



# DuPage County Health Department R E V I E W

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## General Information

Communicable Disease  
and Epidemiology  
(630) 221-7553

Environmental Health  
(630) 682-7400

Immunizations  
(630) 682-7400

Sexually  
Transmitted Diseases  
(630) 221-7553

HIV/AIDS  
(630) 221-7553

Tuberculosis  
(630) 221-7522

School Health  
(630) 221-7300

Travel Clinic  
(630) 682-7400

Animal Services  
(630) 407-2800

Please contact  
Communicable Disease  
and Epidemiology at  
(630) 221-7553  
with suggestions  
or to be added to the  
distribution list.

The purpose of this two-page surveillance update is to promote the control and prevention of **communicable disease (CD)** by providing clinically relevant information and resources to healthcare professionals in DuPage County.



## Under the Microscope Enteric *E. coli*

For questions or to report suspect or known cases of *E. coli* O157:H7 and other Shiga toxin-producing *E. coli* (STEC), please call the DuPage County Health Department at (630) 221-7553.

*Escherichia coli*, or *E. coli*, are a large and diverse group of bacteria. Although most strains of *E. coli* are harmless, others can cause illness. Some kinds of *E. coli* can cause diarrhea, while others cause urinary tract infections, pneumonia, and other illnesses.<sup>1</sup> Enteric (intestinal) *E. coli* infections include *E. coli* O157:H7 and other Shiga toxin-producing *E. coli* (STEC), and must be **reported to the local health department as soon as possible, within 24 hours.**<sup>2</sup>

Foodborne disease reporting is not only important for disease prevention and control, but for more accurate assessments of the burden of foodborne illness and identification of foodborne disease outbreaks in the community. This may lead to early identification and removal of contaminated products from the commercial market and education about proper food handling and preparation practices in restaurants and homes.<sup>3</sup>

The symptoms of STEC infections vary for each person but often include severe stomach cramps, diarrhea (often bloody), and vomiting. If there is fever, it usually is not very high (less than 101°F). Most people improve clinically within 5-7 days. Some infections are very mild, but others are severe or even life-threatening.<sup>1</sup>

STEC infections are usually diagnosed through **lab testing of stool specimens**. Identifying the specific strain of STEC involved is very important for public health purposes, such as investigating outbreaks. Most labs can determine if an STEC is present and can identify *E. coli* O157. To determine the O group of non-O157 STEC, strains must be sent to a state public health laboratory.<sup>1</sup> Centers for Disease Control and Prevention (CDC) assists state and local public health authorities with epidemiologic investigations and the design of interventions to prevent and control food-related outbreaks. CDC also coordinates a national network of public health laboratories, called PulseNet, which performs "**molecular fingerprinting**" of bacteria by pulsed-field gel electrophoresis (PFGE) and whole genome sequencing (WGS) to support epidemiologic investigations.<sup>3,4</sup>

*E. coli* O157:H7 is an emerging cause of foodborne illness. In some persons, particularly children younger than 5 years of age and the elderly, the infection can lead to destruction of red blood cells (hemolytic anemia) and acute kidney failure (also known as uremia). This complication, **hemolytic uremic syndrome (HUS)**, can lead to stroke, seizures, hospitalization, and death. About 2 percent to 7 percent of infections lead to HUS. In the U.S., *E. coli* O157:H7 infection is the primary cause of HUS, which is the principal cause of acute kidney failure in children.<sup>5</sup>

**Antibiotics are not recommended for patients with suspected STEC infections until complete diagnostic testing can be performed and STEC infection is ruled out.** Some studies have shown that administering antibiotics to patients with STEC infections might increase their risk of developing HUS, and a benefit of treatment has not been clearly demonstrated.<sup>6</sup>

