



Cryptosporidiosis Surveillance Project

Annual Report

2007



The Bay Area Cryptosporidiosis Surveillance Project (CSP) monitors human cryptosporidiosis in Bay Area Counties served by the San Francisco Public Utilities Commission: Alameda, San Francisco, San Mateo, and Santa Clara, and Tuolumne County, where the Hetch Hetchy Reservoir is located.

Surveillance Summary:

Fourth Quarter 2007: During the fourth quarter of 2007, 8 cases of cryptosporidiosis were reported in the study area. (Figure 1) The number of cases reported each month was below the historical mean number of cases reported for each given month from 2000-2005.

2007 Surveillance: In 2007 a total of 57 cases were reported; no system-wide, drinking water associated cryptosporidiosis outbreaks were detected. In September the number of cases exceeded the expected, however no common exposures were identified among cases. Case counts and cumulative incidence (CI) varied by county ranging from 0 cases in Tuolumne County to 25 cases or 3.09 cryptosporidiosis cases per 100,000 residents in San Francisco County (Table 1). Figure 2 presents case counts by county, age and gender.

Figure 1: Cryptosporidiosis Case Counts by Month and County 2007

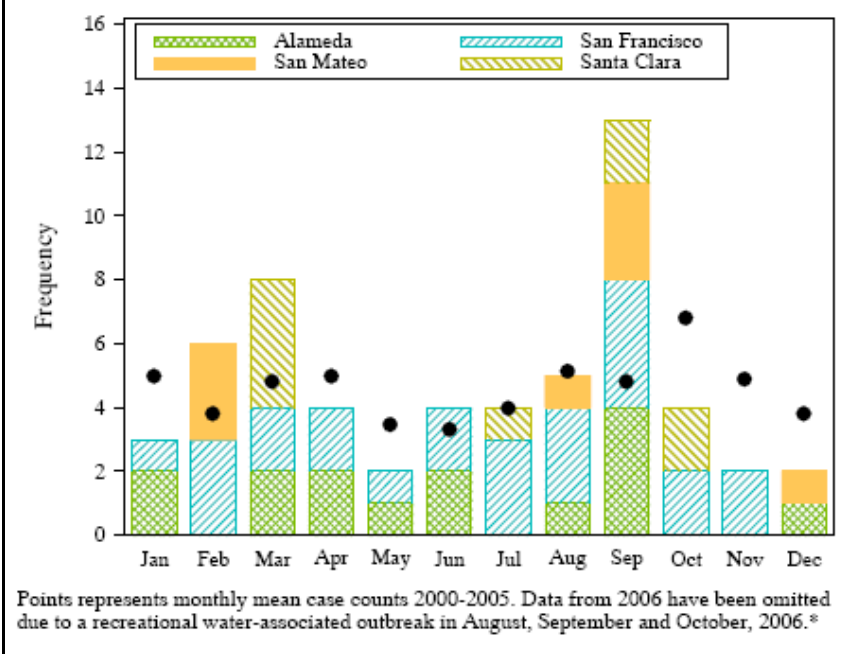
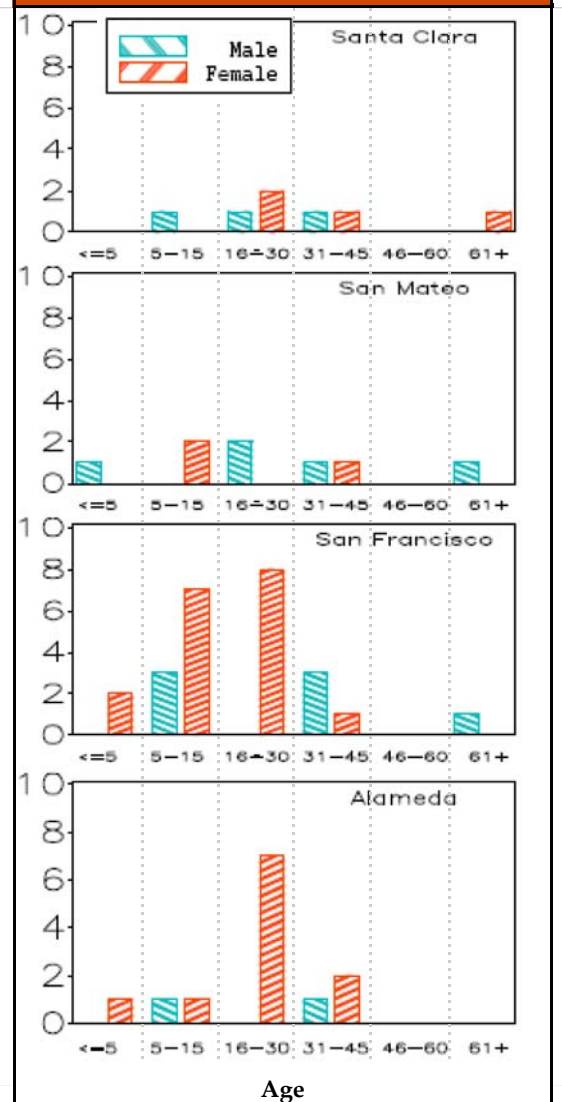


