

ANNUAL REPORT of COMMUNICABLE DISEASES in SAN FRANCISCO

2007



COMMUNICABLE DISEASE CONTROL & PREVENTION SECTION
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

SANDRA HUANG, MD, DIRECTOR
COMMUNICABLE DISEASE CONTROL UNIT

SUSAN E. FERNYAK, MD, MPH, DIRECTOR
COMMUNICABLE DISEASE CONTROL & PREVENTION SECTION

MITCHELL H. KATZ, MD, MPH, DIRECTOR
DEPARTMENT OF PUBLIC HEALTH



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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 (SFDPH) during 2007. Seven diseases were selected for demographic profiling on the basis of the annual burden 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., tuberculosis, human immunodeficiency virus, acquired immunodeficiency syndrome, sexually transmitted diseases managed by Tuberculosis Control, AIDS Office and STD Control, respectively). 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.sfdcp.org> for historical context of disease incidence in San Francisco.

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Citation

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Data Collection

This report includes disease incidents reported to SFPDPH from January 1, 2007 through December 31, 2007. 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, postal mail, or secure electronic file transfer. 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 hepatitis nor notifiable diseases managed by other SFPDPH sections (AIDS Office, STD Control, and Tuberculosis Control) are presented in this report:

Acquired Immune Deficiency Syndrome (AIDS)	Lymphogranuloma Venereum (LGV) (reportable as of 6/2007)
Chancroid	Non-Gonococcal Urethritis (no longer reportable as of 6/2007)
Chlamydial Infections (excluding <i>Chlamydia pneumoniae</i>)	Pelvic Inflammatory Disease (PID)
Gonococcal Infections	Syphilis
Human Immunodeficiency Virus (HIV)	Tuberculosis

Racial and Ethnic Categorization

People were classified as one of the following: American Indian/Alaska Native, Asian/Pacific Islander, African American (Black), Hispanic, or White. A person with Hispanic ethnicity, regardless of race, was classified as Hispanic, while Non-Hispanics were categorized by their race designation. Occasionally, patients were classified as Other race. 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.

San Francisco population estimates were obtained from the California Department of Finance (DOF) Demographic Research Unit,³ estimates which are based on the U.S. Census counts. Since in 2000, the United States Census Bureau began allowing multiple race designations for its decennial population census, the DOF San Francisco population estimates included an additional race category, Multiple Race. Because CDCU only allows a single race designation, 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 SFPDPH, then dividing the difference by 365.25 (the .25 accounts for leap years). Numerical values for age were also routinely collected and entered into the database. If either date used in the age formula was missing, but a numerical age was recorded, then this age was used in analyses. This replacement method was required for 1 of the 1,063 cases of reportable conditions in 2007. Only 5 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.

Notifiable Disease Definitions

Which diseases are required for public health reporting and their definitions can change over time. Changes in disease definitions can impact the numbers of cases of disease reported to SFPDPH. Important clarifications for 2007 are described in the box that follows:



California Notifiable Disease Definitions and Changes for 2007

Anisakiasis	was removed from the list of notifiable diseases in California in June 2007.
Avian Influenza (H5N1)	human infection with the influenza A H5N1 virus was added to the list of notifiable diseases in California in June 2007.
Bacterial Meningitis	excludes meningitis caused by <i>Neisseria meningitidis</i> , which is listed separately as Meningococcal Infections.
Chickenpox	previously all varicella hospitalizations and deaths (including shingles) were reportable, but as of June 2007, only chickenpox hospitalizations and deaths are reportable.
Cholera	is caused by <i>Vibrio cholerae</i> serogroup O1 or O139.
Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies	were added to the list of notifiable diseases in California in June 2007.
Echinococcosis	was removed from the list of notifiable diseases in California in June 2007.
Influenza Deaths	Deaths associated with infection with an influenza virus are reportable in patients <18 years of age and were added to the list of notifiable diseases in California in June 2007.
Invasive <i>Haemophilus influenzae</i> Disease	is reportable only in patients <15 years of age as of June 2007. Prior to June 2007, it was reportable in patients <30 years of age.
Lymphocytic Choriomeningitis	was removed from the list of notifiable diseases in California in June 2007.
Meningococcal Infection	<i>N. meningitidis</i> infections that result in meningitis, meningococemia or other infections.
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.
Rye Syndrome	was removed from the list of notifiable diseases in California in June 2007.
Salmonellosis	includes the more than 2,500 recognized serotypes of <i>Salmonella</i> spp., excluding <i>S. Typhi</i> , which causes typhoid fever.
Shiga toxin producing <i>Escherichia coli</i> (STEC) Infection	Non-O157:H7 STEC infections became notifiable in California in October 2006. All non-O157 STEC (regardless of presence of H7 antigen) became notifiable in California in June 2007. Annual incidence for all non-O157 STEC in 2007 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.
Taeniasis	was added to the list of notifiable diseases in California in June 2007.
Typhoid Fever	is caused by infection with <i>S. Typhi</i> .
Vibriosis	is caused by other <i>Vibrio cholerae</i> serogroups (non-O1, non-O139) and other <i>Vibrio</i> spp., including <i>V. parahaemolyticus</i> and <i>V. vulnificus</i> .
Viral Hemorrhagic Fever	includes hemorrhagic fevers caused by filoviruses (e.g., Ebola, Marburg), arenaviruses (e.g., Lassa fever, Machupo), bunyaviruses (e.g., Crimean-Congo), and flaviruses (e.g., Omsk). Yellow fever and dengue are listed separately and not included in this category.



