



# Epi Monthly

Florida Department of Health in Miami-Dade County

May 2018

Volume 19, Issue 5

## This Month in Public Health

Earlier this month, the Florida Department of Health (DOH) recognized National Hurricane Preparedness Week, May 6-12, by issuing a [press release](#) to remind our residents and visitors to prepare for hurricane season by updating their emergency plans and compiling a well-stocked emergency supply kit. Friday, June 1 was the start of hurricane season. Are you prepared?

For more information and resources, please visit the DOH's [Emergency Preparedness and Response](#) website or the Centers for Disease Control and Prevention's [Natural Disasters and Severe Weather](#) page.

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## A Message from the Editor

To our healthcare professionals and partners:

My name is Danielle Fernandez and I am an infectious disease epidemiologist with DOH-Miami-Dade. I have had the pleasure of working closely with Emily Moore and look forward to continuing the collective work you have all done with the Epi Monthly Report. If I may be of any assistance, please do not hesitate to contact me. Thank you in advance for your support.

Warm regards,  
Danielle Fernandez, MPH

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# An update on Shiga toxin-producing *Escherichia coli* (STEC) infection and reporting - 2018

## Background

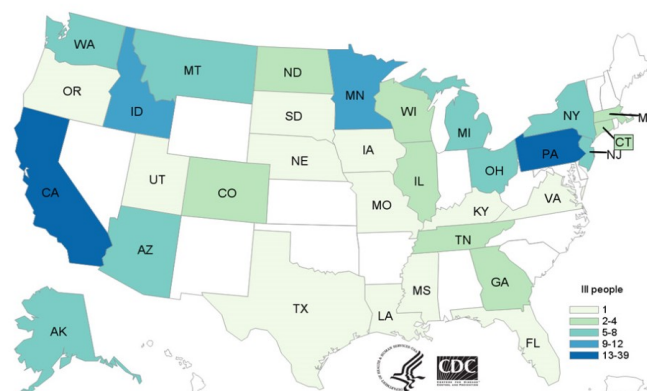
*Escherichia coli* (*E. coli*) is a naturally occurring bacteria that lives in the intestines of people and animals.<sup>1</sup> While most *E. coli* are harmless to humans, there are six types of *E. coli* that are known to be pathogenic to humans: Diffusely adherent *E. coli* (DAEC), enteroaggregative *E. coli* (EAEC), enteroinvasive *E. coli* (EIEC), enteropathogenic *E. coli* (EPEC), enterotoxigenic *E. coli* (ETEC), and Shiga toxin-producing *E. coli* (STEC). The latter, STEC, has recently been heavily publicized as being the pathogen responsible for the outbreak linked to romaine lettuce in the United States. STEC, also referred to as *E. coli* O157, is reportable in the state of Florida.

Shiga toxin-producing *E. coli* (STEC) are differentiated from the numerous other strains of *E. coli* in that it produces the Shiga toxin.<sup>2</sup> STEC infections tend to be more severe than their counterparts with symptoms including severe stomach cramps, diarrhea (often bloody), and vomiting. The incubation period for STEC is typically two to ten days with symptom resolution within five to seven days post-onset. In the most severe STEC infections, a more complex manifestation, hemolytic uremic syndrome (HUS), may arise; HUS is a thrombotic microangiopathy characterized by hemolytic anemia, thrombocytopenia, and acute renal dysfunction.

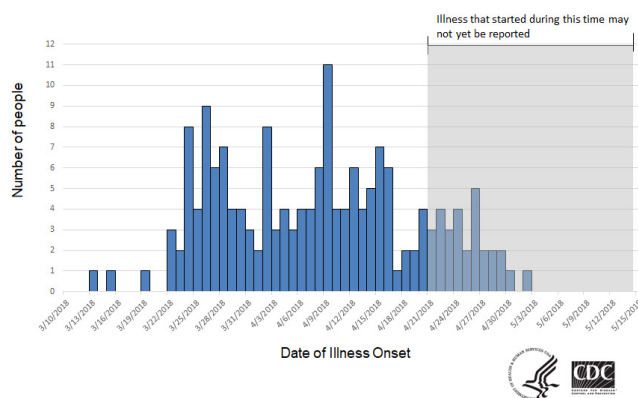
## Multistate outbreak linked to romaine lettuce

