County
of
Los Angeles

Department
of
Health
Services

Disease
Control
Programs

Communicable Disease Morbidity Report

Acute Communicable Disease Control Program
HIV Epidemiology Program
Immunization Program
Sexually Transmitted Disease Program
Tuberculosis Control Program

Shirley Fannin, MD
Director

1999

1999 COMMUNICABLE DISEASE MORBIDITY REPORT
TABLE OF CONTENTS

Overview Page

Acute Communicable Disease Control Program

TABLE OF CONTENTS (Cont'd)

1999 COMMUNICABLE DISEASE MORBIDITY REPORT
MAPS

1999 COMMUNICABLE DISEASE MORBIDITY REPORT
TABLES

PURPOSE OF THE LOS ANGELES COUNTY ANNUAL COMMUNICABLE DISEASE MORBIDITY REPORT

The annual report of the Los Angeles County Department of Health Services, Disease Control Programs is compiled for the following purposes:

1. To summarize annual communicable disease morbidity in Los Angeles County.
2. To assess the effectiveness of established communicable disease control programs.
3. To identify patterns of disease as an aid in directing future disease prevention efforts.
4. To identify inadequacies in the data used for the above purposes and to identify means of improving the data.

The annual report serves as a communicable disease morbidity resource for medical and public health authorities at county, state, and national levels. County employees, students, the media, and the general public also will find the report useful and informative. A separate ACDC document entitled, "Special Reports, ACDC, 1999," summarizes some of the most interesting or unusual investigations for the year. The following topics are included:

- Brucella Exposure in Clinical Laboratories
- *Campylobacter jejuni* and *Campylobacter upsaliensis*, Resistance to Quinolones
- Development and Evaluation of Outbreak Detection Algorithms for Communicable Diseases
- Group A Streptococcal Invasive Disease, 1999
- Hepatitis A Outbreak Among Methamphetamine Users
- Hepatitis B Transmission in a Nursing Home
- Invasive Pneumococcal Disease and Antimicrobial Susceptibility Patterns for *Streptococcus pneumoniae* in Los Angeles County, 1997-1999
- Pediatric HIV Disease Pediatric Spectrum of Disease
- *Salmonella* Serotype Enteritidis in Los Angeles County 1999
- *Salmonella* Serotype Thompson Associated with Cilantro
- Surveillance of Influenza Through Activity of Respiratory Illness in Nursing Homes
- Varicella Active Surveillance and Epidemiologic Studies, 1995-1999

LOS ANGELES COUNTY DEMOGRAPHIC DATA

Population figures used for calculating the 1999 disease rates in this report were derived from 1999 population estimation of the Regional Population Model (RPM) file developed by the County of Los Angeles, Chief Administrative Office, Urban Research Division for the Population Estimation and Projection System Consortium. These population estimates were projected from 1990 MARS file (Modified Age, Race, and Sex) produced by the US Census Bureau and modified by local death rates, migration rates, and fertility rates within age, sex and racial/ethnic groups. Live birth data used were based on 1999 preliminary birth data from the Automatic Vital Statistics System (AVSS) obtained from the Los Angeles County Data Collection and Analysis Unit.

Long Beach and Pasadena maintain their own disease reporting systems; therefore, disease episodes occurring among residents of these two cities have been excluded from county morbidity data, and their populations have been subtracted from county population data. Exceptions to this rule are noted in the text when they occur.

National and California state counts of reportable diseases were obtained from the Centers for Disease Control and Prevention (CDC), Final 1999 Reports of Notifiable Diseases, *Morbidity and*

Mortality Weekly Report 2000/49(37);841,851-858. The *MMWR* report also includes Bureau of the Census 1999 population estimates for the United States and the State of California; those figures were used to calculate national and California rates of disease. According to that report, the population of the US in 1999 was 272,692,000, and that of California was 33,145,000.

Population estimates for Los Angeles County (minus Pasadena and Long Beach) used in this report are listed in Table A for 1999 as well as for the previous five years. Population data also are given by age, sex, race and health district for 1999 (Tables B-E). Additional disease cases identified after publication of prior annual reports are included in summary tables. Thus, for overall case totals and disease rates from prior years, the current data are considered more accurate than those in prior annual reports.

Table A. Los Angeles County[a] Population by Year, 1994-1999

Year	Population
1994	8,656,560
1995	8,753,853
1996	8,880,054
1997	9,051,337
1998	9,097,041
1999	9,171,507

[a]Cities of Pasadena and Long Beach are excluded from this table.

Table B. Los Angeles County[a] Population by Age Group, 1999

Age Group in Years	Population
<1	181,028
1-4	554,209
5-14	1,374,846
15-34	2,768,147
35-44	1,493,207
45-54	1,078,861
55-64	722,335
65+	998,874
Total	**9,171,507**

[a]Cities of Pasadena and Long Beach are excluded from this table.

Table C. Los Angeles County[a] Population by Sex, 1999

Sex	Population
Male	4,572,914
Female	4,598,593
Total	**9,171,507**

[a]Cities of Pasadena and Long Beach are excluded from this table.

Table D. Los Angeles County[a] Population by Race, 1999

Race	Population
Asian	1,108,598
Black	772,450
Hispanic	4,241,017
White	2,988,326
Other[b]	61,116
Total	**9,171,507**

[a]Cities of Pasadena and Long Beach are excluded from this table.
[b]Other includes only American Indian, Alaskan Native, Eskimo and Aleut.

Table E. Los Angeles County Population[a] by Health District, 1999

Health District	Population
Alhambra	366,468
Antelope Valley	317,159
Bellflower	359,763
Central	376,101
Compton	283,037
East Los Angeles	242,284
East Valley	411,076
El Monte	466,770
Foothill	304,769
Glendale	337,652
Harbor	212,923
Hollywood-Wilshire	510,722
Inglewood	407,245
Northeast	404,958
Pomona	543,231
San Antonio	440,427
San Fernando	370,879
South	175,447
Southeast	185,675
Southwest	367,286
Torrance	448,028
West	576,882
West Valley	731,506
Whittier	331,219
Total	**9, 171,507**

[a] Pasadena and Long Beach are separate public health jurisdictions and are excluded from this table.

DATA SOURCES

Data on occurrence of communicable diseases in Los Angeles County (LAC) were obtained through passive and/or active surveillance. Passive surveillance relies on physicians, laboratories, and other health-care providers to report diseases of their own accord to the Department of Health Services (DHS) using the Confidential Morbidity Report (CMR) form, the Acquired Immunodeficiency Syndrome (AIDS) Adult Confidential Case Report form, the Sexually Transmitted Disease Confidential Morbidity Report (STD CMR) form, or electronically by telephone or facsimile.

During active surveillance, Disease Control Program or special project staff contact hospitals, laboratories and physicians regularly in an effort to identify all cases of a given disease. In 1999, active surveillance was employed for the Acquired Immunodeficiency Syndrome (adult and pediatric cases).

In addition, Disease Control staff contact schools, hospitals, nursing homes, student health centers and sentinel physicians to collect reports of vaccine-preventable diseases and to investigate outbreaks of any kind.

DATA LIMITATIONS

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

1. Problems with cases reporting

The proportion of cases that are not reported varies for each disease. Evidence indicates that the proportion of the cases that are not reported for some diseases may be as high as 95%.

2. Fatality rates

Some deaths from communicable diseases may not appear on LAC's Vital Records computer files. Deaths are filed with only underlying cause of death indicated. Any contributing or otherwise significant conditions, including communicable diseases, are not indicated in the computer record. Also, case-fatality rates (except for acquired immunodeficiency syndrome [AIDS]) are based on deaths that occurred in 1999 regardless of year of disease onset; therefore, fatality rates should be interpreted with caution.

3. Case definitions

To standardize surveillance, "Case Definitions for Infectious Conditions under Public Health Surveillance," *MMWR* 1997;46(RR-10):1-57 is used. Since verification by a laboratory test is required for the diagnosis of some diseases, cases reported without such verification may not be true cases. Therefore, an association between a communicable disease and a death or an outbreak possibly may not be identified.

4. Onset date versus report date

Some cases of disease occurring in 1999 were not reported until after this annual report was completed. Slight differences in the number of cases and rates of disease for 1998 may be observed in subsequent annual reports. Any such disparities are likely to be small.

5. Population estimates

Estimates of the LAC population are subject to error. Population estimates for the years 1980 and 1990 were obtained from census data. Excluding those years, population data for the years 1981 through 1992 were estimated from 1980 census by simple proportional increases between census years. Population data for 1993 through 1999 were derived from the 1990 census using sophisticated estimation techniques that varied by year. These independent population estimates impede trend analysis. Population of LAC is in constant flux. Though not accounted for in census data, visitors and other non-residents may have an effect on disease occurrences.

6. Place of acquisition of infections

Some cases of diseases reported in LAC may have been acquired outside of the county. This may be especially true for many of the diseases common among the Hispanic and Asian populations. Certain disease rates may reflect the place of diagnosis, rather than the location where an infection was acquired.

7. Health District boundary changes

In 1994, the following health district boundaries changed: Central, Compton, Glendale, Inglewood, Northeast, San Fernando, West, and Torrance. San Fernando Health District was split into Antelope Valley and San Fernando Health Districts. In 1999, the 24 individual health districts were grouped into eight Service Planning Areas (SPA).

8. Race/Ethnicity category changes

In 1994, the racial group designation of "Other" was separated from the Asian racial group, and is now designated as “Native American” (including American Indian, Alaskan Native, Aleut, and Eskimo). Thus, the five major racial categories and their definitions as used in this report are as follows:

Asian	- A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.
Black	- A person having origins in any of the black racial groups of Africa.
Hispanic	- A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
Native American	- A person having origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition.
White	- A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

STANDARD REPORT FORMAT

CRUDE DATA

Number of Cases: For most diseases, this number reflects new cases of the disease with an onset in 1999. If the onset was unknown, the date of diagnosis was used. For sexually transmitted diseases and tuberculosis, this number reflects cases reported and confirmed in 1999.

Annual Incidence Rates in Los Angeles County: Number of new cases in 1999 divided by 1999 county population estimate multiplied by 100,000.

Annual Incidence Rates in the US and California: 1999 incidence rates for the US and California were taken from the previously cited *Morbidity and Mortality Weekly Report*. The *MMWR* records diseases by date of report rather than date of onset.

Mean Age at Onset: Arithmetic average age of all cases.

Median Age at Onset: The age that represents the midpoint of the sequence of all case ages.

Range of Ages at Onset: Ages of the youngest and oldest cases in 1999. For cases under one year of age, less than one (<1) was used.

Case Fatality: Number of deaths in 1999 due to disease (when data were available) divided by the number of new cases of the disease in 1999, expressed as a percentage. Note that deaths may be due to infections acquired prior to 1999.

ETIOLOGY: The causative agent(s).

DISEASE ABSTRACT: A synopsis of the disease activity in 1999.

STRATIFIED DATA

Trends: Any trends in case characteristics during recent years.

Seasonality: Number of cases that occurred during each month of 1999.

Age: Annual rate of disease for individual age groups. Race-adjusted rates are presented for some diseases.

Sex: Male-to-female rate ratio of cases.

Race/Ethnicity: Annual rate of disease for the five major racial groups. Cases of unknown race are excluded; thus, race-specific rates may be underestimates. Age-adjusted rates are presented for some diseases.

Location: Location presented most often is the health district of residence of cases. Note that "location" rarely refers to the site of disease acquisition. Age-adjusted rates by location are presented for some diseases.

PREVENTION: A description of county programs that address the disease, as well as personal control actions.

COMMENTS: Miscellaneous information not pertaining directly to any of the above items.

CHANGES IN DISEASE INCIDENCE

Incidence rates for several diseases monitored by Disease Control Programs in 1999 were markedly different from those in 1998. The percent change in incidence during 1999 compared to 1998 is presented in Table F for those diseases where at least 10 cases were reported in either 1998 or 1999, and substantial change was observed.

Table F. Percent Change in Incidence of Selected Notifiable Communicable Diseases, Los Angeles County, 1999

Disease	1998	1999	Percent Change
Pertussis	0.85	2.57	202.35
Vibrio	0.34	0.03	91.18
Listeriosis, perinatal	4.19	7.69	83.53
Typhoid fever, carrier	0.13	0.04	69.23
Hepatitis C	0.13	0.23	62.38
Hepatitis B	1.01	0.38	-62.27
Meningitis, viral	4.85	2.40	-50.52
E. Coli O157:H7	0.25	0.13	-48.25
Syphilis (congenital)	37.60	23.10	-38.56
Syphilis (early latent)	5.70	3.59	-37.07

Table G. Reported Cases of Selected Notifiable Diseases by Year of Onset
Los Angeles County, 1994-1999

Disease	Year of Onset						Previous 5-year Average	5-Yr 95% Upper Limit[a]
	1994	1995	1996	1997	1998	1999		
AIDS[b]	3,335	3,080	2,374	1,839	1,580	1,248	2,442	3,933
Amebiasis	230	187	215	148	158	131	188	257
Botulism	3	2	4	3	3	4	3	4
Brucellosis	11	3	12	6	2	3	7	16
Campylobacteriosis	1,301	1,401	1,736	1,523	1,215	1,077	1,435	1,834
Chlamydia[C]	21,258	18,659	20,191	23,021	24,142	27,588	21,455	25,744
Cholera	4	2	0	0	2	0	2	5
Coccidioidomycosis	98	80	70	46	51	48	69	111
Cryptosporidiosis	231	211	149	77	94	69	152	286
Cysticercosis	41	26	33	34	23	27	31	45
Dengue	0	2	0	2	6	2	2	7
E. coli O157:H7	13	9	18	20	23	12	17	28
Encephalitis	36	59	33	34	46	39	42	63
Foodborne outbreaks	12	15	12	42	33	39	23	50
Giardiasis	1,105	940	971	770	678	579	893	1,225
Gonorrhea	8,802	7,807	5,723	5,825	5,984	6,044	6,828	9,564
Haemophilus influenzae type b	20	6	4	10	7	0	9	22
Hansen's Disease (Leprosy)	25	10	9	18	13	10	15	28
Hepatitis A	1,193	1,062	1,371	1,480	888	1,075	1,199	1,663
Hepatitis B	289	231	247	109	92	35	194	366
Hepatitis C	115	205	246	23	12	21	120	326
Hepatitis unspecified	40	22	28	16	10	9	23	46
Kawasaki syndrome	46	39	20	20	37	32	32	56
Legionellosis	11	16	12	32	20	15	18	35
Listeriosis, nonperinatal	26	26	30	14	24	21	24	36
Listeriosis, perinatal	11	10	5	8	7	12	8	13
Lyme disease[C]	2	5	3	4	3	8	3	6
Malaria	40	76	62	55	50	63	57	83
Measles	16	7	2	4	3	1	6	18
Meningitis, viral	250	167	185	227	441	220	254	469
Meningococcal infections	91	52	59	74	50	49	65	99
Mumps	51	42	37	39	21	24	38	59
Pertussis[C]	58	103	120	32	77	236	78	147
Psittacosis	0	0	0	1	0	1	0	1
Q-fever	0	0	0	0	1	0	0	1
Relapsing fever	0	0	0	0	0	1	0	0
Rheumatic fever, acute	5	1	2	1	0	1	2	6
Rubella	4	3	3	5	0	0	3	7
Salmonellosis	2,091	2,084	1,773	1,675	1,253	1,087	1,775	2,453
Shigellosis	1,336	1,747	1,130	848	783	665	1,169	1,938
Strongyloidiasis	24	17	11	4	9	7	13	28
Syphilis (early latent)	1,024	926	744	648	523	329	771	1,176
Syphilis (prim. & secon.)	326	271	216	105	118	84	206	396
Syphilis (congenital)	202	161	126	76	61	36	125	240
Tetanus	0	4	1	4	1	2	2	6
Trichinosis	2	1	0	2	3	0	2	4
Tuberculosis	1,794	1,622	1,375	1,347	1,299	1,170	1,487	1,903
Tularemia	0	1	1	2	0	0	1	2
Typhoid fever, case	38	26	31	26	17	20	28	43
Typhoid fever, carrier	5	6	4	1	12	4	6	14
Typhus fever	8	11	16	13	7	6	11	18
Vibrio	13	12	23	28	31	3	21	38

[a] The normal distribution assumption may not apply to some rare diseases.
[b] All data are adjusted for report delay and the 1993 AIDS case definition change.
[c] 1999 data over 95% upper limit.

Table H. Annual Incidence Rates of Selected Notifiable Diseases by Year of Onset
Los Angeles County, 1994-1999

Disease	Annual Incidence Rate (Cases per 100,000)					
	1994	1995	1996	1997	1998	1999
AIDS[a]	38.53	35.18	26.73	20.32	17.37	13.61
Amebiasis	2.66	2.14	2.42	1.64	1.74	1.43
Botulism	0.03	0.02	0.05	0.03	0.03	0.04
Brucellosis	0.13	0.03	0.14	0.07	0.02	0.03
Campylobacteriosis	15.03	16.00	19.55	16.83	13.36	11.74
Chlamydia	245.57	213.15	227.40	254.30	265.40	300.80
Cholera	0.05	0.02	0.00	0.00	0.02	0.00
Coccidioidomycosis	1.13	0.91	0.79	0.51	0.56	0.52
Cryptosporidiosis	2.67	2.41	1.68	0.85	1.03	0.75
Cysticercosis	0.47	0.30	0.37	0.38	0.25	0.29
Dengue	0.00	0.02	0.00	0.02	0.07	0.02
E. coli O157:H7	0.15	0.10	0.20	0.22	0.25	0.13
Encephalitis	0.42	0.67	0.37	0.38	0.51	0.43
Giardiasis	12.76	10.74	10.93	8.51	7.45	6.31
Gonorrhea	101.68	89.18	64.50	64.40	65.80	65.90
Haemophilus influenzae type b	0.23	0.07	0.05	0.11	0.08	0.00
Hansen's disease (Leprosy)	0.29	0.11	0.10	0.20	0.14	0.11
Hepatitis A	13.78	12.13	14.99	16.35	9.76	11.72
Hepatitis B	3.34	2.64	2.78	1.20	1.01	0.38
Hepatitis C	1.33	2.34	2.77	0.25	0.13	0.23
Hepatitis unspecified	0.46	0.25	0.32	0.18	0.11	0.10
Kawasaki syndrome	0.53	0.45	0.23	0.22	0.41	0.35
Legionellosis	0.13	0.18	0.14	0.35	0.22	0.16
Listeriosis, nonperinatal	0.30	0.30	0.34	0.15	0.26	0.23
Listeriosis, perinatal[b]	6.01	5.81	3.19	5.02	4.19	7.69
Lyme disease	0.02	0.06	0.03	0.04	0.03	0.09
Malaria	0.46	0.87	0.70	0.61	0.55	0.69
Measles	0.18	0.08	0.02	0.04	0.03	0.01
Meningitis, viral	2.89	1.91	2.08	2.51	4.85	2.40
Meningococcal infections	1.05	0.59	0.66	0.82	0.55	0.53
Mumps	0.59	0.48	0.42	0.43	0.23	0.26
Pertussis	0.67	1.18	1.35	0.35	0.85	2.57
Psittacosis	0.00	0.00	0.00	0.01	0.00	0.01
Q-fever	0.00	0.00	0.00	0.00	0.01	0.00
Relapsing fever	0.00	0.00	0.00	0.00	0.00	0.01
Rheumatic fever, acute	0.06	0.01	0.02	0.01	0.00	0.01
Rubella	0.05	0.03	0.03	0.06	0.00	0.00
Salmonellosis	24.16	23.81	19.97	18.51	13.77	11.85
Shigellosis	15.43	19.96	12.73	9.37	8.61	7.25
Strongyloidiasis	0.28	0.19	0.12	0.04	0.10	0.08
Syphilis (early latent)	11.83	10.58	8.40	7.20	5.70	3.60
Syphilis (prim. & secon.)	3.77	3.10	2.40	1.20	1.30	0.90
Syphilis (congenital)[b]	125.60	98.10	76.80	48.10	37.60	23.10
Tetanus	0.00	0.05	0.01	0.04	0.01	0.02
Trichinosis	0.02	0.01	0.00	0.02	0.03	0.00
Tuberculosis	20.72	18.53	15.48	14.88	14.30	12.80
Tularemia	0.00	0.01	0.01	0.02	0.00	0.00
Typhoid fever, case	0.44	0.30	0.35	0.29	0.19	0.22
Typhoid fever, carrier	0.06	0.07	0.05	0.01	0.13	0.04
Typhus fever	0.09	0.13	0.18	0.14	0.08	0.07
Vibrio	0.15	0.14	0.26	0.31	0.34	0.03

[a]
[b]All data are adjusted for report delay and the 1993 AIDS case definition change.
Rates for perinatal listeriosis and congenital syphilis were calculated as cases per 100,000 live births.

Table I. Five-Year Average of Notifiable Diseases by Month of Onset Los Angeles County, 1995-1999

Disease	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total[a]
AIDS[b]	192.4	170.2	205.0	179.6	177.0	161.8	172.2	156.2	156.6	152.6	144.6	150.0	2024.2
Amebiasis	10.4	8.0	10.6	10.2	9.6	6.2	10.8	10.2	7.2	9.6	8.8	8.4	110.0
Botulism	0.2	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.2	0.2	0.0	0.4	1.8
Brucellosis	0.2	0.2	0.2	0.4	0.0	0.8	1.0	0.6	0.0	0.4	0.0	0.4	4.2
Campylobacteriosis	56.2	56.4	55.8	77.0	102.6	103.2	100.8	90.6	87.0	79.2	69.4	52.0	930.2
Cholera	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Coccidioidomycosis	4.0	5.0	3.8	5.6	5.2	5.0	4.6	3.6	4.6	5.4	5.2	5.8	56.8
Cryptosporidiosis	8.4	6.4	7.6	3.6	6.0	6.0	6.0	5.6	12.0	8.2	5.6	5.2	80.6
Cysticercosis	1.0	1.0	1.4	2.2	1.6	2.0	1.4	2.2	0.8	1.0	2.2	0.6	17.4
Dengue	0.2	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8
E. coli O157:H7	0.4	0.4	0.6	0.4	0.4	0.6	0.4	1.0	1.2	2.2	0.8	0.8	9.2
Encephalitis	1.8	2.2	3.0	1.6	2.8	1.2	1.4	1.6	1.8	1.6	2.4	1.6	23.0
Giardiasis	36.6	32.6	45.4	42.4	48.6	38.6	55.2	60.2	58.4	47.4	34.6	34.8	534.8
Haemophilus influenzae type b	0.0	0.4	0.2	0.0	0.0	0.4	0.2	0.2	0.2	0.0	0.4	0.0	2.0
Hansen's disease (Leprosy)	0.4	0.4	0.6	0.4	0.4	1.4	0.2	0.8	0.2	0.0	0.8	0.4	6.0
Hepatitis A	66.2	56.6	57.8	51.6	55.0	49.6	56.4	71.4	76.6	70.8	66.8	53.6	732.4
Hepatitis B	14.6	9.8	7.8	9.6	7.4	10.4	10.2	8.8	11.4	10.6	8.8	8.0	117.4
Hepatitis C	7.0	6.0	8.0	9.6	8.6	6.6	7.8	7.4	7.8	7.6	5.2	9.6	91.2
Hepatitis unspecified	1.2	0.8	1.0	1.2	0.6	1.0	0.4	1.0	0.6	0.8	0.8	0.2	9.6
Kawasaki syndrome	2.6	2.0	1.4	1.8	1.6	0.6	1.0	0.6	1.0	1.6	1.0	1.4	16.6
Legionellosis	0.0	0.8	1.0	1.0	0.2	0.2	0.8	1.4	0.6	1.6	3.0	1.0	11.6
Listeriosis, nonperinatal	0.8	1.2	0.8	0.2	1.2	1.8	1.4	1.8	2.8	1.8	0.8	1.0	23.8
Listeriosis, perinatal	0.4	0.2	0.4	0.2	1.2	0.4	0.8	0.8	0.6	0.6	0.4	0.4	8.4
Lyme disease	0.0	0.0	0.2	0.0	0.4	0.0	0.6	0.2	0.4	0.2	0.0	0.0	2.0
Malaria	3.2	2.0	1.8	3.0	5.4	3.2	3.6	5.6	4.6	2.6	2.0	1.8	38.8
Measles	0.4	0.2	0.4	0..8	0.0	0.2	0.2	0.4	0.2	0.2	0.0	0.0	3.0
Meningitis,viral	7.6	5.0	7.2	7.0	7.6	14.4	11.0	12.4	15.0	10.8	11.0	6.0	115.0
Meningococcal infections	5.8	4.0	3.2	3.2	3.4	3.0	2.2	2.6	1.4	1.0	1.2	5.0	36.0
Mumps	4.6	2.0	2.4	1.8	3.0	1.0	1.2	1.4	2.8	1.6	1.4	0.0	23.2
Pertussis	5.4	5.4	5.4	9.2	9.2	9.4	13.4	16.4	13.0	13.0	6.8	7.0	113.6
Psittacosis	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Q-fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Relapsing fever	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
Rheumatic fever, acute	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.6
Rubella	0.0	0.0	0.8	0.2	0.0	0.8	0.0	0.2	0.0	0.0	0.2	0.0	2.2
Salmonellosis	63.6	56.6	71.0	69.4	102.0	99.2	120.0	148.4	114.2	110.2	92.6	59.8	1107.0
Shigellosis	45.2	35.8	39.8	37.4	44.4	61.2	92.6	119.2	109.2	78.2	50.8	28.4	742.2
Strongyloidiasis	0.4	0.6	0.4	1.6	0.2	0.4	0.6	0.4	0.4	0.6	0.6	0.2	6.4
Tetanus	0.4	0.2	0.0	0.4	0.2	0.0	0.2	0.0	0.2	0.0	0.0	0.2	1.8
Trichinosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Tularemia	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.8
Typhoid fever, case	1.8	2.0	2.6	1.4	2.6	2.4	2.6	2.6	2.6	1.4	0.6	1.4	24.0
Typhoid fever, carrier	1.0	0.8	0.2	0.0	0.2	0.6	0.4	0.4	0.4	0.8	0.2	0.4	5.4
Typhus fever	0.0	0.4	0.0	0.4	0.8	0.6	1.2	0.4	0.6	1.6	1.2	0.6	7.8
Vibrio	0.0	1.0	0.4	0.4	1.2	1.8	1.6	1.6	2.6	1.6	0.4	0.0	12.6

[a] Chlamydia, gonorrhea, syphilis and tuberculosis were not included because seasonality may not apply to these diseases.

[b] Month of diagnosis is unknown for 54 cases.

Table J. Number of Cases of Selected Notifiable Diseases by Age Group
Los Angeles County, 1999

Disease	<1	1-4	5-14	15-34	35-44	45-54	55-64	65+	Total[a]
AIDS	1	0	0	442	500	227	64	14	1,248
Amebiasis	1	3	23	47	24	18	7	8	131
Botulism	0	0	0	0	1	1	2	0	4
Brucellosis	0	0	0	0	0	0	1	2	3
Campylobacteriosis	46	186	162	311	139	89	70	74	1,077
Chlamydia	23	0	412	24,514	1,877	405	63	50	27,588
Cholera	0	0	0	0	0	0	0	0	0
Coccidioidomycosis	0	0	2	16	12	7	8	3	48
Cryptosporidiosis	1	2	4	19	30	10	3	0	69
Cysticercosis	0	0	2	14	5	3	1	2	27
Dengue	0	1	0	1	0	0	0	0	2
E. coli O157:H7	0	2	4	1	0	1	2	2	12
Encephalitis	2	6	5	6	4	2	4	10	39
Giardiasis	5	116	154	110	90	52	32	20	579
Gonorrhea	3	5	78	4,704	904	238	45	14	6,044
Haemophilus influenzae type b	0	0	0	0	0	0	0	0	0
Hansen's disease (Leprosy)	0	0	0	4	2	2	1	1	10
Hepatitis A	8	79	350	287	142	78	54	77	1,075
Hepatitis B	0	0	0	17	7	3	4	4	35
Hepatitis C	0	0	0	7	6	7	1	0	21
Hepatitis unspecified	0	0	1	2	2	0	4	0	9
Kawasaki syndrome	4	22	6	0	0	0	0	0	32
Legionellosis	0	0	0	1	2	3	2	7	15
Listeriosis, nonperinatal	0	0	0	2	1	1	5	12	21
Listeriosis, perinatal	0	0	0	8	3	0	0	0	12
Lyme disease	0	0	4	2	0	2	0	0	8
Malaria	0	0	2	31	13	8	4	4	63
Measles	0	0	0	0	1	0	0	0	1
Meningitis, viral	57	14	35	64	25	9	4	12	220
Meningococcal infections	4	5	3	12	6	7	2	10	49
Mumps	0	3	14	5	1	0	0	1	24
Pertussis	169	21	25	9	6	3	2	1	236
Psittacosis	0	0	0	0	0	1	0	0	1
Q-fever	0	0	0	0	0	0	0	0	0
Relapsing fever	0	0	0	1	0	0	0	0	1
Rheumatic fever, acute	0	0	0	0	1	0	0	0	1
Rubella	0	0	0	0	0	0	0	0	0
Salmonellosis	102	202	160	244	117	97	62	103	1,087
Shigellosis	13	203	191	142	53	23	22	18	665
Strongyloidiasis	0	0	1	4	1	0	0	1	7
Syphilis (early latent)	0	0	1	167	100	45	10	6	329
Syphilis (prim. & secon.)	0	0	0	41	21	19	3	0	84
Syphilis (congenital)	36	-	-	-	-	-	-	-	36
Tetanus	0	0	0	2	0	0	0	0	2
Trichinosis	0	0	0	0	0	0	0	0	0
Tuberculosis	2	37	24	276	209	203	136	283	1,170
Tularemia	0	0	0	0	0	0	0	0	0
Typhoid fever, case	0	1	8	8	3	0	0	0	20
Typhoid fever, carrier	0	0	0	3	1	0	0	0	4
Typhus fever	0	0	1	1	2	0	1	1	6
Vibrio	0	0	0	0	2	1	0	0	3

[a] Totals include cases with unknown age.
- Not applicable.

Table K. Incidence Rates of Selected Notifiable Diseases by Age Group
Los Angeles County, 1999

	Age-group Rates (Cases per 100,000)							
Disease	**<1**	**1-4**	**5-14**	**15-34**	**35-44**	**45-54**	**55-64**	**65+**
AIDS	0.55	0.00	0.00	15.97	33.48	21.04	8.86	1.40
Amebiasis	0.55	0.54	1.67	1.70	1.61	1.67	0.97	0.80
Botulism	0.00	0.00	0.00	0.00	0.07	0.09	0.28	0.00
Brucellosis	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.20
Campylobacteriosis	25.41	33.56	11.78	11.23	9.31	8.25	9.69	7.41
Chlamydia	12.80	0.00	30.20	893.50	126.80	37.90	8.90	5.00
Cholera	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coccidioidomycosis	0.00	0.00	0.15	0.58	0.80	0.65	1.11	0.30
Cryptosporidiosis	0.55	0.36	0.29	0.69	2.01	0.93	0.42	0.00
Cysticercosis	0.00	0.00	0.15	0.51	0.33	0.28	0.14	0.20
Dengue	0.00	0.18	0.00	0.04	0.00	0.00	0.00	0.00
E. coli O157:H7	0.00	0.36	0.29	0.04	0.00	0.09	0.28	0.20
Encephalitis	1.10	1.08	0.36	0.22	0.27	0.19	0.55	1.00
Giardiasis	2.76	20.93	11.20	3.97	6.03	4.82	4.43	2.00
Gonorrhea	1.70	0.90	5.70	171.40	61.10	22.20	6.20	1.40
Haemophilus influenzae type b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hansen's disease (Leprosy)	0.00	0.00	0.00	0.14	0.13	0.19	0.14	0.10
Hepatitis A	4.42	14.25	25.46	10.37	9.51	7.23	7.48	7.71
Hepatitis B	0.00	0.00	0.00	0.61	0.47	0.28	0.55	0.40
Hepatitis C	0.00	0.00	0.00	0.25	0.40	0.65	0.14	0.00
Hepatitis unspecified	0.00	0.00	0.07	0.07	0.13	0.00	0.55	0.00
Kawasaki syndrome	2.21	3.97	0.44	0.00	0.00	0.00	0.00	0.00
Legionellosis	0.00	0.00	0.00	0.04	0.13	0.28	0.28	0.70
Listeriosis, nonperinatal	0.00	0.00	0.00	0.07	0.07	0.09	0.69	1.20
Listeriosis, perinatal[a]	0.00	0.00	0.00	6.38	10.09	0.00	0.00	0.00
Lyme disease	0.00	0.00	0.29	0.07	0.00	0.19	0.00	0.00
Malaria	0.00	0.00	0.15	1.12	0.87	0.74	0.55	0.40
Measles	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
Meningitis, viral	31.49	2.53	2.55	2.31	1.67	0.83	0.55	1.20
Meningococcal infections	2.21	0.90	0.22	0.43	0.40	0.65	0.28	1.00
Mumps	0.00	0.54	1.02	0.18	0.07	0.00	0.00	0.10
Pertussis	93.36	3.79	1.82	0.33	0.40	0.28	0.28	0.10
Psittacosis	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00
Q-fever	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Relapsing fever	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Rheumatic fever, acute	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
Rubella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salmonellosis	56.34	36.45	11.64	8.81	7.84	8.99	8.58	10.31
Shigellosis	7.18	36.63	13.89	5.13	3.55	2.13	3.05	1.80
Strongyloidiasis	0.00	0.00	0.07	0.14	0.07	0.00	0.00	0.10
Syphilis (early latent)	0.00	0.00	0.10	6.00	6.70	4.20	1.40	0.60
Syphilis (prim. & secon.)	0.00	0.00	0.00	1.50	1.40	1.80	0.40	0.00
Syphilis (congenital)	23.10	-	-	-	-	-	-	-
Tetanus	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Trichinosis	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tuberculosis	1.10	6.70	1.70	10.00	14.00	18.80	18.80	28.30
Tularemia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Typhoid fever, case	0.00	0.18	0.58	0.29	0.20	0.00	0.00	0.00
Typhoid fever, carrier	0.00	0.00	0.00	0.11	0.07	0.00	0.00	0.00
Typhus fever	0.00	0.00	0.07	0.04	0.13	0.00	0.14	0.10
Vibrio	0.00	0.00	0.00	0.00	0.13	0.09	0.00	0.00

[a]Rates for perinatal listeriosis were calculated as cases per 100,000 live births.
-Not applicable.

Table L. Number of Cases of Selected Notifiable Diseases by Race/Ethnicity Los Angeles County, 1999

Disease	Asian	Black	Hispanic	White	Other[a]	Unknown
AIDS	35	295	568	344	5	1
Amebiasis	6	7	63	36	2	17
Botulism	0	0	0	4	0	0
Brucellosis	0	0	1	1	0	1
Campylobacteriosis	109	48	502	410	0	7
Chlamydia	696	5,293	9,747	1,471	39	10,342
Cholera	0	0	0	0	0	0
Coccidioidomycosis	4	6	22	12	0	4
Cryptosporidiosis	0	4	28	28	0	0
Cysticercosis	2	0	21	2	0	2
Dengue	2	0	0	0	0	0
E. coli O157:H7	2	0	1	7	0	2
Encephalitis	5	3	11	18	0	2
Giardiasis	25	22	263	199	4	66
Gonorrhea	69	2,610	992	506	10	1,857
Haemophilus influenzae type b	0	0	0	0	0	0
Hansen's disease (Leprosy)	5	0	5	0	0	0
Hepatitis A	54	80	579	210	5	147
Hepatitis B	5	7	9	14	0	0
Hepatitis C	1	2	9	7	1	1
Hepatitis unspecified	1	1	5	0	0	2
Kawasaki syndrome	9	3	11	9	0	0
Legionellosis	1	1	2	7	3	1
Listeriosis, nonperinatal	2	3	1	15	0	0
Listeriosis, perinatal	3	1	6	2	0	0
Lyme disease	1	0	1	5	0	1
Malaria	11	22	17	12	0	1
Measles	0	0	0	1	0	0
Meningitis, viral	10	18	89	76	3	24
Meningococcal infections	2	7	16	21	1	0
Mumps	2	0	13	3	0	6
Pertussis	16	21	157	40	2	0
Psittacosis	0	0	0	0	0	1
Q-fever	0	0	0	0	0	0
Relapsing fever	0	0	0	1	0	0
Rheumatic fever, acute	0	0	0	0	0	1
Rubella	0	0	0	0	0	0
Salmonellosis	83	74	480	361	5	84
Shigellosis	19	28	493	118	0	7
Strongyloidiasis	0	0	2	0	1	4
Syphilis (early latent)	10	116	129	35	1	38
Syphilis (prim. & secon.)	3	33	30	14	0	4
Syphilis (congenital)	1	12	22	1	0	0
Tetanus	0	1	1	0	0	0
Trichinosis	0	0	0	0	0	0
Tuberculosis	355	141	552	119	3	0
Tularemia	0	0	0	0	0	0
Typhoid fever, case	5	0	14	1	0	0
Typhoid fever, carrier	0	0	4	0	0	0
Typhus fever	2	0	0	3	1	0
Vibrio	0	0	3	0	0	0

[a] Other includes Native American and any additional racial group that can not be categorized as Asian, Black, Hispanic, and White.

Table M. Incidence Rate of Selected Notifiable Diseases by Race/Ethnicity Los Angeles County, 1999

Disease	Race/Ethnicity Rate (Cases per 100,000)			
	Asian	Black	Hispanic	White
AIDS	3.16	38.19	13.39	11.51
Amebiasis	0.54	0.91	1.49	1.20
Botulism	0.00	0.00	0.00	0.13
Brucellosis	0.00	0.00	0.02	0.03
Campylobacteriosis	9.83	6.21	11.84	13.72
Chlamydia	100.40	1096.10	367.60	78.70
Cholera	0.00	0.00	0.00	0.00
Coccidioidomycosis	0.36	0.78	0.52	0.40
Cryptosporidiosis	0.00	0.52	0.66	0.94
Cysticercosis	0.18	0.00	0.50	0.07
Dengue	0.18	0.00	0.00	0.00
E. coli O157:H7	0.18	0.00	0.02	0.23
Encephalitis	0.45	0.39	0.26	0.60
Giardiasis	2.26	2.85	6.20	6.66
Gonorrhea	0.90	487.70	33.80	24.40
Haemophilus influenzae type b	0.00	0.00	0.00	0.00
Hansen's Disease (Leprosy)	0.45	0.00	0.12	0.00
Hepatitis A	4.87	10.36	13.65	7.03
Hepatitis B	0.45	0.91	0.21	0.47
Hepatitis C	0.09	0.26	0.21	0.23
Hepatitis unspecified	0.09	0.13	0.12	0.00
Kawasaki syndrome	0.81	0.39	0.26	0.30
Legionellosis	0.09	0.13	0.05	0.23
Listeriosis, nonperinatal	0.18	0.39	0.02	0.50
Listeriosis, perinatal[a]	30.47	7.09	6.24	6.78
Lyme Disease	0.09	0.00	0.02	0.17
Malaria	0.99	2.84	0.40	0.40
Measles	0.00	0.00	0.00	0.03
Meningitis, viral	0.90	2.33	2.10	2.54
Meningococcal infections	0.18	0.91	0.38	0.70
Mumps	0.18	0.00	0.31	0.10
Pertussis	1.44	2.72	3.70	1.34
Psittacosis	0.00	0.00	0.00	0.00
Q-fever	0.00	0.00	0.00	0.00
Relapsing fever	0.00	0.00	0.00	0.03
Rheumatic fever, acute	0.00	0.00	0.00	0.00
Rubella	0.00	0.00	0.00	0.00
Salmonellosis	7.49	9.58	11.32	12.08
Shigellosis	1.71	3.62	11.62	3.95
Strongyloidiasis	0.00	0.00	0.05	0.00
Syphilis (early latent)	1.00	17.00	3.40	1.30
Syphilis (prim. & secon.)	0.30	4.50	0.70	0.50
Syphilis (congenital)[a]	3.40	85.10	22.90	10.20
Tetanus	0.00	0.13	0.02	0.00
Trichinosis	0.00	0.00	0.00	0.00
Tuberculosis	32.10	18.30	13.00	4.00
Tularemia	0.00	0.00	0.00	0.00
Typhoid fever, case	0.45	0.00	0.33	0.03
Typhoid fever, carrier	0.00	0.00	0.09	0.00
Typhus fever	0.18	0.00	0.00	0.10
Vibrio	0.00	0.00	0.07	0.00

[a] Rates for perinatal listeriosis and congenital syphilis were calculated as cases per 100,000 live births.

Table N. Number of Cases and Annual Incidence Rate of Selected Notifiable Diseases by Sex Los Angeles County, 1999

Disease	Male		Female	
	Cases	Rate (Cases per 100,000)	Cases	Rate (Cases per 100,000)
AIDS	1,105	24.16	143	3.11
Amebiasis	77	1.68	51	1.11
Botulism	3	0.07	1	0.02
Brucellosis	2	0.04	1	0.02
Campylobacteriosis	575	12.57	502	10.92
Chlamydia	6,010	131.60	21,548	469.10
Cholera	0	0.00	0	0.00
Coccidioidomycosis	36	0.79	12	0.26
Cryptosporidiosis	57	1.25	12	0.26
Cysticercosis	18	0.39	9	0.20
Dengue	1	0.02	0	0.00
E. coli O157:H7	9	0.20	3	0.07
Encephalitis	20	0.44	18	0.39
Giardiasis	330	7.22	248	5.39
Gonorrhea	3,212	70.30	2,831	61.60
Haemophilus influenzae type b	0	0.00	0	0.00
Hansen's disease (Leprosy)	8	0.17	2	0.04
Hepatitis A	606	13.25	460	10.00
Hepatitis B	24	0.52	11	0.24
Hepatitis C	15	0.33	6	0.13
Hepatitis unspecified	4	0.09	5	0.11
Kawasaki syndrome	20	0.44	12	0.26
Legionellosis	10	0.22	5	0.11
Listeriosis, nonperinatal	13	0.28	8	0.17
Listeriosis, perinatal[a]	0	0.00	12	15.75
Lyme disease	5	0.11	3	0.07
Malaria	44	0.96	18	0.39
Measles	0	0.00	1	0.02
Meningitis, viral	90	1.97	126	2.74
Meningococcal infections	27	0.59	22	0.48
Mumps	10	0.22	14	0.30
Pertussis	120	2.62	116	2.52
Psittacosis	0	0.00	1	0.02
Q-fever	0	0.00	0	0.00
Relapsing fever	1	0.02	0	0.00
Rheumatic fever, acute	0	0.00	1	0.02
Rubella	0	0.00	0	0.00
Salmonellosis	510	11.15	571	12.42
Shigellosis	313	6.84	352	7.65
Strongyloidiasis	2	0.04	3	0.07
Syphilis (early latent)	151	3.30	177	3.90
Syphilis (prim. & secon.)	58	1.30	25	0.60
Syphilis (congenital)	N/A	N/A	N/A	N/A
Tetanus	2	0.04	0	0.00
Trichinosis	0	0.00	0	0.00
Tuberculosis	732	16.00	438	9.50
Tularemia	0	0.00	0	0.00
Typhoid fever, case	9	0.20	11	0.24
Typhoid fever, carrier	0	0.00	4	0.09
Typhus fever	3	0.07	3	0.07
Vibrio	3	0.07	0	0.00

[a]Rates for perinatal listeriosis were calculated as cases per 100,000 live births.

Table O-1. Selected Notifiable Diseases
SPA 1. Antelope Valley Area
Los Angeles County, 1999

Disease	Frequency	Rate (Cases per 100,000)
	Antelope	Antelope
AIDS	17	5.36
Amebiasis	2	0.63
Botulism	0	0.00
Brucellosis	0	0.00
Campylobacteriosis	19	5.99
Chlamydia	543	191.10
Cholera	0	0.00
Coccidioidomycosis	9	2.84
Cryptosporidiosis	0	0.00
Cysticercosis	0	0.00
Dengue	0	0.00
E. coli O157:H7	2	0.63
Encephalitis	0	0.00
Giardiasis	8	2.52
Gonorrhea	88	31.10
Haemophilus influenzae type b	0	0.00
Hansen's disease (Leprosy)	0	0.00
Hepatitis A	14	4.41
Hepatitis B	0	0.00
Hepatitis C	4	1.26
Hepatitis unspecified	0	0.00
Kawasaki syndrome	0	0.00
Legionellosis	1	0.32
Listeriosis, nonperinatal	0	0.00
Listeriosis, perinatal[a]	0	0.00
Lyme disease	0	0.00
Malaria	1	0.32
Measles	0	0.00
Meningitis, viral	7	2.21
Meningococcal infections	1	0.32
Mumps	0	0.00
Pertussis	2	0.63
Psittacosis	0	0.00
Q-fever	0	0.00
Relapsing fever	0	0.00
Rheumatic fever, acute	0	0.00
Rubella	0	0.00
Salmonellosis	34	10.72
Shigellosis	19	5.99
Strongyloidiasis	0	0.00
Syphilis (early latent)	1	0.30
Syphilis (prim. & secon.)	1	0.30
Syphilis (congenital)	0	N/A
Tetanus	0	0.00
Trichinosis	0	0.00
Tuberculosis	23	7.25
Tularemia	0	0.00
Typhoid fever, case	0	0.00
Typhoid fever, carrier	0	0.00
Typhus fever	0	0.00
Vibrio	0	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.

Table O-2. Selected Notifiable Diseases
SPA 2. San Fernando Area
Los Angeles County, 1999

Disease	Frequency				Rate (Cases per 100,000)			
	E Valley	Glendale	San Fern	W Valley	E Valley	Glendale	San Fern	W Valley
AIDS	72	18	19	79	17.52	5.33	5.12	10.80
Amebiasis	5	3	6	16	1.22	0.89	1.62	2.19
Botulism	0	0	0	0	0.00	0.00	0.00	0.00
Brucellosis	1	0	0	0	0.24	0.00	0.00	0.00
Campylobacteriosis	68	42	71	79	16.54	12.44	19.14	10.80
Chlamydia	1,004	408	592	1,583	272.60	134.90	178.20	241.60
Cholera	0	0	0	0	0.00	0.00	0.00	0.00
Coccidioidomycosis	4	1	4	10	0.97	0.30	1.08	1.37
Cryptosporidiosis	2	0	1	3	0.49	0.00	0.27	0.41
Cysticercosis	5	0	3	1	1.22	0.00	0.81	0.14
Dengue	0	0	0	0	0.00	0.00	0.00	0.00
E. coli O157:H7	0	2	0	1	0.00	0.59	0.00	0.14
Encephalitis	3	2	3	4	0.73	0.59	0.81	0.55
Giardiasis	39	14	46	49	9.49	4.15	12.40	6.70
Gonorrhea	176	56	72	203	47.90	18.60	21.70	31.10
Haemophilus influenzae type b	0	0	0	0	0.00	0.00	0.00	0.00
Hansen's disease (Leprosy)	0	0	0	2	0.00	0.00	0.00	0.27
Hepatitis A	51	25	26	62	12.41	7.40	7.01	8.48
Hepatitis B	0	3	0	1	0.00	0.89	0.00	0.14
Hepatitis C	0	0	2	2	0.00	0.00	0.54	0.27
Hepatitis unspecified	1	0	0	1	0.24	0.00	0.00	0.14
Kawasaki syndrome	3	0	0	3	0.73	0.00	0.00	0.41
Legionellosis	2	0	0	0	0.49	0.00	0.00	0.00
Listeriosis, nonperinatal	0	1	0	2	0.00	0.30	0.00	0.27
Listeriosis, perinatal[a]	1	1	0	0	0.52	0.67	0.00	0.00
Lyme disease	0	0	1	1	0.00	0.00	0.27	0.14
Malaria	3	1	2	10	0.73	0.30	0.54	1.37
Measles	0	0	0	0	0.00	0.00	0.00	0.00
Meningitis, viral	11	7	5	12	2.68	2.07	1.35	1.64
Meningococcal infections	0	2	0	7	0.00	0.59	0.00	0.96
Mumps	4	0	0	0	0.97	0.00	0.00	0.00
Pertussis	15	5	12	17	3.65	1.48	3.24	2.32
Psittacosis	0	0	0	0	0.00	0.00	0.00	0.00
Q-fever	0	0	0	0	0.00	0.00	0.00	0.00
Relapsing fever	0	0	0	0	0.00	0.00	0.00	0.00
Rheumatic fever, acute	0	0	0	0	0.00	0.00	0.00	0.00
Rubella	0	0	0	0	0.00	0.00	0.00	0.00
Salmonellosis	44	31	50	90	10.70	9.18	13.48	12.30
Shigellosis	45	10	34	36	10.95	2.96	9.17	4.92
Strongyloidiasis	0	0	0	0	0.00	0.00	0.00	0.00
Syphilis (early latent)	10	2	3	20	2.50	0.60	0.80	2.80
Syphilis (prim. & secon.)	1	0	3	2	0.20	0.00	0.80	0.30
Syphilis (congenital)	0	0	2	5	N/A	N/A	N/A	N/A
Tetanus	0	0	0	0	0.00	0.00	0.00	0.00
Trichinosis	0	0	0	0	0.00	0.00	0.00	0.00
Tuberculosis	44	29	29	60	10.70	8.59	7.82	8.20
Tularemia	0	0	0	0	0.00	0.00	0.00	0.00
Typhoid fever, case	0	0	0	1	0.00	0.00	0.00	0.14
Typhoid fever, carrier	0	1	0	0	0.00	0.30	0.00	0.00
Typhus fever	0	0	0	0	0.00	0.00	0.00	0.00
Vibrio	1	0	0	0	0.24	0.00	0.00	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.

