



County of Erie

CHRIS COLLINS
COUNTY EXECUTIVE

DEPARTMENT OF HEALTH

Anthony J. Billittier IV, M.D., FACEP
Commissioner of Health

HEALTH ADVISORY # 272

April 28, 2010

Gastrointestinal Illness at a College Possibly Associated with a Multi-State *E. coli* Outbreak

Please distribute to Emergency Departments, Infection Control Departments, Employee Health Services, Infectious Disease Departments, Pediatrics, Director of Nursing, Medical Director, Pharmacy, Laboratory Director and all patient care areas.

Summary

- A cluster of gastrointestinal illness has been identified among students at Daemen College.
- Illness onset occurred from 4/12/10 through 4/17/10.
- Symptoms include nausea, abdominal cramping, and diarrhea some of which was bloody.
- One of the ill students tested positive for Shiga-toxin-producing *E. coli* O145.
- Additional outbreaks are under investigation at college campuses in Ohio and Michigan.
- Providers are asked to consider *E. coli* O145 infection when evaluating patients with bloody diarrhea.
- Testing for bacterial enteric pathogens, including *E. coli* O145 and other Shiga-toxin-producing *E. coli*, should be requested on stools collected from suspect cases.
- To report *E. coli* cases or for questions, please call the ECDOH at (716) 858-7697 or (716) 961-7898 after hours.

Background

The Erie County Department of Health (ECDOH), in conjunction with the New York State Department of Health (NYSDOH) and the Niagara County Department of Health (NCDOH), is investigating a cluster of gastrointestinal illness at a local college. To date, 12 cases of gastrointestinal illness at Daemen College have been identified with onsets of illness from 4/12/10 through 4/17/10. Cases are between 18 and 28 years old, and all report eating at college dining facilities. Three of the cases were hospitalized and released. Five cases have reported bloody diarrhea, and one of these cases had *E. coli* O145 detected in a stool specimen by the NYSDOH Wadsworth Center Laboratories. Pulsed-field gel electrophoresis (PFGE) testing of the specimen is pending.

Concurrently, the Centers for Disease Control and Prevention (CDC), in conjunction with the Michigan (MI) and Ohio (OH) Departments of Health, are investigating outbreaks of *E. coli* O145 on two college campuses. MI is investigating 30+ suspect cases of bloody diarrhea with an age range between 18 and 32 years old and onset of illness from 4/9/10 through 4/16/10. *E. coli* O145 and non-O157 have been isolated from clinical specimens, and specimens have multiple PFGE patterns. OH is investigating 11 cases of gastrointestinal illness with an age range between 18 and 44 years old with onset of illness from 4/11/10 through 4/15/10. Specimens from OH cases are a PFGE match to the main Michigan *E. coli* O145 pattern. Most ill persons report exposure to a student union/dining hall at the college.

Investigation of all clusters is ongoing, including investigation of possible food items associated with the outbreaks. PFGE results will determine if the Daemen College cases are related to those in Michigan and Ohio.

E. coli non-O157 infections have emerged as an important cause of bloody diarrhea and hemolytic uremic syndrome (HUS). Infection commonly occurs through ingestion of the bacteria through contaminated food products such as beef (e.g. undercooked ground beef) and fresh produce (e.g. lettuce). Any food that can be contaminated by beef, cow manure, contaminated water, or an infected food handler may be a potential source of infection. Because the infectious dose is low, person-to-person transmission can be quite common, particularly in settings where hand washing facilities after toileting are inadequate.

The purpose of this alert is to advise healthcare professionals to consider *E. coli* O145 in their differential diagnosis of patients presenting with gastrointestinal illness, particularly bloody diarrhea. *E. coli* O145 infection can be entirely asymptomatic or can present with a wide variety of clinical features including watery diarrhea, bloody diarrhea, HUS, or thrombocytopenic purpura (TTP). The absence of high fever, presence of grossly bloody stools, and severity of abdominal findings can lead to the mistaken diagnosis of intussusceptions in children, and inflammatory bowel disease or ischemic colitis in adults. Illness typically begins 3-4 days after exposure and patients develop watery diarrhea. In the majority of patients, diarrhea resolves without progression and the illness is mild. Among those for whom illness progresses, bloody diarrhea usually begins on the second or third day, with the amount of blood varying from streaks to stools that are all blood.

Diagnosis, treatment, and reporting

E. coli O145 infection should be considered in any patient presenting with bloody diarrhea or HUS. Some clinical laboratories may not test for *E. coli* as part of routine bacterial examination of stools. It is incumbent upon the healthcare provider to specifically request such testing when *E. coli* O145 infection is suspected, especially for patients with bloody diarrhea or HUS. *E. coli* O145 is not detected by standard methods used for other common bacterial enteric pathogens. The medium of choice for isolation is sorbitol-MacConkey (SMAC) agar. Laboratories should attempt to isolate *E. coli* O145 rather than conduct rapid testing for detection of Shiga-toxin-producing bacteria.

Please report all suspect cases of *E. coli* O145 to the Erie County Department of Health. The Erie County Department of Health's epidemiologist on call can be reached at 716-858-7697 during normal business hours or 716-961-7898 after hours.

The ECDOH Health Alert & Advisory System is an e-mail notification system designed to alert community partners about important health related information. **You can sign up to receive alerts & advisories at www.erie.gov/health/services/health_professionals.asp.**

Health Category Definitions:

Health Alert FLASH: conveys the highest level of importance due to a large-scale, catastrophic public health emergency; warrants immediate action or attention

Health Alert Priority: conveys the highest level of importance; warrants immediate action or attention to a health problem or situation

Health Advisory: provides important information for a specific incident or situation; may not require immediate action

Health Update: provides updated information regarding an incident or situation; no immediate action necessary

The Erie County Department of Health does not provide medical advice. The information provided herein and on the Erie County Department of Health website is not intended as a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your personal physician or other qualified health provider with any questions you may have regarding a medical condition or issue. Never disregard professional medical advice or delay in seeking it because of the content found on the Erie County Department of Health website or this correspondence.