ANNUAL REPORT of COMMUNICABLE DISEASES in SAN FRANCISCO

2006

COMMUNICABLE DISEASE CONTROL & PREVENTION SECTION
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This annual report summarizes notifiable disease reports collected by the Communicable Disease Control Unit (CDCU) of the San Francisco Department of Public Health during 2006. Seven diseases were selected for demographic profiling on the basis of the annual burden (≥25 cases) and severity of disease, public health impact, and specific interest to community health programs. Notifiable disease reports managed by other SFDPH sections are not represented here (i.e., TB, HIV/AIDS, STDs). Graphic representation of data, comparison with benchmark jurisdictions, and more detailed interpretation of epidemiological trends will be available in future surveillance summaries. Readers can access previous reports at http://www.sfcdcp.org for historical context of disease incidence in San Francisco.

Contents

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San Francisco Department of Public Health at 101 Grove Street (1935)

Data Collection

This report covers the period from January 1, 2006 through December 31, 2006. San Francisco health care providers, laboratories and other mandated reporters are required under Title 17, California Code of Regulations (CCR) (§2500, §2505, §2593, §2641-2643, §2800-2812),[1] to notify the local health authority of the diagnosis, detection or suspicion of certain diseases and conditions. Reports are confidentially received by fax, telephone or postal mail. Reports by fax and postal mail are generally submitted using the California Confidential Morbidity Report (CMR) form.[2] Limited demographic and clinical information is provided on the CMR. Depending on the condition, disease control staff attempt to contact the health care provider, laboratory and/or patient for follow-up and implementation of disease control measures. Clinical and risk factor data are subsequently collected according to departmental and state protocols. Data were managed with locally designed databases.

Neither the chronic hepatitides nor notifiable diseases managed by other SFDPH sections (AIDS Office, STD Control, and Tuberculosis Control) are represented in this report:

Acquired Immune Deficiency Syndrome (AIDS)
Chancroid
Chlamydial Infections (excluding *Chlamydia pneumoniae*)
Lymphogranuloma Venereum (LGV)
Gonococcal Infections
Human Immunodeficiency Virus (HIV)
Non-Gonococcal Urethritis
Pelvic Inflammatory Disease (PID)
Syphilis
Tuberculosis

Notifiable Disease Definitions

Disease classifications for public health surveillance can change over time. Definitions are important and changes to them may impact the frequency of reports to public health. Clarifications for 2006 are described in the box below.

Bacterial Meningitis	excludes meningitis caused by *Neisseria meningitidis*, which is listed separately as Meningococcal Infections.
Cholera	is caused by *Vibrio cholerae* serogroup O1 or O139.
Invasive *Haemophilus influenzae*	is reportable only in patients <30 years of age.
Meningococcal Infection	*N. meningitidis* infection that results in meningitis or meningococcemia.
Outbreaks	Foodborne outbreaks are defined by 4 or more illnesses with a common food exposure. Other outbreaks of any disease, including those not reportable per CCR Title 17, are defined by an increase in cases above the expected number for a given time period. Additionally, cases may be subjectively classified as an outbreak based on common exposures or other epidemiologic information.
Salmonellosis	includes the more than 2,500 recognized serotypes of *Salmonella* spp., excluding *S.* Typhi, which causes typhoid fever.
Shiga toxin producing *Escherichia coli* (STEC)	All non-O157:H7 STEC became notifiable in California in October 2006. Annual incidence for 2006 is not included in this report due to incomplete surveillance throughout the year.
Smallpox	was removed from the list of notifiable diseases in California in 1989, and became reportable again in 2001 for bioterrorism surveillance. The World Health Organization declared smallpox eradicated globally in 1979.
Streptococcal Infection	Individual cases of streptococcal infection are reportable only if diagnosed in foodhandlers or dairy workers.
Typhoid Fever	is caused by infection with *S.* Typhi.
Vibriosis	is caused by other *Vibrio cholerae* serogroups (non-O1, non-O139) and other *Vibrio* spp., including *V. vulnificus* and *V. parahaemolyticus*.
Viral Hemorrhagic Fever	includes hemorrhagic fevers caused by filoviruses (e.g., Ebola, Marburg), arenaviruses (e.g., Lassa fever, Machupo, lymphocytic choriomeningitis), bunyaviruses (e.g., Crimean-Congo), and flaviruses (e.g., Omsk). Yellow fever and dengue are listed separately and not included in this category.

Racial and Ethnic Categorization

Population estimates for San Francisco were obtained from the California Department of Finance (DOF) Demographic Research Unit.[3] An individual with Hispanic ethnicity, regardless of race, was considered Hispanic. Non-Hispanics were categorized by the designation of their race. People were ultimately classified as one of the following: American Indian/Alaska Native, Asian/Pacific Islander, African American (Black), Hispanic, or White. Cases were infrequently denoted by an additional race category, Other. Because the category Other is not clearly defined and no reliable San Francisco population estimate exists for it, race-specific rates were not calculated for this population group. Only the frequency values for the race Other were included in the incidence tables.

