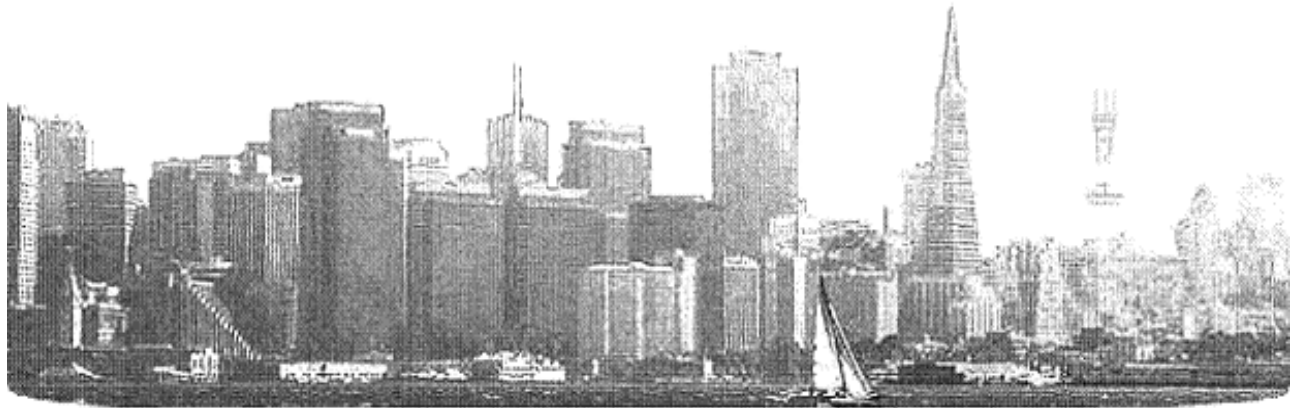


Annual Report of Communicable Diseases in San Francisco

2008



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January 2010

This annual report summarizes notifiable disease reports received by the Communicable Disease Control Unit (CDCU) of the San Francisco Department of Public Health (SFDPH) during 2008. 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 (HIV), acquired immunodeficiency syndrome (AIDS) and sexually transmitted diseases (STDs) which are managed, respectively, by Tuberculosis Control, AIDS Office and STD Prevention and Control. 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.sfcddcp.org> for historical context of disease incidence in San Francisco.

Contents

I. Methods and Definitions	2
II. Notes on 2008 Surveillance Data	6
a. Figure 1. Monthly Incidence of Non-Foodborne Norovirus Outbreaks in San Francisco, 2007-2008.	7
b. Figure 2. Three-year moving averages: Rates of amebiasis by sex, 1986-2008.	8
c. Figure 3. Rates of giardiasis by sex, 1986-2008.	9
d. Figure 4. Rates of shigellosis by sex, 1986-2008.	9
e. Figure 5. Three-year moving averages: Rates of cryptosporidiosis by sex, 1989-2008	10
III. TABLE 1: Frequency of Reportable Diseases in San Francisco, 2008	11
IV. TABLE 2: Frequency and Unadjusted Rates for 7 Selected Diseases by Age, San Francisco, 2008	12
V. TABLE 3: Frequency and Unadjusted Rates for 7 Selected Diseases by Sex, San Francisco, 2008	13
VI. TABLE 4: Frequency and Unadjusted Rates for 7 Selected Diseases by Race/Ethnicity, San Francisco, 2008	14
VII. TABLE 5: San Francisco Population Estimates by Sex, Age and Race/Ethnicity, 2008	15

Citation

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Suggested Citation:

Communicable Disease Control & Prevention Section. *Annual Report of Communicable Diseases in San Francisco, 2008* [Internet]. San Francisco, California: San Francisco Department of Public Health; 2010 January. 17 pp. Available from: <http://www.sfcddcp.org>

Acknowledgements

This report was prepared by Sara Ehlers, MPH, with contributions from Melissa Sanchez, PhD and Diane Portnoy, MPH. Other staff of the Communicable Disease Control and Prevention Section (Ishmael Bihl, Robin Buckley, Jorge Córdoba, Stacey Davis, MPH, Quijuan Maloof, Josephine Muir, Marijoyce Naguit, Dan Rosenbaum, Lucy Wu, and Joyce Ycasas, MPH), as well as Michelle Kirian, MPH, of the Environmental Health Section and staff of the California Emerging Infections Program, are recognized for their crucial efforts to collect data. Laboratories, clinicians, and providers reported data. Joseph Arceno, MPH assisted with cleaning the data. Jackvin Ng developed, managed and supported the surveillance data systems.



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



Methods and Definitions

Data Collection

This report includes disease incidents reported to SFPDPH from January 1, 2008 through December 31, 2008. 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 disease or 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 Prevention and Control, and Tuberculosis Control) are presented in this report:

Acquired Immune Deficiency Syndrome (AIDS)	Hepatitis C, chronic
Chancroid	Human Immunodeficiency Virus (HIV)
Chlamydial Infections (excluding <i>Chlamydia pneumoniae</i>)	Pelvic Inflammatory Disease (PID)
Gonococcal Infections	Syphilis
Hepatitis B, chronic	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 DOF estimates are based on the U.S. Census counts. This report uses DOF 2007 estimates; previous reports, including the *2007 Annual Report of Communicable Diseases in San Francisco*, used 2004 estimates.

In 2000, the United States Census Bureau began allowing multiple race designations for its decennial population census; therefore, the California DOF population estimates also include an additional race category, Multiple Race. Because CDCU only collects 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 no cases of reportable conditions in 2008. Only 11 reportable cases were missing age information. The frequency of cases with missing or unknown sex or race/ethnicity information was included in the tables.