Table O-3. Selected Notifiable Diseases
SPA 3. San Gabriel Area
Los Angeles County, 1999

Disease	Frequency				Rate (Cases per 100,000)			
	Alhambra	El Monte	Foothill	Pomona	Alhambra	El Monte	Foothill	Pomona
AIDS	9	44	14	24	2.46	9.43	4.59	4.42
Amebiasis	2	2	5	6	0.55	0.43	1.64	1.10
Botulism	0	1	0	1	0.00	0.21	0.00	0.18
Brucellosis	0	0	0	0	0.00	0.00	0.00	0.00
Campylobacteriosis	21	46	23	61	5.73	9.85	7.55	11.23
Chlamydia	478	1,195	490	1,034	145.60	285.80	179.50	212.50
Cholera	0	0	0	0	0.00	0.00	0.00	0.00
Coccidioidomycosis	3	1	1	0	0.82	0.21	0.33	0.00
Cryptosporidiosis	1	2	1	1	0.27	0.43	0.33	0.18
Cysticercosis	0	3	1	2	0.00	0.64	0.33	0.37
Dengue	0	0	0	0	0.00	0.00	0.00	0.00
E. coli O157:H7	1	0	1	1	0.27	0.00	0.33	0.18
Encephalitis	0	2	2	5	0.00	0.43	0.66	0.92
Giardiasis	20	42	14	15	5.46	9.00	4.59	2.76
Gonorrhea	53	116	59	123	16.20	27.80	21.70	25.30
Haemophilus influenzae type b	0	0	0	0	0.00	0.00	0.00	0.00
Hansen's disease (Leprosy)	1	0	1	0	0.27	0.00	0.33	0.00
Hepatitis A	25	58	14	30	6.82	12.43	4.59	5.52
Hepatitis B	2	0	1	0	0.55	0.00	0.33	0.00
Hepatitis C	0	0	0	1	0.00	0.00	0.00	0.18
Hepatitis unspecified	0	1	1	0	0.00	0.21	0.33	0.00
Kawasaki syndrome	1	1	0	3	0.27	0.21	0.00	0.55
Legionellosis	0	0	0	0	0.00	0.00	0.00	0.00
Listeriosis, nonperinatal	1	1	1	1	0.27	0.21	0.33	0.18
Listeriosis, perinatal[a]	0	0	3	0	0.00	0.00	2.24	0.00
Lyme disease	1	0	2	0	0.27	0.00	0.66	0.00
Malaria	0	0	1	0	0.00	0.00	0.33	0.00
Measles	0	0	0	0	0.00	0.00	0.00	0.00
Meningitis, viral	6	13	10	15	1.64	2.79	3.28	2.76
Meningococcal infections	0	1	5	2	0.00	0.21	1.64	0.37
Mumps	2	2	2	1	0.55	0.43	0.66	0.18
Pertussis	7	11	15	14	1.91	2.36	4.92	2.58
Psittacosis	0	0	0	0	0.00	0.00	0.00	0.00
Q-fever	0	0	0	0	0.00	0.00	0.00	0.00
Relapsing fever	0	0	0	0	0.00	0.00	0.00	0.00
Rheumatic fever, acute	0	1	0	0	0.00	0.21	0.00	0.00
Rubella	0	0	0	0	0.00	0.00	0.00	0.00
Salmonellosis	39	63	42	60	10.64	13.50	13.78	11.05
Shigellosis	13	30	13	18	3.55	6.43	4.27	3.31
Strongyloidiasis	0	0	0	0	0.00	0.00	0.00	0.00
Syphilis (early latent)	3	8	5	6	0.80	1.80	1.70	1.10
Syphilis (prim. & secon.)	4	1	0	2	1.10	0.20	0.00	0.40
Syphilis (congenital)	0	1	0	1	N/A	N/A	N/A	N/A
Tetanus	0	0	1	0	0.00	0.00	0.33	0.00
Trichinosis	0	0	0	0	0.00	0.00	0.00	0.00
Tuberculosis	61	69	27	33	16.65	14.78	8.86	6.07
Tularemia	0	0	0	0	0.00	0.00	0.00	0.00
Typhoid fever, case	0	1	0	0	0.00	0.21	0.00	0.00
Typhoid fever, carrier	0	0	0	0	0.00	0.00	0.00	0.00
Typhus fever	1	0	2	0	0.27	0.00	0.66	0.00
Vibrio	0	0	0	0	0.00	0.00	0.00	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.

Table O-4. Selected Notifiable Diseases
SPA 4. Metro Area
Los Angeles County, 1999

Disease	Frequency			Rate (Cases per 100,000)		
	Central	Hol-Wil[b]	NE[c]	Central	Hol-Wil[b]	NE[c]
AIDS	159	224	64	42.28	43.86	15.80
Amebiasis	5	23	4	1.33	4.50	0.99
Botulism	0	0	0	0.00	0.00	0.00
Brucellosis	0	1	0	0.00	0.20	0.00
Campylobacteriosis	37	66	37	9.84	12.92	9.14
Chlamydia	1,248	1,589	1,015	370.40	347.30	279.80
Cholera	0	0	0	0.00	0.00	0.00
Coccidioidomycosis	0	4	1	0.00	0.78	0.25
Cryptosporidiosis	11	29	1	2.92	5.68	0.25
Cysticercosis	2	0	2	0.53	0.00	0.49
Dengue	0	0	0	0.00	0.00	0.00
E. coli O157:H7	0	0	0	0.00	0.00	0.00
Encephalitis	1	0	1	0.27	0.00	0.25
Giardiasis	17	60	16	4.52	11.75	3.95
Gonorrhea	323	603	109	96.10	132.10	30.10
Haemophilus influenzae type b	0	0	0	0.00	0.00	0.00
Hansen's disease (Leprosy)	0	2	0	0.00	0.39	0.00
Hepatitis A	78	81	51	20.74	15.86	12.59
Hepatitis B	3	10	1	0.80	1.96	0.25
Hepatitis C	0	2	1	0.00	0.39	0.25
Hepatitis unspecified	1	0	0	0.27	0.00	0.00
Kawasaki syndrome	1	2	2	0.27	0.39	0.49
Legionellosis	0	2	3	0.00	0.39	0.74
Listeriosis, nonperinatal	0	3	0	0.00	0.59	0.00
Listeriosis, perinatal[a]	3	1	0	1.61	0.40	0.00
Lyme disease	0	1	0	0.00	0.20	0.00
Malaria	4	7	3	1.06	1.37	0.74
Measles	0	0	0	0.00	0.00	0.00
Meningitis, viral	4	16	9	1.06	3.13	2.22
Meningococcal infections	3	0	2	0.80	0.00	0.49
Mumps	0	0	0	0.00	0.00	0.00
Pertussis	17	12	12	4.52	2.35	2.96
Psittacosis	0	0	0	0.00	0.00	0.00
Q-fever	0	0	0	0.00	0.00	0.00
Relapsing fever	0	0	0	0.00	0.00	0.00
Rheumatic fever, acute	0	0	0	0.00	0.00	0.00
Rubella	0	0	0	0.00	0.00	0.00
Salmonellosis	27	64	40	7.18	12.53	9.88
Shigellosis	33	57	34	8.77	11.16	8.40
Strongyloidiasis	1	1	2	0.27	0.20	0.49
Syphilis (early latent)	42	32	9	11.50	6.40	2.30
Syphilis (prim. & secon.)	10	10	3	2.70	2.00	0.70
Syphilis (congenital)	4	3	0	N/A	N/A	N/A
Tetanus	0	0	0	0.00	0.00	0.00
Trichinosis	0	0	0	0.00	0.00	0.00
Tuberculosis	135	108	69	35.89	21.15	17.04
Tularemia	0	0	0	0.00	0.00	0.00
Typhoid fever, case	3	3	1	0.80	0.59	0.25
Typhoid fever, carrier	0	0	1	0.00	0.00	0.25
Typhus fever	1	1	0	0.27	0.20	0.00
Vibrio	0	0	0	0.00	0.00	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.
[b] Hol-Wil is the abbreviation for Hollywood-Wilshire Health District.
[c] NE is the abbreviation for Northeast Health District.

Table O-5. Selected Notifiable Diseases
SPA 5. West Area
Los Angeles County, 1999

Disease	Frequency	Rate (Cases per 100,000)
	West	West
AIDS	50	8.67
Amebiasis	8	1.39
Botulism	0	0.00
Brucellosis	0	0.00
Campylobacteriosis	107	18.55
Chlamydia	941	182.10
Cholera	0	0.00
Coccidioidomycosis	2	0.35
Cryptosporidiosis	4	0.69
Cysticercosis	0	0.00
Dengue	1	0.17
E. coli O157:H7	2	0.35
Encephalitis	2	0.35
Giardiasis	38	6.59
Gonorrhea	227	44.00
Haemophilus influenzae type b	0	0.00
Hansen's disease (Leprosy)	0	0.00
Hepatitis A	32	5.55
Hepatitis B	1	0.17
Hepatitis C	0	0.00
Hepatitis unspecified	0	0.00
Kawasaki syndrome	1	0.17
Legionellosis	3	0.52
Listeriosis, nonperinatal	4	0.69
Listeriosis, perinatal[a]	0	0.00
Lyme disease	1	0.17
Malaria	6	1.04
Measles	1	0.17
Meningitis, viral	3	0.52
Meningococcal infections	9	1.56
Mumps	1	0.17
Pertussis	6	1.04
Psittacosis	0	0.00
Q-fever	0	0.00
Relapsing fever	1	0.17
Rheumatic fever, acute	0	0.00
Rubella	0	0.00
Salmonellosis	59	10.23
Shigellosis	30	5.20
Strongyloidiasis	0	0.00
Syphilis (early latent)	4	0.70
Syphilis (prim. & secon.)	2	0.40
Syphilis (congenital)	1	N/A
Tetanus	0	0.00
Trichinosis	0	0.00
Tuberculosis	42	7.28
Tularemia	0	0.00
Typhoid fever, case	0	0.00
Typhoid fever, carrier	0	0.00
Typhus fever	1	0.17
Vibrio	1	0.17

[a]Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.

Table O-6. Selected Notifiable Diseases
SPA 6. South Area
Los Angeles County, 1999

Disease	Frequency				Rate (Cases per 100,000)			
	Comp [b]	South	SE [c]	SW [d]	Comp [b]	South	SE [c]	SW [d]
AIDS	34	32	38	90	12.01	18.24	20.47	24.50
Amebiasis	1	9	1	3	0.35	5.13	0.54	0.82
Botulism	0	0	0	0	0.00	0.00	0.00	0.00
Brucellosis	0	0	0	0	0.00	0.00	0.00	0.00
Campylobacteriosis	22	25	17	31	7.77	14.25	9.16	8.44
Chlamydia	1,471	1,291	960	2,404	581.00	821.40	577.10	730.60
Cholera	0	0	0	0	0.00	0.00	0.00	0.00
Coccidioidomycosis	2	0	0	1	0.71	0.00	0.00	0.27
Cryptosporidiosis	1	0	1	0	0.35	0.00	0.54	0.00
Cysticercosis	1	0	1	0	0.35	0.00	0.54	0.00
Dengue	0	0	0	0	0.00	0.00	0.00	0.00
E. coli O157:H7	0	0	0	1	0.00	0.00	0.00	0.27
Encephalitis	0	0	0	0	0.00	0.00	0.00	0.00
Giardiasis	13	5	10	15	4.59	2.85	5.39	4.08
Gonorrhea	465	442	225	866	183.90	282.00	135.60	263.90
Haemophilus influenzae type b	0	0	0	0	0.00	0.00	0.00	0.00
Hansen's disease (Leprosy)	0	0	0	1	0.00	0.00	0.00	0.27
Hepatitis A	64	36	40	48	22.61	20.52	21.54	13.07
Hepatitis B	3	1	0	1	1.06	0.57	0.00	0.27
Hepatitis C	1	2	0	0	0.35	1.14	0.00	0.00
Hepatitis unspecified	1	0	0	1	0.35	0.00	0.00	0.27
Kawasaki syndrome	0	0	0	1	0.00	0.00	0.00	0.27
Legionellosis	0	0	0	1	0.00	0.00	0.00	0.27
Listeriosis, nonperinatal	0	1	0	1	0.00	0.57	0.00	0.27
Listeriosis, perinatal[a]	0	0	0	0	0.00	0.00	0.00	0.00
Lyme disease	0	0	0	0	0.00	0.00	0.00	0.00
Malaria	0	0	0	8	0.00	0.00	0.00	2.18
Measles	0	0	0	0	0.00	0.00	0.00	0.00
Meningitis, viral	10	8	2	2	3.53	4.56	1.08	0.54
Meningococcal infections	0	2	0	5	0.00	1.14	0.00	1.36
Mumps	0	0	0	1	0.00	0.00	0.00	0.27
Pertussis	8	4	12	12	2.83	2.28	6.46	3.27
Psittacosis	0	0	0	0	0.00	0.00	0.00	0.00
Q-fever	0	0	0	0	0.00	0.00	0.00	0.00
Relapsing fever	0	0	0	0	0.00	0.00	0.00	0.00
Rheumatic fever, acute	0	0	0	0	0.00	0.00	0.00	0.00
Rubella	0	0	0	0	0.00	0.00	0.00	0.00
Salmonellosis	40	18	24	31	14.13	10.26	12.93	8.44
Shigellosis	38	22	30	27	13.43	12.54	16.16	7.35
Strongyloidiasis	0	0	2	0	0.00	0.00	1.08	0.00
Syphilis (early latent)	22	26	29	42	8.00	15.20	16.10	11.80
Syphilis (prim. & secon.)	4	9	4	12	1.40	5.20	2.20	3.30
Syphilis (congenital)	5	3	1	4	N/A	N/A	N/A	N/A
Tetanus	0	0	0	0	0.00	0.00	0.00	0.00
Trichinosis	0	0	0	0	0.00	0.00	0.00	0.00
Tuberculosis	38	34	28	71	13.43	19.38	15.08	19.33
Tularemia	0	0	0	0	0.00	0.00	0.00	0.00
Typhoid fever, case	0	1	0	1	0.00	0.57	0.00	0.27
Typhoid fever, carrier	0	1	0	0	0.00	0.57	0.00	0.00
Typhus fever	0	0	0	0	0.00	0.00	0.00	0.00
Vibrio	0	0	0	0	0.00	0.00	0.00	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.
[b] Comp is the abbreviation for Compton Health District.
[c] SE is the abbreviation for Southeast Health District.
[d] SW is the abbreviation for Southwest Health District.

Table O-7. Selected Notifiable Diseases
SPA 7. East Area
Los Angeles County, 1999

Disease	Frequency				Rate (Cases per 100,000)			
	Bellflower	East LA	S Antonio	Whittier	Bellflower	East LA	S Antonio	Whittier
AIDS	21	24	31	25	5.84	9.91	7.04	7.55
Amebiasis	3	2	8	1	0.83	0.83	1.82	0.30
Botulism	0	0	0	0	0.00	0.00	0.00	0.00
Brucellosis	0	0	0	0	0.00	0.00	0.00	0.00
Campylobacteriosis	23	40	44	36	6.39	16.51	9.99	10.87
Chlamydia	768	667	1,323	713	238.30	307.30	335.30	240.30
Cholera	0	0	0	0	0.00	0.00	0.00	0.00
Coccidioidomycosis	0	2	1	1	0.00	0.83	0.23	0.30
Cryptosporidiosis	0	2	2	4	0.00	0.83	0.45	1.21
Cysticercosis	0	0	4	1	0.00	0.00	0.91	0.30
Dengue	0	0	0	0	0.00	0.00	0.00	0.00
E. coli O157:H7	0	0	0	0	0.00	0.00	0.00	0.00
Encephalitis	2	1	1	1	0.56	0.41	0.23	0.30
Giardiasis	8	16	18	12	2.22	6.60	4.09	3.62
Gonorrhea	115	63	104	73	35.80	29.10	26.40	24.70
Haemophilus influenzae type b	0	0	0	0	0.00	0.00	0.00	0.00
Hansen's disease (Leprosy)	0	0	0	0	0.00	0.00	0.00	0.00
Hepatitis A	59	38	92	31	16.40	15.68	20.89	9.36
Hepatitis B	0	0	2	0	0.00	0.00	0.45	0.00
Hepatitis C	2	0	2	0	0.56	0.00	0.45	0.00
Hepatitis unspecified	0	0	1	0	0.00	0.00	0.23	0.00
Kawasaki syndrome	1	0	2	0	0.28	0.00	0.45	0.00
Legionellosis	0	0	1	0	0.00	0.00	0.23	0.00
Listeriosis, nonperinatal	2	0	0	0	0.56	0.00	0.00	0.00
Listeriosis, perinatal[a]	0	0	2	0	0.00	0.00	0.96	0.00
Lyme disease	0	0	0	0	0.00	0.00	0.00	0.00
Malaria	3	0	0	0	0.83	0.00	0.00	0.00
Measles	0	0	0	0	0.00	0.00	0.00	0.00
Meningitis, viral	15	2	11	15	4.17	0.83	2.50	4.53
Meningococcal infections	1	0	0	2	0.28	0.00	0.00	0.60
Mumps	1	1	1	1	0.28	0.41	0.23	0.30
Pertussis	9	8	13	4	2.50	3.30	2.95	1.21
Psittacosis	1	0	0	0	0.28	0.00	0.00	0.00
Q-fever	0	0	0	0	0.00	0.00	0.00	0.00
Relapsing fever	0	0	0	0	0.00	0.00	0.00	0.00
Rheumatic fever, acute	0	0	0	0	0.00	0.00	0.00	0.00
Rubella	0	0	0	0	0.00	0.00	0.00	0.00
Salmonellosis	25	28	49	33	6.95	11.56	11.13	9.96
Shigellosis	15	33	53	24	4.17	13.62	12.03	7.25
Strongyloidiasis	0	0	0	0	0.00	0.00	0.00	0.00
Syphilis (early latent)	8	4	11	3	2.30	1.70	2.60	0.90
Syphilis (prim. & secon.)	0	0	6	1	0.00	0.00	1.40	0.30
Syphilis (congenital)	1	0	2	0	N/A	N/A	N/A	N/A
Tetanus	0	0	0	0	0.00	0.00	0.00	0.00
Trichinosis	0	0	0	0	0.00	0.00	0.00	0.00
Tuberculosis	44	29	50	26	12.23	11.97	11.35	7.85
Tularemia	0	0	0	0	0.00	0.00	0.00	0.00
Typhoid fever, case	0	0	0	3	0.00	0.00	0.00	0.91
Typhoid fever, carrier	0	0	0	0	0.00	0.00	0.00	0.00
Typhus fever	0	0	0	0	0.00	0.00	0.00	0.00
Vibrio	0	0	0	0	0.00	0.00	0.00	0.00

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.

Table O-8. Selected Notifiable Diseases
SPA 8. South Bay Area
Los Angeles County, 1999

Disease	Frequency			Rate (Cases per 100,000)		
	Harbor	Ing [b]	Torrance	Harbor	Ing [b]	Torrance
AIDS	15	47	22	7.04	11.54	4.91
Amebiasis	3	5	5	1.41	1.23	1.12
Botulism	0	0	0	0.00	0.00	0.00
Brucellosis	1	0	0	0.47	0.00	0.00
Campylobacteriosis	34	38	90	15.97	9.33	20.09
Chlamydia	394	1,866	738	206.60	511.50	183.90
Cholera	0	0	0	0.00	0.00	0.00
Coccidioidomycosis	0	1	0	0.00	0.25	0.00
Cryptosporidiosis	0	1	1	0.00	0.25	0.22
Cysticercosis	0	0	1	0.00	0.00	0.22
Dengue	0	0	1	0.00	0.00	0.22
E. coli O157:H7	0	0	1	0.00	0.00	0.22
Encephalitis	2	1	1	0.94	0.25	0.22
Giardiasis	22	18	57	10.33	4.42	12.72
Gonorrhea	63	625	151	33.10	171.80	37.70
Haemophilus influenzae type b	0	0	0	0.00	0.00	0.00
Hansen's disease (Leprosy)	0	3	0	0.00	0.74	0.00
Hepatitis A	19	48	43	8.92	11.79	9.60
Hepatitis B	0	2	4	0.00	0.49	0.89
Hepatitis C	1	0	1	0.47	0.00	0.22
Hepatitis unspecified	0	0	0	0.00	0.00	0.00
Kawasaki syndrome	0	1	0	0.00	0.25	0.00
Legionellosis	0	0	1	0.00	0.00	0.22
Listeriosis, nonperinatal	0	0	1	0.00	0.00	0.22
Listeriosis, perinatal[a]	0	1	0	0.00	0.52	0.00
Lyme disease	0	0	1	0.00	0.00	0.22
Malaria	3	8	1	1.41	1.96	0.22
Measles	0	0	0	0.00	0.00	0.00
Meningitis, viral	8	8	14	3.76	1.96	3.12
Meningococcal infections	0	5	2	0.00	1.23	0.45
Mumps	0	3	2	0.00	0.74	0.45
Pertussis	1	9	11	0.47	2.21	2.46
Psittacosis	0	0	0	0.00	0.00	0.00
Q-fever	0	0	0	0.00	0.00	0.00
Relapsing fever	0	0	0	0.00	0.00	0.00
Rheumatic fever, acute	0	0	0	0.00	0.00	0.00
Rubella	0	0	0	0.00	0.00	0.00
Salmonellosis	39	47	95	18.32	11.54	21.20
Shigellosis	14	18	18	6.58	4.42	4.02
Strongyloidiasis	0	0	1	0.00	0.00	0.22
Syphilis (early latent)	6	20	4	2.90	5.00	0.90
Syphilis (prim. & secon.)	1	6	1	0.50	1.50	0.20
Syphilis (congenital)	0	3	0	N/A	N/A	N/A
Tetanus	0	1	0	0.00	0.25	0.00
Trichinosis	0	0	0	0.00	0.00	0.00
Tuberculosis	12	50	44	5.64	12.28	9.82
Tularemia	0	0	0	0.00	0.00	0.00
Typhoid fever, case	0	4	2	0.00	0.98	0.45
Typhoid fever, carrier	0	1	0	0.00	0.25	0.00
Typhus fever	0	0	0	0.00	0.00	0.00
Vibrio	0	0	1	0.00	0.00	0.22

[a] Rates for perinatal listeriosis were calculated as cases per 100,000 women aged 15 to 44 years.
[b] Ing is the abbreviation for Inglewood Health district.

LIST OF ACRONYMS

The following abbreviations and acronyms may be used throughout this document.

ACDC	Acute Communicable Disease Control Unit
AIDS	Acquired Immunodeficiency Syndrome
AVSS	Automatic Vital Statistics System
CDC	Centers for Disease Control and Prevention
CDHS	California Department of Health Services
CMR	Confidential Morbidity Report
CSF	cerebrospinal fluid
DHS	Department of Health Services, Los Angeles County
DTaP	diphtheria and tetanus toxoids plus acellular pertussis vaccine
DTP	diphtheria and tetanus toxoids plus pertussis vaccine
HBIG	hepatitis B immune globulin
HBsAg	hepatitis B surface antigen
HBV	hepatitis B virus
HCV	hepatitis C virus
HCW	health-care worker
Hib	*Haemophilus influenzae* type b
HIV	human immunodeficiency virus
ICP	infection control practitioner
IDU	injection drug user
IgG	immunoglobulin class G
LAC	Los Angeles County
MMR	measles, mumps, and rubella vaccines
MMWR	*Morbidity and Mortality Weekly Report*
mos.	months
MRSA	methicillin-resistant *Staphylococcus aureus*
N/A	not available
OPV	oral polio vaccine (Sabin)
OR	odds ratio
PA	perinatally acquired
PCP	*Pneumocystis carinii* pneumonia
RR	relative risk
SPA	service planning area
SNF	skilled nursing facility
sp., spp.	species
STD	sexually transmitted disease
TB	tuberculosis
US	United States

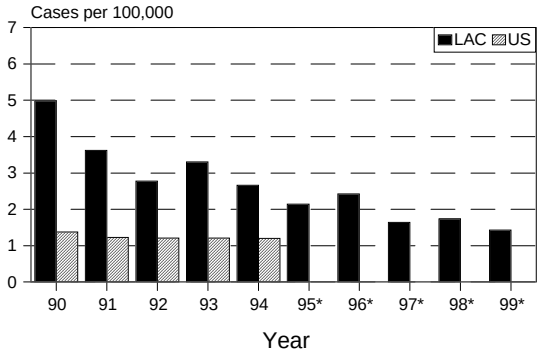
ACUTE COMMUNICABLE DISEASE CONTROL PROGRAM

AMEBIASIS

CRUDE DATA	
Number of Cases	131
Annual Incidence[a]	
LA County	1.43
United States	N/A
Age at Onset	
Mean	35.5
Median	36
Range	3-84 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 1
Amebiasis
Incidence Rates by Year
LAC and US, 1990-1999



*No longer nationally notifiable.

ETIOLOGY

Amebiasis is caused by the protozoan parasite *Entamoeba histolytica*.

DISEASE ABSTRACT

The 1999 amebiasis rate continued its gradual drop to the lowest rate since 1983. The disease occurs primarily in Hispanic children, although a substantial number of cases are seen among young and middle-aged White males in the Hollywood-Wilshire District. No amebiasis outbreaks were reported in 1999.

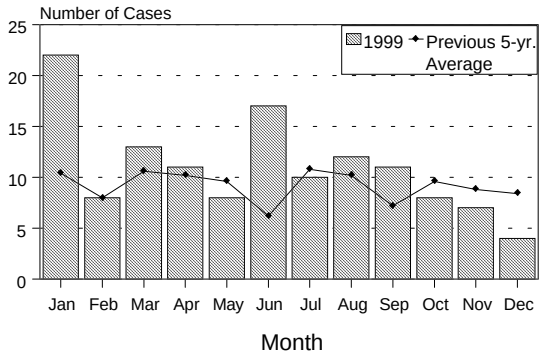
STRATIFIED DATA

Trends: The 1999 amebiasis incidence of 1.43 per 100,000 population is the second lowest on record in Los Angeles County (Figure 1).

Seasonality: Monthly case counts followed the five-year trend, except in January and June where the number of cases substantially exceeded the expected (Figure 2).The January cases included a cluster (n=5) of Hispanic adults 19-50 years of age in the San Antonio District.

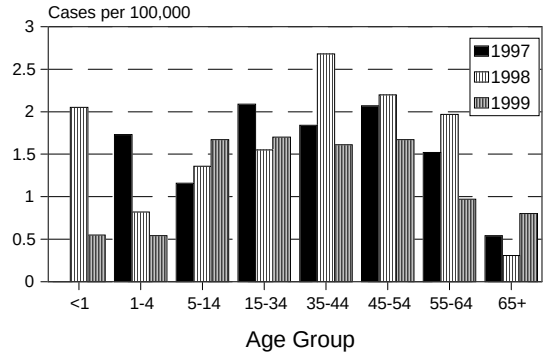
Age: Compared to 1997 and 1998 rates, all age groups but two had lower incidence rates in

Figure 2
Amebiasis
Cases by Month of Onset
Los Angeles County, 1999



1999. Rates rose again in 1999 for the second year among children 5-14, and the 1999 rate among the oldest age group exceeds the 1997 rate after falling in 1998 (Figure 3). As in previous years, nearly one quarter of Hispanic cases (24%) were under the age of 15. Only half of the pediatric cases (0-14 years) were Hispanic (48%), compared to three-quarters in the last two years.

Figure 3
Amebiasis
Incidence Rates by Age Group
Los Angeles County, 1997-1999

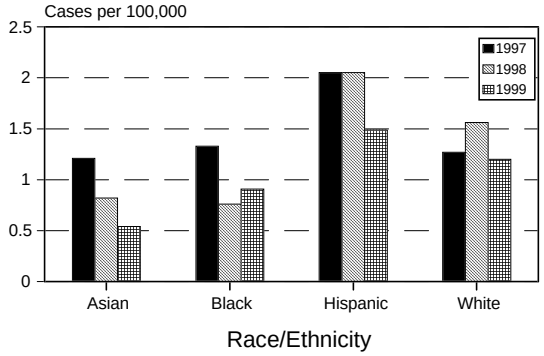


Sex: For the third year the male-to-female rate ratio was below 2:1, at 1.5:1, continuing a trend started in the early 1990s.

Race/Ethnicity: Hispanics experienced the highest rate of amebiasis (1.5 per 100,000 population). Rates fell within each group except Blacks, but in all racial groups the 1999 rates fell below those for 1997 (Figure 4). Hispanics comprised the majority of cases in most health districts; in Hollywood-Wilshire District, 81% of cases were White.

Location: The South Health District had the highest rate in 1999 (5.1 per 100,000), with nine reported cases; eight were Hispanic. Hollywood-Wilshire, as usual, also had a much higher rate than average, 4.5 per 100,000 with 23 cases. Three other districts counted more than six cases, West Valley (16), San Antonio (8), and West (8) (Map 1).

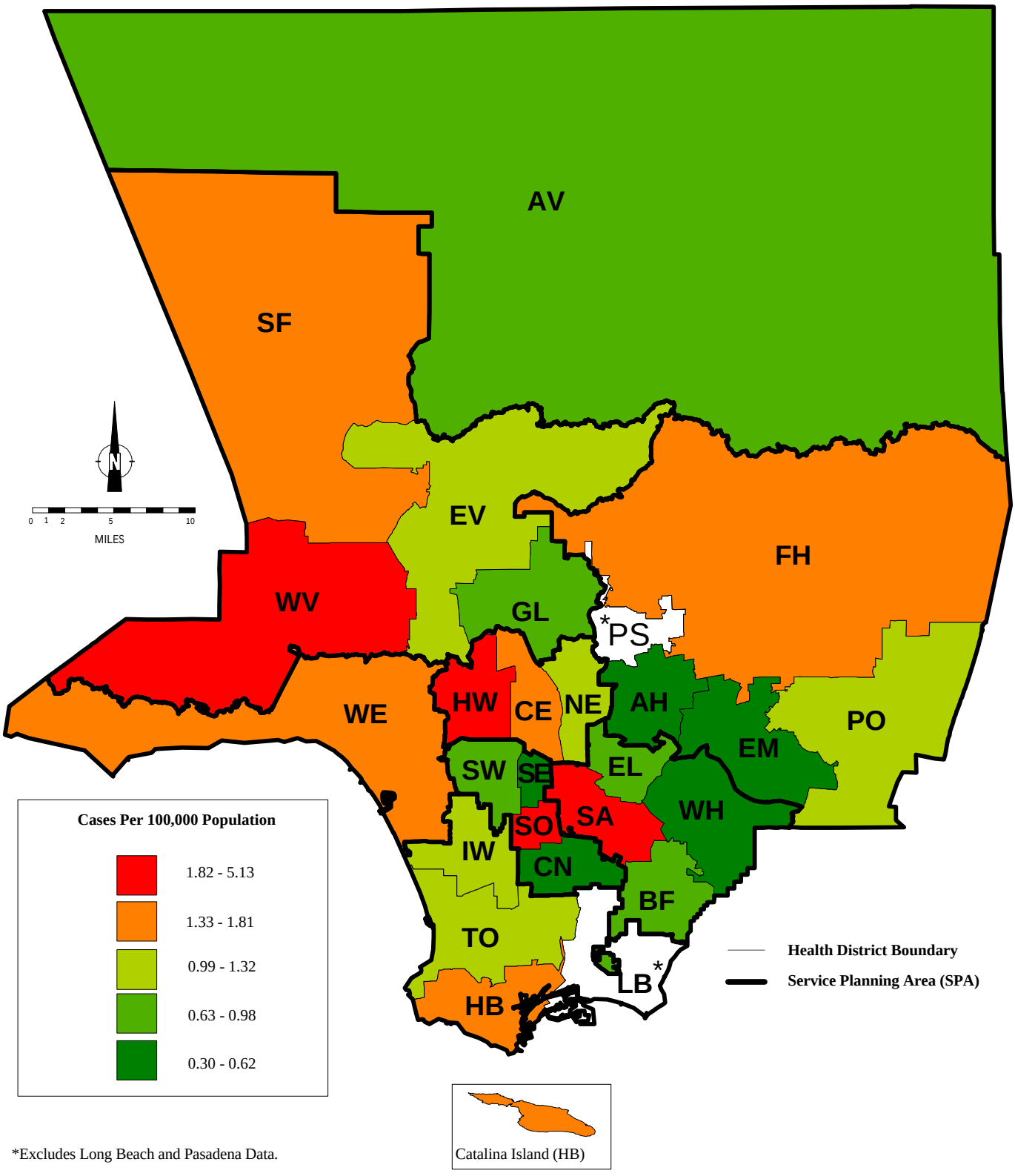
Figure 4
Amebiasis
Race-Specific Incidence Rates
Los Angeles County, 1997-1999



COMMENTS

The most commonly ordered parasite tests detect both *Entamoeba histolytica* and *E. dispar*, a non-pathogenic amebic species. The impact of new tests that can distinguish between these two species is unknown since such tests are rarely ordered. Amebiasis was removed from the national list of notifiable diseases in 1995 by the Council of State and Territorial Epidemiologists.

MAP 1. Amebiasis
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

BOTULISM

ETIOLOGY

Botulism is a life-threatening paralytic disease caused by botulinum toxin produced in one of three settings. Food-borne botulism occurs from ingestion of preformed toxin present in contaminated food. In wound botulism, *Clostridium botulinum* spores contaminate a wound and produce toxin under anaerobic conditions; it is particularly common among injection drug users (IDU). Infant botulism occurs when the organism spores are ingested by infants (and rarely other persons), germinate in the gut, and produce toxin.

DISEASE ABSTRACT

Three cases of botulism were confirmed in 1999; two cases were wound-associated and one was presumed to be foodborne.

The first case occurred in March in a 61 year-old retired White female physician who lives alone and preserves food for personal consumption. Type A toxin was demonstrated in serum, but residual fluid from an open jar of chicken soup tested negative; the soup had been made two weeks prior and left unrefrigerated. She survived after ventilatory support.

Case number two was a 61 year-old Hispanic male heroin user. Pre-treatment serum was negative for botulinum toxin, but the culture from a deltoid abscess yielded *C. botulinum* organisms that produced type B toxin. He required brief ventilatory support and survived.

The third case was a 51 year-old White male heroin user with an abscess on the thigh caused by “skin popping” (subcutaneous injection). His serum showed the presence of type A botulism toxin. Cultures of the wound were unsuccessful in identifying the organism. He experienced anaphylaxis after antitoxin administration and required ventilatory support, but ultimately survived.

As in most years, several suspected cases of clinical wound botulism in IDUs were also investigated. Because they could not be confirmed by laboratory tests, these suspected cases were not reported to the State.

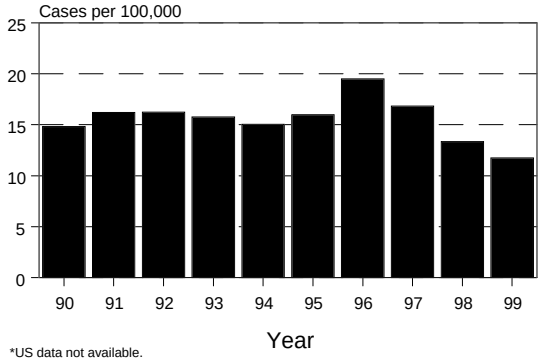
CAMPYLOBACTERIOSIS

CRUDE DATA	
Number of Cases	1,077
Annual Incidence[a]	
LA County	11.7
United States	N/A
Age at Onset	
Mean	27
Median	26
Range	<1-91 yrs
Case Fatality	
LA County	0.1%
United States	N/A

[a]Cases per 100,000 population.

Figure 5

Campylobacteriosis
Incidence Rates by Year
Los Angeles County,* 1990-1999



*US data not available.

ETIOLOGY

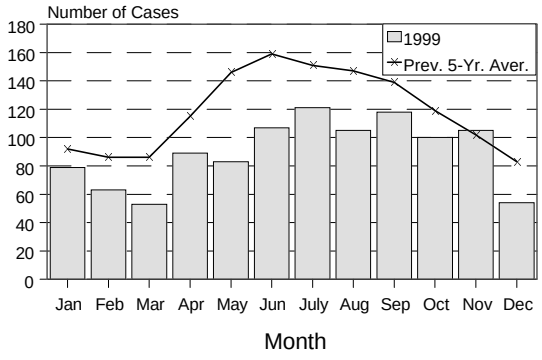
Campylobacter, is a gram-negative bacillus. *C jejuni* accounted for 91% of all identified species.

DISEASE ABSTRACT

Campylobacteriosis rates in 1999 decreased for the third year. Rates are the lowest they have been since 1989. The reason for the decrease is not known, which has been seen in other enteric diseases. Speculation points to a combination of better food safety control measures and less testing of symptomatic patients. Rates were highest in children from 1 to 4 years of age. Rates were highest in Whites, followed by Hispanics, Asians, and Blacks.

Figure 6

Campylobacteriosis
Cases by Month of Onset
Los Angeles County, 1999



STRATIFIED DATA

Trends: The campylobacteriosis rate of 11.7 cases per 100,000 population in 1999 decreased 12% from the previous year and 40% from a rate of 19.5 per 100,000 population in 1996 (Figure 5).

Seasonality: As in previous years, the number of cases increased in the spring, with incidence peaking June through September. The incidence was lower than the previous five-year average in all months except November. The reason for this decline is not known (Figure 6).

Age: Rates decreased in all age groups except the 15- to 34-year olds between 1998 and 1999; this group showed an 18% increase. The rate among children ages 1-4 (33.6 per 100,000) was the highest of any age group (Figure 7).

Sex: The male-to-female ratio was 1.2:1.

Race/Ethnicity: Campylobacteriosis age-adjusted rates were highest among Whites (14.5 per 100,000), followed by Hispanics (10.5 per 100,000). Rates decreased in Hispanics by 24%, and remained relatively constant in Whites. Rates increased in Asians by 14% and in Blacks by 17% (Figure 8). There were no outbreaks identified and the reason for the increase in rates in Asians and Blacks remains unknown.

Location: Health districts with the highest incidence in 1999 were Torrance (20.1 per 100,000),

Figure 7

Campylobacteriosis
Incidence Rates by Age Group
Los Angeles County, 1998-1999

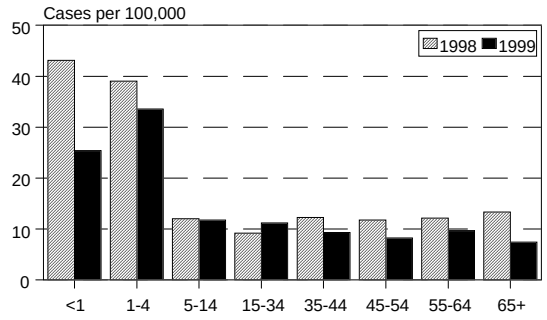
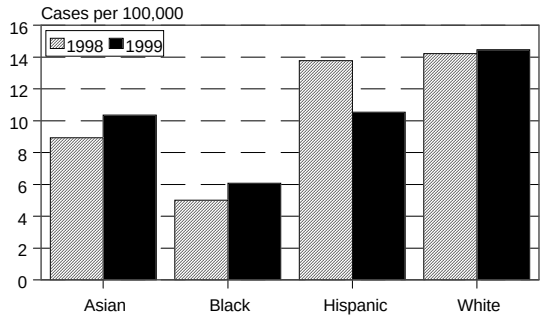


Figure 8

Campylobacteriosis
Age-adjusted Rates by Race/Ethnicity
Los Angeles County, 1998-1999

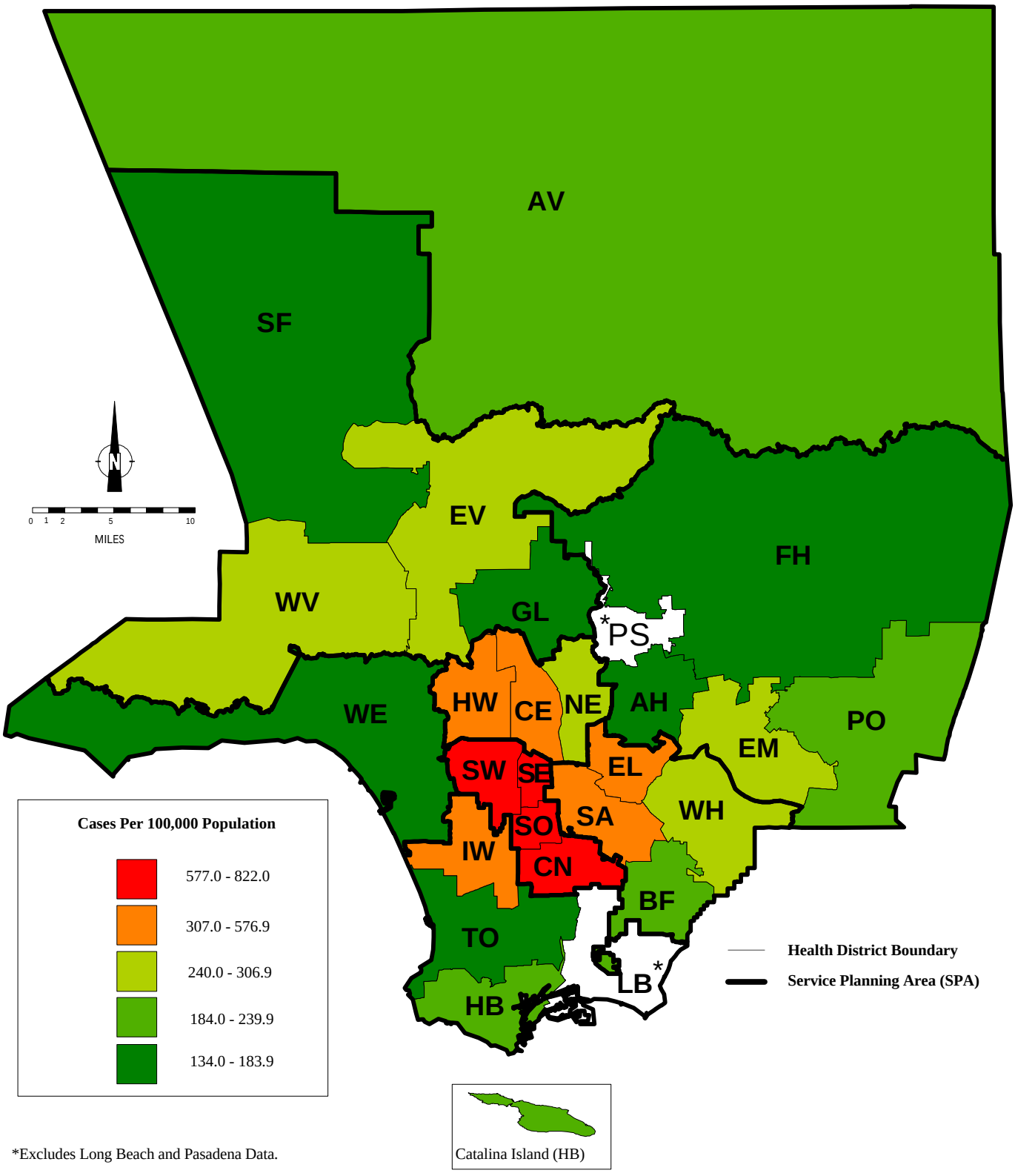


San Fernando (19.1 per 100,000), and West (18.6 per 100,000) (Map 2). This is comparable to previous years.

Analysis revealed no definitive reasons for the 22% increase in the campylobacteriosis incidence rate in 1996. In 1999, there was one campylobacteriosis-associated death in a 20-year-old male with no previous medical history and no other risk factors found at autopsy. Two persons, a 50-year-old male and a 60-year-old male, developed Guillain-Barre′ syndrome subsequent to their campylobacteriosis diagnosis; two persons were diagnosed with appendicitis and had an appendectomy prior to the return of stool culture results.

MAP 13. Chlamydia

Rates by Health District, Los Angeles County, 1999*



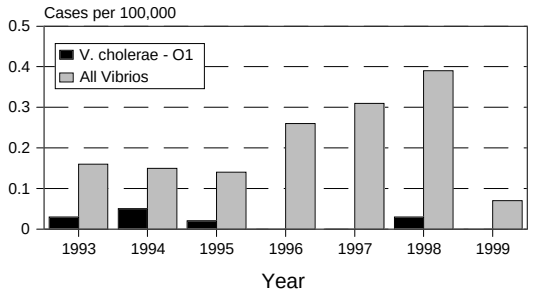
*Excludes Long Beach and Pasadena Data.

CHOLERA AND OTHER VIBRIOSES

CRUDE DATA	
Number of Cases	6
Annual Incidence[a]	
LA County	0.07
California	N/A
United States	N/A
Case Fatality	
LA County	17%
United States	N/A

Figure 9

All Vibrios
Incidence Rates by Year
Los Angeles County, 1993 - 1999



[a] cases per 100,000 population.

ETIOLOGY

The genus *Vibrio* consists of gram-negative, curved, motile rods, and contains about a dozen species known to cause illness in man.

DISEASE ABSTRACT

Cases of Vibrio infections dropped dramatically in 1999. Looking at the last five years, overall case numbers of Vibrio infections peaked in 1998 with 36 reports. In 1999, there were only six cases. *Vibrio* species reported in Los Angeles County (LAC) in 1999 were *V. vulnificus* (2), *V. parahaemolyticus* (2) and *V. hollisae* (2). No cases of V. cholerae-O1 were reported in 1999. Both 1999 *V. vulnificus* cases were associated with oyster consumption, one of these cases died.

STRATIFIED DATA

Seasonality: Sixty-seven percent (4/6) of cases occurred in May and August. Historically, cases of vibrio infections increase during the summer months.

Age/Sex: All vibrio cases were among adults, and 83% (5/6) were males.

Race/Ethnicity: Four cases (67%) were Hispanic, two (33%) were Asian.

PREVENTION

Risk from vibrioses can be prevented or reduced by avoiding seawater contamination of food (especially raw fish and shellfish) or drink. Infection with *V. vulnificus* is a particular risk for persons with pre-existing liver disease, frequently leading to soft tissue invasion, limb amputation, and a high case fatality. Adult males may be more at risk for Vibrio infections because of their tendency to engage in behaviors exposing them to seawater contamination or higher levels of raw or partially cooked seafood consumption, especially oysters.

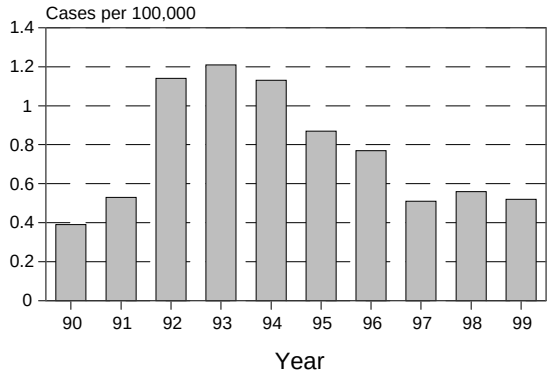
COCCIDIOIDOMYCOSIS

CRUDE DATA	
Number of Cases	48
Annual Incidence[a]	
LA County	0.52
California[b]	2.80
United States	N/A
Age at Onset	
Mean	41
Median	40
Range	13-83 yrs
Case Fatality	
LA County	8.3%
United States	N/A

[a] Cases per 100,000 population.
[b] California Department of Health Services Surveillance and Statistics Section.

