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WISCONSIN EPI EXPRESS

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PROGRAM UPDATES

STAFF UPDATES:

BCD welcomes the following staff to their new positions:

Rhonda Kelly-Smith, CDC Public Health Associate-HIV and HCV Programs, rhonda.kellysmith@dhs.wisconsin.gov

Abby Klemp, Immunization Epidemiologist, abby.klemp@dhs.wisconsin.gov

Rachel Klos, State Public Health Veterinarian, rachel.klos@dhs.wisconsin.gov

Lynn Roberts, Enterics Epidemiologist, lynn.roberts@dhs.wisconsin.gov

2016 WISCONSIN COMMUNICABLE DISEASES ANNUAL REPORT:

BCD recently published its inaugural [Wisconsin Communicable Diseases Annual Report](#). This report reflects all reportable communicable diseases in Wisconsin during January 1 through December 31, 2016. Included in this report are disease summaries and trends, as well as outbreak highlights from 2016. We hope this report can serve as a helpful resource when evaluating the burden of communicable diseases in Wisconsin.

MULTI-STATE ENHANCED HISTOPLASMOSIS SURVEILLANCE PROJECT:

Wisconsin is participating in a one-year CDC Multistate Enhanced Histoplasmosis Surveillance project that started on July 1, 2018. An interview tool and instructions will be placed into the WEDSS cabinet of patients meeting the case definition of confirmed or probable histoplasmosis. Wisconsin routinely has 10 to 12 cases of histoplasmosis reported each year.

ONGOING OUTBREAK INVESTIGATIONS:

Check out the Department of Health Services new [Outbreaks and Investigations webpage](#) for up-to-date information on outbreaks and investigations with wide impact in Wisconsin.

NEW EDUCATIONAL MATERIALS:

There are new educational fact sheets on the topics of [Histoplasmosis](#), [Valley Fever](#), and [Human metapneumovirus](#).

Cyclospora Outbreak Linked to Del Monte Veggie Trays Purchased From Kwik Trip, 2018

By Laura Bunke, Student Intern; Jordan Mason, Enterics Epidemiologist; and Rachel Klos, State Public Health Veterinarian

WHAT IS CYCLOSPORIASIS?

Cyclosporiasis is an intestinal illness caused by the parasite *Cyclospora cayentanensis*. The parasite is common in tropical countries. In the U.S., people can get sick by traveling to, or eating fresh produce from, tropical countries. As of November 2018, 301 confirmed cases were reported to the Division of Public Health (DPH), compared with 23 in 2017.

RISE IN CYCLOSPORIASIS CASES

During the last week of May 2018, a statewide increase in reported laboratory confirmed cases of cyclosporiasis was noted. Local health departments (LHDs) were notified by DPH of the increase and asked to quickly interview newly reported patients. Rapid and thorough interviewing by LHD staff across the state quickly revealed many patients who consumed vegetable trays purchased at Kwik Trip locations during the two weeks before they became ill. These trays were produced by Del Monte and contained broccoli, cauliflower, carrots, and dill dip.

Collaboration with the Department of Agriculture, Trade, and Consumer Protection (DATCP), the Centers for Disease Control and Prevention (CDC), and other affected states, including Minnesota and Iowa, led to a decision by Kwik Trip to voluntarily remove the product from sale on June 8. DPH also issued a press release on June 8 informing Wisconsin residents of the outbreak and the voluntary removal of product. The release advised people to discard any remaining Kwik Trip vegetable trays and seek provider care if they were experiencing symptoms consistent with *Cyclospora* infection.

OUTBREAK SUMMARY

Among Wisconsin residents, 176 laboratory confirmed cyclosporiasis cases associated with Del Monte veggie trays from Kwik Trip were identified. Outbreak associated patients had a median age of 44 years (range: 13–79) and were 53% female.