Notifiable Disease Definitions

The diseases required to be reported to public health and disease definitions can change over time. Changes in disease definitions can impact the numbers of cases of disease reported to the SFDPH. Important clarifications for 2008 are described below:

California Notifiable Disease Definitions and Changes for 2008

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.
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.
Meningococcal Infection	are <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.
Salmonellosis	includes the more than 2,500 recognized serotypes of <i>Salmonella</i> spp., excluding <i>S. Typhi</i> , which causes typhoid fever.
Severe <i>Staphylococcus aureus</i>	Severe <i>Staphylococcus aureus</i> infection in a “previously healthy person” has been a reportable condition in California since February 13, 2008. For the purposes of surveillance, a severe infection is defined as one resulting in death or admission to an intensive care unit, and a previously healthy person is defined as one who has not been hospitalized or had surgery, dialysis, or residency in a long-term care facility in the past year and did not have an indwelling catheter or percutaneous medical device at the onset of illness. A <i>S. aureus</i> infection in a person without these healthcare-associated risk factors would be considered community-associated.
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.
Streptococcal Infection	Individual cases of streptococcal infection are reportable only if diagnosed in foodhandlers or dairy workers.
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, three-year moving averages 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 2008, there were 157 female cases of campylobacteriosis in San Francisco. The estimated number of female residents in 2008 was 394,294. Accordingly, the incidence among females was:

$$IR_{Campy2008\ Females} = \left(\frac{157}{394,294} \right) \times 100,000 = 39.8 \text{ cases per } 100,000 \text{ population .}$$

Reliability of Rates

With rare diseases or with 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 differences 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 2008, there were 375 cases of campylobacteriosis cases reported in San Francisco and 11 cases of vibriosis in 2008. Accordingly, the relative standard errors for campylobacteriosis and vibriosis are:

$$RSE_{Campy2008} = \left(\sqrt{\frac{1}{375}} \right) \times 100 = 5.2\%$$

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

$$RSE_{Vibrio2008} = \left(\sqrt{\frac{1}{11}} \right) \times 100 = 30.2\%$$

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

Exact Confidence Limits

95% Exact Confidence Intervals (95% CI) for incidence rates were approximated from the gamma distribution.⁶ Confidence limits were rounded 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 2008, the rate of giardiasis in residents 25-34 years of age was 25.2 cases per 100,000 people (95% CI=17.9-34.4). This confidence interval indicates that the true giardiasis rate in residents aged 25-34 years is



likely to lie somewhere between 17.9 and 34.4 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 narrow confidence interval. Using 2008 giardiasis cases as an example, consider the difference between incidence among residents 1-4 years of age (rate=14.9, 95% CI=4.9-34.9) 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 the calculation of moving averages. This approach can be used to compare across populations or to compare across time when the two time periods do not overlap. Calculating three-year moving averages involved summing the numerator and denominator over a three year period and dividing by three.

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 was required 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 2008). 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 2008. From TABLE 2, it is known that 9 cases were <1 year of age and 21 cases were 1-4 years of age. Similarly, the number of San Francisco residents in 2008 can be found in TABLE 5:

	<i>Female</i>	<i>Male</i>
<1 yr	4,386	4,556
1-4 yrs	16,415	17,043

Thus, the total number of cases <5 years of age = $(9 + 21) = 30$ and

the total population <5 years of age = $(4,386 + 16,415 + 4,556 + 17,043) = 42,400$ and

the rate of salmonellosis = $\left(\frac{30}{42,400}\right) \times 100,000 = 70.8$ cases per 100,000 population .



Notes on 2008 Surveillance Data

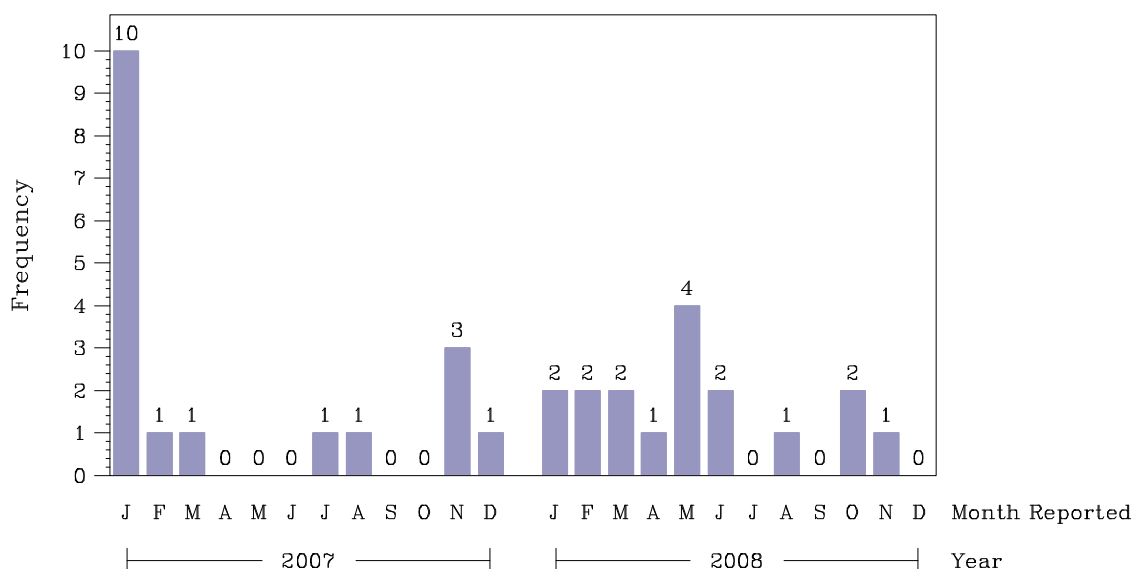
The following notes are intended to aid in the interpretation of reported cases of selected diseases.