Table 1: Number and Cumulative Incidence by County, 2007

County	N	Cumulative Incidence per 100,000 [‡]
Tuolumne	0	NA
San Mateo	8	1.09
Santa Clara	9	0.50
Alameda	15	0.98
San Francisco	25	3.09
Total	57	1.16

Figure 2: Case Counts by County, Age and Sex, 2007



* Alameda and San Francisco county data and historical data obtained through the cooperation of the California Emerging Infections Program.

‡ Cumulative incidences were calculated using the following population estimates: State of California, Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change – January 1, 2006 and 2007. Sacramento, California, May 2007.

Cryptosporidiosis Case Demographics and Risk Factors

In 2007, 27 (48%) of cryptosporidiosis cases were white and 38 (67%) were male. Data on race/ethnicity were not collected for a 14 (25%) of cases. Table 2 presents case demographic data by county.

Known risk factors for acquiring cryptosporidiosis infection include contact with animals, day care attendance or work, health care work, travel to developing countries, consumption of untreated water, sexual contact with another case, and having a compromised immune system. Among cases with a specimen collected in 2007, one reported contact with a confirmed cryptosporidiosis case during the incubation period. Six reported contact with a suspected case. Seventeen (47%) cases over age 15 reported sexual contact during the incubation period. Of these 11 were male; seven (21%) male cases reported MSM activity. Thirteen (28%) cases reported a compromised immune status. While 17 (30%) cases reported contact with animals during the incubation period, only two had contact with farm or non-domesticated animals. Thirteen (23%) cases reported foreign travel; 12 of these were to a developing nation. Ten cases reported any recreational water exposure during the incubation period. Table 3 presents risk factors for cryptosporidiosis infection by county.

Table 2: Cryptosporidiosis Case Demographics by County	
	N (%)by County
Alameda	
Male	12 (80%)
White	7 (47%)
Other Race/Ethnicity	1 (7%)
Unknown Race/Ethnicity	7 (47%)
San Francisco	
Male	18 (72%)
Black	2 (8%)
Asian	1 (4%)
White	12 (48%)
Hispanic	4 (16%)
Other Race/Ethnicity	1 (4%)
Unknown Race/Ethnicity	5 (20%)
San Mateo	
Male	3 (38%)
Asian	1 (13%)
White	5 (63%)
Hispanic	1 (13%)
Unknown Race/Ethnicity	1 (13%)
Santa Clara	
Male	5 (56%)
Black	1 (11%)
Asian	1 (11%)
White	3 (33%)
Hispanic	3 (33%)
Unknown Race/Ethnicity	1 (11%)

Table 3: Percentage of Cases by County with Know Risk Factors During the Incubation Period.			
Risk Factor	County	N	(%)
Contact with Confirmed Case	San Francisco	1	(6%)
	Santa Clara	1	(14%)
	Alameda	4	(36%)
Daycare	San Francisco	1	(6%)
	Santa Clara	1	(14%)
	San Mateo	1	(14%)
	Alameda	4	(36%)
	San Mateo	1	(14%)
Workcare	San Mateo	1	(14%)
	Alameda	1	(9%)
	San Francisco	9	(39%)
Sexual Activity*	Santa Clara	1	(14%)
	San Mateo	4	(57%)
	Alameda	3	(25%)
	San Francisco	6	(38%)
MSM**	Alameda	1	(10%)
	San Francisco	8	(42%)
Immune Suppression***	Santa Clara	1	(14%)
	Alameda	4	(33%)
	San Francisco	1	(4%)
Non-Domestic Animal Contact	Alameda	1	(7%)
	San Francisco	3	(12%)
Foreign Travel	Santa Clara	4	(44%)
	San Mateo	1	(13%)
	Alameda	5	(33%)
	San Francisco	2	(8%)
Recreational Water Contact	Santa Clara	2	(22%)
	San Mateo	2	(25%)
	Alameda	4	(27%)
	San Francisco	2	(8%)

* Denominator includes cases over 15 years
 ** Denominator includes male cases over 15 years
 ***all immuno-compromised cases in 2007 were men.