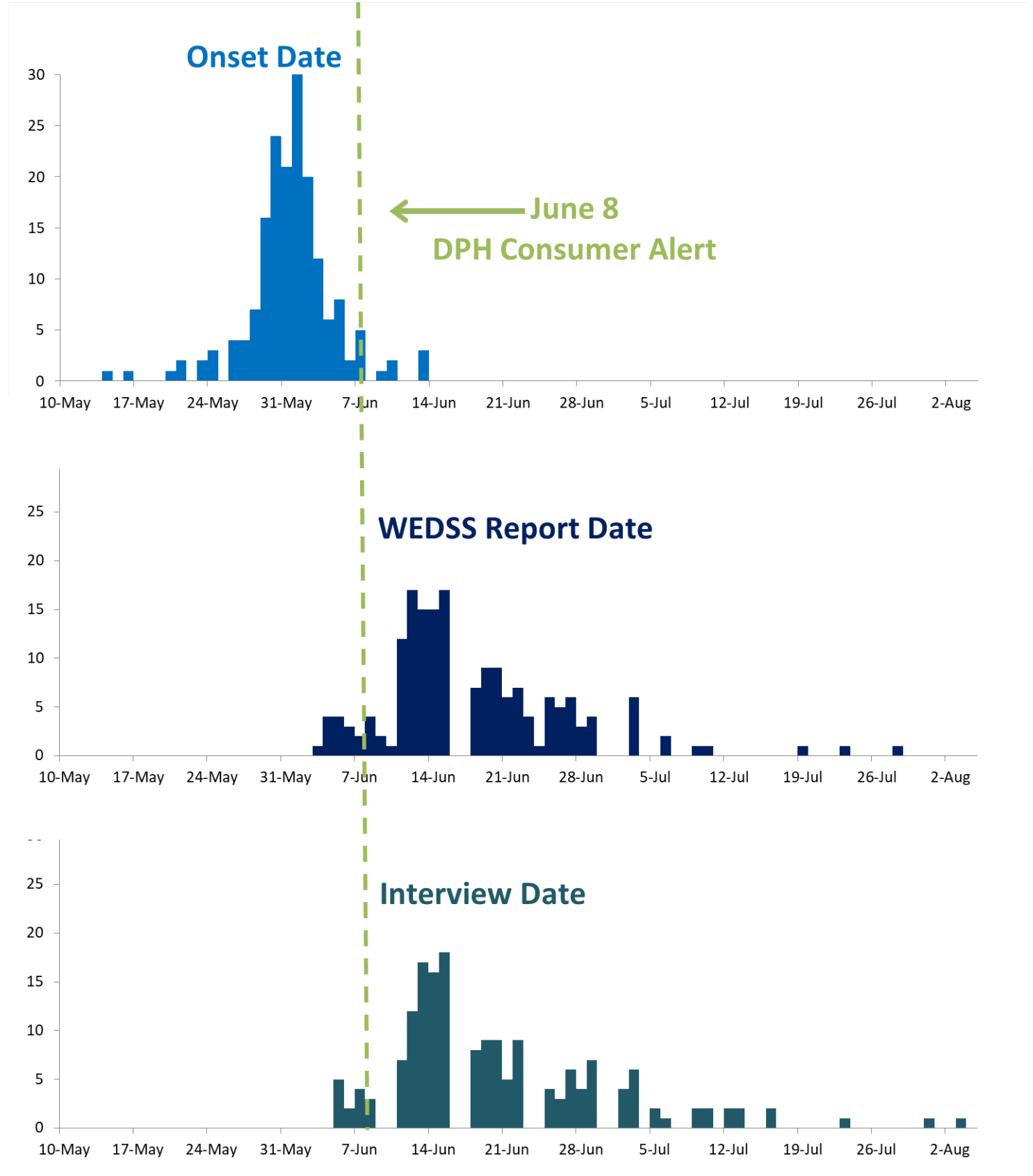
Seven people (4%) were hospitalized overnight. Among patients that reported a single purchase date, the median incubation period was seven days (range: 0–15 days). Most patients reported purchase of vegetable trays around the week of May 21, however vegetable tray associated cases continued to be reported during June and July, even though the product had been removed from sale on June 8. This is likely a result of the long incubation period (up to two weeks) and long duration of symptoms (weeks to months). Forty-nine Wisconsin counties reported at least one case, with Eau Claire and Outagamie counties reporting the highest number of cases (14 cases each). The outbreak concluded with a total of 250 cases reported in Michigan, Iowa, Minnesota, and Wisconsin.

In addition to the veggie tray outbreak, 125 additional cases were reported and several other outbreaks of cyclosporiasis investigated during 2018, including a Mexican restaurant cluster and cases included in a multistate outbreak associated with salad from McDonald's. LHDs completed nearly 300 *Cyclospora* interviews during May through September, with the average time from case report to interview of just one day. Rapid and thorough patient interviewing was critical to successfully identifying outbreaks and investigating cases.