- ***Campylobacteriosis***: The incidence rate of campylobacteriosis in San Francisco (n=375, rate=46.3 cases per 100,000 residents) is higher than in any other California county and, consequently, higher than the overall rate in California (n=5548; rate=14.5 cases per 100,000 population).⁷ *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 cases per 100,000 residents under five years of age in the 1990-1992 period; 92.0 cases per 100,000 residents under five years of age in the 2006-2008 period). The overall incidence rate of campylobacteriosis in 2008 was higher than the rate in 2007 (2008: n=375, rate=46.3 cases per 100,000 residents; 2007: n=308, rate = 38 cases per 100,000 residents). Between 2007 and 2008, the number of cases among 15-24 year olds more than doubled, and the rate increased significantly [n=19, rate=29.6 (95% CI: 17.8-46.3) in 2007; n=47, rate=79.2 (95% CI: 58.2- 105.3) in 2008].
- ***Lyme Disease (LD)***: Since 1989, LD has been a clinician-reported disease, and in June 2005, laboratories became legally required to report cases of LD to SFPDPH. Laboratory testing for LD is and continues to be problematic, because some commercial labs use assays whose accuracy and usefulness has not been adequately established.⁸ With the implementation of laboratory reporting in 2005, the number of LD cases increased and continued increasing in 2006 (n=14, rate = 1.7 cases per 100,000 residents) and 2007 (n=18, rate=2.2 cases per 100,000 residents). In 2008, SFPDPH applied the 2008 Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CDC) LD case definition; subsequently, the number of LD cases decreased (2008: n=7, rate=0.9 cases per 100,000 residents). All seven cases in 2008 had known travel histories to or lived in endemic areas during their presumed incubation period. Two of the seven cases in 2008 had a known tick exposure; for both, the tick bites were known to have occurred outside San Francisco.
- ***Outbreaks***: In 2008, CDCU identified and investigated a total of 42 communicable disease outbreaks.
 - Etiology: Of all reported outbreaks, 38 (90%) had a suspected or confirmed etiology: 19 (45%) were caused by noroviruses, 8 (19%) by influenza, 5 by hand, foot and mouth disease (HFMD)*, 2 by pertussis and 1 each by *Clostridium perfringens*, chicken pox, respiratory syncytial virus (RSV), and scabies. Four outbreaks (10%), all of which were gastrointestinal illness, were caused by an unknown etiology.
 - Gastrointestinal Illness Outbreaks: 24 of the 42 (57%) outbreaks were gastrointestinal illness outbreaks.
 - Four of the 24 outbreaks (17%) were believed to be foodborne; of the four foodborne outbreaks, two were outbreaks of confirmed or suspected norovirus.
 - Twenty of the 24 outbreaks (83%) were believed to be non-foodborne related acute gastroenteritis outbreaks; of these, 17 were outbreaks of confirmed or suspected norovirus. Non-foodborne outbreaks of norovirus occurred throughout the year (Figure 1) and resulted in an average of 24 illnesses per incident; most (65%) were reported in providers of housing services for the elderly.

*During 2008, a large outbreak of enterovirus 71 (EV 71), one of several enteroviruses that cause HFMD, occurred in China, which led to enhanced surveillance in California.



Figure 1. Monthly Incidence of Non-Foodborne Norovirus Outbreaks in San Francisco, 2007–2008



Note: Includes both suspected and confirmed norovirus outbreaks.

- Pertussis:*** In San Francisco, as in California⁹ and the United States¹⁰, 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 to 15 (1.9 cases per 100,000 residents) in 2008. Of the 15 cases reported in 2008, 9 (60%) occurred in people over the age of nine years, which is similar to the percentage California reported for this same age group in 2005, 53%.⁹ 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.^{9,10,11}
- Rabies, Bat:*** Four rabid bats were detected in San Francisco in 2008. 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.¹²
- Salmonellosis:*** From 1986-2008, 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 the age of one to four years, the incidence of salmonellosis cases decreased from 97.9 cases per 100,000 residents in the 1999-2001 period to 62.1 cases per 100,000 residents in the 2006-2008 period. In infants under 12 months of age, the incidence of salmonellosis cases decreased from 189.2 per 100,000 residents in the 1999-2001 period to 87.7 per 100,000 residents in the 2006-2008 period.
- Shigellosis:*** Between 2007 and 2008, the rate of shigellosis among San Francisco residents decreased from 13.5 cases per 100,000 residents (95% CI: 11.1-16.3) in 2007 to 8.9 per 100,000 residents (95% CI: 7.0- 11.2) in 2008. This decrease was not statistically significant.
- Typhoid Fever:*** Typhoid fever is uncommon in San Francisco and the United States but is endemic in developing countries. Of the estimated 400 cases in the US per year, approximately 75% are related to international travel.¹³ From 1986-2008, 86 cases of typhoid fever were reported among San Francisco residents.



Numbers of reported typhoid fever cases have been low in San Francisco, ranging from 0-12 cases per year; the average number of cases reported per year for this time period is 3.7 cases. In 2008, four cases of typhoid fever were reported; only one of the cases reported a history of international travel.

- *Severe Staphylococcus aureus*: Severe *S. aureus* surveillance data may be underreported for many reasons, including the following: 2008 is the first year of reporting for this disease, a passive surveillance system is used to collect data, lack of awareness about the new reporting regulation, and ambiguous case definition. See the California Department of Public Health Memorandum, “CA EPI 09-02: Severe *Staphylococcus aureus* Infections, Community-Associated, First Year of Reporting, 2008-09,” for more information, available at <http://www.cdph.ca.gov/HealthInfo/discond/Documents/SevereSAInfCommAssoc1stYrRpting.pdf> (Accessed Nov 13, 2009).
- *Sex Disparities in Amebiasis, Cryptosporidiosis, Giardiasis, and Shigellosis*: Rates of amebiasis, giardiasis and shigellosis were significantly higher in males than females in 2008 and have been significantly higher in males for all years of existing data (1986-2008) (Figures 2, 3, 4). Rates of cryptosporidiosis were significantly higher in males than females for all years of existing data (1989-2006), except in 2007 and 2008. In 2007 and 2008, the rate of cryptosporidiosis in males was higher, but this was not significant (Figure 5). However, for all of these diseases, the disparity between the rates of disease in males and females has decreased.