Figure 10

Coccidioidomycosis
Incidence Rates by Year
Los Angeles County, 1990-1999



ETIOLOGY

Coccidioides immitis, a dimorphic fungus found in the soil.

DISEASE ABSTRACT

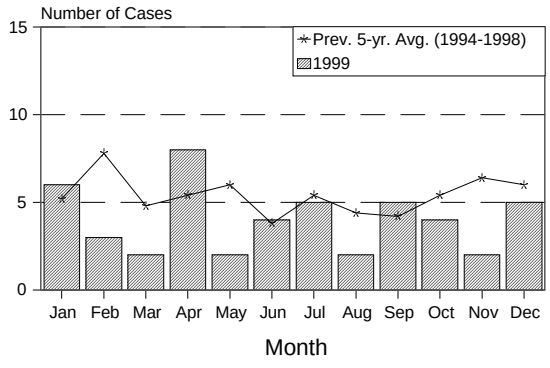
The coccidioidomycosis incidence rate for 1999 has remained approximately the same since 1997 and is lower than the five-year average.

STRATIFIED DATA

Trends: The incidence of coccidioidomycosis remained the same from 0.51 cases per 100,000 population in 1997 to 0.52 in 1999 but is lower than the peak of 1.21 in 1993. This is far below the previous 10-year average incidence of 0.75 but similar to the incidence rate seen in 1991(Figure 10).

Figure 11

Coccidioidomycosis
Cases by Month of Onset
Los Angeles County,1999



Seasonality: In 1999, the number of cases varied from two to eight cases per month. The two months with the highest number of cases was January (6 cases) and April (8 cases) . The number of cases in January, April, and September were above the previous five-year average (Figure 11).

Age: The highest incidence rate was observed in the 55-64 age group (1.11 cases per 100,000 population), followed by the 35-44 (0.80), 45-54 (0.65), and 15-34 (0.58) age groups (Figure 12). Overall, the predominance of males influenced the crude rates for all age groups. There were no cases under the age of 13.

Sex: The male-to-female rate ratio was 3:1. The mean age for males was 40 years and for females it was 45. The gender difference is likely due to occupational and recreational dust exposure of males although this is not clearly evident from the information collected (Figure 12). The most commonly reported occupations were construction worker (4), gardener (4), and student (4). Also, four cases were unemployed and three were retired. No female cases reported being pregnant.

Race/Ethnicity: As shown in Figure 13, a higher incidence was observed among Blacks (0.78 cases per 100,000 population) with incidence substantially lower in Hispanics (0.52), Whites (0.40) and Asians (0.36). Ethnic groups considered at highest risk for **disseminated disease** (spreading to and infecting many parts of the body) are Blacks, Filipinos and other Asians, Mexican Americans, and Native Americans. Of the two cases with disseminated disease, there were one Black and one Hispanic.

Location: Antelope Valley District had the highest rate of coccidioidomycosis at 2.84 per 100,000 population (9 cases) followed by West Valley with a rate of 1.37 (10) and San Fernando with 1.08 (4). The West Valley District had the highest number of cases.

Travel: Fourteen cases reported travel within four weeks before onset of illness: six traveled within California (San Joaquin Valley and the Central Valley) and eight traveled outside California to such places as Arizona and Mexico. Traditionally, coccidioidomycosis is known to be endemic in these areas as well as California. One case traveled to Hawaii before onset but this area is not known to be endemic.

Figure 12

Coccidioidomycosis
Incidence Rates by Age and Sex
Los Angeles County, 1999

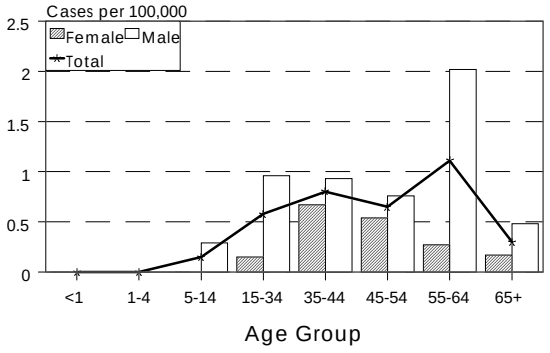


Figure 13

Coccidioidomycosis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1999

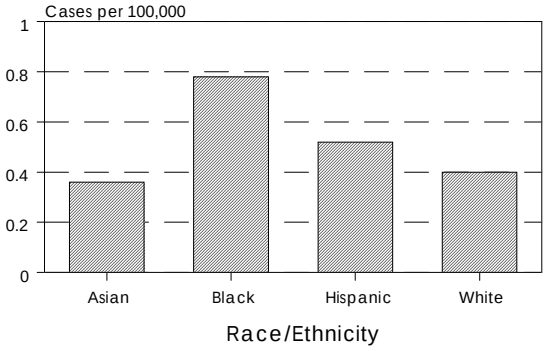
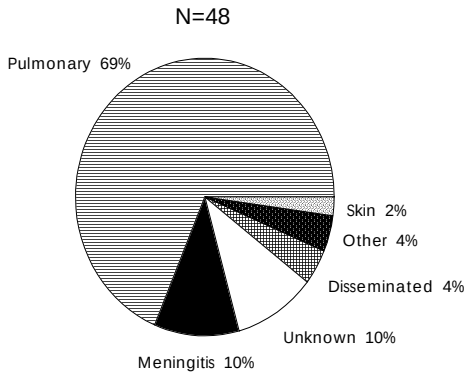


Figure 14

Coccidioidomycosis
by Site of Infection, LA County, 1999



Underlying Disease: Of the eight cases with known underlying disease, four cases were diabetics, one was infected with HIV, and one case each had malignancy, kidney problems and history of heroin abuse. Two cases died.

Site of Infection and Hospitalization: Of the cases reported in 1999, sites of infection were reported as 69% primary pulmonary, 4% disseminated, and 10% meningitis; in 10% of the cases infection site was unknown (Figure 14). Seventy-one percent (34) of cases were culture-confirmed. Of the 39 cases where information was available, 92% (36) were hospitalized.

COMMENTS

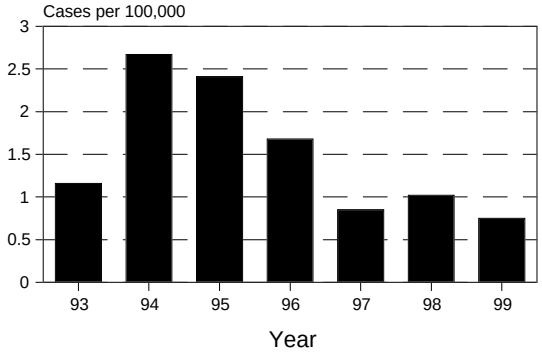
Coccidioidomycosis is a disease associated with exposure to dust containing *Coccidiodes immitis* spores. Environmental conditions conducive to an increased occurrence of coccidioidomycosis are as follows: arid to semi-arid regions, dust storms, lower altitude, hotter summers, warmer winters, and sandy, alkaline soils. Southern California is a known endemic area. Since there is no safe and effective vaccine or drug to prevent this disease, prevention lies mainly in dust control such as planting grass in dusty areas, putting oil on roadways, wetting down soil, air conditioning homes, and wearing masks or respirators. Other options may be to warn individuals who are at high risk for severe disease not to travel to endemic areas when conditions (dusty) are most dangerous for exposure.

CRYPTOSPORIDIOSIS

CRUDE DATA	
Number of Cases	69
Annual Incidence[a]	
LA County	0.75
California	0.84
United States	0.87
Age at Onset	
Mean	36
Median	37
Range	1-64 yrs
Case Fatality	
LA County	0.0%
United States	0.0%

[a]Cases per 100,000 population.

Figure 15
Cryptosporidiosis
Incidence Rates by Year
Los Angeles County, 1993-1999



ETIOLOGY

Cryptosporidiosis is caused by ingestion of cysts of the parasite *Cryptosporidium parvum*.

DISEASE ABSTRACT

Cryptosporidiosis has been an AIDS-defining disease since 1983. The extent of HIV infection and other cryptosporidiosis risk factors has not been previously quantified. Reported cases have fallen since the advent of highly active antiretroviral therapy.

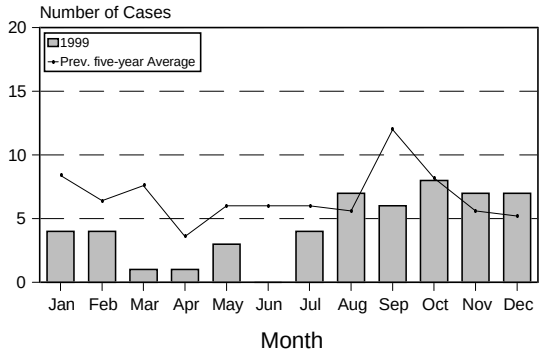
STRATIFIED DATA

Trends: The rate of cryptosporidiosis is at its lowest since 1997 with 0.75 cases per 100,000 population (Figure 15).

Seasonality: Cases were below the previous five-year average in every month except August, November and December (Figure 16). The typical peak seen in late summer with waterborne infections did not occur.

Age: The incidence of cryptosporidiosis was greatest in middle-aged adults 35 to 54 years of age, followed by the 45-54 aged group (Figure 17).

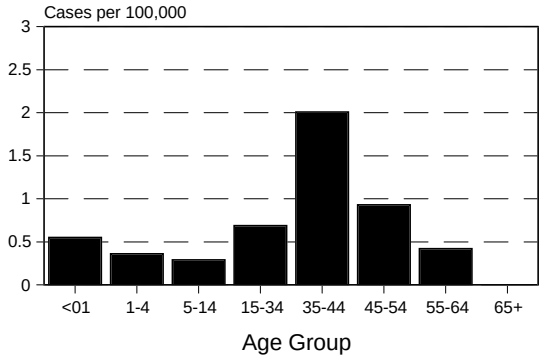
Figure 16
Cryptosporidiosis
Cases by Month of Onset
Los Angeles County, 1999



Sex: The male-to-female rate ratio increased to 4.8:1 compared to the 1998 ratio of 2.7:1.

Race/Ethnicity: Whites had the highest rate at 0.94 per 100,000 population (Figure 18), a slight drop from 1998. Hispanics followed with a rate of 0.66 per 100,000 population. The number of cases among Blacks (4) were too small for meaningful interpretation. No cases occurred among Asians. This variable was unknown for nine cases (13%).

Figure 17
Cryptosporidiosis
Incidence Rates by Age Group
Los Angeles County, 1999

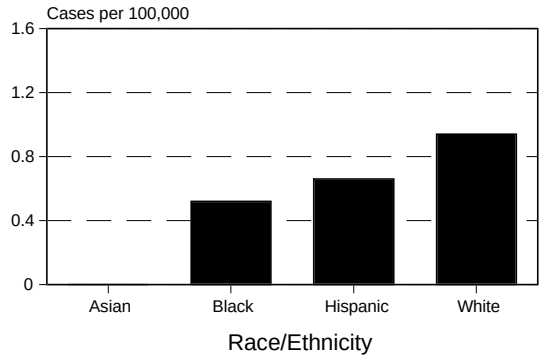


Location: Hollywood-Wilshire, Central, and Whittier Districts had the highest rates (5.7, 2.9, and 1.2 cases per 100,000, respectively). Hollywood-Wilshire district had the second highest AIDS incidence rate in 1999. Eight health districts reported cases and six districts reported no cases at all.

COMMENTS

Cases among persons with AIDS have decreased in other jurisdictions as a result of highly active antiretroviral therapy (HAART) which has improved their immune status. This likely explains much of the cryptosporidiosis rate reduction seen in LAC during the last two years.

Figure 18
Cryptosporidiosis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1998



Additional risk information was available on 52 cases (Table 1). Animal contact was the most commonly named risk factor, occurring in 37%. Foreign travel was reported by 29% of cases, outdoor camping or swimming was reported by 21% of cases and 15% were immigrants. Further details such as type of animal or nature of animal exposure, swimming location, country visited, or date of immigration were not provided. All other risk factors occurred in less than 10% of cases.

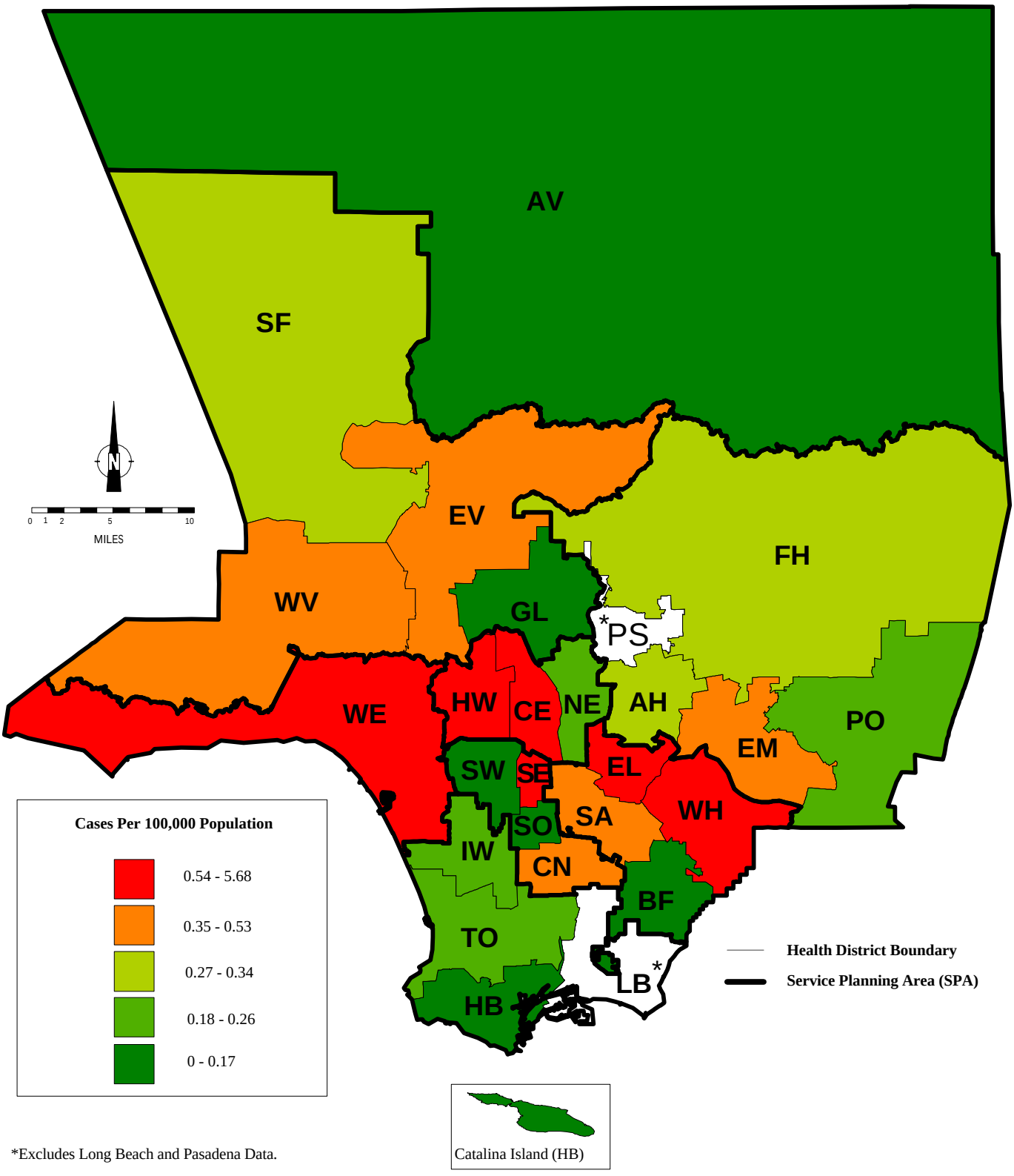
HIV infection was acknowledged by 36 cases (69%). Males were more likely than females to be HIV-positive (86% vs. 14%, OR=4.82, p=0.04). Male HIV-positive cases were more likely than male HIV-negative cases to admit to having male sexual partners (79% vs. 21%, OR=5.75 p=0.04).

These findings suggest that, while environmental sources may be the cause of many cryptosporidiosis cases, personal behaviors such as sexual activity also may play a role in transmission in Los Angeles County.

Table 1. Risk Factors for Cryptosporidiosis Cases by HIV Infection Status and Gender
Los Angeles County, 1999

	HIV Infected			Not HIV Infected		
Risk Factors	Male n=31	Female n=5	Total n=36	Male n=9	Female n=7	Total n=16
Immigrant	6/31	2/5	8/36	0/9	0	0/16
Contact to Case	2/31	0/5	2/36	0/9	1	1/16
Foreign Travel	6/31	2/5	8/36	3/9	4	7/16
Untreated Water	2/32	0/1	2/33	2/9	1	3/16
Developmentally Disabled	0/31	0/5	0/36	0/9	0	0/16
Day Care Center	0/31	0/5	0/36	0/9	0	0/16
Colonic Irrigation	2/31	0/5	2/36	0/9	2	0/16
Camping, Swimming	5/31	1/5	6/36	2/9	3	5/16
Unpasteurized Milk	1/31	0/5	1/36	0/9	0	0/16
Plumbing Trouble	4/31	0/5	4/36	1/9	0	1/16
Contact with Animals	13/31	3/5	16/36	3/9	0	3/16
Homosexual	23/29	0/4	23/33	3/8	0	3/15

MAP 3. Cryptosporidiosis
Rates by Health District, Los Angeles County, 1999*



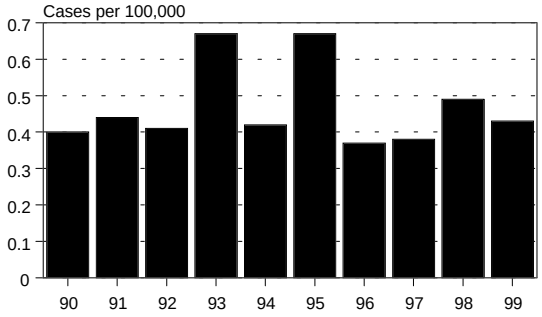
*Excludes Long Beach and Pasadena Data.

ENCEPHALITIS

CRUDE DATA	
Number of Cases	39
Annual Incidence[a]	
LA County	0.43
California	N/A
United States	N/A
Age at Onset	
Mean	37
Median	36
Range	0-84 yrs
Case Fatality	
LA County	28%[b]
United States	N/A

Figure 19

Encephalitis
Incidence Rates by Year
Los Angeles County, 1990-1999



[a] Cases per 100,000 population.
[b] Excludes AIDS encephalopathy cases.

ETIOLOGY

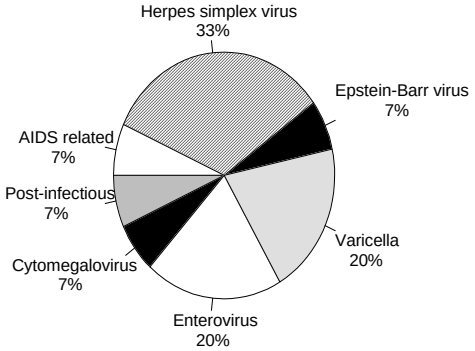
Encephalitis, an inflammation of the brain, causes headache, stiff neck, fever and altered mental status. It can result from infection with a number of different agents including viral, parasitic rickettsial, bacterial and chemical. Public health surveillance is limited to cases of suspected or confirmed viral etiology, and includes primary and postinfectious encephalitis. The etiologies of cases reported in 1999 are shown in Figure 20.

DISEASE ABSTRACT

The 1999 incidence of viral encephalitis remains in the range seen during non-epidemic years. The highest age-specific incidence rate (1.10 cases per 100,000 population) was observed in children less than one year of age, followed by the 1-4 age group (1.08 per 100,000), then those over 65 years (1.00 per 100,000). The male-to-female rate ratio was 1:0.89. Whites had the highest crude incidence rate (0.60 cases per 100,000 population), followed by Asians, Blacks and Hispanics (0.45, 0.39, 0.26 cases per 100,000 population, respectively). Cases of encephalitis occurred throughout Los Angeles County, with Harbor, Pomona and San Fernando districts having the highest rates (1.41, 0.92 and 0.81 cases per 100,000 population, respectively).

Figure 20

Etiology of Encephalitis Cases, 1999
N=15



*Sixty-two percent of encephalitis etiologies were not identified.

COMMENTS

Despite the fact that the Public Health Laboratory provides free testing of clinical samples, few are submitted, and the etiologic agent for most cases is not identified. In 1999, the etiology was unknown for 62% of reported cases.

Of particular public health concern in LAC are the arthropod-borne (arboviral) encephalitides, especially those due to St. Louis encephalitis (SLE) and Western equine encephalitis (WEE) viruses. Since 1985, sporadic cases of SLE have been reported, following an outbreak of 16 cases in 1984. The potential for another SLE outbreak exists, as the sporadic cases in previous years and identification of SLE in sentinel animal populations indicate that the virus is now endemic in LAC. The annual mosquito-borne encephalitis surveillance program consists of surveillance for equine cases of WEE, monitoring of mosquito populations, laboratory testing of mosquitoes for WEE and SLE viruses, and twice monthly testing of sentinel chicken flocks for SLE and WEE seroconversion. Elimination of standing water and proper maintenance of ponds and swimming pools decrease the available sites for hatching and maturation of mosquito larvae. The State of California Mosquito Abatement Districts monitor and control populations of these insects.

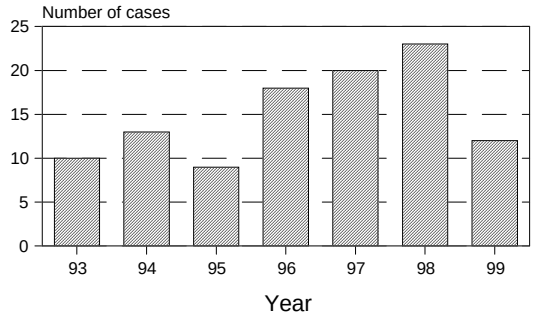
ESCHERICHIA COLI O157:H7

CRUDE DATA	
Number of Cases	12
Annual Incidence[a]	
LA County	0.13
California[b]	0.59
United States[b]	1.66
Age at Onset	
Mean	31.8
Median	11
Range	1-84
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.
[b]National Electronic Telecommunications System for Surveillance.

Figure 21

Escherichia coli O157:H7
Cases by Year
LAC, 1993-1999



ETIOLOGY

Escherichia coli O157:H7, a gram-negative bacillus, is a specific serotype of the Shiga-toxin producing class of *Escherichia coli* (STEC) which produces Shiga-toxins (formerly known as Shiga-like toxins) via plasmids. Abdominal cramps and watery diarrhea developing into bloody diarrhea are typical symptoms. Fever is often absent.

Clinical complications include hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP).

DISEASE ABSTRACT

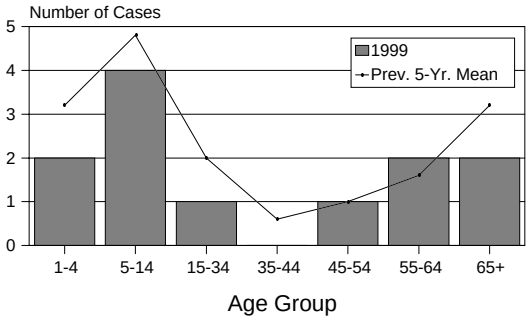
The 1999 incidence rate of *E. coli* O157:H7 (0.13 cases per 100,000) decreased by nearly one-half of the 1998 incidence rate (0.25 cases per 100,000). No outbreaks were identified in LAC in 1999.

STRATIFIED DATA

The 5-14 year age group had the most reported cases (4) (Figure 22). The male-to-female rate ratio was 3:1. Out of 12 cases in 1999, seven were Caucasian, three were Latino, two were Asian; there were no African-American cases. For almost every month the number of cases in

Figure 22

*Esherichia coli*O157:H7
Cases by Age Group
Los Angeles County, 1999 (N =12)



1999 was on or fell below the previous five-year mean (Figure 23).

During 1999, there were no outbreaks identified in LAC. However, isolates from two Glendale residents did have the same pulsed-field gel electrophoresis (PFGE) pattern in September; these two cases were determined not to be epidemiologically linked after extensive interviews. The most common food exposures occurring among cases within seven days of onset was consumption of ground beef (67%) and having patronized a fast food restaurant (50%).

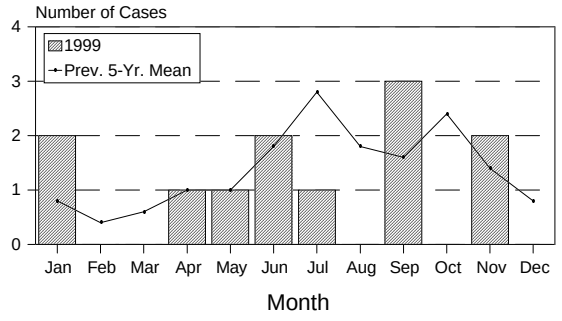
Eleven cases (92%) reported abdominal cramps and bloody diarrhea while only two (12%) reported fever. Hospitalization was documented in nine of the cases (75%) and no deaths were reported. One of three HUS cases reported in LAC was positive for *E. coli* O157:H7 and underwent dialysis. There were no *E. coli* O157:H7 cases with TTP, and none required surgery.

COMMENTS

E. coli O157:H7 was first recognized as an important human pathogen causing foodborne illness in 1982. In 1994, LAC requested laboratories and health care providers to voluntarily report suspected *E. coli* O157:H7 cases. Mandatory reporting of *E. coli* O157:H7 cases in California was instituted in July 1995.

Figure 23

*Escherichia coli*O157:H7
Cases by Month of Onset
Los Angeles County, 1999 (N =12)



There was a decrease in cases in 1999 compared with 1998 due to an unusually high number of unlinked cases seen in July 1998. It appears that only severe cases are being diagnosed, tested, and reported because 92% of reported cases had bloody diarrhea with only 33% vomiting.

Infection with *E. coli* O157:H7 is most often associated with consumption of contaminated foods, such as inadequately cooked ground beef and raw milk. Recent outbreaks in the US have implicated contaminated produce and their products such as unpasteurized apple cider, melons, alfalfa sprouts, iceberg and leaf lettuce, and mesclun (a mix of greens).

Collaborative efforts among physicians, laboratories and the health department are important for enhancement of surveillance activities. Physicians should consider *E. coli* O157:H7 in their diagnoses by asking about consumption of high-risk foods, attendance at day-care centers or farms, and exposure to other individuals with diarrhea. Laboratories should screen all bloody stool specimens for toxin or sorbitol-negative colonies. Laboratory-based reporting through PulseNet has been notable in detecting clusters of *E. coli* O157:H7.

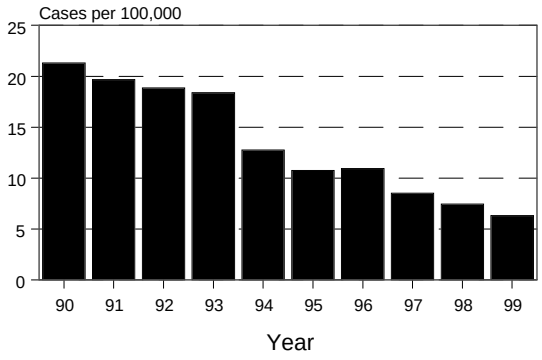
Preventative measures should be implemented on a continual basis. The public needs increased education regarding food handling practices, proper hygiene and high-risk foods. Collection of detailed food histories and strengthening of national processing regulations to decrease food contamination should be targeted.

GIARDIASIS

CRUDE DATA	
Number of Cases	579
Annual Incidence[a]	
LA County	6.3
United States	N/A
Age at Onset	
Mean	24
Median	16
Range	0-97
Case Fatality	
LA County	0.2%
United States	N/A

[a]Cases per 100,000 population.

Figure 24
Giardiasis
Incidence Rates by Year
Los Angeles County, 1990-1999



ETIOLOGY

Giardiasis is caused by ingestion of cysts of the protozoan parasite *Giardia lamblia*.

DISEASE ABSTRACT

The year 1999 had the lowest rate of giardiasis ever in Los Angeles County. There were no reported giardiasis outbreaks.

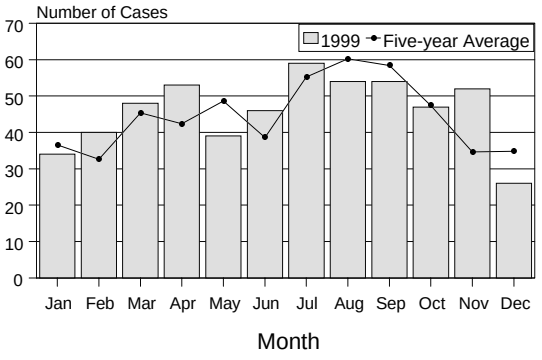
STRATIFIED DATA

Trends: The rate of giardiasis has dropped annually since its 1989 high point of 21.7 cases per 100,000. The 1999 incidence was the lowest since 1981 (Figure 24).

Seasonality: The typical late summer peak of cases was evident in 1999 (Figure 25).

Age: The age-specific incidence of giardiasis was greatest in children aged 1-4 years (20.9 per 100,000) followed by children aged 5-14 years (11.2 per 100,000) (Figure 26). For both age groups, these rates were lower than those of the previous year.

Figure 25
Giardiasis
Cases by Month of Onset
Los Angeles County, 1999



Sex: The male-to-female rate ratio fell slightly from 1.4:1 to 1.3:1.

Race/Ethnicity: Rates for Hispanics and Whites were substantially higher than those of Asians and Blacks (Figure 27).

Location: San Fernando and Torrance Districts had rates double the county average (12.7 and 12.4 per 100,000, respectively); Hollywood-Wilshire and Harbor Districts also had rates above 10.0 (Map 4).

Comment: Risk factors for giardiasis were summarized for the first time in 1999. Two thirds of cases were interviewed (389/579, 67%). Interviewed cases did not differ by race, sex, age group, or month of onset from those that were not located for interview. Because there is no control group to which these responses can be compared, caution should be used when interpreting this information.

The most commonly cited risk factors were: recent foreign travel (33%), outdoor camping (24%), other exposure to nonpotable water (15%), plumbing trouble (7.4%), and contact with children in day care (6.3%). The country most commonly visited was Mexico (60/128); Central American countries were named thirteen times, and nine cases were recent arrivals from the former Soviet Union. One third of cases were immigrants to the US, but the length of residence in this country was not provided. While a large proportion of cases claimed exposure to animals (44%), the nature of the exposure and type or health of the animal was not available.

Figure 26

Giardiasis
Incidence Rates by Age Group
Los Angeles County, 1999

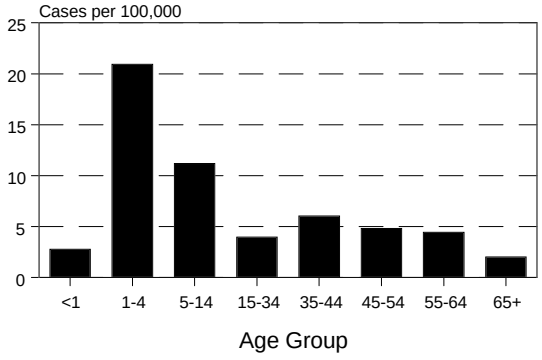
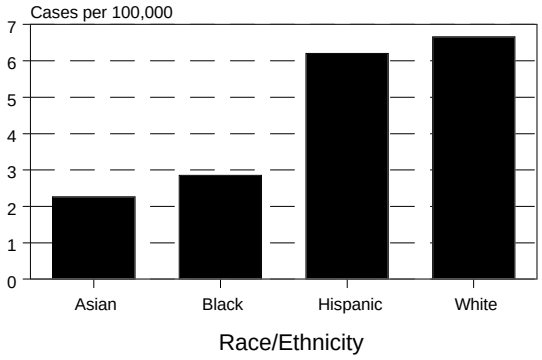


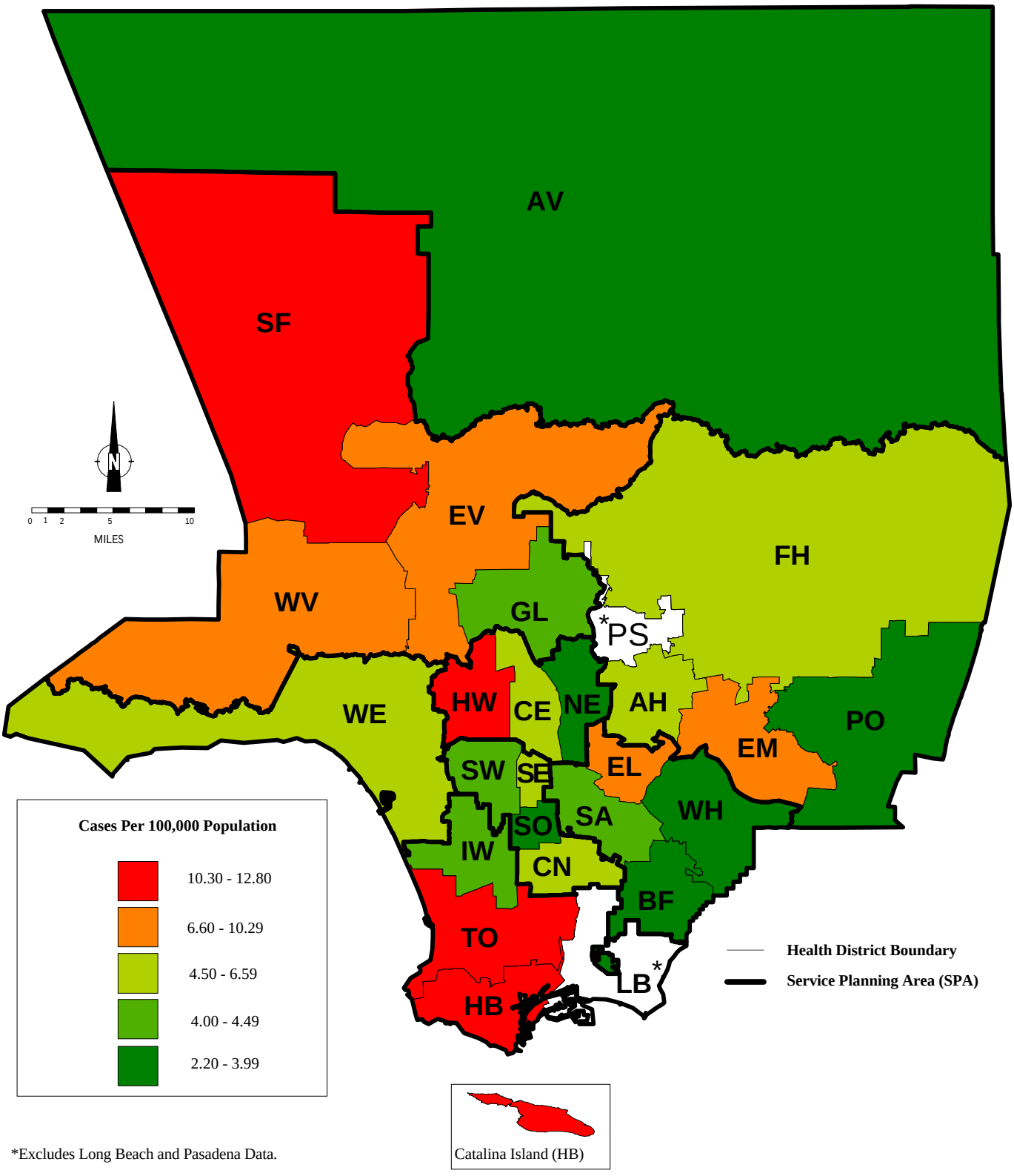
Figure 27

Giardiasis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1999



Sexual orientation was stated on 96% (370/389) of interviews; 171 cases (46%) were not sexually active. Of the remainder, 52% (105/203) of male cases were sexually active, compared to only 40% (66/167) of female cases. Thirty percent (32) of sexually active male cases admitted to sex with other males (MSM), while only 3% of female cases (2) were homosexual. Among sexually active giardiasis cases, MSM were as likely as all remaining cases to have immigrated, gone camping, or been exposed to animals or untreated water. However, MSM were significantly less likely to have traveled to a foreign country recently (odds ratio 0.33, 95% confidence interval 0.10-0.97).

MAP 4. Giardiasis
Rates by Health District, Los Angeles County, 1999*



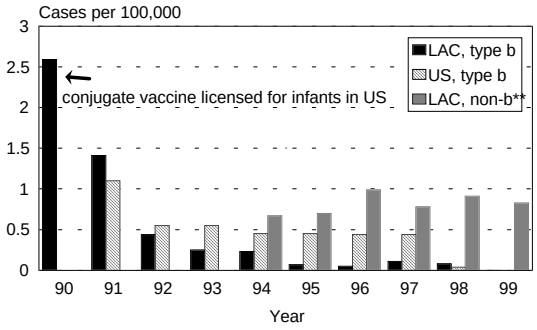
*Excludes Long Beach and Pasadena Data.

HAEMOPHILUS INFLUENZAE INVASIVE DISEASE

CRUDE DATA	
Number of Cases	76
Annual Incidence[a]	
LA County	0.83
California	0.36[b]
United States	0.48
Age at Onset	
Mean	52 yrs
Median	62 yrs
Range	birth-96 yrs
Case Fatality	
LA County	4%
United States	N/A

Figure 28

H. influenzae Invasive Disease
Incidence Rates by Year
LAC and US*, 1990-1999



*Hib not nationally notifiable until 1991, no national data for non-b types
**No data before 1994, active surveillance started in 1995

[a] Cases per 100,000 population.
[b] Cases per 100,000 persons < 30 years of age. In California, *H. influenza* among persons > 29 years of age is not reportable.

ETIOLOGY

Haemophilus influenzae is a gram-negative coccobacillus. There are six encapsulated, typable strains (a-f) and unencapsulated, nontypable strains of *H. influenzae*. Most invasive disease is caused by *H. influenzae* type b (Hib). There is an effective vaccine against Hib.

DISEASE ABSTRACT

Before the introduction of effective vaccines, Hib was the leading cause of bacterial meningitis and other invasive bacterial disease including epiglottitis, pneumonia, arthritis, and cellulitis among children less than five years of age. In 1999, 76 cases of *H. influenzae* invasive disease were reported; all were either non-b or unknown serotypes.

STRATIFIED DATA

Trends: No cases of Hib invasive disease were reported in 1999. This illustrates the dramatic impact of the introduction of the Hib conjugate vaccine in 1990. In one decade, Hib invasive disease has decreased from an incidence of 2.6 cases per 100,000 population to zero. Incidence rates for other types of *H. influenzae* have remained relatively steady over time (Figure 28).

Age: The incidence of *H. influenzae* invasive disease peaks in infants and the elderly. Most of the cases in 1999 were in those 65 years of age or older (Figure 29). The median age at onset for invasive non-b *H. influenzae* disease was 69 years.

COMMENTS

Contacts of reported cases of Hib are investigated and chemoprophylaxis is administered when appropriate. There is no evidence that these measures are effective in controlling non-b serotypes. Hib vaccine offers no protection against non-b serotypes of *H. influenzae*.

Non-invasive disease caused by *H. influenzae*, such as conjunctivitis and respiratory infections, is not investigated or reported regardless of the serotype.

H. influenzae type b

No cases of Hib were detected in 1999.

H. influenzae, non-b serotypes

Forty percent of *H. influenzae* isolates in 1999 were non-typable (Figure 30) and 21% were *H. aegyptius/H. influenzae* biotype III. Sixteen percent of the isolates were type f and the same percentage were not typed.

Most cases (92%) had sepsis. Other infections included pneumonia (n=6), meningitis (n=4), and arthritis (n=1). Two perinatal infections (sepsis) occurred where the mother was not confirmed with infection. Three cases were known to have died of sepsis (two non-typable, one unknown type). Their ages were two years, 38 years, and 71 years.

Figure 29

H. influenzae Invasive Disease
Incidence Rate by Age Group
Los Angeles County,1999

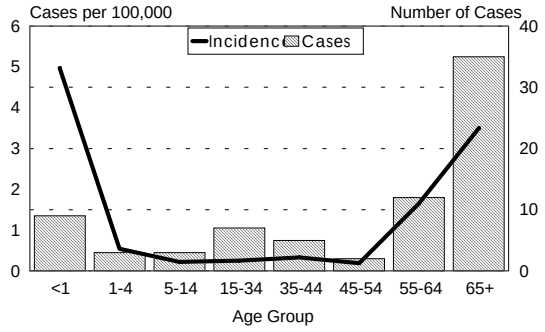
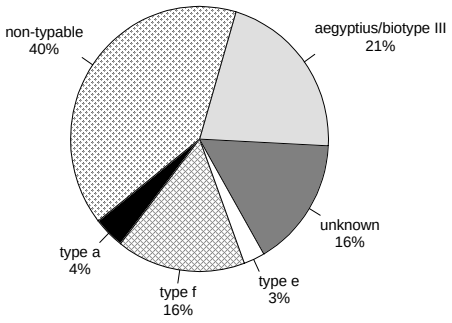


Figure 30

H. influenzae Invasive Disease
by Serotype (N=76)
Los Angeles County, 1999



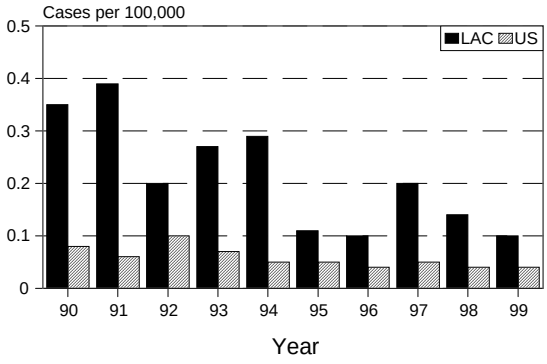
HANSEN'S DISEASE (LEPROSY)

CRUDE DATA	
Number of Cases	9
Annual Incidence[a]	
LA County	0.10
California	0.11
United States	0.04
Age at Diagnosis	
Mean	41
Median	36
Range	17-88 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 31

Hansen's Disease
Incidence Rates by Year of Diagnosis
LAC and US, 1990-1999



ETIOLOGY

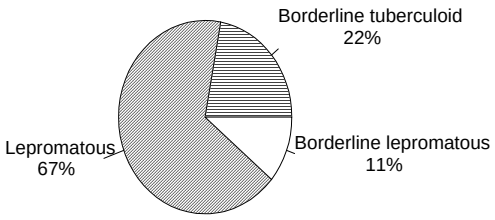
Mycobacterium leprae, an acid-fast gram-positive bacillus.

DISEASE ABSTRACT

The 1999 incidence rate of Hansen's Disease decreased from last year. The majority of cases were Hispanic males (44%). In LAC, the lepromatous form of disease is the most common (Figure 32).

Figure 32

Types of Newly Diagnosed Hansen's Disease
Los Angeles County, 1999
M=10



STRATIFIED DATA

Trends: The incidence of Hansen's Disease declined 28% from 0.14 cases per 100,000 population in 1998 to 0.10 in 1999 (Figure 31).

Age: The average age at the time of diagnosis is 41 years. The highest incidence rate was observed in the 55-64 age group (0.16 cases per 100,000 population). Due to insidious progression of disease, onset date of illness is imprecise and may be several years prior to first physician visit.

Sex: The male-to-female rate ratio was 9:1.

Race/Ethnicity: As in previous years, cases were mainly Asians (5 cases) and Hispanics (4 cases) who had emigrated from countries with endemic Hansen's disease. Of the Asian cases, one was from China and four from the Philippines. All Hispanic cases were from Mexico.

Location: All Hansen's disease cases acquired illness outside the US.

Comments: The Acute Communicable Disease Control Unit maintains a Hansen's disease registry of all patients in LAC who are currently receiving or should be receiving medical follow-up for this disease. In 1999, there were a total of 345 Hansen's disease cases under medical care in LAC. Patients are monitored until they (1) no longer require medical supervision, (2) move out of LAC, (3) are lost to follow-up, or (4) die.

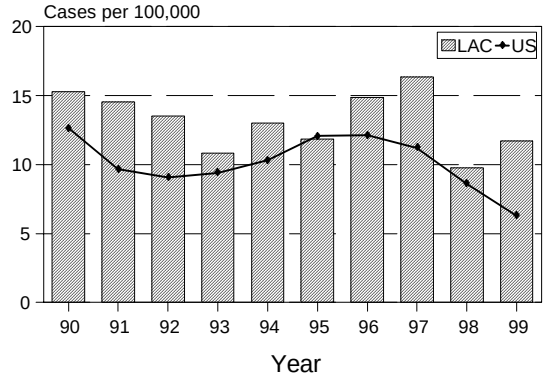
HEPATITIS A

CRUDE DATA	
Number of Cases	1075
Annual Incidence[a]	
LA County	11.7
California	10.4
United States	6.3
Age at Onset	
Mean	27
Median	23
Range	6 weeks - 98 yrs
Case Fatality	
LA County	N/A
United States	N/A

[a]Cases per 100,000 population.

Figure 33

Hepatitis A
Incidence Rates by Year
LAC and US, 1990-1999



ETIOLOGY

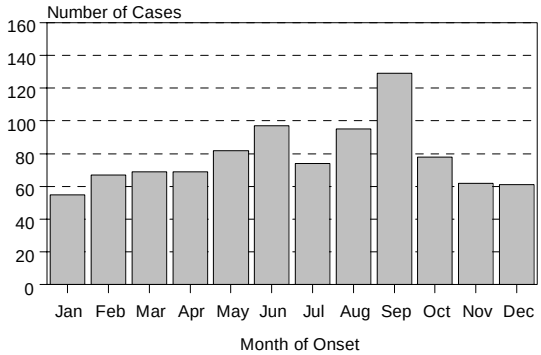
Hepatitis A virus, an RNA-virus of the Picornaviridae family.

DISEASE ABSTRACT

The incidence of Hepatitis A in LAC increased in 1999. There were more outbreaks, with most occurring during the summer. With few exceptions, age, race, and gender characteristics were similar to those of 1998. Among those hospitalized, rates were highest among children and young adults.

Figure 34

Hepatitis A Cases
by Month of Onset
Los Angeles County, 1999



STRATIFIED DATA

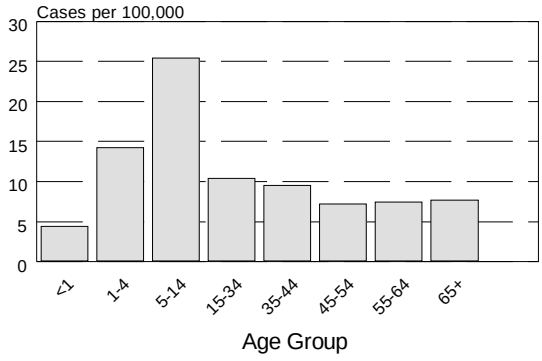
Trends: After a steady increase from 1993 to 1997, followed by a sharp decrease in 1998, an upward trend in Hepatitis A rates was seen in 1999. The 1999 hepatitis A crude rate (11.7 per 100,000 population) increased 20% over the 1998 rate of 9.7 per 100,000 (Figure 33).

Seasonality: With the exception of July, the increase in hepatitis A cases historically observed in summer and early autumn was observed in 1999 (Figure 34).

Age: The overall mean age for hepatitis A cases in 1999 was 27 years. The mean age for Hispanic cases was 17 years, while Black, White, and Asian cases had means of 43, 37, and 47 years, respectively. Rates remained highest in 5- to 14-year-olds (25.5 per 100,000 population) which reflects the incidence (33.5 per 100,000) in Hispanics in that age group (Figure 35).

Figure 35

Hepatitis A
Incidence Rates by Age Group
Los Angeles County, 1999

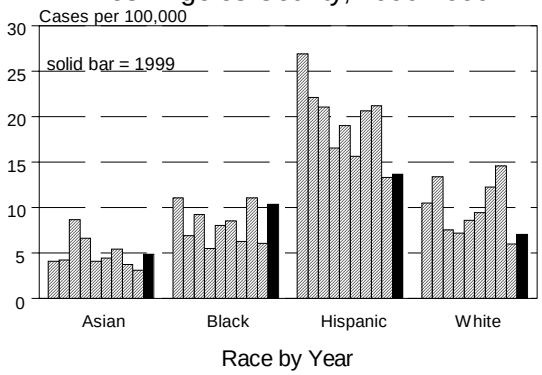


Sex: The overall hepatitis A male-to-female rate ratio was 1.3:1.