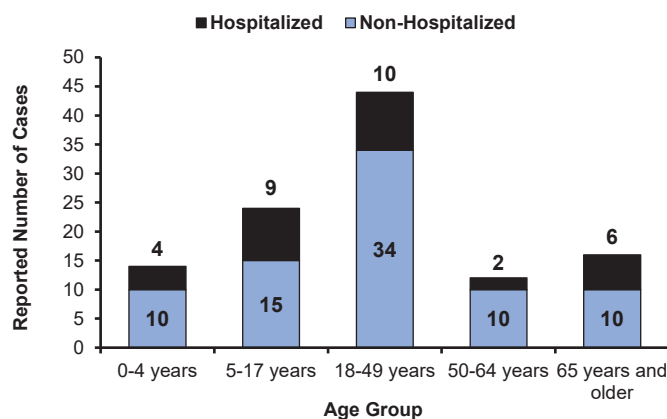
**Enteric *E. coli* infections may be prevented** by the following actions:

1. WASH YOUR HANDS thoroughly after using the bathroom or changing diapers and before preparing or eating food. WASH YOUR HANDS after contact with animals or their environments (at farms, petting zoos, fairs, even your own backyard).
2. COOK meats thoroughly. Ground beef and meat that has been needle-tenderized should be cooked to a temperature of at least 160°F/70°C. It's best to use a thermometer, as color is not a very reliable indicator of "doneness."
3. AVOID raw milk, unpasteurized dairy products, and unpasteurized juices (such as fresh apple cider).
4. AVOID swallowing water when swimming or playing in lakes, ponds, streams, swimming pools, and backyard "kiddie" pools.
5. PREVENT cross contamination in food preparation areas by thoroughly washing hands, counters, cutting boards, and utensils after they touch raw meat.<sup>1</sup>

### References:

1. [www.cdc.gov/ecoli/index.html](http://www.cdc.gov/ecoli/index.html)
2. [www.ilga.gov/commission/jcar/admincode/077/077006900D04000R.html](http://www.ilga.gov/commission/jcar/admincode/077/077006900D04000R.html)
3. [www.cdc.gov/mmwr/PDF/RR/RR5304.pdf](http://www.cdc.gov/mmwr/PDF/RR/RR5304.pdf)
4. [www.cdc.gov/pulsenet/pathogens/wgs.html](http://www.cdc.gov/pulsenet/pathogens/wgs.html)
5. [www.dph.illinois.gov/topics-services/diseases-and-conditions/diseases-a-z-list/e-coli](http://www.dph.illinois.gov/topics-services/diseases-and-conditions/diseases-a-z-list/e-coli)
6. [www.cdc.gov/ecoli/clinicians.html](http://www.cdc.gov/ecoli/clinicians.html)

Reported Cases of Shiga toxin-producing *E. coli* by Hospitalization Status and Age Group in DuPage County, 2014-2018 (n=118\*)



Source: Illinois-National Electronic Disease Surveillance System  
\*Includes 8 cases with 'unknown' hospitalization status.

DUPAGE COUNTY HEALTH DEPARTMENT

CASES<sup>1</sup> OF REPORTABLE DISEASES\*

\* Last updated by the Illinois Department of Public Health, effective January 1, 2019.