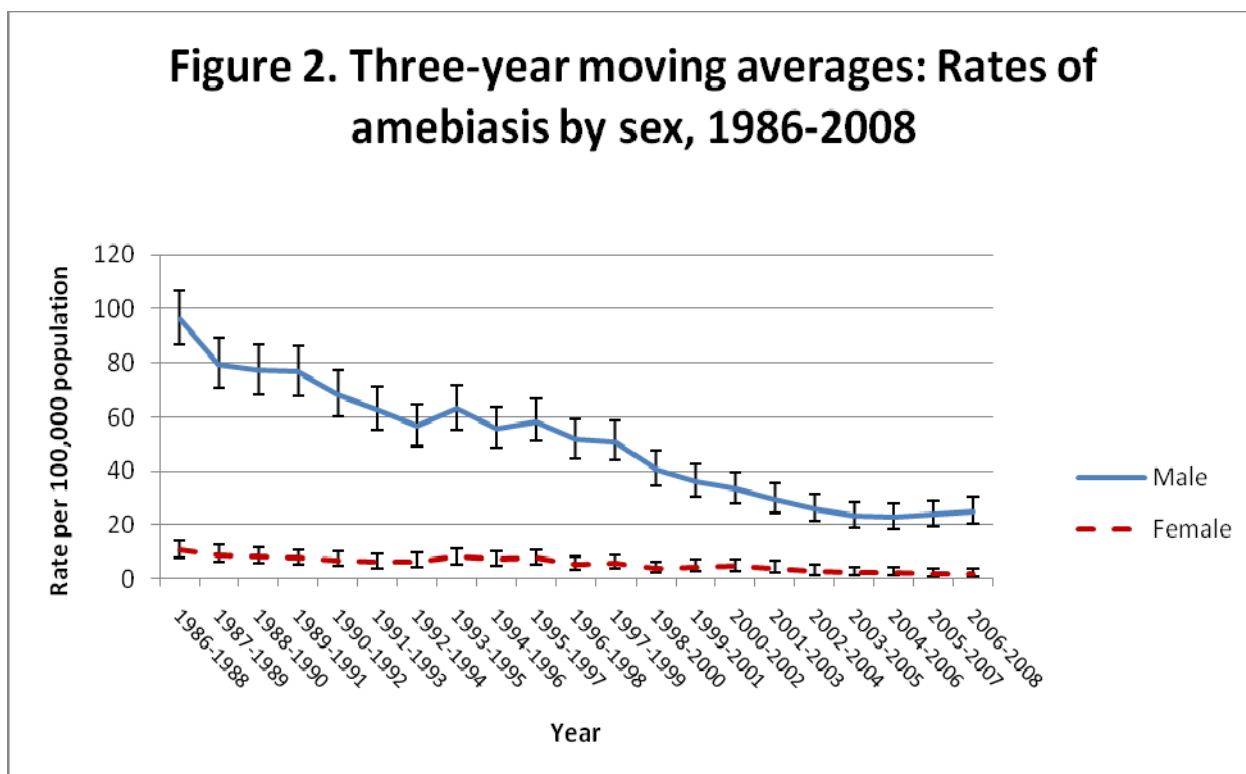


Figure 3. Rates of giardiasis by sex, 1986-2008