In 2000, the United States Census Bureau began allowing the designation of multiple races for its decennial population census. Because the California DOF estimates are based on U.S. Census counts for California, the San Francisco population estimates for 2006 contained the additional racial category Multiple Race. Because CDCU continued to collect data allowing only a single racial designation during this period, a bridging method established by the California DOF was used to reallocate the population in the Multiple Race category to single race categories.[4] This method provided reproducible denominators for calculating race-stratified incidence rates.

Demographic Data

Depending on the disease, demographic information was usually ascertained through patient interviews, medical chart abstraction or health care provider interviews. Because not all individual cases of disease are mandated to be followed-up by the local health department (e.g., campylobacteriosis), completeness varied by disease.

Age was calculated by subtracting the date of birth from the date of notification to SFDPH, then dividing the resultant value by 365.25 to account for leap years. Numerical values for age were also routinely collected and separately entered into the database. If either of the dates used in the above formula was missing and a numerical age was recorded, then this manually entered age was used in analyses. This replacement method was required for 9 (0.8%) of the 1,101 cases of reportable diseases in 2006. Only 4 reportable cases ultimately did not have a valid age estimate. The frequency of cases with missing or unknown sex or race/ethnicity information was included in tables.

Statistical Calculations

Data manipulation, calculations, and table creation utilized SAS version 9.1.3 (SAS Institute Inc., Cary, NC). Rates allow for comparison of disease burden between jurisdictions and population groups, as well as over time. An incidence rate for public health surveillance describes the number of new cases of a particular disease occurring in each group of 100,000 residents at risk for disease during a given year. The population at risk was approximated by the California DOF population estimates. The annual citywide population estimate served as the denominator for crude annual rates except for diseases where the population at risk was restricted by case definition (i.e., infant botulism, congenital rubella, and invasive *H. influenzae*). Each of these surveillance categories contains specific age criteria for being a case. Consequently, not all residents were at risk of becoming cases. San Francisco residents < 1 year of age provided the denominator at-risk population for infant botulism and congenital rubella rates. Invasive *H. influenzae* rates were calculated among individuals <30 years of age only. The one-year crude incidence rate (IR) was calculated as the proportion of disease events per 100,000 people at risk (person-years) as shown below. Rates were not adjusted for age. Rates and proportions were generally rounded to one decimal place.

Formula 1.

$$IR = \left(n \big/ p \right) \times 100{,}000$$

where n= Number of Cases and p=Population at Risk, and each is identified for a one-year period.

Example: In 2006, there were 137 female cases of campylobacteriosis in San Francisco. The estimated number of female residents in 2006 was 392,567. Accordingly, the incidence among females was:

$$IR_{Campy\,2006_{Females}} = \left(137 \big/ 392{,}567 \right) \times 100{,}000 = 34.9 \text{ cases per } 100{,}000 \text{ population}.$$

Reliability of Rates

With rare diseases, or diseases where the number of cases for a particular population group is very small, a minor change in the number of incident cases can result in a relatively large shift in the corresponding rate. Rates and percents based on a small number of events may be unreliable and are generally subject to substantial variability over time. Unstable rates should not be statistically compared for difference with the rates for other populations or for San Francisco over time. Rates with a relative standard error (RSE) of 23% or greater were considered unstable and identified by an asterisk in tables of this report.[5] Equivalently, numerators less than 20 result in unreliable rates.

Formula 2.

$$RSE = \left(SE_{rate} \Big/ r \right) \times 100 = \left(\frac{r \Big/ \sqrt{n}}{r} \right) \times 100 = \left(\sqrt{1 \Big/ n} \right) \times 100$$

where r = Rate and SE_{rate} = Standard Error of a Rate and n = Number of Cases

Example: In 2006, there were 303 cases of campylobacteriosis cases reported in San Francisco and 17 cases of hepatitis A in 2006. Accordingly, the relative standard errors for campylobacteriosis and hepatitis A are:

$$RSE_{Campy2006} = \left(\sqrt{1 \Big/ 303} \right) \times 100 = 5.7\%$$

The rate derived from the frequency of campylobacteriosis is considered stable (RSE < 23%).

$$RSE_{HepA2006} = \left(\sqrt{1 \Big/ 17} \right) \times 100 = 24.3\%$$

The rate derived from the frequency of hepatitis A is not stable and is considered unreliable (RSE > 23%).