Cyclospora Outbreak Linked to Del Monte Veggie Trays Purchased From Kwik Trip, 2018

By Laura Bunke, Student Intern; Jordan Mason, Enterics Epidemiologist; and Rachel Klos, State Public Health Veterinarian

Figure I. Veggie Tray Associated Cyclospora Outbreak Investigation Timeline: Patient Onset Dates to Public Health Interview Dates



Hepatitis C in Wisconsin: Increase Among Young People Who Inject Drugs

By Ruth Koepke, Epidemiologist, Hepatitis C Program

HCV IN WISCONSIN AND THE U.S.

In Wisconsin and the U.S., the number of people newly infected with hepatitis C virus (HCV) has increased, most notably among younger adults, as a result of the opioid epidemic and increased injection drug use.^{1,2} HCV, a bloodborne virus, can be easily transmitted by sharing needles, syringes, and other equipment used to prepare or inject drugs, because HCV can remain infectious outside the body for several weeks, including in syringes and on inanimate surfaces.^{3,4}

SYMPTOMS AND COMPLICATIONS OF HCV

Approximately 20% of people newly infected with HCV experience symptoms of acute hepatitis, including jaundice, fatigue, abdominal pain, and poor appetite within 2–26 weeks after infection. Among all people infected with HCV, approximately 75–85% develop chronic infection. If untreated, chronic HCV can cause serious health problems, including liver damage, cirrhosis, liver cancer, and even death.

HCV TRENDS IN WISCONSIN

In Wisconsin, the number of acute HCV cases increased 280% from 2012 to 2017 (Figure 1).

FIGURE 1.

The number of acute HCV cases has increased over the past 10 years in Wisconsin, and remained high in 2017.

Most reported injecting drugs.

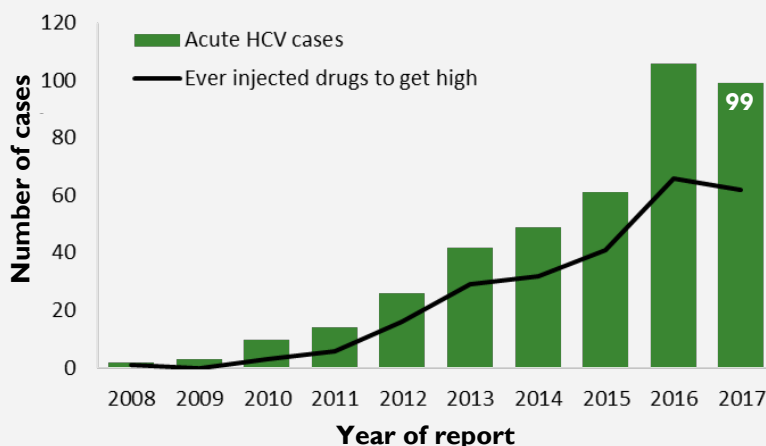
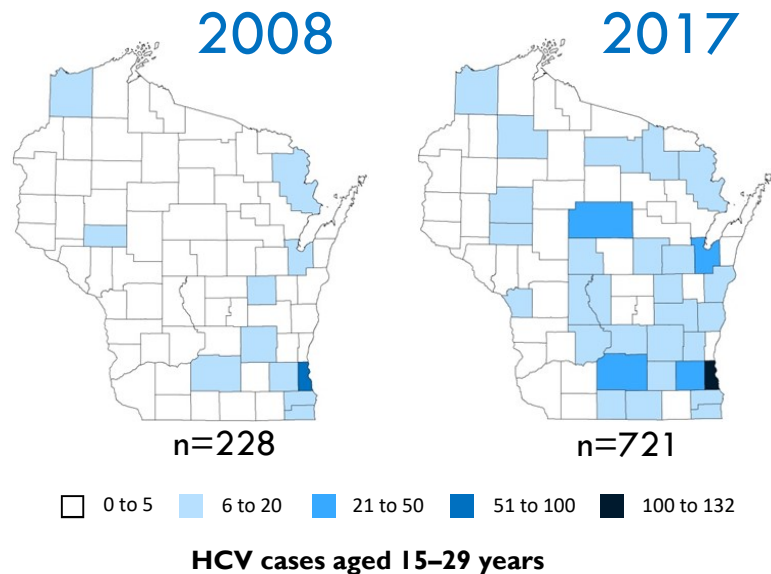


FIGURE 2.

