

# Microbe Monthly

## Communicable Disease Report

El Paso County Department  
of Health & Environment

July 2008

### STEC Testing

Shiga toxin-producing *E. coli* (STEC) is a group of *E. coli* bacteria which elaborate the same “shiga toxin” as is produced by *Shigella dysenteriae* type 1. There are over 100 STEC types that can cause human disease, with the more common types including *E. coli* O157:H7, O26, O111 and O103. STEC infections can lead to bloody diarrhea and 5-15% of patients develop hemolytic uremic syndrome (HUS). STEC infections have been associated with eating undercooked ground beef, contaminated leafy vegetables and contact with animals in setting such as petting zoos.

In previous years, clinical laboratories screened for *E. coli* O157 using specialized culture techniques as part of a routine stool culture. This proved to be a labor intensive process, so many laboratories adopted new technology to simply screen for shiga toxin in stool. Testing is often performed using enzyme immunoassay (EIA), which has the potential to detect STEC types other than O157.

Both STEC and shiga toxin-positive stool samples are notifiable conditions. The Centers for Disease Control and Prevention recommends that any shiga toxin-positive stool sample be cultured to identify whether STEC is the cause of the positive toxin test. Unfortunately, many laboratories choose not to follow up with a culture, although the stool broth should still be sent to the Colorado Department of Public Health and Environment laboratory for additional testing (including a repeat shiga toxin test and culture). Any shiga toxin-producing *E. coli* that is identified by culture must then be typed. This process takes several days or longer to finalize which STEC type is present in the stool. In Colorado, Quest, LabCorp and Kaiser use EIA testing for shiga toxin and usually do not perform stool culture for *E. coli*.

When health care providers receive a report of a positive shiga toxin test only, the bacteriologic etiology has not been established and a formal diagnosis is still lacking. Providers should explain the findings to the patient, although clinical management may be challenging. For example, antimicrobial therapy is not recommended for patients with *E. coli* O157:H7 infection. Public health is required to follow up on all suspect or confirmed STEC (i.e., shiga toxin-positive stool or STEC-positive culture) cases reported. Our follow-up includes a patient interview to identify potential exposures that have an established association with STEC infections. Additional information on the epidemiology of STEC infection and shiga toxin testing can be found at:

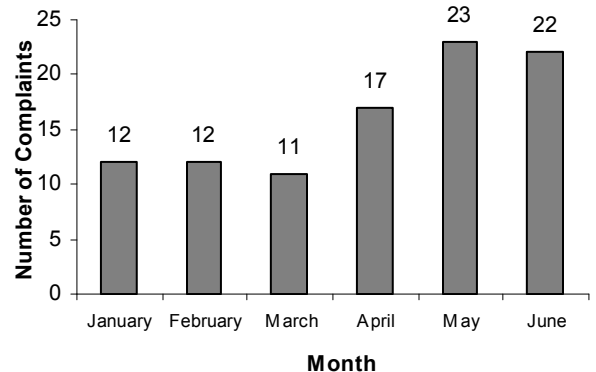
[www.cdc.gov/foodnet/news/2008/January\\_FoodNet\\_News.pdf](http://www.cdc.gov/foodnet/news/2008/January_FoodNet_News.pdf) or [www.cdc.gov/mmwr/preview/mmwrhtml/mm5538a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5538a3.htm)



### El Paso County Disease Trends

- In June 2008, 41 communicable diseases were reported and investigated: acute hepatitis B (1), *Campylobacter* (8), chronic hepatitis B (6), *Giardia* (1), hemolytic uremic syndrome (1), invasive pneumococcal disease (3), *salmonella* (6), *Shigella* (1), shiga toxin-producing *E. Coli* (1), tularemia (1), varicella (1), viral meningitis (11). Two of the *Salmonella* cases matched the type implicated in the national *Salmonella* Saintpaul outbreak.
- Also in June, the Communicable Disease Program received 22 possible foodborne illness complaints—bringing year-to-date complaints to 97. Additionally, 2 outbreaks were investigated: 1 confirmed norovirus outbreak in a long-term care facility (LTCF) and 1 suspect norovirus outbreak associated with a local college summer camp. Thus far in 2008, there have been 32 illness outbreaks reported (8 influenza in LTCF, 10 norovirus/gastrointestinal in LTCF, 11 associated with retail food establishments and 3 associated with schools). Foodborne illness complaints in 2008 represent an increasing trend over previous years (see graph).

Foodborne Illness Complaints  
El Paso County, January - June, 2008



### Hot Topics—State and National

Rotavirus is the leading cause of severe acute gastroenteritis among infants and young children. In February 2006, a human-bovine rotavirus vaccine, RotaTeq®, was recommended for routine use to prevent rotavirus disease among U.S. infants. To summarize rotavirus activity during the current 2007-08 season, CDC analyzed national surveillance data and found that, when compared to 15 previous seasons, rotavirus activity in 2007-08 appeared delayed in onset by 2-4 months, and diminished in magnitude by greater than 50%. Additional surveillance and epidemiologic studies are needed to further evaluate the impact of rotavirus vaccination. To see the full report visit:

[www.cdc.gov/mmwr/preview/mmwrhtml/mm5725a6.htm?s\\_cid=mm5725a6\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5725a6.htm?s_cid=mm5725a6_e)

### Contact Information

CD/TB Program  
Weekday Hours 719-578-3220  
After-Hours Emergency 719-385-9622

Immunizations 719-578-3272

Environmental Health 719-575-8636

STD Program 719-578-3296  
(Sexually Transmitted Diseases, Hep C, HIV/AIDS, Bloodborne Exposures)

Colorado Department of Public Health and Environment  
Weekday Hours 303-692-2700  
After Hours 303-370-9395