Race/Ethnicity: Overall crude rates increased for all races in 1999. The highest 1999 rate, as in prior years, was among Hispanics. The increase in rates for Asians and Blacks is exaggerated by the low case frequency compared to Hispanics (54, 80 and 579, respectively). The ranking of rates by race/ethnicity was relatively unchanged from the previous year (Figure 36).

Figure 36

Hepatitis A
Incidence Rates by Race and Year
Los Angeles County, 1990-1999



Location: Map 5 shows district-specific hepatitis A rates for 1999. The highest rates were in Compton (22.6 cases per 100,000 population), Southeast (21.5 cases per 100,000 population), San Antonio(20.9 cases per 100,000 population),Central (20.7 cases per 100,000 population), and South (20.5 cases per 100,000 population) Health Districts.

Severity of Illness: Six percent of hepatitis A cases (n=59) were hospitalized. Ages ranged from 3 to 70 years, with a median age of 19. Hospitalization rates were highest among children and young adults, with jaundice, fever, nausea and vomiting reported by over 50%. Travel outside of the U.S. was the most common risk factor reported although in 41% no risk was identified**.**

PREVENTION

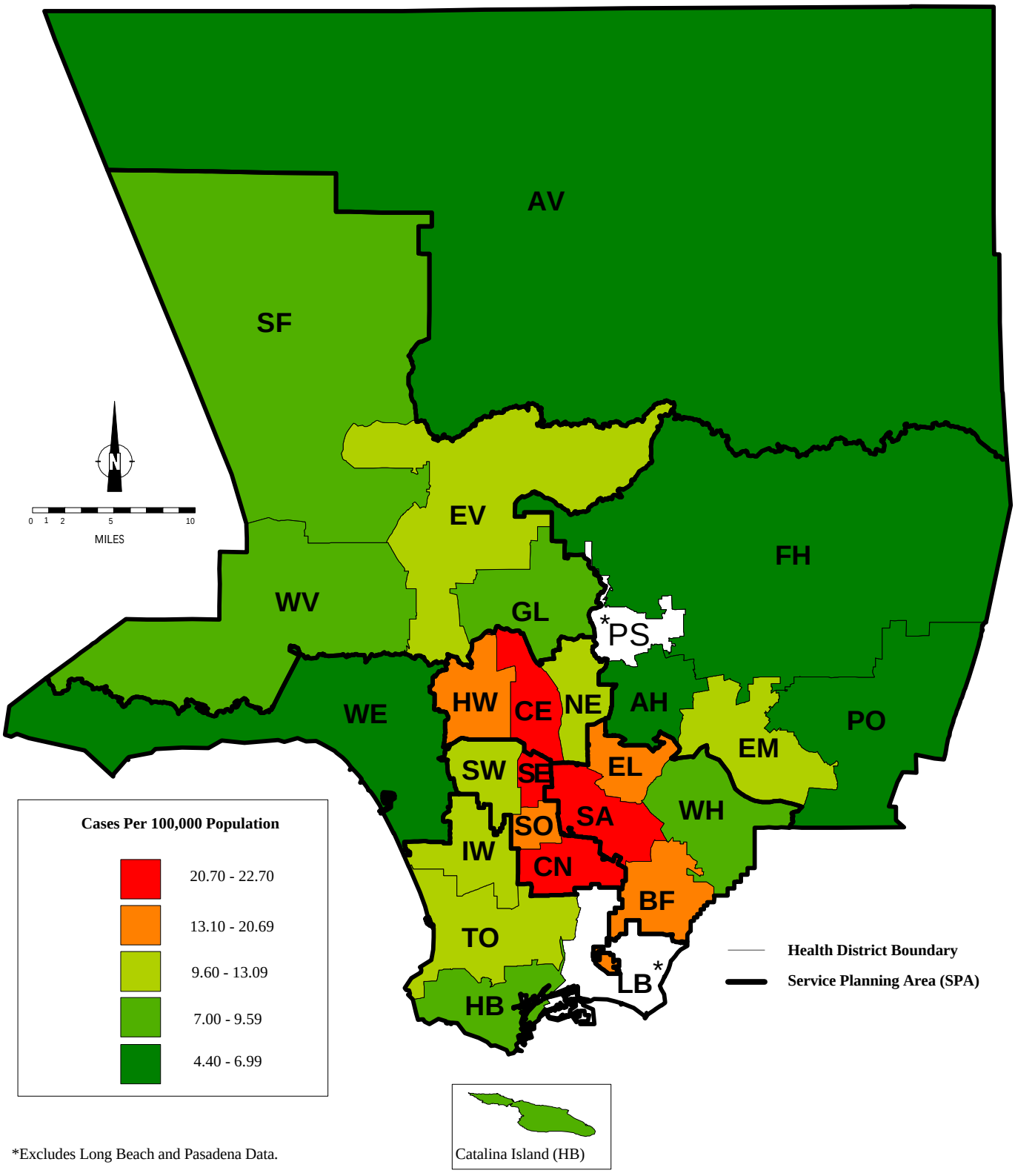
Good hygiene remains the primary preventive measure for hepatitis A. Vaccine, recommended for pre-exposure situations and for those at high-risk, has been available since 1995. In 1999, the Advisory Council on Immunization Practices (ACIP) began recommending universal childhood vaccination in states, counties, and communities (including LAC) with rates equal to or greater than twice the national average (20 cases per 100,000) during 1987-97. LAC began providing the vaccine to children under the age of 18 in August 1999. Immune globulin is recommended for post-exposure prophylaxis and in certain pre-exposure situations.

COMMENTS

There were seven outbreaks of hepatitis A in 1999. Settings included elementary and middle schools (n=2), a homeless shelter (n=1), and private gatherings or families (n=3). An investigation of persons associated through household or sexual contact, and by methamphetamine use, identified an outbreak of 16 cases over a three month period. Only after identification and post-exposure prophylaxis of contacts associated by methamphetamine use did the outbreak subside. Methamphetamine use is known to be associated with transmission of hepatitis A. Many of these cases had been asked about use of needles for injection of street drugs as part of the standard interview. However, information about methamphetamine use was not elicited until specific questions were added to subsequent case interviews. This finding suggests that interview questions about illicit drug use may need to be revised in order to obtain complete contact information.

Currently, hepatitis A vaccine recommendations for children are not legally mandated. Publicly funded immunizations reach only a portion of children who are eligible and estimates of immunizations provided by the private sector are low. Data on hepatitis A hospitalization and reporting was examined and, based on analysis of patient discharge data and 1999 hospitalization rates in children, the actual number of hepatitis A cases in LAC in 1999 was estimated to be 5,512. The number of cases reported was 1075, suggesting that underreporting is a serious problem. With their primary role in asymptomatic transmission, high overall rates and rates of hospitalization, the impact of early vaccination of children on reduction of the transmission and morbidity associated with hepatitis A is clear. Support and encouragement for physician compliance with the ACIP recommendations should continue.

MAP 5. Hepatitis A
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

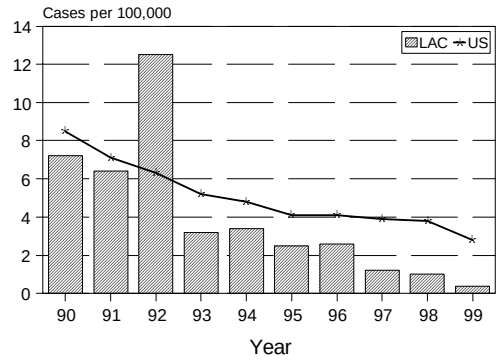
HEPATITIS B

CRUDE DATA	
Number of Cases	35
Annual Incidence[a]	
LA County	0.38
California	3.72
United States	2.82
Age At Onset	
Mean	42.1
Median	34.5
Range	18 - 85 yrs
Case Fatality	
LA County	N/A
United States	N/A

[a]Cases per 100,000 population.

Figure 37

Hepatitis B
Incidence Rates by Year
LAC and US, 1990-1999



ETIOLOGY

Hepatitis B virus, a DNA-virus of the Hepadnaviridae family.

DISEASE ABSTRACT

The incidence of acute Hepatitis B continued to decline in 1999, and all cases were in adults. There was one outbreak.

STRATIFIED DATA

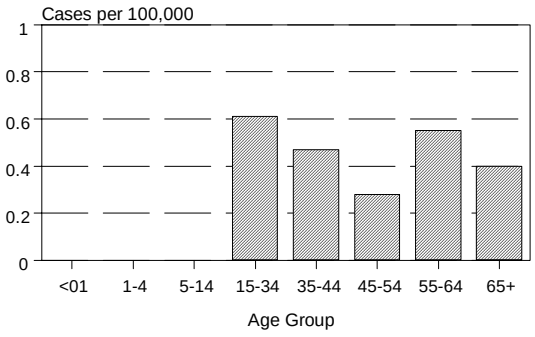
Trends: In 1999, the rate of hepatitis B (0.38 per 100,000 population) continued its downward trend (Figure 37). The number of cases (n=35) decreased substantially from the previous year (n=92) (see comments).

Seasonality: None.

Age: There were no cases of hepatitis B in children. Cases ranged in age from 18 to 85, with 50% occurring in those under the age of 35. Rates were highest among 15-34 year olds (0.61/100,000) (Figure 38).

Figure 38

Hepatitis B
Incidence Rates by Age Groups
Los Angeles County, 1999



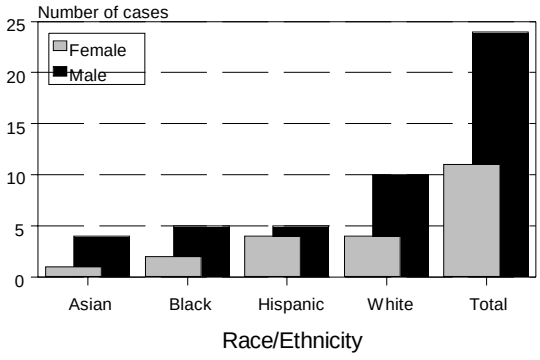
Sex: The male-to-female rate ratio was 2.2:1. The number of cases in males exceeded those in females in all ethnic groups (Figure 39).

Race/Ethnicity: In 1999, rates decreased in all ethnic groups. Rates in Blacks (0.91 per 100,000) remained highest. Rates were relatively equal in Whites and Asians (0.47 and 0.45 per 100,000 respectively), and were lowest in Hispanics (0.21 per 100,000). The highest number of cases occurred in Whites (n=14) (Figure 40).

Location: Rates were highest (1.96 per 100,000) in the Hollywood-Wilshire Health District where 10 of the 35 cases occurred. There were five health districts with no reported cases.

Figure 39

Hepatitis B
Cases by Sex and Race
Los Angeles County, 1999



COMMENTS

The substantial decrease in the number of hepatitis B cases in 1999, while encouraging, is more likely attributable to consistencies and improvements in the criteria for investigation and classification of cases over the last two years rather than a true reduction in infection. Because the data suggest that, of those with identifiable risk factors, people under age 35, men who have sex with men, bisexuals, and people with multiple partners continue to be at greatest risk for hepatitis B (Figure 41), preventive efforts should continue to focus on these high risk populations.

No risk factor was identified in 33% of cases. This may indicate hesitancy by the interviewee to reveal information considered sensitive. Changes in interviewing technique to obtain this information may be useful. A closer analysis of this group is needed.

Figure 40

Hepatitis B
Cases by Age Group and Race
Los Angeles County, 1999

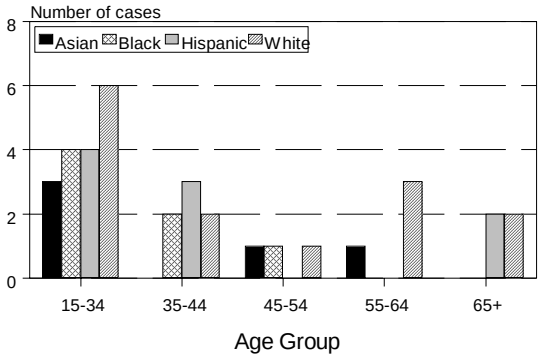
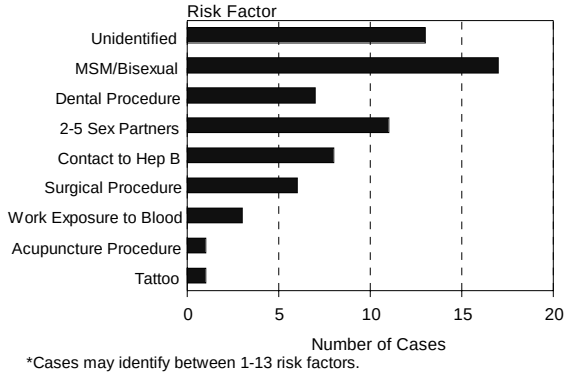


Figure 41

Hepatitis B
Self-Identified Risk Factors*
Los Angeles County,1999



*Cases may identify between 1-13 risk factors.

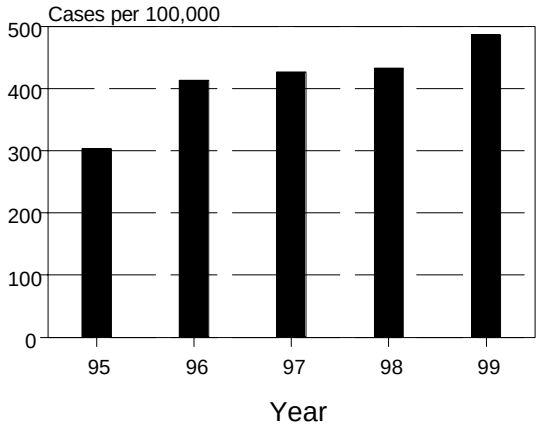
PERINATAL HEPATITIS B PREVENTION PROGRAM

CRUDE DATA	
Number of Infants Born to HBsAg-Positive Mothers	756
Annual Incidence[a]	
LA County	487
California	NA
United States	NA
Age of Mother at Time of Infant's Birth	
Mean	32
Median	30
Range	17-47 yrs
Case Fatality	
LA County	0.0%
United States	NA

[a]Incidence based on number of infants born to HBsAg-positive mothers per 100,000 live births.

Figure 42

Infants Born to HBsAg-Postive Mothers
Incidence Rates by Year
LAC, 1995-1999



Incidence rates prior to 1995 are unknown.

ETIOLOGY

Hepatitis B virus (HBV).

DISEASE ABSTRACT

The Immunization Program's Perinatal Hepatitis B Prevention Program (PHBPP) conducts case management of chronic hepatitis B surface antigen (HBsAg)-positive pregnant women, their newborns and household contacts.

STRATIFIED DATA

Trends: In 1999, 756 infants (including 12 sets of twins) were born to 744 HBsAg positive women. The incidence of infants born to HBsAg-positive mothers increased by 11% from 433 per 100,000 infants born in 1998 to 487 per 100,000 infants born in 1999 (Figure 42).

Race/Ethnicity: The majority of the cases were Asia/Pacific Islanders where hepatitis B disease is endemic. Five hundred fifty-six (75%) of the women were Asian/ Pacific Islander (API), 99 (13%) were Hispanic, 55 (7%) were Black and 34 (5%) were White (Figure 43).Of the 556 API women, 276 (50%) were Chinese, 95 (17%) Vietnamese, 73 (13%) Filipino, 54 (10)% Korean, 15 (3%) Cambodian, 10 (2%) Samoan, 8 (1%) Thai, and 25 (5%) other API. (Figure 44).

Figure 43

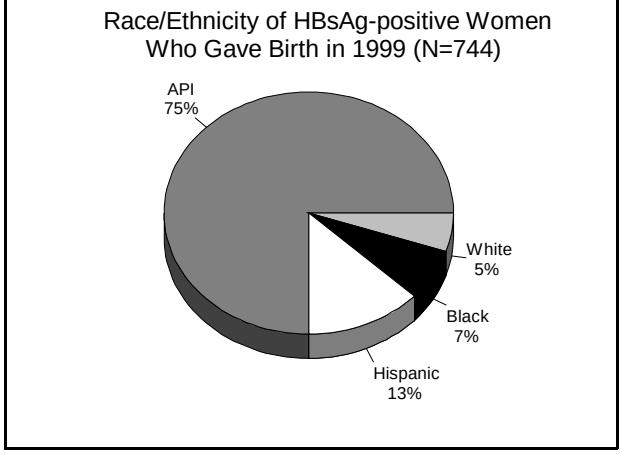
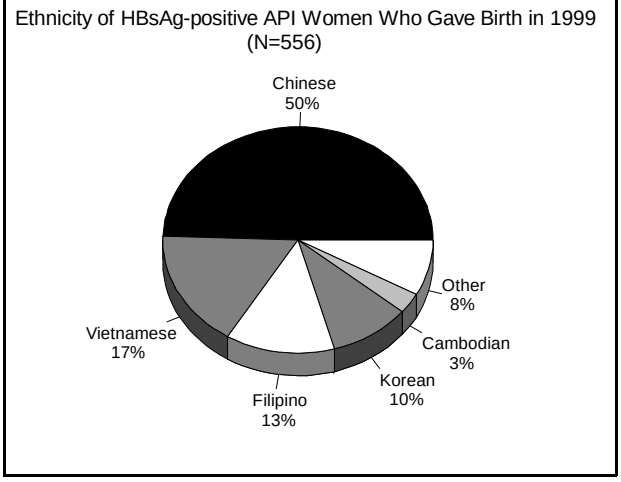


Figure 44



CASES COMPLETED FOR FOLLOW-UP IN 1999

In 1999, case management was completed for 632 women, their newborns, and household contacts. Seventy-two mothers were excluded (37 mothers miscarried, nine moved out of LAC prior to delivery, and 26 were retested and found to be HBsAg negative). Case management protocol includes (1) educating pregnant HBsAg-positive women about HBV disease, transmission, and infant vaccinations, (2) identifying and referring household contacts for screening and vaccination, (3) notifying hospitals of the expected deliveries and requesting that the hospitals return documentation after the infant's birth with the dates and times of the administration of HBVac #1 and HBIG, (4) notifying the infant's health care provider about the need for HBVac #2 at 1-2 months and HBVac #3 at six months of age, (5) reminding parents about these needed vaccinations, and (6) sending postvaccination serology letters to pediatric health care providers. Numerous attempts are made by case managers to complete follow up of infants and household contacts therefore some of the cases completed in 1999 were reported in 1997 and 1998.

Infant Immunoprophylaxis Completion Rates: A total of 642 infants (including 10 sets of twins) were born to 632 mothers, 96% of who received HBVac#1 and 95% received HBIG within 24 hours of birth. Of these infants, 29 moved out of the county before six months of age, leaving a total of 613 infants who were eligible to complete the hepatitis B vaccine series. Of these 613 remaining infants, 91% (555) received HBIG and a complete three-dose series of hepatitis B vaccine (Table 2).

Table 2. Summary of Infant Hepatitis B Immunoprophylaxis Los Angeles County, 1999

Hepatitis B Immunoprophylaxis	Number of Infants	Number of Eligible Infants	Percent
Infants who received HBVac#1 within 24 hours of birth	613	642	96%
Infants who received HBIG within 24 hours of birth	607	642	95%
Infants who completed HBIG/3-dose HBVac series	555	613	91%

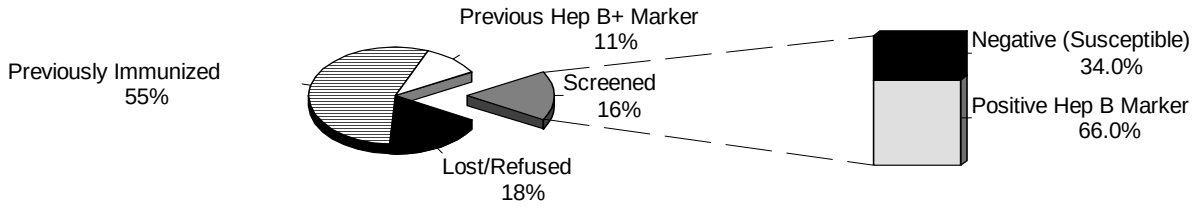
Household and Sexual Contacts Completion Rates: A household contact was defined as an individual with anticipated continuous household exposure for greater than one year (often limited to nuclear family). Of 1,060 household and sexual contacts identified, 589 (55%) had already been vaccinated against hepatitis B, and 112 (11%) were known to have serologic evidence of hepatitis B infection. Of the remaining 359 (33%) contacts, 168 were screened for serologic evidence of hepatitis B infection or immunity, and 191 (18%) refused screening or vaccination or were lost to follow-up. Of the 168 household contacts who were serologically screened, 111 (66%) had positive markers for hepatitis B and therefore did not need vaccine. Fifty-seven (34%) of the screened household contacts were seronegative, i.e., susceptible to hepatitis B infection (Figure 45). At the time of completion of case management for the HBsAg-positive mother, 48 (84%) of the susceptible household contacts had completed all three doses of hepatitis B vaccine.

COMMENTS

The mission of the PHBPP is to prevent perinatally transmitted hepatitis B within LAC. Vaccination and one dose of HBIG, administered within 24 hours after birth, are 85%-95% effective in preventing both hepatitis B virus infection and the chronic carrier state. By preventing the chronic carrier state, the vaccine also protects against long-term complications such as cirrhosis or liver cancer.

Figure 45

Household Contacts of Perinatal Hepatitis B Cases
Los Angeles County, Cases Closed 1999 (N=1,060)



HEPATITIS C

CRUDE DATA	
Number of Acute Cases	21
Annual Incidence[a]	
LA County	0.23
California	0.59
United States	1.14
Age at Onset	
Mean	39.0 yrs
Median	36 yrs
Range	24 - 59 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

ETIOLOGY

Hepatitis C virus is an RNA hepatotrophic virus.

DISEASE ABSTRACT

Hepatitis C virus (HCV) is predominantly transmitted by blood contact. Sixty to seventy percent of acute infections are asymptomatic. However, the majority of infections with persistent hepatitis C antibodies result in chronic liver disease. The formation of hepatitis C antibodies does not confer immunity because of the spontaneous appearance of multiple HCV quasi species and demonstrated reinfection by different HCV strains. Sexual and perinatal transmission of HCV appears to occur infrequently; however, the epidemiology of hepatitis C is still being elucidated.

In 1999, an acute case was defined as an individual with a positive anti-HCV (antibody test) or HCV-RNA, and evidence of jaundice, alanine aminotransferase (ALT) greater than 2.5 times the upper limit, or an onset date within six months of the date of diagnosis or report. During 1999 there were 7,495 case reports of acute and chronic hepatitis C, a 104% increase from 1998 and 131% increase from 1997. Of the 7,495 reports in 1999, only twenty-one met the surveillance definition for acute infection. Fifteen were males, including seven Hispanics and eight Non-Hispanics. Of the six female cases, two were Hispanic, three were White, and one was unknown. Risk factor information from the CMR or interview was available for seventeen cases, eleven males and six females. The remaining acute cases could not be located for interview. Eleven of the seventeen cases interviewed denied traditional risk factors. Of the remaining six cases interviewed, two cases reported IV drug use, one case reported IV drug use and was incarcerated, one case was incarcerated and reported receiving tattoos, one case had a recent blood transfusion, and one case had a history of recent dialysis, surgery, and blood transfusion.

PREVENTION

Since universal blood product screening in 1990 and further improvements in test sensitivity since 1992, reduction of high-risk behaviors is the chief means of preventing hepatitis C. Education aimed at reducing high-risk behaviors for hepatitis B and HIV transmission such as sharing injection drug equipment should have additional benefit in reducing hepatitis C cases. The CDC is currently funding controlled studies looking at body tattooing as an independent risk factor for acquisition of HCV infection. Serologic testing of blood products continues to keep the risk of transfusion-associated hepatitis C low. Both alcohol consumption and co-infection with HIV accelerate the progression of cirrhosis and hepatocellular carcinoma. As such, additional funding is necessary to study the feasibility of incorporating HCV screening, counseling, diagnosis, treatment and administration of hepatitis A and hepatitis B vaccine in drug treatment and HIV screening and treatment sites.

COMMENTS

Since 1995, yearly increases in reports are likely the result of: 1) the CDC's recommendation that individuals transfused prior to 1992 be screened for HCV, 2) the Food and Drug Administration's targeted look-back program which traced HCV-positive donors to recipients as far back as 1988, 3) increased public awareness via media coverage, and 4) increased pressure from special interest groups such as HIV-infected individuals, individuals in drug treatment programs and drug company advertising efforts.

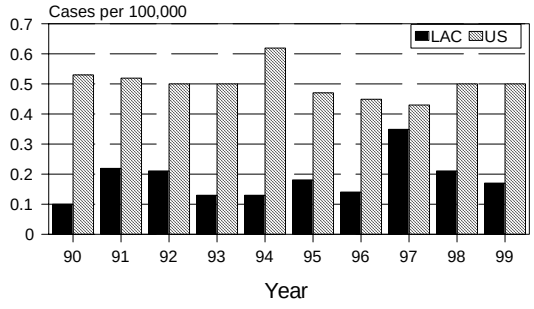
LEGIONELLOSIS

CRUDE DATA	
Number of Cases	15
Annual Incidence[a]	
LA County	0.17
California	0.16
United States	0.50
Age at Onset	
Mean	62
Median	62
Range	28-89 yrs
Case Fatality	
LA County	13%
United States	N/A

[a]Cases per 100,000 population.

Figure 46

Legionellosis
Incidence Rates by Year
LAC and US, 1990-1999



ETIOLOGY

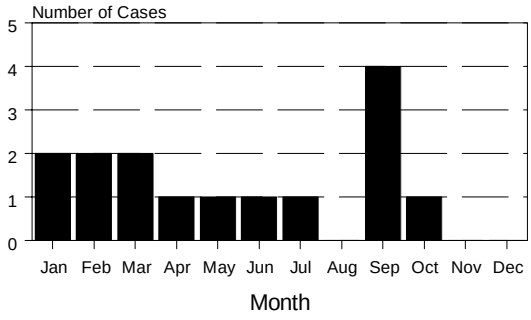
Eleven *Legionella* species are known to cause illness in humans; however, *Legionella pneumophila* serogroup 1 (Lp1) is most commonly associated with disease.

DISEASE ABSTRACT

All reported cases of legionellosis in 1999 were due to sporadic, community-acquired *Legionella* pneumonia; there were no cases of Pontiac fever. Reported cases continued to decline for the second year from an all-time high in 1997 associated with a small community outbreak (Figure 46).

Figure 47

Legionellosis
Cases by Month of Onset
Los Angeles County, 1999



SUMMARY OF EPIDEMIOLOGIC DATA

The average age of reported cases was 62 years (range 28-89 years); 10 were male and five were female. The distribution of cases by race/ethnicity was one Asian, one Black, four Hispanic, and nine White. Cases occurred throughout the year with a peak in the month of September (Figure 47). Cases were geographically distributed throughout the county; districts of residence included West (4 cases), Northeast (3 cases) Torrance (2 cases), East Valley (2 cases), and Antelope Valley, Hollywood Wilshire, San Antonio, and Southwest (1 case each).

One or more recognized risk factors for legionnaires' disease was present in 13 (87%) case-patients, including heavy cigarette use and/or chronic pulmonary disease (7 cases), malignancy or immunodeficiency syndromes (3 cases), diabetes (5 cases), or advanced age (3 cases 80 years or older).

Laboratory confirmation of legionnaires' disease for all cases consisted of demonstration of Lp1 antigen in urine; *Legionella* were also detected in respiratory secretions by direct fluorescent antibody testing for 1 case. None of the cases in 1999 was confirmed by culture.

COMMENTS

The reported incidence of legionellosis in LAC remains lower than the national rate of 0.50 cases per 100,000 population. Empiric antibiotic therapy for community-acquired pneumonia without appropriate diagnostic testing may contribute to lower than anticipated rates. In 1999, the use of urinary antigen testing has largely replaced culture, serology, and DFA testing. While the urinary antigen test is highly sensitive, it is specific for serogroup 1, and cannot be used to detect cases of legionellosis caused by other species and serogroups, thereby potentially contributing to underdiagnosis.

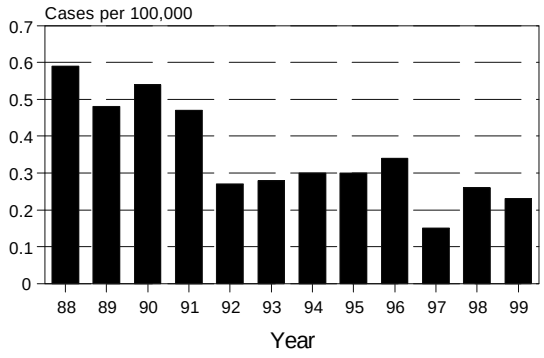
LISTERIOSIS, NONPERINATAL

CRUDE DATA	
Number of Cases	21
Annual Incidence[a]	
LA County	0.23
United States	N/A
Age at Onset	
Mean	65 yrs
Median	70
Range	15-85
Case Fatality	
LA County	10%
United States	N/A

[a]Cases per 100,000 population.
N/A - not available.

Figure 48

Nonperinatal Listeriosis
Incidence Rates by Year
Los Angeles County, 1988-1999



ETIOLOGY

Listeria monocytogenes, a gram-positive bacterium.

DISEASE ABSTRACT

Nonperinatal listeriosis usually presents as meningoencephalitis and/or septicemia. It affects elderly and immunocompromised persons, such as those afflicted with cancer or HIV, and those on immunosuppressive therapy.

STRATIFIED DATA

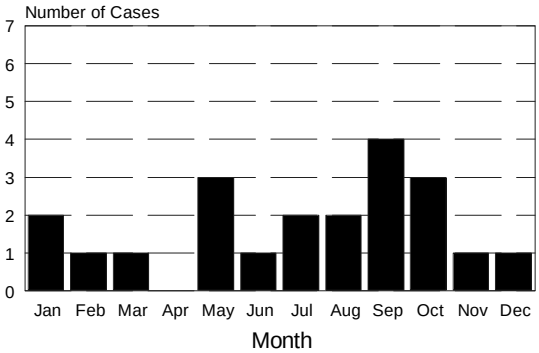
Trends: With 0.23 cases per 100,000 population, the nonperinatal listeriosis rate in 1999 is slightly lower than the 1998 rate (Figure 48).

Seasonality: Consistent with prior years, more reported cases occurred in summer than in any other season (Figure 49).

Age: Fifty-seven percent of cases were older than 65 years resulting by far in the highest age-specific rate for nonperinatal listeriosis (1.20 per 100,000 population). In 1999, the 55-64 year-olds experienced a substantial increase compared to the previous year (0.69 in 1999 versus 0.16 in 1998; Figure 50).

Figure 49

Nonperinatal Listeriosis
Cases by Month of Onset
Los Angeles County, 1999



Sex: The male-to-female rate ratio was 1.6:1.

Race/Ethnicity: In 1999, Whites again had the highest incidence rate of nonperinatal listeriosis (0.50 per 100,000 population). Blacks had the second highest rate (0.39 per 100,000), followed by Asians (0.18 per 100,000) and Hispanics (0.02 per 100,000) (Figure 51). Reasons for this large disparity are unknown.

Location: West Health District had the highest rate (0.69 per 100,000), followed by Hollywood-Wilshire (0.59 per 100,000) and Bellflower (0.56 per 100,000).

Figure 50

Nonperinatal Listeriosis
Incidence Rates by Age Group
Los Angeles County, 1999

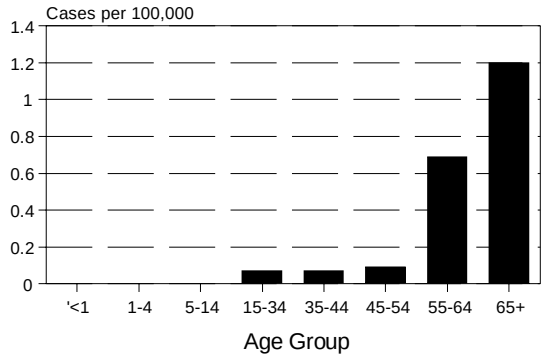
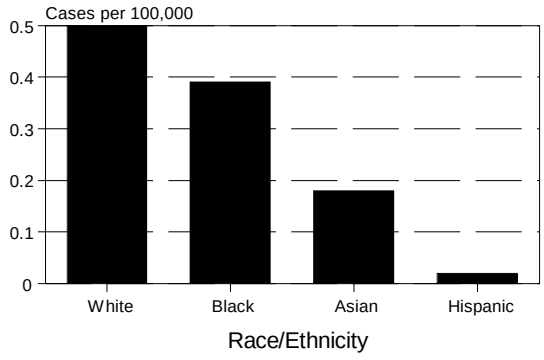


Figure 51

Nonperinatal Listeriosis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1999



Predisposing Conditions and Medical Risk Factors: Twelve (57%) of 21 cases were older than 65 years of age, eight (38%) were taking steroids prior to the onset of listeriosis, six (29%) suffered from renal failure or were treated with antibiotics prior to onset, five (24%) had diabetes, and four (19%) were diagnosed with cancer (Table 3). Only one person (5%) had no identified risk factor other than chronic obstructive pulmonary disease, but he was not being treated with steroids.

Outcome: Two (10%) of 21 cases in 1999 died.

Culture Sites: *Listeria monocytogenes* was isolated from blood (15), cerebrospinal fluid (3), and once from brain tissue, an arm graft, and an abscess.

COMMENTS

Overall, incidence of nonperinatal listeriosis was stable. Case-fatality, however declined to an all-time low of 10%. By comparison, in 1986, 41% of nonperinatal cases died. This decline was unlikely due to changes in antibiotic therapy, which remained the same in the last 15 years, but may be attributed to improved symptomatic therapy, or earlier recognition which facilitated earlier antibiotic therapy.

Table 3. Predisposing Factors in Cases of Nonperinatal Listeriosis, Los Angeles County, 1999

Medical Condition[a]	Number(N=21)	Percent
Age > 65 years	12	57
Steroid use	8	38
Kidney disease	6	29
Prior antibiotic use	6	29
Diabetes	5	24
Cancer	4	19
No identified risk factors	1	5

[a]Each case may have more than one underlying medical risk factor.

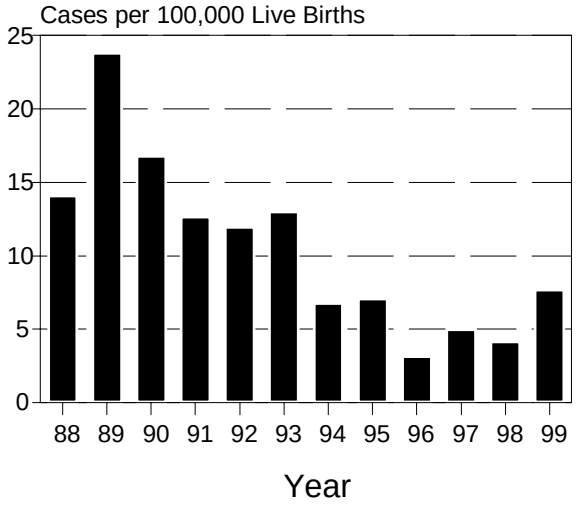
LISTERIOSIS, PERINATAL

CRUDE DATA	
Number of Cases	12
Annual Incidence[a]	
LA County	7.7
United States	N/A
Age at Onset (Maternal)	
Mean	29 yrs
Median	29
Range	19-39
(Infant Gestational)	
Mean	25 wks
Median	26
Range	14-33
Case Fatality	
LA County	33%
United States	N/A

[a]Cases per 100,000 live births

Figure 52

Perinatal Listeriosis
Incidence Rates by Year
Los Angeles County, 1988-1999



ETIOLOGY

Listeria monocytogenes is a gram-positive bacterium.

DISEASE ABSTRACT

A perinatal listeriosis case is defined as a pregnant woman, her fetus or a neonate with infection of a sterile site with *Listeria monocytogenes.* Neonatal listeriosis is divided into early onset (0-6 days after birth) and late onset (more than 6 days to 42 days after birth). The fetus may be stillborn, born with septicemia, or develop meningitis in the neonatal period, even if the mother is asymptomatic.

STRATIFIED DATA

Trends: The 1999 perinatal listeriosis incidence rate (7.7 per 100,000 live births) has almost doubled since last year. Now, the incidence of listeriosis is similar to that in 1994/1995 (Figure 52).

Seasonality: There were too few cases to look for seasonality.

Age: Women older than 35 years (9.9 per 100,000 live births) and those less than 20 years old (8.9 per 100,000 live births; Figure 53) showed the highest rates.

Sex: Information on eight live-born infants showed that five were male and three were female.

Race/Ethnicity: Among all races, Asians had the highest disease rate (30.5 per 100,000 live births). Rates among Blacks (7.1 per 100,000 live births), Whites (6.8 per 100,000 live births) and Hispanic (6.2 per 100,000 live births) mothers followed (Figure 54).

Location: Three perinatal cases came from the Central and Foothill Health District, two from San Antonia Health District, the remaining four each from different health districts.

Type of Delivery: In six perinatal cases where the method of delivery was known, four were vaginal and two were delivered by Caesarian section.

Outcome: Two fetuses were aborted, one fetus was stillborn, eight were born alive and one infant died after delivery. One had an unknown outcome.

Culture Sites: Sites of *Listeria monocytogenes* isolation were blood (n=7; 64% for both mother and infant/fetus), placenta (n=4; 36% in mother and child) and two from the trachea (18% in infant; Table 4).

Onset: In 1999, all cases were classified as early-onset.

Figure 53
Perinatal Listeriosis
Incidence Rates by Age Group of Mother
Los Angeles County, 1999

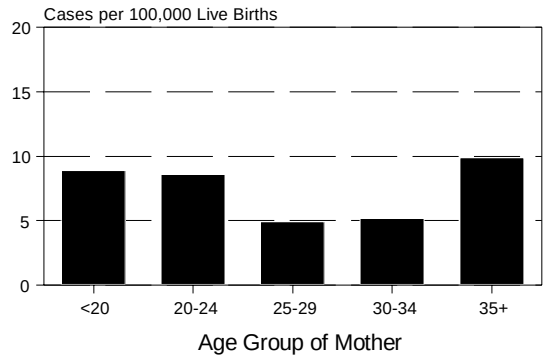
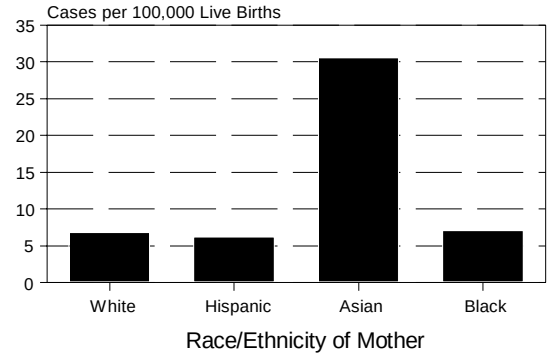


Figure 54
Perinatal Listeriosis
Incidence Rates by Race/Ethnicity of Mother
Los Angeles County, 1999



COMMENTS

Perinatal listeriosis has increased compared to 1998. However, the overall incidence remains low. In this range of small numbers an increase could be attributable to many factors, such as the alertness of physicians, better reporting, or just random variation. Incidence by race has shifted. Asian mothers now have the highest incidence whereas White mothers had the highest incidence in 1998. Although this merits closer scrutiny in the future, Asians represent only three cases.

All strains of *Listeria monocytogenes* are now typed by pulsed field gel electrophoresis (PFGE). In 1999, we observed several "molecular clusters" which had identical PFGE patterns, but did not seem to be epidemiologically related. The value of PFGE was demonstrated through the discovery that one perinatal listeriosis case had the same strain as a recalled food product from the East coast. Further investigation revealed that the patient in fact had recently eaten the implicated product.

PREVENTION

Listeria monocytogenes is found in soil and water. Animals can carry *Listeria* without appearing ill, which can result in contaminated foods of animal origin, such as meats and dairy products. In particular, studies have implicated unpasteurized milk or products made from unpasteurized milk, such as soft cheeses (Mexican-style, Brie, Feta), cold cuts from deli counters, undercooked meat, e.g. chicken, paté, and pork tongue in jelly; these foods should be avoided by pregnant women. Fruits and vegetables should be thoroughly washed. In particular, cheese sold by street vendors or obtained from relatives/friends in other countries where food processing quality assurance is unknown should be avoided by pregnant women.

Table 4: Frequency (%)[a] of *Listeria monocytogenes* Isolates from Mothers and Infants, Los Angeles County, 1999

	Mother (n=11)		Infant (n=6)	
Culture Site	**Number**	**Percent**	**Number**	**Percent**
Blood	7	64	4	67
Placenta	2	18	2	33
Amniotic fluid	2	18	N/A	

[a] Percentages may exceed 100% as cultures were obtained from more than one site in some cases.

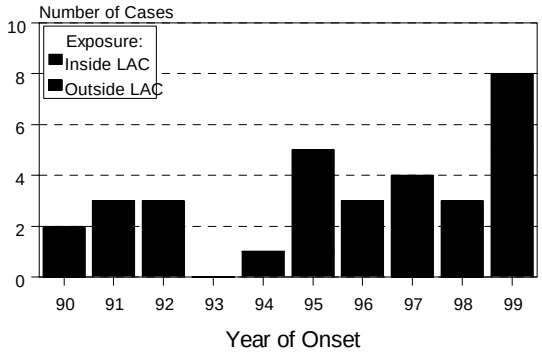
LYME DISEASE

CRUDE DATA	
Number of Cases	8
Annual Incidence[a]	
LA County	0.09
California	0.42
United States	5.97
Age at Onset	
Mean	23
Median	10
Range	5-48 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 55

Lyme Disease
Number of Cases by Year
Los Angeles County, 1990-1999



ETIOLOGY

Lyme disease is caused by a bacteria, *Borrelia burgdorferi*, transmitted to humans by the bite of the western black-legged tick (*Ixodes pacificus*).

DISEASE ABSTRACT

A distinctive rash (erythema migrans) is present in only 50 to 70% of patients, usually at the site of the tick bite. The diagnosis of Lyme disease may be difficult because early symptoms of fever, body aches, headaches, and fatigue can be caused by other diseases. Although laboratory tests are available, they are often not accurate or consistent.

Lyme disease may be cured by early diagnosis and treatment with antibiotics. Untreated disease causing long-term illness and complications is infrequently reported in LAC.

Lyme disease is reported infrequently in LAC. Since Lyme disease became reportable in 1989, 38 reported cases have met the CDC surveillance criteria. Thirteen cases (34%) were exposed to ticks inside LAC. Although

Figure 56

Lyme Disease
key points

- Since 1989, 13 confirmed cases* of Lyme disease were transmitted in Los Angeles County.
- Ticks and reservoir animals have been tested for *B. burgdorferi* since 1989.
- Ticks from the western Santa Monica Mountains tested positive the first time in 1999.

*Cases are defined as those meeting CDC surveillance criteria.

transmission of Lyme disease may occur in LAC, it is believed to be rare because the western black-legged tick is not the most commonly found tick in LAC, and only 1-2% of western black-legged ticks in California are infected with the bacterium that causes Lyme disease. The tick must also be attached for 24-48 hours for transmission to occur. Although DHS has been testing ticks and reservoir animals for the past ten years, 1999 was the first year for which ticks were confirmed to carry *B. burgdorferi* by culture.

In 1999, eight reported cases of Lyme disease met CDC surveillance criteria. Five of the eight cases were male. Three cases reported exposure outside LAC.

COMMENTS

When a case of Lyme disease is reported to the DHS, an investigation is initiated by the Acute Communicable Disease Control Unit which includes collection of information from the physician and the patient. Vector Management staff determine the probable site of tick exposure and initiate field studies. The field studies include collection of ticks and samples from animals to test for Lyme disease.

Although Lyme disease occurs rarely in LAC, personal protective measures can be taken to prevent tick bites. These measures include using insect repellents containing DEET, wearing long pants and long-sleeved clothing, wearing light-colored clothing (so that ticks can be spotted more easily), and walking in the center of a trail to avoid overhanging grass or brush.

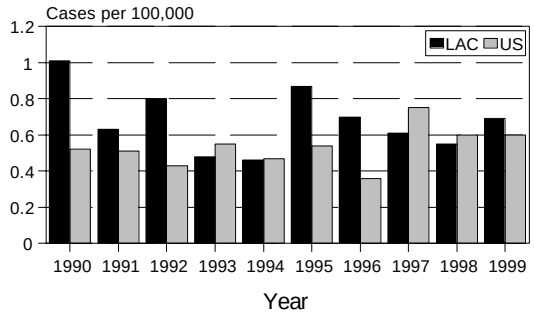
MALARIA

CRUDE DATA	
Number of Cases	63
Annual Incidence[a]	
LA County	0.69
California	0.66
United States	0.61
Age at Onset	
Mean	37
Median	33
Range	5-91 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 57

Malaria
Incidence Rate by Year
LAC and US, 1990-1999



ETIOLOGY

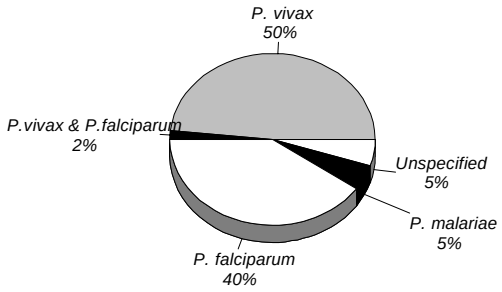
Human malaria is caused by four species of the genus *Plasmodium*: *P. vivax*; *P. falciparum*; *P. malariae*; and *P. ovale*. Malaria is acquired from the bite of an infective female *Anopheles* mosquito.

DISEASE ABSTRACT

The incidence rate of malaria in Los Angeles County (LAC) increased slightly in 1999 (Figure 57). There was an increase in the number of malaria cases overall, from 50 in 1998 to 63 in 1999. Foreign travel by US residents who acquired malaria decreased from 1998 to 1999, dropping from 78% of cases to 62% of cases. However, there was an increase of malaria cases among recent immigrants and visitors to the US. In 1998, 11 of 49 (22%) malaria cases were among people who had recently immigrated or were visiting, compared to 38% in 1999.

Figure 58

Malaria Cases by Species
Los Angeles County, 1999
N=63



STRATIFIED DATA

Species Frequency: The infecting malaria species was identified for 60 cases (95%) (Figure 58). Most cases were infected with *P. vivax* (49%), or *P. falciparum* (40%). There were three cases (5%) of *P. malariae* and no cases of *P. ovale*. There was one case of a dual infection with *P. vivax* and *P. falciparum* (2%). There were three unspecified cases (5%).

Seasonality: Since Malaria is not transmitted locally, peaks and valleys in incidence probably correspond to the seasonal nature of travel. The winter months of December and January and the spring months of March and April saw the most reported cases of malaria. August and November were the months with the fewest cases (Figure 59).

Age: Malaria incidence was greatest among adults aged 15-34 years and least among children aged 0-4 (Figure 60). Incidence in individuals aged 15-34 and 45-54 was twice the incidence among the same age group in 1998. There was a substantial drop in incidence in adults aged 55-64 compared to 1998. The reasons for these changes may be affected by the age of travelers.

Sex: The rate ratio of male-to-female cases was 2.5:1.

Race/Ethnicity: Malaria incidence (both for total cases and LAC residents) was highest among African nationals/Black Americans and Asians (Figure 61). Most cases with exposure in Latin America were immigrants and individuals visiting the US, or whose residency status was unknown.

Location: The West Valley district had the most cases (11) of malaria countywide; Inglewood and Southwest both had eight cases and the West district had seven cases.