Over the past 10 years, the number of new HCV cases among young people aged 15–29 years has more than tripled, and more Wisconsin counties are reporting cases.



Among the 99 acute cases reported in 2017, 63% reported injection drug use, 44% were aged 15–29, 44% were female, and 80% were non-Hispanic White.

Over the past 10 years, the number of new reports of HCV (acute and chronic) infection among young adults aged 15–29 years has more than tripled, and cases are being reported from more Wisconsin counties (Figure 2). In 2017, three out of every four people newly reported with HCV in this age group were non-Hispanic White, but the rate of HCV was highest among American Indians.

HCV among women of childbearing age is concerning because infants born to women with HCV have a 4–7% risk of contracting HCV perinatally. Over the past 10 years in Wisconsin, the number of women of childbearing age (15–44 years) newly reported with HCV increased 140%, from 284 cases in 2008 to 684 cases in 2017. Infants born to mothers with HCV can be tested for HCV RNA as early as age 1–2 months to determine if they are infected.⁵

Hepatitis C in Wisconsin: Increase Among Young People Who Inject Drugs

By Ruth Koepke, Epidemiologist, Hepatitis C Program

Harm reduction, like needle exchange programs (see resources below), helps prevent HCV infection among people who inject drugs.

HCV TREATMENT

Highly effective treatment for HCV exists and can cure HCV with an eight–12 week course of medication. In July 2017, Wisconsin Medicaid changed its HCV treatment authorization policy so that patients can be treated regardless of liver fibrosis score and all health care providers can now prescribe treatment.⁶



Looking for more information on HCV in Wisconsin? Check out the [2017 HCV Surveillance Report](#) or the brief [two-page summary version](#).

REFERENCES

1. [Centers for Disease Control and Prevention. Surveillance for Viral Hepatitis – United States, 2016.](#)
2. [Zibbell J.E., et al. Increases in acute hepatitis C virus infection related to a growing opioid epidemic and associated injection drug use, United States, 2004 to 2014. Am J Public Health 2018;108\(2\):175-181.](#)
3. [Paintsil E., Binka M., Patel A, Lindenbach B., Heimer R. Hepatitis C Virus maintains infectivity for weeks after drying on inanimate surfaces at room temperature: Implications for risks of transmission. Journal of Infectious Diseases 2014; 209\(8\):1205-11.](#)
4. [Paintsil E., He H., Peters C., Lindenbach B.D., Heimer R. Survival of hepatitis C virus in syringes: implication for transmission among injection drug users. Journal of Infectious Diseases 2010;202:984-90.](#)
5. [Centers for Disease Control and Prevention. Hepatitis C Questions and Answers for Health Professionals.](#)
6. [Wisconsin Department of Health Services. Forward Health Update. June 2017. No. 2017-17.](#)

HARM REDUCTION AND HCV TESTING SITES

- **Lifepoint Needle Exchange at AIDS Resource Center of Wisconsin Locations**
<http://www.arcw.org/prevention-services/>
- **Sixteenth Street Community Health Center Needle Exchange Program**
<http://sschc.org/health-community/hiv-program/prevention-and-testing/>
- **Public Health Madison & Dane County Needle Exchange Program**
<https://www.publichealthmdc.com/disease/stiHIV/needleExchange.cfm>

Jamestown Canyon Virus Activity in Wisconsin

By: Rebecca Osborn, Vectorborne Epidemiologist

WHAT IS JCV?

Jamestown Canyon virus (JCV) is an arbovirus that is transmitted to humans by the bite of an infected mosquito. JCV was initially isolated from mosquitoes in 1961 in Jamestown Canyon, Colorado, and was first recognized as causing human illness in 1980. The specific vector(s) of JCV in Wisconsin are unknown, but the virus has been detected in various *Aedes*, *Coquillettidia*, *Culex*, and *Culiseta* species mosquitoes in other parts of the U.S., some of which are present in Wisconsin. The primary reservoir host of JCV is considered to be white-tailed deer.