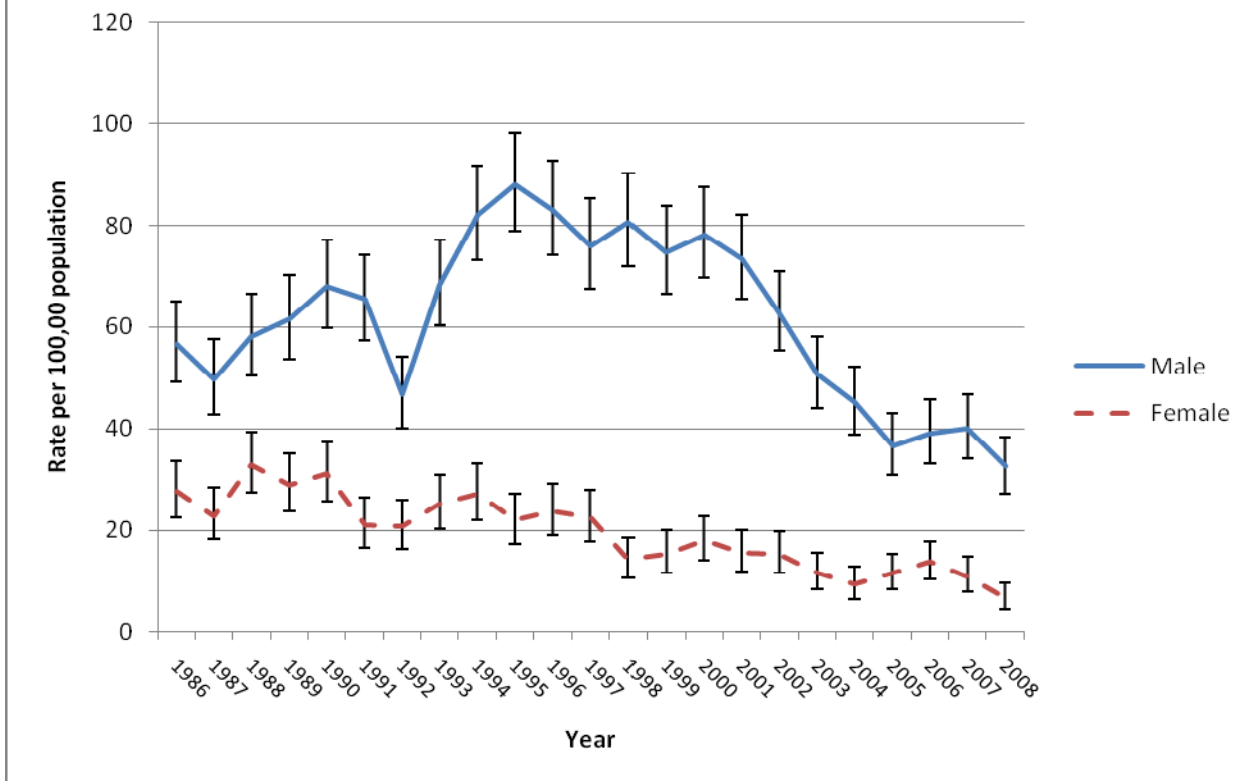
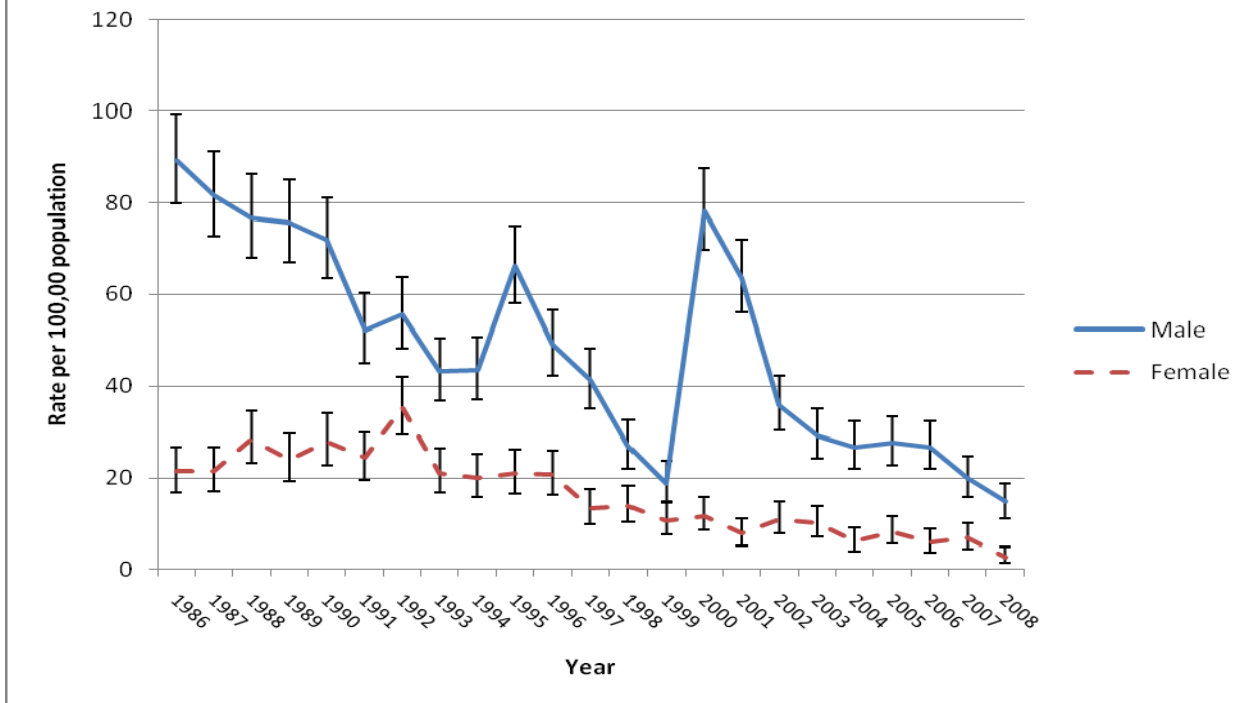
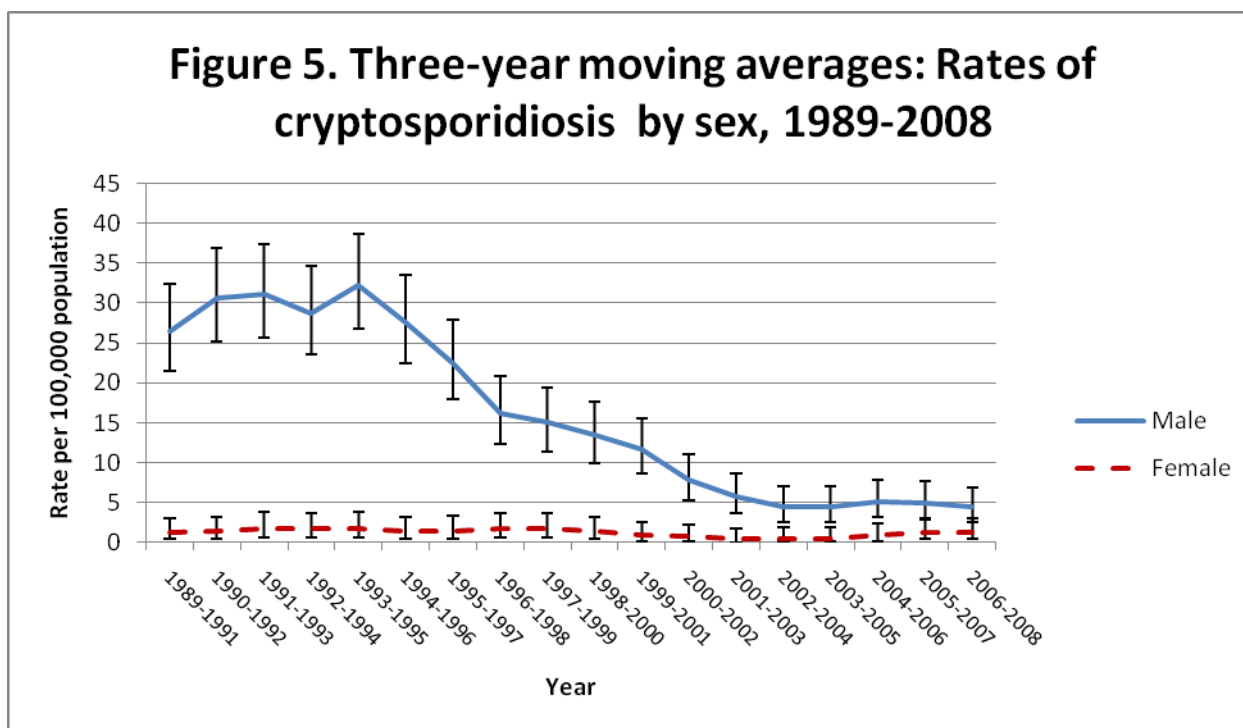