In early April of this year, the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration, the U.S. Department of Agriculture’s Food Safety and Inspection Service, in conjunction with several states, began investigating a multistate outbreak of *E. coli* O157:H7 infections, with index cases reported in New Jersey. PulseNet, the national subtyping network of public health and food regulatory laboratories, was used to identify additional cases with possible linkages to the outbreak. On May 8, 2018, the Florida Department of Health (DOH) reported its first case linked to the nationwide outbreak. As of May 15, 2018, 172 people from 32 states have been infected with the outbreak strain. Onset dates have ranged from March 13 to May 2 (51 days). Median age among cases is 29 with range 1 to 88 years. Sixty-five percent of cases are female. Of 157 people with epidemiologic data available, 75 (48%) were hospitalized, including 20 people who developed HUS. One death has been reported in California. According to the FDA, the implicated lettuce originates to the Yuma growing region in Arizona. It is unlikely that any produce from the last shipments are still in circulation due to its 21-day shelf life. As of May 22, 2018, CDC has declared the outbreak over.

People infected with the outbreak strain of *E. coli* O157:H7, by state of residence, as of May 15, 2018 (n=172)



People infected with the outbreak strain of *E. coli* O157:H7, by date of illness onset\*



\*n=172 for whom information was reported as of May 15, 2018. Some illness onset dates have been estimated from other reported information.

Source: Centers for Disease Control and Prevention

### *Updates to the STEC case definition*

STEC cases are classified as confirmed, probable, or suspect according to an algorithm that takes into account clinical manifestation and laboratory evidence of infection. In 2018, the surveillance case definition for STEC was updated, thus, changing criteria to meet case classifications.<sup>3</sup> Under the updated definitions, clinical criteria now include abdominal cramps as sufficient for presumptive infection and laboratory criteria have been expanded to include culture-independent diagnostic testing (CIDT) as confirmatory or presumptive laboratory evidence. Table 1 outlines the various combinations of clinical and laboratory criteria to meet the case definitions and those from 2017 have been included for comparison. Significant changes in the case definition have been highlighted in yellow. The result of the aforementioned changes is an increase in the number of reported probable and confirmed STEC cases beginning in 2018.

### *Overview of cases*

There have been a total of 757 STEC cases reported in Miami-Dade County between January 1, 2013 and May 15, 2018 with the majority identified in 2016 (n=168) and an average of 138 cases reported yearly between 2013 and 2017. Traditionally, cases have peaked during the months of March through October. In 2018 thus far, 65 cases have been reported up to May 15, 2018. In 2018, breakdown by case classification is: 33 (50.8%) confirmed, 21 (32.3%) probable, and 11 (16.9%) suspect, likely in part attributed to the updates in the surveillance case definitions. Among the 65 cases reported in 2018, individuals have predominantly been male (39, 60.0%) and Hispanic (48, 73.9%). Mean age among the cases is 12 years with a range of 0-69 years. After epidemiologic investigation, 52 (80.0%) were found to be locally acquired and 7(10.8%) were outbreak-associated or rather, epidemiologically linked to other cases; however, none of the 2018 cases have been linked to the now closed multistate outbreak associated with romaine lettuce. Among the 65 cases, 40 (61.5%) presented with diarrhea, 5 (12.5%) of whom characterized the diarrhea as bloody; no cases thus far have reported abdominal pain. Five cases (7.7%) were hospitalized. None developed HUS. Upon epidemiologic interview, control measures were recommended to 58 (89.2%) cases.

### *Prevention and control*

Infection with the various strains of diarrheagenic *E. coli* (including STEC) can be prevented with standard infection control and food- and waterborne disease measures including: proper hand washing (particularly before and after cooking and after contact with animals), thorough preparation and cooking of meats, avoidance of raw dairy products, unpasteurized juices and untreated water, washing of fresh fruits and vegetables prior to consumption, and avoidance of cross-contamination of food items.<sup>1,2</sup> When assessing a symptomatic patient, contact precautions should be recommended to mitigate further exposures to close contacts, including family members and friends, and those with sensitive employment, such as food handlers and healthcare workers.

To report suspect STEC infections and cases, please contact the Florida Department of Health in Miami-Dade County, Epidemiology, Disease Control and Immunization Services by phone at (305) 470-5660 or by fax at (305) 470-5533 or (786) 732-8714.