Figure 59

Malaria
Cases by Month of Onset
Los Angeles County, 1999

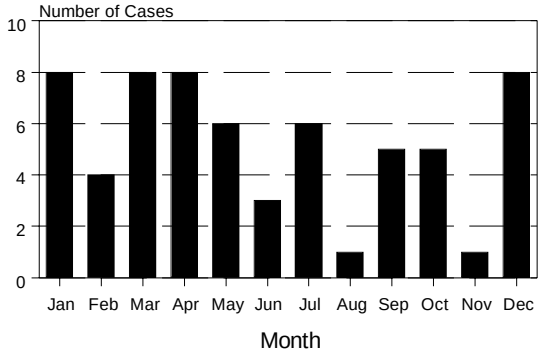


Figure 60

Malaria
Incidence Rates by Age Group
Los Angeles County, 1998-1999

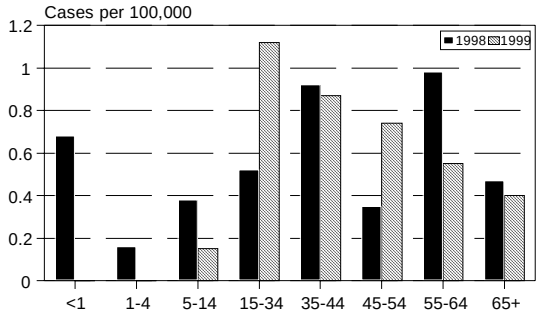
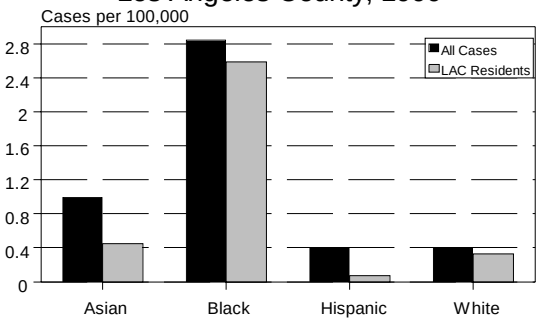


Figure 61

Malaria
Incidence Rates by Race/Ethnicity*
and Residency Status
Los Angeles County, 1999



*One case of unknown race not included

COMMENTS

Transmission of malaria locally, excluding congenital transmission and an occupationally acquired case, has not been documented recently.

Incidence rates that include cases among immigrants and foreign nationals overestimate the risk to local residents. Residency and/or reason for travel were available for 58 of 63 cases of malaria (Table 5). Sixty-two percent (39/63) of malaria cases were LAC residents who traveled abroad either for work or vacation.

Thirty-eight percent (24/63) were recent immigrants, individuals visiting the US, or those whose residency status was unknown.

Among malaria cases in US residents traveling abroad, Africa was the most common region visited and Nigeria the most frequent destination. Forty percent (25/63) of all reported malaria cases were from individuals who had traveled to or were coming from African countries. Since the early '90's blacks/African nationals have been the ethnic group with the highest incidence of malaria in LAC. Before that, immigrants/refugees from Central America and Southeast Asia made up the majority of all malaria cases seen in LAC. For cases among recent immigrants, visitors to the US, or whose residency status was unknown, Central America and Mexico were the most common regions where malaria was acquired. Fifty-eight percent of cases (14/24) who were recent immigrants, visitors to the US, or whose residency status was unknown were from Central America and Mexico.

Antimalarial prophylaxis history was available for 38 of the 39 US resident cases (Table 6). Fifteen individuals (39%) took prophylaxis, up 24% the previous year. A higher percentage of work-related cases took prophylaxis compared to tourist cases (55 vs. 39%). However, appropriateness of prophylaxis and adherence to regime was unknown.

A high percentage of US residents and recent immigrants had a previous history of malaria (Table 6). This is due in part to the fact that many were naturalized citizens and reporting that they previously had malaria in their homeland, before immigrating. A higher percentage of people traveling on business compared to vacationers had a previous history of malaria (67 vs. 39%).

Table 5. Malaria Cases by Species, Residency Status and Travel Exposure, Los Angeles County, 1999

Foreign Travel by US Residents		Recent Immigration , Residency Status Unknown, or Visit to US by Non-US Residents	
Region/Country	**Number of Cases (Species)[a]**	**Country**	**Number of Cases (Species)[a]**
Africa			
Cameroon	2 (2F)	Cameroon	1 (1N)
Ethiopia	1 (1V)	W. Africa	1 (1F)
Ghana	2 (1F,1N)		
Guinea	1 (1F)		
Ivory Coast	1 (1F)		
Kenya	2 (1F, 1M[d])		
Nigeria	12(10F,1V,1N)		
Togo	1(1F)		
Uganda	1(1F)		
Latin America			
Belize	1(1V)	El Salvador	4 (4V)[b]
Honduras	3(2V, 1F)	Guatemala	3 (2V, 1V&F)
		Honduras	4 (4V)[b]
		Mexico	3 (3V)[c]
Asia/Oceania			
India	4 (3V, 1M)	India	5 (4V,1M)
Indonesia	3 (3V)	Sri Lanka	1 (1F)
New Guinea	2 (2V)		
Philippines	1 (1F)		
Thailand	1 (1F)		
Caribbean			
Haiti	1 (1F)		
Europe			
		Armenia	1 (1V)
Unknown			**1 (1F)[b]**
Total	**39**		**24**

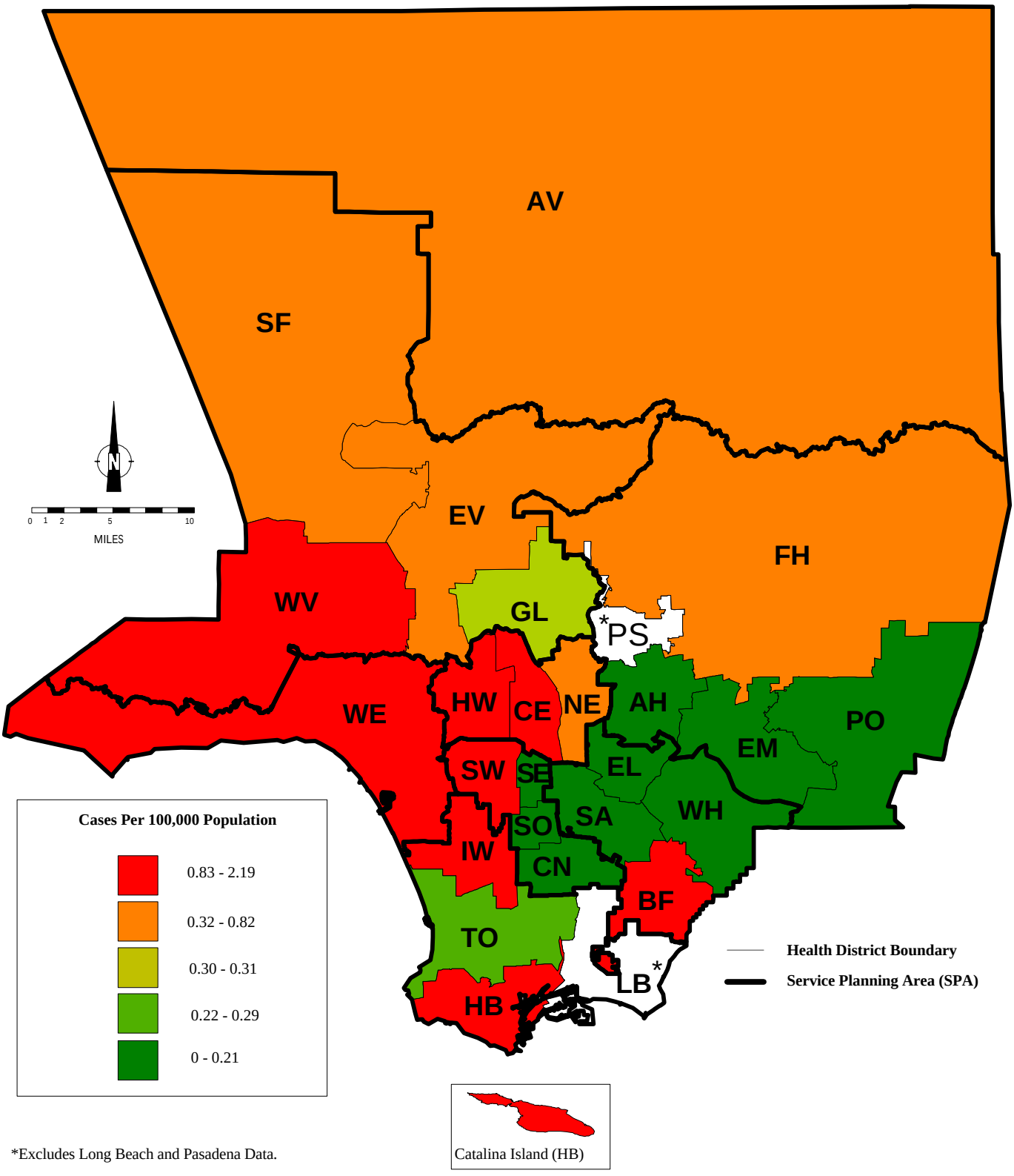
a F = *P. falciparum*, M = *P. malariae*, N = not determined, V = *P. vivax*
b One case residency status unknown
c All cases residency status unknown
d Case also traveled through South America.

Table 6. Malaria Cases by Residency Status, Reason for Travel, Malaria Prophylaxis, and Previous Malaria History Los Angeles County, 1999

	US Residents			Non-US Residents
	Total US Residents	**Travel for Work**	**Travel for Pleasure**	**Recent Immigrant or Foreign Visitor to US**
Prophylaxis (%)	15/38(39)	5/9(55)	10/28(36)	0*
Previous Malaria (%)	17/39(44)	6/9(67)	11/28(39)	7/18(39)

*Natives of malaria-endemic countries generally do not take pre-exposure prophylaxis.

MAP 6. Malaria
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

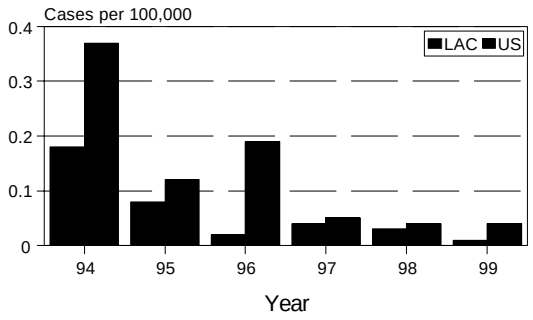
MEASLES

CRUDE DATA	
Number of Cases	1
Annual Incidence[a]	
LA County	0.01
California	0.05
United States	0.04
Age at Onset	44 yrs
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 62

Measles
Incidence Rates by Year
LAC and US, 1994-1999



ETIOLOGY

Measles virus, a paramyxovirus in the genus *Morbillivirus*.

DISEASE ABSTRACT

In 1999, measles incidence in LAC was at a record low level. Since the recent measles epidemic peak in 1990, when the incidence reached 50.5 cases per 100,000, measles incidence in LAC has rapidly declined (Figure 62).

STRATIFIED DATA

In 1999, one confirmed measles case was reported (Table 7).

Table 7. Confirmed Measles Case Profile, 1999

Age	Race/Sex	Rash Onset	# of MMR Doses	IgM	Source of Case	Known Spread	Hosp.	Birthplace
44	White/F	April 1999	none	+	unknown	no	no	USA

Vaccination Status: The case was not vaccinated. Persons born before 1957 are generally regarded as having immunity to measles.

Importation Status: The source for this case is unknown. She had no recent travel or known contact with international travelers. Indigenous measles is considered to have been eliminated in the United States.

Hospitalization: The case was not hospitalized and had no complications.

Spread: No spread was detected from this case.

COMMENTS

All reported suspected measles cases are investigated in LAC. The minimum clinical criteria for measles are: fever of at least 101°F (or "hot" to the touch), a generalized rash lasting three or more days, and one additional clinical symptom (cough, coryza, or conjunctivitis). A case is confirmed by positive IgM serology or a four-fold increase in acute and convalescent IgG titers. In 1999, 35 suspected cases were ruled out by negative serology or subsequent diagnosis as another condition such as scarlet fever, chickenpox, or antibiotic allergy.

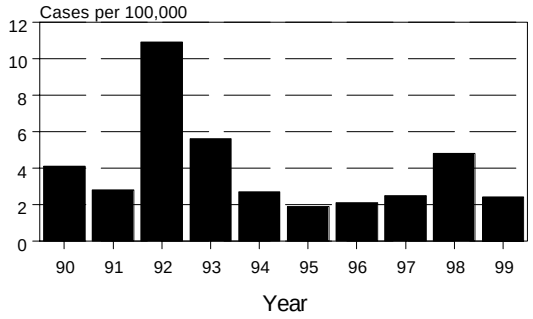
MENINGITIS, VIRAL

CRUDE DATA	
Number of Cases	219
Annual Incidence[a]	
LA County	2.4
United States	N/A
Age at Onset	
Mean	21
Median	17
Range	4 days - 92 yrs
Case Fatality	
LA County	N/A
United States	N/A

[a]Cases per 100,000 population.

Figure 63

Viral Meningitis
Incidence Rates by Year
Los Angeles County, 1990-1999



ETIOLOGY

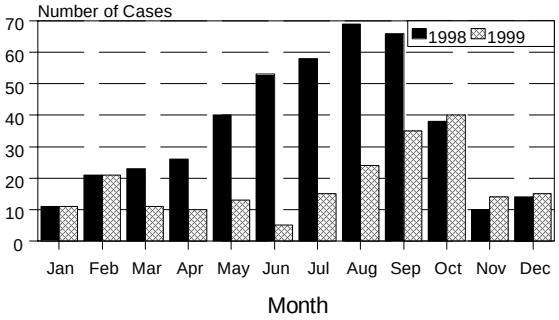
Viral (aseptic) meningitis is a clinical syndrome with multiple viral etiologies. A specific etiology is determined in a minority of cases. Of those with laboratory confirmation, enteroviruses are most often implicated.

DISEASE ABSTRACT

In 1999, there was a decrease in the incidence of viral meningitis from 1998 and a return to rates more consistent with those seen in prior years (Figure 63). The typical summer-to-fall seasonality began, and peaked, much later than in 1998 (Figure 64).

Figure 64

Viral Meningitis
Cases by Month of Onset
Los Angeles County, 1998-1999



COMMENTS

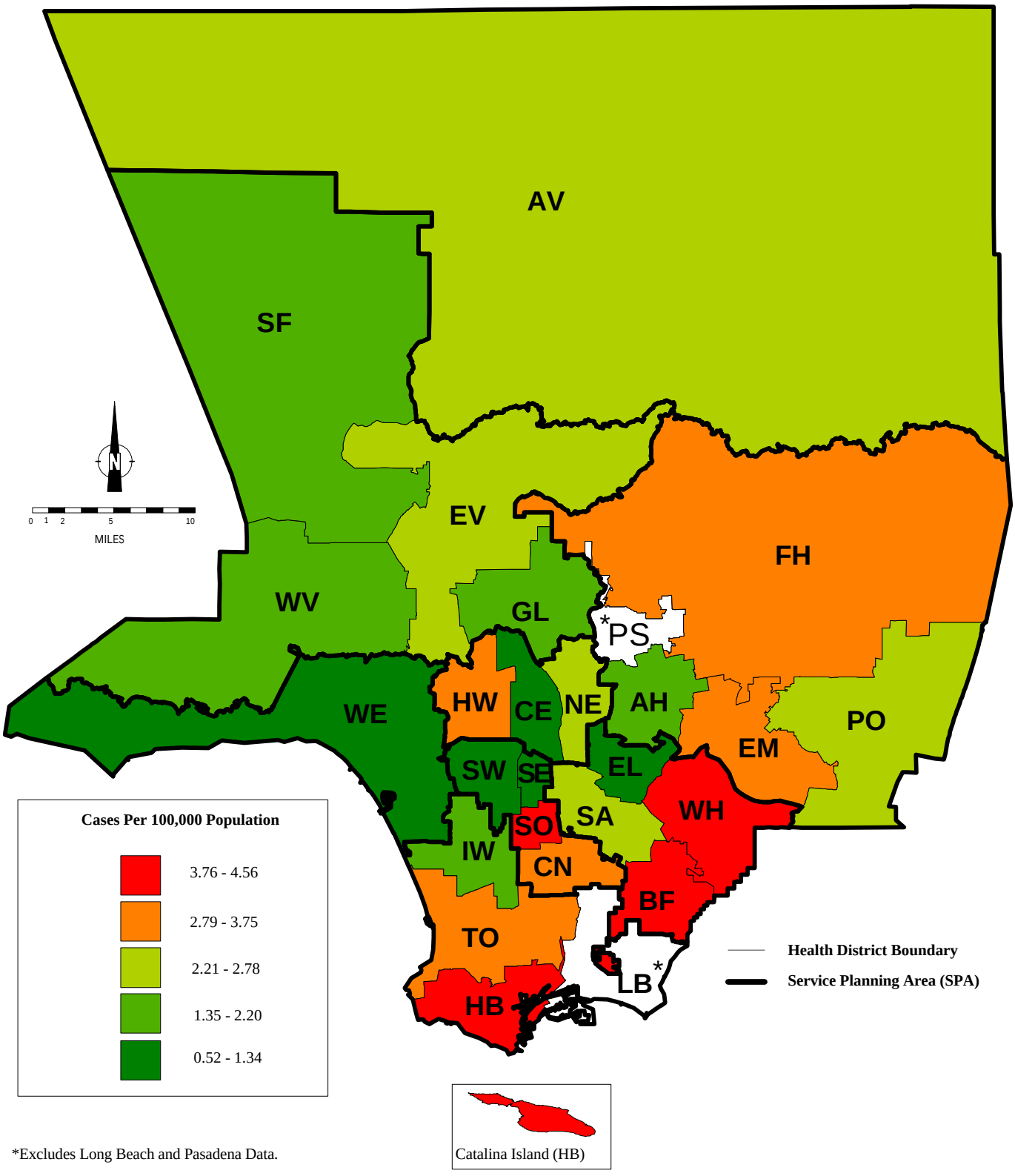
Diagnosis of viral meningitis is based on a clinical presentation consisting of acute onset of meningeal symptoms, fever, white blood cells in the cerebrospinal fluid, with bacteriologically sterile cultures. In the majority of cases reported as viral meningitis an etiology is not identified. Viral cultures are usually not performed because of the time needed for viral growth and identification, the need for special laboratory capabilities, lack of specific therapy, and cost.

The etiology of viral meningitis is not usually detected. When an agent is identified, non-polio enteroviruses account for over 80% of these cases. A rapid diagnostic test (RT-PCR, reverse transcriptase-polymerase chain reaction) is being developed and is expected in the near future. As improved diagnostic tests become available, a better understanding of the etiology of viral meningitis should emerge.

Currently the treatment for viral meningitis is supportive; however, development of agents to treat enteroviruses is in progress. Since enterovirus is the most frequently identified etiologic agent of viral meningitis, and transmission is primarily through the fecal-oral route, prevention emphasizes good personal hygiene, especially handwashing.

Surveillance is passive and viral meningitis cases are reported most frequently by health care providers and hospital infection control practitioners. Outbreaks are rare but do occur (in Taiwan in 1998 and in Romania in 1999). No outbreaks were reported in LAC in 1999. Factors influencing the return to typical rates of infection in 1999 were not evident.

MAP 7. Viral Meningitis
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

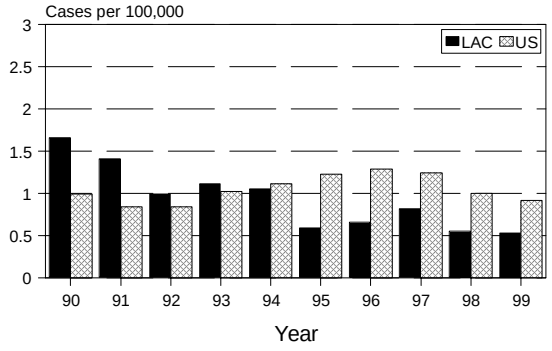
MENINGOCOCCAL DISEASE

CRUDE DATA	
Number of Cases	49
Annual Incidence[a]	
LA County	0.53
California	0.90
United States	0.92
Age at Onset	
Mean	36
Median	35
Range	3 weeks - 88 yrs
Case Fatality	
LA County	12%
United States	N/A

[a]Cases per 100,000 population.

Figure 65

Meningococcal Disease
Incidence Rates by Year of Onset
LAC and US, 1990-1999



ETIOLOGY

Neisseria meningitidis, a gram-negative diplococcus.

DISEASE ABSTRACT

The incidence of meningococcal disease reached a record low in 1999. The majority of cases (71%) occurred in adults. There were no outbreaks or secondary cases.

STRATIFIED DATA

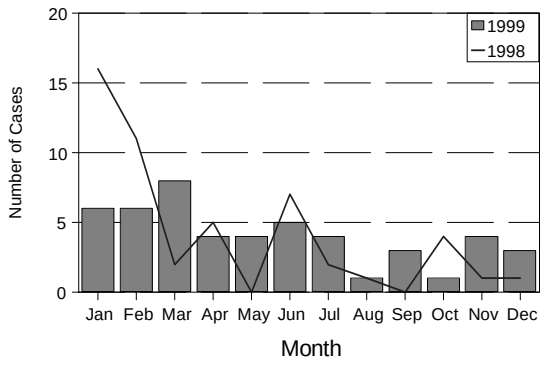
Trends: The number of cases continued to decrease in 1999. Serogroup Y continued to predominate. As in 1998, all fatalities were in adults.

Seasonality: Although seasonal differences in occurrence were not as marked as in the previous year, cases were highest during the late winter and early spring (Figure 66).

Age: In 1999, disease rates continued highest among the very young and the very old. As is typical, the highest rates were seen in infants less than one year of age (2.21 per 100,000 population). What appears to be a significant decrease in rates from the previous year (7.53

Figure 66

Meningococcal Disease
Cases by Month of Onset
Los Angeles County, 1998 - 1999

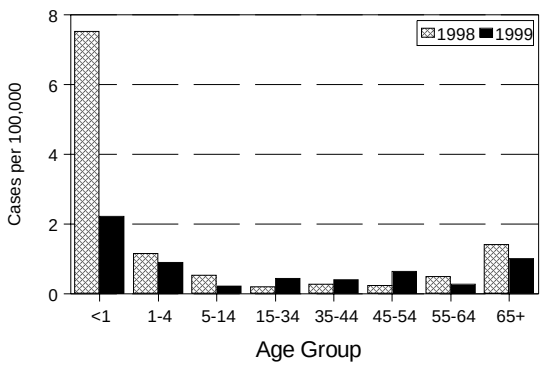


per 100,000) is exaggerated by the small number of cases (n=4) in this age group. As in 1998, the next highest rates were seen in those aged 65 and over (1.00 per 100,000) (Figure 67) and all fatalities in 1999 (n=6) occurred among adults.

Sex: The male-to-female rate ratio was 1:1.2.

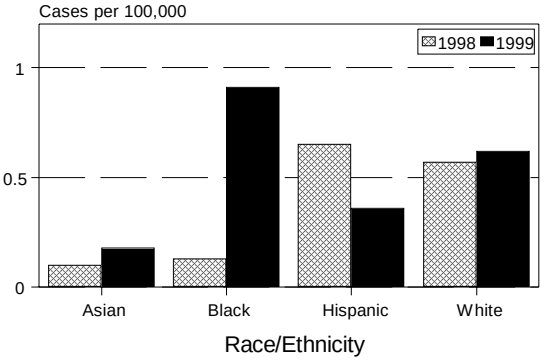
Race/Ethnicity: As has been typical except for 1998, age-adjusted meningococcal disease rates were highest in Blacks and lowest in Asians (0.91 and 0.18 per 100,000 population, respectively) (Figure 68). The number of cases traditionally is higher among Whites and Latinos (n= 21 and 16 respectively, in 1999).

Figure 67
Meningococcal Disease
Incidence Rates by Age Group
Los Angeles County, 1998 -1999



Location: The highest rates of meningococcal disease occurred in the Foothill (1.64 per 100,000 population), West (1.56 per 100,000), and Southwest (1.36 per 100,000) Health Districts (Map 8). The number of cases was highest in the West (n=9), West Valley (n=7) and Foothill, Inglewood, and Southwest Health Districts (n=5).

Figure 68
Meningococcal Disease
Age-adjusted Rates by Race/Ethnicity
Los Angeles County, 1998 -1999



COMMENTS

In 1999, *N. meningitidis* was isolated from 40 (82%) of the cases reported, 31 (78%) from blood, 6 (15%) from cerebrospinal fluid, 2 (5%) from both, and 1 (3%) from sputum (Figure 69). Serogroup identification was made in 67% of the cases. Serogroup Y increased to 49% from 44% in 1998 and continued to predominate. Serogroup B declined to 33% from 41% in 1998, and serogroup C increased slightly to 18% from 15% (Figure 70).

In 1999, the American College Health Association recommended that college students receive information about, and have access to, meningococcal vaccine. Since CDC studies indicate that freshman college students, especially those who live in dormitories, are at modestly increased risk for meningococcal disease, Los Angeles County began collecting additional information on young adult (17-30) cases.

There were seven cases among persons aged 17-30 who were not college sudents. Three case isolates were available for serogroup identification; two were serogroup B and one was serogroup C. There were two cases in college students attending different universities. One had serogroup B meningococcal disease and lived in an apartment on campus. The other, whose isolate was not available, lived off campus. In 1999, serogroup B meningococcal disease, which is not vaccine-

preventable, represented 1/3 of all cases, ½ of cases in college students, and 2/3 of young adult cases in which a serogroup was identified.

Figure 69

Meningococcal Disease
Clinical Manifestations
Los Angeles County, 1998 -1999

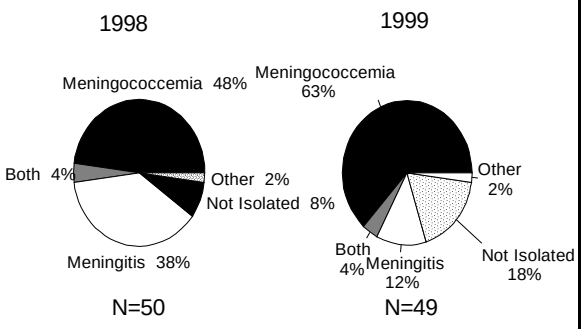
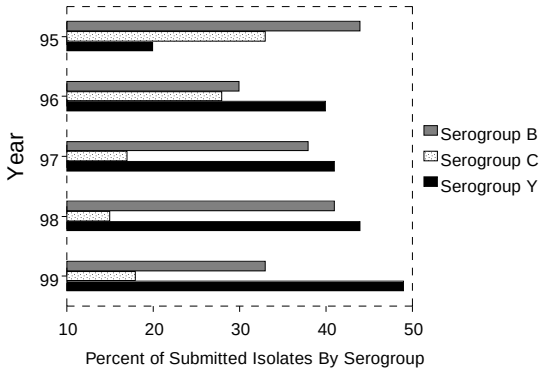
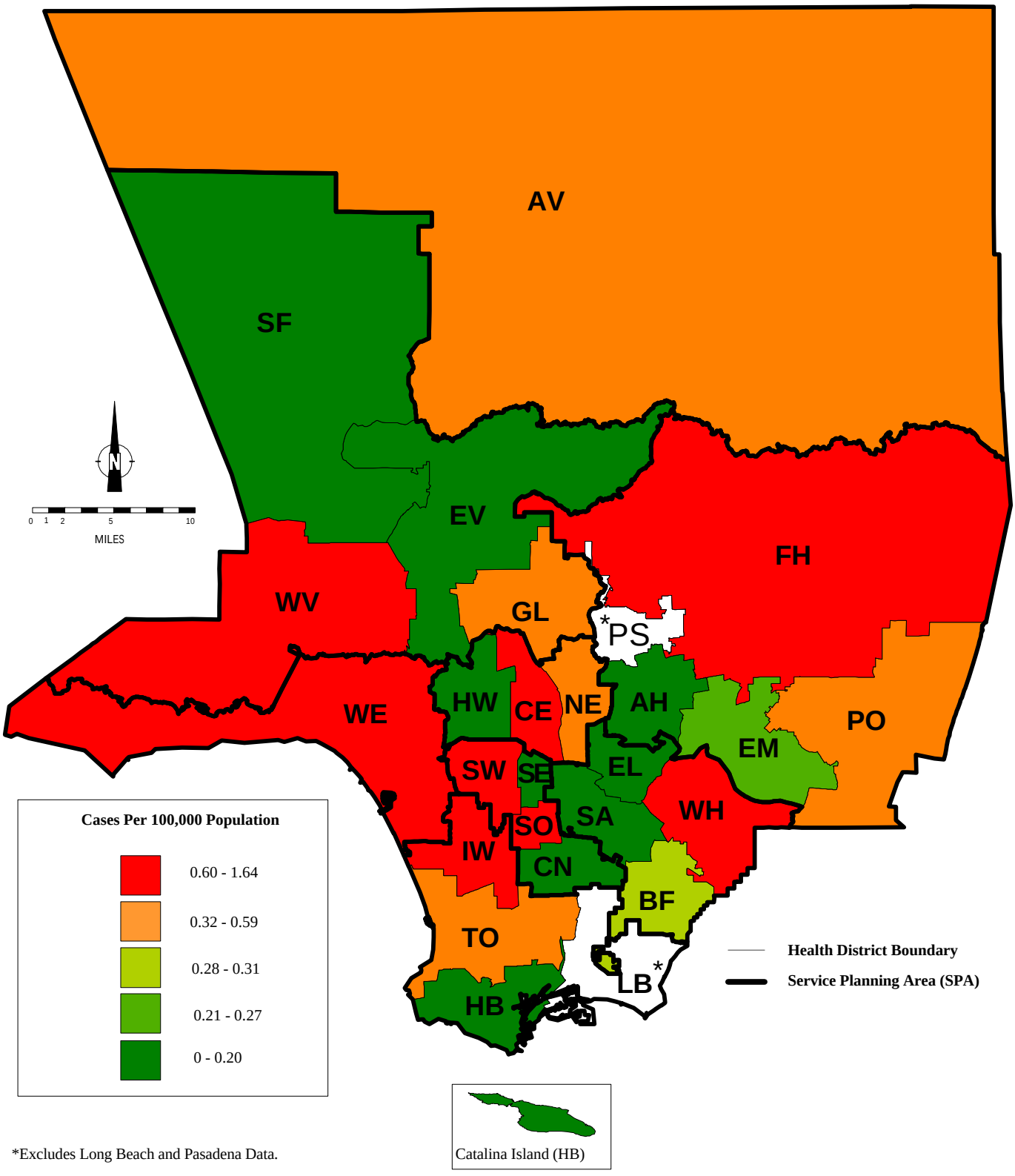


Figure 70

Neisseria Meningitidis
Serogroups B, C, and Y
Los Angeles County, 1995 -1999



MAP 8. Meningococcal Disease
Rates by Health District, Los Angeles County, 1999*



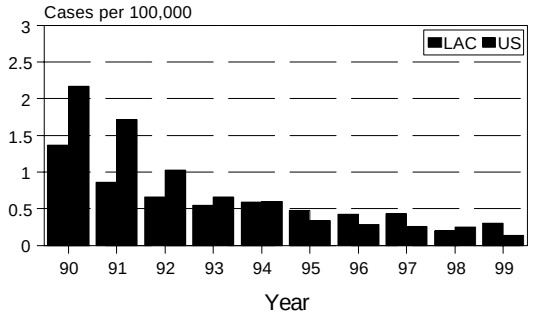
*Excludes Long Beach and Pasadena Data.

MUMPS

CRUDE DATA	
Number of Cases	24
Annual Incidence[a]	
LA County	0.30
California	0.30
United States	0.14
Age at Onset	
Mean	14 yrs
Median	8 yrs
Range	3-74 yrs
Case Fatality	
LA County	N/A
United States	N/A

Figure 71

Mumps
Incidence Rates by Year
LAC and US, 1990-1999



[a]Cases per 100,000 population.

ETIOLOGY

Mumps virus, an RNA paramyxovirus.

DISEASE ABSTRACT

The incidence of reported clinical mumps in 1999 was slightly above the record low year of 1998 (Figure 71). Mumps case data are obtained from CMRs reported by physicians. Individual mumps cases are not investigated by the health department.

COMMENTS

The majority of mumps cases are diagnosed clinically without confirmatory laboratory testing. It is not known how many cases are laboratory confirmed.

In 1999, the male to female ratio was 1:1.4. No distinct seasonal pattern was seen. The highest race-specific incidence was among Hispanics (0.3 per 100,000). The highest number of cases (n=14) was seen among 5- to14-year-olds with an incidence of 1.0 cases per 100,000 population. The next highest incidence was among 1- to 4-year-olds (0.5 per 100,000). The East Valley Health District had the highest incidence in LAC (1.0 per 100,000).

The current vaccine elicits antibody response in over 95% of recipients and confers durable, presumably lifelong immunity.

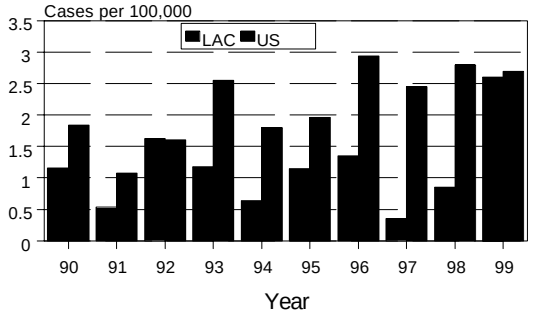
PERTUSSIS (WHOOPING COUGH)

CRUDE DATA	
Number of Cases	237
Annual Incidence[a]	
LA County	2.6
California	3.4
United States	2.7
Age at Onset	
Mean	5 yrs
Median	3 mos
Range	5 days-77 yrs
Case Fatality	
LA County	0.8%
United States	N/A

[a]Cases per 100,000 population.

Figure 72

Pertussis
Incidence Rates by Year
LAC and US, 1990-1999



ETIOLOGY

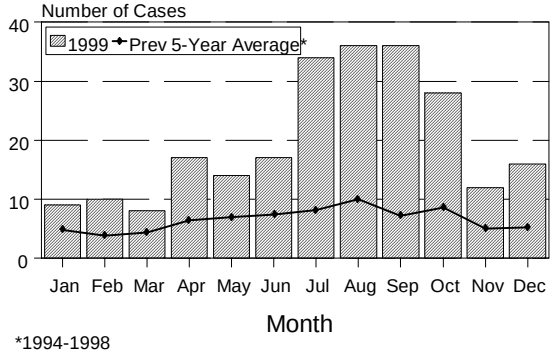
Bordetella pertussis, a fastidious, gram-negative, pleomorphic bacilli.

DISEASE ABSTRACT

Pertussis incidence increased dramatically in 1999, with 237 cases reported. This is the highest number of reported pertussis cases since 1971 and a 206% increase from the previous year. The 1999 incidence of 2.6 cases of pertussis per 100,000 has not been exceeded since 1974. The pertussis rate was highest among infants. Age-adjusted rates were highest among Hispanics. The complications of pneumonia, seizures, and encephalopathy were reported and there were two deaths. Sixty-eight percent (n=162) of the cases were confirmed by a nasopharyngeal swab culture positive for *Bordetella pertussis.* The other 32% (n=75) met the clinical criteria for pertussis: a cough lasting at least two weeks with either paroxysms of coughing or inspiratory "whoop," or post-tussive vomiting, without other apparent causes.

Figure 73

Pertussis
Cases by Month of Onset
Los Angeles County, 1999



*1994-1998

STRATIFIED DATA

Trends: The incidence of pertussis in 1999 was 2.6 cases per 100,000 population (Figure 72). This is an increase from the

previous year's low rate of 0.9 cases per 100,000 population. An increase in the rate was expected as pertussis incidence runs in 3- to 4- year cycles. However, such a large increase was not anticipated.

Seasonality: Cases were spread throughout the year with increased activity in July through the October. In LAC, August traditionally is the month of highest pertussis incidence (Figure 73).

Age: The age-specific incidence rate among children less than one year of age was 94.0 cases per 100,000 population compared to 3.8 cases per 100,000 population among children aged 1-4 years (Figure 74). The lowest incidence was in the 15-34 years and 35+ years age groups (both 0.3 cases per 100,000 population). Sixty-eight percent of the cases occurred in infants less than six months old. The incidence for infants under one year of age followed the traditional pattern of the highest incidence in infants less than two months of age with a steady decrease in incidence until six months of age (Figure 75).

Sex: The male-to-female rate ratio was 1:1. Morbidity for this disease is usually slightly higher in females than males.

Race/Ethnicity: The age-adjusted incidence rate for pertussis was highest for Hispanics (3.0 per 100,000 population) followed by Blacks (2.6 per 100,000) (Figure 76). The greatest number of cases was reported among Hispanics (n=158), followed by Whites (n=40), Blacks (n=21), Asians (n=16), and American Indian/Alaskan native (n=2).

Location: The highest rate was in the Southeast Health District (6.5 cases per 100,000 population). The next highest rates were in the Foothill and Central Districts (4.9 and 4.5 cases per 100,000). The lowest rate was in the Harbor Health District (0.5 cases per 100,000 population).

Figure 74

Pertussis
Incidence Rates by Age Group
Los Angeles County, 1998-1999

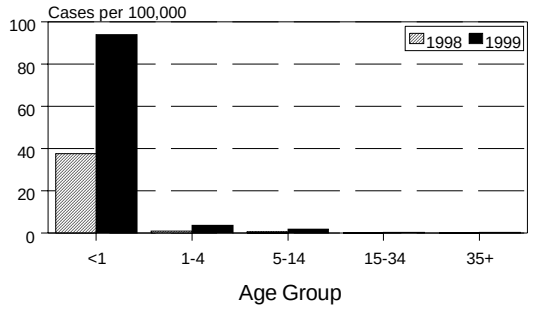
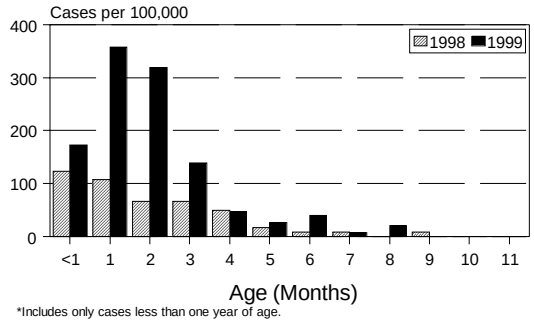


Figure 75

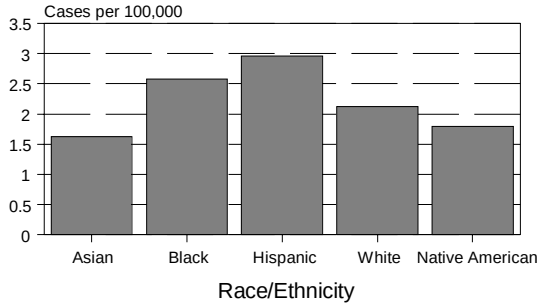
Pertussis
Incidence Rates by Age*
Los Angeles County, 1998-1999



*Includes only cases less than one year of age.

Figure 76

Pertussis
Age-adjusted Rates by Race/Ethnicity
Los Angeles County, 1999



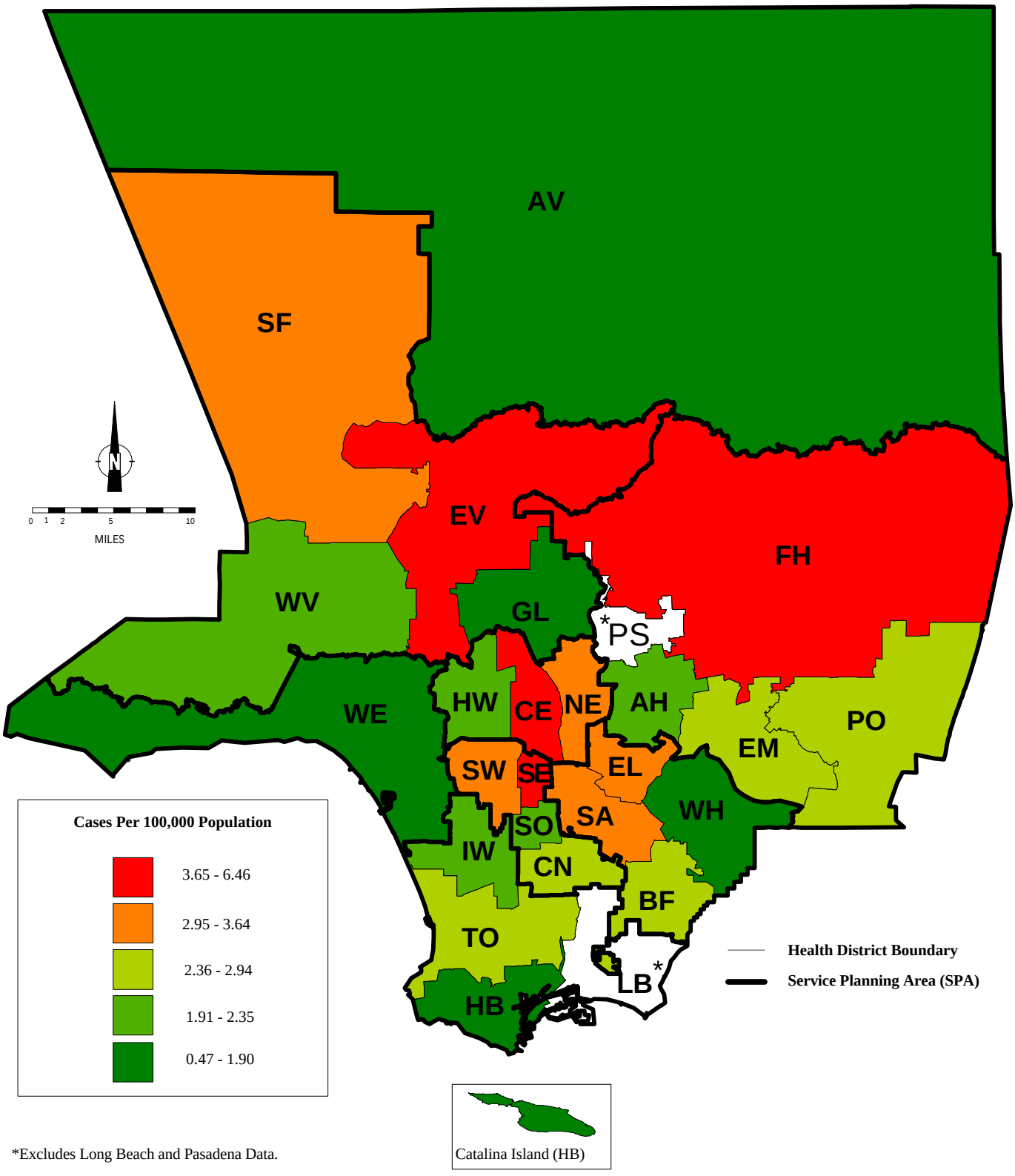
COMMENTS

Complications/Hospitalization: One hundred fifty-two cases (64%) were hospitalized; 93% (n=141) were less than one year old. The average hospital stay was nine days (range 1-33 days). Infants are at the highest risk for complications from pertussis. Twenty eight cases (86%) developed pneumonia; 22 cases (79%) were in children less than six months old. Additionally, six cases with seizures and two cases with encephalopathy were reported in children less than six months of age. Two deaths were reported. Both deaths occurred in Hispanic females who were two months old and both died of multiple organ failure. The deaths occurred 16 days and 53 days from the onset of pertussis.

Vaccination Status: Pertussis-containing vaccine should be given at two months, four months, six months, 15-18 months, and 4-6 years of age. Immunity conferred by the pertussis component of the DTP/DTaP vaccine decreases over time with little or no protection 5 to 10 years following the last dose. Eighty cases (34%) were less than two months of age and too young for the first vaccine dose. An additional 21 cases (9%) were 15 years old or older; their immunity would have waned even if they had been immunized. Thus, 43% of the cases could not have been prevented by the vaccine. Eighty-six cases were in the 2-month to 6-month age group; of these, 84% were up to date for their age but would have had incomplete immunity. Of the children who could have had full immunity conferred by the vaccine (7 months to 15 years old), thirty-two (64%) were fully up to date, eight (16%) were underimmunized, and seven (14%) were unimmunized. Four of these unimmunized children were not immunized due to religious/philosophical exemption, two for medical reasons, and one because of parental negligence. Three children in this category had unknown immunization status.

Adolescent/Adult Cases: Because immunity conferred by the vaccine wanes, adolescents and adults can serve as a reservoir for the disease. Adults and adolescents with pertussis often go undiagnosed because they are more likely to have mild or atypical disease and physicians may not consider the diagnosis in non-pediatric patients. Unimmunized and underimmunized infants are often infected by undiagnosed adult cases.

MAP 9. Pertussis
Rates by Health District, Los Angeles County, 1999*



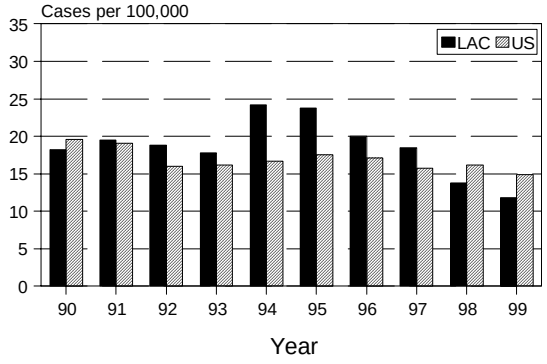
*Excludes Long Beach and Pasadena Data.

SALMONELLOSIS

CRUDE DATA	
Number of Cases	1,087
Annual Incidence[a]	
LA County	11.90
California [b]	12.65
United States [b]	14.90
Age at Onset	
Mean	27
Median	23
Range	<1-98 yrs
Case Fatality	
LA County	0.6%
United States	N/A

Figure 77

Salmonellosis
Incidence Rates by Year
LAC and US, 1990-1999



[a] Cases per 100,000 population.

[b] National Electronic Telecommunications System for Surveillance

ETIOLOGY

Salmonellosis is caused by the bacterium *Salmonella enterica*, of which there are at least 2,463 serotypes.

DISEASE ABSTRACT

The 1999 salmonellosis crude rate dropped13% compared to 1998. Although *Salmonella* serotype Enteritidis (SE) has remained the most common since *S.* Typhimurium in 1994 (accounting for 26% of all reported 1999 *Salmonella* infections), it decreased 17% in 1999. Table 8 shows the 10 most frequent *Salmonella* serotypes (excluding *S.* Typhi) isolated from Los Angeles County (LAC) residents in 1999. SE was the etiologic agent identified in 7 of 21 salmonellosis outbreaks in 1999.

STRATIFIED DATA

Trends: The incidence of reported salmonellosis cases in 1999 dropped to 11.9 cases per 100,000 population, a decrease of 13%. This represents the lowest rate in LAC in the past 10 years (Figure 77). Despite a 17% decrease in SE cases in 1999, SE still makes up 26% of all *Salmonella* isolates. An increase in cases occurred in the following serotypes due to outbreaks: *S*. Thompson, *S*. Hadar, *S*. Muenchen, *S*. Braenderup.

Seasonality: In 1999, a peak was seen during mid-summer and continued through fall. The peak was earlier than the usual seasonal increase in reported cases due to two large outbreaks occurring in July. (Figure 78).

Age: As in past years, the highest age-specific rates of infection occurred among infants (56.3 per 100,000 population) followed by 1- to 4-year-olds (36.5 per 100,000) (Figure 79).

Figure 78

Salmonellosis
Cases by Month of Onset
Los Angeles County, 1999

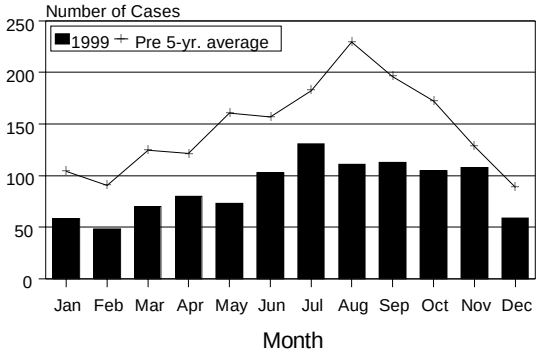
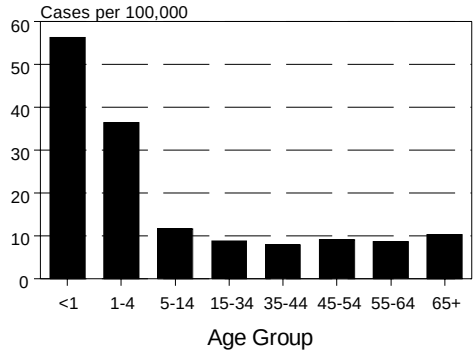


Figure 79

Salmonellosis
Incidence Rates by Age Group
Los Angeles County, 1999



Sex: The male-to-female rate ratio was 1:1.1.

Race/Ethnicity: The highest age-adjusted rate was in Whites (13.7 cases per 100,000 population), followed by Hispanics (10.8), Blacks (9.3) and Asians (7.8) (Figure 80). Many of the outbreaks occurring in 1999 involved Whites and Hispanics.