Cryptosporidiosis Surveillance

Timeliness

The Cryptosporidiosis Surveillance Project receives case reports through cooperation with clinical diagnostic laboratories, county health departments, and the California Emerging Infections Program. For more information on CSP data collection and methods used to calculate timeliness please see "Timeliness of Cryptosporidiosis Reporting" online at http://dphwww.sfdph.org/phes/water/water_publications.htm.

In 2007, CSP received case notification of positive cryptosporidium laboratory results for 50% of the 57 cases within six days of specimen collection. This figure does not adjust for weekends, holidays or time required for specimen processing. Time-to-reporting was consistent throughout the year with very little variation from quarter to quarter; median days-to-reporting were between five and seven days per quarter. (Table 4). Median report times by county in 2007 were similar to 2006 (data not shown). Table 5 presents county-specific cryptosporidiosis case reporting characteristics.

CSP completed case interviews for 77% of cases in 2007. Interviews were completed within three days of notification for 50% of all interviewed cases.

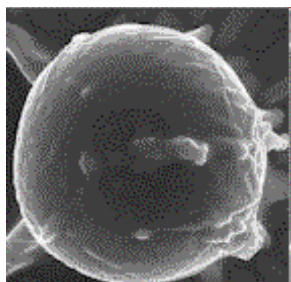


Table 4: Median Days between Specimen Collection and Report to CSP, 2007

	N	Median	Min	Max
2007	57	6	0	160
Quarter				
Quarter 1	17	5	2	17
Quarter 2	10	7	1	160
Quarter 3	22	6	0	28
Quarter 4	8	5	1	12
Informant				
California Emerging Infections program	11	7	3	17
Physician	1	4	4	4
Clinical Diagnostic Laboratory	35	7	1	28
County Health Department	9	3	0	12
California Department of Public Health	1	160	160	160
County				
Alameda	15	7	4	160
San Francisco	25	7	0	28
San Mateo	8	5	2	12
Santa Clara	9	3	1	6

Table 5: Median Days Between Specimen Collection and Report to CSP by County, Informant and Quarter, 2007

County	Informant/Quarter	N	Median	Min	Max
Alameda	California Emerging Infections Program	7	7	4	17
	Physician	1	4	4	4
	Clinical Diagnostic Laboratory	6	7	5	8
	California Department of Public Health	1	160	160	160
	Quarter 1	4	8	4	17
San Francisco	Quarter 2	5	8	4	160
	Quarter 3	5	7	6	7
	Quarter 4	1	7	7	7
	California Emerging Infections Program	4	6	3	12
	Clinical Diagnostic Laboratory	20	8	1	28
San Mateo	San Mateo County Health Services Agency	1	0	0	0
	Quarter 1	6	10	2	17
	Quarter 2	5	6	1	9
	Quarter 3	10	8	0	28
	Quarter 4	4	9	1	12
Santa Clara	Clinical Laboratory	6	3	2	7
	San Mateo County Health Services Agency	2	9	6	12
	Quarter 1	3	3	2	7
	Quarter 2	0	NA	NA	NA
	Quarter 3	4	6	3	12
Santa Clara	Quarter 4	1	3	3	3
	Clinical Diagnostic Laboratory	3	4	2	6
	Santa Clara County Public Health Department	6	3	1	6
	Quarter 1	4	4	2	6
	Quarter 2	0	NA	NA	NA
Santa Clara	Quarter 3	3	4	3	6
	Quarter 4	2	2	1	2

This report was created in January 2008 by the San Francisco Department of Public Health Environmental Health Section in partnership with the San Francisco Public Utilities Commission. For more information, contact michelle.kirian@sfdph.org, visit the San Francisco Department of Public Health Water Epidemiology website http://dphwww.sfdph.org/phes/index_WaterEpi.htm, or the Public Utilities Commission website www.sfwater.org.

These data are preliminary and not yet confirmed. They do not suggest a source of infection nor reflect any association with the presence or absence of any potential contaminants in the water supply. This information should be considered privileged. It should not be reproduced or distributed.