Statistical Calculations

SAS version 9.1.3 (SAS Institute Inc., Cary, NC) was used to calculate crude incidence rates, age-specific rates, and confidence intervals. For this report, the crude incidence rate (IR) is defined as the number of new cases of disease per 100,000 residents at risk during a given year. The denominator for all diseases, except infant botulism, congenital rubella, pediatric influenza deaths, and invasive *H. influenzae*, was the total San Francisco population. The population at risk for infant botulism and congenital rubella was San Francisco residents less than one year of age, while for the invasive *H. influenzae* rate and pediatric influenza death rate, it was persons less than 15 years of age and persons less than 18 years of age, respectively. Age-adjusted rates were not calculated. Rates and proportions were generally rounded to one decimal place.

Formula 1.

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

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

Example: In 2007, there were 134 female cases of campylobacteriosis in San Francisco. The estimated number of female residents in 2007 was 394,647. Accordingly, the incidence among females was:

$$IR_{Campy2007\ Females} = \left(\frac{134}{394,647} \right) \times 100,000 = 34.0 \text{ cases per 100,000 population.}$$

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.

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

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

Example: In 2007, there were 308 cases of campylobacteriosis cases reported in San Francisco and 4 cases of vibriosis in 2007. Accordingly, the relative standard errors for campylobacteriosis and vibriosis are:

$$RSE_{Campy2007} = \left(\sqrt{\frac{1}{308}} \right) \times 100 = 5.7\%$$

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

$$RSE_{Vibrio2007} = \left(\sqrt{\frac{1}{4}} \right) \times 100 = 50.0\%$$

The rate derived from the frequency of vibriosis 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.

Because the rates presented in this report are estimates of the true incidence of reported communicable diseases in San Francisco, confidence limits are used to describe the uncertainty of an estimate and provide a range in which the true rate occurs. In 2007, the rate of giardiasis in residents 25-34 years of age was 27.3 cases per 100,000 people (95% CI=19.1-37.8). This confidence interval indicates that the true giardiasis rate in residents aged 25-34 years is likely to lie somewhere between 19.1 and 37.8 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 confidence interval is less precise than a rate with a tight confidence interval. Using 2007 giardiasis cases as an example, consider the difference between incidence among residents 1-4 years of age (rate=26.2, 95% CI=12.0-49.8) 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.

Aggregate Rates: Three-year moving averages

As stated above, with rare diseases or 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 rate. One approach to minimizing the effect of large rate shifts and allowing detection of overall trends involves summing the numerator and denominator over a three year period. This approach can be used to compare across populations or to compare across time when the two time periods do not overlap. Confidence intervals or statistical testing cannot be performed in conjunction with aggregate rates.

Rules for Data Suppression

If the number of cases for a given time period is small and enough demographic information is given, it may be possible to identify an individual case-patient from tabulated data. Therefore, the total annual incidence had to be at least 19 cases for information about age, sex, and race/ethnicity data to be included. Of those diseases with an annual incidence of 19 or more cases, seven diseases were selected for inclusion in this report.

Data Limitations

The surveillance data was 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, users of this report would like to see incidence rates for specific population parameters (e.g., rate of salmonellosis in children <5 years of age in 2007). 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 SFPDPH did not perform the calculation.

Example: A grant writer wishes to know the rate of salmonellosis in San Francisco residents younger than 5 years of age in 2007. From TABLE 2, it is known that 7 cases were <1 year of age and 29 cases were 1-4 years of age. Similarly, the number of San Francisco residents in 2007 can be found in TABLE 5:

	<u>Female</u>	<u>Male</u>
<1 yr	4,659	4,839
1-4 yrs	16,852	17,489



Thus, the total number of cases <5 years of age = $(7 + 29) = 36$ and

the total population <5 years of age = $(4,659 + 16,852 + 4,839 + 17,489) = 43,839$ and

the rate of salmonellosis = $\left(\frac{36}{43,839}\right) \times 100,000 = 82.1$ cases per 100,000 population .