Location: Torrance Health District had the highest incidence rate per 100,000 population (21.2). Harbor had the second highest rate (18.3), followed by Compton (14.1).

Table 8. Top 10 *Salmonella* Serotypes
Los Angeles County, 1998-1999

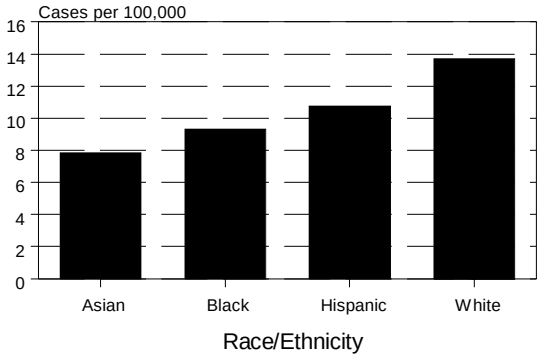
	1998 N[a]=1294		1999 N[a]=1239		Percent
Serotype	**No.**	**Percent**	**No.**	**Percent**	**Change**
S. Enteritidis	408	31.5	326	26.3	-17
S. Typhimurium[b]	235	18.2	169	13.6	-25
S. Thompson	25	1.9	71	5.7	+200
S. Heidelberg	90	7.0	59	4.8	-31
S. Newport	49	3.8	46	3.7	-3
S. Hadar	20	1.5	46	3.7	+147
S. Muenchen	10	0.8	44	3.6	+350
S. Montevideo	41	3.2	41	3.3	+3
S. Oranienburg	25	2.9	37	3.0	+3
S. Braenderup	10	0.8	33	2.7	+238

[a]Denominator (N)=total isolates serotyped.
[b]Includes var. Copenhagen and degraded form.

PREVENTION

Figure 80

Salmonellosis
Age-adjusted Rates by Race/Ethnicity
Los Angeles County, 1999



Each report of salmonellosis is investigated and preventive measures are recommended. Review of investigation reports shows that many persons engage in high-risk food handling behaviors, such as consumption of raw or undercooked eggs and meats, not washing hands and/or cutting boards after handling raw poultry or meat, and not maintaining food at proper temperature to prevent bacterial growth. These investigations demonstrate a need for public education on proper handling and preparation of animal-derived foods, especially eggs, as well as health education targeted at specific racial/ethnic groups. In addition, because fresh produce has been recognized as a source of salmonellosis, washing of fresh fruits and vegetables prior to consumption is advised. Six outbreaks in 1999 were associated with fresh produce.

COMMENTS

The reason for the declining rate of salmonellosis is unknown; rates for other enteric diseases have dropped as well. During 1999 there were 21 reported outbreaks of salmonellosis in LAC, the second largest number of outbreaks in 16 years (Table 9). Outbreak-related cases accounted for 6% of all culture-confirmed salmonellosis cases in 1999. SE was the etiologic agent identified in 7 of the 21 outbreaks, a change in the trend since 1994 in which SE has been the agent in the majority of outbreaks. However, SE was the agent in 34% (72 of 209) of the total laboratory confirmed outbreak-related cases, and 52% (177 of 339) of total number of ill persons associated with salmonellosis outbreaks (Table 9). Three separate SE outbreaks occurred on the same college campus within a two-month period. In four of the seven SE outbreaks, eggs or poultry were the suspected source. Decreases in sporadic cases of SE infections parallel an overall decrease in SE incidence in Southern California. Since 1995, fresh produce, most notably alfalfa sprouts, has increasingly been recognized in the US as a source of salmonellosis. In 6 of the 21 outbreaks in 1999, fresh produce was suspected of being the source. For the statewide or multi-state outbreaks, the case numbers in Table 10 represent the LAC cases.

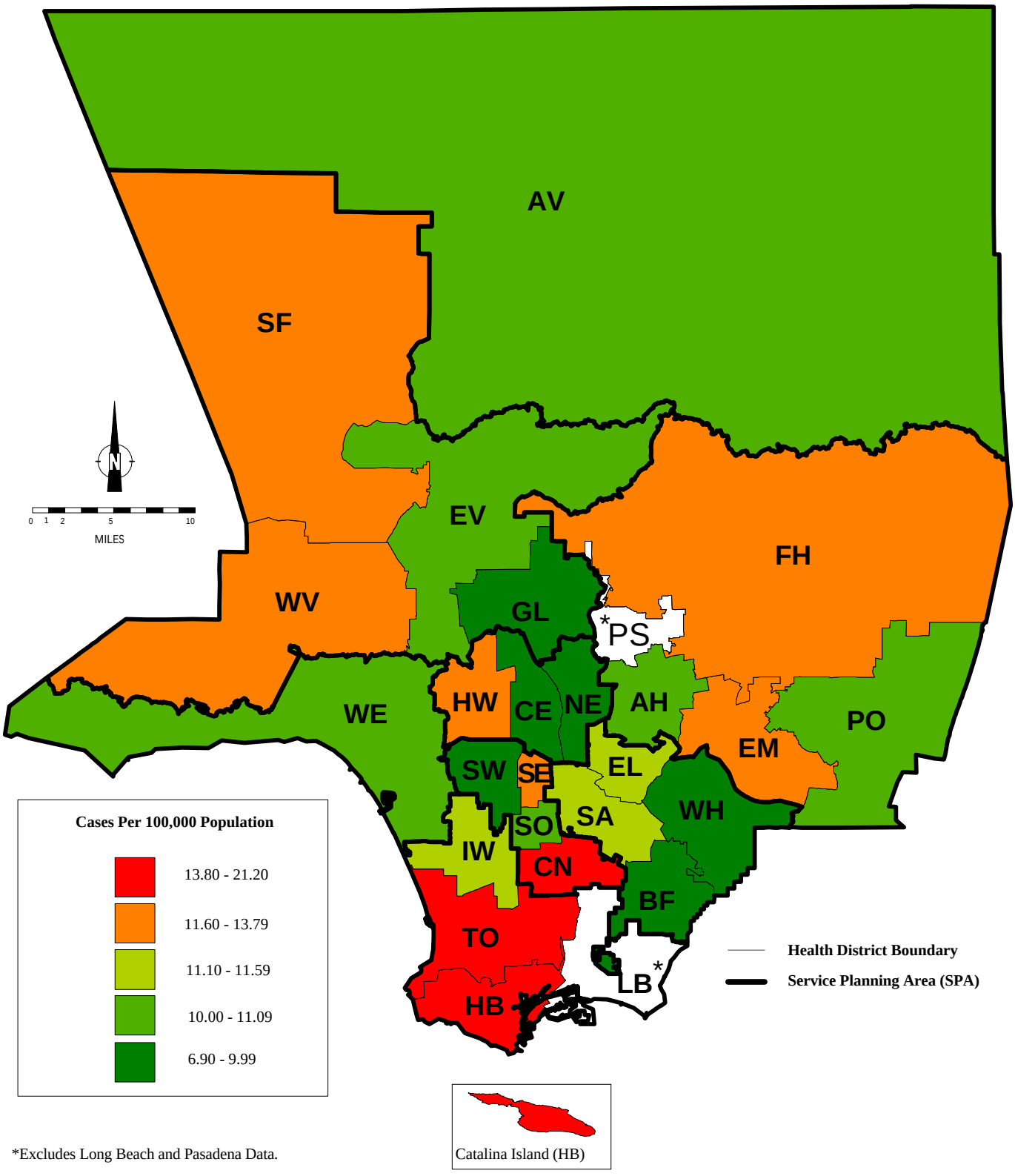
Salmonellosis diagnosed just prior to death was a contributing cause of death for seven persons who expired. All seven had underlying health problems. All were hospitalized with symptoms which probably were caused by salmonellosis; seven had sepsis, and two had acute diarrhea.

Table 9. Salmonellosis Outbreaks in Los Angeles County, 1999

Onset Month	Outbreak Setting	Total #Ill	Culture Positive	Serotype	Suspect Vehicle	Suspect Source
January	Preschool	4	3	SH	Person-to-Person	Unknown
January	Restaurant	3	3	SE	Egg Dishes	Shell Eggs
January	Restaurant	2	2	SE	Chile Relleno	Shell Eggs
March	Restaurant	41	33	ST	Condiment Mix	Cilantro
March	Restaurant chain	3	3	ST	Cilantro	Cilantro
March	Various Restaurants	17	17	ST	Various	Cilantro
March	Various	17	17	SB	Unknown	Unknown
May	Private Home	7	3	SB	Chicken Dish	Chicken
May	Preschool	4	4	SS	Person-to-Person	Unknown
June	Various	10	10	SM	Unpasteurized Orange Juice	Unpasteurized Orange Juice
July	College Campus	29	6	SE	Egg Dishes	Shell Eggs
July	College Campus	100	36	SE	Salad Bar items	Foodhandler
July	San Fernando Valley	7	7	SJ	Person-to-Person	Unknown
August	Private Home - Babysitting Group	5	5	STVC	Person-to-Person	Unknown
August	Private Home	7	1	SHa	Chicken dish	Chicken
September	College Campus	34	19	SE	Unknown	Unknown
October	Private Home	15	9	SSP	Fruit Salad	Cross Contamination
October	Restaurant	2	2	SE	Sushi	Unknown
November	Family Party	7	4	SE	Chicken Dish	Chicken
November	Various	14	14	SM	Alfalfa Sprouts	Alfalfa Sprouts
November	Various	11	11	SN	Mango	Mango
		339	209			

SB = *Salmonella* Braenderup
SE = *Salmonella* Enteritidis
SHa =*Salmonella* Hadar
SH = *Salmonella* Heidelberg
SJ = *Salmonella* Java
SM = *Salmonella* Muenchen
SN = *Salmonella* Newport
SSP = *Salmonella* Saintpaul
SS = *Salmonella* Stanley
ST = *Salmonella* Thompson
STVC = *Salmonella* Typhimurium var Copenhagen

MAP 10. Salmonellosis
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

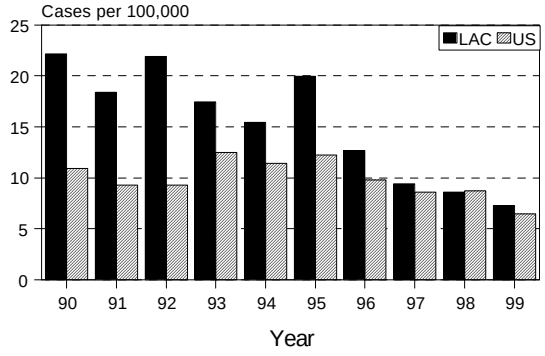
SHIGELLOSIS

CRUDE DATA	
Number of Cases	665
Annual Incidence[a]	
LA County	7.30
California	7.13
United States	6.43
Age at Onset	
Mean	17
Median	8
Range	<1-87 yrs
Case Fatality	
LA County	0.2%
United States	N/A

[a]Cases per 100,000 population.

Figure 81

Shigellosis
Incidence Rates by Year
LAC and US, 1990-1999



ETIOLOGY

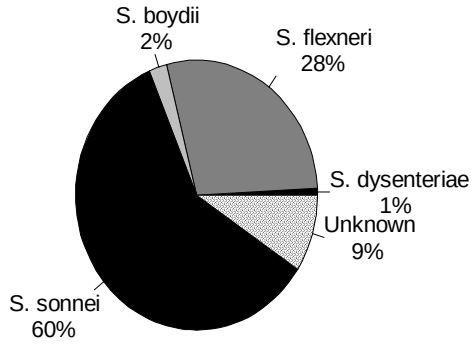
Shigella is a gram-negative bacillus with four serogroups: *S. dysenteriae* (group A)*, S. flexneri* (group B)*, S. boydii* (group C)*, and S. sonnei* (group D)*.*

DISEASE ABSTRACT

There has been a steadily decreasing incidence of shigellosis since 1990 (Figure 81). *S. sonnei* was the most common serogroup followed by *S. flexneri* (Figure 82). There were eight shigellosis outbreaks reported in 1999; six were community outbreaks (four pre-school/school, one baby-sitting group, one family wedding reception) and two were foodborne illness incidents in commercial establishments.

Figure 82

Shigellosis
by Serogroup, LA County, 1999



STRATIFIED DATA

Trends: Compared to the previous year, the overall rate decreased by 15%. Only two age groups did not have a reduced incidence rate; age groups 1-4 and 15-34 had a small increase. Reasons for the decline in reported overall incidence are unknown. Speculation points to a combination of better food safety control measures, less testing of symptomatic patients as a money saving effort, and failure to report.

Shigellosis incidence rates continue to be highest among the younger age groups, with more than half of all cases occurring in those under 15 and approximately one-third under the age of five.

Seasonality: The typical seasonal increase in shigellosis occurs during the summer and early fall with peak incidence in August. This pattern continued in 1999 (Figure 83).

Age: Eighty-three percent (549) of all shigellosis cases occurred among persons under 35, and 74% (407) of those were in children under 15. The highest rate, 36.3 per 100,000 population, was seen among 1- to 4-year-olds (Figure 84). In contrast, 62% of male cases of *S. flexneri* occurred in age 15 years and older.

Sex: The male-to-female rate ratio for **all** shigellosis was 1:1.5. The male-to-female ratios for *S. sonnei* and *S. flexneri* in cases age 15 years and older were 0.9:1 and 2:1, respectively.

Race/Ethnicity: In 1999, the **incidence** of shigellosis continued to be highest among Hispanics (9.82 cases per 100,000 population), but rates decreased in all races (Figure 85). Seventy-four percent of the **total number** of shigellosis cases were in Hispanics; however, 57% of *S. flexneri* and 67% of *S. sonnei* in male cases ≥15 years were White.

Location: The highest rates of shigellosis in 1999 were in the Southeast (16.16 per 100,000), East LA (13.62 per 100,000), and Compton (13.43 per 100,000) Health Districts (Map 1).

COMMENTS

Potential Sources: Exposure during international travel and exposure to an ill individual in the household were the most commonly reported potential sources. Other reported exposures included contact with an ill individual outside the household, contact with a

Figure 83

Shigellosis
Cases by Month of Onset
Los Angeles County, 1999

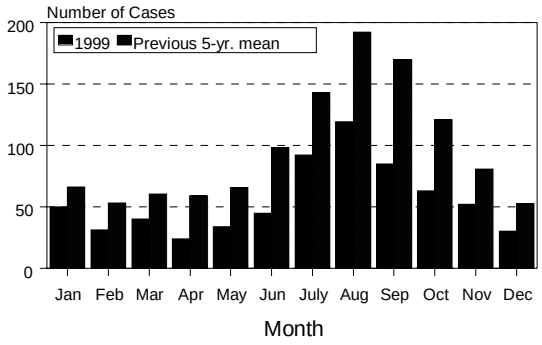


Figure 84

Shigellosis
Incidence Rates by Age Group
Los Angeles County, 1998-1999

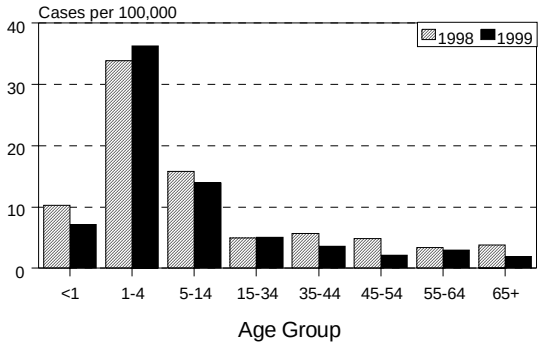
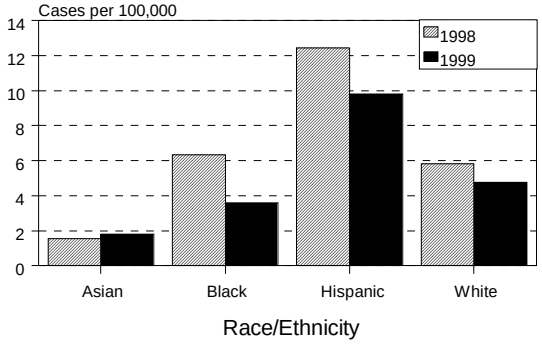


Figure 85

Shigellosis
Age-adjusted Rates by Race/Ethnicity
Los Angeles County, 1998-1999

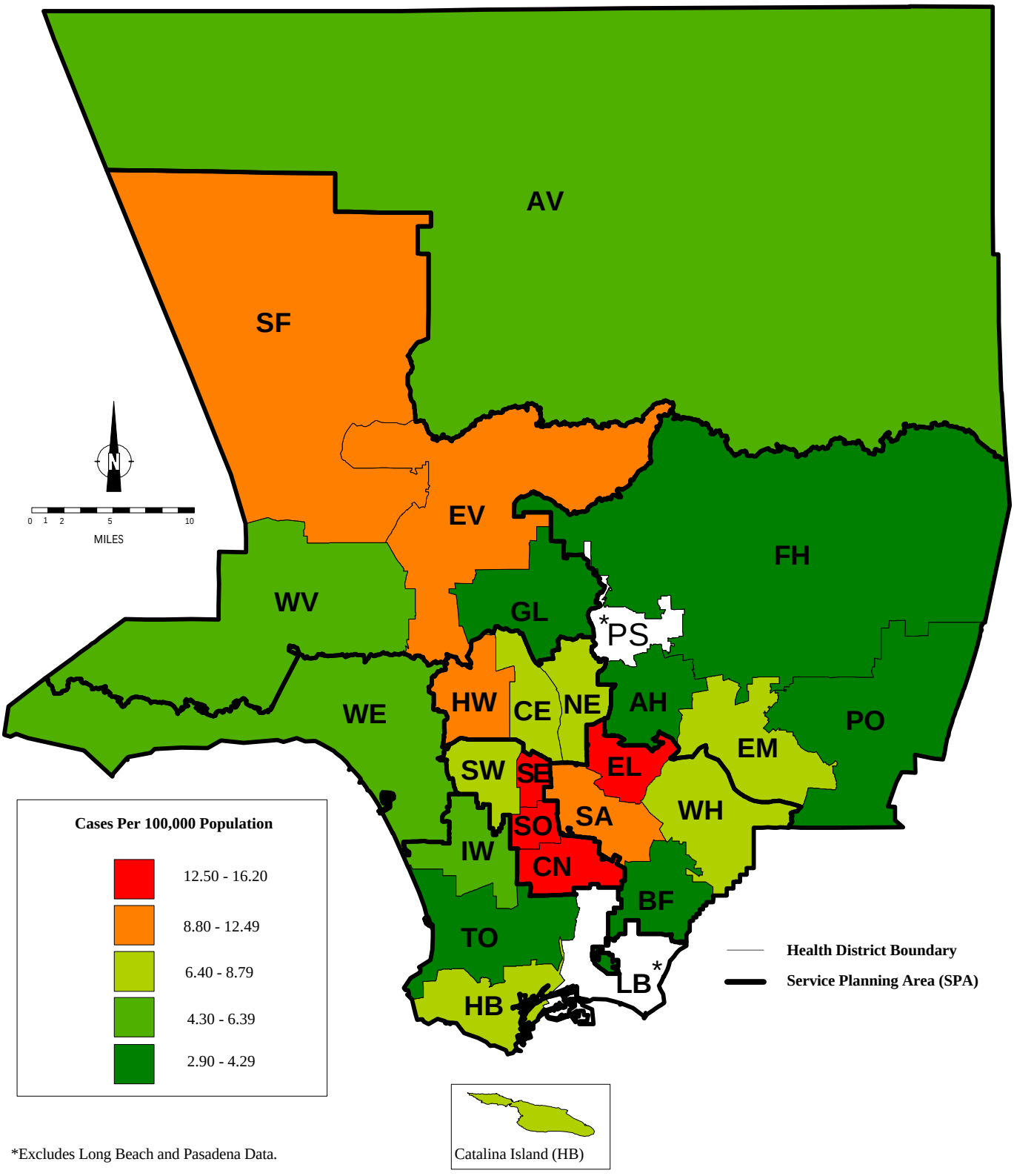


daycare center, travel within the United States, participation in an outdoor activity (e.g., hiking, camping, swimming), and drinking untreated water.

This year, 37% percent of the *S. flexneri* and 24% of the *S. sonnei* cases in males with known sexual preference ≥15 years of age admitted to being men who have sex with men (MSM). Certain sexual practices of this group may have been a potential source of infection. The practices most likely to be a mode of transmission are oral-anal and oral-genital sex where fecal transmission is likely. It was not possible to ascertain whether there has been a recent increase in high-risk behavior among MSM.

Transmission Risks: Individuals in sensitive occupations (e.g., foodhandling, healthcare workers) or sensitive situations (e.g., daycare) may pose a transmission risk to the community. Cases and symptomatic contacts in sensitive occupations or situations are routinely removed from work or the situation until they are negative on stool specimens tested in the Public Health Laboratory.

MAP 11. Shigellosis
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

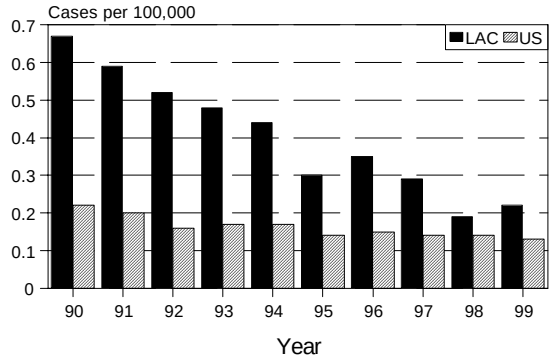
TYPHOID FEVER, ACUTE

CRUDE DATA	
Number of Cases	20
Annual Incidence[a]	
LA County	0.22
California	0.21
United States	0.13
Age at Onset	
Mean	20
Median	18
Range	1-40 yrs
Case Fatality	
LA County	0
United States	N/A

[a]Cases per 100,000 population.

Figure 86

Acute Typhoid Fever
Incidence Rates by Year of Onset
LAC and US, 1990-1999



ETIOLOGY

Salmonella typhi, a gram-negative bacillus.

DISEASE ABSTRACT

Acute typhoid fever is primarily a disease associated with recent immigration, travel, or contact with a previously unknown carrier.

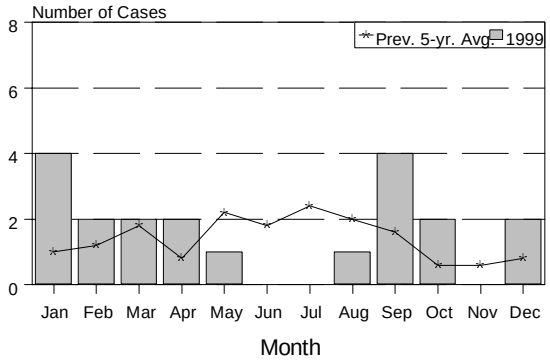
STRATIFIED DATA

Trends: The rate of reported typhoid fever cases has been steadily decreasing in the last ten years. Annual incidence declined from 0.67 per 100,000 population in 1990 to 0.22 in 1999; however, there was a slight increase in incidence from 0.19 to 0.22 between 1998 and 1999 (Figure 86).

Seasonality: Late spring and summer months have the most cases, coinciding with travel to endemic countries over holidays and school vacation. No common factors were found for the increase in cases in January and September 1999 (Figure 87).

Figure 87

Acute Typhoid Fever
Cases by Month of Onset
Los Angeles County,1999



Age: The 5- to 14-year-old and the 15- to 34-year-old age groups had the highest incidence rates, 0.58 and 0.29 per 100,000 population, respectively (Figure 88).

Sex: The male-to-female rate ratio was 1:1.2. Typically, a slight tendency for more frequent acute disease exists in males; however, this year the ratio is about equal.

Race/Ethnicity: As in past years, acute typhoid fever continues to be seen primarily in Asians and Hispanics (Figure 89).

Location: Case location in LAC at the time of illness was not related to disease acquisition; fourteen (70%) cases are assumed to have acquired disease outside the US.

PREVENTION: Handwashing after using the toilet, before preparing or serving food, and before and after caring for others is important in preventing the spread of typhoid. When traveling where sanitary practices are uncertain, foods should be thoroughly cooked and served hot; bottled water should be used for drinking as well as for brushing teeth and making ice. Vaccination should be considered when traveling in areas off the usual tourist itineraries.

COMMENTS: Six cases (30%) did not have a history of foreign travel and are presumed to have become infected in LAC. Two of these cases were linked to a previously unknown carrier in the family who had lived in an endemic country. Four other cases had ties to an endemic country but denied recent travel and a source could not be found. Of the 14 cases acquired outside the US, 6 (43%) acquired disease in Asia and 8 (57%) acquired disease in Mexico or Central America.

Figure 88

Acute Typhoid Fever
Incidence Rates by Age Group
Los Angeles County,1999

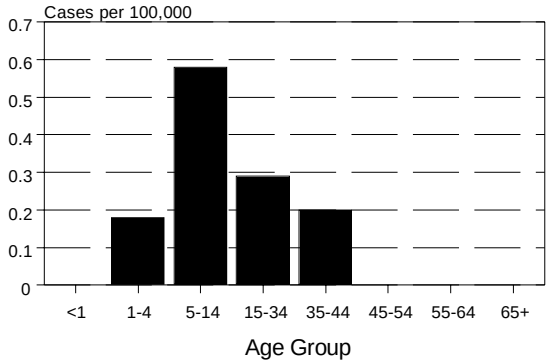
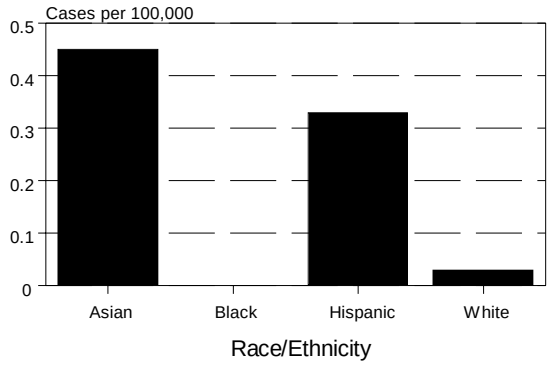


Figure 89

Acute Typhoid Fever
Incidence Rates by Race/Ethnicity
Los Angeles County, 1999



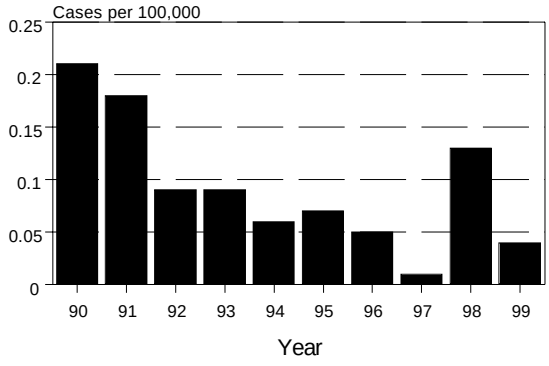
TYPHOID FEVER, CARRIER

CRUDE DATA	
Number of Cases	4
Annual Incidence[a]	
LA County	0.04
United States	N/A
Age at Diagnosis	
Mean	32.5
Median	31
Range	23-35
Case Fatality	
LA County	0.0%
United States	N/A

[a]Cases per 100,000 population.

Figure 90

Typhoid Fever Carriers
Rates by Year of Detection
Los Angeles County, 1990-1999



ETIOLOGY

Salmonella typhi, a gram-negative bacillus.

DISEASE ABSTRACT

The number of newly identified typhoid carriers rose from a low level of only one new carrier in 1997 to a seven-year high of 12 carriers in 1998 and dropped again to only four carriers in 1999. In 1999, a **total** of 18 known carriers resided in LAC; fourteen (78%) emigrated from a country with endemic typhoid fever. Of the four carriers born in the US, the youngest is 20 years old and was infected during birth to a previously unknown carrier; the others are ages 96, 85, and 77.

COMMENTS

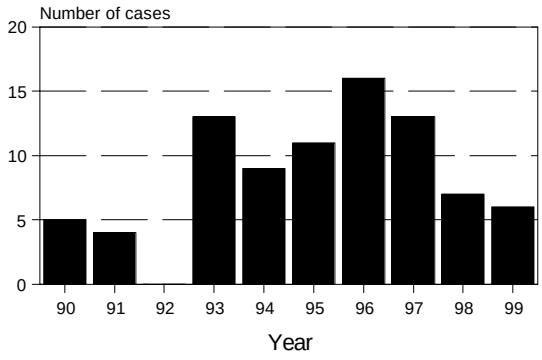
- In 1999, all new carriers are Hispanic. Two were found as previously unknown sources for acute typhoid cases.
- Most patients do not remember the date of acute onset.
- The carrier state is more common among women. All four of the new carriers this year are female. Of the 18 carriers under long-term surveillance, 83% (15) are female.
- Each newly identified carrier is added to the typhoid carrier registry and visited semi-annually by a public health nurse to determine compliance with a signed typhoid carrier agreement.
- Treatment with ciprofloxacin successfully cleared two carrier.

TYPHUS FEVER

CRUDE DATA	
Number of Cases	6
Annual Incidence[a]	
LA County	0.07
California	N/A
United States	N/A
Age at Onset	
Mean	41.2
Median	39
Range	8-76 yrs
Case Fatality	
LA County	0.0%
United States	N/A

Figure 91

Typhus Fever
Cases by Year
Los Angeles County, 1990-1999



[a]Cases per 100,000 population.

ETIOLOGY

Typhus fever (murine typhus, endemic typhus) is caused by bacteria, *Rickettsia typhi* or *felis*.

DISEASE ABSTRACT

Typhus fever reports have increased since 1993 (Figure 91), following a fatal case that year which may have led to increased awareness of the disease. In 1999, six cases of typhus fever were reported. Symptoms include high fever, severe headache, myalgias, and sometimes a fine maculopapular rash. Occasionally, complications such as pneumonia or hepatitis may occur. Fatalities are uncommon, occurring in less than one percent of cases. Cases occur throughout the year, but more often in summer and fall.

Typhus fever is endemic in the foothills of central LAC. In 1999, two cases were residents of Foothill Health District, and one case each from Alhambra, Glendale, and Hollywood-Wilshire Health Districts. One case was exposed to typhus during travel overseas. Five (83%) of reported cases were hospitalized for an average of 5.4 days.

TRANSMISSION

Human infection most commonly occurs by introduction of infectious flea fecal matter into the bite site or adjacent areas which have been abraded by scratching. Typhus fever cannot be transmitted from person to person. Five of the 1999 cases recalled flea bites or contact with animals (dogs, cats, opossums and rats) that carry fleas.

COMMENTS

Each case of endemic typhus is carefully interviewed regarding potential exposures. If possible, field studies of the property where exposure occurred and surrounding areas in the neighborhood are conducted. Local residents are contacted and provided with education about typhus and prevention of the disease by controlling fleas and eliminating harborage for typhus infected animals that carry fleas.

The nonspecific clinical presentation and the lack of a definitive test during the acute phase of the illness make the early diagnosis of endemic typhus difficult. Thus, diagnosis of endemic typhus depends on the clinical acumen of the treating physician, and is often confirmed after the patient has recovered. Accurate reporting of typhus or suspect typhus cases is important to identify endemic areas in LAC which can be monitored for the presence of disease in the animal populations and to institute control measures. Treatment with antibiotics hastens recovery and lessens the chance of complications.

PUBLICATIONS LIST

1. Herwaldt BL, Beach MJ, and the Cyclospora working group. The return of *Cyclospora* in 1997: Another outbreak of cyclosporiasis in North America associated with imported raspberries. *Ann Intern Med* 1999;3:210-220.

2. Buchholz U, Moolenaar R, Peterson C, Mascola L. Varicella outbreaks after vaccine licensure: should they make you chicken? *Pediatrics* 1999;103:561-563.

3. Labarca JA, Trick WE, Peterson CL, Carson LA, Holt SC, Arduino MJ, Meylan, M, Mascola L, Jarvis WR. A multi-stage nosocomial outbreak of *Ralstonia pickettii* colonization associated with an intrinsically contaminated respiratory care solution. *Clin Infect Dis* 1999;29:1281-1286.

ACUTE COMMUNICABLE DISEASE CONTROL
DISEASE OUTBREAK SUMMARIES

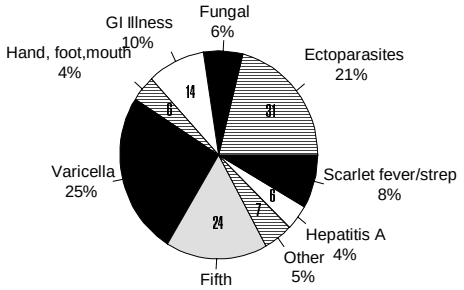
COMMUNITY-ACQUIRED OUTBREAKS

ABSTRACT

Settings of community outbreaks in Los Angeles County (LAC) include schools, day care centers, private homes, restaurants and group homes. In 1999, a total 185 community outbreaks were investigated, compared to 168 in 1998. Foodborne outbreaks (n=39) are analyzed separately due to their unique epidemiology and investigational procedures. The remaining 146 community outbreaks, consisting of 1,516 illnesses, are analyzed here.

Figure 92

Community Outbreaks by Type of Disease
Los Angeles County, 1999[a]
N = 146



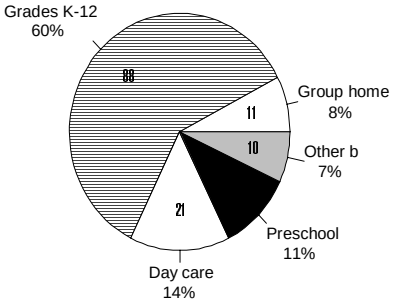
a) Excludes foodborne outbreaks.

DATA

Disease outbreaks are defined as clusters of disease cases that occur in a similar time or place, or unusual numbers of cases above baseline in a specified area. Depending on the nature of the outbreak, investigation responsibility is held by either district health offices or by the Acute Communicable Disease Control Unit (ACDC). ACDC provides consultation for district-led outbreak investigations.

Figure 93

Community Outbreaks by Location
Los Angeles County, 1999[a]
N=146



a) Excludes foodborne outbreaks.
b) Includes 5 private homes, 2 jails, 1 shelter, 2 county-wide.

Most of the reported community outbreaks in LAC were due to varicella (25%), and ectoparasites (21%)(scabies and pediculosis) (Figure 92). This year, fifth disease and scarlet fever/streptococcal pharyngitis, received their own outbreak categories.

The Pomona District reported the most outbreaks, followed by Foothill, West and Torrance Districts.

Pediculosis and gastroenteritis (GE) of undetermined etiology (generally defined as viral, non-laboratory confirmed) were the diseases with the highest number of cases overall. GE illnesses of undetermined etiology had the highest number of cases per outbreak (Table 10), followed by pediculosis.

Table 10. Community Outbreaks by Disease, Los Angeles County, 1999[a]

Disease	Number of Outbreaks	Number of Cases	Avg. Cases per Outbreak	Range Low-High
Pediculosis	23	261	11	2-41
Scabies	8	74	9	2-27
Varicella	37	367	10	2-38
Hand, foot & mouth disease	6	28	5	2-9
Fungal diseases	9	39	4	2-9
GI illness - Viral GE[b]	5	221	44	10-98
GI illness - known etiology	9	80	9	2-27
Salmonella Heidelberg	1	6		
Salmonella Paratyphi	1	7		
Salmonella Stanley	1	4		
Salmonella Typhimurium	1	5		
Shigella species undetermined	1	22		
Shigella flexneri	1	11		
Shigella sonnei	3	25		
Fifth disease	24	196	8	2-21
Hepatitis A	6	30	5	2-12
Scarlet Fever/Strepto. pharyngitis	12	60	5	2-13
Other[c]	7	160	23	2-70
Total	**146**	**1,516**		

a) Excludes food-borne outbreaks.
b) Not laboratory confirmed.
c) Includes: impetigo, pertussis, non-specific upper respiratory tract illness, rash of unknown etiology, and influenza.

Table 11. Community Outbreaks, Disease by Setting
Los Angeles County, 1999

Disease	Group Home	Day care	School[a]	Pre School	Other[b]	TOTAL
Pediculosis	1	1	19	2	0	**23**
Scabies	3	2	1	1	1	**8**
Varicella	1	8	28	0	0	**37**
Hand, foot & mouth disease	0	3	1	2	0	**6**
Fungal diseases	1	1	5	2	0	**9**
GI illness - Viral GE[c]	2	0	2	0	1	**5**
GI illness - known etiology	0	1	0	5	3	**9**
Fifth disease	0	4	19	1	0	**24**
Hepatitis A	0	0	3	0	3	**6**
Scarlet Fever/Strepto.pharyngitis	1	1	8	2	0	**12**
Other	2	0	2	1	2	**7**
Total	**11**	**21**	**88**	**16**	**10**	**146**

a) Includes: senior high schools, junior high schools and elementary schools.
b) Includes: private homes, jail, shelter, and county-wide.
c) Not laboratory confirmed.

The distribution of outbreaks by location is shown in Figure 93. The most common setting for outbreaks were schools (including elementary, junior and senior high schools), preschools, and day care centers. Of the schools, only one senior high school, one junior high school and one junior high/elementary school reported outbreaks. The rest of the school-related outbreaks were reported from elementary schools. Further analysis shows that specific diseases cluster in these sites. The majority of pediculosis, chicken pox and fifth disease outbreaks occurred in schools.

COMMENTS

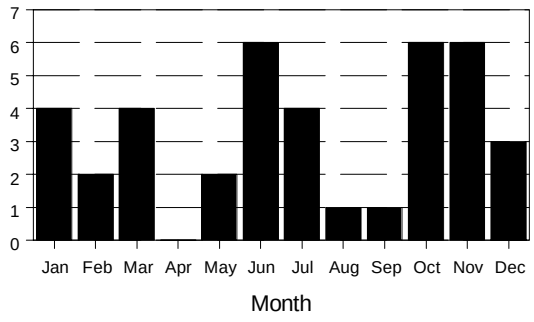
In 1999, there were more reported community outbreaks compared to 1998 in LA. Of these outbreaks, varicella infections were the most often reported. Elementary schools, day care centers and preschools were the most common sites for reported outbreaks. There were substantially more outbreaks of fifth disease reported in 1999, therefore it was given its own category.

FOODBORNE OUTBREAKS

CRUDE DATA	
Number Ill	742
Number Outbreaks	39
Annual Incidence:	
LA County[a]	8.1
California[b]	N/A

a
b Individual cases (not outbreaks) per 100,000 population.
California Department of Health Services, stats.

Figure 94
Foodborne Outbreaks
by Month of Onset
Los Angeles County, 1999
N=39



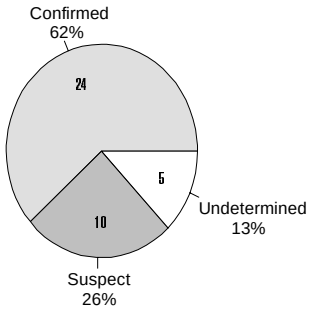
ETIOLOGY

Foodborne outbreaks are caused by a variety of bacterial, viral and parasitic pathogens, or toxic substances. They are defined as clusters of persons with illness related by time and place where food is the suspected vehicle of disease transmission.

DISEASE ABSTRACT

A total of 39 foodborne outbreaks in LAC were investigated by Department of Health Services in 1999. These outbreaks resulted in 742 cases of documented disease caused by a variety of pathogens.

Figure 95
Foodborne Outbreaks
Laboratory Confirmation of Etiologic agents
Los Angeles County, 1999
N=39



DATA

Seasonality: Foodborne outbreaks often increase in summer. In 1999 there were two peaks for outbreaks; early summer and fall (Figure 94).

Agent: A specific pathogen was laboratory-confirmed in 62% of the foodborne outbreaks (Figure 95). In 25% of the outbreaks, investigators used clinical and epidemiologic

Table 12. Foodborne Outbreaks in Los Angeles County, 1999 (N=39)

O.B. #	Etiologic Agent	# Affected	Implicated Food/Meal	Avg. Hrs. Incub.
	CONFIRMED			
145	*Campylobacter jejuni*	6	chicken	2.5
128	Hepatitis A virus	3	undetermined	30days
178	Norwalk-like virus	38	tuna fish, bagels	37
190	Norwalk-like virus	14	undetermined	32
158	Norwalk-like virus	94	lemonade slushy	--
159	Norwalk-like virus	37	lemonade slushy	--
70	*Salmonella* Braenderup	17	undetermined	--
109	*Salmonella* Braenderup	7	chicken	24
59	*Salmonella* Enteritidis	2	chile relleno	24
118	*Salmonella* Enteritidis	29	egg dishes	--
119	*Salmonella* Enteritidis	100	honey dew	24
134	*Salmonella* Enteritidis	4	undetermined	--
168	*Salmonella* Enteritidis	2	undetermined	--
187	*Salmonella* Enteritidis	7	chicken	48
196	*Salmonella* Hadar	11	chicken	13.7
116	*Salmonella* Muenchen	10	unpasteurized orange juice	--
188	*Salmonella* Muenchen	8	undetermined	--
5	*Salmonella* Newport	11	mangos	--
167	*Salmonella* St. Paul	15	undetermined	24
55	*Salmonella* Thompson	42	cilantro	25
83	*Salmonella* Thompson	3	undetermined	29
15	*Shigella flexneri*	32	shredded lettuce	51
120	*Shigella sonnei*	15	undetermined	12
126	*Shigella* spp.	5	undetermined	--
	UNCONFIRMED			
78	*Clostridium perfringens*	40	beef tri-tip	8.4
160	*Clostridium perfringens*	11	spaghetti w/ meat	12
1	Viral	10	undetermined	--
27	Viral	17	undetermined	39
44	Viral	24	undetermined	33
77	Viral	14	undetermined	21
102	Viral	14	undetermined	28.5
110	Viral	14	undetermined	32
177	Viral	18	undetermined	24
180	Viral	19	undetermined	48
6	Undetermined	14	undetermined	--
8	Undetermined	20	undetermined	--
9	Undetermined	5	undetermined	8.3
52	Undetermined	2	undetermined	--
112	Undetermined	10	undetermined	12

evidence to classify outbreaks as "suspected" bacterial, viral, or parasitic. Investigators classified remaining outbreaks (13%) with insufficient information to "undetermined" causes.

The most common laboratory confirmed etiologic agents responsible for outbreaks in 1999 were *Salmonella* species (38%) *Salmonella enteritidis* was the largest subgroup of Salmonella species (15%). Viruses made up the second largest category of etiologic agents (31%). Four of these outbreaks were confirmed to be caused by Norwalk-like viruses (10%)(Figure 96).

Incubation: Figure 97 shows incubation periods of the 25 outbreaks with documented information. The majority of outbreaks had an incubation of 17-36 hours with an average incubation of 25.5 hours (not including the Hepatitis A outbreak).

Duration: Figure 98 features average duration of illness in days from those reports with available information (N=25). Most illnesses lasted 1-2 days except some, like Hepatitis A infections which lasted 5 or more days.

Food Establishment Type: A restaurant was the location for most reported outbreaks (41%), followed by catered events(15%) (Figure 99)."Catered events" were defined as those situations where a restaurant or caterer prepared the food, which was then brought by that establishment to another location. "Take out" was defined as situations where the patron picked up the food themselves.

Violations: Eighteen outbreak reports documented violations that Food & Milk program inspectors cited at the eating establishment. Not all these violations may be contributors to an outbreak. However, violations such as improper storage or holding temperature, contaminated equipment or working surfaces, and poor personal hygiene

Figure 96
Foodborne Outbreaks
Etiologic Agents
Los Angeles County, 1999
N=39

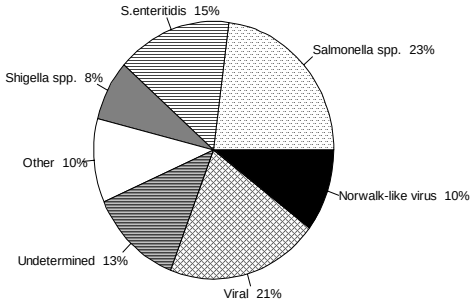


Figure 97
Foodborne Outbreaks
by Average Incubation
Los Angeles County, 1999
N=25

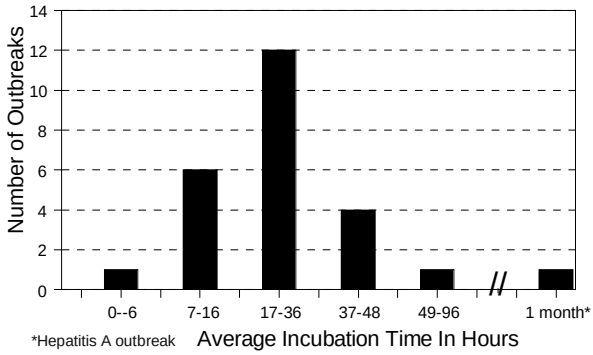
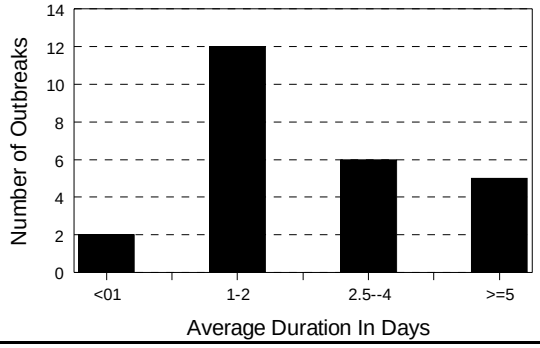


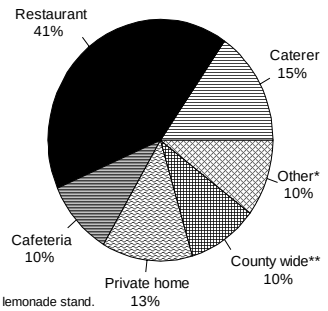
Figure 98
Foodborne Outbreaks
by Average Duration
of Illness, Los Angeles County, 1999
N=25



of the food handler are factors that can contribute to the propagation and spread of foodborne agents. Fifteen of 18 (83%) establishments were improperly storing food or holding foods at inadequate temperatures. Twelve of 18 establishments (67%) had employees not practicing adequate personal hygiene (e.g. not washing hands). Twelve of 18 (67%) were using contaminated equipment or were improperly washing the equipment.

Figure 99

Foodborne Outbreaks
By Establishment Type
Los Angeles County, 1999
N=39



*Includes potluck, takeout & lemonade stand.
**No specific location

DISCUSSION

Public health nurses follow up individually reported cases of laboratory-confirmed salmonellosis, shigellosis, and campylobacteriosis; during the course of these investigations, foodborne outbreaks may be identified. Outbreaks of a viral etiology are not readily detected unless reported by the victims or medical provider. Mild symptoms, long incubation periods, and poor public/medical community awareness of public health procedures could lead to under-reporting of foodborne outbreaks.

COMMENTS

It is clear from reported outbreak data that a variety of bacterial and viral pathogens can cause foodborne illness. The etiologic agent was laboratory confirmed in more than half of the outbreaks. The average incubation time of 24 hours for most foodborne illnesses reconfirms that most outbreaks were not caused by the last meal eaten by the victim. This indicates that educational efforts are needed to increase public awareness of the nature of foodborne illness.

The Los Angeles County Public Health laboratory added reverse-transcriptase polymerase chain reaction (RT-PCR) testing for caliciviruses in 1999. This test should identify outbreaks caused by Norwalk-like virus, an agent believed to be a major cause of foodborne illness. The laboratory has also joined the PulseNet National Laboratory Surveillance System. Utilizing pulse-field gel electrophoresis (PFGE), disease isolates which previously would have seemed sporadic in the past now can be laboratory-linked, aiding in cluster identification.

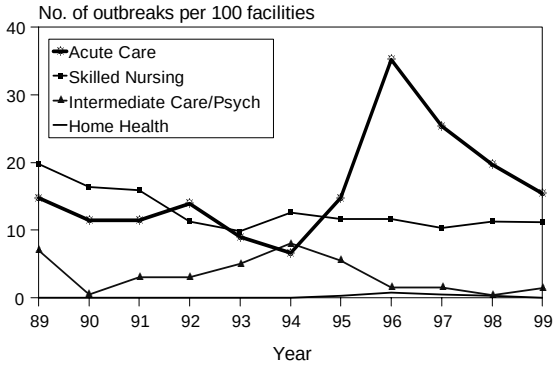
HEALTHCARE FACILITY OUTBREAKS

OUTBREAK DEFINITION AND ETIOLOGY

Outbreaks in healthcare organizations are defined as clusters of nosocomial (health-facility acquired) or home-healthcare-associated infections related in time and place or occurring above a baseline or threshold level for a facility or specific unit or ward.