Figure 4. Rates of shigellosis by sex, 1986-2008





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TABLE 1: Frequency of Reportable Diseases in San Francisco, 2008

Disease	n	Rate
Amebiasis	123	15.2
Anthrax	0	0.0
Avian Influenza (H5N1) (Human) (1)	0	0.0
Babesiosis	0	0.0
Botulism (Foodborne)	1	0.1 *
Botulism (Infant) (2)	0	0.0
Botulism (Unspecified)	0	0.0
Botulism (Wound)	0	0.0
Brucellosis	0	0.0
Campylobacteriosis	375	46.3
Chickenpox, Severe (Death or Hosp.) (3)	0	0.0
Cholera (4)	0	0.0
Ciguatera Fish Poisoning	0	0.0
Coccidioidomycosis	2	0.2 *
Colorado Tick Fever	0	0.0
Creutzfeldt-Jakob Dis. or Other TSE (1,5)	1	0.1 *
Cryptosporidiosis	17	2.1 *
Cysticercosis or Taeniasis (6)	0	0.0
Dengue	4	0.5 *
Diphtheria	0	0.0
Domoic Acid Poisoning	0	0.0
E. coli O157:H7 Infection	6	0.7 *
Ehrlichiosis	0	0.0
Encephalitis (Arboviral)	0	0.0
Encephalitis (Bacterial)	0	0.0
Encephalitis (Fungal)	0	0.0
Encephalitis (Other Viral)	3	0.4 *
Encephalitis (Parasitic)	0	0.0
Encephalitis (Unspecified)	16	2.0 *
Encephalitis (Total)	19	2.3 *
Giardiasis	161	19.9
H. influenzae (Invasive) (7)	0	0.0
Hantavirus Infection	0	0.0
Hemolytic Uremic Syndrome	0	0.0
Hepatitis A	11	1.4 *
Hepatitis B (Acute) (8)	12	1.5 *
Hepatitis C (Acute)	0	0.0
Hepatitis Delta	0	0.0
Influenza, Pediatric Deaths (1,9)	0	0.0
Kawasaki Syndrome	0	0.0
Legionellosis	4	0.5 *
Leprosy	0	0.0
Leptospirosis	0	0.0
Listeriosis	3	0.4 *
Lyme Disease (10)	7	0.9 *
Malaria	4	0.5 *
Measles	1	0.1 *

Disease	n	Rate
Meningitis (Bacterial) (11)	5	0.6 *
Meningitis (Fungal)	2	0.2 *
Meningitis (Parasitic)	0	0.0
Meningitis (Unspecified)	0	0.0
Meningitis (Viral)	3	0.4 *
Meningitis (Total)	10	1.2 *
Meningococcal Infection (12)	17	2.1 *
Mumps	0	0.0
Outbreaks (Foodborne) (13)	4	N/A
Outbreaks (Non-Foodborne) (13)	38	N/A
Paralytic Shellfish Poisoning	0	0.0
Pertussis	15	1.9 *
Plague	0	0.0
Poliomyelitis	0	0.0
Psittacosis	0	0.0
Q Fever	1	0.1 *
Rabies (Animal) (14)	4	N/A
Rabies (Human)	0	0.0
Relapsing Fever	0	0.0
Rheumatic Fever (Acute)	0	0.0
Rocky Mountain Spotted Fever	1	0.1 *
Rubella	0	0.0
Rubella (Congenital) (2)	0	0.0
Salmonellosis (15)	118	14.6
Scombroid Fish Poisoning	2	0.2 *
Severe Acute Respir. Syndr. (SARS)	0	0.0
Severe Staphylococcus Aureus infection (21)	6	0.7 *
Shiga toxin prod. E. coli (STEC) Infect. (16)	1	0.1 *
Shigellosis (Group B: S. flexneri)	37	4.6
Shigellosis (Group D: S. sonnei)	34	4.2
Shigellosis (Other Group)	1	0.1 *
Shigellosis (Total)	72	8.9
Smallpox (17)	0	0.0
Streptococcal Infection (18)	0	0.0
Tetanus	0	0.0
Toxic Shock Syndrome	0	0.0
Toxoplasmosis	0	0.0
Trichinosis	0	0.0
Tularemia	0	0.0
Typhoid Carrier (19)	0	0.0
Typhoid Fever (Acute) (19)	4	0.5 *
Typhus Fever	0	0.0
Vibriosis (Non-Cholera) (4)	11	1.4 *
Viral Hemorrhagic Fever (20)	0	0.0
West Nile Disease	0	0.0
Yellow Fever	0	0.0
Yersiniosis	6	0.7 *

Source: SFPDPH Communicable Disease Control Unit. Data shown by year cases reported to SFPDPH. Rates are cases per 100,000 population. *=Unstable Rates (where n<20) should not be compared statistically. Population estimates obtained from the California Department of Finance. This report uses 2007 estimates; previous reports, including the 2007 Annual Report of Communicable Diseases in San Francisco, used 2004 estimates.