Exact Confidence Limits

95% Exact Confidence Intervals for incidence rates were approximated from the gamma distribution.[6] Confidence limits may appear biased due to rounding to one decimal place. Statistically speaking, the rates presented in this report are estimates of the incidence of reported communicable diseases in San Francisco. Confidence limits predict, with high likelihood, the range within which the actual rate occurs. In 2006, the rate of giardiasis in residents 25-34 years of age was 35.7 cases per 100,000 people (95%CI=26.6-46.9). Here the confidence interval indicates that the true rate in this age group is likely to lie somewhere between 26.6 and 46.9 cases per 100,000. The interval therefore provides a useful means for evaluating the precision of a rate calculation. A rate estimate with a wide corresponding confidence interval is less precise than a rate with a tight confidence interval. Using 2006 giardiasis cases as an example, consider the difference between incidence among residents 1-4 years of age (rate=36.1, 95%CI=18.6-63.0) and those aged 25-34 years as described above. The range of possible values among the older age group is approximately half as wide as the range for children 1-4 years. The rate among residents 25-34 years is therefore considered more precise. Rates with very large confidence intervals should be interpreted cautiously. In this report, confidence intervals were not displayed for individual cell counts of zero.

Rules for Data Suppression

Under certain conditions, it is possible that an individual case-patient could be identified from tabulated data. While its probability has not been quantified, identification of an individual case-patient from surveillance data may occur if the number of cases for a given time period is sufficiently small and demographic classification is specific enough that the resulting pool of residents described by it is also sufficiently small. All data for tables cross tabulated with potentially identifying classifications, regardless of individual cell count value, were reported for diseases with annual incidence ≥25 cases. Potential identifiers included age (grouped), race/ethnicity, and sex. However, the description of disease events containing fewer than 5 events for the *intersection of three potentially identifying data elements* above was not included in this report.

Data Limitations

The surveillance data presented are those cases reported by laboratorians, clinicians and other mandated reporters to the local health authority in compliance with public health laws.[1] Reports may be incomplete and/or important demographic, clinical or risk information may not be available upon active follow-up. Because not all cases of disease were detected by the health care system and not all detected cases were reported to the public health department, the information presented in this report may underestimate the true incidence of disease.

Note to Users of this Report

Occasionally, consumers of communicable disease surveillance data wish to have incidence figures for specific population parameters (e.g., rate of salmonellosis in children <5 years of age in 2006). Simple calculations can be accomplished by inserting the desired incidence data provided in the tables of this report and the San Francisco population estimates from TABLE 5 into *Formula 1* above. When such calculations are used for grants or technical papers, the citation of this report must explicitly indicate that the calculations were not performed by SFDPH.

Example: A grant writer wishes to know the rate of salmonellosis in San Francisco residents younger than 5 years of age in 2006. From TABLE 2, it is known that 9 cases were <1 year of age and 14 cases were 1-4 years of age. Similarly, the number of San Francisco residents in 2006 can be found in TABLE 5:

	Female	*Male*
<1 yr	4,557	4,730
1-4 yrs	16,323	16,960

Thus, the total number of cases <5 years of age $= (9 + 14) = 23$ and

the total population <5 years of age $= (4{,}557 + 16{,}323 + 4{,}730 + 16{,}960) = 42{,}570$ and

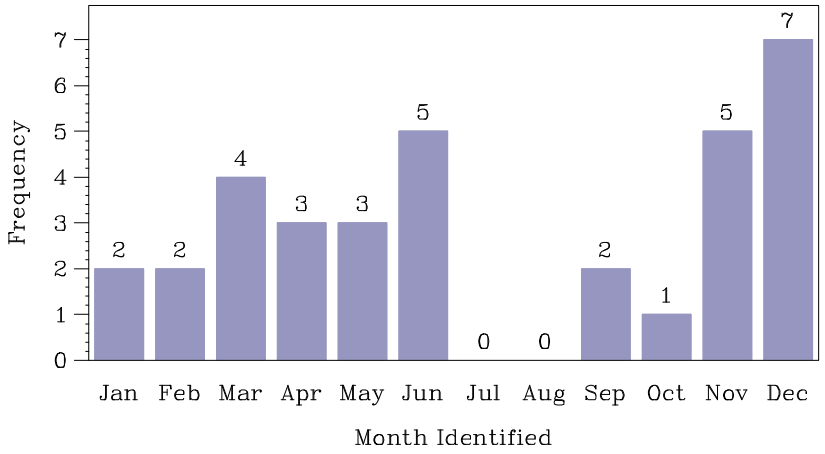
the rate of salmonellosis $= \left({}^{23}\!/_{42{,}570} \right) \times 100{,}000 = 54.0$ cases per 100,000 population .

Notes on 2006 Surveillance Data

This report presents a snapshot of notifiable diseases in San Francisco that were reported to SFDPH. The following notes are intended to aid the interpretation of reported cases.