CD REVIEW

Volume 15, No. 7

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	Report Within	2019		2018		2017		2016		2015		Median	
		Jun	Jan-Jun	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total	Jan-Jun	Total ('15-'18)
<b>Vaccine Preventable Diseases</b>													
Chickenpox (varicella)	24 hrs	1	26	23	42	16	35	29	56	19	36	19	39
Diphtheria	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> , invasive	24 hrs	1	6	9	16	5	9	3	13	6	15	5	14
Hepatitis A	24 hrs	1	6	4	6	2	3	1	2	3	5	2	4
Hepatitis B (acute, chronic, perinatal)	7 days	13	57	49	93	48	100	57	124	69	139	49	112
Influenza, deaths in < 18 yrs old	7 days	0	1	0	0	0	0	0	0	0	0	0	0
Influenza, ICU admissions	24 hrs	0	80	113	125	66	121	63	69	36	43	63	95
Measles (rubeola)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	24 hrs	0	3	8	12	7	8	7	11	2	8	7	9.5
<i>Neisseria meningitidis</i> , invasive	24 hrs	0	0	0	0	0	0	1	1	1	1	0	0.5
Pertussis (whooping cough)	24 hrs	0	15	8	34	7	36	52	105	14	49	8	42.5
Poliomyelitis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rubella	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
<i>Streptococcus pneumoniae</i> , invasive disease, in those < 5 yrs old	7 days	0	1	2	6	0	1	2	2	0	0	0	1.5
Tetanus	7 days	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other Communicable Diseases</b>													
Anaplasmosis	7 days	0	0	0	0	0	1	1	1	2	3	0	1
Anthrax	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Arboviral Disease (other and unspecified) <sup>2</sup>	7 days	0	0	0	0	0	2	1	1	0	0	0	0.5
Babesiosis	7 days	0	0	0	1	0	0	1	1	0	0	0	0.5
Botulism, foodborne	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Botulism, other	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacteriosis	7 days	16	84	68	160	75	161	75	173	NR	NR	71.5	161
Chikungunya virus disease	7 days	0	0	0	2	0	0	0	4	1	2	0	2
Cholera	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	7 days	2	12	15	31	1	18	4	18	2	5	2	18
Cyclosporiasis	7 days	5	6	27	141	2	7	0	5	0	1	2	6
Dengue virus infection	7 days	1	1	1	2	0	1	0	3	2	3	1	2.5
Ehrlichiosis	7 days	0	0	0	0	0	0	1	2	1	1	0	0.5
Enteric <i>E. coli</i> infections <sup>3</sup>	24 hrs	4	14	19	39	13	23	14	24	9	14	13	23.5
Hantavirus pulmonary syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hemolytic uremic syndrome	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis C (acute, chronic, perinatal)	7 days	16	120	101	190	145	294	140	255	134	237	134	246
Hepatitis D	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Histoplasmosis	7 days	0	5	4	6	7	9	4	8	2	3	4	7
Influenza A, novel virus	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Legionellosis	7 days	3	7	10	37	8	28	7	34	6	18	7	31
Leptospirosis	7 days	0	0	0	0	1	1	0	0	0	0	0	0
Listeriosis	7 days	0	2	0	0	2	4	0	0	0	2	0	1
Lyme disease	7 days	7	9	14	27	6	36	11	34	10	30	10	32
Malaria	7 days	0	1	3	4	0	3	7	10	1	4	1	4
Ophthalmia neonatorum	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Plague	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Psittacosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Q fever	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, animal case	24 hrs	3	3	1	8	2	12	6	10	1	16	2	11
Rabies, human case	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Rabies, potential exposure	24 hrs	2	24	43	167	19	84	16	59	15	73	16	78.5
Spotted fever rickettsiosis	7 days	0	0	1	2	0	1	1	3	0	0	0	1.5
Salmonellosis	7 days	10	50	52	118	53	104	41	118	60	131	52	118
<i>Salmonella</i> Paratyphi infection <sup>4</sup>	24 hrs	0	1	2	2	1	1	0	1	1	2	1	1.5
<i>Salmonella</i> Typhi infection	24 hrs	0	2	3	4	2	4	0	0	1	3	1	3.5
Severe Acute Respiratory Syndrome	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	7 days	4	13	3	10	5	14	10	21	5	27	5	17.5
Smallpox	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Smallpox vaccination, complications	24 hrs	0	0	0	1	0	0	0	0	0	0	0	0
<i>Staphylococcus aureus</i> (vancomycin-resistant)	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Streptococcal infections, group A invasive disease <sup>5</sup>	24 hrs	1	19	21	33	14	24	11	18	14	22	14	23
Toxic shock syndrome <sup>6</sup>	7 days	0	0	1	1	0	0	0	0	0	0	0	0
Trichinosis	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis	7 days	6	18	23	50	16	42	17	42	10	39	16	42
Tularemia	3 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Typhus	24 hrs	0	0	0	0	0	0	0	0	0	0	0	0
Vibriosis (non-cholera)	7 days	0	4	3	14	4	6	1	6	0	4	1	6
West Nile virus disease	7 days	0	0	0	18	0	6	0	10	0	9	0	9.5
Zika virus disease	7 days	0	0	1	1	0	1	3	11	NR	NR	0.5	1
<b>STDs, HIV and AIDS</b>													
AIDS <sup>7</sup> (April - June)	7 days	1	4	5	15	7	12	9	12	10	13	7	12.5
Chancroid	7 days	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia	7 days	114	947	1231	2545	1228	2495	1229	2417	1149	2382	1228	2456
Gonorrhea	7 days	19	178	185	443	195	451	193	390	141	307	185	416.5
HIV infection <sup>7,8</sup> (April - June)	7 days	8	19	12	24	17	39	23	43	28	56	17	41
Syphilis <sup>9</sup>	7 days	0	28	33	73	31	55	35	59	16	42	31	57
<b>Outbreaks<sup>10</sup></b>													
Foodborne	24 hrs	0	2	1	6	1	2	2	3	3	3	1	3
<i>Foodborne Outbreak Cases</i>		0	172	21	123	111	114	10	22	43	43	21	78.5
Waterborne	24 hrs	0	0	0	0	0	0	1	1	0	0	0	0
<i>Waterborne Outbreak Cases</i>		0	0	0	0	0	0	2	2	0	0	0	0
Person to Person	24 hrs	1	43	61	80	46	66	30	47	42	53	42	59.5
<i>Person to Person Outbreak Cases</i>		9	704	760	1162	488	1240	663	989	465	686	488	1075.5
Other and Unspecified	24 hrs	0	0	0	1	0	0	0	0	0	0	0	0
<i>Other and Unspecified Outbreak Cases</i>		0	0	0	3	0	0	0	0	0	0	0	0