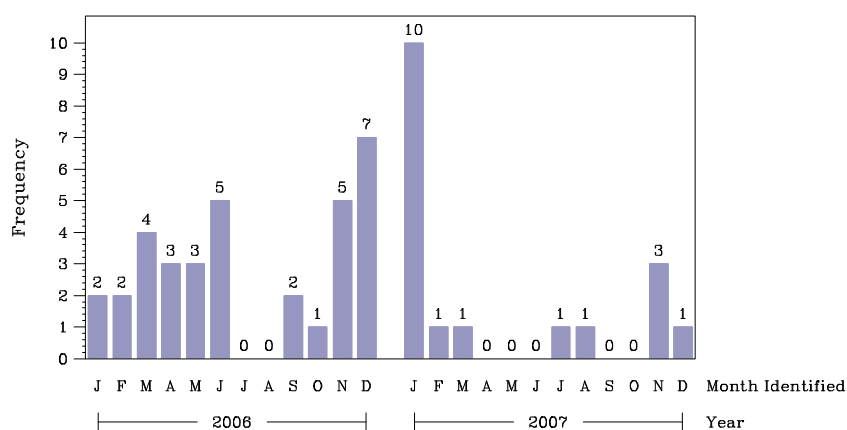
Notes on 2007 Surveillance Data

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, and the highest rates of campylobacteriosis in San Francisco occur in children under five years of age. Since 1990, rates of campylobacteriosis have generally been decreasing, most precipitously among children under five years of age (310.0 in the 1990-1992 period; 79.9 in the 2005-2007 period). The overall incidence rate of campylobacteriosis in 2007 is similar to 2006 (2007: n=308, rate = 38 cases per 100,000 2006: n=303, rate = 38 cases per 100,000 residents).
- ***Encephalitides:*** Encephalitis is a clinician-reported disease. Increased reporting since 1998 is likely due to the formation of California Encephalitis Project and enhanced surveillance by SFDPH for West Nile virus (WNV) infections. The California Encephalitis Project is a California Department of Public Health Viral & Rickettsial Disease Laboratory (VRDL) and Centers for Disease Control and Prevention (CDC) Emerging Infections Program (EIP) study which aims to better understand human encephalitis, including causative agents, disease trends, risk factors, and clinical features. 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, laboratories 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 has continued in 2006 (n=14, rate = 1.7 per 100,000) and 2007 (n=18, rate=2.2 per 100,000). Testing for LD continues to be a problem as some commercial labs use assays whose accuracy and usefulness has not been adequately established.⁷ Sixteen of the 18 cases in 2007 had known travel histories to endemic areas during their presumed incubation period. Ten of the 18 cases in 2007 had a known tick exposure; for seven of these, the tick bites were known to have occurred outside San Francisco.
- ***Meningococcal Infection:*** The number of meningococcal infections increased from 9 in 2006 to 21 (rate=2.6 per 100,000) in 2007. The reason for this increase is unclear; the cases reported were sporadic cases, unrelated in a cluster or outbreak.
- ***Outbreaks:*** In 2007, CDCU identified and investigated 41 communicable disease outbreaks; 21 (51%) were suspected or confirmed to be caused by noroviruses, 15 (37%) were of unknown etiology, while the others included 1 outbreak each of campylobacteriosis, influenza, respiratory syncytial virus (RSV), and scabies. Thirteen of the 41 outbreaks (32%) were believed to be foodborne, while 24 of the 41 outbreaks were believed to be non-foodborne related acute gastroenteritis outbreaks. Eighteen non-foodborne outbreaks of norovirus were recognized in 2007 (n=18), less than in 2006 (n=34). While the greatest concentration of these outbreaks (33%) was recorded in December 2006 and January 2007, they occurred throughout the seasons (Fig. 1). Non-foodborne outbreaks of norovirus resulted in an average of 20 illnesses per incident, most of which (89%) were reported in assisted living facilities or other providers of services to the elderly.