- *Campylobacteriosis: Campylobacter* infections remain the most frequently reported enteric disease in San Francisco. The incidence of campylobacteriosis in 2006 (n=303; 38 cases per 100,000 residents) returned to the level observed in 2004, when 297 cases were reported, and decreased from 2005, when 381 cases were reported.
- *Encephalitides:* Encephalitis is a clinician-reported disease. The increased reporting of encephalitis in recent years was likely due to enhanced surveillance by SFDPH for West Nile virus (WNV) infections. Testing for WNV by SFDPH began in 2004 and was targeted to hospitalized patients with illness clinically compatible with WNV neuroinvasive disease, including encephalitis, aseptic meningitis or acute flaccid paralysis.
- *Lyme Disease (LD):* Since 1989, LD has been a clinician-reported disease. In June 2005, labs became legally required to report cases of LD to SFDPH. The increase in the number of LD cases that began in 2005 was correlated with the implementation of this law and continued in 2006. Testing for LD continues to be a problem as some commercial labs use assays whose accuracy and usefulness has not been adequately established.[7] Ten of the 14 cases in 2006 had known travel histories during their presumed incubation period.
- *Outbreaks:* In 2006, CDCU identified and investigated 65 communicable disease outbreaks, 18 (28%) of which were believed to be foodborne. Among all outbreaks, 41 (63%) were suspected or confirmed to be caused by noroviruses, while 14 (22%) were of unknown etiology. The others included 5 outbreaks of influenza in institutions and 1 each of vibriosis, aspergillosis, rotavirus infection, scabies, and chicken pox (varicella). Non-foodborne outbreaks of norovirus (n=34) occurred in all seasons (Fig. 1) and resulted in an average of 24 illnesses per incident. Most (68%) non-foodborne norovirus outbreaks were reported in assisted living facilities or other providers of services to the elderly.

FIG. 1: Monthly Incidence of Non−Foodborne Norovirus Outbreaks in San Francisco, 2006



Note: Includes outbreaks for which norovirus was either suspected or confirmed as cause.

- *Pertussis:* Reported pertussis cases decreased from 45 (6 cases per 100,000 residents) in 2005 to 35 (4 cases per 100,000 residents) in 2006. Incidence in 2006 remains higher than the average annual incidence of 19 cases for the 10-year period 1998-2007.
- *Bat Rabies:* One rabid bat was detected in San Francisco in 2006. Bats present a risk of rabies exposure to humans and pets, especially when they enter homes or are handled.[8]
- *Vibriosis:* The number of vibriosis cases in 2006 (n=24) was higher than usual but within the 15-year historical limit (25 cases reported in 1997) for San Francisco. Consumption of raw oysters is the most frequently identified risk factor for infection. In 2006, 17 (74%) of the 23 cases interviewed reported consumption of raw shellfish. Seven San Francisco cases were associated with a multi-state outbreak from consumption of raw oysters distributed from a common source.[9] Eight other cases who resided in other counties ate oysters in San Francisco restaurants that originated from the outbreak source. Most cases (n=21), including the outbreak-associated cases, were caused by *Vibrio parahaemolyticus*. The remaining 3 cases were infected with non-*cholerae* O1/O139 *Vibrio* spp. other than *V. parahaemolyticus* or *V. vulnificus*. *V. cholerae* 01/0139 causes the disease cholera.
- *West Nile Disease:* One WNV infection in a San Francisco resident was identified in 2006. This individual had traveled in the United States and Mexico during the presumed period of exposure.

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TABLE 1: Frequency of Reportable Diseases in San Francisco, 2006

Disease	n	Rate
Amebiasis	104	13.0
Anisakiasis	0	0.0 *
Anthrax	0	0.0 *
Babesiosis	0	0.0 *
Botulism (Foodborne)	1	0.1 *
Botulism (Infant) (1)	0	0.0 *
Botulism (Unspecified)	0	0.0 *
Botulism (Wound)	1	0.1 *
Brucellosis	0	0.0 *
Campylobacteriosis	303	37.9
Cholera (2)	0	0.0 *
Ciguatera Fish Poisoning	0	0.0 *
Coccidioidomycosis	7	0.9 *
Colorado Tick Fever	0	0.0 *
Cryptosporidiosis	27	3.4
Cysticercosis	1	0.1 *
Dengue	0	0.0 *
Diphtheria	0	0.0 *
Domoic Acid Poisoning	0	0.0 *
E. coli O157:H7 Infection	8	1.0 *
Echinococcosis	0	0.0 *
Ehrlichiosis	0	0.0 *
Encephalitis (Arboviral)	0	0.0 *
Encephalitis (Bacterial)	0	0.0 *
Encephalitis (Fungal)	0	0.0 *
Encephalitis (Other Viral)	2	0.2 *
Encephalitis (Parasitic)	0	0.0 *
Encephalitis (Unspecified)	10	1.2 *
Encephalitis (Total)	12	1.5 *
Giardiasis	213	26.6
H. influenzae (Invasive) (3)	2	0.9 *
Hantavirus Infection	0	0.0 *
Hemolytic Uremic Syndrome	1	0.1 *
Hepatitis A	17	2.1 *
Hepatitis B (Acute) (4)	22	2.7
Hepatitis C (Acute)	0	0.0 *
Hepatitis Delta	0	0.0 *
Kawasaki Syndrome	0	0.0 *
Legionellosis	3	0.4 *
Leprosy	1	0.1 *
Leptospirosis	1	0.1 *
Listeriosis	0	0.0 *
Lyme Disease (5)	14	1.7 *
Lymphocytic Choriomeningitis	0	0.0 *
Malaria	5	0.6 *
Measles	0	0.0 *