DuPage County healthcare providers and hospitals must report any suspected or confirmed case of these diseases to the local health authorities within the number of hours or days indicated.

REPORTING NUMBERS:

Communicable Diseases

(630) 221-7553  
24 hours: (630) 682-7400

Tuberculosis

(630) 221-7522

STDs

(630) 221-7553

HIV/AIDS

(630) 221-7553

<sup>1</sup> Provisional cases, based on date of onset

<sup>2</sup> Including, but not limited to, California serogroup virus diseases, Eastern equine encephalitis virus disease, Powassan virus disease, St. Louis encephalitis virus disease, Western equine encephalitis virus disease, and yellow fever. Chikungunya virus disease, dengue virus infection, West Nile virus disease, and Zika virus disease are listed individually.

<sup>3</sup> O157:H7, STEC

<sup>4</sup> *Salmonella enterica* serotypes Paratyphi A, B (tartrate negative), and C

<sup>5</sup> Includes streptococcal toxic shock syndrome and necrotizing fasciitis

<sup>6</sup> Due to *Staphylococcus aureus*

<sup>7</sup> HIV/AIDS data are provided quarterly by IDPH and are provisional, based on date of diagnosis.

<sup>8</sup> HIV counts reflect all newly diagnosed HIV cases regardless of stage of disease at diagnosis.

<sup>9</sup> Cases are provisional, based on test date per local health department investigation. Includes syphilis cases staged as primary, secondary, or early non-primary non-secondary.

<sup>10</sup> Listed based on report submission date

NR = Not reported

Websites

CDC:

[www.cdc.gov](http://www.cdc.gov)

IDPH:

[www.dph.illinois.gov](http://www.dph.illinois.gov)

DuPage:

[www.dupagehealth.org](http://www.dupagehealth.org)

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[www.dupagehealth.org/publications](http://www.dupagehealth.org/publications)