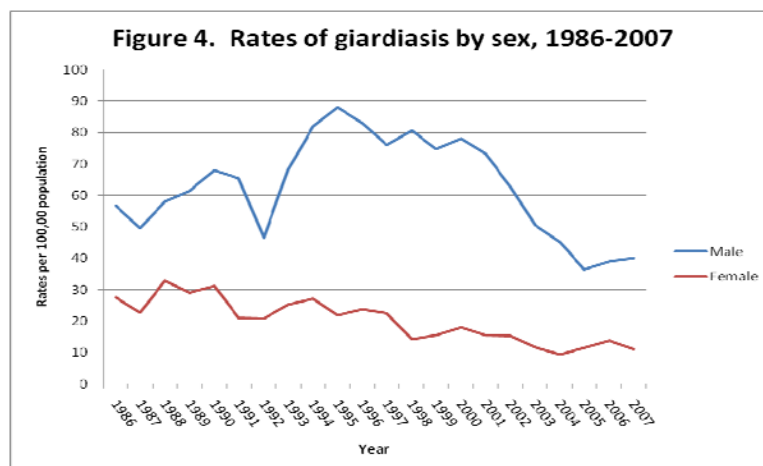
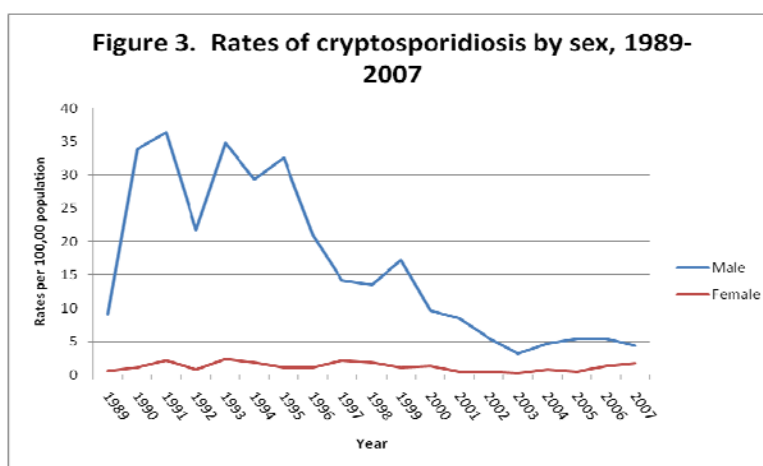
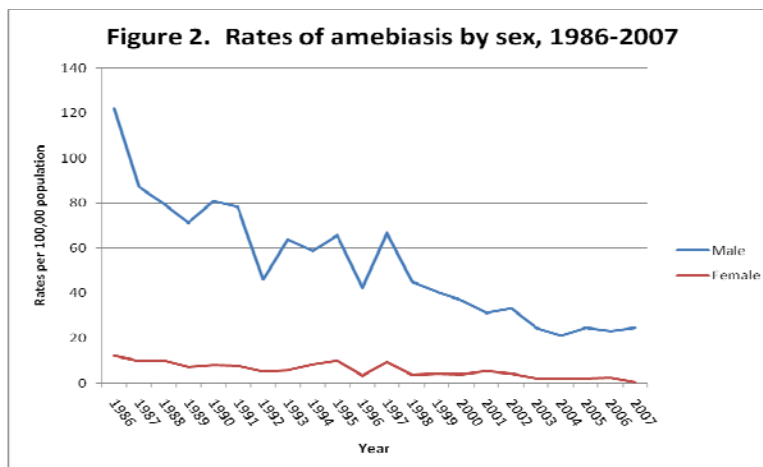
FIG. 1: Monthly Incidence of Non-Foodborne Norovirus Outbreaks in San Francisco, 2006–2007

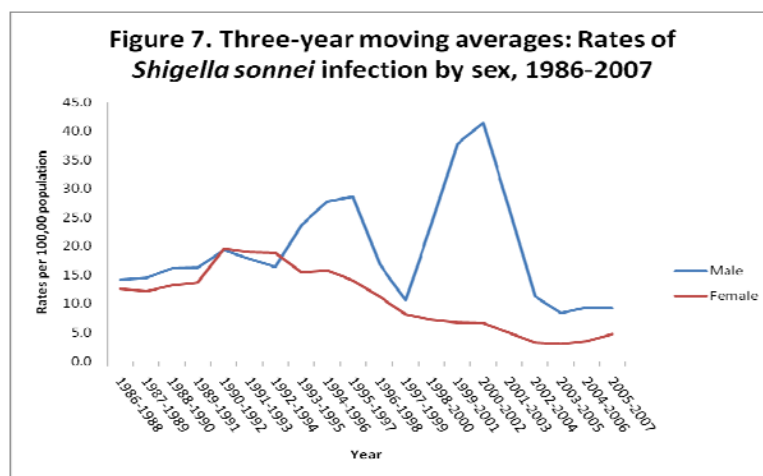
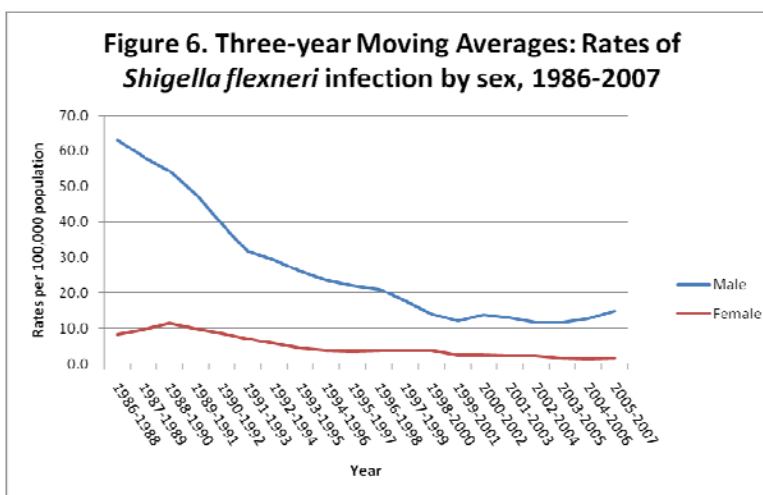
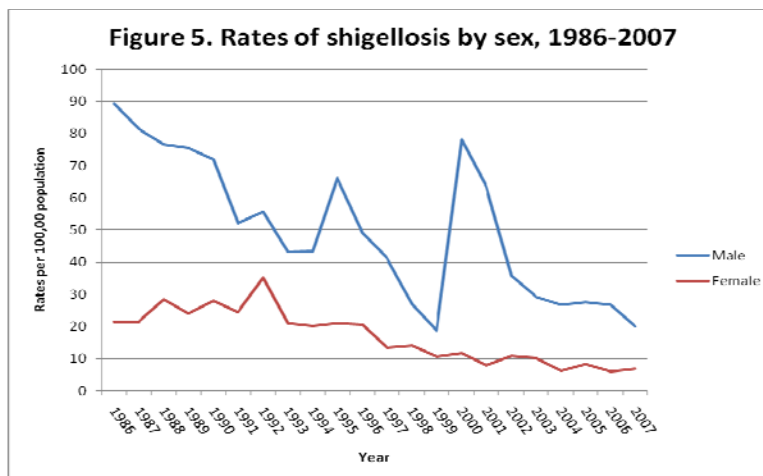