#### References:

<sup>1</sup> Centers for Disease Control and Prevention. (2018). *E. coli (Escherichia coli) | E. coli | CDC*. [online] Available at: <https://www.cdc.gov/ecoli/index.html>.

<sup>2</sup> Heymann, D. (2015). *Control of communicable diseases manual*. 20th ed. Washington D.C.: American Public Health Association, pp.158-172.

<sup>3</sup> Florida Department of Health. (2018 Jan 9) Training Tuesday: 2018 Updates to the Shiga Toxin-producing *Escherichia coli* (STEC) Surveillance Case Definition.

Table 1. Updates to the Shiga Toxin-producing *Escherichia coli* (STEC) Surveillance Case Classification Definition – 2018

		2017		2018	
	<i>Clinical criteria</i>	<i>Laboratory criteria</i>	<i>Clinical criteria</i>	<i>Laboratory criteria</i>	
<b>Confirmed</b>	Diarrhea and/or hemolytic uremic syndrome (HUS)/thrombotic thrombocytopenic purpura (TTP)	<ul style="list-style-type: none"> <li>Isolation of Shiga toxin-producing <i>Escherichia coli</i> (STEC) from a clinical specimen or</li> <li>Detection of Shiga toxin or Shiga toxin genes in a clinical specimen and</li> <li>Isolation of <i>E. coli</i> from a clinical specimen</li> </ul>	Abdominal cramps and/or diarrhea	<ul style="list-style-type: none"> <li>Isolation of <i>E. coli</i> O157:H7 from a clinical specimen or</li> <li>Detection of Shiga toxin or Shiga toxin genes in a clinical specimen using a culture-independent diagnostic test (CIDT) and</li> <li>Isolation of <i>E. coli</i> from a clinical specimen</li> </ul>	
	P1. No clinical manifestation or	P1. Isolation of <i>E. coli</i> O157 from a clinical specimen, without confirmation of H antigen or Shiga toxin production or	P1. No clinical manifestation or	P1. Isolation of <i>E. coli</i> O157 from a clinical specimen without confirmation of H antigen, detection of Shiga toxin, or detection of Shiga toxin genes or	
	P2. Diarrhea and/or HUS/TTP or	P2. Identification of an elevated antibody titer to a known STEC serotype or	P2. Abdominal cramps and/or diarrhea	P2. Supportive laboratory criteria†	
<b>Probable</b>	P3. Diarrhea and/or HUS/TTP and epidemiological criteria*	P3. No laboratory evidence			
	S1. Diarrhea and/or hemolytic uremic syndrome (HUS)/thrombotic thrombocytopenic purpura (TTP)	S1. Identification of Shiga toxin in a specimen without isolation of STEC or identification of <i>E. coli</i> O157, O157:H7, or unspecified enterohemorrhagic <i>E. coli</i> (EHEC)/STEC in a specimen without the isolation of the STEC	S1. No clinical manifestation	S1. Supportive laboratory criteria†	
<b>Suspect</b>	S2. Postdiarrheal HUS	S2. No laboratory evidence	S2. Diagnosis of postdiarrheal HUS/TTP	S2. No laboratory evidence	

\* To meet epidemiological criteria for case classification, a person must be epidemiologically linked to a confirmed STEC case or be a probable STEC case with laboratory evidence.

† Supportive laboratory criteria constitutes:

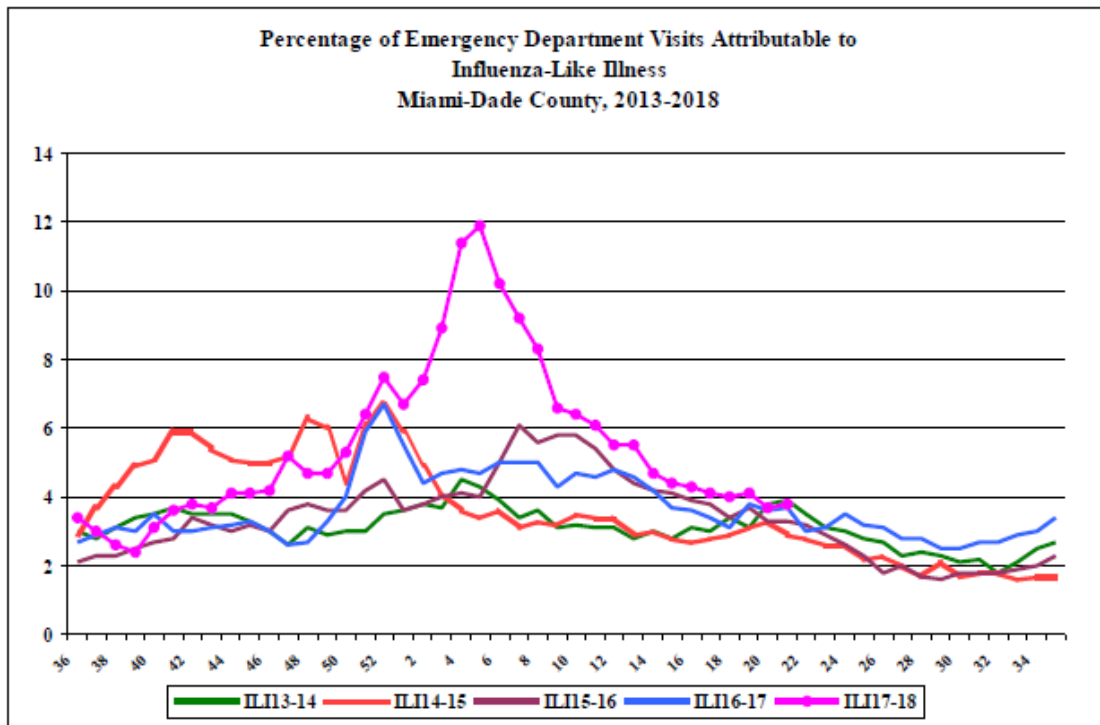
- Identification of an elevated antibody titer against a known Shiga toxin-producing serogroup of *E. coli* or
- Detection of *E. coli* O157 or STEC/enterohemorrhagic *E. coli* (EHEC) in a clinical specimen using a CIDT or
- Detection of Shiga toxin or Shiga toxin genes in a clinical specimen using a CIDT and no known isolation of *Shigella* from a clinical specimen

## Florida Department of Health in Miami-Dade County Epidemiology, Disease Control and Immunization Services

### Influenza Like Illness Surveillance Report

On a daily basis, all of Miami-Dade County's emergency department (ED) hospitals electronically transmit ED data to the Florida Department of Health. This data is then categorized into 11 distinct syndromes. The influenza-like illness (ILI) syndrome consists of fever with either cough or sore throat. It can also include a chief complaint of "flu" or "ILI". This season's 2017-2018 data is compared to the previous 4 influenza seasons (2013-2014, 2014-2015, 2015-2016, 2016-2017).

#### Influenza-Like-Illness, All Age



During this period, there were 31,450 ED visits; among them 1,189 (3.8%) were ILI. At the same week of last year, 3.7% of ED visits were ILI.

#### PARTICIPATE IN INFLUENZA SENTINEL PROVIDER SURVEILLANCE

#### Florida Department of Health in Miami-Dade County NEEDS Influenza Sentinel Providers!

Sentinel providers are key to the success of the Florida Department of Health's Influenza Surveillance System. Data reported by sentinel providers gives a picture of the influenza virus and ILI activity in the U.S. and Florida which can be used to guide prevention and control activities, vaccine strain selection, and patient care.

- Providers of any specialty, in any type of practice, are eligible to be sentinel providers.
- Most providers report that it takes **less than 30 minutes a week** to compile and report data on the total number of patients seen and the number of patients seen with influenza-like illness.
- Sentinel providers can submit specimens from a subset of patients to the state laboratory for virus isolation **free of charge**.

For more information, please contact  
**Lakisha Thomas** at 305-470-5660.