WHAT ARE THE SYMPTOMS OF JCV?

Clinically, the spectrum of illness for a JCV infection ranges from asymptomatic to severe neuroinvasive disease. JCV disease can present as a nonspecific febrile illness with acute onset of fever, headache, fatigue, body aches, nausea, and vomiting. Some people, especially children, the elderly, and those with compromised immune systems, can develop severe neuroinvasive disease, often manifesting as meningitis or encephalitis. The majority of JCV infections are likely asymptomatic, though the exact percentage is unknown.

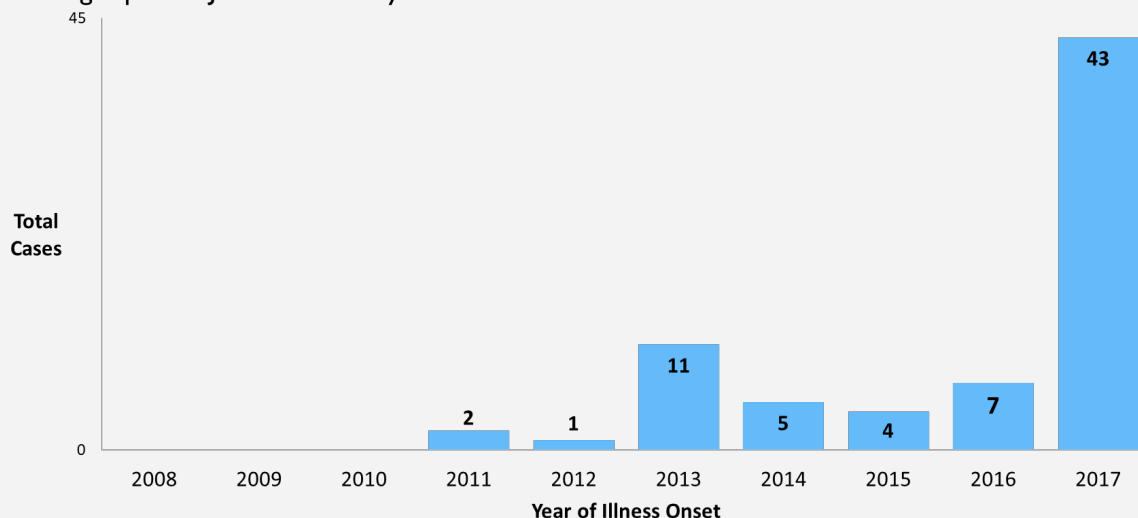


JCV IN WISCONSIN

In Wisconsin, reported JCV disease is rare, with an average of 5.6 cases per year between 2012 and 2016. During 2017, however, we observed a significant increase in the number of cases reported in the state (n=43) (Figure 1). This sudden increase can be partially explained by an increase in arbovirus testing in 2017 compared to previous years, but it is unknown at this time what other factors may have contributed to the increase. One possibility is that an increase in disease prevalence in the environment could have occurred as a result of changes in mosquito population size or composition, or pathogen activity in mosquitoes or in deer.

FIGURE 1. Jamestown Canyon Virus Cases in Wisconsin

A large spike of Jamestown Canyon cases occurred in 2017.



Data source: Wisconsin Department of Health Services

Jamestown Canyon Virus Activity in Wisconsin

By: Rebecca Osborn, Vectorborne Epidemiologist

Another possible contributor is increased awareness of the clinical spectrum of arboviral diseases among the public and health care providers such that a greater proportion of the people being tested for JCV actually have JCV infections. Likely, high JCV activity in 2017 was a result of a combination of the above factors.