(1) Reportable since June 2007. (2) Rate among residents age <1 yr. (3) Since June 2007, only chickenpox(not varicella) deaths reportable; chickenpox hospitalizations became reportable in 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) Lyme Disease has been clinician-reportable since 1989 and lab-reportable since June 2005; SFPDPH applied CSTE/CDC case definition in January 2008. (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). (21) Reportable since February 2008.

TABLE 2: Frequency and Unadjusted Rates for 7 Selected Diseases by Age, San Francisco, 2008

Year	Age	Amebiasis				Campylobacteriosis				Cryptosporidiosis			
		n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL
2008	<1 yr	0	0.0*			9	100.6*	46.0	191.0	0	0.0*		
	1-4 yrs	0	0.0*			45	134.5	98.1	180.0	0	0.0*		
	5-14 yrs	3	5.1*	1.0	14.9	25	42.4	27.4	62.5	1	1.7*	0.0	9.4
	15-24 yrs	5	8.4*	2.7	19.7	47	79.2	58.2	105.3	3	5.1*	1.0	14.8
	25-34 yrs	20	12.9	7.9	20.0	76	49.1	38.7	61.5	2	1.3*	0.2	4.7
	35-44 yrs	51	27.6	20.5	36.3	56	30.3	22.9	39.3	5	2.7*	0.9	6.3
	45-54 yrs	28	26.1	17.3	37.7	37	34.4	24.2	47.5	5	4.7*	1.5	10.9
	55-64 yrs	11	12.3*	6.1	22.0	34	38.1	26.4	53.2	1	1.1*	0.0	6.2
	65+ yrs	5	4.4*	1.4	10.3	45	39.9	29.1	53.4	0	0.0*		
Total	123	15.2	12.6	18.1	375	46.3	41.7	51.2	17	2.1*	1.2	3.4	

Year	Age	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL	n	Rate	95%LCL	95%UCL
2008	<1 yr	2	22.4*	2.7	80.8	4	44.7*	12.2	114.5	9	100.6*	46.0	191.0
	1-4 yrs	5	14.9*	4.9	34.9	0	0.0*			21	62.8	38.9	95.9
	5-14 yrs	10	16.9*	8.1	31.2	5	8.5*	2.8	19.8	15	25.4*	14.2	41.9
	15-24 yrs	8	13.5*	5.8	26.6	2	3.4*	0.4	12.2	8	13.5*	5.8	26.6
	25-34 yrs	39	25.2	17.9	34.4	0	0.0*			23	14.9	9.4	22.3
	35-44 yrs	45	24.3	17.8	32.6	0	0.0*			13	7.0*	3.7	12.0
	45-54 yrs	36	33.5	23.5	46.4	1	0.9*	0.0	5.2	6	5.6*	2.0	12.2
	55-64 yrs	11	12.3*	6.1	22.0	3	3.4*	0.7	9.8	5	5.6*	1.8	13.1
	65+ yrs	4	3.5*	1.0	9.1	0	0.0*			17	15.1*	8.8	24.1
Total	161	19.9	16.9	23.2	15	1.9*	1.0	3.1	118	14.6	12.1	17.4	

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
2008	<1 yr	0	0.0*			0	0.0*			0	0.0*		
	1-4 yrs	4	12.0*	3.3	30.6	1	3.0*	0.1	16.7	3	9.0*	1.8	26.2
	5-14 yrs	2	3.4*	0.4	12.2	1	1.7*	0.0	9.4	1	1.7*	0.0	9.4
	15-24 yrs	3	5.1*	1.0	14.8	1	1.7*	0.0	9.4	2	3.4*	0.4	12.2
	25-34 yrs	15	9.7*	5.4	16.0	5	3.2*	1.0	7.5	9	5.8*	2.7	11.0
	35-44 yrs	20	10.8	6.6	16.7	12	6.5*	3.4	11.3	8	4.3*	1.9	8.5
	45-54 yrs	15	14.0*	7.8	23.0	8	7.4*	3.2	14.7	7	6.5*	2.6	13.4
	55-64 yrs	9	10.1*	4.6	19.1	5	5.6*	1.8	13.1	4	4.5*	1.2	11.5
	65+ yrs	4	3.5*	1.0	9.1	4	3.5*	1.0	9.1	0	0.0*		
Total	72	8.9	7.0	11.2	37	4.6	3.2	6.3	34	4.2	2.9	5.9	

Source: SFPDPH Communicable Disease Control Unit. Data shown by year cases reported to SFPDPH. 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.

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.

Population estimates obtained from the California Department of Finance. This report uses 2007 estimates; previous reports, including the 2007 Annual Report of Communicable Diseases in San Francisco, used 2004 estimates.