Note: Includes both suspected and confirmed norovirus outbreaks.

- Pertussis:*** In San Francisco, like California⁸ and the United States⁹, pertussis is endemic with epidemic cycles every three to four years. Reported pertussis cases decreased from 45 (5.7 cases per 100,000 residents) in 2005 to 35 (4.4 cases per 100,000 residents) in 2006 to 19 (2.4 cases per 100,000 residents) in 2007. Of the 19 cases reported in 2007, 11 (57.9%) occurred in people over aged nine years, which is similar to the percentage California reported for this same age group in 2005, 53%⁸. Pertussis has been increasing in California, the United States and San Francisco since the mid 1970s and the percentage of adolescents and adults that have been diagnosed with pertussis has also increased. It is unknown why rates of pertussis have increased, but theories include increased recognition and diagnosis, increased access to laboratory tests, introduction of new laboratory tests such as nucleic acid amplification tests, increased surveillance and reporting, as well as waning immunity following vaccination with the whole cell vaccine.^{8,9,10}
- Rabies, Bat:*** One rabid bat was detected in San Francisco in 2007. Bats present a risk of rabies exposure to humans and pets, especially when they are handled or enter homes where they can have contact with people or their pets.¹¹
- Salmonellosis:*** From 1986-2007, the highest rates of salmonellosis were in children under the age of five; however, rates have been decreasing in children under five years of age. In children aged one to four years, the incidence of salmonellosis cases decreased from 97.9 in the 1999-2001 period to 53.1 in the 2005-2007 period. In infants under 12 months of age, the incidence of salmonellosis cases decreased from 189.2 1999-2001 period to 86.1 in the 2005-2007 period.
- Sex Disparities in Amebiasis, Cryptosporidiosis, Giardiasis, and Shigellosis:*** Rates of amebiasis, giardiasis and shigellosis were significantly higher in males than females in 2007 and have been significantly higher in males for all years of existing data (1986-2007). Rates of cryptosporidiosis were higher in males than females for all years of existing data (1989-2006), except in 2007. In 2007, the rate of cryptosporidiosis in males was higher, but this was not significant. However, for all these diseases, the disparity between the rates of disease in males and females has decreased.







- West Nile Disease: No WNV infections were identified among San Francisco residents in 2007.

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TABLE 1: Frequency of Reportable Diseases in San Francisco, 2007

Disease	n	Rate
Amebiasis	103	12.8
Anthrax	0	0.0
Avian Influenza (H5N1) (Human) (1)	0	0.0
Babesiosis	0	0.0
Botulism (Foodborne)	0	0.0
Botulism (Infant) (2)	0	0.0
Botulism (Unspecified)	0	0.0
Botulism (Wound)	2	0.2 *
Brucellosis	0	0.0
Campylobacteriosis	308	38.3
Chickenpox, Severe (Death or Hosp.) (3)	1	0.1 *
Cholera (4)	0	0.0
Ciguatera Fish Poisoning	0	0.0
Coccidioidomycosis	8	1.0 *
Colorado Tick Fever	0	0.0
Creutzfeldt-Jakob Dis. or Other TSE (1,5)	0	0.0
Cryptosporidiosis	25	3.1
Cysticercosis or Taeniasis (6)	1	0.1 *
Dengue	4	0.5 *
Diphtheria	0	0.0
Domoic Acid Poisoning	0	0.0
E. coli O157:H7 Infection	11	1.4 *
Ehrlichiosis	0	0.0
Encephalitis (Arboviral)	0	0.0
Encephalitis (Bacterial)	0	0.0
Encephalitis (Fungal)	0	0.0
Encephalitis (Other Viral)	0	0.0
Encephalitis (Parasitic)	0	0.0
Encephalitis (Unspecified)	16	2.0 *
Encephalitis (Total)	16	2.0 *
Giardiasis	207	25.7
H. influenzae (Invasive) (7)	0	0.0
Hantavirus Infection	0	0.0
Hemolytic Uremic Syndrome	0	0.0
Hepatitis A	27	3.4
Hepatitis B (Acute) (8)	10	1.2 *
Hepatitis C (Acute)	0	0.0
Hepatitis Delta	0	0.0
Influenza, Pediatric Deaths (1,9)	0	0.0
Kawasaki Syndrome	2	0.2 *
Legionellosis	0	0.0
Leprosy	0	0.0
Leptospirosis	0	0.0
Listeriosis	3	0.4 *
Lyme Disease (10)	18	2.2 *
Malaria	7	0.9 *
Measles	0	0.0