JCV PREVENTION

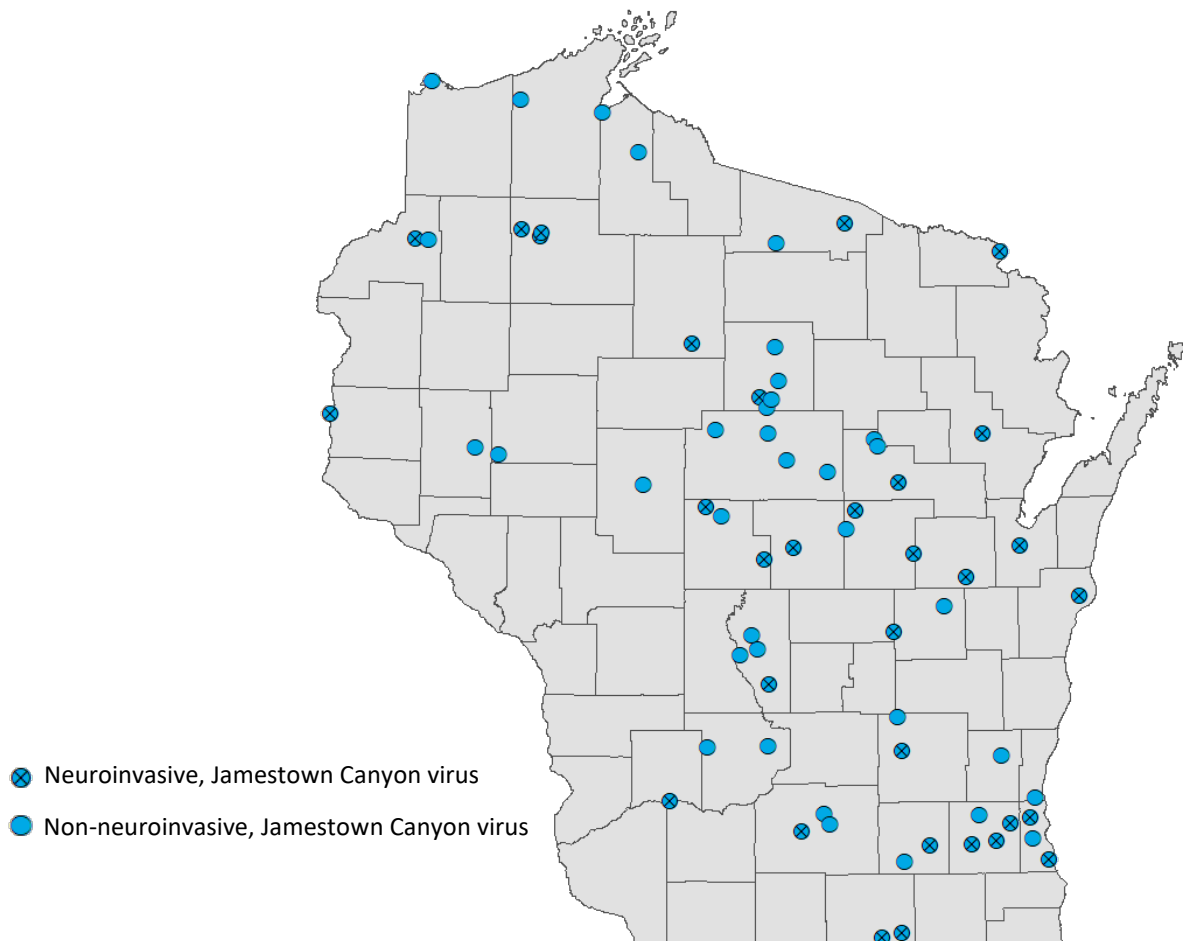
With no vaccine and no available treatment, prevention of JCV infections is critical. Public Health officials can help prevent JCV and other arboviruses by promoting mosquito avoidance. In addition to providing prevention strategies, Public Health officials can also contribute to the proper diagnosis of infections by educating health care providers about JCV disease and available diagnostic testing.

An arbovirus IgM antibody panel can be requested through the Wisconsin State Lab of Hygiene (WSLH), and includes serologic tests for Jamestown Canyon, West Nile, St. Louis encephalitis, La Crosse encephalitis, eastern equine encephalitis, and Powassan viruses.

FEE-FOR-SERVICE ARBOVIRUS TESTING

Fee-for-service arbovirus testing can be requested from WSLH directly, or fee-exempt testing is available for those patients who meet certain clinical criteria. Providers can contact the Communicable Disease Epidemiology Section at 608-267-9003 for more information on fee-exempt testing.

FIGURE 2. Human Jamestown Canyon Virus Cases in Wisconsin, 2013-2017



Communicable Disease Case Counts

This report contains a selection of reportable conditions with inclusion based on public health significance and frequency of occurrence. The case counts reflect confirmed and probable cases, for all process statuses. These numbers are not final and are subject to change as confirmatory testing and case follow-up are completed.