Figure 100

Healthcare Facility Outbreaks
Los Angeles County, 1989-1999



ABSTRACT

During 1999, outbreaks reported by acute-care hospitals declined for a third year after a record high outbreak rate recorded in 1996 (Figure 100, Table 13). In the acute-care setting outbreaks due to antimicrobial-resistant microorganisms and scabies continued to predominate. The outbreak rate in skilled-nursing facilities (SNFs) has stabilized over the past five years following a declining trend between 1989-93 (Figure 100).

Table 13. Reported Outbreaks Occurring in Los Angeles County Healthcare Facilities, 1996-1999

Type of Healthcare Facility (Number of Facilities Licensed in 2000)	1996		1997		1998		1999	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Acute-Care Hospitals (n = 117)	43	(45.7)	31	(40.8)	24	(35.8)	18	(28.6)
Subacute Care								
Home-Health Agencies (n = 217)	3	(3.2)	2	(2.6)	1	(1.5)	0	(0)
Intermediate Care/Psych (n = 281)	3	(3.2)	3	(4.0)	1	(1.5)	4	(6.3)
Skilled-Nursing Facilities (n = 366)	45	(47.9)	40	(52.6)	41	(61.2)	41	(65.1)
Total	**94**	**(100)**	**76**	**(100)**	**67**	**(100)**	**63**	**(100)**

DATA

In acute-care hospitals, 18 outbreaks were reported (Table 13), a 25% decrease from 1998. Two hospitals reported more than one outbreak. Although acute-care outbreaks have declined in the past three years, the 18 outbreaks reported in 1999 represent a 34% increase since 1990. Nosocomial scabies outbreaks decreased from three in 1998 to only two in 1999 (Table 14). In 1998 nosocomial scabies cases accounted for 35% of all acute-care-outbreak-associated cases, while in 1999 scabies cases represented only 4.1% of acute care cases. In 1999 the etiologic agents contributing the largest number of cases in acute care outbreaks were *M.gordonae* (77/219) followed by VRE (48/219); the *M. gordonae* outbreak involved primarily colonizations in

immunosupressed patients and was most likely associated with contamination/colonization of the hospital's water supply.

During 1999, 41 outbreaks were reported in skilled-nursing facilities and four in intermediate care/psychiatric facilities (Table 13). Four SNFs reported more than one outbreak. Although scabies outbreaks were the most frequently reported in subacute-care settings (21/45), this number has remained relatively stable since 1990 (Table 15). The number of outbreaks and the number of cases of gastroenteritis (unspecified and NLV) increased from 45 cases (3 outbreaks) in 1998 to 251 cases (9 outbreaks) in 1999. The 251 cases represented 62% of sub-acute care outbreak associated cases. Eight of the nine gastroenteritis outbreaks were reported from SNFs. In 1999 intermediate-care facilities reported four outbreaks (varicella, gastroenteritis, influenza, and scabies). Previous years reported predominantly ectoparasitic infestations.

Table 14. Acute-Care Hospital Outbreaks by Disease/Condition
Los Angeles County, 1999

Disease/Condition/Etiologic Agent	Number of Outbreaks	Number of Cases
Methicillin-resistant *Staphylococcus aureus*	3	23
Vancomycin-resistant Enterococcus sp.	2	48
Pseudomonas aeruginosa	2	21
Scabies	2	9
Mycobacterium gordonae	1	77
Acinetobacter baumannii	1	13
Conjunctivitis	1	6
Clostridium difficule	1	6
Methicillin-sensitive *Staphylococcus aureus*	1	4
Enterobacter aerogenes	1	3
Necrotizing Entercolitis	1	3
RSV	1	3
Malasezzia furfur	1	3
Total	**18**	**219**

Table 15. Subacute-Care Setting* Outbreaks by Disease/Condition
Los Angeles County, 1999

Disease/Condition	Number of Outbreaks	Number of Cases
Scabies	21	94
Methicillin-resistant S. aureus	9	26
Gastroenteritis, unspecified	7	150
Influenza	3	26
Norwalk like virus	2	101
Varicella/zoster	1	4
VRE	1	2
Hepatitis B	1	4
Total	**45**	**407**

*Skilled-Nursing, Intermediate-Care/Psychiatric, Home Health

COMMENTS

Hospital outbreaks are principally managed by hospital infection control practitioners and monitored by ACDC staff, with more extensive oversight provided for outbreaks in facilities with minimal infection control resources and those with higher morbidity or mortality potential. Community Health Services district staff have primary responsibility for disease investigations in subacute-care settings. The number of scabies outbreaks in acute-care hospitals decreased from 13, 11, and three in 1996, 1997, and 1998 respectively, to only 2 in 1999. Distribution of ACDC's guideline for management of scabies in healthcare facilities and increased awareness of the potential for scabies transmission in the acute-care setting may have contributed to this decrease. Developing strategies to prevent and control the emergence and spread of antimicrobial-resistant microorganisms is a priority issue in both subacute and acute-care settings. This will require evaluating antimicrobial prescribing practices as well as continued emphasis on appropriate infection control practices.

HIV EPIDEMIOLOGY PROGRAM

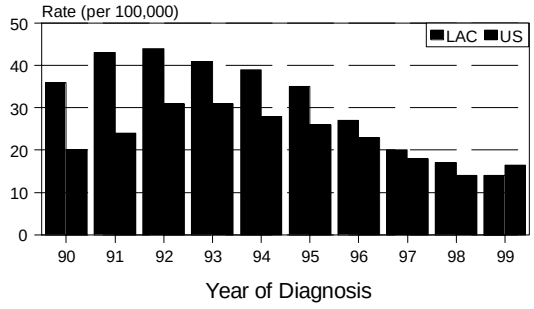
ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

CRUDE DATA	
Number of Cases	1,248
Annual Incidence[a]	
LA County	13.6
California	16.43
United States	16.5
Age at Onset	
Mean	38.7
Median	37.0
Range	8 mos-92 yrs
Case Fatality	
LA County[b,c]	61%
United States[c]	59%

[a] Rate per 100,000 population.
[b] Case-fatality rate increases with duration of illness; for persons diagnosed with AIDS in 1999, 10% have died.
[c] Case-fatality rate for recent LAC & US data is prone to underestimation due to delayed mortality reporting.

Figure 101

AIDS
Incidence Rates by Year
LAC and US*, 1990-1999



*1999 US data is unavailable

ETIOLOGY

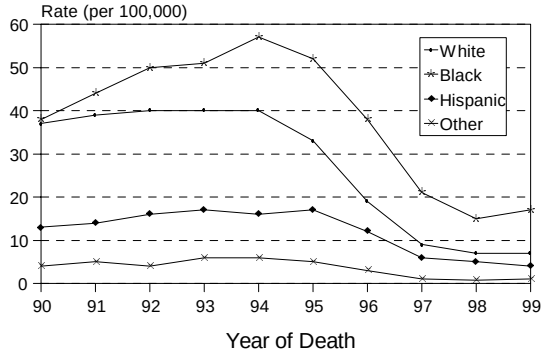
AIDS is a defined syndrome requiring two components: human immunodeficiency virus type 1 (HIV-1), plus either (a) at least one AIDS-defining condition or (b)a T-lymphocyte count below 200 cells/µliter.

DISEASE ABSTRACT

AIDS rates in Los Angeles County (LAC) continued to decline between 1998 and 1999, although the rate of decline was slower than in previous years. Incidence rates declined among Whites, Blacks, Hispanics and Native Americans. The epidemic continued to be concentrated most heavily among men who have sex with men. The highest AIDS rates occurred in the Central and Hollywood-Wilshire Health Districts. AIDS-related mortality rates declined among Whites and Hispanics but rose among Blacks and Others.

Figure 102

AIDS-Related Mortality Rates by Race/Ethnicity and
Year of Death
Los Angeles County, 1990-1999



STRATIFIED DATA

Trends: The reported annual incidence rate of AIDS in LAC decreased 18% from 17 per 100,000 in 1998 to 14 per 100,000 population in 1999 (Figure 101). Between 1998 and 1999 AIDS-related mortality rates declined 6% among Whites and 21% among Hispanics, but increased 10% among Blacks and 32% among Others (Figure 102).

Seasonality: None noted.

Age: In 1999, age-specific rates were higher among males than females for all age categories (Figure 103). Among males, the highest rates were reported in the 35- to 44-year-old age group (60 per 100,000) followed by the 45- to 54-year-old age group (38 per 100,000). Among females, the highest rate (7 per 100,000) was among the 35- to 44-year-old age group.

Sex: Of the 1,248 AIDS cases diagnosed in 1999, 88% were males. The incidence rate was 24 per 100,000 among males and 3 per 100,000 among females. The male-to-female rate ratio was 8:1. The incidence rate of AIDS decreased 22% among males and 17% among females from 1998 to 1999.

Race/Ethnicity: Blacks had the highest AIDS rate in 1999 among males (63 cases per 100,000). The rates among other males were: 22 per 100,000 for Whites; 24 per 100,000 for Hispanics; 6 per 100,000 for Asians; and 13 per 100,000 for American Indians and Alaskan Natives (Figure 104). Blacks had the highest AIDS rates in 1999 among females (16 per 100,000). The rates among other females were: 2 per 100,000 for Hispanics; 2 per 100,000 for Whites; 0.2 per 100,000 for Asians; and 3 per 100,000 for American Indians and Alaskan Natives. The largest proportion of AIDS cases (46%) occurred among Hispanics; 28% occurred among Whites, 24% among Blacks, 3% among Asians and 0.1% among American Indians.

Figure 103
AIDS
Incidence Rates by Age and Sex
Los Angeles County, 1999

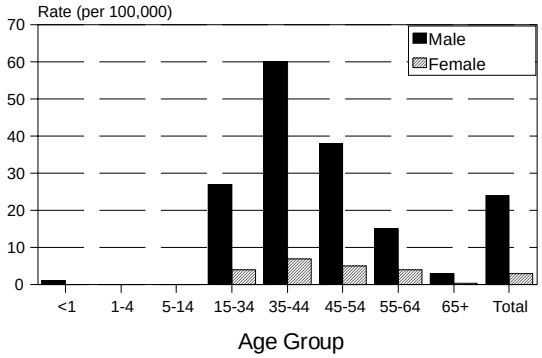
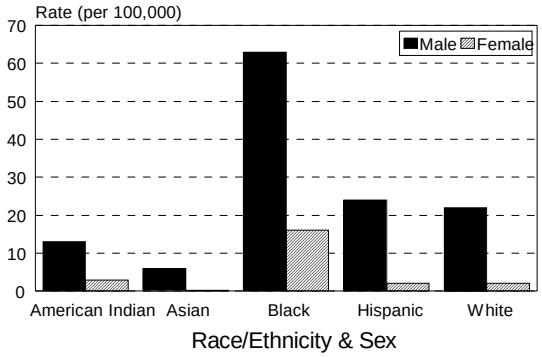


Figure 104
AIDS
Incidence Rates by Race/Ethnicity & Sex
Los Angeles County, 1999



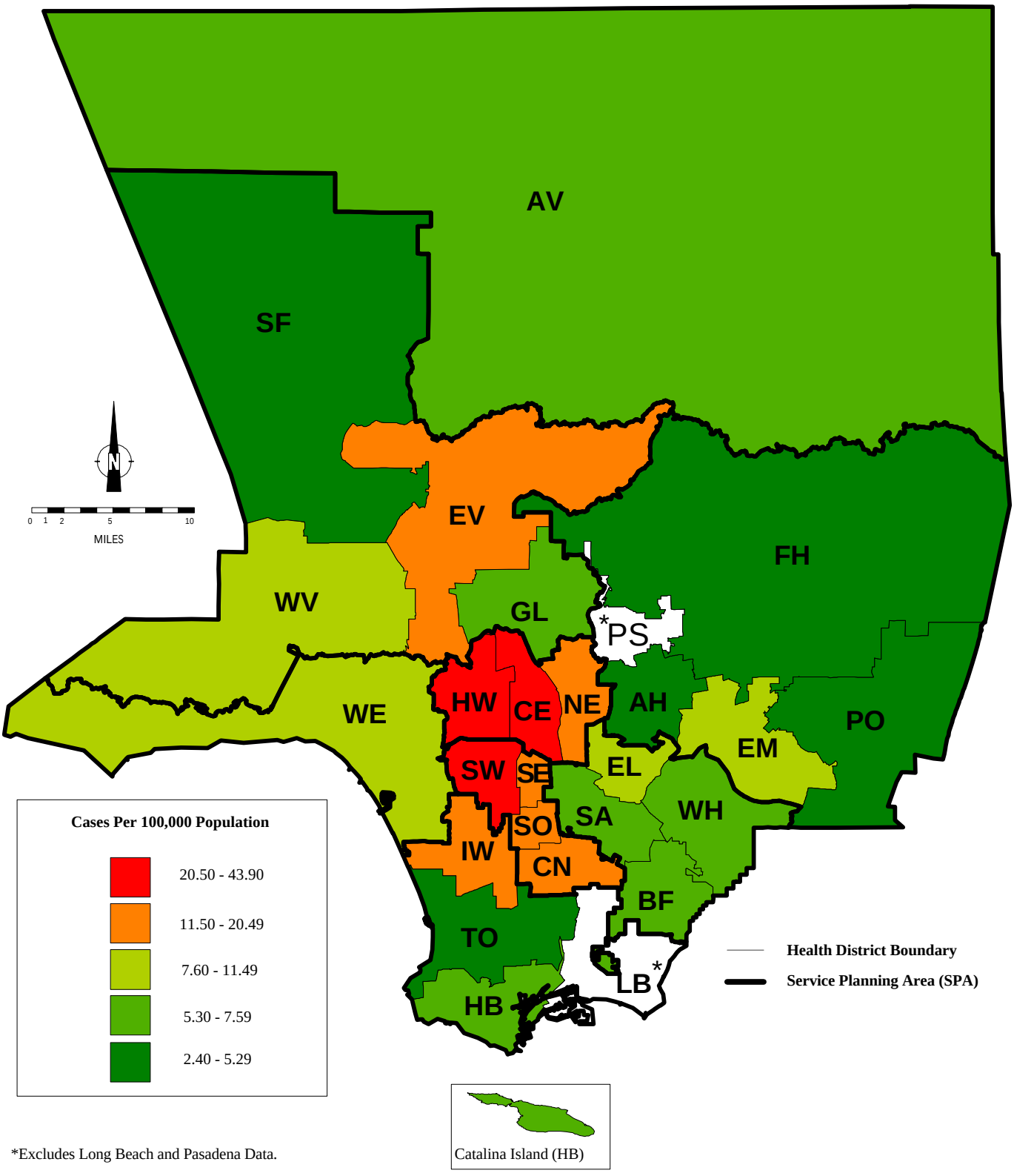
Location: The highest AIDS rates were in the Hollywood-Wilshire District (44 per 100,000) and Central Health District (42 per 100,000)(Map 12)**.**

Transmission: Among males diagnosed with AIDS in 1999, 60% reported having sex with men; 5% reported injection drug use; 4% reported both sex with men and injection drug use; 3% reported other risk factors. No risk factors could be identified to date for 28% of males.
Heterosexual contact was the predominant mode of transmission among women diagnosed with AIDS in 1999 : 35% were heterosexual contacts of a person with HIV infection or AIDS. In addition, 17% were injection drug users and 1% reported other risk factors. No risk factors could be identified for 48% of females to date. Only one child under age 13 was diagnosed with AIDS in 1999 to date. The child's mode of exposure was classified as perinatal.

COMMENTS

The widespread availability of highly-active antiretroviral therapies since 1996 has resulted in substantial decreases in the rate of AIDS diagnoses and deaths in LAC, although these decreases slowed in 1998 and 1999. However, the absolute number of individuals living with AIDS is increasing substantially due to the life-extending effect of the new medical treatments. However, not all groups benefit equally from advances in medical treatment. Blacks, U.S.- and foreign-born Hispanics, women and heterosexuals often learn about their HIV status later in the course of HIV infection, thereby reducing the chance of early medical intervention.

MAP 12. AIDS
Rates by Health District, Los Angeles County, 1999*

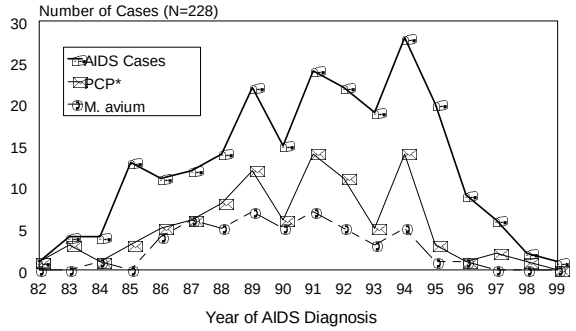


*Excludes Long Beach and Pasadena Data.

PEDIATRIC ACQUIRED IMMUNODEFICIENCY SYNDROME

CRUDE DATA	
Number of Cases	1
Annual Incidence[a]	
LA County	0.01
California	0.04
United States	0.10
Case Fatality	
LA County	65%
California	N/A
United States	N/A

Figure 1.
Pediatric AIDS Cases
Los Angeles County, 1982 to 1999



[a]Cases per 100,000 population.

ETIOLOGY

AIDS is a syndrome caused by *human immunodeficiency virus,* type 1 (HIV-1). It is defined as an illness characterized by one or more indicator diseases, and based on laboratory evidence of HIV infection. A pediatric case is a child <13 years of age with a CDC surveillance case definition of AIDS.

DISEASE ABSTRACT

Pediatric AIDS cases are reported to Los Angeles County (LAC) through an active surveillance system. Residents of LAC diagnosed with AIDS are reported to the State Office of AIDS, HIV infection is not reportable in the State of California, even though these children are followed-up from birth through 18-months of age. Based on the year of AIDS diagnosis, 228 pediatric AIDS cases were diagnosed between 1982 and 1999. Trends in AIDS-defining illnesses show that between 1982 and 1999, 97 (43%) cases were diagnosed with *Pneumocystis carinii* pneumonia (PCP), and 50 (22%) were diagnosed with *Mycobacterium avium*. In 1994, fifty percent of AIDS cases were diagnosed with PCP, this number declined in 1995 to 20%, and to zero percent in 1999. The number of cases diagnosed with *M.avium* similarly declined between 1994 and 1997, from 18% in 1994 to five percent in 1995, and zero percent in 1997 (Figure 1). Of the 228 diagnosed cases, 29 (13%) were diagnosed in 1994. This was followed by a decline in the number of newly diagnosed cases among HIV-infected children. This decline is due to earlier identification of HIV-exposed children, prevention of perinatal transmission, and use of drug therapies, which delay the incidence of AIDS-defining illnesses, as well as the screening of blood supply.

DATA

The single pediatric AIDS case was an African-American male aged 2 years and 9 months. He was diagnosed with wasting syndrome in 1999. He died January 2000.

COMMENTS

The case reported in 1999 was infected perinatally by his mother. The mother was diagnosed with HIV after the child's birth.

PUBLICATIONS LIST

1. Simon PA, Thometz E, Bunch JG, Sorvillo F, Detels R and Kerndt PR. Prevalence of unprotected sex among men with AIDS in Los Angeles County, California, 1995-1997. *AIDS* 1999;13:987-990.

2. Sorvillo F, Kerndt P, Odem S, Castillon M, Carruth A and Contreras R. Use of protease inhibitors among persons with AIDS in Los Angeles County. *AIDS Care* 1999; 11(2):147-155.

SEXUALLY TRANSMITTED DISEASE CONTROL PROGRAM

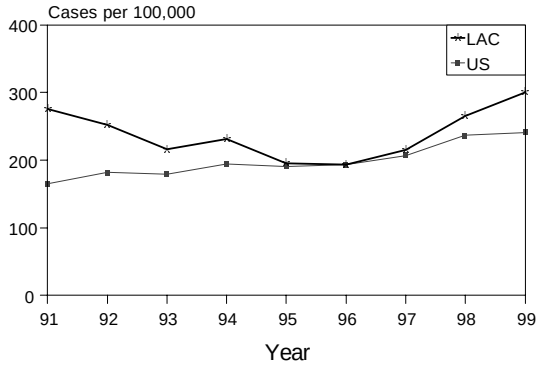
CHLAMYDIAL INFECTION

CRUDE DATA	
Number of Cases	27,588
Annual Incidence[a]	
LA County	300.8
California	256.9
United States	240.8
Age at Onset	
Mean	24
Median	22
Range	7 - 95 yrs
Case Fatality	
LA County	0%
United States	N/A

[a]Cases per 100,000 population. U.S. and California rates are provisional.

Figure 106

Chlamydia Incidence by Year
LAC and US, 1991-1999



ETIOLOGY

Chlamydia trachomatis, a sexually transmitted, gram-negative, obligate intracellular bacterium.

DISEASE ABSTRACT

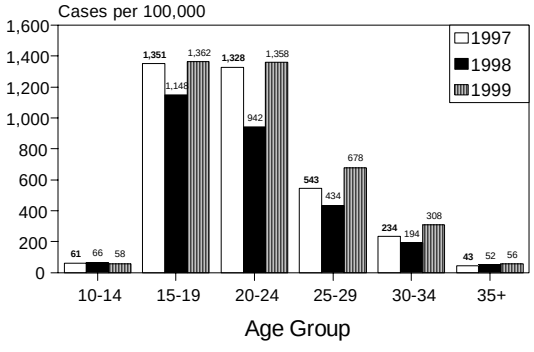
Chlamydia cases increased substantially from 1998 to 1999. Rates increased for all racial/ethnic groups and for most age groups. Increases in chlamydia rates were seen in most health districts.

STRATIFIED DATA

Trends: The STD Program received 27,588 reported cases of genital chlamydial infection in 1999, an increase of 13% over 1998, when 24,142 cases were reported (Figure 106). The increase in chlamydia cases contrasts with the nearly unchanged number of gonorrhea cases and a declining number of syphilis cases during the same period. Chlamydia incidence is approximately three times the combined incidence of gonorrhea and syphilis. During the nine years since it became a reportable disease in California, the overall chlamydia rate has ranged from a high of 301 cases per 100,000 in 1999 to a low of 213 cases per 100,000 in 1995. However, patterns in

Figure 107

Chlamydia
Incidence Rates* by Age
Los Angeles County, 1997 - 1999



*Adjusted to account for the proportion with missing data.

chlamydia rates may be influenced by frequency of screening, improved screening tests, or by greater compliance with reporting requirements by health care providers and laboratories.

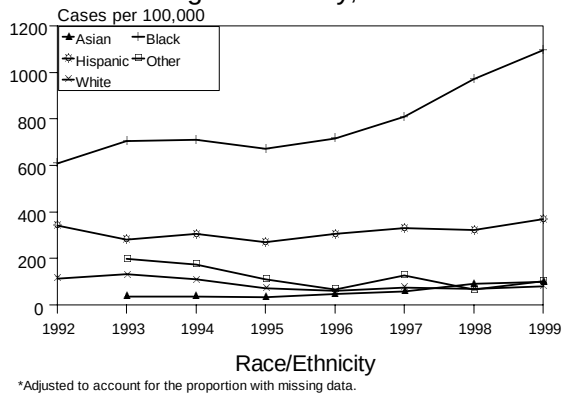
Seasonality: None.

Age: Adolescents and young adults ages 15-24 account for 63% of all reported cases. The highest age-specific rates of chlamydia were seen among 15- to 19-year-olds (1,362 cases per 100,000) and 20- to 24-year-olds (1,358 cases per 100,000; Table 16; Figure 107). The rate for 15- to 19-year-olds increased 19% over last year; the rate for 20- to 24-year-olds increased 44%.

Sex: The male-to-female rate ratio in 1999 was 1:3.6, the same ratio observed in 1998. This gender difference arises partially due to gender-specific screening protocols; asymptomatic female cases are often discovered during routine screening for other purposes, such as visits to prenatal care and family planning clinics, while asymptomatic male cases often go undiagnosed.

Race: Blacks had the highest chlamydia rate (1,096 cases per 100,000), followed by Hispanics (368), Asians and Pacific Islanders (100), Native Americans (102), and Whites (79) (Table 16; Figure 108). There was a 10 -15% increase in the chlamydia incidence rates of most racial and ethnic groups. However, when compared to Whites, the rate among Blacks was more than ten times greater and among Hispanics, the rate was three times greater. Although race/ethnicity was unknown for 38% of reported cases, a large disparity in the distribution of cases is apparent.

Figure 108
Chlamydia
Incidence Rates* by Race/Ethnicity
Los Angeles County, 1992 - 1999



*Adjusted to account for the proportion with missing data.

Location: All but two health districts (Central and Northeast) had increases in rates in 1999. The districts with the largest increases were Glendale (27%), El Monte (29%), Pomona (29%) and Whittier (35%). While gonorrhea and syphilis rates are typically higher in "core" health districts, where social and economic factors play an important role in producing relatively higher risks of contracting STDs, only about a third of the reported chlamydia cases were detected from these districts (Table 17). However, overall incidence in these six districts (Central, Compton, Inglewood, South, Southeast, and Southwest) was more than double that of the non-core districts (575 vs. 234 cases per 100,000).

Comments: Since 1994, urine tests for detection of genital chlamydia have been available. These highly sensitive assays (e.g., PCR and LCR) eliminate the need for urethral swab collection in men and pelvic examinations for chlamydia testing in women. This has resulted in the detection of many more asymptomatic cases, and may be responsible for some of the increase in reported chlamydia cases. In 1999, 19% of chlamydia tests in LAC were performed using amplification-based assays, up from 14% in 1998.

Pronounced increases in chlamydia incidence among 15- to 24-year-olds may also reflect increased emphasis on early screening and detection. For example, approximately 10,000 adolescents admitted to LAC juvenile halls were tested for chlamydia in 1999, resulting in the detection of over 800 cases in males and females under the age of eighteen. Because chlamydial infection can adversely affect fertility and women's health, identifying and treating cases among young females is a departmental priority.

Table 16. Chlamydia Cases and Rates by Race/Ethnicity, Gender, and Age
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Race/Ethnicity					
Asian/Pacific Islander	696	594	100.4	91.4	10
Black	5,293	4,558	1,096.1	970.9	13
Hispanic	9,747	7,894	367.6	321.6	14
Other	39	23	102.1	64.8	58
White	1,471	1,254	78.7	70.2	12
Unknown	10,342	9,819	--	--	--
Gender					
Male	6,010	5,206	131.6	115.6	14
Female	21,548	18,836	469.1	413.4	13
Unknown	30	100	--	--	--
Age					
0-9	27	35	1.9	2.4	-20
10-14	408	391	58.1	66.2	-12
15-19	8,476	7,705	1,361.8	1,148.0	19
20-24	8,908	7,741	1,357.6	942.3	44
25-29	4,804	4,108	677.8	434.1	56
30-34	2,326	1,926	307.5	194.2	58
35+	2,395	1,818	56.3	52.4	7
Unknown	244	418	--	--	--
County Total	**27,588**	**24,142**	**300.8**	**265.4**	**13**

[a] Cases per 100,000 population per year. Estimates of race-, sex- and age-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportions of the known and unknown cases are equivalent. An STD Program study showed no significant difference in demographic characteristics between known and unknown chlamydia and gonorrhea cases.

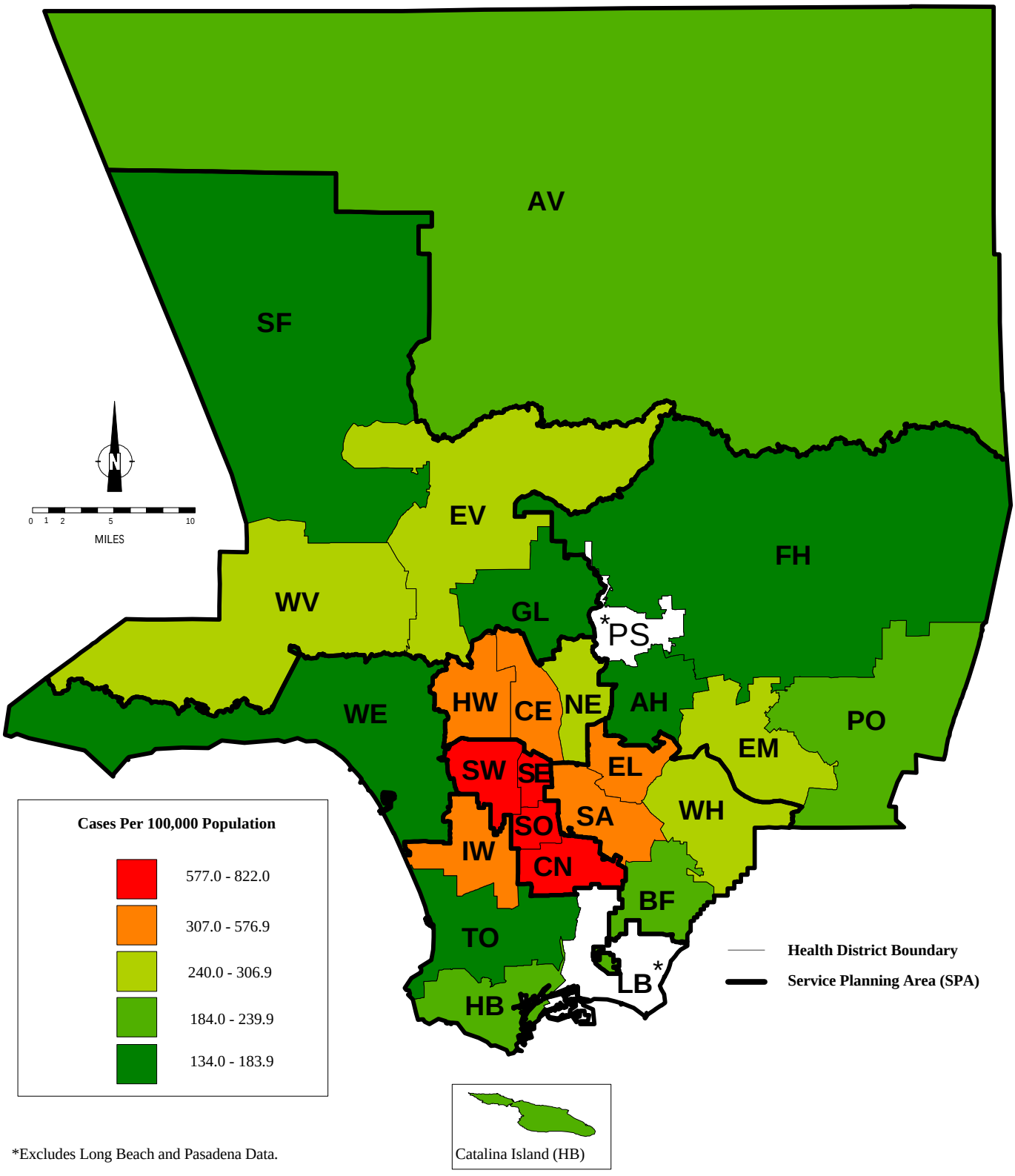
Table 17. Chlamydia Cases and Rates by Health District
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Health District[b]					
Alhambra	478	391	145.6	129.5	12
Antelope Valley	543	480	191.1	187.3	2
Bellflower	768	603	238.3	205.4	16
Central[b]	1,248	1,027	370.4	419.6	-12
Compton[b]	1,471	1,198	580.1	517.4	12
East Los Angeles	667	477	307.3	264.3	16
East Valley	1,004	907	272.6	252.0	8
El Monte	1,195	853	285.8	221.3	29
Foothill	490	414	179.5	163.0	10
Glendale	408	291	134.9	106.0	27
Harbor	394	335	206.6	203.5	1
Hollywood-Wilshire	1,589	1,270	347.3	317.1	10
Inglewood[b]	1,866	1,615	511.5	481.6	6
Northeast	1,015	811	279.8	281.8	-1
Pomona	1,034	745	212.5	164.6	29
San Antonio	1,323	1,055	335.3	296.1	13
San Fernando	592	509	178.2	156.1	14
South[b]	1,291	1,025	821.4	711.2	15
Southeast[b]	960	731	577.1	565.8	2
Southwest[b]	2,404	1,986	730.6	673.7	8
Torrance	738	589	183.9	160.0	15
West	941	783	182.1	150.5	21
West Valley	1,583	1,243	241.6	195.0	24
Whittier	713	476	240.3	178.5	35
Unknown District	2,873	4,328	--	--	--
County Total	**27,588**	**24,142**	**300.8**	**265.4**	**13**

[a] Cases per 100,000 population per year. Estimates of district-specific rates have been adjusted to account for the proportion with missing data by assuming that each district's proportions of the known and unknown cases are equivalent.
[b] Core district.

MAP 13. Chlamydia

Rates by Health District, Los Angeles County, 1999*

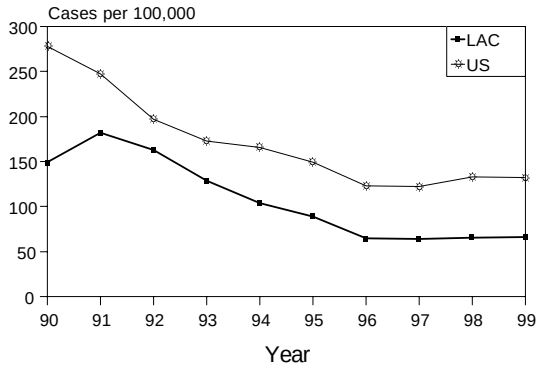


*Excludes Long Beach and Pasadena Data.

GONORRHEA

CRUDE DATA	
Number of Cases	6,056
Annual Incidence[a]	
LA County	66.0
California	56.3
United States	132.0
Age at Onset	
Mean	27
Median	25
Range	2-94 yrs
Case Fatality	
LA County	N/A
United States	N/A

Figure 109
Gonorrhea
Incidence by Year
LAC and US, 1990-1999



[a] Cases per 100,000 population.

ETIOLOGY

Neisseria gonorrhoeae, a sexually transmitted gram-negative diplococcus.

DISEASE ABSTRACT

Following a slight increase in 1998, the gonorrhea rate remained stable from 1998 to 1999. Increases in rates among 20- to 34-year-olds were offset by decreases in other age groups.

STRATIFIED DATA

Trends: The rate of reported gonorrhea cases has remained low and relatively stable since 1996 (Figure 109).

Seasonality: None.

Age: Adolescents and young adults 15 to 24 years old comprised 47 percent of all reported cases. Incidence in the 15- to 19- year old and the 20- to 24- year old groups (218.7 and 226.2 cases per 100,000 population, respectively) remains much higher than in other age groups. The largest rates of increase occurred among older age groups, however. Cases among 25- to 29-year olds rose 36 percent over the past year, and cases among 30- to 34-year olds increased 40 percent from 1998 to 1999 (Figure 110).

Sex: The male-to-female rate ratio remained at 1.1:1 in 1999. Although women are more likely to be screened routinely for gonorrhea than males, more intense symptoms in infected males result in males being more likely to be diagnosed.

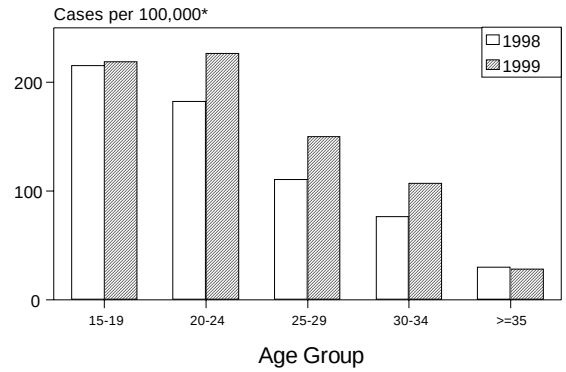
Race/Ethnicity: Rates for Hispanics and Whites decreased in 1999 (-2% and -7%, respectively) and increased for Others (Native Americans) and Blacks (46% and 5%, respectively). Low case

numbers among Native Americans accounted for the disproportionately large percentage increase in that group (an absolute increase of 4 cases since 1998). A disproportionate burden of disease occurs in the Black population. The 1999 rate among Blacks was 20 times greater than for Whites and 15 times greater than for Hispanics (Figure 111).

Location: Six health districts (South, Southwest, Inglewood, Compton, Southeast, and Hollywood-Wilshire) accounted for 54% of the gonorrhea cases in 1999, reflecting ethnic/racial and socioeconomic status differences in gonorrhea incidence. While 1999 gonorrhea rates increased or remained the same in ten health districts, rates decreased in fourteen districts. The districts with the largest increases were West (18%), Alhambra (32%), and El Monte (45%). The districts with the largest decreases were Whittier (-22%), Bellflower (-21%), and San Fernando (-45%).

Comments: Highly sensitive and specific urine testing for gonorrhea has been available since 1995. The ligase chain reaction (LCR) assay can detect fewer than 10 gonococcal organisms using DNA amplification. This exquisitely sensitive test eliminates the need for urethral swab collection in men and can facilitate widespread screening in high-risk populations such as jail inmates. This should enable detection of many more asymptomatic cases.

Figure 110
Gonorrhea
Incidence by Age Group
Los Angeles County, 1998 - 1999



*Rates for 1998 - 1999 have been adjusted to account for the proportion of cases missing age data.

Figure 111
Gonorrhea
Cases by Race/Ethnicity
Los Angeles County, 1999

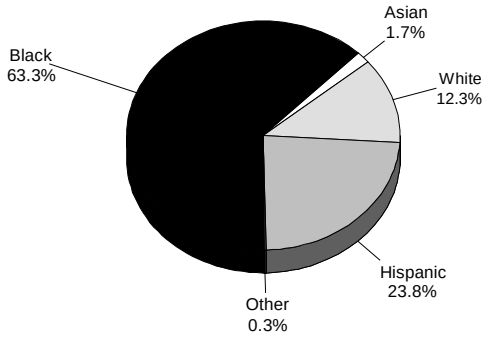


Table 18. Gonorrhea Cases and Rates by Race/Ethnicity, Gender, and Age
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Race/Ethnicity					
Asian/Pacific Islander	69	65	8.9	8.9	0
Black	2,642	2,440	489.4	464.3	5
Hispanic	995	939	33.6	34.2	-2
Other	11	7	25.8	17.6	46
White	514	527	24.6	26.3	-7
Unknown	1,823	2,012	--	--	--
Gender					
Male	3,216	3,197	70.3	70.7	-1
Female	2,839	2,794	61.7	61.1	1
Unknown	1	1	--	--	--
Age Group					
0-9	11	12	0.8	0.8	-5
10-14	75	83	10.7	14.1	-24
15-19	1,361	1,443	218.7	215.3	2
20-24	1,484	1,495	226.2	182.2	24
25-29	1,061	1,043	149.7	110.3	36
30-34	809	758	107.0	76.5	40
35+	1,201	1,047	28.2	30.2	-7
Unknown	54	111	--	--	--
County Total	**6,056**	**5,992**	**66.0**	**65.9**	**0**

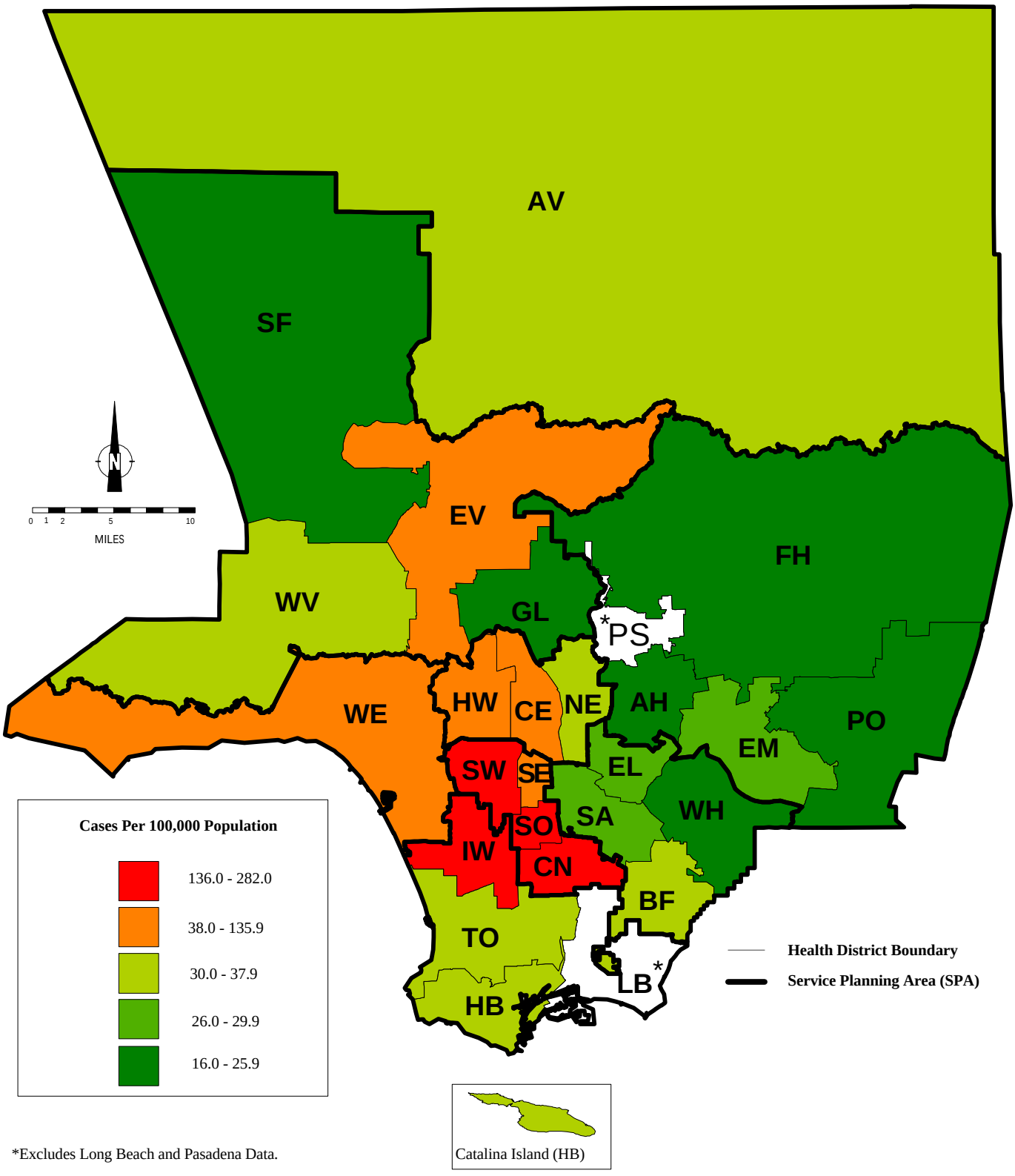
[a]Cases per 100,000 population. Estimates of race-, gender- and age-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportions of the known and unknown cases are equivalent. A study conducted by the STD Program showed no significant difference in demographic characteristics between known and unknown chlamydia and gonorrhea cases.

Table 19. Gonorrhea Cases and Rates by Health District
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Health District					
Alhambra	54	38	16.4	12.5	32
Antelope Valley	88	82	31.0	31.7	-2
Bellflower	117	137	36.3	46.2	-21
Central[b]	318	243	94.4	98.2	-4
Compton[b]	471	425	185.7	181.6	2
East Los Angeles	66	55	30.4	30.2	1
East Valley	178	152	48.3	41.8	16
El Monte	118	76	28.2	19.5	45
Foothill	59	63	21.6	24.5	-12
Glendale	56	57	18.6	20.5	-10
Harbor	65	61	34.1	36.7	-7
Hollywood-Wilshire	614	579	134.2	143.1	-6
Inglewood[b]	625	640	171.3	188.8	-9
Northeast	113	106	31.1	36.5	-15
Pomona	123	116	25.3	25.4	0
San Antonio	102	117	25.8	32.5	-20
San Fernando	72	129	21.7	39.1	-45
South[b]	443	389	281.8	267.1	6
Southeast[b]	226	174	135.8	133.3	2
Southwest[b]	870	697	264.3	234.0	13
Torrance	151	140	37.6	37.6	0
West	223	193	43.1	36.7	18
West Valley	203	217	31.0	33.7	-8
Whittier	72	84	24.3	31.2	-22
Unknown District	629	1,022	--	--	--
County Total	**6,056**	**5,992**	**66.0**	**65.9**	**0**

[a] Cases per 100,000 population. Estimates of district-specific rates have been adjusted to account for the proportion with missing data by assuming that each district's proportions of the known and unknown cases are equivalent.
[b] Core district.

MAP 14. Gonorrhea
Rates by Health District, Los Angeles County, 1999*

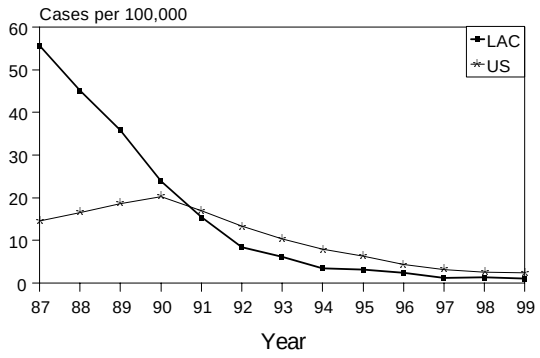


*Excludes Long Beach and Pasadena Data.

SYPHILIS, PRIMARY AND SECONDARY

CRUDE DATA	
Number of Cases	88
Annual Incidence[a]	
LA County	1.0
California	0.9
United States	2.4
Age at Onset	
Mean	37
Median	35
Range	19 - 63 yrs
Case Fatalities	
LA County	0.0%
United States	N/A

Figure 112
Primary and Secondary Syphilis
Rates by Year
LAC and US, 1987-1999



[a]Cases per 100,000 population. U.S. and California rates are provisional.

ETIOLOGY

Treponema pallidum, a spirochete bacterium.

DISEASE ABSTRACT

Reports of primary and secondary syphilis, i.e., symptomatic syphilis, have declined continuously since the epidemic peaked in 1987 (Figure 112), and are now at levels even lower than those achieved by the national campaign against syphilis in the 1950s.

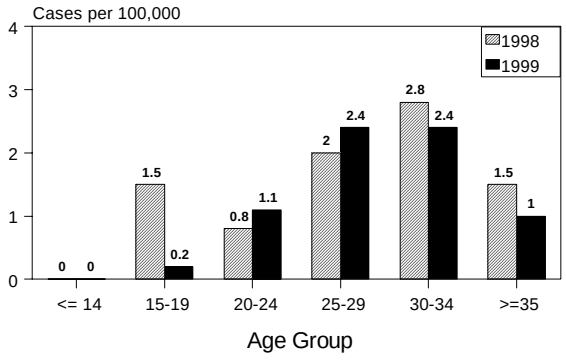
STRATIFIED DATA

Trends: The rate declined by 27% between 1998 and 1999 (Table 20).

Seasonality: None.

Age: Primary and secondary syphilis cases traditionally occur in patients five to ten years older than those with other STDs. The median age of cases increased by 1 year in 1999 due to a substantial decrease in incidence occurring among 15- to 19-year-olds (Figure113).

Figure 113
Primary and Secondary Syphilis
Rates by Age Group
Los Angeles County, 1998-1999



Sex: Because males are more likely than females to respond to early signs of syphilis by seeking treatment, primary and secondary cases are typically two-thirds male. In 1999, as a result of the much larger decrease in the number of female cases, the male-to-female rate ratio increased to 2.3:1 (Table 20).

Race/Ethnicity: The decline in rates of primary and secondary syphilis since the peak of the epidemic in 1987 continued among all race/ethnicity groups except Whites (Table 20; Figure 114). Rates among Blacks remain highest of all ethnic groups.

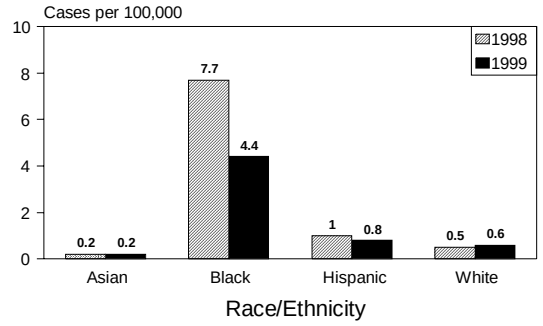
Location: In 1999, incidence rates decreased in 16 of the 24 health districts. The concentration of cases in the seven health districts comprising mid- and south/south-central Los Angeles and neighboring cities has continued to decrease from 76% in 1997 to 51% in 1999.

