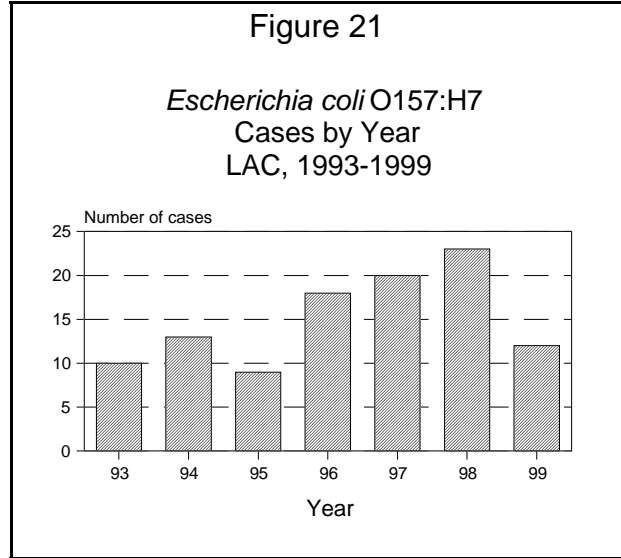


## ESCHERICHIA COLI O157:H7

CRUDE DATA	
Number of Cases	12
Annual Incidence <sup>a</sup>	
LA County	0.13
California <sup>b</sup>	0.59
United States <sup>b</sup>	1.66
Age at Onset	
Mean	31.8
Median	11
Range	1-84
Case Fatality	
LA County	0.0%
United States	N/A



<sup>a</sup>Cases per 100,000 population.

<sup>b</sup>National Electronic Telecommunications System for Surveillance.

### ETIOLOGY

*Escherichia coli* O157:H7, a gram-negative bacillus, is a specific serotype of the Shiga-toxin producing class of *Escherichia coli* (STEC) which produces Shiga-toxins (formerly known as Shiga-like toxins) via plasmids. Abdominal cramps and watery diarrhea developing into bloody diarrhea are typical symptoms. Fever is often absent.

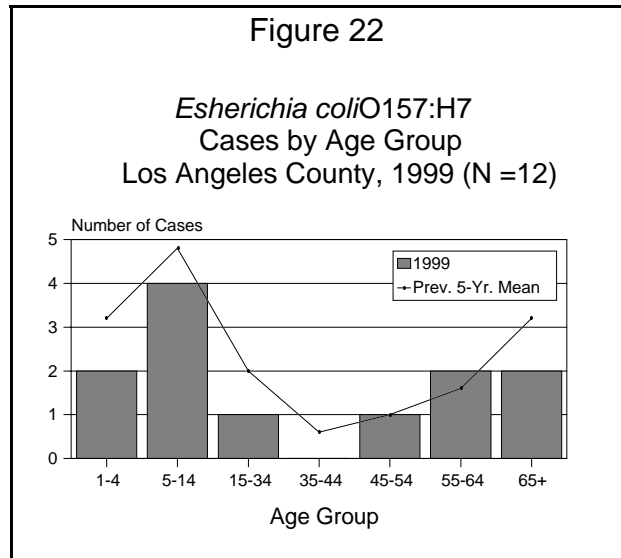
Clinical complications include hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP).

### DISEASE ABSTRACT

The 1999 incidence rate of *E. coli* O157:H7 (0.13 cases per 100,000) decreased by nearly one-half of the 1998 incidence rate (0.25 cases per 100,000). No outbreaks were identified in LAC in 1999.

### STRATIFIED DATA

The 5-14 year age group had the most reported cases (4) (Figure 22). The male-to-female rate ratio was 3:1. Out of 12 cases in 1999, seven were Caucasian, three were Latino, two were Asian; there were no African-American cases. For almost every month the number of cases in



1999 was on or fell below the previous five-year mean (Figure 23).

During 1999, there were no outbreaks identified in LAC. However, isolates from two Glendale residents did have the same pulsed-field gel electrophoresis (PFGE) pattern in September; these two cases were determined not to be epidemiologically linked after extensive interviews. The most common food exposures occurring among cases within seven days of onset was consumption of ground beef (67%) and having patronized a fast food restaurant (50%).

Eleven cases (92%) reported abdominal cramps and bloody diarrhea while only two (12%) reported fever. Hospitalization was documented in nine of the cases (75%) and no deaths were reported. One of three HUS cases reported in LAC was positive for *E. coli* O157:H7 and underwent dialysis. There were no *E. coli* O157:H7 cases with TTP, and none required surgery.

## COMMENTS

*E. coli* O157:H7 was first recognized as an important human pathogen causing foodborne illness in 1982. In 1994, LAC requested laboratories and health care providers to voluntarily report suspected *E. coli* O157:H7 cases. Mandatory reporting of *E. coli* O157:H7 cases in California was instituted in July 1995.

There was a decrease in cases in 1999 compared with 1998 due to an unusually high number of unlinked cases seen in July 1998. It appears that only severe cases are being diagnosed, tested, and reported because 92% of reported cases had bloody diarrhea with only 33% vomiting.

Infection with *E. coli* O157:H7 is most often associated with consumption of contaminated foods, such as inadequately cooked ground beef and raw milk. Recent outbreaks in the US have implicated contaminated produce and their products such as unpasteurized apple cider, melons, alfalfa sprouts, iceberg and leaf lettuce, and mesclun (a mix of greens).

Collaborative efforts among physicians, laboratories and the health department are important for enhancement of surveillance activities. Physicians should consider *E. coli* O157:H7 in their diagnoses by asking about consumption of high-risk foods, attendance at day-care centers or farms, and exposure to other individuals with diarrhea. Laboratories should screen all bloody stool specimens for toxin or sorbitol-negative colonies. Laboratory-based reporting through PulseNet has been notable in detecting clusters of *E. coli* O157:H7.

Preventative measures should be implemented on a continual basis. The public needs increased education regarding food handling practices, proper hygiene and high-risk foods. Collection of detailed food histories and strengthening of national processing regulations to decrease food contamination should be targeted.