TABLE 3: Frequency and Unadjusted Rates for 7 Selected Diseases by Sex, San Francisco, 2008

Year	Sex	Amebiasis				Campylobacteriosis				Cryptosporidiosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2008	Male	115	27.7	22.8	33.2	217	52.2	45.5	59.6	14	3.4*	1.8	5.6
	Female	8	2.0*	0.9	4.0	157	39.8	33.8	46.6	3	0.8*	0.2	2.2
	Unk	0				1				0			
	Total	123	15.2	12.6	18.1	375	46.3	41.7	51.2	17	2.1*	1.2	3.4

Year	Sex	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2008	Male	135	32.5	27.2	38.4	1	0.2*	0.0	1.3	68	16.4	12.7	20.7
	Female	26	6.6	4.3	9.7	14	3.6*	1.9	6.0	50	12.7	9.4	16.7
	Unk	0				0				0			
	Total	161	19.9	16.9	23.2	15	1.9*	1.0	3.1	118	14.6	12.1	17.4

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
2008	Male	61	14.7	11.2	18.8	35	8.4	5.9	11.7	26	6.3	4.1	9.2
	Female	11	2.8*	1.4	5.0	2	0.5*	0.1	1.8	8	2.0*	0.9	4.0
	Unk	0				0				0			
	Total	72	8.9	7.0	11.2	37	4.6	3.2	6.3	34	4.2	2.9	5.9

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.

Population estimates obtained from the California Department of Finance. This report uses 2007 estimates; previous reports, including the 2007 Annual Report of Communicable Diseases in San Francisco, used 2004 estimates.

TABLE 4: Frequency and Unadjusted Rates for 7 Selected Diseases by Race/Ethnicity, San Francisco, 2008

Year	Race/ Ethnicity	Amebiasis				Campylobacteriosis**				Cryptosporidiosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2008	White	73	20.0	15.7	25.1	34				7	1.9*	0.8	3.9
	Black	3	5.1*	1.1	14.9	3				2	3.4*	0.4	12.3
	Asian/PI	5	1.9*	0.6	4.3	25				0	0.0*		
	Hispanic	26	23.7	15.5	34.7	9				4	3.6*	1.0	9.3
	Am Indian	2	27.6*	3.3	99.8	0				0	0.0*		
	Other	1				0				0			
	Unknown	13				304				4			
	Total	123	15.2	12.6	18.1	375				17	2.1*	1.2	3.4

Year	Race/ Ethnicity	Giardiasis				Pertussis				Salmonellosis			
		n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL	n	Rate	95% LCL	95% UCL
2008	White	80	21.9	17.4	27.2	11	3.0*	1.5	5.4	35	9.6	6.7	13.3
	Black	6	10.2*	3.7	22.2	0	0.0*			9	15.3*	7.0	29.0
	Asian/PI	7	2.6*	1.0	5.4	2	0.7*	0.1	2.7	41	15.2	10.9	20.7
	Hispanic	27	24.6	16.2	35.8	2	1.8*	0.2	6.6	9	8.2*	3.8	15.6
	Am Indian	0	0.0*			0	0.0*			0	0.0*		
	Other	3				0				1			
	Unknown	38				0				23			
	Total	161	19.9	16.9	23.2	15	1.9*	1.0	3.1	118	14.6	12.1	17.4

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
2008	White	42	11.5	8.3	15.5	23	6.3	4.0	9.4	18	4.9*	2.9	7.8
	Black	3	5.1*	1.1	14.9	2	3.4*	0.4	12.3	1	1.7*	0.0	9.5
	Asian/PI	4	1.5*	0.4	3.8	1	0.4*	0.0	2.1	3	1.1*	0.2	3.3
	Hispanic	11	10.0*	5.0	18.0	4	3.6*	1.0	9.3	7	6.4*	2.6	13.2
	Am Indian	1	13.8*	0.3	77.0	0	0.0*			1	13.8*	0.3	77.0
	Other	1				0				1			
	Unknown	10				7				3			
	Total	72	8.9	7.0	11.2	37	4.6	3.2	6.3	34	4.2	2.9	5.9

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.

**Rates were not calculated for Campylobacteriosis, because of the high percentage of missing race and ethnicity information.

Population estimates obtained from the California Department of Finance. This report uses 2007 estimates; previous reports, including the 2007 Annual Report of Communicable Diseases in San Francisco, used 2004 estimates.

TABLE 5: San Francisco Population Estimates by Sex, Age and Race/Ethnicity, 2008

Year	Sex	Age	White	Hispanic	Black	Asian/PI	Am Indian	Total
2008	F	<1 yr	1,984	718	314	1,339	31	4,386
		1-4 yrs	6,227	3,217	1,311	5,388	272	16,415
		5-14 yrs	5,897	7,036	3,284	12,011	604	28,832
		15-24 yrs	6,727	5,280	3,864	13,323	362	29,556
		25-34 yrs	44,280	7,936	3,821	20,021	484	76,542
		35-44 yrs	44,123	9,269	4,079	23,533	587	81,591
		45-54 yrs	16,231	6,784	4,407	20,364	459	48,245
		55-64 yrs	18,272	4,631	3,501	17,717	315	44,436
	65+ yrs	24,391	6,730	4,994	27,838	338	64,291	
			168,132	51,601	29,575	141,534	3,452	394,294
	M	<1 yr	2,060	746	327	1,391	32	4,556
		1-4 yrs	6,470	3,342	1,379	5,570	282	17,043
		5-14 yrs	6,363	7,460	3,368	12,376	616	30,183
		15-24 yrs	6,383	5,311	3,782	13,992	343	29,811
		25-34 yrs	45,261	10,352	3,435	18,706	475	78,229
		35-44 yrs	62,918	13,423	4,581	21,606	744	103,272
		45-54 yrs	26,382	8,421	5,093	18,713	611	59,220
55-64 yrs		21,067	4,715	3,839	14,923	369	44,913	
65+ yrs	20,391	4,263	3,523	20,067	313	48,557		
		197,295	58,033	29,327	127,344	3,785	415,784	
2008			365,427	109,634	58,902	268,878	7,237	810,078

Source: California Department of Finance, Demographic Research Unit. This report uses 2007 estimates; previous reports, including the 2007 Annual Report of Communicable Diseases in San Francisco, used 2004 estimates.

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