## Miami-Dade County Monthly Report Select Reportable Disease/Conditions April 2018

Diseases/Conditions	2018 Current Month	2018 Year to Date	2017 Year to Date	2016 Year to Date
<b>HIV/AIDS</b>				
AIDS*	38	154	152	209
HIV	126	500	454	581
<b>STD</b>				
Infectious Syphilis*	32	131	131	164
Chlamydia*	1108	4307	4062	4065
Gonorrhea*	316	1317	965	884
<b>TB</b>				
Tuberculosis**	15	41	24	26
<b>Epidemiology, Disease Control &amp; Immunization Services</b>				
<b>Epidemiology</b>				
Campylobacteriosis	78	255	176	166
Chikungunya Fever	0	0	0	0
Ciguatera Poisoning	0	8	3	0
Cryptosporidiosis	1	8	8	6
Cyclosporiasis	0	0	0	0
Dengue Fever	0	1	1	6
Escherichia coli, Shiga Toxin-Producing	9	38	16	2
Encephalitis, West Nile Virus	0	0	0	0
Giardiasis, Acute	14	56	39	72
Influenza Novel Strain	0	0	0	0
Influenza, Pediatric Death	0	1	1	0
Legionellosis	2	11	9	2
Leptospirosis	0	0	0	0
Listeriosis	0	1	4	3
Lyme disease	0	0	1	0
Malaria	1	5	3	1
Meningitis (except aseptic)	2	6	1	0
Meningococcal Disease	0	0	4	0
Salmonella serotype Typhi (Typhoid Fever)	1	2	0	0
Salmonellosis	43	142	158	143
Shigellosis	25	94	26	28
Streptococcus pneumoniae, Drug Resistant	1	17	5	1
Vibriosis	2	2	3	0
West Nile Fever	0	0	0	0
<b>Immunization Preventable Diseases</b>				
Measles	0	0	0	0
Mumps	1	5	0	2
Pertussis	1	7	11	8
Rubella	0	0	0	0
Tetanus	0	0	0	0
Varicella	0	14	16	32
<b>Hepatitis</b>				
Hepatitis A	2	6	31	8
Hepatitis B (Acute)	5	9	10	2
<b>Healthy Homes</b>				
Lead Poisoning	20	70	29	42

\*Data is provisional at the county level and is subject to edit checks by state and federal agencies.

\*\* Data on tuberculosis are provisional at the county level.

## What's New at DOH-Miami-Dade

- DOH-Miami-Dade Epidemiology, Disease Control, and Immunization Services (EDC-IS) has a new mailing address and electronic fax line. The new office is located at 8175 NW 12 Street, Suite 316, Miami, Florida, 33126. The additional Efax number is **786-732-8714** and we kindly request that this line be the main line used to fax notifiable disease reports, clinical notes, and other confidential documents.
- Registration is now open for the [7th Annual Breastfeeding Awareness Walk Community Event](#) co-sponsored by the Florida Department of Health in Miami-Dade County WIC Program and Healthy Start Coalition of Miami-Dade. The event is scheduled for Saturday, August 4, 2018 and registration is open for participants and exhibitors. For more information, please contact Carla Munoz at 786-385-8657.

**7<sup>th</sup> ANNUAL BREASTFEEDING AWARENESS WALK**

**FREE FAMILY EVENT! SATURDAY, AUGUST 4TH**  
TROPICAL PARK STADIUM  
7900 BIRD ROAD  
9AM - 2PM

8:00AM REGISTRATION OPENS  
9:00AM KICK-OFF  
10:00AM BIG LATCH ON  
11:00AM FAMILY WALK  
FUN ACTIVITIES 9AM - 2PM

**FREE! REGISTER NOW!**  
Scan QR code in wallet app on iPhone or camera on Android phones  
7thannualbfwalk.eventbrite.com

ENTERTAINMENT \* KID ZONE \* RAFFLES \* WORKSHOPS

WIC MIAMI-DADE COUNTY  
Healthy Start Healthy Start Coalition of Miami-Dade  
FLORIDA HEALTH Miami-Dade County



Click the image to navigate to the National Weather Service webpage

### To report diseases and for information, call EDC-IS at:

Childhood Lead Poisoning Prevention Program .....	305-470-6877
Disease surveillance and outbreaks .....	305-470-5660
Hepatitis program.....	305-470-5536
HIV/AIDS program .....	305-470-6999
Immunization services .....	305-470-5660
STD program .....	305-575-5430
Tuberculosis program .....	305-575-5415
To make an appointment.....	786-845-0550

### About the Epi Monthly Report

The Epi Monthly Report is a publication of the Florida Department of Health in Miami-Dade County: Epidemiology, Disease Control & Immunization Services. The publication serves a primary audience of physicians, nurses, and public health professionals. Articles published in the Epi Monthly Report may focus on quantitative research and analysis, program updates, field investigations, or provider education. For more information or to submit an article, please contact Danielle Fernandez at 305-470-6980 or [danielle.fernandez@flhealth.gov](mailto:danielle.fernandez@flhealth.gov).