Disease	n	Rate
Meningitis (Bacterial) (11)	4	0.5 *
Meningitis (Fungal)	4	0.5 *
Meningitis (Parasitic)	0	0.0
Meningitis (Unspecified)	2	0.2 *
Meningitis (Viral)	4	0.5 *
Meningitis (Total)	14	1.7 *
Meningococcal Infection (12)	21	2.6
Mumps	2	0.2 *
Outbreaks (Foodborne) (13)	13	N/A
Outbreaks (Non-Foodborne) (13)	28	N/A
Paralytic Shellfish Poisoning	0	0.0
Pertussis	19	2.4 *
Plague	0	0.0
Poliomyelitis	0	0.0
Psittacosis	0	0.0
Q Fever	0	0.0
Rabies (Animal) (14)	2	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) (2)	0	0.0
Salmonellosis (15)	124	15.4
Scombroid Fish Poisoning	2	0.2 *
Severe Acute Respir. Syndr. (SARS) (10)	0	0.0
Shiga toxin prod. E. coli (STEC) Infect. (16)	3	0.4 *
Shigellosis (Group B: S. flexneri)	70	8.7
Shigellosis (Group D: S. sonnei)	38	4.7
Shigellosis (Other Group)	1	0.1 *
Shigellosis (Total)	109	13.5
Smallpox (17)	0	0.0
Streptococcal Infection (18)	0	0.0
Tetanus	0	0.0
Toxic Shock Syndrome	2	0.2 *
Toxoplasmosis	0	0.0
Trichinosis	0	0.0
Tularemia	0	0.0
Typhoid Carrier (19)	0	0.0
Typhoid Fever (Acute) (19)	0	0.0
Typhus Fever	0	0.0
Vibriosis (Non-Cholera) (4)	4	0.5 *
Viral Hemorrhagic Fever (20)	0	0.0
West Nile Disease (10)	0	0.0
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. (1) Reportable since June 2007. (2) Rate among residents age <1 yr. (3) Chickenpox (not varicella) specified and hospitalizations reportable since June 2007. (4) Cholera caused by *Vibrio cholerae* serogroup O1/O139. Vibriosis caused by other *V. cholerae* serogroups (non-O1/O139) and other *Vibrio* spp. (5) TSE = transmissible spongiform encephalopathies (e.g., vCJD, kuru). (6) Taeniasis reportable since June 2007. (7) Reportable in <15 yrs; rate for residents aged <15 yrs. (8) Includes perinatal cases. (9) Reportable among <18 yrs; rate for residents <18 yrs. (10) West Nile Disease and SARS reportable since June 2005; Lyme Disease has been clinician-reportable since 1989, and is now also lab-reportable since June 2005. (11) Excludes meningitis caused by *Neisseria meningitidis*, which is listed separately as Meningococcal Infections. (12) Caused by *Neisseria meningitidis* and includes meningitis and meningococemia. (13) Foodborne OB is >=4 illnesses with common exposure; other OBs defined by increase in cases above expected number. (14) Rabid bat only; no documented rabid terrestrial animal in SF for >60 yrs. (15) Excludes *S. Typhi*, which causes typhoid fever. (16) Non-O157:H7 STEC infections reportable since Oct 2006. (17) Eradicated in 1979; reportable again since 2001 for bioterror surveillance. (18) Individual foodhandlers and dairy workers only. (19) Caused by *S. Typhi*. (20) Includes filoviruses (e.g., Ebola, Marburg), arenaviruses (e.g., Lassa fever), bunyaviruses (e.g., Crimean-Congo), and flaviruses (e.g., Omsk).