Disease	n	Rate
Meningitis (Bacterial) (6)	6	0.7 *
Meningitis (Fungal)	5	0.6 *
Meningitis (Parasitic)	0	0.0 *
Meningitis (Unspecified)	0	0.0 *
Meningitis (Viral)	10	1.2 *
Meningitis (Total)	21	2.6
Meningococcal Infection (7)	9	1.1 *
Mumps	1	0.1 *
Outbreaks (Foodborne) (8)	18	N/A
Outbreaks (Non-Foodborne) (8)	47	N/A
Paralytic Shellfish Poisoning	0	0.0 *
Pertussis	35	4.4
Plague	0	0.0 *
Poliomyelitis	0	0.0 *
Psittacosis	0	0.0 *
Q Fever	0	0.0 *
Rabies (Animal) (9)	1	N/A
Rabies (Human)	0	0.0 *
Relapsing Fever	0	0.0 *
Rheumatic Fever (Acute)	0	0.0 *
Rocky Mountain Spotted Fever	0	0.0 *
Rubella	0	0.0 *
Rubella (Congenital) (1)	0	0.0 *
Salmonellosis (10)	120	15.0
Scombroid Fish Poisoning	4	0.5 *
Severe Acute Respir Syndr (SARS) (5)	0	0.0 *
Shigellosis (Group B: S. flexneri)	66	8.2
Shigellosis (Group D: S. sonnei)	61	7.6
Shigellosis (Other Group)	5	0.6 *
Shigellosis (Total)	132	16.5
Smallpox (11)	0	0.0 *
Streptococcal Infection (12)	0	0.0 *
Tetanus	1	0.1 *
Toxic Shock Syndrome	3	0.4 *
Toxoplasmosis	0	0.0 *
Trichinosis	0	0.0 *
Tularemia	0	0.0 *
Typhoid Carrier (13)	0	0.0 *
Typhoid Fever (Acute) (13)	2	0.2 *
Typhus Fever	0	0.0 *
Vibriosis (Non-Cholera) (2)	24	3.0
Viral Hemorrhagic Fever (14)	0	0.0 *
West Nile Disease (5)	1	0.1 *
Yellow Fever	0	0.0 *
Yersiniosis	1	0.1 *

*Source: SFDPH Communicable Disease Control Unit. Data shown by year cases reported to SFDPH. Rates are cases per 100,000 population. *=Unstable Rates (where n<20) should not be compared statistically. See Tables 2-4 for Exact Confidence Limits. Conjunctivitis of newborn, Reye Syndrome, schistosomal dermatitis, non-O157:H7 shiga toxin prod. E. coli (STEC) infection, & varicella deaths reportable but not shown.*
(1) Rate calculated among residents age <1 year. (2) Cholera is caused by Vibrio cholerae serogroup O1/O139. Vibriosis is caused by other V. cholerae serogroups (non-O1/O139) and other Vibrio spp.
(3) Invasive Haemophilus influenzae reportable in those <30 yrs only; rate among residents aged <30 yrs. (4) As of 2005, Acute Hepatitis B includes perinatal cases.
(5) West Nile Disease (including WN Fever, WN Meningitis, & WN Encephalitis) and SARS became reportable in June 2005; Lyme Disease, clinician-reportable since 1989, also became lab-reportable in June 2005.
(6) Bacterial meningitis excludes meningitis caused by Neisseria meningitidis, which is listed separately as Meningococcal Infections. (7) Caused by Neisseria meningitidis and includes meningococcal meningitis and meningococcemia. (8) Foodborne outbreak is >=4 illnesses with common exposure; other outbreaks defined by increase in cases above expected number; rates not applicable (N/A).
(9) All rabid animals were bats; no documented rabid terrestrial animal in SF for >60 yrs; rate not applicable (N/A). (10) Salmonellosis excludes S. Typhi, which causes typhoid fever.
(11) WHO declared smallpox eradicated globally in 1979; reportable again in 2001 for bioterror surveillance. (12) Individual cases of Streptococcal Infection of foodhandlers and dairy workers only.
(13) Caused by S. Typhi. (14) VHF includes those caused by filoviruses (e.g., Ebola, Marburg), arenaviruses (e.g., Lassa fever, Machupo), bunyaviruses (e.g., Crimean-Congo), and flaviruses (e.g., Omsk).

