#004

Campylobacteriosis Surveillance in San Francisco, 2006

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Introduction

- The rate of campylobacteriosis in SF (48 cases per 100,000 residents in 2005) is the highest in California and is significantly greater than rates for the Bay Area region and the United States.
- The epidemiology of campylobacteriosis in SF is not known. In accordance with state regulations, individual cases are not routinely investigated and descriptive demographics in surveillance data are incomplete.
- Numerous studies have implicated consumption of animal products, especially poultry, as risks for *Campylobacter* infection. Other established risk factors include consumption of raw seafood and unpasteurized dairy products, foreign travel, AIDS, and contact with domestic animals and natural water sources.
- CDC estimates actual national incidence to be 38 times the number of cases reported.

Aims

- To characterize the epidemiology of campylobacteriosis in SF.
- To identify exposures that may influence the high burden of campylobacteriosis in SF.

Methods

- We interviewed 58 (75%) of 77 lab-confirmed cases reported to the San Francisco Department of Public Health from May 15, 2006 to August 18, 2006.
- We collected demographics and information on potential risk factors during the week before illness onset.
- We queried case-patients about established and potential risk factors, including: travel history, immune-compromising conditions; consumption of chicken, other poultry, raw seafood, unpasteurized milk, undercooked eggs, and untreated water; contact with recreational water; contact with pets, farm animals, and animal feces; household size, number of household members sick before and after case onset; and sexual contacts.
- We used a professional medical interpretation service for 5 cases with limited English skills.

Results

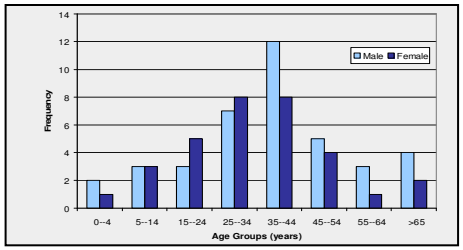

Figure 1. Campylobacteriosis cases (n=71) by age and sex reported, SF, May 15 – Aug 18, 2006.

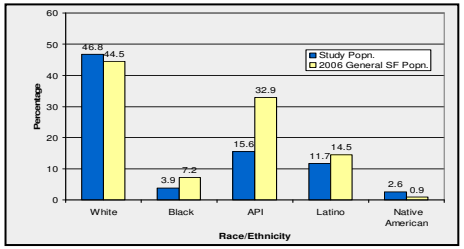

Figure 2. Comparison of race/ethnicity for campylobacteriosis cases (n=77) with the general population, SF, May 15 – Aug 18, 2006.

- Most (48%) were 25-44 years of age; approximately half (47%) were female.
- Approximately half (47%) were white, 16% Asian/Pacific Islander (API), 12% Latino, 4% African American, and 4% another race or ethnicity. API cases were underrepresented and whites overrepresented. The distribution of African American and Latino cases was similar to that for the SF population.
- Most case-patients were English speakers (93%) and were born in the US (57%).
- 72% ate chicken, 38% lived in households where raw chicken was prepared (whether or not it was consumed by the case), and 19% ate poultry other than chicken.
- 35% had pets at home and 22% had contact with other people's pets
- 31% reported foreign travel.
- 14% reported having any type of immune compromising condition.
- 16% of case-patients ≥15 years of age had sexual contact; no sexual contact between men was reported.
- 84% had ≥ 2 established risk factors; few (4%) had no established risk factor.

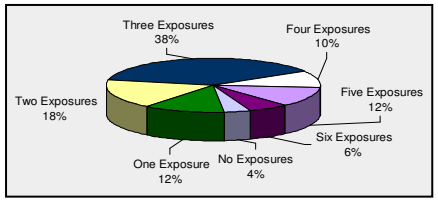

Figure 3. Number of identified risk factors for campylobacteriosis cases, SF, May 15 – Aug 18, 2006.

Table 1. Risk factors for campylobacteriosis during the 7 days prior to illness onset, SF, May 15 – Aug 18, 2006.

	Yes (n (%))
Health	
Immuno-compromising Condition	8 (14)
Travel	
Foreign	18 (31)
USA	4 (7)
California	8 (14)
Food Exposure	
Ate Chicken	42 (72)
Ate Other Poultry	11 (19)
Ate Raw Seafood	5 (9)
Ate Unpasteurized Dairy	2 (3)
Ate Raw or Undercooked Eggs	8 (14)
Food Handling Practices	
Raw Chicken Prepared at Home	22 (38)
Source of Chicken Eaten at Home	
Pre-packaged Frozen	1 (2)
Pre-packaged Refrigerated	9 (16)
Ever Frozen before Cooking	5 (9)
Butchered at Market of Purchase)	1 (2)
Butchered at Home	2 (3)
Other Source of Chicken*	2 (3)
Water Exposure	
Drank Untreated Water (e.g., from lake)	4 (7)
Contact with Recreational Water	7 (12)
Activity in Swimming Pool	4 (7)
Exposure to Animals	
Contact with Pets	20 (35)
Contact with Other People's Pets	13 (22)
Contact with Farm Animals	3 (5)
Contact with Animal Feces	7 (12)

* Includes precooked chicken purchased at a retail outlet or restaurant.

Conclusion

- Lab-confirmed cases in SF were similar in sex and age to reports from national surveillance programs.
- We identified fewer API cases than expected.
- We identified risk factors for campylobacteriosis in SF that were consistent with those identified by other observational studies conducted in the US.
- We will use these findings to develop hypotheses for further studies of campylobacteriosis in SF. Because most cases had multiple risk factors, controlled analyses are required to elucidate the reasons for the high burden of disease in SF.