ESCHERICHIA COLI O157:H7

CRUDE DATA	
Number of Cases	23
Annual Incidence[a]	
LA County	0.3
California[b]	0.8
United States[b]	1.2
Age at Onset	
Mean	35
Median	26
Range	10 mos-84 yrs
Case Fatality	
LA County	0.0%
United States	N/A

Figure 24

Escherichia coli O157:H7
Cases by Year
Los Angeles County, 1993-1998
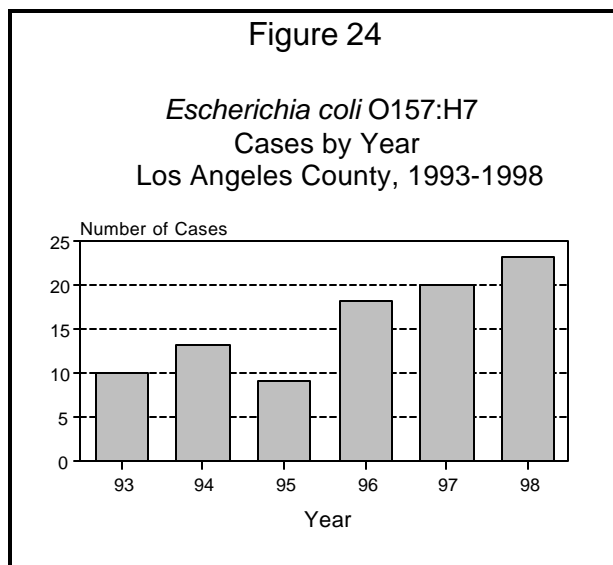
[a] Cases per 100,000 population.
[b] National Electronic Telecommunications System for Surveillance.

ETIOLOGY

Escherichia coli O157:H7, a gram-negative bacillus, is a specific serotype of the enterohemorrhagic class of *Escherichia coli* which produces cytotoxins via plasmids called shiga-like toxins or verocytotoxins. Clinical complications include hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP).

DISEASE ABSTRACT

The 1998 incidence rate of *E. coli* O157:H7 increased to its highest rate in five years. The majority of cases were White and <35 years of age. No outbreaks were identified.

STRATIFIED DATA

Although the number of *E. coli* O157:H7 cases more than doubled from nine cases in 1995 to 23 in 1998, the 1998 rate was far below the California and US rates (Figure 24). The 65+ year age group had the most reported cases (6) followed by the 15-34 year age group with 5 cases (Figure 25). The male-to-female rate ratio was 0.9:1. The majority of the cases were White (18), with three Asian, one Hispanic, and

Figure 25

Esherichia coli O157:H7
Cases by Age Group
Los Angeles County, 1998 (N = 23)
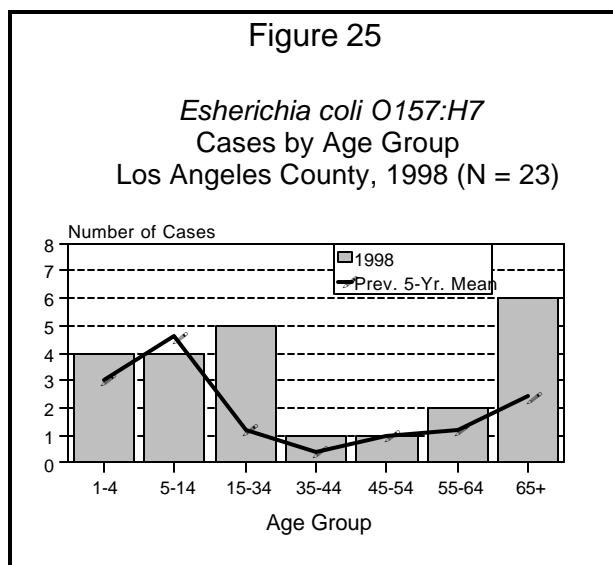
one Black. The Pomona and West Valley Health Districts had the most cases reported (three cases each). For almost every month the number of 1998 cases exceeded the previous five-year mean (Figure 26).

Aside from one case that was associated with another *E. coli* O157 outbreak in Alpine, Wyoming, no LAC clustering of cases was identified. There was a peak in July with 11 cases, but no link was found among the cases. The most common food exposures mentioned occurring among cases within seven days of onset were consuming ground beef (70%), roast beef (57%) and patronizing a fast food restaurant (43%).

Ninety-six percent (22) of cases reported abdominal cramps, 83% (19) had bloody diarrhea, and 52% (12) reported fever.   Hospitalization was documented in 43% (10) of the cases. None of the three HUS cases reported in LAC in 1998 were positive for *E. coli* O157:H7. There were no cases with TTP, one case required surgery, and no cases underwent dialysis.

COMMENTS

In recent years, efforts have been made to improve *E. coli* O157:H7 and HUS surveillance. The increase observed in 1998 may be a continuing result of changes in surveillance such as the implementation of active surveillance activities in late 1995 and the disease becoming state reportable in 1996. Annual incidence of *E. coli* O157:H7 has been steadily increasing since 1995. However, Since 83% of reported cases had bloody diarrhea with only 26% vomiting, it is apparent only severe cases are being reported or diagnosed.

Although infection with *E. coli* O157:H7 is most often associated with the consumption of inadequately cooked beef and raw milk, recent

Figure 26

Escherichia coli O157:H7
Cases by Month of Onset
Los Angeles County, 1998 (N = 23)

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). For 1998 cases, the most commonly reported food exposures seven days before illness were ground beef (16), roast beef (13), and eating at a fast food restaurant(10). Since these three exposures do not account for all cases, other sources such as contaminated produce may have transmitted *E. coli* O157:H7 infection. Health department personnel should collect more detailed food histories for not only beef and dairy products, but also for vegetables and fruits.

Future efforts should concentrate on the education of physicians to consider *E. coli* O157:H7 in their diagnoses, laboratories to screen all bloody stool specimens and utilize the proper media, and the public regarding food handling practices and high-risk foods. In addition, enhancement of surveillance activities, the collection of more detailed food histories, and strengthening of national processing regulations to decrease food contamination should be targeted.