2) carcinoma in-situ and CIN III of the cervix) (§2593)

URGENCY REPORTING REQUIREMENTS [17 CCR §2500(h)(i)]

☎ =Report immediately by telephone
FAX ✆ ✉ =Report by FAX, telephone, or mail within one working day of identification
† =Report immediately by telephone when 2+ cases/suspected cases of foodborne disease from separate households suspected to have the same source of illness
=All other diseases/conditions should be reported by FAX, telephone, or mail within seven calendar days of identification.

Appendix II. Resources

County of San Diego	**www.sdcounty.ca.gov**
Community Epidemiology Branch	www.sdepi.org
Emergency Medical Alert Network (EMAN)	www.emansandiego.com
HIV/AIDS Epidemiology	www.sdhivaids.org
Childhood Lead Poisoning Prevention Program	www.sdlead.org
Immunization Branch	www.immunization-sd.org
HIV, STD and Hepatitis Branch	www2.sdcounty.ca.gov/hhsa/ServiceCategoryDetails.asp?ServiceAreaID=583
TB Control and Refugee Health Services Branch	www.sandiegotbcontrol.org
Department of Environmental Health	www.sdcounty.ca.gov/deh/
Office of the County Veterinarian Animal Disease Diagnostic Laboratory	www.sdcountyvet.org
California Department of Public Health	**www.cdph.ca.gov**
Division of Communicable Disease Control	www.cdph.ca.gov/programs/dcdc
California Communicable Disease Data	www.cdph.ca.gov/data/statistics/Pages/CDdata.aspx
Centers for Disease Control and Prevention (CDC)	**www.cdc.gov**
CDC Disease Pages	www.cdc.gov/DiseasesConditions
CDC Summary of Notifiable Diseases	www.cdc.gov/mmwr/summary.html
CDC Case Definitions for Infectious Conditions Under Public Health Surveillance	www.cdc.gov/ncphi/disss/nndss/casedef/index.htm
Council of State and Territorial Epidemiologists (CSTE)	**www.cste.org**
CSTE Position Statements	www.cste.org/dnn/AnnualConference/PositionStatements/tabid/191/Default.aspx