TABLE 2: Frequency and Unadjusted Rates for 7 Selected Diseases by Age, San Francisco, 2006

Year	Age	Amebiasis n	Amebiasis Rate	Amebiasis 95%LCL	Amebiasis 95%UCL	Campylobacteriosis n	Campylobacteriosis Rate	Campylobacteriosis 95%LCL	Campylobacteriosis 95%UCL	Cryptosporidiosis n	Cryptosporidiosis Rate	Cryptosporidiosis 95%LCL	Cryptosporidiosis 95%UCL
2006	<1 yr	0	0.0*			2	21.5*	2.6	77.8	0	0.0*		
	1-4 yrs	0	0.0*			22	66.1	41.4	100.1	0	0.0*		
	5-14 yrs	8	12.6*	5.4	24.8	23	36.2	22.9	54.3	0	0.0*		
	15-24 yrs	7	10.9*	4.4	22.4	28	43.6	29.0	63.0	1	1.6*	0.0	8.7
	25-34 yrs	19	13.3*	8.0	20.8	61	42.7	32.6	54.8	4	2.8*	0.8	7.2
	35-44 yrs	36	20.8	14.6	28.8	65	37.5	29.0	47.8	11	6.4*	3.2	11.4
	45-54 yrs	19	16.5*	9.9	25.7	36	31.2	21.9	43.2	9	7.8*	3.6	14.8
	55-64 yrs	13	14.8*	7.9	25.4	34	38.8	26.9	54.2	1	1.1*	0.0	6.4
	65+ yrs	2	1.8*	0.2	6.5	30	27.0	18.2	38.6	1	0.9*	0.0	5.0
	Total	104	13.0	10.6	15.7	303	37.9	33.7	42.4	27	3.4	2.2	4.9

Year	Age	Giardiasis n	Giardiasis Rate	Giardiasis 95%LCL	Giardiasis 95%UCL	Pertussis n	Pertussis Rate	Pertussis 95%LCL	Pertussis 95%UCL	Salmonellosis n	Salmonellosis Rate	Salmonellosis 95%LCL	Salmonellosis 95%UCL
2006	<1 yr	1	10.8*	0.3	60.0	4	43.1*	11.7	110.3	9	96.9*	44.3	184.0
	1-4 yrs	12	36.1*	18.6	63.0	3	9.0*	1.9	26.3	14	42.1*	23.0	70.6
	5-14 yrs	23	36.2	22.9	54.3	3	4.7*	1.0	13.8	13	20.5*	10.9	35.0
	15-24 yrs	15	23.3*	13.1	38.5	6	9.3*	3.4	20.3	12	18.7*	9.6	32.6
	25-34 yrs	51	35.7	26.6	46.9	4	2.8*	0.8	7.2	18	12.6*	7.5	19.9
	35-44 yrs	63	36.4	28.0	46.6	5	2.9*	0.9	6.7	13	7.5*	4.0	12.8
	45-54 yrs	27	23.4	15.4	34.1	7	6.1*	2.4	12.5	11	9.5*	4.8	17.1
	55-64 yrs	11	12.6*	6.3	22.5	1	1.1*	0.0	6.4	13	14.8*	7.9	25.4
	65+ yrs	10	9.0*	4.3	16.6	1	0.9*	0.0	5.0	17	15.3*	8.9	24.5
	Total	213	26.6	23.2	30.4	35	4.4	3.0	6.1	120	15.0	12.4	17.9

Year	Age	Shigellosis (Total) n	Shigellosis (Total) Rate	Shigellosis (Total) 95%LCL	Shigellosis (Total) 95%UCL	Shigellosis (flexneri) n	Shigellosis (flexneri) Rate	Shigellosis (flexneri) 95%LCL	Shigellosis (flexneri) 95%UCL	Shigellosis (sonnei) n	Shigellosis (sonnei) Rate	Shigellosis (sonnei) 95%LCL	Shigellosis (sonnei) 95%UCL
2006	<1 yr	0	0.0*			0	0.0*			0	0.0*		
	1-4 yrs	3	9.0*	1.9	26.3	1	3.0*	0.1	16.7	2	6.0*	0.7	21.7
	5-14 yrs	8	12.6*	5.4	24.8	1	1.6*	0.0	8.8	7	11.0*	4.4	22.7
	15-24 yrs	4	6.2*	1.7	15.9	2	3.1*	0.4	11.2	2	3.1*	0.4	11.2
	25-34 yrs	26	18.2	11.9	26.7	9	6.3*	2.9	12.0	15	10.5*	5.9	17.3
	35-44 yrs	59	34.1	25.9	44.0	31	17.9	12.2	25.4	26	15.0	9.8	22.0
	45-54 yrs	23	20.0	12.6	29.9	15	13.0*	7.3	21.5	8	6.9*	3.0	13.7
	55-64 yrs	6	6.8*	2.5	14.9	5	5.7*	1.9	13.3	1	1.1*	0.0	6.4
	65+ yrs	3	2.7*	0.6	7.9	2	1.8*	0.2	6.5	0	0.0*		
	Total	132	16.5	13.8	19.6	66	8.2	6.4	10.5	61	7.6	5.8	9.8