***Quarterly case counts should not be considered final and are subject to change.**

Disease	2017 Case Counts		2018 Case Counts			
	Total	Q1	Q2	Q3	Q4	2018 YTD
Enteric/Gastrointestinal (also includes suspect cases)						
Campylobacteriosis	1,728	272	406	485		1,163
Cryptosporidiosis	725	103	154	401		658
Cyclosporiasis	23	1	16	38		55
<i>E. coli, Shiga toxin-producing (STEC)</i>	253	72	143	55		270
Giardiasis	693	106	96	251		453
Hemolytic uremic syndrome	13	0	0	0		0
Listeriosis	11	0	0	0		0
Salmonellosis	1,040	147	256	95		498
Shigellosis	272	29	34	31		94
Typhoid fever	3	1	2	0		3
Vibriosis (non-cholera)	31	2	14	12		28
Yersiniosis	51	0	1	0		1
Invasive Bacteria						
Group A Streptococcal disease	289	92	66	49		207
Group B Streptococcal disease	533	115	160	158		433
Mycotic						
Blastomycosis	119	21	14	15		50
Coccidioidomycosis	15	1	8	2		11
Histoplasmosis	22	6	3	5		14
Respiratory						
Please refer to the weekly respiratory virus surveillance report: https://www.dhs.wisconsin.gov/influenza/weekly-influenza-report.pdf						
Influenza-associated hospitalizations	4,886	6	2	0		8
Influenza, novel	287	0	0	0		0
Legionellosis	176	16	47	29		92
Tuberculosis	49	15	5	11		31
Sexually Transmitted						
Chlamydia trachomatis	27,971	6,984	6,670	6,956		20,610
Gonorrhea	7,739	1,852	1,811	2,035		5,698
HIV	245	54	46	56		156
Syphilis (all stages)	648	148	116	80		344
Vaccine Preventable						
Diphtheria	0	0	0	0		0
<i>Haemophilus influenzae</i> invasive disease	126	2	3	7		12
Hepatitis B, acute (confirmed cases only)	13	2	1	4		7
Hepatitis B, perinatal	0	0	0	0		0

Communicable Disease Case Counts (cont.)

Disease	2017 Case Counts			2018 Case Counts		
	Total	Q1	Q2	Q3	Q4	2018 YTD
Vaccine Preventable (continued)						
Measles (rubeola)	0	0	0	0		0
Meningococcal disease	4	3	1	0		4
Mumps	49	6	5	6		17
Pertussis (whooping cough)	756	158	150	148		456
Poliomyelitis	0	0	0	0		0
Rubella	0	0	0	1		1
<i>Streptococcus pneumoniae</i> invasive disease	497	174	145	53		372
Tetanus	1	0	0	0		0
Varicella (chickenpox)	285	58	69	51		178
Vectorborne						
Babesiosis	87	1	8	40		49
Ehrlichiosis/Anaplasmosis	840	15	236	130		381
Jamestown Canyon virus infection	44	0	3	1		4
La Crosse virus infection	2	0	0	0		0
Lyme disease	2,820	106	587	685		1,378
Malaria ¹	10	1	5	2		8
Powassan virus infection	2	0	0	1		1
Rocky Mountain spotted fever	22	2	10	11		23
West Nile virus infection	51	0	0	9		9
Yellow fever ¹	0	0	0	0		0
Zika virus infection ^{1,2}	9	0	0	0		0
Zoonotic						
Brucellosis	2	1	0	0		1
Hantavirus infection	1	0	0	0		0
Leptospirosis	2	0	0	0		0
Psittacosis	0	0	0	0		0
Q Fever (acute)	6	2	2	0		4
Rabies (human)	0	0	0	0		0
Toxoplasmosis	15	1	0	0		1
Tularemia	0	0	0	0		0
Other						
Hepatitis A	16	7	2	1		10
Hepatitis C, acute	95	18	16	2		36
Hepatitis E, acute	1	0	0	0		0
Kawasaki disease	18	0	0	0		0
Lymphocytic choriomeningitis virus infection	0	0	0	0		0
Transmissible spongiform encephalopathy (human)	17	0	0	0		0

¹ Denotes diseases where all cases in Wisconsin residents are travel-associated. No local transmission occurs.

² Due to enhanced surveillance, asymptomatic confirmed cases are included.

