

ESCHERICHIA COLI O157:H7

Escherichia coli O157:H7, an enterohemorrhagic strain of *E. coli* (EHEC), is the agent for an illness of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP) are serious complications. Approximately 2-7% of patients with EHEC diarrhea progress to HUS, with children under 5 years of age being at greatest risk. Transmission is mainly by ingestion of contaminated food; inadequately cooked beef, raw milk or other foods contaminated with animal feces. It also may be waterborne or transmitted person to person in families, child care centers and custodial institutions.

Laboratory Criteria for Confirmation:

- Isolation of *Escherichia coli* O157:H7 from a specimen, **OR**
 - Isolation of Shiga toxin-producing *E. coli* O157:NM* from a clinical specimen, **OR**
 - Isolation of Shiga toxin-producing *E. coli*, (serogroup, non-O157, or not serogrouped).
- *NM—Designation for stains of *E. coli* O157:H7 that have lost the flagellar “H” antigen and are nonmotile.

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable:

- A case with isolation of *E. coli* O157 from a clinical specimen, pending confirmation of H7 or Shiga toxin, OR
- A clinically compatible case that is epidemiologically linked to a confirmed or probable case.

Suspected: A case of postdiarrheal HUS or TTP.

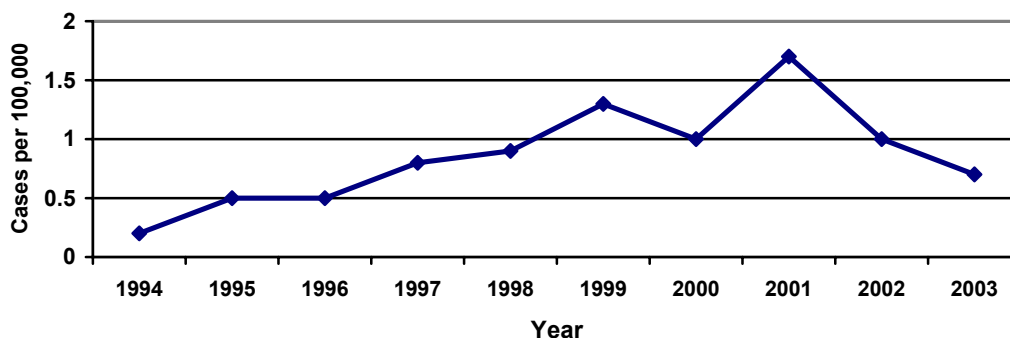
Epidemiology

Kentucky 2003	Rate per 100,000	U. S. Rate (2002) per 100,000
Cases 29	0.7	1.36

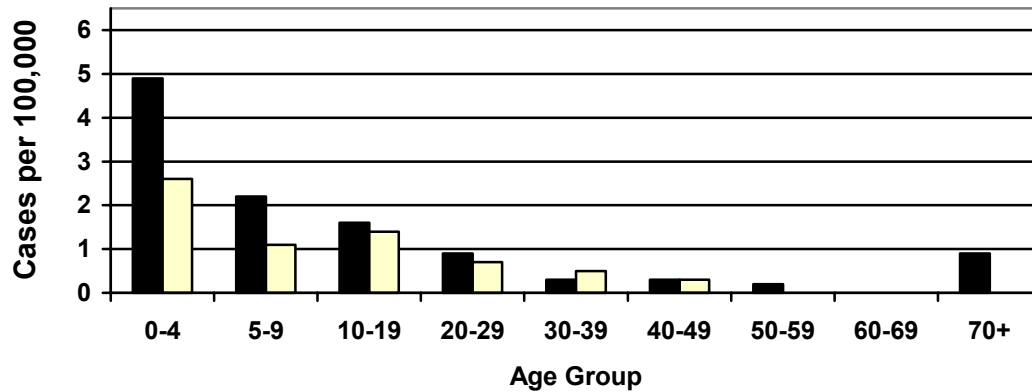
Cases by Gender

Female	12	1.2
Male	17	0.8

***E. coli* O157:H7 Incidence in Kentucky, 1994-2003**



***E. coli* O157:H7 Age-Specific Incidence
Kentucky, 2002-2003**



In 2003 there was an overall decrease in the reported cases of *E. coli*. The highest rates were in the 0-4 and 10-19 year age groups, 2.6 and 1.4 cases per 100,000 respectively. Cases occurred from January to December. There were 2 separate events where 2 or more related persons were infected from the same source. Through Pulse Field Gel Electrophoresis, it is now possible to link two or more cases of *E. coli* to a common source within the state or the U.S.

***E. coli* O157:H7 Annual Incidence by District
Kentucky, 2003**

District	Rate per 100,000
Purchase	0.5
Barren River	1.5
Lincoln Trail	0.4
North Central	1.2
Northern Kentucky	0.5
Fivco	0.7
Lake Cumberland	1.0
Bluegrass	1.6

0-0.1	
0.1-0.6	
0.7-1.2	
1.3-2.0	