Source: SFDPH Communicable Disease Control Unit. Data shown by year cases reported to SFDPH. Rates are cases per 100,000 population.
****=Unstable Rate (n<20). Unstable rates should not be compared statistically. 95%LCL=Exact Lower Confidence Limit, 95%UCL=Exact Upper Confidence Limit; 95% Exact Confidence Limits not displayed for counts of zero; others may appear biased due to rounding to 1 decimal. Cases with missing age are represented in total column counts only. Thus, the sum of individual age groups for these diseases does not match the total column count shown.***

TABLE 3: Frequency and Unadjusted Rates for 7 Selected Diseases by Sex, San Francisco, 2006

		Amebiasis				Campylobacteriosis				Cryptosporidiosis			
Year	Sex	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2006	Male	94	23.1	18.6	28.2	164	40.2	34.3	46.9	22	5.4	3.4	8.2
	Female	10	2.5*	1.2	4.7	137	34.9	29.3	41.3	5	1.3*	0.4	3.0
	Unk	0				2				0			
	Total	104	13.0	10.6	15.7	303	37.9	33.7	42.4	27	3.4	2.2	4.9

		Giardiasis				Pertussis				Salmonellosis			
Year	Sex	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2006	Male	159	39.0	33.2	45.6	17	4.2*	2.4	6.7	57	14.0	10.6	18.1
	Female	54	13.8	10.3	17.9	18	4.6*	2.7	7.2	63	16.0	12.3	20.5
	Unk	0				0				0			
	Total	213	26.6	23.2	30.4	35	4.4	3.0	6.1	120	15.0	12.4	17.9

		Shigellosis (Total)				Shigellosis (flexneri)				Shigellosis (sonnei)			
Year	Sex	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2006	Male	109	26.7	22.0	32.3	58	14.2	10.8	18.4	48	11.8	8.7	15.6
	Female	23	5.9	3.7	8.8	8	2.0*	0.9	4.0	13	3.3*	1.8	5.7
	Unk	0				0				0			
	Total	132	16.5	13.8	19.6	66	8.2	6.4	10.5	61	7.6	5.8	9.8

Source: SFDPH Communicable Disease Control Unit. Data shown by year cases reported to SFDPH.
Rates are cases per 100,000 population; Rates not calculated for the sex category Unknown; *=Unstable Rate (n<20); Unstable rates should not be compared statistically.
95%LCL=Exact Lower Confidence Limit, 95%UCL=Exact Upper Confidence Limit; 95% Exact Confidence Limits not displayed for counts of zero; others may appear biased due to rounding to 1 decimal.

TABLE 4: Frequency and Unadjusted Rates for 7 Selected Diseases by Race/Ethnicity, San Francisco, 2006

Year	Race/ Ethnicity	Amebiasis n	Amebiasis Rate	Amebiasis 95% LCL	Amebiasis 95% UCL	Campylobacteriosis n	Campylobacteriosis Rate	Campylobacteriosis 95% LCL	Campylobacteriosis 95% UCL	Cryptosporidiosis n	Cryptosporidiosis Rate	Cryptosporidiosis 95% LCL	Cryptosporidiosis 95% UCL
2006	White	56	15.7	11.9	20.4	54	15.2	11.4	19.8	13	3.6*	1.9	6.2
	Black	6	10.4*	3.8	22.5	5	8.6*	2.8	20.1	7	12.1*	4.9	24.9
	Asian/PI	4	1.5*	0.4	3.9	23	8.7	5.5	13.1	0	0.0*		
	Hispanic	18	15.5*	9.2	24.6	17	14.7*	8.6	23.5	3	2.6*	0.5	7.6
	Am Indian	0	0.0*			2	29.1*	3.5	105.1	0	0.0*		
	Other	1				1				0			
	Unknown	19				201				4			
	Total	104	13.0	10.6	15.7	303	37.9	33.7	42.4	27	3.4	2.2	4.9