TABLE 2: Frequency and Unadjusted Rates for 7 Selected Diseases by Age, San Francisco, 2007

Year	Age	Amebiasis				Campylobacteriosis				Cryptosporidiosis			
		n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL
2007	<1 yr	0	0.0*			6	63.2*	23.2	137.5	0	0.0*		
	1-4 yrs	0	0.0*			37	107.7	75.9	148.5	0	0.0*		
	5-14 yrs	1	1.5*	0.0	8.6	29	44.7	29.9	64.1	2	3.1*	0.4	11.1
	15-24 yrs	4	6.2*	1.7	16.0	19	29.6*	17.8	46.3	0	0.0*		
	25-34 yrs	16	12.1*	6.9	19.7	67	50.8	39.3	64.5	9	6.8*	3.1	12.9
	35-44 yrs	42	23.4	16.9	31.6	56	31.2	23.6	40.5	6	3.3*	1.2	7.3
	45-54 yrs	34	29.0	20.1	40.5	27	23.0	15.2	33.5	6	5.1*	1.9	11.1
	55-64 yrs	5	5.5*	1.8	12.8	33	36.2	24.9	50.8	1	1.1*	0.0	6.1
	65+ yrs	1	0.9*	0.0	5.0	33	29.6	20.3	41.5	1	0.9*	0.0	5.0
	Total	103	12.8	10.4	15.5	308	38.3	34.1	42.8	25	3.1	2.0	4.6

Year	Age	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL
2007	<1 yr	0	0.0*			2	21.1*	2.6	76.1	7	73.7*	29.6	151.8
	1-4 yrs	9	26.2*	12.0	49.8	1	2.9*	0.1	16.2	29	84.4	56.6	121.3
	5-14 yrs	12	18.5*	9.5	32.3	5	7.7*	2.5	18.0	7	10.8*	4.3	22.2
	15-24 yrs	14	21.8*	11.9	36.6	4	6.2*	1.7	16.0	12	18.7*	9.7	32.7
	25-34 yrs	36	27.3	19.1	37.8	4	3.0*	0.8	7.8	17	12.9*	7.5	20.6
	35-44 yrs	62	34.5	26.5	44.3	1	0.6*	0.0	3.1	16	8.9*	5.1	14.5
	45-54 yrs	52	44.3	33.1	58.1	2	1.7*	0.2	6.2	7	6.0*	2.4	12.3
	55-64 yrs	16	17.5*	10.0	28.5	0	0.0*			13	14.3*	7.6	24.4
	65+ yrs	5	4.5*	1.5	10.5	0	0.0*			16	14.3*	8.2	23.3
	Total	207	25.7	22.3	29.5	19	2.4*	1.4	3.7	124	15.4	12.8	18.4

Year	Age	Shigellosis (Total)				Shigellosis (flexneri)				Shigellosis (sonnei)			
		n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL
2007	<1 yr	0	0.0*			0	0.0*			0	0.0*		
	1-4 yrs	7	20.4*	8.2	42.0	1	2.9*	0.1	16.2	6	17.5*	6.4	38.0
	5-14 yrs	4	6.2*	1.7	15.8	1	1.5*	0.0	8.6	3	4.6*	1.0	13.5
	15-24 yrs	10	15.6*	7.5	28.7	7	10.9*	4.4	22.5	3	4.7*	1.0	13.7
	25-34 yrs	23	17.4	11.0	26.1	14	10.6*	5.8	17.8	8	6.1*	2.6	11.9
	35-44 yrs	41	22.8	16.4	31.0	27	15.0	9.9	21.9	14	7.8*	4.3	13.1
	45-54 yrs	17	14.5*	8.4	23.2	14	11.9*	6.5	20.0	3	2.6*	0.5	7.5
	55-64 yrs	3	3.3*	0.7	9.6	3	3.3*	0.7	9.6	0	0.0*		
	65+ yrs	3	2.7*	0.6	7.9	2	1.8*	0.2	6.5	1	0.9*	0.0	5.0
	Total	109	13.5	11.1	16.3	70	8.7	6.8	11.0	38	4.7	3.3	6.5

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, 2007

Year	Sex	Amebiasis				Campylobacteriosis				Cryptosporidiosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	Male	101	24.6	20.1	29.9	174	42.4	36.4	49.2	18	4.4*	2.6	6.9
	Female	2	0.5*	0.1	1.8	134	34.0	28.4	40.2	7	1.8*	0.7	3.7
	Unk	0				0				0			
	Total	103	12.8	10.4	15.5	308	38.3	34.1	42.8	25	3.1	2.0	4.6

Year	Sex	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	Male	164	40.0	34.1	46.6	5	1.2*	0.4	2.8	53	12.9	9.7	16.9
	Female	43	10.9	7.9	14.7	14	3.5*	1.9	6.0	71	18.0	14.1	22.7
	Unk	0				0				0			
	Total	207	25.7	22.3	29.5	19	2.4*	1.4	3.7	124	15.4	12.8	18.4