PREVENTION

Syphilis prevention efforts in LAC take on many forms. Ensuring adequate treatment of cases, partner follow-up, jail surveillance, investigation of cases in children under 12 years old for possible child abuse, and regular visits by a mobile clinic to homeless shelters and day laborer sites remain central elements of LAC's syphilis control and prevention activities.

Figure 114

Primary and Secondary Syphilis
Rates by Race/Ethnicity
Los Angeles County, 1998 - 1999



COMMENTS

Primary and secondary syphilis cases and rates have declined over 98% since 1987, and have been below US rates since 1991 (Figure 112). This decrease reflects in part the efforts of field staff, who were concentrated in the geographic areas of highest morbidity at the height of the epidemic. Currently, LA County is participating in the Center for Disease Control's national campaign to eliminate syphilis as an endemic disease in the United States.

Table 20. Primary and Secondary Syphilis Cases and Rates by Race/Ethnicity, Gender, and Age, Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Race/Ethnicity					
Asian/Pacific Islander	2	2	0.2	0.2	-6
Black	32	54	4.4	7.7	-42
Hispanic	31	36	0.8	1.0	-20
White	17	14	0.6	0.5	17
Unknown	6	13	--	--	--
Gender					
Male	61	70	1.3	1.5	-14
Female	26	49	0.6	1.1	-47
Unknown	1	0	--	--	--
Age Group					
0-14	0	1	0.0	0.0	-100
15-19	1	10	0.2	1.5	-89
20-24	7	7	1.1	0.8	9
25-29	17	19	2.4	2.0	7
30-34	18	28	2.4	2.8	-10
35+	45	53	1.0	1.5	-33
Unknown	0	1	--	--	--
County Total	**88**	**119**	**1.0**	**1.3**	**-27**

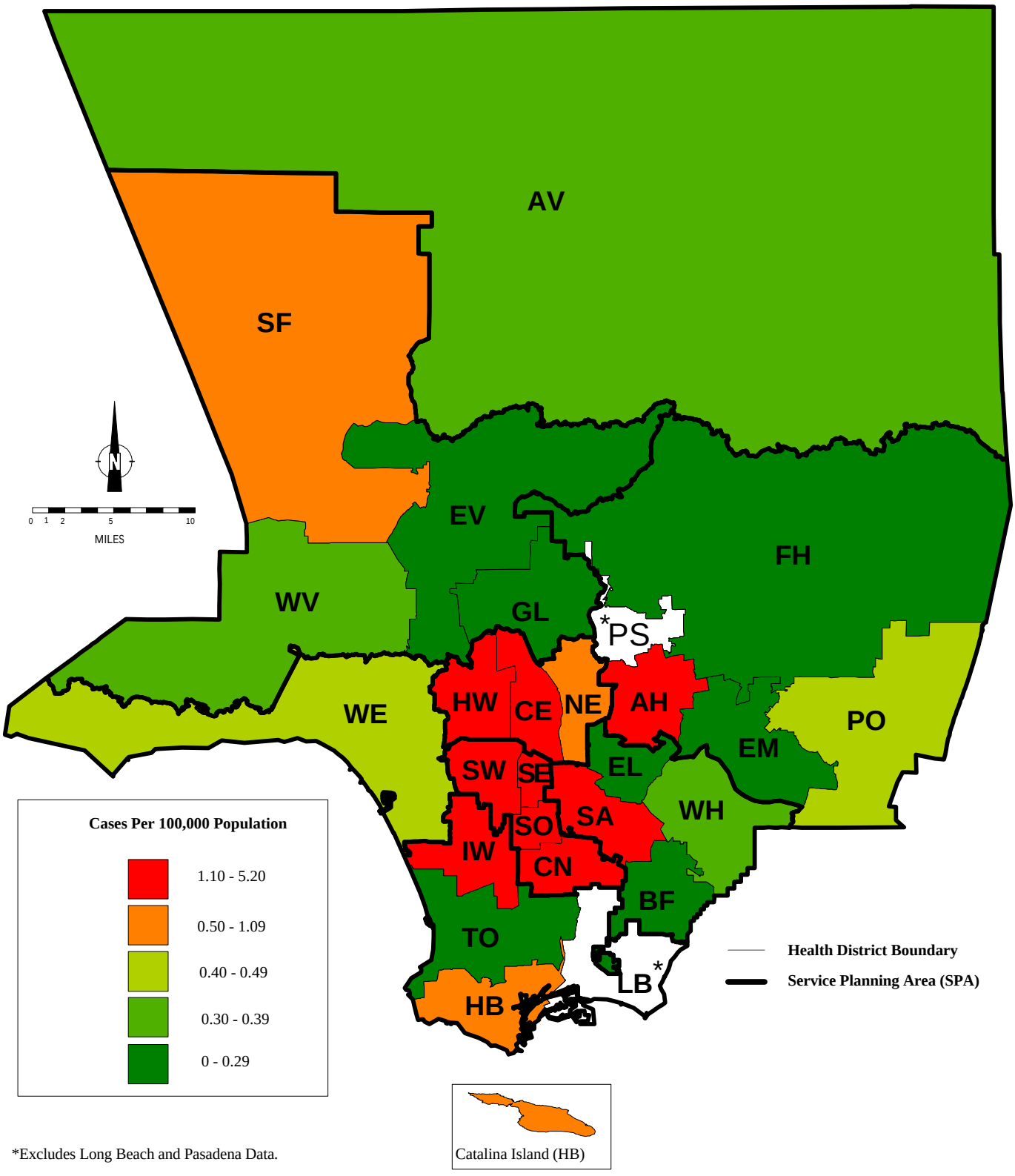
[a] Cases per 100,000 population. Estimates of race-, sex- and age-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportions of the known and unknown cases are equivalent.

Table 21. Primary and Secondary Syphilis Cases and Rates by Health District
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Health District					
Alhambra	3	1	.8	0.3	197
Antelope Valley	1	1	0.3	0.3	-3
Bellflower	0	1	0.0	0.3	-100
Central[b]	10	14	2.7	4.8	-44
Compton[b]	5	7	1.8	2.5	-30
East Los Angeles	0	3	0.0	1.4	-100
East Valley	1	3	0.2	0.7	-65
El Monte	2	1	0.4	0.2	98
Foothill	0	5	0.0	1.7	-100
Glendale	0	4	0.0	1.2	-100
Harbor	2	0	1.0	0.0	--
Hollywood-Wilshire	11	10	2.2	2.1	4
Inglewood[b]	6	8	1.5	2.0	-26
Northeast	3	5	0.8	1.5	-49
Pomona	2	0	0.4	0.0	--
San Antonio	6	3	1.4	0.7	94
San Fernando	3	1	0.8	0.3	217
South[b]	8	16	4.6	9.3	-51
Southeast[b]	4	4	2.2	2.6	-16
Southwest[b]	12	17	3.3	4.9	-32
Torrance	2	4	0.5	0.9	-51
West	2	2	0.4	0.3	8
West Valley	3	4	0.4	0.5	-21
Whittier	1	2	0.3	0.6	-52
Unknown District	1	3	–	–	–
TOTAL	**88**	**119**	**1.0**	**1.3**	**-27**

[a] Cases per 100,000 population. Estimates of district-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportion of the known and unknown cases are equivalent.
[b] Core district.

MAP 15. Syphilis, Primary and Secondary Rates by Health District, Los Angeles County, 1999*



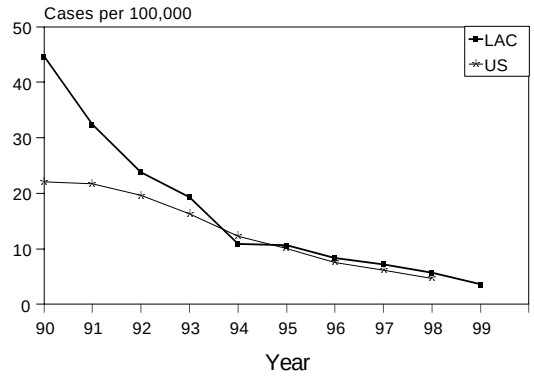
*Excludes Long Beach and Pasadena Data.

SYPHILIS, EARLY LATENT

CRUDE DATA	
Number of Cases	333
Annual Incidence[a]	
LA County	3.6
California	N/A
United States	N/A
Age at Onset	
Mean	35
Median	34
Range	14 - 75 yrs
Case Fatalities	
LA County	0
United States	N/A

[a] Cases per 100,000 population. U.S. and California rates are provisional.

Figure 115
Early Latent Syphilis Rates by Year
LAC and US, 1990 - 1999



ETIOLOGY

Treponema pallidum, a spirochete bacterium.

DISEASE ABSTRACT

Reports of early latent syphilis, i.e., the asymptomatic stage occurring within a year after infection, have continued to decline since 1989 (Figure 115).

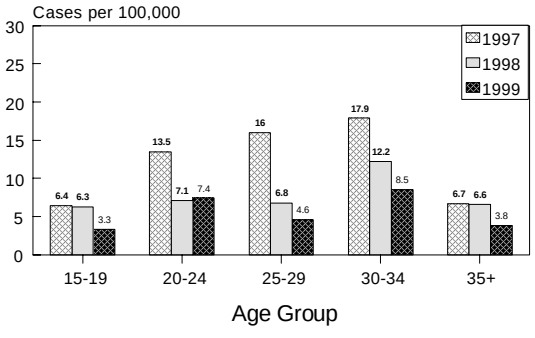
STRATIFIED DATA

Trends: The decline in early latent syphilis cases parallels that of primary and secondary syphilis, but with a lag of one year due to increased time to detection (Figure 118). In 1989, early latent cases peaked at 4,126 (52.1 cases per 100,000 population); by 1999, the number had fallen to 333 (3.6). The decrease in incidence in LAC since 1989 has been greater than that of the US as a whole.

Seasonality: None.

Age: The age distribution of early latent cases is similar to that of primary and secondary stage infections (Table 22). In 1999, rates decreased in all age groups, except 20- to 24-

Figure 116
Early Latent Syphilis
Rates by Age Group
Los Angeles County, 1997-1999



year-olds. Overall, the highest incidence was in 20- to 34-year-olds, with 30- to 34-year-olds having the highest age-specific rate (8.5 cases per 100,000 population; Table 22 and Figure 116).

Sex: Cases among females are more likely to be detected in the early latent stage than during the primary and secondary stages. Symptoms may not be recognized, and health care may not be readily accessible. Frequently, infections are not diagnosed until screening during prenatal visits or at delivery.

In contrast with primary and secondary syphilis rates, the male-to-female ratio of early latent syphilis rates is only 1.2:1.

Race/Ethnicity: Rates decreased among all race/ethnic groups in 1999 except Asian/Pacific Islander, most likely in part to the small case numbers. Rates among Blacks were five times that of Hispanics and were 12 times that of Whites (Table 22 and Figure 117).

Location: Nineteen of twenty-four health districts had lower rates in 1999; however, rates increased in one "core" district (Southeast; Table 23). The eight health districts with the most cases reported 72% of the morbidity, up slightly from 1998 (68%; Map 16).

Figure 117

Early Latent Syphilis
Rates by Race/Ethnicity
Los Angeles County, 1997-1999

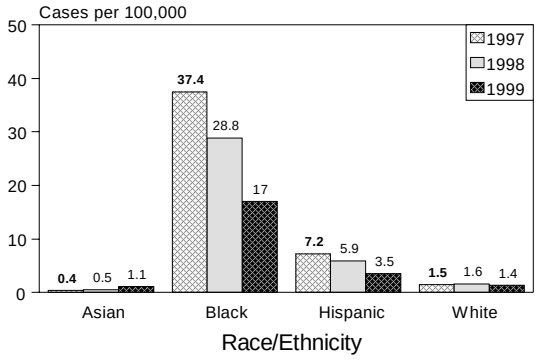
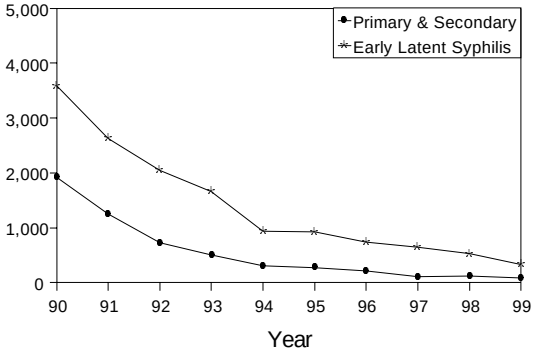


Figure 118

Primary and Secondary Syphilis Cases
Compared to Early Latent Syphilis Cases
Los Angeles County, 1990-1999



COMMENTS

The CDC defines an early syphilis case as one diagnosed within a year of infection. Given the difficulty of knowing the moment of exposure with an early latent stage infection, and the desire of health care workers to assure adequate treatment when in doubt, it is likely that some reported cases are not correctly classified by stage. This will be a particularly challenging aspect in the national campaign to eliminate syphilis as an endemic disease in the United States.

Table 22. Early Latent Syphilis Cases and Rates by Race/Ethnicity, Gender, and Age
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Race/Ethnicity					
Asian/Pacific Islander	11	5	1.1	0.5	108
Black	117	195	17.0	28.8	-41
Hispanic	132	208	3.5	5.9	-41
Other	1	0	1.8	0.0	--
White	36	40	1.4	1.6	-13
Unknown	36	76	--	--	--
Gender					
Male	152	285	3.3	6.3	-47
Female	180	241	3.9	5.3	-26
Other (Transgender)	1	0	--	--	--
Unknown	0	0	--	--	--
Age Group					
0-14	1	3	0.0	0.1	-67
15-19	21	43	3.3	6.3	-47
20-24	49	59	7.4	7.1	4
25-29	33	65	4.6	6.8	-32
30-34	65	123	8.5	12.2	-30
35+	164	231	3.8	6.6	-42
Unknown	0	2	--	--	--
County Total	**333**	**526**	**3.6**	**5.8**	**-37**

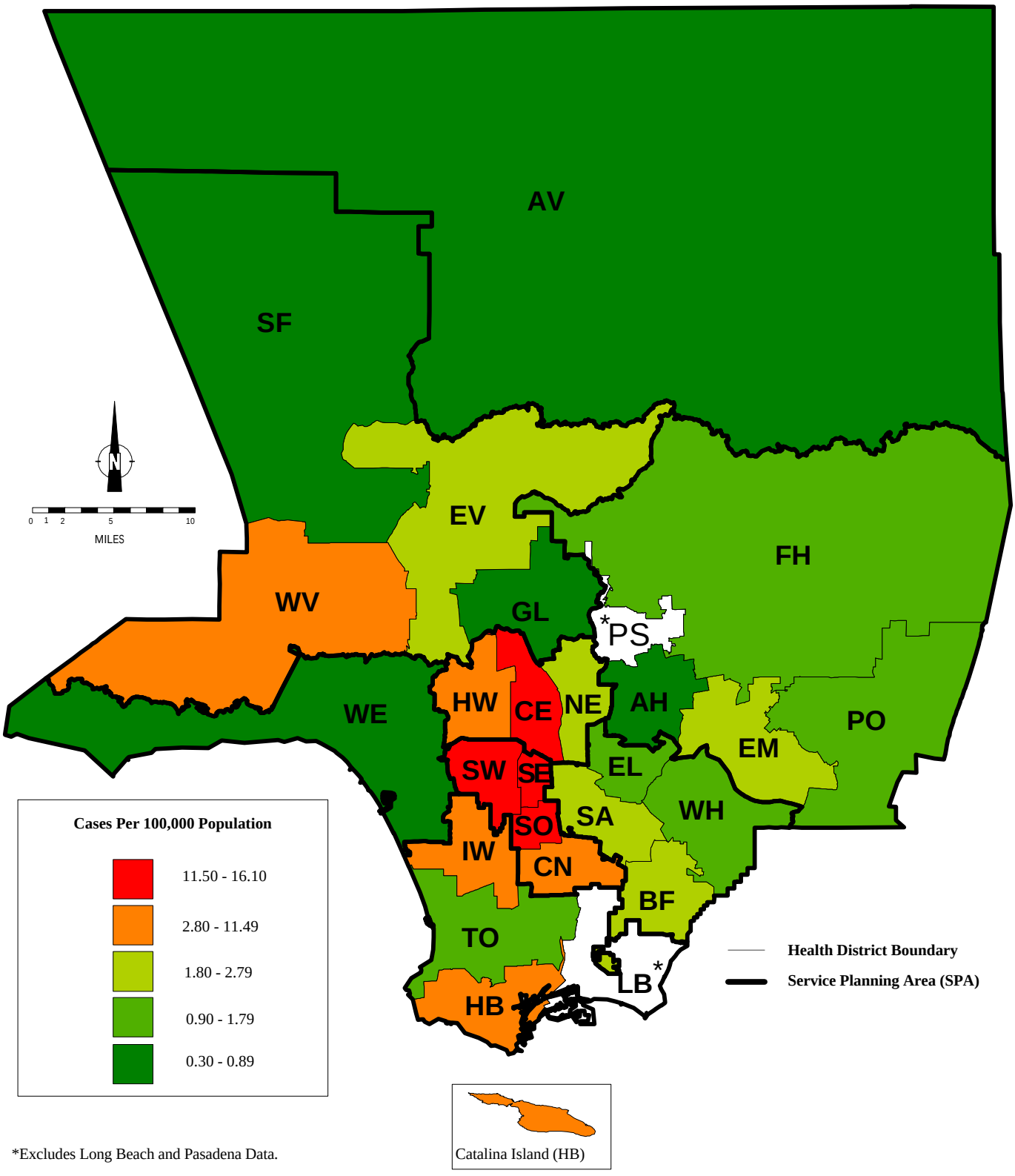
[a] Cases per 100,000 population. Estimates of race-, gender-, and age-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportions of the known and unknown cases are equivalent.

Table 23. Early Latent Syphilis Cases and Rates by Health District
Los Angeles County, 1998-1999

	Number of Cases		Rate[a]		Percent Change
	1999	1998	1999	1998	in Rate
Health District					
Alhambra	4	4	1.1	1.1	2
Antelope Valley	1	4	0.3	1.3	-75
Bellflower	8	1	2.3	0.3	708
Central[b]	44	54	12.0	18.2	-34
Compton[b]	22	29	8.0	10.3	-23
East Los Angeles	6	5	2.5	2.3	11
East Valley	9	14	2.2	3.2	-30
El Monte	6	13	1.3	2.8	-53
Foothill	5	16	1.7	5.2	-68
Glendale	2	9	0.6	2.7	-78
Harbor	5	7	2.4	3.5	-32
Hollywood-Wilshire	34	51	6.8	10.5	-35
Inglewood[b]	18	46	4.5	11.3	-60
Northeast	8	16	2.0	4.6	-56
Pomona	6	14	1.1	2.6	-56
San Antonio	12	25	2.8	5.8	-52
San Fernando	4	6	1.1	1.5	-27
South[b]	27	63	15.8	36.1	-56
Southeast[b]	30	24	16.5	15.3	8
Southwest[b]	43	73	12.0	20.4	-41
Torrance	4	8	0.9	1.8	-49
West	4	9	0.7	1.4	-50
West Valley	21	20	2.9	2.6	13
Whittier	3	12	0.9	3.7	-75
Unknown District	7	3	--	--	--
County Total	**333**	**526**	**3.6**	**5.7**	**-37**

[a] Cases per 100,000 population. Estimates of health district-specific rates have been adjusted to account for the proportion of cases with missing data by assuming that each sub-category's proportions of the known and unknown cases are equivalent.
[b] Core district.

MAP 16. Syphilis, Early Latent
Rates by Health District, Los Angeles County, 1999*



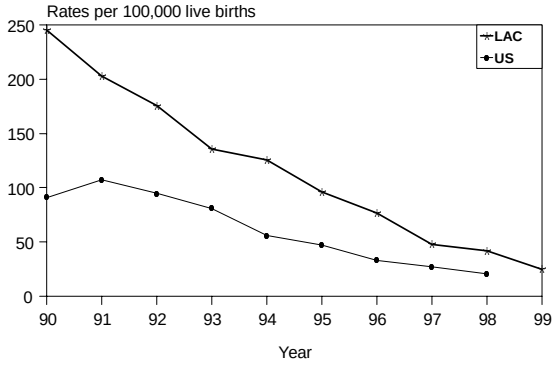
*Excludes Long Beach and Pasadena Data.

SYPHILIS, CONGENITAL

CRUDE DATA	
Number of Cases	36
Prevalence[a]	
LA County	24.9
California[b]	18.4
United States[b]	N/A
Age at Onset	<1 year
Case Fatality	
LA County	0%
United States	N/A

[a] Cases per 100,000 live births.
[b] U.S. and California data are provisional.

Figure 119
Congenital Syphilis Rates by Year
LAC and the US, 1990-1999



ETIOLOGY

Treponema pallidum; a spirochete bacterium. (Infection transmitted from mother to fetus in utero.)

DISEASE ABSTRACT

In 1999, congenital syphilis (CS) prevalence in LAC continued its decade-long decline. (Figure 119).

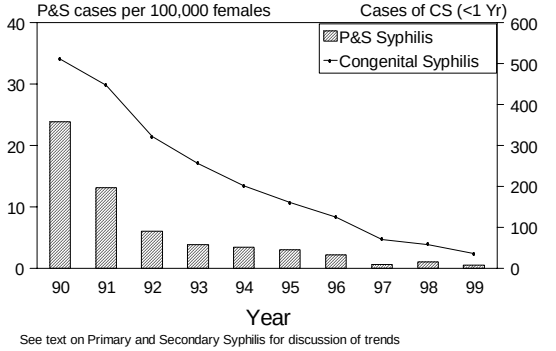
STRATIFIED DATA

Trends: In 1999, the prevalence of congenital syphilis dropped 51%, from 50.4 cases per 100,000 live births in 1998 to 24.9 in 1999 (Table 24). This decrease parallels the decline in primary and secondary syphilis rates among women (Figure 120).

Seasonality: None.

Race: Eight-three percent (83%) of CS cases were among Blacks and Hispanics. The majority of congenital syphilis cases occurred among Hispanics (56%), but Blacks continue to have a much higher prevalence, adjusted for population size. Although CS prevalence

Figure 120
Female Primary and Secondary Syphilis Rates
Compared to Congenital Syphilis Cases
Los Angeles County, 1990 -1999



See text on Primary and Secondary Syphilis for discussion of trends

among Blacks decreased 68% from 1998 to 1999, it remains three four times higher than that of Hispanics and twenty-eight times that of Whites (Table 24 and Figure122). Only one case among Whites was reported in 1999.

Location: In 1999, the six core health districts reported 47% of all reported cases (Table 25). Nine health districts had no reported cases in 1999.

Reporting: The STD Program uses a combination of active and passive surveillance for congenital syphilis. Cases are ascertained from confidential morbidity reports, positive tests from laboratories, and patient, partner, and sibling follow-up. In spite of the efforts of federal, state and county governments to assure proper reporting and the follow-up of all CS cases, non-reporting continues, whether from failure to recognize the disease, the absence of prenatal care, or from noncompliance with reporting laws by physicians and other health care providers.

COMMENTS: The decline in congenital syphilis parallels the decrease in all types of syphilis in LAC over the last decade.

Figure 121
Congenital Syphilis Cases
and Averted Cases
Los Angeles County, 1990-1999

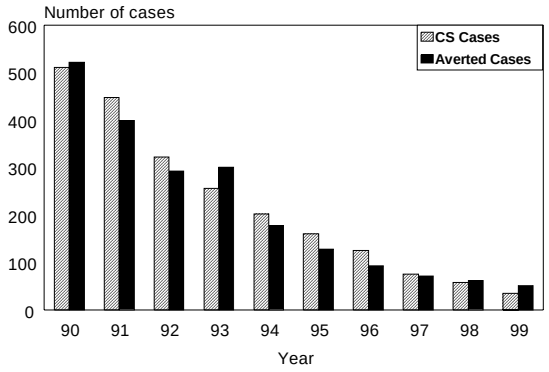
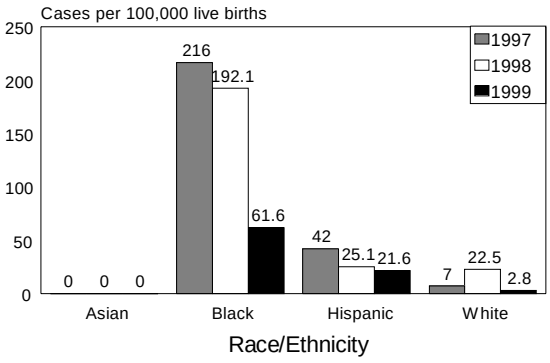


Figure 122
Congenital Syphilis
Prevalence by Race/Ethnicity
Los Angeles County, 1997 - 1999



Syphilis cases in pregnant women that are successfully treated at lease 30 days prior to delivery are considered to be averted CS cases. In 1999, the number of averted cases (51) exceeded reported CS cases (36) by 42% (Figure 121). This hopefully reflects the effects of improvements in prenatal detection and treatment of maternal primary and secondary syphilis.

Table 24. Reported Congenital Syphilis Cases and Prevalence at Birth by Race/Ethnicity Los Angeles County, 1998-1999

	Number of Cases		Prevalence[a]		Percent Change in Prevalence
	1999	1998	1999	1998	
Asian/Pacific Islander	0	0	0	0	0
Black	10	23	61.6	192.1	-68
Hispanic	20	20	21.6	25.1	-14
White	1	6	2.8	22.5	-88
Unknown	5	10	--	--	--
County Total	**36**	**59**	**24.9**	**50.4**	**-51**

[a] Cases per 100,000 live births.

Table 25. Congenital Syphilis Cases by Health District
Los Angeles County, 1998-1999

	Number of Cases	
	1999	**1998**
Health District		
Alhambra	0	0
Antelope Valley	0	0
Bellflower	1	1
Central[a]	2	5
Compton[a]	5	7
East Los Angeles	1	2
East Valley	2	1
El Monte	0	0
Foothill	0	1
Glendale	0	1
Harbor	0	0
Hollywood-Wilshire	4	7
Inglewood[a]	2	5
Northeast	0	1
Pomona	1	1
San Antonio	1	2
San Fernando	0	1
South[a]	2	7
Southeast[a]	2	2
Southwest[a]	4	7
Torrance	0	0
West	1	1
West Valley	5	4
Whittier	1	1
Unknown District	2	2
TOTAL	**36**	**59**

[a] Core Health District

PUBLICATIONS LIST

1. Kuiper H, Richwald GA, Rotblatt H, Asch S. The communicable disease impact of eliminating publically funded prenatal care for undocumented immigrants. *Matern Child Health J* 1999;3(1):39-52.

TUBERCULOSIS CONTROL PROGRAM

TUBERCULOSIS

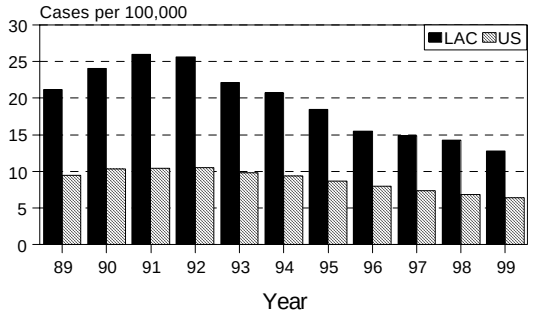
CRUDE DATA	
Number of Cases	1,170
Annual Incidence[a]	
LA County	12.8
California	10.9
United States	6.4
Age at Diagnosis	
Mean	47.7
Median	46.3
Range	<1-98 yrs
Case Fatality	
LA County	N/A
United States[b]	0.5

[a] Cases per 100,000 population.

[b] Provisional data based on the NCHS 80-90% samples of 1995 data.

Figure 123

Tuberculosis
Incidence Rates by Year
LAC and US, 1989-1999



ETIOLOGY

Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis* or *Mycobacterium bovis.* The most common site of disease is the lungs but any tissue or organ of the body may be affected.

DISEASE ABSTRACT

The proportion of TB cases in high-risk groups such as those with HIV infection or the homeless continues to gradually decline.

Reported TB cases have declined for seven years since cases peaked in 1992, the year with the most reported cases in LAC in several decades. Demographic data in 1999 resembles that for previous years. *It must be noted however, that rate calculations for age groups, sex and race/ethnicity are based on new population estimates, and cannot be compared with rates from previous years.*

STRATIFIED DATA

Trends: In 1999, 1,170 TB cases were reported in LAC, with a rate of 12.8 cases per 100,000 population. This is a 9.9% decrease in the number of TB cases from 1998 (1,299 cases) and a 10.5% decrease in the incidence rate (14.3 cases per 100,000 in 1998). In 1999, LAC comprised 32.5% of all TB cases in California (3,599 cases) and 6.7% of the TB cases in the United States (17,528 cases)(Table 26). LAC's TB case rate continues to be twice the US rate (Figure 123).

Seasonality: None.

Age: Age-specific rates are shown in Figure 124. The largest proportion of cases in LAC is among those greater than 65 years of age (24.2%) (Table 27), followed by the 15- to 34-year-olds (23.6%).

Sex: In 1999, 63% (n=732) of TB cases were male (Table 27). Males also had a higher overall rate (16.0 cases per 100,000 population compared to 9.5 in females). The male-to-female rate ratio was 1.7:1 (Table 28).

Race/Ethnicity: The largest proportion of TB cases was among Hispanics (47%), followed by Asians/Others (31%), Blacks (12%), and Whites (10%) (Table 27). Annual race-specific incidence rates were highest among Asians/Others (30.6 cases per 100,000 population) (Figure 125, Table 28).

Anatomical Site: The majority (77%) of the 1,170 cases were diagnosed with pulmonary tuberculosis. Table 29 shows the anatomical site breakdown for 1999 cases.

Foreign-born Cases: A total of 72% of LAC TB cases reported in 1999 were born outside of the US. Mexico was the most frequently identified country of birth (40% of foreign-born TB cases), followed by the Philippines (15%), Vietnam (7%) and South Korea (6%).

Homeless Cases: A total of 82 (7%) cases were reported as homeless. Of these, 91% were male. The greatest proportion (54%) of homeless cases were Hispanic, followed by Blacks (27%). Among the 82 homeless cases, 62 (76%) were identified as using illegal drugs or excessive amounts of alcohol.

HIV-infected Cases: Of the 1,170 TB cases, 738 (63%) had HIV test results reported. Of the 1,170 TB cases, 105 cases (9%) were identified as co-infected with HIV either through reported HIV test results or matching with the LAC DHS AIDS registry. Of the 82 homeless TB cases, 13 (16%) were identified as co-infected with HIV.

Figure 124

Tuberculosis
Incidence Rates by Age Group
Los Angeles County, 1999

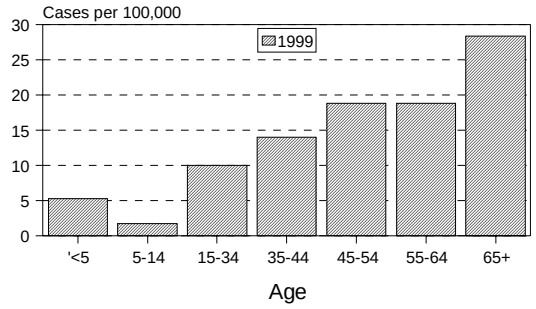


Figure 125

Tuberculosis
Incidence Rates by Race/Ethnicity
Los Angeles County, 1999

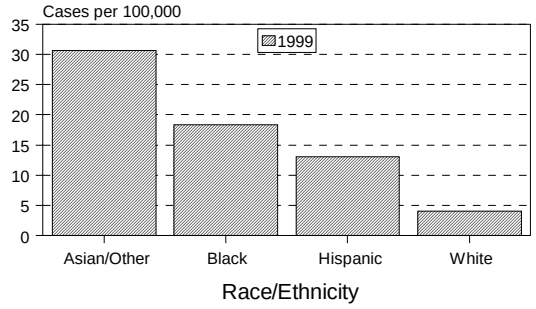
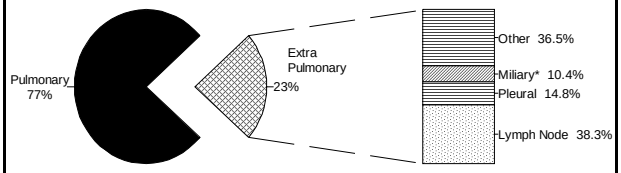


Figure 126

Tuberculosis Incidence by
Major Site of Disease
Los Angeles County, 1999



*Includes Cases of Disseminated TB.

Substance Misuse: Of the 1,170 cases, 222 (19%) were reported as using illegal drugs (injecting and/or non-injecting) and/or excessive alcohol. Of these, 91% (201) were male, 28% (62) were homeless, and 20%(45) were HIV co-infected.

Location: In 1999, Central Health District reported the highest TB rate, with 35.9 cases per 100,000. Central Health District also reported the most TB cases with risk factors such as homelessness, foreign birth, HIV co-infection, injection/non-injection illegal drug use and excessive alcohol use**.**

COMMENTS

Bacteriologic confirmation of disease was obtained in 80% (905) of the 1,131 cases tested. Where bacteriological testing was negative or not done, case confirmation was made on the basis of clinical findings and improvement and/or x-ray changes following therapy with appropriate anti-tuberculosis drugs.

There has been a 53% decrease in the number of cases reported in 1999 compared to the peak year of 1992. This is an average decline of 7.6% a year with a range as low as a 2% decrease from 1996 to 1997 and a high of a 15% decrease from 1995 to 1996. During the same time period, there has been a decrease in the rate of tuberculosis of 50%. If this decline contiues at the same pace, Los Angeles County will reach the year 2000 goal for the U.S. of an incidence rate of 3.5 cases per 100,000 population by approximately the year 2011.

Table 26. Tuberculosis Cases and Rates,[a] Los Angeles County, California and the United States, 1980-1999

	Los Angeles County		California[1]		United States[2]	
Year	Cases	Rate	Cases	Rate	Cases	Rate
1980	1,438	19.2	4,279	18.1	27,749	12.3
1981	1,816	24.7	4,520	18.7	27,373	11.9
1982	1,422	18.6	3,606	14.5	25,520	11.0
1983	1,428	18.3	3,469	13.8	23,846	10.2
1984	1,293	16.5	3,306	12.9	22,255	9.4
1985	1,495	19.9	3,492	13.2	22,201	9.3
1986	1,362	17.9	3,442	12.7	22,768	9.4
1987	1,302	16.9	3,719	13.4	22,517	9.3
1988	1,190	15.2	3,468	12.2	22,436	9.1
1989	1,681	21.2	4,212	14.5	23,495	9.5
1990	1,936	24.1	4,889	16.3	25,701	10.3
1991	2,121	26.0	5,273	17.3	26,283	10.4
1992	2,198	25.6	5,382	17.3	26,673	10.5
1993	1,940	22.1	5,173	16.4	25,287	9.8
1994	1,794	20.7	4,860	15.3	24,361	9.4
1995	1,622	18.5	4,677	14.6	22,860	8.7
1996	1,375	15.5	4,313	13.3	21,337	8.0
1997	1,347	14.9	4,059	12.3	19,855	7.4
1998	1,299	14.3	3,852	11.5	18,361	6.8
1999	1,170	12.8	3,599	10.9	17,528	6.4

[a]Cases per 100,000 population.

1 State of California Department of Health Services. Report on Tuerculosis in California, 1999

2 Division of TB Elimination, CDC. Tuberculosis and case rates per 100,000 Population: States, 1999 and 1998

Table 27. Annual Tuberculosis Cases, by Sex, Age, and Race/Ethnicity
Los Angeles County, 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Sex										
Male	1,224	1,351	1,420	1,260	1,143	1,049	905	858	831	732
Female	712	770	778	680	651	572	470	489	468	438
Age										
<5	97	123	118	92	75	80	51	50	40	39
5-14	74	78	79	74	57	34	42	37	25	24
15-34	635	724	748	615	540	451	343	361	345	276
35-44	371	419	418	359	357	300	270	253	227	209
45-54	220	257	281	266	258	250	208	192	229	203
55-64	222	206	228	225	193	195	154	158	144	136
65 +	316	314	326	309	314	312	307	296	289	283
Unknown	1	0	0	0	0	0	0	0	0	0
Race										
White	227	237	266	220	184	195	148	132	132	119
Black	325	385	383	374	333	272	227	187	172	141
Hispanic	859	1,004	991	906	786	701	619	597	560	552
	523	494	555	439	488	453	380	431	435	355
Asian/Other	2	1	3	1	3	1	1	0	0	3
Unknown										
Total	**1,936**	**2,121**	**2,198**	**1,940**	**1,794**	**1,622**	**1,375**	**1,347**	**1,299**	**1,170**

Table 28. Annual Tuberculosis Incidence Rates,[a] by Sex, Age and Race/Ethnicity[b] Los Angeles County, 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998*	1999*
Sex										
Male	31.2	33.9	33.0	28.6	26.4	24.0	20.4	19.0	18.4	16.0
Female	17.4	18.5	18.1	15.5	15.0	13.0	10.6	10.8	10.2	9.5
Age										
<5	15.1	18.9	14.6	10.7	8.5	9.9	5.8	6.3	5.3	5.3
5-14	6.5	6.8	6.5	6.0	4.7	2.7	2.9	2.5	1.9	1.7
15-34	23.3	26.4	25.2	20.6	19.1	16.5	13.1	13.7	9.9	10.0
35-44	31.9	35.4	31.6	26.2	25.3	19.9	19.1	16.6	16.0	14.0
45-54	27.3	31.1	32.6	29.6	28.2	26.5	21.2	18.1	26.5	18.8
55-64	32.0	29.3	37.6	37.1	32.1	32.0	24.6	24.1	23.6	18.8
65+	37.1	36.2	39.4	37.0	39.1	34.8	33.3	31.9	45.4	28.3
Race										
White	6.8	7.2	8.0	6.7	6.3	6.3	4.9	4.4	4.4	4.0
Black	35.7	42.1	41.7	40.3	40.0	30.9	27.2	22.7	21.7	18.3
Hispanic	31.0	35.2	29.8	26.1	20.4	18.9	15.9	14.8	13.5	13.0
Asian/Other	52.0	46.7	53.3	40.0	47.2	43.5	34.0	36.0	39.1	30.6
Incidence	**24.1**	**26.0**	**26.0**	**22.1**	**20.7**	**18.5**	**15.5**	**14.9**	**14.3**	**12.8**

[a] Cases per 100,000 population.
[b] Rates for 1990 and 1991 were calculated using population estimations based on the 1980 Census; 1992-1997 rates were calculated using population estimation based on 1990 census.
* Rates for 1998 and 1999 were calculated using different population denominator estimates. Comparisons between years may not be valid.

Table 29. Tuberculosis Incidence by Major Site of Disease, Los Angeles County, 1999

Disease Site	Number of Cases	Percent
Pulmonary	901	77.0
Lymph Node	103	8.8
Pleural	40	3.4
Miliary/Disseminated	28	2.4
Meningeal	14	1.2
Peritoneal	10	0.9
Bone/Joint	32	2.7
Genitourinary	22	1.9
Other	19	1.6
Total	**1,170**	**99.9***

*Value <100% due to rounding

PUBLICATIONS LIST

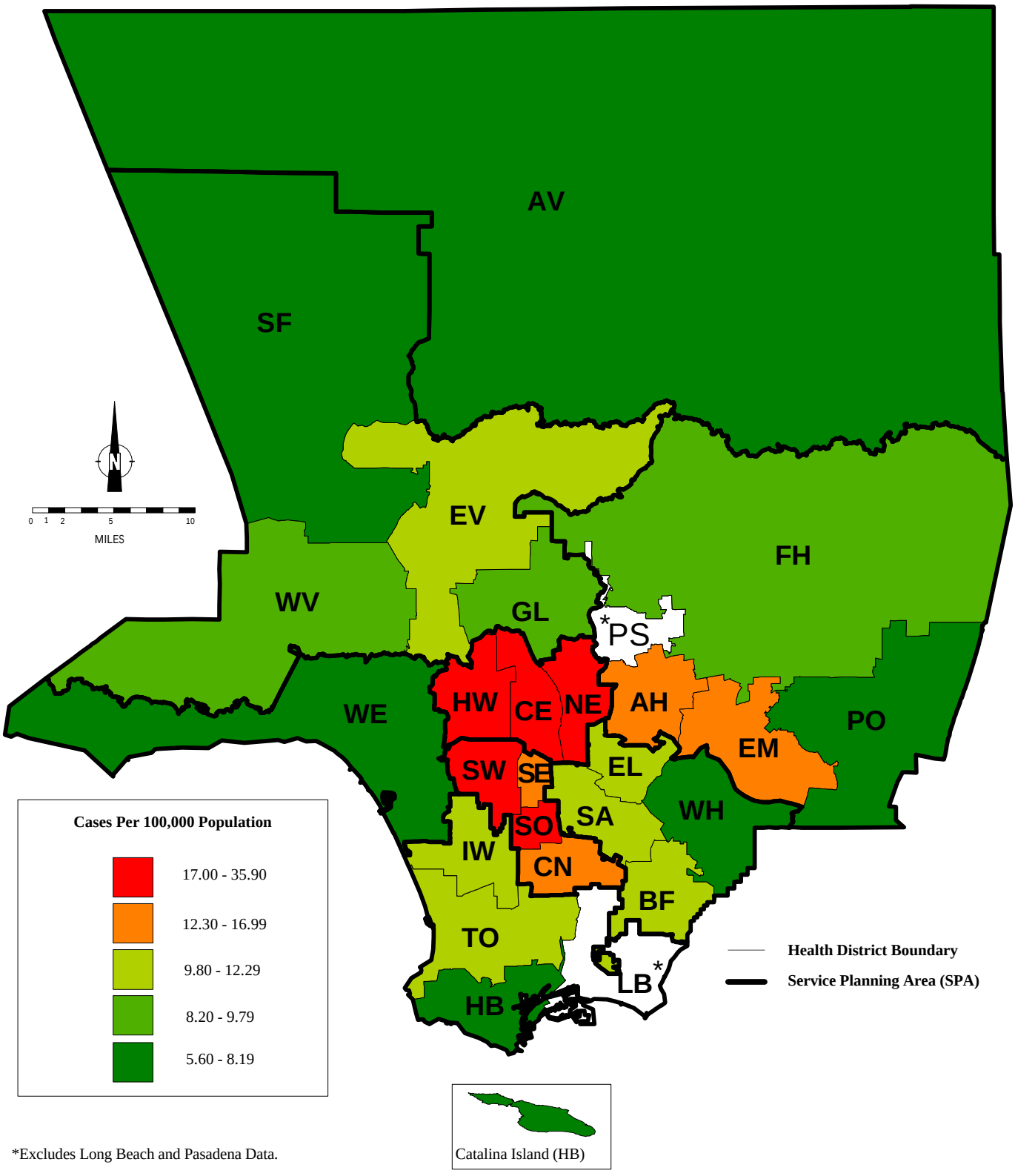
1. Barnes PF, Yang Z, Pogoda JM, Preston-Martin S, Jones BE, Otaya M, Knowles L, Harvey S, Eisenach KD, Cave MD. (1999). Foci of tuberculosis transmission in central Los Angeles. *Am J Respir Crit Care Med* 1999;159:1081-1086.

2. Davidson PT, Le HQ: Musculoskeletal Tuberculosis. In Schlossberg D: Tuberculosis and nontuberculosis mycobacterial infections, ed 4. London, WB. Saunders,1999;20:204-220.

3. Makinodan T, Liu J, Yano E, Knowles Lk, Davidson PT, Harada N. (1999). Profile of Tuberculosis among foreign-born asians residing in Los Angeles County, California, 1985-1994. *Asian Am Pac Islander J Health* 1999;7:38-46.

4. Nitta AT, Milligan D. (1999). Management of four pregnant women with multidrug-resistant Tuberculosis. *Clin Infect Dis* 1999;28:1298-304.

MAP 17. Tuberculosis
Rates by Health District, Los Angeles County, 1999*



*Excludes Long Beach and Pasadena Data.

1999 COMMUNICABLE DISEASE MORBIDITY REPORT
CONTRIBUTORS

Director, Disease Control Programs . . . . . Shirley L. Fannin, MD

Disease Control Unit Chiefs and Program Directors

Acute Communicable Disease Control . . . . . Laurene Mascola, MD, MPH
Immunization Program . . . . . Cheri Todoroff, MPH
HIV Epidemiology Program . . . . . Peter Kerndt, MD, MPH
Sexually Transmitted Disease Control . . . . . Gary A. Richwald, MD, MPH
Tuberculosis Control . . . . . Paul Davidson, MD

Acute Communicable Disease Control Program Reports

Amebiasis . . . . . David E. Dassey, MD, MPH
Botulism . . . . . David E. Dassey, MD, MPH
Campylobacteriosis . . . . . Jacqueline Vogt, RN, BSN, PHN
Cholera and Other Vibrioses . . . . . Michael Tormey, MPH
Coccidioidomycosis . . . . . Alison Itano, MS
Cryptosporidiosis . . . . . Irene Lee, MPH
Encephalitis . . . . . Roshan Reporter, MD, MPH
Escherichia coli O157:H7 . . . . . Irene Lee, MPH
Giardiasis . . . . . David E. Dassey, MD, MPH
Haemophilus influenzae Invasive Disease . . . . . Nicole Alexopoulos, MPH
Hansen's Disease (Leprosy) . . . . . Grace Run, MS
Hepatitis A . . . . . Melba Veza, RN, BS, PHN
Hepatitis B . . . . . Melba Veza, RN, BS, PHN
Perinatal Hepatitis B Prevention Program . . . . . Bridget Beeman, RN, PHN, MPH
Hepatitis C . . . . . Marcella McMillan, MPH
Legionellosis . . . . . Carol Peterson, MD, MPH
Listeriosis, Nonperinatal . . . . . Udo Buchholz, MD, MPH
Listeriosis, Perinatal . . . . . Udo Buchholz, MD, MPH
Lyme Disease . . . . . Roshan Reporter, MD, MPH
Malaria . . . . . Heather Smith, MPH
Measles . . . . . Nicole Alexopoulos, MPH
Meningitis, Viral . . . . . Melba Veza, RN, BS, PHN
Meningococcal Disease . . . . . Melba Veza, RN, BS, PHN
Mumps . . . . . Nicole Alexopoulos, MPH
Pertussis (Whooping Cough) . . . . . Nicole Alexopoulos, MPH
Salmonellosis . . . . . Trina Pate, RN, BSN, PHN
Shigellosis . . . . . Jacqueline Vogt, RN, BSN, PHN
Typhoid Fever, Acute . . . . . Jacqueline Vogt, RN, BSN, PHN
Typhoid Fever, Carrier . . . . . Jacqueline Vogt, RN, BSN, PHN
Typhus Fever . . . . . Roshan Reporter, MD, MPH

1999 COMMUNICABLE DISEASE MORBIDITY REPORT CONTRIBUTORS (cont'd.)

Disease Outbreak Summaries

Community-Acquired Outbreaks . . . . . Heather Smith, MPH
Foodborne Outbreaks . . . . . Heather Smith, MPH
Health-Care-Facility Outbreaks . . . . . Carol Peterson, MD, MPH

HIV Epidemiology Program Reports

AIDS . . . . . Jane Neff Rollins, MSPH; Zhijuan Sheng, MS; Amy Wohl, PhD, MPH
Pediatric Acquired Immunodeficiency Syndrome . . . . . Nancy Salem, MPH

Sexually Transmitted Disease Control Program Reports

Chlamydial Infection . . . . . Louise Rollin, MS
Gonorrhea . . . . . Gianinna Donatoni, PhD
Syphilis, Primary & Secondary . . . . . Greg Vaughn, MPH
Syphilis, Early Latent . . . . . Duli Kodagoda, MPH
Syphilis, Congenital . . . . . Irene Dyer, MS, MPH

Tuberculosis Control Program Report . Laura Knowles, MSPH; Meera Sreenivasan, MPH
Han Wu, MPH

Editors . . . . . Abdullah Conkrite, MPH; David E. Dassey, MD, MPH;
Alison Itano, MS; Heather Smith, MPH

Style Editor . . . . . Esther Parker; Grace Run, MS

Data Services

Statistical Support and Maps . . . . . Grace Run, MS

A number of other persons not listed above have contributed their time and energy to make this report possible. Among those who deserve recognition for their supportive work are public health nurses, public health investigators, public health registrars, data analysts, administrative and clerical staff.

This report can be obtained from the following website: www.lapublichealth.org/acd.