Year	Race/ Ethnicity	Giardiasis n	Giardiasis Rate	Giardiasis 95% LCL	Giardiasis 95% UCL	Pertussis n	Pertussis Rate	Pertussis 95% LCL	Pertussis 95% UCL	Salmonellosis n	Salmonellosis Rate	Salmonellosis 95% LCL	Salmonellosis 95% UCL
2006	White	105	29.5	24.1	35.7	13	3.6*	1.9	6.2	29	8.1	5.5	11.7
	Black	10	17.3*	8.3	31.7	2	3.5*	0.4	12.5	4	6.9*	1.9	17.7
	Asian/PI	7	2.7*	1.1	5.5	5	1.9*	0.6	4.4	38	14.4	10.2	19.8
	Hispanic	38	32.8	23.2	45.0	9	7.8*	3.6	14.8	10	8.6*	4.1	15.9
	Am Indian	0	0.0*			0	0.0*			1	14.5*	0.4	81.1
	Other	4				0				7			
	Unknown	49				6				31			
	Total	213	26.6	23.2	30.4	35	4.4	3.0	6.1	120	15.0	12.4	17.9

Year	Race/ Ethnicity	Shigellosis (Total) n	Shigellosis (Total) Rate	Shigellosis (Total) 95% LCL	Shigellosis (Total) 95% UCL	Shigellosis (flexneri) n	Shigellosis (flexneri) Rate	Shigellosis (flexneri) 95% LCL	Shigellosis (flexneri) 95% UCL	Shigellosis (sonnei) n	Shigellosis (sonnei) Rate	Shigellosis (sonnei) 95% LCL	Shigellosis (sonnei) 95% UCL
2006	White	67	18.8	14.6	23.9	35	9.8	6.8	13.7	31	8.7	5.9	12.4
	Black	8	13.8*	6.0	27.2	3	5.2*	1.1	15.1	4	6.9*	1.9	17.7
	Asian/PI	4	1.5*	0.4	3.9	1	0.4*	0.0	2.1	2	0.8*	0.1	2.7
	Hispanic	13	11.2*	6.0	19.2	7	6.0*	2.4	12.5	6	5.2*	1.9	11.3
	Am Indian	0	0.0*			0	0.0*			0	0.0*		
	Other	1				0				0			
	Unknown	39				20				18			
	Total	132	16.5	13.8	19.6	66	8.2	6.4	10.5	61	7.6	5.8	9.8

Source: SFDPH Communicable Disease Control Unit. Data shown by year cases reported to SFDPH. Am Indian = American Indian or Alaska Native; Asian/PI = Asian or Pacific Islander
*Rates are cases per 100,000 population; Rates not calculated for the race/ethnicity categories Other & Unknown. *=Unstable Rate (n<20). Unstable rates should not be compared statistically.*
95%LCL=Exact Lower Confidence Limit, 95%UCL=Exact Upper Confidence Limit; 95% Exact Confidence Limits not displayed for counts of zero; others may appear biased due to rounding to 1 decimal.

TABLE 5: San Francisco Population Estimates by Sex, Age and Race/Ethnicity, 2006

Year	Sex	Age	White	Hispanic	Black	Asian/PI	Am Indian	Total
2006	FEMALE	<1 yr	2,961	512	176	879	29	4,557
		1-4 yrs	9,179	2,389	884	3,704	167	16,323
		5-14 yrs	7,756	7,708	3,466	11,638	506	31,074
		15-24 yrs	7,005	6,508	3,822	13,872	364	31,571
		25-34 yrs	34,421	9,728	3,949	22,658	586	71,342
		35-44 yrs	40,648	9,677	4,278	22,798	567	77,968
		45-54 yrs	21,302	6,983	4,344	19,968	405	53,002
		55-64 yrs	18,893	4,549	3,262	16,360	301	43,365
		65+ yrs	24,381	6,670	4,960	27,013	341	63,365
			166,546	***54,724***	***29,141***	***138,890***	***3,266***	***392,567***
	MALE	<1 yr	3,077	530	182	911	30	4,730
		1-4 yrs	9,540	2,486	921	3,839	174	16,960
		5-14 yrs	8,290	8,204	3,482	12,001	507	32,484
		15-24 yrs	6,990	6,981	3,764	14,611	346	32,692
		25-34 yrs	33,920	12,669	3,567	20,808	612	71,576
		35-44 yrs	55,073	13,394	4,905	21,038	767	95,177
		45-54 yrs	30,336	8,239	5,058	18,094	543	62,270
		55-64 yrs	22,343	4,350	3,516	13,690	339	44,238
		65+ yrs	20,091	4,225	3,427	19,520	288	47,551
			189,660	***61,078***	***28,822***	***124,512***	***3,606***	***407,678***
2006			***356,206***	***115,802***	***57,963***	***263,402***	***6,872***	***800,245***

Source: California Department of Finance, Demographic Research Unit.
Note: Am Indian=American Indian/Alaska Native; Asian/PI=Asian/Pacific Islander.