Year	Sex	Shigellosis (Total)				Shigellosis (flexneri)				Shigellosis (sonnei)			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	Male	82	20.0	15.9	24.8	64	15.6	12.0	19.9	18	4.4*	2.6	6.9
	Female	27	6.8	4.5	10.0	6	1.5*	0.6	3.3	20	5.1	3.1	7.8
	Unk	0				0				0			
	Total	109	13.5	11.1	16.3	70	8.7	6.8	11.0	38	4.7	3.3	6.5

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, 2007

Year	Race/ Ethnicity	Amebiasis				Campylobacteriosis				Cryptosporidiosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	White	73	20.3	15.9	25.6	95				11	3.1*	1.5	5.5
	Black	3	5.2*	1.1	15.3	4				2	3.5*	0.4	12.6
	Asian/PI	1	0.4*	0.0	2.1	57				2	0.8*	0.1	2.7
	Hispanic	14	12.0*	6.6	20.2	22				4	3.4*	0.9	8.8
	Am Indian	0	0.0*			0				0	0.0*		
	Other	1				2				1			
	Unknown	11				128				5			
	Total	103	12.8	10.4	15.5	308				25	3.1	2.0	4.6

Year	Race/ Ethnicity	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	White	122	34.0	28.2	40.6	14	3.9*	2.1	6.5	41	11.4	8.2	15.5
	Black	11	19.1*	9.6	34.2	0	0.0*			7	12.2*	4.9	25.1
	Asian/PI	6	2.3*	0.8	4.9	1	0.4*	0.0	2.1	43	16.2	11.8	21.9
	Hispanic	24	20.7	13.2	30.7	3	2.6*	0.5	7.5	19	16.4*	9.8	25.5
	Am Indian	0	0.0*			0	0.0*			2	28.8*	3.5	103.9
	Other	3				0				2			
	Unknown	41				1				10			
	Total	207	25.7	22.3	29.5	19	2.4*	1.4	3.7	124	15.4	12.8	18.4

Year	Race/ Ethnicity	Shigellosis (Total)				Shigellosis (flexneri)				Shigellosis (sonnei)			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2007	White	62	17.3	13.2	22.1	44	12.2	8.9	16.4	17	4.7*	2.8	7.6
	Black	1	1.7*	0.0	9.7	0	0.0*			1	1.7*	0.0	9.7
	Asian/PI	1	0.4*	0.0	2.1	1	0.4*	0.0	2.1	0	0.0*		
	Hispanic	26	22.4	14.6	32.8	14	12.0*	6.6	20.2	12	10.3*	5.3	18.0
	Am Indian	0	0.0*			0	0.0*			0	0.0*		
	Other	0				0				0			
	Unknown	19				11				8			
	Total	109	13.5	11.1	16.3	70	8.7	6.8	11.0	38	4.7	3.3	6.5

Source: SFPDPH Communicable Disease Control Unit. Data shown by year cases reported to SFPDPH. 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.
 Rates were not calculated for Campylobacteriosis, because of the high percentage of missing race and ethnicity information.

TABLE 5: San Francisco Population Estimates by Sex, Age and Race/Ethnicity, 2007

Year	Sex	Age	White	Hispanic	Black	Asian/PI	Am Indian	Total
2007	FEMALE	<1 yr	3,041	516	177	896	29	4,659
		1-4 yrs	10,735	1,992	694	3,322	109	16,852
		5-14 yrs	8,451	7,776	3,421	11,510	548	31,706
		15-24 yrs	6,806	6,591	3,830	13,928	370	31,525
		25-34 yrs	30,403	9,418	3,885	21,898	561	66,165
		35-44 yrs	43,395	9,939	4,267	23,412	599	81,612
		45-54 yrs	21,427	7,172	4,354	20,160	417	53,530
		55-64 yrs	19,514	4,708	3,354	17,113	313	45,002
		65+ yrs	24,150	6,751	4,912	27,430	353	63,596
			167,922	54,863	28,894	139,669	3,299	394,647
	MALE	<1 yr	3,160	534	185	929	31	4,839
		1-4 yrs	11,157	2,064	722	3,432	114	17,489
		5-14 yrs	8,988	8,306	3,464	11,908	561	33,227
		15-24 yrs	6,875	6,991	3,789	14,568	349	32,572
		25-34 yrs	29,448	12,125	3,466	20,197	574	65,810
		35-44 yrs	56,913	13,802	4,813	21,569	793	97,890
		45-54 yrs	31,243	8,565	5,031	18,432	562	63,833
		55-64 yrs	23,243	4,643	3,688	14,284	356	46,214
		65+ yrs	20,241	4,301	3,420	19,753	314	48,029
		191,268	61,331	28,578	125,072	3,654	409,903	
2007		359,190	116,194	57,472	264,741	6,953	804,550	

Source: California Department of Finance, Demographic Research Unit.

Note: Am Indian=American Indian/Alaska Native; Asian/PI=Asian/Pacific Islander.